YA22
ASIA
2022/2023

Registered
ISO 9001:2015 / ISO 14001:2015

WORLD CLASS PRODUCT OF KOREA
세계일류상품

YG

CUTTING TOOLS

MILLING

铣削工具

YG YG-1 CO., LTD.

MILLING TOOLS

CBN 铣刀
i-Xmill, 硬质合金刀片铣刀
i-Smart， 硬质合金模块铣刀
X5070 纳米硬质合金铣刀
4G 硬质合金铣刀
X-POWER PRO 硬质合金铣刀
TitaNox 硬质合金铣刀
SUS-CUT 硬质合金铣刀
V7 PLUS 硬质合金铣刀
ALU-POWER HPC 硬质合金铣刀
ALU-CUT 硬质合金铣刀
G-CUT 硬质合金铣刀
CRX 硬质合金铣刀
K-2 Plus 硬质合金铣刀
普通硬质合金铣刀
ONLY ONE 粉末高速钢铣刀
TANK-POWER 粉末高速钢铣刀
普通高速钢铣刀
高速钢铣刀
技术参数

CBN END MILLS
i-Xmill END MILLS
i-SMART END MILLS
X5070 NANO SOLID CARBIDE END MILLS
4G Mill SOLID CARBIDE END MILLS
X-POWER PRO SOLID CARBIDE END MILLS
TitaNox-POWER SOLID CARBIDE END MILLS
SUS-CUT SOLID CARBIDE END MILLS
V7 PLUS SOLID CARBIDE END MILLS
ALU-POWER HPC SOLID CARBIDE END MILLS
ALU-CUT SOLID CARBIDE & HSS-PM END MILLS
G-CUT SOLID CARBIDE END MILLS
SOLID CARBIDE ROUTERS (DIAMOND COATED)
CRX S SOLID CARBIDE END MILLS
K-2 Plus SOLID CARBIDE END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER HSS-PM END MILLS
GENERAL HSS END MILLS
HSS MILLING CUTTERS
TECHNICAL DATA

YG-1 CO., LTD.

CONTENTS

CBN END MILLS

CARBIDE EXCHANGEABLE END MILLS

SOLID CARBIDE END MILLS

HSS END MILLS

TECHNICAL DATA

YG-1 CO., LTD.

Contents / MILLING TOOLS

CBN 铣刀 适用于加工高硬钢(~HRc70)， 镜面处理的CBN(立方氮化硼)铣刀	**CBN** END MILLS CBN(Cubic Boron Nitride) Machining High Hardened Steels up to HRc70 / Mirror Finish	CBN END MILLS
i-Xmill, 硬质合金刀片铣刀 多样类型刀片可用在加工普通钢， 预硬钢，高硬钢，不锈钢，石墨	**i-Xmill,** CARBIDE INSERT END MILLS Various Applications Type of Inserts Available for General Steels, Pre-Hardened Steels, High Hardened Steels, Stainless Steels and Graphite	i-Xmill END MILLS
i-Smart， 硬质合金模块铣刀 适用于普通钢，高硬钢和铸铁	**i-Smart** MODULAR TYPE END MILLS For General Steels, Hardened Steels and Cast Iron	i-SMART MODULAR END MILLS
X5070 纳米硬质合金铣刀 蓝色涂层，整体硬质合金立铣刀(HRc45 to HRc70) 用于加工高硬钢, 用于高速切削和干切, 用于模具	**X5070** NANO SOLID CARBIDE END MILLS For High Hardened Steels (HRc45 to HRc70) / High Speed Machining and Dry Cutting	X5070 END MILLS
4G 硬质合金铣刀 适用于高速加工 预硬钢 (~HRc55)	**4G Mill** SOLID CARBIDE END MILLS High Speed Cutting for Pre-Hardened Steels up to HRc55	4G MILL END MILLS
X-POWER PRO 硬质合金铣刀 适用于加工预硬钢(~HRc55)， 模具，干&湿切削	**X-POWER PRO** SOLID CARBIDE END MILLS For Pre-Hardened Steels up to HRc55	X-POWER PRO END MILLS
TitaNox 硬质合金铣刀 实现难切材料的高速加工 钛合金和不锈钢	**TitaNox-POWER** SOLID CARBIDE END MILLS High Speed Machining for Exotic Materials: Titanium and Stainless Steels	Titanox-POWER END MILLS
SUS-CUT 硬质合金铣刀 加工不锈钢，镍合金和钛合金	**SUS-CUT** SOLID CARBIDE END MILLS For Exotic materials like Stainless Steels, Nickel Alloys and Titanium	SUS-CUT END MILLS
V7 PLUS 硬质合金铣刀 高性能 硬质合金 立铣刀 适用于钢件,铸铁和不锈钢	**V7 PLUS** SOLID CARBIDE END MILLS High Performance Carbide End Mills for Steels, Cast Iron and Stainless Steels	V7 PLUS END MILLS
ALU-POWER HPC 硬质合金铣刀 适用于加工铝，铝合金，非铁金属和塑料	**ALU-POWER HPC** SOLID CARBIDE END MILLS For Aluminium, Aluminum Die Cast, Non-ferrous Alloys and Plastics	ALU-POWER HPC END MILLS
ALU-CUT 硬质合金铣刀 适用于加工铝合金而无声切削	**ALU-CUT** SOLID CARBIDE END MILLS For Aluminium Alloys and Silent Cutting	ALU-CUT END MILLS
G-CUT 硬质合金铣刀 高性能加工石墨	**G-CUT** SOLID CARBIDE END MILLS For Graphites	G-CUT END MILLS
CRX 硬质合金铣刀 加工铜的DLC涂层铣刀	**CRX S** SOLID CARBIDE END MILLS DLC Coated End Mills for Copper	CRX S END MILLS
K-2 Plus 硬质合金铣刀 适用于普通加工 / 普通或高速铣削 / 湿切&干切削	**K-2 Plus** SOLID CARBIDE END MILLS General Purpose / Conventional or High Speed Milling / Wet & Dry Cutting	K-2 Plus END MILLS
普通硬质合金铣刀 适用于普通加工， 非涂层及任何涂层都可以提供	**GENERAL CARBIDE** END MILLS General Purposes, Non-coated, Any Coating Available	GENERAL CARBIDE END MILLS
ONLY ONE 粉末高速钢铣刀 在振动工况硬质合金崩刃的完美解决方案	**ONLY ONE** COATED PM60 END MILLS Perfect Solution of Carbide Chipping under Vibrations	ONLY ONE COATED PM60 END MILLS
TANK-POWER 粉末高速钢铣刀 适用于不锈钢，碳钢，合金钢 可用于普通加工，粗&精加工的高韧性铣刀	**TANK-POWER** HSS-PM END MILLS High Toughness for Stainless Steels, Carbon steels and Alloy Steels / for General Application, Roughing & Finishing	TANK-POWER END MILLS
普通高速钢铣刀 普通加工 / 可以提供涂层	**GENERAL HSS END MILLS** General Purpose / Coating Available	GENERAL HSS END MILLS
高速钢铣刀 普通加工，可提供燕尾槽铣刀， 月牙键槽铣刀，T型铣刀，三面刃铣刀， 含钴8%的圆角铣刀和圆筒形端铣刀	HSS **MILLING CUTTERS** General Works. Available Dovetail, Woodruff Keyseat, T-slot, Side Milling Cutters and HSS (8% Cobalt) Corner Rounding, Shell End Mills	MILLING CUTTERS
技术参数	**TECHNICAL DATA**	TECHNICAL DATA

SELECTION GUIDE 选用指南

YG MILLING TOOLS

	CBN		i-Xmill Insert			
SERIES 系列	ESB94	ESD02	XMB110A	XMB120C	XMB260T	XMB130A
FLUTE 槽数	2	2	2	2	2	2
HELIX ANGLE 螺旋角度	30°	0°	-	-	-	-
CUTTING EDGE SHAPE 类型	BALL NOSE	CORNER RADIUS	BALL NOSE	BALL NOSE	BALL NOSE	BALL NOSE
SIZE MIN 最小尺寸	R0.2	D0.5	R4.0	R4.0	R4.0	R4.0
SIZE MAX 最大尺寸	R1.5	D2.0	R16.5	R16.5	R16.5	R16.5
PAGE 页数	C25	C26	C32			C33
LENGTH	-	-	-	-	-	-
SURFACE TREATMENT	Uncoated	Uncoated	AlTiN	X-Coating	Z-Coating	AlTiN
			GENERAL PURPOSE	PRE-HARDENED STEELS	HIGH HARDENED STEELS	STAINLESS STEELS

Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀)
○ : Good (良好)

ISO	VDI 3323	Material Description 工件材料	HB	HRc						
P	1	Non-alloy steel	125				◎			
	2		190	13			◎			
	3		250	25			◎			
	4		270	28			◎			
	5		300	32			◎			
	6	Low alloy steel	180	10			◎			
	7		275	29			◎			
	8		300	32			◎			
	9		350	38				◎		
	10	High alloyed steel, and tool steel	200	15				○		
	11		325	35				◎		
M	12	Stainless steel	200	15						◎
	13		240	23						◎
	14		180	10						◎
K	15	Grey cast iron	180	10				◎		
	16		260	26				◎		
	17	Nodular cast iron	160	3				◎		
	18		250	25				◎		
	19	Malleable cast iron	130					◎		
	20		230	21				◎		
N	21	Aluminum-wrought alloy	60							
	22		100							
	23	Aluminum-cast, alloyed	75							
	24		90							
	25		130							
	26	Copper and Copper Alloys (Bronze / Brass)	110							
	27		90							
	28		100							
	29	Non Metallic Materials Duroplastic, Fiber Reinforced Plastic, Graphite, CFRP, GFRP, etc.								
	30									
S	31	Heat Resistant Super Alloys	200	15						
	32		280	30						
	33		250	25						
	34		350	38						
	35		320	34						
	36	Titanium Alloys	400 Rm							
	37		1050 Rm							
H	38	Hardened steel	550	55	◎	◎		○	◎	
	39		630	60	◎	◎			◎	
	40	Chilled Cast Iron	400	42					○	
	41	Hardened Cast Iron	550	55	◎	◎			◎	

	i-Xmill Insert							i-Xmill Holder					
	XMM110V	XMB110D	XMR110A	XMR120C	XMR260T	XMF110V	XMR110D	ZBC	ZBS	ZBT	ZRC	ZRS	ZRT
	2	2	2	2	2	2	2	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	BALL NOSE	BALL NOSE	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	BALL NOSE	BALL NOSE	BALL NOSE	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS
	R4.0	R4.0	D8.0	D8.0	D8.0	D8.0	D8.0	-	-	-	-	-	-
	R16.5	R16.5	D33.0	D33.0	D33.0	D33.0	D33.0	-	-	-	-	-	-
	C33		C34-38			C39-43		C44	C45	C46	C47	C48	
	FULL RADIUS	-	-	-	-	HIGH FEED	-	STRAIGHT NECK	STRAIGHT NECK	TAPER NECK	STRAIGHT NECK	STRAIGHT NECK	TAPER NECK
	Y-Coating	Diamond	AlTiN	X-Coating	Z-Coating	Y-Coating	Diamond	Carbide	Steel	Steel	Carbide	Steel	Steel
	GENERAL PURPOSE	GRAPHITE	GENERAL PURPOSE STAINLESS STEELS	PRE-HARDENED STEELS	HIGH HARDENED STEELS	GENERAL PURPOSE	GRAPHITE						

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SELECTION GUIDE 选用指南

YG MILLING TOOLS

	i-Smart Modular Head					
SERIES 系列	XSEMD98	XSEME59	XSEME60	XSEME01	XSEME68	XSEME36
FLUTE 槽数	2	3	4	4	6	4
HELIX ANGLE 螺旋角度	30°	30°	30°	27°/30° (MULTIPLE HELIX)	45°	27°/30° (MULTIPLE HELIX)
CUTTING EDGE SHAPE 类型	BALL NOSE	BALL NOSE	BALL NOSE	CORNER RADIUS	CORNER RADIUS	SQUARE
SIZE MIN 最小尺寸	R5.0	R5.0	R5.0	D10.0	D10.0	D10.0
SIZE MAX 最大尺寸	R16.0	R16.0	R16.0	D32.0	D32.0	D32.0
PAGE 页数	C58	C59	C60	C61-62	C63	C64
LENGTH	CENTER MATCH	CENTER MATCH	CENTER MATCH	-	-	-
SURFACE TREATMENT	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating

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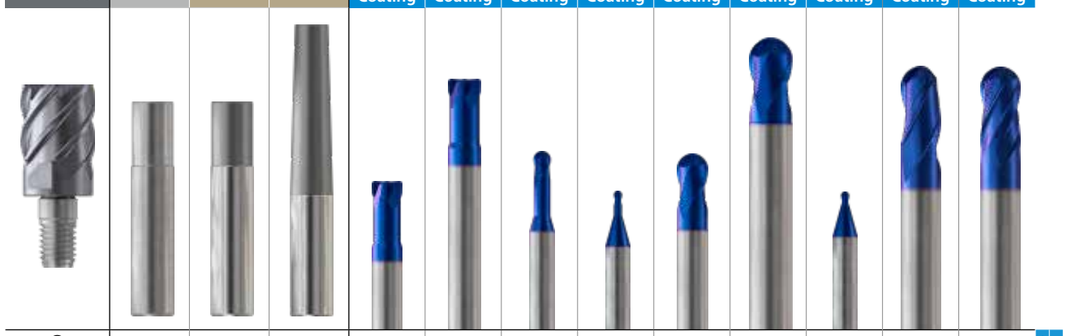
ISO	VDI 3323	Material Description 工件材料	HB	HRc						
P	1	Non-alloy steel	125		○	○	○	○	○	○
	2		190	13	○	○	○	○	○	○
	3		250	25	○	○	○	◎	○	◎
	4		270	28	◎	◎	◎	◎	◎	◎
	5		300	32	◎	◎	◎	◎	◎	◎
	6	Low alloy steel	180	10	○	○	○	○	○	○
	7		275	29	◎	◎	◎	◎	◎	◎
	8		300	32	◎	◎	◎	◎	◎	◎
	9		350	38	◎	◎	◎	◎	◎	◎
	10	High alloyed steel, and tool steel	200	15	○	○	○	○	○	○
	11		325	35	◎	◎	◎	◎	◎	◎
M	12	Stainless steel	200	15						
	13		240	23						
	14		180	10						○
K	15	Grey cast iron	180	10	○	○	○	○	○	○
	16		260	26	○	○	○	○	○	○
	17	Nodular cast iron	160	3	○	○	○	○	○	○
	18		250	25	○	○	○	○	○	○
	19	Malleable cast iron	130		○	○	○	○	○	○
	20		230	21	○	○	○	○	○	○
N	21	Aluminum-wrought alloy	60							
	22		100							
	23	Aluminum-cast, alloyed	75							
	24		90							
	25		130							
	26	Copper and Copper Alloys (Bronze / Brass)	110							
	27		90							
	28		100							
	29	Non Metallic Materials Duroplastic, Fiber Reinforced Plastic, Graphite, CFRP, GFRP, etc.								
	30									
S	31	Heat Resistant Super Alloys	200	15						
	32		280	30						
	33		250	25						
	34		350	38						
	35		320	34						
	36	Titanium Alloys	400 Rm							
	37		1050 Rm							
H	38	Hardened steel	550	55	○	○	○	○	○	○
	39		630	60	○	○	○	○	○	○
	40	Chilled Cast Iron	400	42	◎	◎	◎	◎	◎	◎
	41	Hardened Cast Iron	550	55	○	○	○	○	○	○

	i-Smart Modular Holder			X5070								
XSEME75	ZMC	ZMS	ZMT	G8B59	G8B54	G8A46	G8A54	G8A28	G8A38	G8A53	G8A59	G8D62
6	-	-	-	4	4	2	2	2	2	2	3	4
45°	-	-	-	0°	0°	30°	30°	30°	30°	30°	30°	30°
SQUARE	-	-	-	CORNER RADIUS	CORNER RADIUS	BALL NOSE	BALL NOSE	BALL NOSE	BALL NOSE	BALL NOSE	BALL NOSE	BALL NOSE
D10.0	-	-	-	D2.0	D2.0	R0.05	R0.25	R0.05	R0.5	R0.2	R1.5	R1.5
D32.0	-	-	-	D12.0	D16.0	R2.0	R1.0	R6.0	R12.5	R1.0	R10.0	R10.0
C65	C66	C67	C68	C79	C80	C81-84	C85	C86-87	C88	C89	C90	C91
-	STRAIGHT NECK	STRAIGHT NECK	TAPER NECK	HIGH FEED	HIGH FEED LONG SHANK	RIB PROCESSING	RIB PROCESSING	-	EXTENDED NECK	MINIATURE	Center Match	Center Match
Y-Coating	Carbide	Steel	Steel	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating



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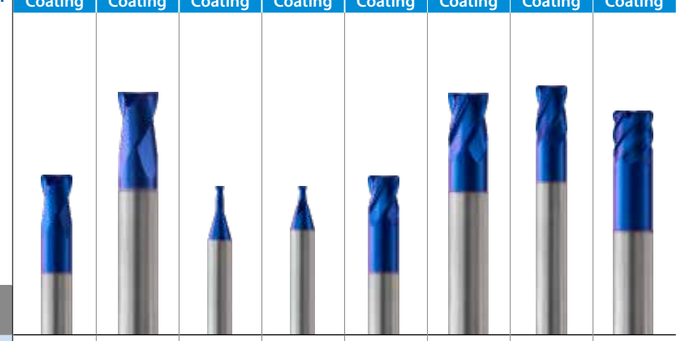
SELECTION GUIDE 选用指南

MILLING TOOLS

	X5070							
SERIES 系列	G8A60	G8A36	G8A52	G8A50	G8A47	G8A37	G8B08	G8A39
FLUTE 槽数	2	2	2	2	4	4	4	6
HELIX ANGLE 螺旋角度	30°	30°	30°	30°	30°	30°	30°	45°
CUTTING EDGE SHAPE 类型	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS
SIZE MIN 最小尺寸	D0.5	D0.3	D0.5	D0.3	D3.0	D1.0	D6.0	D6.0
SIZE MAX 最大尺寸	D12.0	D20.0	D2.0	D2.0	D12.0	D20.0	D12.0	D20.0
PAGE 页数	C92-96	C97-98	C99	C100	C101	C102	C103	C104
LENGTH	RIB PROCESSING	EXTENDED NECK	RIB PROCESSING	MINIATURE	EXTENDED NECK	EXTENDED NECK	EXTENDED NECK	EXTENDED NECK
SURFACE TREATMENT	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating



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ISO	VDI 3323	Material Description 工件材料	HB	HRc								
P	1	Non-alloy steel	125									
	2		190	13								
	3		250	25								
	4		270	28								
	5		300	32	○	○	○	○	○	○	○	○
	6	Low alloy steel	180	10								
	7		275	29								
	8		300	32	○	○	○	○	○	○	○	○
	9		350	38	○	○	○	○	○	○	○	○
	10	High alloyed steel, and tool steel	200	15								
	11		325	35	○	○	○	○	○	○	○	○
M	12	Stainless steel	200	15								
	13		240	23								
	14		180	10								
K	15	Grey cast iron	180	10								
	16		260	26								
	17	Nodular cast iron	160	3								
	18		250	25								
	19	Malleable cast iron	130									
	20		230	21								
N	21	Aluminum-wrought alloy	60									
	22		100									
	23	Aluminum-cast, alloyed	75									
	24		90									
	25		130									
	26	Copper and Copper Alloys (Bronze / Brass)	110									
	27		90									
	28		100									
	29	Non Metallic Materials Duroplastic, Fiber Reinforced Plastic, Graphite, CFRP, GFRP, etc.										
	30											
S	31	Heat Resistant Super Alloys	200	15								
	32		280	30								
	33		250	25								
	34		350	38								
	35		320	34								
	36	Titanium Alloys	400 Rm									
	37		1050 Rm									
H	38	Hardened steel	550	55	◎	◎	◎	◎	◎	◎	◎	◎
	39		630	60	◎	◎	◎	◎	◎	◎	◎	◎
	40	Chilled Cast Iron	400	42	○	○	○	○	○	○	○	○
	41	Hardened Cast Iron	550	55	◎	◎	◎	◎	◎	◎	◎	◎

	X5070					4G Mills						
	G8A45	G8A01	G8A02	G8D63	G8D64	SEMD98	SEM846	SEM846	SEMD99	SEME61	SEME01	SEME64
FLUTE 槽数	2	2	4	6&8	6&8	2	2	2	2	2	4	4
HELIX ANGLE 螺旋角度	30°	30°	30°	45°	45°	30°	30°	30°	30°	30°	27°/30° (MULTIPLE HELIX)	27°/30° (MULTIPLE HELIX)
CUTTING EDGE SHAPE 类型	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	BALL NOSE	BALL NOSE	BALL NOSE	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS
SIZE MIN 最小尺寸	D0.1	D0.1	D1.0	D6.0	D6.0	R0.05	R0.05	R0.25	D0.2	D0.2	D1.0	D1.0
SIZE MAX 最大尺寸	D4.0	D20.0	D20.0	D25.0	D25.0	R12.5	R6.0	R1.0	D20.0	D20.0	D20.0	D20.0
PAGE 页数	C105-108	C109	C110	C111	C112	C140-145	C146-155	C156-158	C159-166	C167-185	C186-192	C193-207
LENGTH	RIB PROCESSING	EXTENDED NECK	EXTENDED NECK	LONG LENGTH	EXTRA LONG LENGTH	-	EXTENDED NECK	EXTENDED NECK (6mm Shank)	-	EXTENDED NECK	-	EXTENDED NECK
SURFACE TREATMENT	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating

						○	○	○	○	○	○	○	1	
						○	○	○	○	○	○	◎	2	
						○	○	○	◎	◎	◎	◎	3	
						◎	◎	◎	◎	◎	◎	◎	4	
○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	5	
						○	○	○	○	○	○	○	6	P
						◎	◎	◎	◎	◎	◎	◎	7	
○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	8	
○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	9	
						○	○	○	○	○	○	○	10	
○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	11	
													12	
													13	M
													14	
						○	○	○	○	○	○	○	15	
						○	○	○	○	○	○	○	16	
						○	○	○	○	○	○	○	17	
						○	○	○	○	○	○	○	18	K
						○	○	○	○	○	○	○	19	
						○	○	○	○	○	○	○	20	
													21	
													22	
													23	
													24	
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													28	
													29	
													30	
													31	
													32	
													33	
													34	S
													35	
													36	
													37	
◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	38	
◎	◎	◎	◎	◎									39	H
○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	40	
◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	41	

SELECTION GUIDE 选用指南

MILLING TOOLS

Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀)
○ : Good (良好)

	4G Mills									
SERIES 系列	SEME35	SEME35	SEME35	SEME70	SEM845	SEME36	SEME71	SEME72	SEME73	SEME75
FLUTE 槽数	2	2	2	2	2	4	4	4	4	6
HELIX ANGLE 螺旋角度	30°	30°	30°	30°	30°	27°/30° (MULTIPLE HELIX)	35°/38° (MULTIPLE HELIX)	30°	30°	45°
CUTTING EDGE SHAPE 类型	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE
SIZE MIN 最小尺寸	D0.1	D0.1	D0.1	D1.0	D0.1	D0.8	D1.0	D1.0	D1.0	D6.0
SIZE MAX 最大尺寸	D25.0	D4.0	D3.0	D25.0	D12.0	D25.0	D20.0	D25.0	D12.0	D20.0
PAGE 页数	C208-210	C211	C212	C213-218	C219-227	C228-229	C230-233	C234-239	C240-244	2C45-246
LENGTH	-	4mm Shank	3mm Shank	LONG LENGTH	EXTENDED NECK	-	Sharp Corner Removal	LONG LENGTH	EXTENDED NECK	-
SURFACE TREATMENT	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating

ISO	VDI 3323	Material Description 工件材料	HB	HRc									
P	1	Non-alloy steel	125		○	○	○	○	○	○	○	○	○	○
	2		190	13	○	○	○	○	○	○	○	○	○	○
	3		250	25	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	4		270	28	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	5		300	32	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	6	Low alloy steel	180	10	○	○	○	○	○	○	○	○	○	○
	7		275	29	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	8		300	32	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	9		350	38	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	10	High alloyed steel, and tool steel	200	15	○	○	○	○	○	○	○	○	○	○
	11		325	35	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
M	12	Stainless steel	200	15					○				○	
	13		240	23					○				○	
	14		180	10	○	○	○		○	○	○		○	
K	15	Grey cast iron	180	10	○	○	○	○	○	○	○	○	○	○
	16		260	26	○	○	○	○	○	○	○	○	○	○
	17	Nodular cast iron	160	3	○	○	○	○	○	○	○	○	○	○
	18		250	25	○	○	○	○	○	○	○	○	○	○
	19	Malleable cast iron	130		○	○	○	○	○	○	○	○	○	○
	20		230	21	○	○	○	○	○	○	○	○	○	○
N	21	Aluminum-wrought alloy	60											
	22		100											
	23	Aluminum-cast, alloyed	75											
	24		90											
	25		130											
	26	Copper and Copper Alloys (Bronze / Brass)	110											
	27		90											
	28		100											
	29	Non Metallic Materials Duroplastic, Fiber Reinforced Plastic, Graphite, CFRP, GFRP, etc.												
	30													
S	31	Heat Resistant Super Alloys	200	15										
	32		280	30										
	33		250	25										
	34		350	38										
	35		320	34										
	36	Titanium Alloys	400 Rm											
	37		1050 Rm											
H	38	Hardened steel	550	55	○	○	○	○	○	○	○	○	○	○
	39		630	60										
	40	Chilled Cast Iron	400	42	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	41	Hardened Cast Iron	550	55	○	○	○	○	○	○	○	○	○	○

	4G Mills X-Speed Rougher				X-POWER PRO									
	G9D75 G9D67	G9D76 G9D68	G9D77 G9D69	GAE53	GMH31	GMH32	GMH37	GMH38	GMH33	GMH34	GMH35	GMH36	GMH39	GM814
	4&5	4&5	4&5	4&5	2	2	2	4	2	2	4	4	6	3&4
	44°~45° (MULTIPLE HELIX)	44°~45° (MULTIPLE HELIX)	44°~45° (MULTIPLE HELIX)	44°~45° (MULTIPLE HELIX)	30°	30°	30°	30°	30°	30°	30°	30°	45°	20°
	CORNER RADIUS ROUGHING	CORNER RADIUS ROUGHING	CORNER RADIUS ROUGHING	CORNER RADIUS ROUGHING	BALL NOSE	BALL NOSE	CORNER RADIUS	CORNER RADIUS	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	ROUGHING
	D6.0	D6.0	D6.0	D6.0	R0.1	R0.2	D3.0	D3.0	D1.0	D0.4	D1.0	D2.0	D6.0	D6.0
	D20.0	D20.0	D20.0	D20.0	R10.0	R3.0	D12.0	D12	D20.0	D4.0	D20.0	D20.0	D16.0	D20.0
	C247		C248	C249	C324	C325-326	C327	C328	C329	C330-331	C332	C333	C334	C335
	SHORT LENGTH	LONG LENGTH	LONG LENGTH	SHORT LENGTH	SHORT LENGTH	RIB PROCESSING	LONG LENGTH	LONG LENGTH	SHORT LENGTH	RIB PROCESSING	SHORT LENGTH	LONG LENGTH	LONG LENGTH	LONG LENGTH
	X-Coating	X-Coating	X-Coating	X-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating

1					○	○	○	○	○	○	○	○	○	○	
2					○	○	○	○	○	○	○	○	○	○	
3					◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	
4					◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	
5					◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	
6					○	○	○	○	○	○	○	○	○	○	P
7					◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	
8					◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	
9				○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	
10				○	○	○	○	○	○	○	○	○	○	○	
11				○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	
12								○	○		○			○	
13								○	○		○			○	M
14				◎				○	○		○			○	
15				◎	○	○	○	○	○	○	○	○	○	○	
16				◎	○	○	○	○	○	○	○	○	○	○	
17				◎	○	○	○	○	○	○	○	○	○	○	
18				◎	○	○	○	○	○	○	○	○	○	○	K
19				◎	○	○	○	○	○	○	○	○	○	○	
20				◎	○	○	○	○	○	○	○	○	○	○	
21															
22															
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24															
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27															
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29															
30															
31															
32															
33															
34															S
35															
36															
37															
38					○	○	○	○	○	○	○	○	○	○	
39					○										
40					◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	H
41					○	○	○	○	○	○	○	○	○	○	

SELECTION GUIDE 选用指南

YG MILLING TOOLS

	TitaNox-Power					
SERIES 系列	GMG40 GMG41	GMG28 GMG29	GMG30 GMG31	GMG24 GMG25	GMG26 GMG27	EHE54 EHE55
FLUTE 槽数	4	5	5	5	5	5
HELIX ANGLE 螺旋角度	43°/45°	43°/44°/45°	43°/44°/45°	43°/44°/45°	43°/44°/45°	40°
CUTTING EDGE SHAPE 类型	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	SQUARE	SQUARE	ROUGHING CORNER RADIUS
SIZE MIN 最小尺寸	D6.0	D6.0	D6.0	D6.0	D6.0	D6.0
SIZE MAX 最大尺寸	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0
PAGE 页数	C352-353	C354	C355-356	C357	C358	C359
LENGTH	LONG LENGTH DOUBLE CORE	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	LONG LENGTH	-
SURFACE TREATMENT	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	TiAlN

Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀)
○ : Good (良好)

ISO	VDI 3323	Material Description 工件材料	HB	HRc						
P	1	Non-alloy steel	125		○	○	○	○	○	
	2		190	13	○	○	○	○	○	
	3		250	25	○	○	○	○	○	
	4		270	28	○	○	○	○	○	
	5		300	32	○	○	○	○	○	
	6	Low alloy steel	180	10	○	○	○	○	○	
	7		275	29	○	○	○	○	○	
	8		300	32	○	○	○	○	○	
	9		350	38	○	○	○	○	○	
	10	High alloyed steel, and tool steel	200	15	○	○	○	○	○	
	11		325	35	○	○	○	○		
M	12	Stainless steel	200	15	◎	◎	◎	◎	◎	○
	13		240	23	◎	◎	◎	◎	◎	○
	14		180	10	◎	◎	◎	◎	◎	○
K	15	Grey cast iron	180	10	○	○	○	○	○	
	16		260	26	○	○	○	○	○	
	17	Nodular cast iron	160	3	○	○	○	○	○	
	18		250	25	○	○	○	○	○	
	19	Malleable cast iron	130		○	○	○	○	○	
	20		230	21	○	○	○	○	○	
N	21	Aluminum-wrought alloy	60							
	22		100							
	23	Aluminum-cast, alloyed	75							
	24		90							
	25		130							
	26	Copper and Copper Alloys (Bronze / Brass)	110							
	27		90							
	28		100							
	29	Non Metallic Materials Duroplastic, Fiber Reinforced Plastic, Graphite, CFRP, GFRP, etc.								
	30									
S	31	Heat Resistant Super Alloys	200	15	○	○	○	○	○	○
	32		280	30	○	○	○	○	○	○
	33		250	25	○	○	○	○	○	○
	34		350	38	○	○	○	○	○	○
	35		320	34	○	○	○	○	○	○
	36	Titanium Alloys	400 Rm		◎	◎	◎	◎	◎	◎
	37		1050 Rm		◎	◎	◎	◎	◎	◎
H	38	Hardened steel	550	55						
	39		630	60						
	40	Chilled Cast Iron	400	42						
	41	Hardened Cast Iron	550	55						

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

	SUS-CUT					V7 Plus						
	EMD88	EMD83	EHD84	EMD82	EMD92	GMH66	GMH65	GMF66	GMH67	GMH68	GMH69	GMH71
	4	4	3	4	3-5	4	4	4	4	4	6	6
	36°~39.75° (SINUSOIDAL)	36°~39.75° (SINUSOIDAL)	45°	36°~39.75° (SINUSOIDAL)	45° (MULTIPLE HELIX)	35°/37° (MULTIPLE HELIX)	35°/37° (MULTIPLE HELIX)	35°/37° (MULTIPLE HELIX)	35°/37° (MULTIPLE HELIX)	35°/37° (MULTIPLE HELIX)	45°	45°
	BALL NOSE	CORNER RADIUS	SQUARE	SQUARE	ROUGHING CORNER RADIUS	BALL NOSE	CORNER RADIUS	SQUARE	SQUARE	SQUARE	CORNER RADIUS	SQUARE
	R1.5	D1.0	D1.0	D1.0	D3.0	R1.5	D1.0	D3.0	D1.0	D1.0	D6.0	D6.0
	R10.0	D20.0	D20.0	D20.0	D20.0	R12.5	D25.0	D20.0	D20.0	D20.0	D25.0	D25.0
	C367	C368-369	C370	C371-372	C373-374	C384	C385-386	C387	C388	C389	C390	C391
	-	-	-	-	Type A/B	LONG LENGTH	LONG LENGTH	SHORT LENGTH	LONG LENGTH	LONG LENGTH	-	-
	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating

◎	◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	1		
◎	◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	2		
◎	◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	3		
◎	◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	4		
○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	5		
◎	◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	6	P	
◎	◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	7		
○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	8		
○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	9		
◎	◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	10		
○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	11		
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	12		
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	13	M	
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	14		
○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	15		
○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	16		
○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	17		
○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	18	K	
○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	19		
○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	20		
												21		
												22		
												23		
												24		
												25		
		○										26	N	
		○										27		
		○										28		
												29		
												30		
○	○	○	○	○	○	○	○	○	○	○	○	31		
○	○	○	○	○	○	○	○	○	○	○	○	32		
○	○	○	○	○	○	○	○	○	○	○	○	33		
○	○	○	○	○	○	○	○	○	○	○	○	34	S	
○	○	○	○	○	○	○	○	○	○	○	○	35		
○	○	○	○	○	○	○	○	○	○	○	○	36		
○	○	○	○	○	○	○	○	○	○	○	○	37		
												38		
												39		
												40	H	
												41		

SELECTION GUIDE 选用指南

MILLING TOOLS

	V7 Plus		ALU-POWER HPC				ALU-CUT	
SERIES 系列	GMH70	EMB72 EMB73	E5H24 JAH24	E5H25 JAH25	E5H22 JAH22	E5H23 JAH23	E5D71	E5C72
FLUTE 槽数	6	5	3	3	3	3	2	3
HELIX ANGLE 螺旋角度	45°	41°~ 45°	37°	37°	37°	37°	45°	45°
CUTTING EDGE SHAPE 类型	SQUARE	SQUARE	CORNER RADIUS	CORNER RADIUS	SQUARE	SQUARE	SQUARE	SQUARE
SIZE MIN 最小尺寸	D6.0	D6.0	D6.0	D6.0	D3.0	D6.0	D1.0	D1.0
SIZE MAX 最大尺寸	D25.0	D25.0	D20.0	D20.0	D25.0	D20.0	D20.0	D20.0
PAGE 页数	C392	C393	C402-404	C405-407	C408	C409	C415-416	C417
LENGTH	LONG LENGTH	LONG LENGTH	-	EXTENDED NECK	-	EXTENDED NECK	-	SHORT LENGTH
SURFACE TREATMENT	Y-Coating	AlTiN	Uncoated	Uncoated	Uncoated	Uncoated	Uncoated	Uncoated
			DLC	DLC	DLC	DLC		

Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀)
○ : Good (良好)

ISO	VDI 3323	Material Description 工件材料	HB	HRc								
P	1	Non-alloy steel	125		○	○						
	2		190	13	○	○						
	3		250	25	◎	◎						
	4		270	28	◎	◎						
	5		300	32	◎	◎						
	6	Low alloy steel	180	10	○	○						
	7		275	29	◎	◎						
	8		300	32	◎	◎						
	9		350	38	◎	◎						
	10	High alloyed steel, and tool steel	200	15	○	○						
	11		325	35	◎	◎						
M	12	Stainless steel	200	15	○	○						
	13		240	23	○	○						
	14		180	10	◎	◎						
K	15	Grey cast iron	180	10								
	16		260	26								
	17	Nodular cast iron	160	3								
	18		250	25								
	19	Malleable cast iron	130									
	20		230	21								
N	21	Aluminum-wrought alloy	60				◎	◎	◎	◎	◎	◎
	22		100				◎	◎	◎	◎	◎	◎
	23	Aluminum-cast, alloyed	75				◎	◎	◎	◎	◎	◎
	24		90				◎	◎	◎	◎	◎	◎
	25		130				○	○	○	○	◎	
	26	Copper and Copper Alloys (Bronze / Brass)	110				○	○	○	○		
	27		90				○	○	○	○		
	28		100				○	○	○	○		
	29	Non Metallic Materials Duroplastic, Fiber Reinforced Plastic, Graphite, CFRP, GFRP, etc.					○	○	○	○		
	30											
S	31	Heat Resistant Super Alloys	200	15	○	○						
	32		280	30	○	○						
	33		250	25	○	○						
	34		350	38	○	○						
	35		320	34	○	○						
	36	Titanium Alloys	400 Rm		◎	◎						
	37		1050 Rm		◎	◎						
H	38	Hardened steel	550	55								
	39		630	60								
	40	Chilled Cast Iron	400	42	○	○						
	41	Hardened Cast Iron	550	55								

	ALU-CUT		G-CUT					CRX S				
	E5D70	E5D73	EIE21	EIE23	EIE22	EIE25	EIE26	SGED28	SGED27	SGED29	SGED31	SGED30
FLUTE 槽数	3	3	2	2	4	2	4	2	2	2	2	2
HELIX ANGLE 螺旋角度	45°	45°	30°	30°	30°	30°	30°	30°	30°	30°	30°	30°
CUTTING EDGE SHAPE 类型	SQUARE	ROUGHING	BALL NOSE	BALL NOSE	BALL NOSE	SQUARE	SQUARE	BALL NOSE	BALL NOSE	CORNER RADIUS	SQUARE	SQUARE
SIZE MIN 最小尺寸	D1.0	D4.0	R0.05	R0.5	R0.5	D0.1	D2.0	R0.5	R0.25	D1.0	D1.0	D0.5
SIZE MAX 最大尺寸	D20.0	D20.0	R10.0	R6.0	R10.0	D12.0	D20.0	R6.0	R6.0	D12.0	D12.0	D12.0
PAGE 页数	C418-423	C424-425	C431-435	C436-437	C438-440	C441-442	C443-444	C449	C450-451	C452-453	C454	C455-456
LENGTH	-	Type A/B	-	LONG NECK	-	-	-	-	EXTENDED NECK	EXTENDED NECK	-	EXTENDED NECK
SURFACE TREATMENT	Uncoated	Uncoated	Diamond	Diamond	Diamond	Diamond	Diamond	DLC	DLC	DLC	DLC	DLC

													1
													2
													3
													4
													5
													6 P
													7
													8
													9
													10
													11
													12
													13 M
													14
													15
													16
													17
													18 K
													19
													20
◎	◎							○	○	○	○	○	21
◎	◎							○	○	○	○	○	22
◎	◎												23
◎	◎												24
◎	◎												25
								◎	◎	◎	◎	◎	26 N
								◎	◎	◎	◎	◎	27
								◎	◎	◎	◎	◎	28
		◎	◎	◎	◎	◎	○	○	○	○	○	29	
													30
													31
													32
													33
													34 S
													35
													36
													37
													38
													39
													40 H
													41

SELECTION GUIDE 选用指南

YG MILLING TOOLS

SERIES 系列	EMC56	EMC60	EMC61	EMC62	EMC59	EMC52	EMC53	EMC54	EMC55
	K-2 Plus								
FLUTE 槽数	4	2	2	4	2	2	2	4	4
HELIX ANGLE 螺旋角度	30°	30°	30°	30°	30°	35°	35°	35°	35°
CUTTING EDGE SHAPE 类型	BALL NOSE	BALL NOSE	CORNER RADIUS	CORNER RADIUS	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE
SIZE MIN 最小尺寸	R0.1	R0.2	D3.0	D3.0	D0.4	D1.0	D2.0	D1.0	D2.0
SIZE MAX 最大尺寸	R10.0	R3.0	D12.0	D12.0	D6.0	D20.0	D20.0	D20.0	D20.0
PAGE 页数	C463	C464-468	C469-470	C471-472	C473-478	C479	C480	C481	C482
LENGTH	SHORT LENGTH	LONG NECK	-	-	LONG NECK	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	LONG LENGTH
SURFACE TREATMENT	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN

Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀)
○ : Good (良好)

ISO	VDI 3323	Material Description 工件材料	HB	HRc	EMC56	EMC60	EMC61	EMC62	EMC59	EMC52	EMC53	EMC54	EMC55
P	1	Non-alloy steel	125		◎	◎	◎	◎	◎	◎	◎	◎	◎
	2		190	13	◎	◎	◎	◎	◎	◎	◎	◎	◎
	3		250	25	◎	◎	◎	◎	◎	◎	◎	◎	◎
	4		270	28	◎	◎	◎	◎	◎	◎	◎	◎	◎
	5		300	32	◎	◎	◎	◎	◎	◎	◎	◎	◎
	6	Low alloy steel	180	10	◎	◎	◎	◎	◎	◎	◎	◎	◎
	7		275	29	◎	◎	◎	◎	◎	◎	◎	◎	◎
	8		300	32	◎	◎	◎	◎	◎	◎	◎	◎	◎
	9		350	38	◎	◎	◎	◎	◎	◎	◎	◎	◎
	10	High alloyed steel, and tool steel	200	15	◎	◎	◎	◎	◎	◎	◎	◎	◎
	11		325	35	◎	◎	◎	◎	◎	◎	◎	◎	◎
M	12	Stainless steel	200	15	○					○	○	○	○
	13		240	23	○					○	○	○	○
	14		180	10	○		○	○		○	○	○	○
K	15	Grey cast iron	180	10	○	○	○	○	○	○	○	○	○
	16		260	26	○	○	○	○	○	○	○	○	○
	17	Nodular cast iron	160	3	○	○	○	○	○	○	○	○	○
	18		250	25	○	○	○	○	○	○	○	○	○
	19	Malleable cast iron	130		○	○	○	○	○	○	○	○	○
	20		230	21	○	○	○	○	○	○	○	○	○
N	21	Aluminum-wrought alloy	60		○					○	○	○	○
	22		100		○					○	○	○	○
	23	Aluminum-cast, alloyed	75		○					○	○	○	○
	24		90		○					○	○	○	○
	25		130		○					○	○	○	○
	26	Copper and Copper Alloys (Bronze / Brass)	110		○								
	27		90		○								
	28		100		○								
	29	Non Metallic Materials Duroplastic, Fiber Reinforced Plastic, Graphite, CFRP, GFRP, etc.											
	30												
S	31	Heat Resistant Super Alloys	200	15									
	32		280	30									
	33		250	25									
	34		350	38									
	35		320	34									
	36	Titanium Alloys	400 Rm										
	37		1050 Rm										
H	38	Hardened steel	550	55	○	○	○	○	○	○	○	○	○
	39		630	60									
	40	Chilled Cast Iron	400	42	○	○	○	○	○	○	○	○	○
	41	Hardened Cast Iron	550	55									

SERIES 系列	EMC57	EMC58	EMC69	G9A25	G9B52	G9A23	G9B50	G9A24	G9B51	E5414	E5524	E5401	E5423	E5402
	K-2 Plus			K-2						GENERAL CARBIDE END MILLS				
FLUTE 槽数	4&6	6	4-6	2	2	2	2	4	4	2	4	2	3	4
HELIX ANGLE 螺旋角度	45°	45°	45°	30°	30°	30°	30°	30°	30°	30°	30°	30°	45°	30°
CUTTING EDGE SHAPE 类型	SQUARE	SQUARE	ROUGHING	BALL NOSE	BALL NOSE	SQUARE	SQUARE	SQUARE	SQUARE	BALL NOSE	BALL NOSE	SQUARE	SQUARE	SQUARE
SIZE MIN 最小尺寸	D1.0	D6.0	D6.0	R0.5	R0.5	D1.0	D1.0	D1.0	D1.0	R0.2	R1.0	D0.4	D3.0	D1.5
SIZE MAX 最大尺寸	D20.0	D20.0	D20.0	R10.0	R10.0	D20.0	D20.0	D20.0	D20.0	R12.5	R10.0	D20.0	D20.0	D20.0
PAGE 页数	C483		C484	C485	C486	C487	C488	C489	C490	C507	C508	C509	C510	C511
LENGTH	SHORT LENGTH	LONG LENGTH	FINE	REGULAR LENGTH	LONG LENGTH	REGULAR LENGTH	LONG LENGTH	REGULAR LENGTH	LONG LENGTH	-	SHORT LENGTH	STANDARD	SHORT LENGTH	STANDARD
SURFACE TREATMENT	TiAlN	TiAlN	X-Coating	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	Uncoated	Uncoated	Uncoated	Uncoated	Uncoated

EMC57	EMC58	EMC69	G9A25	G9B52	G9A23	G9B50	G9A24	G9B51	E5414	E5524	E5401	E5423	E5402	
○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	1
○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	2
○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	3
○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	4
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	5
○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	6 P
○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	7
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	8
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	9
○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	10
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	11
			○	○	○	○	○	○			○	○	○	12
			○	○	○	○	○	○			○	○	○	13 M
		◎	○	○	○	○	○	○			○	○	○	14
○	○		○	○	○	○	○	○	○	○	○	○	○	15
○	○		○	○	○	○	○	○	○	○	○	○	○	16
○	○		○	○	○	○	○	○	○	○	○	○	○	17
○	○		○	○	○	○	○	○	○	○	○	○	○	18 K
○	○		○	○	○	○	○	○	○	○	○	○	○	19
○	○		○	○	○	○	○	○	○	○	○	○	○	20
			○	○	○	○	○	○	○	○	○	○	○	21
			○	○	○	○	○	○	○	○	○	○	○	22
			○	○	○	○	○	○	○	○	○	○	○	23
			○	○	○	○	○	○	○	○	○	○	○	24
			○	○	○	○	○	○	○	○	○	○	○	25
			○	○	○	○	○	○				○	○	26 N
			○	○	○	○	○	○				○	○	27
			○	○	○	○	○	○				○	○	28
														29
														30
		○	○	○										31
		○	○	○										32
		○	○	○										33
		○	○	○										34 S
		○	○	○										35
		○	○	○							○		○	36
		○	○	○							○		○	37
○	○													38
														39
◎	◎	◎	○	○	○	○	○	○						40 H
○	○													41

SELECTION GUIDE 选用指南

YG MILLING TOOLS

ONLY ONE

SERIES 系列	GYG77 GYF97	GYG72 GYF99	GYG01	GYG74 GYF96	GYG52	GYG76 GYG02	GYF95	GYF94	GYF98	GYG03
FLUTE 槽数	2	2	3	4	4	4	Multi Flute	Multi Flute	Multi Flute	Multi Flute
HELIX ANGLE 螺旋角度	30°	30°	30°	30°	35°/37°	30°	4F : 44°/45° 5F : 44°/44.5°/45°	30°	30°	30°
CUTTING EDGE SHAPE 类型	BALL NOSE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	CORNER RADIUS ROUGHING	ROUGHING	ROUGHING	ROUGHING
SIZE MIN 最小尺寸	R0.5	D1.0	D1.0	D1.0	D3.0	D2.0	D6.0	D6.0	D6.0	D6.0
SIZE MAX 最大尺寸	R12.5	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0
PAGE 页数	C526	C527	C528	C529	C530	C531	C532	C533	C534	C535
LENGTH	SHORT LENGTH	SHORT LENGTH	SHORT LENGTH (Center Cut)	SHORT LENGTH (Center Cut)	SHORT LENGTH (Center Cut)	LONG LENGTH (Center Cut)	SHORT LENGTH (Center Cut)	SHORT LENGTH (Center Cut)	LONG LENGTH (Center Cut)	SHORT LENGTH (Center Cut)
SURFACE TREATMENT	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating
Tool Marterial	PM60	PM60	PM60	PM60	PM60	PM60	PM60	PM60	PM60	PM60

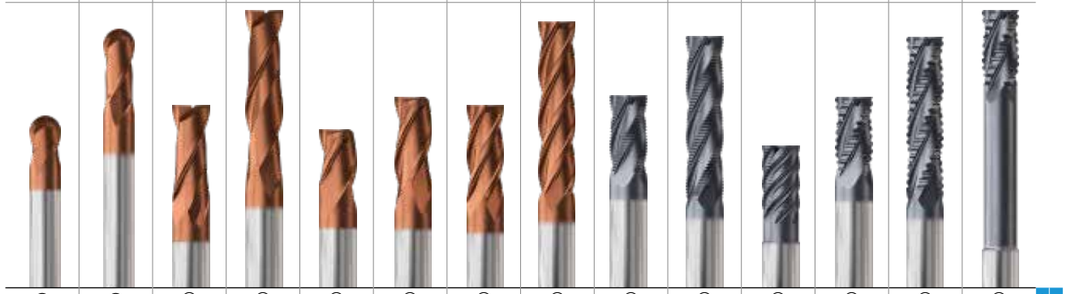
Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀)
○ : Good (良好)

ISO	VDI 3323	Material Description 工件材料	HB	HRc									
P	1	Non-alloy steel	125		◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	2		190	13	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	3		250	25	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	4		270	28	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	5		300	32	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	6	Low alloy steel	180	10	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	7		275	29	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	8		300	32	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	9		350	38	○	○	○	○	○	○	○	○	○	○
	10	High alloyed steel, and tool steel	200	15	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	11		325	35	○	○	○	○	○	○	○	○	○	○
M	12	Stainless steel	200	15	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	13		240	23	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	14		180	10	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
K	15	Grey cast iron	180	10	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	16		260	26	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	17	Nodular cast iron	160	3	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	18		250	25	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	19	Malleable cast iron	130		◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	20		230	21	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
N	21	Aluminum-wrought alloy	60											
	22		100											
	23	Aluminum-cast, alloyed	75											
	24		90											
	25		130											
	26	Copper and Copper Alloys (Bronze / Brass)	110		○	○	○	○	○	○	○	○	○	○
	27		90		○	○	○	○	○	○	○	○	○	○
	28		100		○	○	○	○	○	○	○	○	○	○
	29	Non Metallic Materials Duroplastic, Fiber Reinforced Plastic, Graphite, CFRP, GFRP, etc.												
	30													
S	31	Heat Resistant Super Alloys	200	15										
	32		280	30										
	33		250	25										
	34		350	38										
	35		320	34										
	36	Titanium Alloys	400 Rm											
	37		1050 Rm											
H	38	Hardened steel	550	55										
	39		630	60										
	40	Chilled Cast Iron	400	42	○	○	○	○	○	○	○	○	○	○
	41	Hardened Cast Iron	550	55										

TANK-POWER

E9940 GA940	E9A32 GAA32	E9936 GA936	E9A29 GAA29	E9942 GA942	E9A30 GAA30	E9938 GA938	E9A31 GAA31	E9941 GA941	E9A35 GAA35	E9A26 GAA26	E9A33 GAA33	E9A34 GAA34	E9E43 GAE43
2	2	2	2	3	3	4	4	Multi Flute	Multi Flute	Multi Flute	Multi Flute	Multi Flute	Multi Flute
30°	30°	30°	30°	30°	30°	30°	30°	30°	30°	45°	30°	30°	30°
BALL NOSE	BALL NOSE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	ROUGHING	ROUGHING	ROUGHING	ROUGHING	ROUGHING	ROUGHING
R0.5	R1.0	D1.0	D1.0	D1.0	D1.0	D1.0	D2.0	D6.0	D6.0	D4.0	D6.0	D6.0	D10.0
R12.5	R12.5	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0
C548	C549	C550	C551	C552	C553	C554	C555	C556	C557	C558	C559	C560	C561
SHORT LENGTH	LONG LENGTH	SHORT LENGTH	LONG LENGTH	STUB LENGTH	SHORT LENGTH	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	SHORT LENGTH	LONG LENGTH	WITH NECK
TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	X- Coating	X- Coating	X- Coating	X- Coating	X- Coating	X- Coating
HSS-PM	HSS-PM	HSS-PM	HSS-PM	HSS-PM	HSS-PM	HSS-PM	HSS-PM	HSS-PM	HSS-PM	HSS-PM	HSS-PM	HSS-PM	HSS-PM



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SELECTION GUIDE 选用指南

YG MILLING TOOLS

GENERAL HSS END MILLS

	ISO	VDI 3323	Material Description 工件材料	HB	HRc	E2480	E2401	E2406	E2412	E2659	E2750	E2760	E2759	E2753	EL612
SERIES 系列						E2480	E2401	E2406	E2412	E2659	E2750	E2760	E2759	E2753	EL612
FLUTE 槽数						2	2	2	4	4	4	4-6 (Multi Flute)	4-6 (Multi Flute)	3-6 (Multi Flute)	1
HELIX ANGLE 螺旋角度						30°	30°	30°	30°	30°	30°	30°	30°	30°	≒ 30°
CUTTING EDGE SHAPE 类型						BALL NOSE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE ROUGHING - COARSE	SQUARE ROUGHING - COARSE	SQUARE ROUGHING - FINE	SQUARE
SIZE MIN 最小尺寸						R0.5	D1.0	D3.0	D1.0	D3.0	D16.0	D6.0	D10.0	D6.0	D3.0
SIZE MAX 最大尺寸						R25.0	D50.0	D50.0	D50.0	D50.0	D50.0	D50.0	D50.0	D40.0	D10.0
PAGE 页数						C582-583	C584-586	C587-588	C589-591	C592-593	C594	C595-596	C597	C598	C599
LENGTH						REGULAR LENGTH	REGULAR LENGTH	LONG LENGTH	REGULAR LENGTH CENTER CUTTING	LONG LENGTH CENTER CUTTING	EXTRA LONG LENGTH	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	-
SURFACE TREATMENT						Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated
Tool Marterial						HSSCo8	HSSCo8	HSSCo8	HSSCo8	HSSCo8	HSSCo8	HSSCo8	HSSCo8	HSSCo8	HSS-E
	P	1	Non-alloy steel	125		◎	◎	◎	◎	◎	◎	◎	◎	◎	○
		2		190	13	◎	◎	◎	◎	◎	◎	◎	◎	◎	○
		3		250	25	◎	◎	◎	◎	◎	◎	◎	◎	◎	
		4		270	28	◎	◎	◎	◎	◎	◎	◎	◎	◎	
		5		300	32	◎	◎	◎	◎	◎	◎	◎	◎	◎	
		6	Low alloy steel	180	10	◎	◎	◎	◎	◎	◎	◎	◎	◎	○
		7		275	29	◎	◎	◎	◎	◎	◎	◎	◎	◎	
		8		300	32	◎	◎	◎	◎	◎	◎	◎	◎	◎	
		9		350	38	○	○	○	○	○	○	○	○	○	
		10	High alloyed steel, and tool steel	200	15	◎	◎	◎	◎	◎	◎	◎	◎	◎	○
		11		325	35	○	○	○	○	○	○	○	○	○	
	M	12	Stainless steel	200	15										
		13		240	23										
		14		180	10										
	K	15	Grey cast iron	180	10										
		16		260	26										
		17	Nodular cast iron	160	3										
		18		250	25										
		19	Malleable cast iron	130											
		20		230	21										
	N	21	Aluminum-wrought alloy	60		○	○	○	○	○	○	○	○	○	◎
		22		100		○	○	○	○	○	○	○	○	○	◎
		23	Aluminum-cast, alloyed	75		○	○	○	○	○	○	○	○	○	◎
		24		90		○	○	○	○	○	○	○	○	○	◎
		25		130		○	○	○	○	○	○	○	○	○	○
		26	Copper and Copper Alloys (Bronze / Brass)	110											
		27		90											
		28		100											
		29	Non Metallic Materials Duroplastic, Fiber Reinforced Plastic, Graphite, CFRP, GFRP, etc.												
		30													
	S	31	Heat Resistant Super Alloys	200	15										
		32		280	30										
		33		250	25										
		34		350	38										
		35		320	34										
		36	Titanium Alloys	400 Rm											
		37		1050 Rm											
	H	38	Hardened steel	550	55										
		39		630	60										
		40	Chilled Cast Iron	400	42										
		41	Hardened Cast Iron	550	55										

Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀)
○ : Good (良好)

MILLING CUTTER

	ML012, ML022 ML112, ML122 ML212, ML222	ML032, ML042 ML132, ML142 ML232, ML242	ML062 ML162 ML262	ML072 ML172 ML272	ML092	ML102	E2675	E2676	E2677	E2678	E2679	E2498
	-	-	-	-	-	-	Multi Flute	Multi Flute	Multi Flute	Multi Flute	Multi Flute	4
	0°	0°	10°-20°	10°-20°	10°	-	30°	42°	30°	30°	30°	0°
	DOVETAIL CUTTERS	DOVETAIL CUTTERS	WOODRUFF KEYSEAT CUTTERS	T-SLOT CUTTERS	SIDE AND FACE MILLING CUTTERS	SIDE AND FACE MILLING CUTTERS	SHELL END MILL	SHELL END MILL	ROUGHING SHELL END MILL	ROUGHING SHELL END MILL	ROUGHING & FINISHING SHELL END MILL	CORNER ROUNDING CUTTERS
	D16.0	D16.0	D10.5	D12.5	D50.0	D50.0	D30.0	D30.0	D40.0	D40.0	D40.0	D8.0
	D50.0	D38.0	D45.5	D40.0	D125.0	D200.0	D160.0	D100.0	D160.0	D160.0	D160.0	D56.0
	C624	C625	C626-627	C628	C629-630	C631-636	C637	C638	C639	C640	C641	C642-643
	Type A, C, E	Type B, D, F	Type B, D, F	Type AA, AB, AD	with STRAIGHT TEETH	with STAGGERED TEETH	-	for ALUMINUM	-	-	-	-
	Uncoated	Uncoated	Uncoated	Uncoated	Uncoated	Uncoated	Uncoated	Uncoated	Uncoated	Uncoated	Uncoated	Uncoated
	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS Co8
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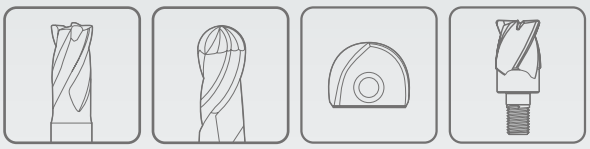
Global Cutting Tool Leader **YG-1**



MILLING

Leading Through Innovation

CBN

CBN (Cubic Boron Nitride)

- CBN(Cubic Boron Nitride) Machining High Hardened Steels up to HRc70 Mirror Finish
- 适用于加工高硬钢(~HRc70)，镜面处理的CBN(立方氮化硼)铣刀

SELECTION GUIDE
选用指南

MILLING TOOLS

SERIES 系列	ESB94	ESD02
FLUTE 槽数	2	2
HELIX ANGLE 螺旋角度	30°	0°
CUTTING EDGE SHAPE 类型	BALL NOSE	CORNER RADIUS
SIZE MIN 最小尺寸	R0.2	D0.5
SIZE MAX 最大尺寸	R1.5	D2.0
PAGE 页数	C25	C26
	-	-
	UNCOATED	UNCOATED

CBN END MILLS

Cubic Boron Nitride,
Machining High Hardened Steels
up to HRc70, Mirror Finish
立方氮化硼，加工高硬钢(~HRc70)，镜面处理

Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工参数) : p.C27

ISO	VDI 3323	Material Description 工件材料	Composition / Structure / Heat Treatment 成分 / 结构 / 热处理		HB	HRc		
P	1	Non-alloy steel	About 0.15% C	Annealed	125			
	2		About 0.45% C	Annealed	190	13		
	3		About 0.45% C	Quenched & Tempered	250	25		
	4		About 0.75% C	Annealed	270	28		
	5		About 0.75% C	Quenched & Tempered	300	32		
	6	Low alloy steel		Annealed	180	10		
	7			Quenched & Tempered	275	29		
	8			Quenched & Tempered	300	32		
	9			Quenched & Tempered	350	38		
	10	High alloyed steel, and tool steel		Annealed	200	15		
	11			Quenched & Tempered	325	35		
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15		
	13		Martensitic	Quenched & Tempered	240	23		
	14		Austenitic		180	10		
K	15	Grey cast iron	Pearlitic / ferritic		180	10		
	16		Pearlitic (Martensitic)		260	26		
	17	Nodular cast iron	Ferritic		160	3		
	18		Pearlitic		250	25		
	19	Malleable cast iron	Ferritic		130			
	20		Pearlitic		230	21		
N	21	Aluminum-wrought alloy	Not Curable		60			
	22		Curable	Hardened	100			
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75			
	24		≤ 12% Si, Curable	Hardened	90			
	25		> 12% Si, Not Curable		130			
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110			
	27		CuZn, CuSnZn (Brass)		90			
	28		CuSn, lead-free copper and electrolytic copper		100			
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic					
	30		Rubber, Wood, etc.					
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15		
	32			Cured	280	30		
	33		Ni or Co Based	Annealed	250	25		
	34			Cured	350	38		
	35			Cast	320	34		
	36	Titanium Alloys	Pure Titanium		400 Rm			
	37		Alpha + Beta Alloys	Hardened	1050 Rm			
H	38	Hardened steel		Hardened	550	55	◎	◎
	39			Hardened	630	60	◎	◎
	40	Chilled Cast Iron		Cast	400	42		
	41	Hardened Cast Iron		Hardened	550	55	◎	◎

BALL NOSE = 球头　　CORNER RADIUS = 圆鼻　　UNCOATED = 非涂层

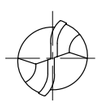
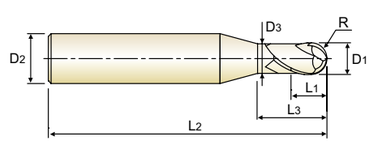
CBN END MILLS

PLAIN SHANK **ESB94** SERIES

CBN, 2 FLUTE BALL NOSE
CBN, 2刃 球头

▶Achieves stable machining and higher accuracy for duration.
▶Saves setting time and cost from the reduction of frequent tool change.
▶Improves repeatability in performance.
▶Special designed geometry improving tool rigidity at High Speed Cutting.
▶Tighter Radius Tolerance of ±0.005mm and higher accuracy with longer tool life.

▶高耐用性可保证稳定的加工和高精度
▶减少换刀频率节省调试时间和成本
▶提高可重复性性能
▶特殊设计的形状提高刀具在高速加工的刚性
▶精确半径公差(±0.005mm), 高精度，高寿命

CBN | 2 | 30° | R ±0.005 | PLAIN

p.C27

Recommended ToolHolder

	Plain Shank	Page
◎	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	POWER MILLING CHUCK	D161 - 176
○	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R (±0.005)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
ESB94004012	R0.2	0.4	4	0.3	1.2	50	0.37
ESB94005015	R0.25	0.5	4	0.4	1.5	50	0.46
ESB94006015	R0.3	0.6	4	0.5	1.5	50	0.56
ESB94008020	R0.4	0.8	4	0.6	2	50	0.76
ESB94010025	R0.5	1.0	4	0.6	2.5	50	0.95
ESB94010040	R0.5	1.0	4	0.6	4	50	0.95
ESB94010060	R0.5	1.0	4	0.6	6	50	0.95
ESB94012030	R0.6	1.2	4	0.8	3	50	1.15
ESB94015030	R0.75	1.5	4	0.95	3	50	1.45
ESB94015040	R0.75	1.5	4	0.95	4	50	1.45
ESB94015060	R0.75	1.5	4	0.95	6	50	1.45
ESB94020050	R1.0	2.0	4	1.2	5	50	1.95
ESB94020060	R1.0	2.0	4	1.2	6	50	1.95
ESB94030060	R1.5	3.0	4	1.8	6	50	2.85

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.005	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎		◎

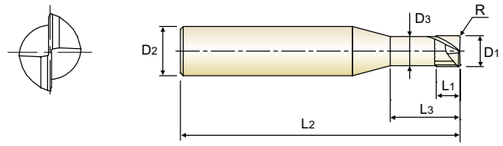
CBN END MILLS

PLAIN SHANK **ESD02** SERIES

CBN, 2 FLUTE CORNER RADIUS
CBN, 2刃 圆鼻

▶Achieves stable machining and higher accuracy for duration.
▶Saves setting time and cost from the reduction of frequent tool change.
▶Improves repeatability in performance.
▶Special designed geometry improving tool rigidity at High Speed Cutting.
▶Tighter Radius Tolerance of ±0.005mm and higher accuracy with longer tool life.

▶高耐用性可保证稳定的加工和高精度
▶减少换刀频率节省调试时间和成本
▶提高可重复性性能
▶特殊设计的形状提高刀具在高速加工的刚性
▶精确半径公差(±0.005mm), 高精度，高寿命



CBN | 2 | 0° | R ±0.005 | PLAIN

p.C27

Recommended ToolHolder

	Plain Shank	Page
	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
	POWER MILLING CHUCK	D161 - 176
	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R (±0.005)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
ESD02005052	R0.05	0.5	4	0.3	2	50	0.46
ESD02005053	R0.05	0.5	4	0.3	3	50	0.46
ESD02010053	R0.05	1.0	4	0.7	3	50	0.95
ESD02010055	R0.05	1.0	4	0.7	5	50	0.95
ESD02010103	R0.1	1.0	4	0.7	3	50	0.95
ESD02010105	R0.1	1.0	4	0.7	5	50	0.95
ESD02015105	R0.1	1.5	4	1.0	5	50	1.45
ESD02015108	R0.1	1.5	4	1.0	8	50	1.45
ESD02015205	R0.2	1.5	4	1.0	5	50	1.45
ESD02015208	R0.2	1.5	4	1.0	8	50	1.45
ESD02020106	R0.1	2.0	4	1.2	6	50	1.95
ESD02020100	R0.1	2.0	4	1.2	10	50	1.95
ESD02020206	R0.2	2.0	4	1.2	6	50	1.95
ESD02020200	R0.2	2.0	4	1.2	10	50	1.95

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.005	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎		◎

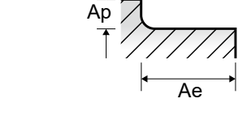
CBN END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

ESB94 SERIES **2 FLUTE BALL NOSE**
2刃 球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

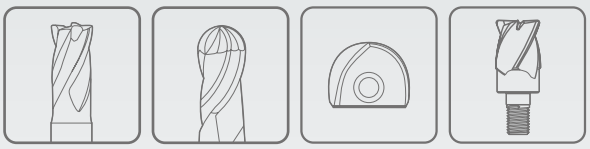
ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 0.4	0.5	0.6	0.8	1.0	1.2	1.5	2.0	3.0
H	38	Hardened steel	0.5D	0.2R	Vc	65	80	95	125	155	190	235	250	250
					fz	0.012	0.015	0.02	0.02	0.03	0.03	0.03	0.04	0.04
					RPM	51725	50930	50399	49736	49338	50399	49869	39789	26526
					FEED	1241	1528	2016	1989	2960	3024	2992	3183	2122
	39.1		0.5D	0.1R	Vc	65	80	95	125	155	190	235	250	250
					fz	0.012	0.015	0.02	0.02	0.03	0.03	0.03	0.04	0.04
					RPM	51725	50930	50399	49736	49338	50399	49869	39789	26526
					FEED	1241	1528	2016	1989	2960	3024	2992	3183	2122
	39.2		0.5D	0.1R	Vc	65	80	95	125	155	190	235	200	205
					fz	0.012	0.015	0.02	0.02	0.03	0.03	0.03	0.039	0.04
					RPM	51725	50930	50399	49736	49338	50399	49869	31831	21751
					FEED	1241	1528	2016	1989	2960	3024	2992	2483	1740
	39.3		R0.2~R0.4 = 0.005mm R0.5~R1.5 = 0.01mm	R0.2~R0.4 = 0.005mm R0.5~R1.5 = 0.01mm	Vc	65	80	95	125	155	190	235	200	205
					fz	0.012	0.015	0.02	0.02	0.03	0.03	0.03	0.039	0.04
					RPM	51725	50930	50399	49736	49338	50399	49869	31831	21751
					FEED	1241	1528	2016	1989	2960	3024	2992	2483	1740
	41	Hardened Cast Iron	0.5D	0.2R	Vc	65	80	95	125	155	190	235	250	250
					fz	0.012	0.015	0.02	0.02	0.03	0.03	0.03	0.04	0.04
					RPM	51725	50930	50399	49736	49338	50399	49869	39789	26526
					FEED	1241	1528	2016	1989	2960	3024	2992	3183	2122



ESD02 SERIES **2 FLUTE CORNER RADIUS**
2刃 圆鼻

ISO	VDI 3323	Material Description 工件材料	Parameter 参数	Diameter (Ø) 直径 0.5	1.0	1.5	2.0
H	38 ~ 39.1	Hardened steel	Vc	80	135	140	140
			fz	0.007	0.012	0.017	0.02
			RPM	50930	42972	29709	22282
			FEED	713	1031	1010	891
			Ae	0.1	0.2	0.4	0.6
			Ap	0.01	0.01	0.02	0.03
	39.2 ~ 39.3		Vc	80	95	90	90
			fz	0.006	0.012	0.018	0.029
			RPM	50930	30239	19099	14324
			FEED	611	726	688	831
			Ae	0.06	0.1	0.2	0.3
			Ap	0.005	0.01	0.02	0.03
	41	Hardened Cast Iron	Vc	80	135	140	140
			fz	0.007	0.012	0.017	0.02
			RPM	50930	42972	29709	22282
			FEED	713	1031	1010	891
			Ae	0.1	0.2	0.4	0.6
			Ap	0.01	0.01	0.02	0.03

Global Cutting Tool Leader **YG-1**



MILLING

YG

Leading Through Innovation

CARBIDE INSERT & HOLDER

i-Xmill END MILLS

- Various Applications Type of Inserts Available for General Steels, Pre-Hardened Steels, High Hardened Steels, Stainless Steels and Graphite
- 多样类型刀片可用在加工普通钢，预硬钢，高硬钢，不锈钢，石墨

SELECTION GUIDE
选用指南

YG MILLING TOOLS

CARBIDE INSERT & HOLDER i-Xmill END MILLS

Available for General Steels, Pre-Hardened Steels, High Hardened Steels, Stainless Steel and Graphite
适用于加工普通钢，预硬钢，高硬钢，不锈钢，石墨

Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工条件) : p.C50

ISO	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB	HRc	XMB110A	XMB120C	XMB260T	XMB130A
		SERIES 系列					XMB110A	XMB120C	XMB260T	XMB130A
		FLUTE 槽数					2	2	2	2
		HELIX ANGLE 螺旋角度					-	-	-	-
		CUTTING EDGE SHAPE 类型					BALL NOSE	BALL NOSE	BALL NOSE	BALL NOSE
		SIZE MIN 最小尺寸					R4.0	R4.0	R4.0	R4.0
		SIZE MAX 最大尺寸					R16.5	R16.5	R16.5	R16.5
		PAGE 页数					C32			C33
							-	-	-	-
							AlTiN	X-Coating	Z-Coating	AlTiN
							GENERAL PURPOSE	PRE-HARDENED STEELS	HIGH HARDENED STEELS	STAINLESS STEELS
P	1	Non-alloy steel	About 0.15% C	Annealed	125		◎			
	2		About 0.45% C	Annealed	190	13	◎			
	3		About 0.45% C	Quenched & Tempered	250	25	◎			
	4		About 0.75% C	Annealed	270	28	◎			
	5		About 0.75% C	Quenched & Tempered	300	32	◎			
	6	Low alloy steel		Annealed	180	10	◎			
	7			Quenched & Tempered	275	29	◎			
	8			Quenched & Tempered	300	32	◎			
	9			Quenched & Tempered	350	38		◎		
	10	High alloyed steel, and tool steel		Annealed	200	15		○		
	11			Quenched & Tempered	325	35		◎		
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15				◎
	13		Martensitic	Quenched & Tempered	240	23				◎
	14		Austenitic		180	10				◎
K	15	Grey cast iron	Pearlitic / ferritic		180	10		◎		
	16		Pearlitic (Martensitic)		260	26		◎		
	17	Nodular cast iron	Ferritic		160	3		◎		
	18		Pearlitic		250	25		◎		
	19	Malleable cast iron	Ferritic		130			◎		
	20		Pearlitic		230	21		◎		
N	21	Aluminum-wrought alloy	Not Curable		60					
	22		Curable	Hardened	100					
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75					
	24		≤ 12% Si, Curable	Hardened	90					
	25		> 12% Si, Not Curable		130					
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110					
	27		CuZn, CuSnZn (Brass)		90					
	28		CuSn, lead-free copper and electrolytic copper		100					
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic							
	30		Rubber, Wood, etc.							
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15				
	32			Cured	280	30				
	33		Ni or Co Based	Annealed	250	25				
	34			Cured	350	38				
	35			Cast	320	34				
	36	Titanium Alloys	Pure Titanium		400 Rm					
	37		Alpha + Beta Alloys	Hardened	1050 Rm					
H	38	Hardened steel		Hardened	550	55		○	◎	
	39			Hardened	630	60			◎	
	40	Chilled Cast Iron		Cast	400	42			○	
	41	Hardened Cast Iron		Hardened	550	55			◎	

XMM110V	XMB110D	XMR110A	XMR120C	XMR260T	XMF110V	XMR110D	ZBC	ZBS	ZBT	ZRC	ZRS	ZRT	
2	2	2	2	2	2	2	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	
BALL NOSE	BALL NOSE	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	BALL NOSE	BALL NOSE	BALL NOSE	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	
R4.0	R4.0	D8.0	D8.0	D8.0	D8.0	D8.0	-	-	-	-	-	-	
R16.5	R16.5	D33.0	D33.0	D33.0	D33.0	D33.0	-	-	-	-	-	-	
C33		C34-38			C39-43		C44	C45	C46	C47	C48		
FULL RADIUS	-	-	-	-	HIGH FEED	-	STRAIGHT NECK	STRAIGHT NECK	TAPER NECK	STRAIGHT NECK	STRAIGHT NECK	TAPER NECK	
Y-Coating	Diamond	AlTiN	X-Coating	Z-Coating	Y-Coating	Diamond	Carbide	Steel	Steel	Carbide	Steel	Steel	
GENERAL PURPOSE	GRAPHITE	GENERAL PURPOSE STAINLESS STEELS	PRE-HARDENED STEELS	HIGH HARDENED STEELS	GENERAL PURPOSE	GRAPHITE							
◎		◎			◎								1 P
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BALL NOSE = 球头　CORNER RADIUS = 圆鼻　FULL RADIUS = 全弧型　HIGH FEED = 高进给　GENERAL PURPOSE = 普通用途　PRE-HARDENED STEELS = 预硬钢
HIGH HARDENED STEELS = 高硬钢　STAINLESS STEELS = 不锈钢　GRAPHITE = 石墨　STRAIGHT NECK = 直颈　TAPER NECK = 锥颈　CARBIDE=硬质合金　STEEL = 钢件

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

i-Xmill END MILLS

XMB110A SERIES
XMB120C SERIES
XMB260T SERIES

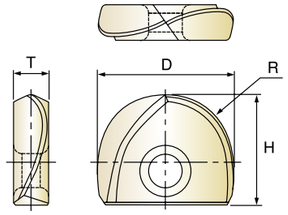
i-Xmill BALL INSERTS
i-Xmill 球头 刀片

▶Indexable Ball End Mill for economic use
▶Three Types of Inserts are available
- For General Purpose (~HRc50)
- For Hardened Material (HRc40~HRc65)
- For Graphite

▶Special Geometry and Coating for Excellent Performance

▶ 经济性换头式球头铣刀
▶ 可提供3类型刀片
- 普通用途 (~HRc50)
- 高硬材料用 (HRc40~HRc65)
- 石墨用

▶ 特殊形状及涂层实现优秀性能



Cutting conditions(加工参数) : p.C50

Recommended ToolHolder

	Plain Shank	Page
◎	POWER MILLING CHUCK	D161 - 176
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.			Radius of Ball Nose	Mill Diameter	Height	Thickness
AlTiN	X-Coating	Z-Coating	圆弧角	直径	高度	厚度
For General Purpose (普通用途)	For Pre-Hardened Steels (预硬钢用)	For High Hardened Steels (高硬钢用)	R	D	H	T
XMB110A080	XMB120C080	XMB260T080	R4.0	**8.0**	8.0	2.4
XMB110A100	XMB120C100	XMB260T100	R5.0	**10.0**	9.5	2.7
XMB110A110	XMB120C110	XMB260T110	R5.5	**11.0**	10.0	2.7
XMB110A120	XMB120C120	XMB260T120	R6.0	**12.0**	11.0	3.2
XMB110A130	XMB120C130	XMB260T130	R6.5	**13.0**	11.5	3.2
XMB110A160	XMB120C160	XMB260T160	R8.0	**16.0**	13.0	4.2
XMB110A170	XMB120C170	XMB260T170	R8.5	**17.0**	13.5	4.2
XMB110A200	XMB120C200	XMB260T200	R10.0	**20.0**	16.0	5.2
XMB110A210	XMB120C210	XMB260T210	R10.5	**21.0**	16.5	5.2
XMB110A250	XMB120C250	XMB260T250	R12.5	**25.0**	19.5	6.2
XMB110A260	XMB120C260	XMB260T260	R13.0	**26.0**	20.0	6.2
XMB110A300	XMB120C300	XMB260T300	R15.0	**30.0**	23.5	7.2
XMB110A320	XMB120C320	XMB260T320	R16.0	**32.0**	24.5	7.2
XMB110A330	XMB120C330	XMB260T330	R16.5	**33.0**	25.0	7.2

▶ The ball radius tolerance is ±0.01mm and the set-up accuracy is ±0.02mm.
▶ 球头圆弧角精度是± 0.01mm，设置精度是± 0.02mm

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P													M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMB110A	◎	◎	◎	◎	◎	◎	◎	◎												
XMB120C									◎	○	◎				◎	◎	◎	◎	◎	◎
XMB260T																				

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
XMB110A																					
XMB120C																		○			
XMB260T																		◎	◎	○	◎

i-Xmill END MILLS

XMB130A SERIES
XMM110V SERIES
XMB110D SERIES

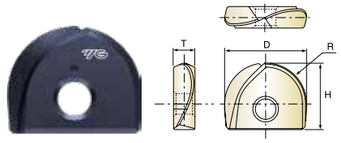
i-Xmill BALL INSERTS
i-Xmill 球头 刀片

▶Indexable Ball End Mill for economic use
▶Three Types of Inserts are available
- For Stainless Steels
- For General Purpose Full Radius Type
- For Graphite

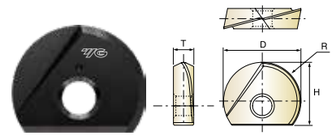
▶Special Geometry and Coating for Excellent Performance

▶ 经济性换头式球头铣刀
▶ 可提供3类型刀片
- 不锈钢用
- 普通用途 全弧型
- 石墨用

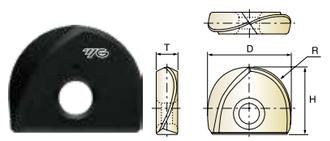
▶ 特殊形状及涂层实现优秀性能



for Stainless Steels
不锈钢用



Full Radius Type
(Cutting Angle : 220°)
全弧型 （加工角度：220° ）



for graphite
石墨用

Cutting conditions(加工参数) : p.C50-51

Recommended ToolHolder

	Plain Shank	Page
◎	POWER MILLING CHUCK	D161 - 176
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.			Radius of Ball Nose	Mill Diameter	Height	Thickness
AlTiN	Y-Coating	Diamond	圆弧角	直径	高度	厚度
For Stainless Steels (不锈钢用)	For General Purpose High Feed (普通高进给)	For Graphite (石墨用)	R	D	H	T
XMB130A080	XMM110V080	XMB110D080	R4.0	**8.0**	8.0	2.4
XMB130A100	XMM110V100	XMB110D100	R5.0	**10.0**	9.5	2.7
XMB130A110	XMM110V110	XMB110D110	R5.5	**11.0**	10.0	2.7
XMB130A120	XMM110V120	XMB110D120	R6.0	**12.0**	11.0	3.2
XMB130A130	XMM110V130	XMB110D130	R6.5	**13.0**	11.5	3.2
XMB130A160	XMM110V160	XMB110D160	R8.0	**16.0**	13.0	4.2
XMB130A170	XMM110V170	XMB110D170	R8.5	**17.0**	13.5	4.2
XMB130A200	XMM110V200	XMB110D200	R10.0	**20.0**	16.0	5.2
XMB130A210	XMM110V210	XMB110D210	R10.5	**21.0**	16.5	5.2
XMB130A250	XMM110V250	XMB110D250	R12.5	**25.0**	19.5	6.2
XMB130A260	XMM110V260	XMB110D260	R13.0	**26.0**	20.0	6.2
XMB130A300	XMM110V300	XMB110D300	R15.0	**30.0**	23.5	7.2
XMB130A320	XMM110V320	XMB110D320	R16.0	**32.0**	24.5	7.2
XMB130A330	XMM110V330	XMB110D330	R16.5	**33.0**	25.0	7.2

▶ The ball radius tolerance is ±0.01mm and the set-up accuracy is ±0.02mm.
▶ 球头圆弧角精度是± 0.01mm，设置精度是± 0.02mm

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMB130A												◎	◎	◎							
XMM110V	◎	◎	◎	◎		◎	◎			◎											
XMB110D																					

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
XMB130A																					
XMM110V																					
XMB110D	○	○	○	○					◎												

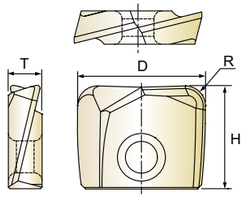
i-Xmill END MILLS

XMR110A SERIES
XMR120C SERIES
XMR260T SERIES

i-Xmill CORNER RADIUS INSERT
i-Xmill 圆鼻 刀片

- ▶ The optimum geometry of the tool to achieve better reliability and less vibration and cutting load.
- ▶ Interchangeability with i-Xmill ball holder, but the precise cutting is possible with i-Xmill corner radius holder due to higher stability and strength of tool.
- ▶ The various and wide cutting range makes it possible to machine over the roughing and finishing.
- ▶ Special coating makes high hardness with high thermal stability against oxidation.

- ▶ 最佳设计形状提高稳定性而减少振动和切削阻力
- ▶ 可以用在i-Xmill球头刀杆，可是为了更精密加工，高稳定性，刚性，推荐采用i-Xmill圆鼻刀杆
- ▶ 多种及广大切削范围刀具可以用在粗加工~精加工
- ▶ 特殊涂层提高硬度而且具有抗氧化的高温稳定性



Cutting conditions(加工参数) : p.C52

Recommended ToolHolder

	Plain Shank	Page
◎	POWER MILLING CHUCK	D161 - 176
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.			Corner Radius	Mill Diameter	Height	Thickness
AlTiN	X-Coating	Z-Coating	圆弧角	直径	高度	厚度
For General Purpose & Stainless Steels (普通用途 & 不锈钢用)	For Pre-Hardened Steels (预硬钢用)	For High Hardened Steels (高硬钢用)	R	D	H	T
XMR110A080 03	XMR120C080 03	XMR260T080 03	R0.3	8.0	8.0	2.4
XMR110A080 05	XMR120C080 05	XMR260T080 05	R0.5	8.0	8.0	2.4
XMR110A080 10	XMR120C080 10	XMR260T080 10	R1.0	8.0	8.0	2.4
XMR110A080 20	XMR120C080 20	XMR260T080 20	R2.0	8.0	8.0	2.4
XMR110A100 03	XMR120C100 03	XMR260T100 03	R0.3	10.0	9.5	2.7
XMR110A100 05	XMR120C100 05	XMR260T100 05	R0.5	10.0	9.5	2.7
XMR110A100 10	XMR120C100 10	XMR260T100 10	R1.0	10.0	9.5	2.7
XMR110A100 15	XMR120C100 15	XMR260T100 15	R1.5	10.0	9.5	2.7
XMR110A100 20	XMR120C100 20	XMR260T100 20	R2.0	10.0	9.5	2.7
XMR110A100 30	XMR120C100 30	XMR260T100 30	R3.0	10.0	9.5	2.7
XMR110A110 03	XMR120C110 03	XMR260T110 03	R0.3	11.0	9.5	2.7
XMR110A110 05	XMR120C110 05	XMR260T110 05	R0.5	11.0	9.5	2.7
XMR110A110 10	XMR120C110 10	XMR260T110 10	R1.0	11.0	9.5	2.7
XMR110A110 15	XMR120C110 15	XMR260T110 15	R1.5	11.0	9.5	2.7
XMR110A110 20	XMR120C110 20	XMR260T110 20	R2.0	11.0	9.5	2.7
XMR110A110 30	XMR120C110 30	XMR260T110 30	R3.0	11.0	9.5	2.7

▶ The corner radius tolerance is ±0.015mm and the set-up accuracy is ±0.02mm.
▶ 球头圆弧角公差是± 0.015mm，设置公差是± 0.02mm

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P													M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMR110A	◎	◎	◎	◎	◎	◎	◎	◎				◎	◎	◎						
XMR120C									◎	○	◎				◎	◎	◎	◎	◎	◎
XMR260T																				

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
XMR110A																					
XMR120C																		○			
XMR260T																		◎	◎	○	◎

i-Xmill END MILLS

XMR110A SERIES
XMR120C SERIES
XMR260T SERIES

i-Xmill CORNER RADIUS INSERT
i-Xmill 圆鼻 刀片

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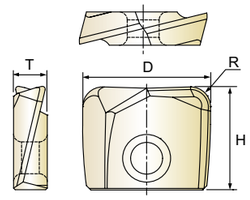

Cutting conditions(加工参数) : p.C52

Recommended ToolHolder

	Plain Shank	Page
◎	POWER MILLING CHUCK	D161 - 176
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.			Corner Radius	Mill Diameter	Height	Thickness
AlTiN	X-Coating	Z-Coating	圆弧角	直径	高度	厚度
For General Purpose & Stainless Steels (普通用途 & 不锈钢用)	For Pre-Hardened Steels (预硬钢用)	For High Hardened Steels (高硬钢用)	R	D	H	T
XMR110A120 03	XMR120C120 03	XMR260T120 03	R0.3	12.0	11.0	3.2
XMR110A120 05	XMR120C120 05	XMR260T120 05	R0.5	12.0	11.0	3.2
XMR110A120 10	XMR120C120 10	XMR260T120 10	R1.0	12.0	11.0	3.2
XMR110A120 15	XMR120C120 15	XMR260T120 15	R1.5	12.0	11.0	3.2
XMR110A120 20	XMR120C120 20	XMR260T120 20	R2.0	12.0	11.0	3.2
XMR110A120 30	XMR120C120 30	XMR260T120 30	R3.0	12.0	11.0	3.2
XMR110A130 03	XMR120C130 03	XMR260T130 03	R0.3	13.0	11.2	3.2
XMR110A130 05	XMR120C130 05	XMR260T130 05	R0.5	13.0	11.2	3.2
XMR110A130 10	XMR120C130 10	XMR260T130 10	R1.0	13.0	11.2	3.2
XMR110A130 15	XMR120C130 15	XMR260T130 15	R1.5	13.0	11.2	3.2
XMR110A130 20	XMR120C130 20	XMR260T130 20	R2.0	13.0	11.2	3.2
XMR110A130 30	XMR120C130 30	XMR260T130 30	R3.0	13.0	11.2	3.2
XMR110A160 03	XMR120C160 03	XMR260T160 03	R0.3	16.0	13.0	4.2
XMR110A160 05	XMR120C160 05	XMR260T160 05	R0.5	16.0	13.0	4.2
XMR110A160 10	XMR120C160 10	XMR260T160 10	R1.0	16.0	13.0	4.2
XMR110A160 15	XMR120C160 15	XMR260T160 15	R1.5	16.0	13.0	4.2
XMR110A160 20	XMR120C160 20	XMR260T160 20	R2.0	16.0	13.0	4.2
XMR110A160 30	XMR120C160 30	XMR260T160 30	R3.0	16.0	13.0	4.2

▶ The corner radius tolerance is ±0.015mm and the set-up accuracy is ±0.02mm.
▶ 球头圆弧角公差是± 0.015mm，设置公差是± 0.02mm

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P													M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMR110A	◎	◎	◎	◎	◎	◎	◎	◎		○		◎	◎	◎						
XMR120C									◎	◎	◎				◎	◎	◎	◎	◎	◎
XMR260T																				

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
XMR110A																					
XMR120C																		○			
XMR260T																		◎	◎	○	◎

i-Xmill END MILLS

XMR110A SERIES
XMR120C SERIES
XMR260T SERIES

i-Xmill CORNER RADIUS INSERT
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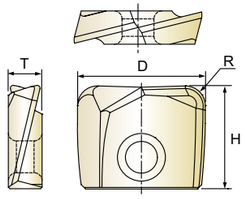

Cutting conditions(加工参数) : p.C52

Recommended ToolHolder

	Plain Shank	Page
◎	POWER MILLING CHUCK	D161 - 176
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.			Corner Radius	Mill Diameter	Height	Thickness
AlTiN	X-Coating	Z-Coating	圆弧角	直径	高度	厚度
For General Purpose & Stainless Steels (普通用途 & 不锈钢用)	For Pre-Hardened Steels (预硬钢用)	For High Hardened Steels (高硬钢用)	R	D	H	T
XMR110A170 03	XMR120C170 03	XMR260T170 03	R0.3	17.0	13.0	4.2
XMR110A170 05	XMR120C170 05	XMR260T170 05	R0.5	17.0	13.0	4.2
XMR110A170 10	XMR120C170 10	XMR260T170 10	R1.0	17.0	13.0	4.2
XMR110A170 15	XMR120C170 15	XMR260T170 15	R1.5	17.0	13.0	4.2
XMR110A170 20	XMR120C170 20	XMR260T170 20	R2.0	17.0	13.0	4.2
XMR110A170 30	XMR120C170 30	XMR260T170 30	R3.0	17.0	13.0	4.2
XMR110A200 03	XMR120C200 03	XMR260T200 03	R0.3	20.0	16.0	5.2
XMR110A200 05	XMR120C200 05	XMR260T200 05	R0.5	20.0	16.0	5.2
XMR110A200 10	XMR120C200 10	XMR260T200 10	R1.0	20.0	16.0	5.2
XMR110A200 15	XMR120C200 15	XMR260T200 15	R1.5	20.0	16.0	5.2
XMR110A200 20	XMR120C200 20	XMR260T200 20	R2.0	20.0	16.0	5.2
XMR110A200 30	XMR120C200 30	XMR260T200 30	R3.0	20.0	16.0	5.2
XMR110A210 03	XMR120C210 03	XMR260T210 03	R0.3	21.0	16.0	5.2
XMR110A210 05	XMR120C210 05	XMR260T210 05	R0.5	21.0	16.0	5.2
XMR110A210 10	XMR120C210 10	XMR260T210 10	R1.0	21.0	16.0	5.2
XMR110A210 15	XMR120C210 15	XMR260T210 15	R1.5	21.0	16.0	5.2
XMR110A210 20	XMR120C210 20	XMR260T210 20	R2.0	21.0	16.0	5.2
XMR110A210 30	XMR120C210 30	XMR260T210 30	R3.0	21.0	16.0	5.2

▶ The corner radius tolerance is ±0.015mm and the set-up accuracy is ±0.02mm.
▶ 圆鼻圆弧角公差是± 0.015mm，设置公差是± 0.02mm

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P													M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMR110A	◎	◎	◎	◎	◎	◎	◎	◎				◎	◎	◎						
XMR120C									◎	○	◎				◎	◎	◎	◎	◎	◎
XMR260T																				

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
XMR110A																					
XMR120C																		○			
XMR260T																		◎	◎	○	◎

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

i-Xmill END MILLS

XMR110A SERIES
XMR120C SERIES
XMR260T SERIES

i-Xmill CORNER RADIUS INSERT
i-Xmill 圆鼻 刀片

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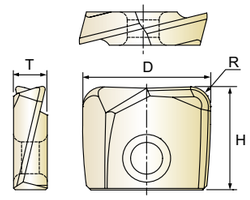


Cutting conditions(加工参数) : p.C52

Recommended ToolHolder

	Plain Shank	Page
◎	POWER MILLING CHUCK	D161 - 176
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.			Corner Radius	Mill Diameter	Height	Thickness
AlTiN	X-Coating	Z-Coating	圆弧角	直径	高度	厚度
For General Purpose & Stainless Steels (普通用途 & 不锈钢用)	For Pre-Hardened Steels (预硬钢用)	For High Hardened Steels (高硬钢用)	R	D	H	T
XMR110A250 03	XMR120C250 03	XMR260T250 03	R0.3	25.0	19.5	6.2
XMR110A250 05	XMR120C250 05	XMR260T250 05	R0.5	25.0	19.5	6.2
XMR110A250 10	XMR120C250 10	XMR260T250 10	R1.0	25.0	19.5	6.2
XMR110A250 15	XMR120C250 15	XMR260T250 15	R1.5	25.0	19.5	6.2
XMR110A250 20	XMR120C250 20	XMR260T250 20	R2.0	25.0	19.5	6.2
XMR110A250 30	XMR120C250 30	XMR260T250 30	R3.0	25.0	19.5	6.2
XMR110A260 03	XMR120C260 03	XMR260T260 03	R0.3	26.0	19.5	6.2
XMR110A260 05	XMR120C260 05	XMR260T260 05	R0.5	26.0	19.5	6.2
XMR110A260 10	XMR120C260 10	XMR260T260 10	R1.0	26.0	19.5	6.2
XMR110A260 15	XMR120C260 15	XMR260T260 15	R1.5	26.0	19.5	6.2
XMR110A260 20	XMR120C260 20	XMR260T260 20	R2.0	26.0	19.5	6.2
XMR110A260 30	XMR120C260 30	XMR260T260 30	R3.0	26.0	19.5	6.2
XMR110A300 03	XMR120C300 03	XMR260T300 03	R0.3	30.0	23.5	7.2
XMR110A300 05	XMR120C300 05	XMR260T300 05	R0.5	30.0	23.5	7.2
XMR110A300 10	XMR120C300 10	XMR260T300 10	R1.0	30.0	23.5	7.2
XMR110A300 15	XMR120C300 15	XMR260T300 15	R1.5	30.0	23.5	7.2
XMR110A300 20	XMR120C300 20	XMR260T300 20	R2.0	30.0	23.5	7.2
XMR110A300 30	XMR120C300 30	XMR260T300 30	R3.0	30.0	23.5	7.2

▶ The corner radius tolerance is ±0.015mm and the set-up accuracy is ±0.02mm.
▶ 圆鼻圆弧角公差是± 0.015mm，设置公差是± 0.02mm

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P													M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMR110A	◎	◎	◎	◎	◎	◎	◎	◎		○		◎	◎	◎						
XMR120C									◎	◎	◎				◎	◎	◎	◎	◎	◎
XMR260T																				

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
XMR110A																					
XMR120C																		○			
XMR260T																		◎	◎	○	◎

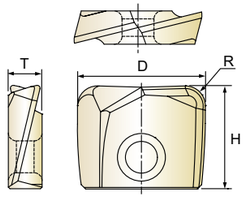
i-Xmill END MILLS

XMR110A SERIES
XMR120C SERIES
XMR260T SERIES

i-Xmill CORNER RADIUS INSERT
i-Xmill 圆鼻 刀片

- ▶ The optimum geometry of the tool to achieve better reliability and less vibration and cutting load.
- ▶ Interchangeability with i-Xmill ball holder, but the precise cutting is possible with i-Xmill corner radius holder due to higher stability and strength of tool.
- ▶ The various and wide cutting range makes it possible to machine over the roughing and finishing.
- ▶ Special coating makes high hardness with high thermal stability against oxidation.

- ▶ 最佳设计形状提高稳定性而减少振动和切削阻力
- ▶ 可以用在i-Xmill球头刀杆，可是为了更精密加工，高稳定性，刚性，推荐采用i-Xmill圆鼻刀杆
- ▶ 多种及广大切削范围刀具可以用在粗加工~精加工
- ▶ 特殊涂层提高硬度而且具有抗氧化的高温稳定性



Cutting conditions(加工参数) : p.C52

Recommended ToolHolder

	Plain Shank	Page
◎	POWER MILLING CHUCK	D161 - 176
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.			Corner Radius	Mill Diameter	Height	Thickness
AlTiN	X-Coating	Z-Coating	圆弧角	直径	高度	厚度
For General Purpose & Stainless Steels (普通用途 & 不锈钢用)	For Pre-Hardened Steels (预硬钢用)	For High Hardened Steels (高硬钢用)	R	D	H	T
XMR110A320 03	XMR120C320 03	XMR260T320 03	R0.3	32.0	23.5	7.2
XMR110A320 05	XMR120C320 05	XMR260T320 05	R0.5	32.0	23.5	7.2
XMR110A320 10	XMR120C320 10	XMR260T320 10	R1.0	32.0	23.5	7.2
XMR110A320 15	XMR120C320 15	XMR260T320 15	R1.5	32.0	23.5	7.2
XMR110A320 20	XMR120C320 20	XMR260T320 20	R2.0	32.0	23.5	7.2
XMR110A320 30	XMR120C320 30	XMR260T320 30	R3.0	32.0	23.5	7.2
XMR110A330 03	XMR120C330 03	XMR260T330 03	R0.3	33.0	23.5	7.2
XMR110A330 05	XMR120C330 05	XMR260T330 05	R0.5	33.0	23.5	7.2
XMR110A330 10	XMR120C330 10	XMR260T330 10	R1.0	33.0	23.5	7.2
XMR110A330 15	XMR120C330 15	XMR260T330 15	R1.5	33.0	23.5	7.2
XMR110A330 20	XMR120C330 20	XMR260T330 20	R2.0	33.0	23.5	7.2
XMR110A330 30	XMR120C330 30	XMR260T330 30	R3.0	33.0	23.5	7.2

- ▶ The corner radius tolerance is ±0.015mm and the set-up accuracy is ±0.02mm.
- ▶ 圆鼻圆弧角公差是± 0.015mm，设置公差是± 0.02mm

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMR110A	◎	◎	◎	◎	◎	◎	◎	◎				◎	◎	◎						
XMR120C									◎	○	◎				◎	◎	◎	◎	◎	◎
XMR260T																				

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
XMR110A																					
XMR120C																		○			
XMR260T																		◎	◎	○	◎

i-Xmill END MILLS

XMF110V SERIES
XMR110D SERIES

i-Xmill CORNER RADIUS INSERT
i-Xmill 圆鼻 刀片

- ▶ The optimum geometry of the tool to achieve better reliability and less vibration and cutting load.
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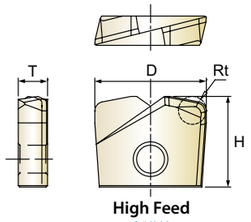
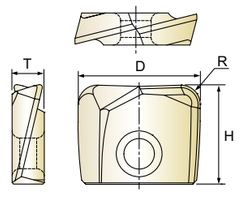
- ▶ 特殊涂层提高硬度而且具有抗氧化的高温稳定性



High Feed
高进给



Cutting conditions(加工参数) : p.C52

Recommended ToolHolder

	Plain Shank	Page
◎	POWER MILLING CHUCK	D161 - 176
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.		Corner Radius	Mill Diameter	Height	Thickness	for High Feed
Y-Coating	Diamond	圆弧角	直径	高度	厚度	高进给
For General Purpose High Feed (普通高进给)	For Graphite (石墨用)	R (Rt)	D	H	T	apMax. (最大切深)
-	XMR110D080 03	R0.3	8.0	8.0	2.4	0.4
-	XMR110D080 05	R0.5	8.0	8.0	2.4	0.4
XMF110V080 08	-	R0.8	8.0	8.0	2.4	0.4
-	XMR110D080 10	R1.0	8.0	8.0	2.4	0.4
-	XMR110D080 20	R2.0	8.0	8.0	2.4	0.4
-	XMR110D100 03	R0.3	10.0	9.5	2.7	0.5
-	XMR110D100 05	R0.5	10.0	9.5	2.7	0.5
XMF110V100 10	XMR110D100 10	R1.0	10.0	9.5	2.7	0.5
-	XMR110D100 15	R1.5	10.0	9.5	2.7	0.5
-	XMR110D100 20	R2.0	10.0	9.5	2.7	0.5
-	XMR110D100 30	R3.0	10.0	9.5	2.7	0.5
-	XMR110D110 03	R0.3	11.0	9.5	2.7	0.5
-	XMR110D110 05	R0.5	11.0	9.5	2.7	0.5
XMF110V110 10	XMR110D110 10	R1.0	11.0	9.5	2.7	0.5
-	XMR110D110 15	R1.5	11.0	9.5	2.7	0.5
-	XMR110D110 20	R2.0	11.0	9.5	2.7	0.5
-	XMR110D110 30	R3.0	11.0	9.5	2.7	0.5

- ▶ The corner radius tolerance is ±0.015mm(Rt tolerance is ±0.05mm) and the set-up accuracy is ±0.02mm.
- ▶ 圆鼻圆弧角公差是± 0.015mm，设置公差是± 0.02mm

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMF110V	◎	◎	◎	◎	◎	◎	◎			◎										
XMR110D																				

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
XMF110V																					
XMR110D	○	○	○	○					◎												

i-Xmill END MILLS

XMF110V SERIES
XMR110D SERIES

i-Xmill CORNER RADIUS INSERT
i-Xmill 圆鼻 刀片

- ▶ The optimum geometry of the tool to achieve better reliability and less vibration and cutting load.
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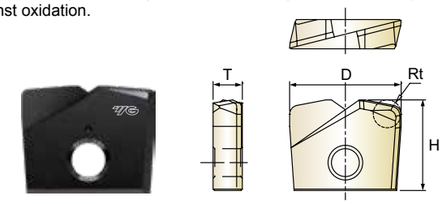
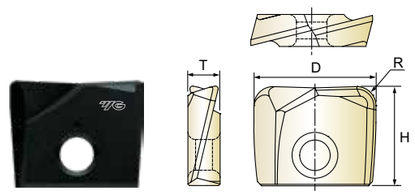


High Feed
高进给



Recommended ToolHolder

Plain Shank	Page
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK	D73 - 115

Cutting conditions(加工参数) : p.C52

Unit(单位) : mm

EDP No.		Corner Radius	Mill Diameter	Height	Thickness	for High Feed
Y-Coating	Diamond	圆弧角	直径	高度	厚度	高进给
For General Purpose High Feed (普通高进给)	For Graphite (石墨用)	R (Rt)	D	H	T	apMax. (最大切深)
-	XMR110D120 03	R0.3	12.0	11.0	2.7	0.6
-	XMR110D120 05	R0.5	12.0	11.0	2.7	0.6
XMF110V120 10	XMR110D120 10	R1.0	12.0	11.0	2.7	0.6
-	XMR110D120 15	R1.5	12.0	11.0	2.7	0.6
-	XMR110D120 20	R2.0	12.0	11.0	2.7	0.6
-	XMR110D120 30	R3.0	12.0	11.0	2.7	0.6
-	XMR110D130 03	R0.3	13.0	11.2	2.7	0.6
-	XMR110D130 05	R0.5	13.0	11.2	2.7	0.6
XMF110V130 10	XMR110D130 10	R1.0	13.0	11.2	2.7	0.6
-	XMR110D130 15	R1.5	13.0	11.2	2.7	0.6
-	XMR110D130 20	R2.0	13.0	11.2	2.7	0.6
-	XMR110D130 30	R3.0	13.0	11.2	2.7	0.6
-	XMR110D160 03	R0.3	16.0	13.0	4.2	0.8
-	XMR110D160 05	R0.5	16.0	13.0	4.2	0.8
-	XMR110D160 10	R1.0	16.0	13.0	4.2	0.8
XMF110V160 15	XMR110D160 15	R1.5	16.0	13.0	4.2	0.8
-	XMR110D160 20	R2.0	16.0	13.0	4.2	0.8
-	XMR110D160 30	R3.0	16.0	13.0	4.2	0.8

- ▶ The corner radius tolerance is ±0.015mm(Rt tolerance is ±0.05mm) and the set-up accuracy is ±0.02mm.
- ▶ 圆鼻圆弧角公差是± 0.015mm，设置公差是± 0.02mm

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMF110V	◎	◎	◎	◎	◎	◎	◎			◎										
XMR110D																				

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
XMF110V																					
XMR110D	○	○	○	○					◎												

i-Xmill END MILLS
XMF110V SERIES
XMR110D SERIES
i-Xmill CORNER RADIUS INSERT
i-Xmill 圆鼻 刀片
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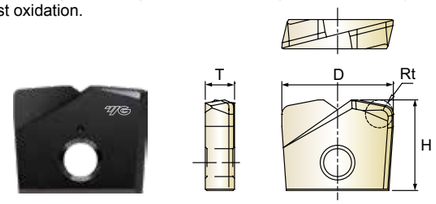
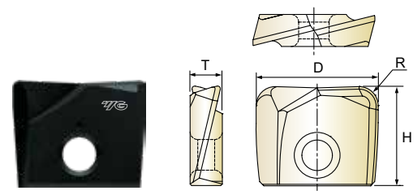


High Feed
高进给



Recommended ToolHolder
Plain Shank Page
POWER MILLING CHUCK D161 - 176
ER COLLET CHUCK D73 - 115
Cutting conditions(加工参数) : p.C52
Unit(单位) : mm

EDP No.		Corner Radius	Mill Diameter	Height	Thickness	for High Feed
Y-Coating	Diamond	圆弧角	直径	高度	厚度	高进给
For General Purpose High Feed (普通高进给)	For Graphite (石墨用)	R (Rt)	D	H	T	apMax. (最大切深)
-	XMR110D170 03	R0.3	17.0	13.0	4.2	0.8
-	XMR110D170 05	R0.5	17.0	13.0	4.2	0.8
-	XMR110D170 10	R1.0	17.0	13.0	4.2	0.8
XMF110V170 15	XMR110D170 15	R1.5	17.0	13.0	4.2	0.8
-	XMR110D170 20	R2.0	17.0	13.0	4.2	0.8
-	XMR110D170 30	R3.0	17.0	13.0	4.2	0.8
-	XMR110D200 03	R0.3	20.0	16.0	5.2	1.0
-	XMR110D200 05	R0.5	20.0	16.0	5.2	1.0
-	XMR110D200 10	R1.0	20.0	16.0	5.2	1.0
-	XMR110D200 15	R1.5	20.0	16.0	5.2	1.0
XMF110V200 20	XMR110D200 20	R2.0	20.0	16.0	5.2	1.0
-	XMR110D200 30	R3.0	20.0	16.0	5.2	1.0
-	XMR110D210 03	R0.3	21.0	16.0	5.2	1.0
-	XMR110D210 05	R0.5	21.0	16.0	5.2	1.0
-	XMR110D210 10	R1.0	21.0	16.0	5.2	1.0
-	XMR110D210 15	R1.5	21.0	16.0	5.2	1.0
XMF110V210 20	XMR110D210 20	R2.0	21.0	16.0	5.2	1.0
-	XMR110D210 30	R3.0	21.0	16.0	5.2	1.0

▶ The corner radius tolerance is ±0.015mm(Rt tolerance is ±0.05mm) and the set-up accuracy is ±0.02mm.
▶ 圆鼻圆弧角公差是± 0.015mm，设置公差是± 0.02mm

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMF110V	◎	◎	◎	◎	◎	◎	◎			◎										
XMR110D																				

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
XMF110V																					
XMR110D	○	○	○	○					◎												

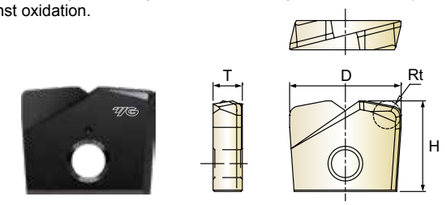
i-Xmill END MILLS

XMF110V SERIES
XMR110D SERIES

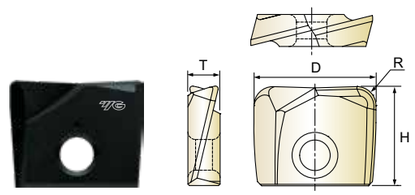
i-Xmill CORNER RADIUS INSERT
i-Xmill 圆鼻 刀片

- ▶ The optimum geometry of the tool to achieve better reliability and less vibration and cutting load.
- ▶ Interchangeability with i-Xmill ball holder, but the precise cutting is possible with i-Xmill corner radius holder due to higher stability and strength of tool.
- ▶ The various and wide cutting range makes it possible to machine over the roughing and finishing.
- ▶ Special coating makes high hardness with high thermal stability against oxidation.

- ▶ 最佳设计形状提高稳定性而减少振动和切削阻力
- ▶ 可以用在i-Xmill球头刀杆，可是为了更精密加工，高稳定性，刚性，推荐采用i-Xmill圆鼻刀杆
- ▶ 多种及广大切削范围刀具可以用在粗加工~精加工
- ▶ 特殊涂层提高硬度而且具有抗氧化的高温稳定性



High Feed
高进给



Recommended ToolHolder

Plain Shank	Page
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK	D73 - 115

Cutting conditions(加工参数) : p.C52

Unit(单位) : mm

EDP No.		Corner Radius	Mill Diameter	Height	Thickness	for High Feed
Y-Coating	Diamond	圆弧角	直径	高度	厚度	高进给
For General Purpose High Feed (普通高进给)	For Graphite (石墨用)	R (Rt)	D	H	T	apMax. (最大切深)
-	XMR110D250 03	R0.3	25.0	19.5	6.2	1.25
-	XMR110D250 05	R0.5	25.0	19.5	6.2	1.25
-	XMR110D250 10	R1.0	25.0	19.5	6.2	1.25
-	XMR110D250 15	R1.5	25.0	19.5	6.2	1.25
-	XMR110D250 20	R2.0	25.0	19.5	6.2	1.25
XMF110V250 25	-	R2.5	25.0	19.5	6.2	1.25
-	XMR110D250 30	R3.0	25.0	19.5	6.2	1.25
-	XMR110D260 03	R0.3	26.0	19.5	6.2	1.25
-	XMR110D260 05	R0.5	26.0	19.5	6.2	1.25
-	XMR110D260 10	R1.0	26.0	19.5	6.2	1.25
-	XMR110D260 15	R1.5	26.0	19.5	6.2	1.25
-	XMR110D260 20	R2.0	26.0	19.5	6.2	1.25
XMF110V260 25	-	R2.5	26.0	19.5	6.2	1.25
-	XMR110D260 30	R3.0	26.0	19.5	6.2	1.25
-	XMR110D300 03	R0.3	30.0	23.5	7.2	1.6
-	XMR110D300 05	R0.5	30.0	23.5	7.2	1.6
-	XMR110D300 10	R1.0	30.0	23.5	7.2	1.6
-	XMR110D300 15	R1.5	30.0	23.5	7.2	1.6
-	XMR110D300 20	R2.0	30.0	23.5	7.2	1.6
XMF110V300 30	XMR110D300 30	R3.0	30.0	23.5	7.2	1.6

- ▶ The corner radius tolerance is ±0.015mm(Rt tolerance is ±0.05mm) and the set-up accuracy is ±0.02mm.
- ▶ 圆鼻圆弧角公差是± 0.015mm，设置公差是± 0.02mm

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMF110V	◎	◎	◎	◎	◎	◎	◎			◎										
XMR110D																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
XMF110V																					
XMR110D	○	○	○	○					◎												

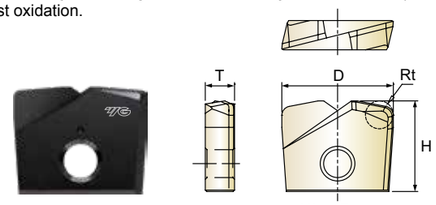
i-Xmill END MILLS

XMF110V SERIES
XMR110D SERIES

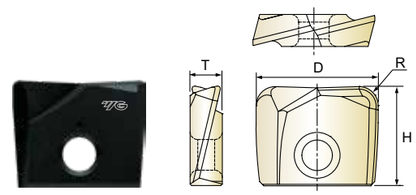
i-Xmill CORNER RADIUS INSERT
i-Xmill 圆鼻 刀片

- ▶ The optimum geometry of the tool to achieve better reliability and less vibration and cutting load.
- ▶ Interchangeability with i-Xmill ball holder, but the precise cutting is possible with i-Xmill corner radius holder due to higher stability and strength of tool.
- ▶ The various and wide cutting range makes it possible to machine over the roughing and finishing.
- ▶ Special coating makes high hardness with high thermal stability against oxidation.

- ▶ 最佳设计形状提高稳定性而减少振动和切削阻力
- ▶ 可以用在i-Xmill球头刀杆，可是为了更精密加工，高稳定性，刚性，推荐采用i-Xmill圆鼻刀杆
- ▶ 多种及广大切削范围刀具可以用在粗加工~精加工
- ▶ 特殊涂层提高硬度而且具有抗氧化的高温稳定性



High Feed
高进给



Recommended ToolHolder

Plain Shank	Page
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK	D73 - 115

Cutting conditions(加工参数) : p.C52

Unit(单位) : mm

EDP No.		Corner Radius	Mill Diameter	Height	Thickness	for High Feed
Y-Coating	Diamond	圆弧角	直径	高度	厚度	高进给
For General Purpose High Feed (普通高进给)	For Graphite (石墨用)	R (Rt)	D	H	T	apMax. (最大切深)
-	XMR110D320 03	R0.3	32.0	23.5	7.2	1.6
-	XMR110D320 05	R0.5	32.0	23.5	7.2	1.6
-	XMR110D320 10	R1.0	32.0	23.5	7.2	1.6
-	XMR110D320 15	R1.5	32.0	23.5	7.2	1.6
-	XMR110D320 20	R2.0	32.0	23.5	7.2	1.6
-	XMR110D320 30	R3.0	32.0	23.5	7.2	1.6
XMF110V320 32	XMR110D320 32	R3.2	32.0	23.5	7.2	1.6
-	XMR110D330 03	R0.3	33.0	23.5	7.2	1.6
-	XMR110D330 05	R0.5	33.0	23.5	7.2	1.6
-	XMR110D330 10	R1.0	33.0	23.5	7.2	1.6
-	XMR110D330 15	R1.5	33.0	23.5	7.2	1.6
-	XMR110D330 20	R2.0	33.0	23.5	7.2	1.6
-	XMR110D330 30	R3.0	33.0	23.5	7.2	1.6
XMF110V330 32	XMR110D330 32	R3.2	33.0	23.5	7.2	1.6

- ▶ The corner radius tolerance is ±0.015mm(Rt tolerance is ±0.05mm) and the set-up accuracy is ±0.02mm.
- ▶ 圆鼻圆弧角公差是± 0.015mm，设置公差是± 0.02mm

◎ : Excellent (优秀) ○ : Good (良好)

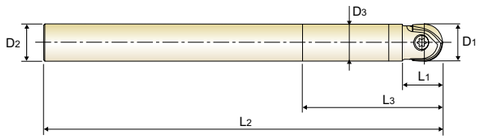
ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMF110V	◎	◎	◎	◎	◎	◎	◎			◎										
XMR110D																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
XMF110V																					
XMR110D	○	○	○	○					◎												

i-Xmill END MILLS

ZBC SERIES

i-Xmill CARBIDE BALL HOLDER - STRAIGHT NECK
i-Xmill 硬质合金 球头 刀杆 - 直颈



Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Neck Diameter 颈径 D3	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Length Type 长度类型	Wrench No. 扳手号码	Screw No. 螺钉号码
ZBC0801080	8	8	7.6	12	25	130	Regular	TWFT07	TX2508T07
ZBC0802080	8	8	7.6	12	40	130	Regular		
ZBC0803080	8	8	7.6	12	65	130	Regular		
ZBC0804080	8	8	7.6	12	60	150	Regular		
ZBC0805080	8	8	7.6	12	60	200	Long		
ZBC0806080	8	8	7.6	12	25	80	Short		
ZBC1001100	10, 11	10	9.5	15	30	140	Regular	TWFT08	TX3010T08
ZBC1002100	10, 11	10	9.5	15	50	140	Regular		
ZBC1003100	10, 11	10	9.5	15	75	140	Regular		
ZBC1004100	10, 11	10	9.5	15	60	180	Regular		
ZBC1005100	10, 11	10	9.5	15	60	200	Long		
ZBC1006100	10, 11	10	9.5	15	30	80	Short		
ZBC120001P	12, 13	12	11.4	17	40	200	Long	TWFT10	TX3512T10
ZBC1201120	12, 13	12	11.4	17	35	150	Regular		
ZBC1202120	12, 13	12	11.4	17	60	150	Regular		
ZBC1203120	12, 13	12	11.4	17	85	150	Regular		
ZBC1204120	12, 13	12	11.4	17	60	250	Long		
ZBC1205120	12, 13	12	11.4	17	35	100	Short		
ZBC160001P	16, 17	16	15.0	20	50	150	Regular	TWFT15	TX4016T15
ZBC1601160	16, 17	16	15.0	20	50	200	Long		
ZBC1602160	16, 17	16	15.0	20	80	200	Long		
ZBC1603160	16, 17	16	15.0	20	120	200	Long		
ZBC1604160	16, 17	16	15.0	20	80	250	Long		
ZBC1605160	16, 17	16	15.0	20	50	120	Short		
ZBC200002P	20, 21	20	19.0	25	60	150	Regular	● TWBT20	TX5020T20
ZBC2001200	20, 21	20	19.0	25	60	200	Regular		
ZBC2002200	20, 21	20	19.0	25	80	200	Regular		
ZBC2003200	20, 21	20	19.0	25	100	250	Long		
ZBC2004200	20, 21	20	19.0	25	150	250	Long		
ZBC2005200	20, 21	20	19.0	25	100	300	Long		
ZBC250001P	25, 26	25	24.0	30	75	150	Regular	● TWBT25	TX6025T25
ZBC2501250	25, 26	25	24.0	30	75	200	Regular		
ZBC2502250	25, 26	25	24.0	30	120	250	Regular		
ZBC2503250	25, 26	25	24.0	30	190	300	Long		
ZBC2504250	25, 26	25	24.0	30	120	350	Long		
ZBC2505250	25, 26	25	24.0	30	60	300	Long		
ZBC3001320	30, 32, 33	32	29.0	40	90	250	Regular	● TWBT30	TX8030T30
ZBC3002320	30, 32, 33	32	29.0	40	150	300	Long		
ZBC3003320	30, 32, 33	32	29.0	40	190	300	Long		
ZBC3004320	30, 32, 33	32	29.0	40	120	350	Long		
ZBC3005320	30, 32, 33	32	29.0	40	150	400	Long		

* Upon request, the broken holder is able to be regenerated
  按照客户要求，破损的刀杆可以修磨
* Your carbide holder can be regenerated as YG-1 type upon request
  客户的刀杆可修磨到YG-1型刀杆

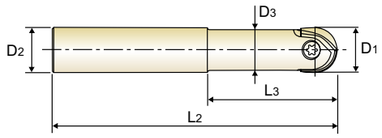
* ● Required to use T-HANDLE (TWH600) - (p.C49)
  需要使用T-HANDLE（TWH600) - (49页)

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

i-Xmill END MILLS

ZBS SERIES

i-Xmill STEEL BALL HOLDER - STRAIGHT NECK
i-Xmill 钢件 球头 刀杆 - 直颈



Unit(单位) : mm

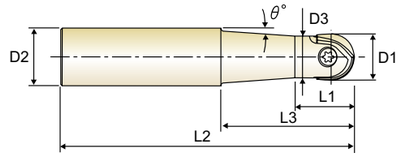
EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Neck Diameter 颈径 D3	Length Below Shank 颈长 L3	Overall Length 全长 L2	Length Type 长度类型	Wrench No. 扳手号码	Screw No. 螺钉号码
ZBS1201120	12, 13	12	10.5	35	90	Short	TWFT10	TX3512T10
ZBS1202120	12, 13	12	10.5	55	110	Regular		
ZBS120001P	12, 13	12	10.5	40	150	Long		
ZBS1601160	16, 17	16	14.5	35	95	Short	TWFT15	TX4016T15
ZBS1602160	16, 17	16	14.5	65	125	Regular		
ZBS160001P	16, 17	16	14.5	60	200	Long		
ZBS2001200	20, 21	20	18.0	40	110	Short	● TWBT20	TX5020T20
ZBS2002200	20, 21	20	18.0	75	145	Regular		
ZBS200001P	20, 21	20	18.0	80	200	Long		
ZBS200002P	20, 21	20	18.0	60	200	Long		
ZBS2501250	25, 26	25	22.5	45	125	Short	● TWBT25	TX6025T25
ZBS2502250	25, 26	25	22.5	90	170	Regular		
ZBS2503250	25, 26	25	22.5	100	250	Long		
ZBS250001P	25, 26	25	22.5	90	200	Long		
ZBS250002P	25, 26	25	22.5	60	200	Long		
ZBS3001320	30, 32, 33	32	27.0	55	140	Short	● TWBT30	TX8030T30
ZBS3002320	30, 32, 33	32	27.0	110	195	Regular		
ZBS3004320	30, 32, 33	32	27.0	150	350	Long		
ZBS300001P	30, 32, 33	32	27.0	100	250	Long		

* ● Required to use T-HANDLE (TWH600) - (p.C49)
  需要使用T-HANDLE（TWH600) - (49页)

i-Xmill END MILLS

ZBT SERIES

i-Xmill STEEL BALL HOLDER - TAPER NECK
i-Xmill 钢件 球头 刀杆 - 锥颈



Unit(单位) : mm

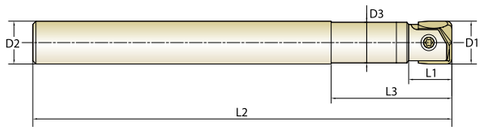
EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Neck Diameter 颈径 D3	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Interference Angle 锥度角度 θ°	Length Type 长度类型	Wrench No. 扳手号码	Screw No. 螺钉号码
ZBT0801120	8	12	7.2	12	35	90	4° 43′	Short	TWFT07	TX2508T07
ZBT0802120	8	12	7.2	25	55	110	3° 37′	Regular		
ZBT1001120	10, 11	12	9.0	15	35	90	2° 51′	Short	TWFT08	TX3010T08
ZBT1002120	10, 11	12	9.0	30	55	110	2° 17′	Regular		
ZBT1201160	12, 13	16	10.5	17	55	110	3° 23′	Short	TWFT10	TX3512T10
ZBT1601200	16, 17	20	14.5	20	65	125	2° 51′	Short	TWFT15	TX4016T15
ZBT1604200	16, 17	20	14.5	20	115	200	1° 22′	Regular		
ZBT2001250	20, 21	25	18.0	25	75	145	3° 26′	Short	●TWBT20	TX5020T20
ZBT2004250	20, 21	25	18.0	25	115	200	1° 55′	Regular		
ZBT2005250	20, 21	25	18.0	25	160	250	1° 17′	Long		
ZBT2501320	25, 26	32	22.5	30	90	170	4° 03′	Short	●TWBT25	TX6025T25
ZBT2504320	25, 26	32	22.5	30	160	250	1° 53′	Regular		
ZBT2505320	25, 26	32	22.5	30	190	300	1° 32′	Long		
ZBT3001320	30,32,33	32	27.0	40	110	195	1° 38′	Short	●TWBT30	TX8030T30
ZBT3004320	30,32,33	32	27.0	40	160	250	0° 58′	Regular		
ZBT3005320	30,32,33	32	27.0	40	190	300	0° 46′	Long		

* ● Required to use T-HANDLE (TWH600) - (p.C49)
需要使用T-HANDLE（TWH600) - (49页)

i-Xmill END MILLS

ZRC SERIES

i-Xmill CARBIDE CORNER RADIUS HOLDER - STRAIGHT NECK
i-Xmill 硬质合金 圆鼻 刀杆 - 直颈



Unit(单位) : mm

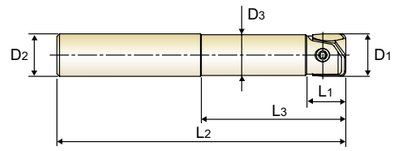
EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Neck Diameter 颈径 D3	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Length Type 长度类型	Wrench No. 扳手号码	Screw No. 螺钉号码
ZRC0801080	**8**	8	7.6	12	25	130	Regular	TWFT07	TX2508T07
ZRC0802080	**8**	8	7.6	12	40	130	Regular		
ZRC0803080	**8**	8	7.6	12	65	130	Regular		
ZRC1001100	**10**	10	9.5	15	30	140	Regular	TWFT08	TX3010T08
ZRC1002100	**10**	10	9.5	15	50	140	Regular		
ZRC1003100	**10**	10	9.5	15	75	140	Regular		
ZRC1201120	**12, 13**	12	11.4	17	35	150	Regular	TWFT10	TX3512T10
ZRC1202120	**12, 13**	12	11.4	17	60	150	Regular		
ZRC1203120	**12, 13**	12	11.4	17	85	150	Regular		
ZRC1601160	**16, 17**	16	15.0	20	50	200	Long	TWFT15	TX4016T15
ZRC1602160	**16, 17**	16	15.0	20	80	200	Long		
ZRC1603160	**16, 17**	16	15.0	20	120	200	Long		
ZRC1604160	**16, 17**	16	15.0	20	80	250	Long		
ZRC2001200	**20, 21**	20	19.0	25	60	200	Regular	●TWBT20	TX5020T20
ZRC2002200	**20, 21**	20	19.0	25	80	250	Regular		
ZRC2003200	**20, 21**	20	19.0	25	100	250	Long		
ZRC2004200	**20, 21**	20	19.0	25	150	250	Long		
ZRC2501250	**25, 26**	25	24.0	30	75	200	Regular	●TWBT25	TX6025T25
ZRC2502250	**25, 26**	25	24.0	30	120	250	Regular		
ZRC2503250	**25, 26**	25	24.0	30	190	300	Long		
ZRC3001320	**30,32,33**	32	29.0	40	90	250	Regular	●TWBT30	TX8030T30
ZRC3002320	**30,32,33**	32	29.0	40	150	300	Long		
ZRC3003320	**30,32,33**	32	29.0	40	190	300	Long		

* ● Required to use T-HANDLE (TWH600) - (p.C49)
需要使用T-HANDLE（TWH600) - (49页)

i-Xmill END MILLS

ZRS SERIES

i-Xmill STEEL CORNER RADIUS HOLDER - STRAIGHT NECK
i-Xmill 钢件 圆鼻 刀杆 - 直颈



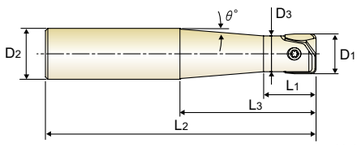
Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Neck Diameter 颈径 D3	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Length Type 长度类型	Wrench No. 扳手号码	Screw No. 螺钉号码
ZRS1201120	12, 13	12	11.0	13	30	110	Regular	TWFT10	TX3512T10
ZRS1601160	16, 17	16	15.0	15	50	130	Regular	TWFT15	TX4016T15
ZRS1602160	16, 17	16	15.0	15	65	165	Intermediate		
ZRS1603160	16, 17	16	15.0	15	65	200	Long		
ZRS2001200	20, 21	20	19.0	18	60	140	Regular	●TWBT20	TX5020T20
ZRS2002200	20, 21	20	19.0	18	80	180	Intermediate		
ZRS2003200	20, 21	20	19.0	18	80	250	Long		
ZRS2501250	25, 26	25	24.0	23	70	150	Regular	●TWBT25	TX6025T25
ZRS2502250	25, 26	25	24.0	23	90	200	Intermediate		
ZRS2503250	25, 26	25	24.0	23	90	300	Long		
ZRS3001320	30, 32, 33	32	29.0	27	80	160	Regular	●TWBT30	TX8030T30
ZRS3002320	30, 32, 33	32	29.0	27	100	220	Intermediate		
ZRS3003320	30, 32, 33	32	29.0	27	100	350	Long		

* ● Required to use T-HANDLE (TWH600) - (p.C49)
需要使用T-HANDLE（TWH600) - (49页)

ZRT SERIES

i-Xmill STEEL CORNER RADIUS HOLDER - TAPER NECK
i-Xmill 钢件 圆鼻 刀杆 - 锥颈



Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Neck Diameter 颈径 D3	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Interference Angle 锥度角度 θ°	Length Type 长度类型	Wrench No. 扳手号码	Screw No. 螺钉号码
ZRT0801120	8	12	6.7	10	22	100	9°	Regular	TWFT07	TX2508T07
ZRT0802120	8	12	6.7	10	50	130	2° 43´	Long		
ZRT1001120	10, 11	12	8.6	13	25	100	4° 45´	Regular	TWFT08	TX3010T08
ZRT1002120	10, 11	12	8.6	13	50	150	1° 32´	Long		
ZRT1202160	12, 13	16	10.2	15	60	160	2° 32´	Long	TWFT10	TX3512T10

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

ASSEMBLY of i-Xmill
装配 i-Xmill

▲ Make sure to clean the insert and insert seat.
确保清洁装配部分

▲ Slide the insert into the slot of the holder.
Tighten the screw using anti-seize compound.
刀片滑入刀杆的槽使用扳手拧紧螺钉

SIZE (ØD)	CLAMPING TORQUE (夹紧扭矩) [N·m]
Ø8.0	1.0
Ø10.0	1.5
Ø12.0, Ø13.0	2.5
Ø16.0, Ø17.0	3.5
Ø20.0, Ø21.0	5.0
Ø25.0, Ø26.0	6.0
Ø30.0, Ø32.0	6.5

* When the screw is worn out, please change the a new screw.
* Please tighten up the screw with recommended torque. (Please refer to the table)
* Don't press down the insert, when the screw is tightened.

・如螺钉磨损，请更换新的螺钉
・按照推荐扭矩拧紧螺钉（参考上述表）
・螺钉装配后，不要压下刀片

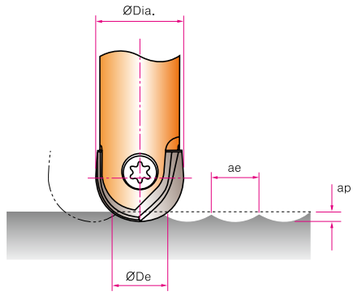
CLAMPING DIRECTION
夹紧方向

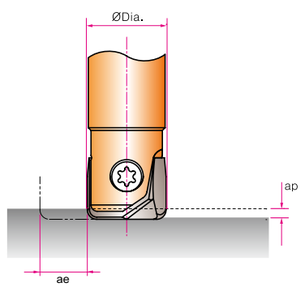
Wrench No. 扳手号码

WRENCH TYPE		PRODUCT NO.	T-HANDLE No.
WING TYPE		TWFT10	–
		TWFT15	–
TORX BIT TYPE		● TWBT20	TWH600
		● TWBT25	
		● TWBT30	

* ● Required to use T-HANDLE (TWH600) 需要使用T-HANDLE（TWH600)

CUTTING CONDITION
加工参数





RPM = revolution per minute 转数 (rev/min)
Vc = surface meter per minute 切削速度 (M/min)
Dia. = diameter of insert 刀片直径 (mm)
Vf = feed speed 进给量 (mm/min)
f = feed per revolution 每转进给 (mm/rev)
De = effective tool diameter 有效直径(mm)
Ap = axial depth of cut 切削深度 (mm)
Ae = radial depth of cut 切削宽度(mm)

$$Vc\ [M/min] = \frac{(RPM) \cdot (\pi) \cdot (Dia.)}{1000}$$

$$RPM\ [rev/min] = \frac{(Vc) \cdot (1000)}{(\pi) \cdot (Dia.)}$$

$$Vf\ [mm/min] = (RPM) \cdot (f)$$

$$De\ [mm] = 2\sqrt{(ap) \cdot (Dia. - ap)}$$

i-Xmill END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

XMB110A SERIES — BALL INSERTS for GENERAL PURPOSE
普通用途 球头刀片

Vc = m/min.
Fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径 8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33
P	1-4	Non-alloy steel	Vc	160~320	160~360	160~380	160~480	160~580	160~600	160~700
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60
			RPM	6370~12730	5090~11460	4240~10080	3180~9550	2550~9230	2040~7640	1700~7430
			FEED	2550~5090	2040~4580	1700~4030	1590~5730	1270~7380	1020~7640	850~8910
	5		Vc	120~280	120~300	120~350	120~380	120~420	120~480	120~550
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60
			RPM	4770~11140	3820~9550	3180~9280	2390~7560	1910~6680	1530~6110	1270~5840
			FEED	1910~4460	1530~3820	1270~3710	1190~4540	950~5350	760~6110	640~7000
	6-7	Low alloy steel	Vc	160~320	160~360	160~380	160~480	160~580	160~600	160~700
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60
			RPM	6370~12730	5090~11460	4240~10080	3180~9550	2550~9230	2040~7640	1700~7430
			FEED	2550~5090	2040~4580	1700~4030	1590~5730	1270~7380	1020~7640	850~8910
	8		Vc	120~280	120~300	120~350	120~380	120~420	120~480	120~550
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60
			RPM	4770~11140	3820~9550	3180~9280	2390~7560	1910~6680	1530~6110	1270~5840
			FEED	1910~4460	1530~3820	1270~3710	1190~4540	950~5350	760~6110	640~7000

XMB120C SERIES — BALL INSERTS for PRE-HARDENED STEELS
预硬钢用 球头刀片

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径 8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33
P	9-11	Low alloy steel High alloyed steel, and tool steel	Vc	100~220	100~260	100~280	100~350	100~400	100~450	100~500
			fz	0.15~0.20	0.15~0.20	0.15~0.20	0.20~0.30	0.20~0.40	0.20~0.50	0.20~0.60
			RPM	3980~8750	3180~8280	2650~7430	1990~6960	1590~6370	1270~5730	1060~5310
			FEED	1190~3500	950~3310	800~2970	800~4180	640~5090	510~5730	420~6370
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	Vc	160~320	160~360	160~400	160~500	160~550	160~620	160~720
			fz	0.30~0.30	0.30~0.30	0.30~0.30	0.35~0.40	0.35~0.40	0.35~0.50	0.35~0.60
			RPM	6370~12730	5090~11460	4240~10610	3180~9950	2550~8750	2040~7890	1700~7640
			FEED	3820~7640	3060~6880	2550~6370	2230~7960	1780~7000	1430~7890	1190~9170
H	38	Hardened steel	Vc	80~180	80~200	80~220	80~260	80~320	80~360	80~400
			fz	0.10~0.20	0.10~0.20	0.10~0.20	0.15~0.30	0.15~0.40	0.15~0.50	0.15~0.60
			RPM	3180~7160	2550~6370	2120~5840	1590~5170	1270~5090	1020~4580	850~4240
			FEED	640~2860	510~2550	420~2330	480~3100	380~4070	310~4580	250~5090

XMB260T SERIES — BALL INSERTS for HIGH HARDENED STEELS
高硬钢用 球头刀片

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径 8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33
H	38-41	Hardened steel	Vc	80~180	80~200	80~220	80~260	80~320	80~360	80~400
			fz	0.10~0.15	0.10~0.15	0.10~0.15	0.15~0.25	0.15~0.25	0.15~0.25	0.15~0.30
			RPM	3180~7160	2550~6370	2120~5840	1590~5170	1270~5090	1020~4580	850~4240
			FEED	640~2150	510~1910	420~1750	480~2590	380~2550	310~2290	250~2550

XMB130A SERIES — BALL INSERTS for STAINLESS STEELS
不锈钢用 球头刀片

ISO	VDI 3323	Material Description	Parameter 参数	Diameter (Ø) 直径 8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33
M	12-14	Stainless steel	Vc	90~130	90~130	90~130	90~130	90~130	90~130	90~130
			fz	0.10~0.12	0.13~0.15	0.15~0.20	0.15~0.20	0.15~0.20	0.20~0.25	0.20~0.25
			RPM	3580~5170	2860~4140	2390~3450	1790~2590	1430~2070	1150~1660	950~1380
			FEED	720~1290	720~1240	720~1380	540~1030	430~830	460~830	380~690

i-Xmill END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

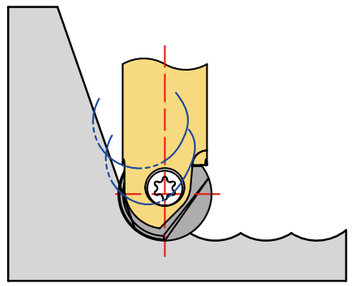
XMM110V SERIES — BALL INSERTS for GENERAL PURPOSE - FULL RADIUS
普通用途 球头刀片 - 全弧型

Vc = m/min.
Fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

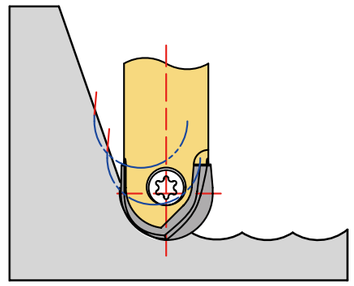
ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径 8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33
P	1-4	Non-alloy steel	Vc	160~320	160~360	160~380	160~480	160~580	160~600	160~700
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60
			RPM	6370~12730	5090~11460	4240~10080	3180~9550	2550~9230	2040~7640	1700~7430
			FEED	2550~5090	2040~4580	1700~4030	1590~5730	1270~7380	1020~7640	850~8910
	6-7	Low alloy steel	Vc	160~320	160~360	160~380	160~480	160~580	160~600	160~700
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60
			RPM	6370~12730	5090~11460	4240~10080	3180~9550	2550~9230	2040~7640	1700~7430
			FEED	2550~5090	2040~4580	1700~4030	1590~5730	1270~7380	1020~7640	850~8910
	10	High alloyed steel, and tool steel	Vc	160~320	160~360	160~380	160~480	160~580	160~600	160~700
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60
			RPM	6370~12730	5090~11460	4240~10080	3180~9550	2550~9230	2040~7640	1700~7430
			FEED	2550~5090	2040~4580	1700~4030	1590~5730	1270~7380	1020~7640	850~8910

XMB110D SERIES — BALL INSERTS for GRAPHITE
石墨用 球头刀片

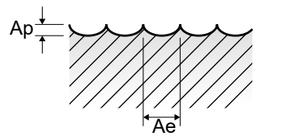
ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径 8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33
N	21~22	Aluminum-wrought alloy	Vc	300~400	300~400	300~400	300~400	300~480	300~560	300~650
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.30~0.35	0.35~0.40	0.40~0.50
			RPM	11940~15920	9550~12730	7960~10610	5970~7960	4770~7640	3820~7130	3180~6900
			FEED	4770~6370	3820~5090	3180~4240	2980~4770	2860~5350	2670~5700	2550~6900
	23~24	Aluminum-cast, alloyed	Vc	300~400	300~400	300~400	300~400	300~480	300~560	300~650
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.30~0.35	0.35~0.40	0.40~0.50
			RPM	11940~15920	9550~12730	7960~10610	5970~7960	4770~7640	3820~7130	3180~6900
			FEED	4770~6370	3820~5090	3180~4240	2980~4770	2860~5350	2670~5700	2550~6900
	29.2	Graphite	Vc	300~400	300~400	300~400	300~400	300~480	300~560	300~650
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.30~0.35	0.35~0.40	0.40~0.50
			RPM	11940~15920	9550~12730	7960~10610	5970~7960	4770~7640	3820~7130	3180~6900
			FEED	4770~6370	3820~5090	3180~4240	2980~4770	2860~5350	2670~5700	2550~6900



Full Radius Type



Ball Radius Type



ae : Roughing - 0.1 x D
Finishing - Under Ø12 : 0.25mm
Under Ø20 : 0.30mm
From Ø20 : 0.40mm

ap : Roughing - Under Ø16 : 0.025 x D
From Ø16 : 0.05 x D
Finishing - Under Ø16 : 0.1mm

▶ When the length of overhang exceed 4xD, we recommend to use carbide shank holder. (Feed 20% down)
▶ Recommend to reduce the feed rate to 70~85% when you use long(long & intermediate Type Holder) tools.
▶ 如悬深长超过4xD，推荐采用硬质合金刀杆（进给要减少20%）
▶ 使用加长刀具（长，加长型刀杆）时，推荐减少进给到70~85%

i-Xmill END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

XMR110A SERIES — CORNER RADIUS INSERTS for GENERAL PURPOSE & STAINLESS STEELS
普通用途&不锈钢用 圆鼻刀片

Vc = m/min.
Fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径 8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33
P	1-4	Non-alloy steel	Vc	160~300	160~300	160~300	160~300	160~300	160~300	160~300
			fz	0.20~0.15	0.20~0.15	0.20~0.15	0.25~0.20	0.25~0.20	0.25~0.20	0.25~0.20
			RPM	6370~11940	5090~9550	4240~7960	3180~5970	2550~4770	2040~3820	1700~3180
			FEED	2550~3580	2040~2860	1700~2390	1590~2390	1270~1910	1020~1530	850~1270
	5		Vc	120~280	120~280	120~280	120~280	120~280	120~280	120~280
			fz	0.20~0.15	0.20~0.15	0.20~0.15	0.25~0.20	0.25~0.20	0.25~0.20	0.25~0.20
			RPM	4770~11140	3820~8910	3180~7430	2390~5570	1910~4460	1530~3570	1270~2970
			FEED	1910~3340	1530~2670	1270~2230	1190~2230	950~1780	760~1430	640~1190
	6-7	Low alloy steel	Vc	160~300	160~300	160~300	160~300	160~300	160~300	160~300
			fz	0.20~0.15	0.20~0.15	0.20~0.15	0.25~0.20	0.25~0.20	0.25~0.20	0.25~0.20
			RPM	6370~11940	5090~9550	4240~7960	3180~5970	2550~4770	2040~3820	1700~3180
			FEED	2550~3580	2040~2860	1700~2390	1590~2390	1270~1910	1020~1530	850~1270
	8		Vc	120~280	120~280	120~280	120~280	120~280	120~280	120~280
			fz	0.20~0.15	0.20~0.15	0.20~0.15	0.25~0.20	0.25~0.20	0.25~0.20	0.25~0.20
			RPM	4770~11140	3820~8910	3180~7430	2390~5570	1910~4460	1530~3570	1270~2970
			FEED	1910~3340	1530~2670	1270~2230	1190~2230	950~1780	760~1430	640~1190
M	12-14	Stainless steel	Vc	90~130	90~130	90~130	90~130	90~130	90~130	90~130
			fz	0.10~0.10	0.11~0.11	0.12~0.11	0.13~0.13	0.13~0.13	0.13~0.12	0.13~0.12
			RPM	3580~5170	2860~4140	2390~3450	1790~2590	1430~2070	1150~1660	950~1380
			FEED	720~1030	630~910	550~790	450~650	360~520	290~410	240~340

XMR120C SERIES — CORNER RADIUS INSERTS for PRE-HARDENED STEELS
预硬钢用 圆鼻刀片

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径 8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33
P	9-11	Low alloy steel High alloyed steel, and tool steel	Vc	100~280	100~280	100~280	100~280	100~280	100~280	100~280
			fz	0.12~0.06	0.13~0.06	0.13~0.06	0.15~0.08	0.15~0.08	0.15~0.08	0.15~0.08
			RPM	3980~11140	3180~8910	2650~7430	1990~5570	1590~4460	1270~3570	1060~2970
			FEED	990~1340	800~1070	690~890	600~840	480~670	380~570	320~450
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	Vc	160~380	160~380	160~380	160~380	160~380	160~380	160~380
			fz	0.30~0.20	0.30~0.20	0.30~0.20	0.35~0.30	0.35~0.30	0.35~0.30	0.35~0.30
			RPM	6370~15120	5090~12100	4240~10080	3180~7560	2550~6050	2040~4840	1700~4030
			FEED	3820~6050	3060~4840	2550~4030	2230~4540	1780~3630	1430~2900	1190~2420
H	38	Hardened steel	Vc	80~220	80~220	80~220	80~220	80~220	80~220	80~220
			fz	0.10~0.05	0.10~0.05	0.10~0.05	0.15~0.06	0.15~0.06	0.15~0.06	0.15~0.06
			RPM	3180~8750	2550~7000	2120~5840	1590~4380	1270~3500	1020~2800	850~2330
			FEED	640~880	510~700	420~580	420~530	380~420	310~340	250~280

XMR260T SERIES — CORNER RADIUS INSERTS for HIGH HARDENED STEELS
高硬钢用 圆鼻刀片

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径 8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33
H	38-41	Hardened steel	Vc	80~220	80~220	80~220	80~220	80~220	80~220	80~220
			fz	0.10~0.05	0.10~0.05	0.10~0.05	0.15~0.06	0.15~0.06	0.15~0.06	0.15~0.06
			RPM	3180~8750	2550~7000	2120~5840	1590~4380	1270~3500	1020~2800	850~2330
			FEED	640~880	510~700	420~580	480~530	380~420	310~340	250~280

i-Xmill END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

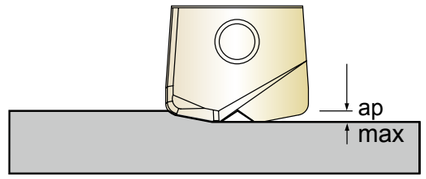
XMF110V SERIES — CORNER RADIUS INSERTS for GENERAL PURPOSE - HIGH FEED
普通用途 圆鼻刀片 - 高进给

Vc = m/min.
Fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

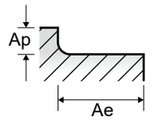
ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径 8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33
P	1-7	Non-alloy steel Low alloy steel	Vc	150~200	150~200	150~200	150~200	150~200	150~200	150~200
			fz	0.60~0.40	0.75~0.50	0.90~0.60	1.20~0.80	1.50~1.00	1.80~1.40	2.30~1.80
			RPM	5970~7960	4770~6370	3980~5310	2980~3980	2390~3180	1910~2550	1590~2120
			FEED	7160~6370	7160~6370	7160~6370	7160~6370	7160~6370	6880~7140	7320~7640
			Ap(Max)	0.4	0.5	0.6	0.8	1.0	1.3	1.6
	10	High alloyed steel, and tool steel	Vc	150~200	150~200	150~200	150~200	150~200	150~200	150~200
			fz	0.60~0.40	0.75~0.50	0.90~0.60	1.20~0.80	1.50~1.00	1.80~1.40	2.30~1.80
			RPM	5970~7960	4770~6370	3980~5310	2980~3980	2390~3180	1910~2550	1590~2120
			FEED	7160~6370	7160~6370	7160~6370	7160~6370	7160~6370	6880~7140	7320~7640
			Ap(Max)	0.4	0.5	0.6	0.8	1.0	1.3	1.6

XMR110D SERIES — CORNER RADIUS INSERTS for GRAPHITE
石墨用 圆鼻刀片

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径 8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33
N	21~22	Aluminum-wrought alloy	Vc	300~400	300~400	300~400	300~400	300~400	300~400	300~400
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.25	0.25~0.25	0.25~0.25
			RPM	11940~15920	9550~12730	7960~10610	5970~7960	4770~6370	3820~5090	3180~4240
			FEED	4770~6370	3820~5090	3180~4240	2390~3180	2390~3180	1910~2550	1590~2120
	23~24	Aluminum-cast, alloyed	Vc	300~400	300~400	300~400	300~400	300~400	300~400	300~400
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.25	0.25~0.25	0.25~0.25
			RPM	11940~15920	9550~12730	7960~10610	5970~7960	4770~6370	3820~5090	3180~4240
			FEED	4770~6370	3820~5090	3180~4240	2390~3180	2390~3180	1910~2550	1590~2120
	29.2	Graphite	Vc	300~400	300~400	300~400	300~400	300~400	300~400	300~400
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.25	0.25~0.25	0.25~0.25
			RPM	11940~15920	9550~12730	7960~10610	5970~7960	4770~6370	3820~5090	3180~4240
			FEED	4770~6370	3820~5090	3180~4240	2390~3180	2390~3180	1910~2550	1590~2120



High Feed

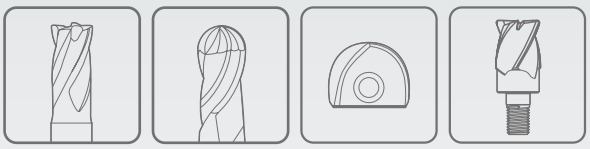


ae : Roughing - 0.1 x D
Finishing - 0.2mm

ap : Roughing - Under Ø16 : 0.025 x D
From Ø16 : 0.05 x D
Finishing - Under Ø16 : 0.1mm
From Ø16 : 0.2mm

▶ When the length of overhang exceed 4 x D, we recommend to use carbide shank holder. (Feed 20% down)
▶ Recommend to reduce the feed rate to 70 ~ 85% when you use long(long & intermediate Type Holder) tools.
▶ 如悬深长超过4xD，推荐采用硬质合金刀杆（进给要减少20%）
▶ 使用加长刀具（长，加长型刀杆）时，推荐减少进给到70~85%

Global Cutting Tool Leader **YG-1**



MILLING

YG

Leading Through Innovation

CARBIDE MODULAR HEAD & HOLDER

i-SMART MODULAR TYPE END MILLS

- For General Steels, Hardened Steels and Cast Iron
- 适用于普通钢，高硬钢和铸铁

SELECTION GUIDE
选用指南

YG MILLING TOOLS

CARBIDE MODULAR HEAD & HOLDER i-SMART END MILLS

Ultra-micro Grain Carbide Heads with Carbide & Steel Holders
超纳米颗粒硬质合金模块铣刀
带硬质合金 & 钢件刀杆

Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工参数) : p.C70

	SERIES 系列	XSEMD98	XSEME59	XSEME60
	FLUTE 槽数	2	3	4
	HELIX ANGLE 螺旋角度	30°	30°	30°
	CUTTING EDGE SHAPE 类型	BALL NOSE	BALL NOSE	BALL NOSE
	SIZE MIN 最小尺寸	R5.0	R5.0	R5.0
	SIZE MAX 最大尺寸	R16.0	R16.0	R16.0
	PAGE 页数	C58	C59	C60
		CENTER MATCH	CENTER MATCH	CENTER MATCH
		Y-Coating	Y-Coating	Y-Coating

ISO	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB	HRc			
P	1	Non-alloy steel	About 0.15% C	Annealed	125		○	○	○
	2		About 0.45% C	Annealed	190	13	○	○	○
	3		About 0.45% C	Quenched & Tempered	250	25	○	○	○
	4		About 0.75% C	Annealed	270	28	◎	◎	◎
	5		About 0.75% C	Quenched & Tempered	300	32	◎	◎	◎
	6	Low alloy steel		Annealed	180	10	○	○	○
	7			Quenched & Tempered	275	29	◎	◎	◎
	8			Quenched & Tempered	300	32	◎	◎	◎
	9			Quenched & Tempered	350	38	◎	◎	◎
	10	High alloyed steel, and tool steel		Annealed	200	15	○	○	○
	11			Quenched & Tempered	325	35	◎	◎	◎
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15			
	13		Martensitic	Quenched & Tempered	240	23			
	14		Austenitic		180	10			
K	15	Grey cast iron	Pearlitic / ferritic		180	10	○	○	○
	16		Pearlitic (Martensitic)		260	26	○	○	○
	17	Nodular cast iron	Ferritic		160	3	○	○	○
	18		Pearlitic		250	25	○	○	○
	19	Malleable cast iron	Ferritic		130		○	○	○
	20		Pearlitic		230	21	○	○	○
N	21	Aluminum-wrought alloy	Not Curable		60				
	22		Curable	Hardened	100				
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75				
	24		≤ 12% Si, Curable	Hardened	90				
	25		> 12% Si, Not Curable		130				
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110				
	27		CuZn, CuSnZn (Brass)		90				
	28		CuSn, lead-free copper and electrolytic copper		100				
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic						
	30		Rubber, Wood, etc.						
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15			
	32			Cured	280	30			
	33		Ni or Co Based	Annealed	250	25			
	34			Cured	350	38			
	35			Cast	320	34			
	36	Titanium Alloys	Pure Titanium		400 Rm				
	37		Alpha + Beta Alloys	Hardened	1050 Rm				
H	38	Hardened steel		Hardened	550	55	○	○	○
	39			Hardened	630	60	○	○	○
	40	Chilled Cast Iron		Cast	400	42	◎	◎	◎
	41	Hardened Cast Iron		Hardened	550	55	○	○	○

	XSEME01	XSEME68	XSEME36	XSEME75	ZMC	ZMS	ZMT
	4	6	4	6	-	-	-
	27°/30° (MULTIPLE HELIX)	45°	27°/30° (MULTIPLE HELIX)	45°	-	-	-
	CORNER RADIUS	CORNER RADIUS	SQUARE	SQUARE	-	-	-
	D10.0	D10.0	D10.0	D10.0	-	-	-
	D32.0	D32.0	D32.0	D32.0	-	-	-
	C61-62	C63	C64	C65	C66	C67	C68
	-	-	-	-	STRAIGHT NECK	STRAIGHT NECK	TAPER NECK
	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Carbide	Steel	Steel

1	○	○	○	○				P
2	○	○	○	○				
3	◎	○	◎	◎				
4	◎	◎	◎	◎				
5	◎	◎	◎	◎				
6	○	○	○	○				
7	◎	◎	◎	◎				
8	◎	◎	◎	◎				
9	◎	◎	◎	◎				
10	○	○	○	○				
11	◎	◎	◎	◎				
12								M
13								
14			○					
15	○	○	○	○				K
16	○	○	○	○				
17	○	○	○	○				
18	○	○	○	○				
19	○	○	○	○				
20	○	○	○	○				
21								N
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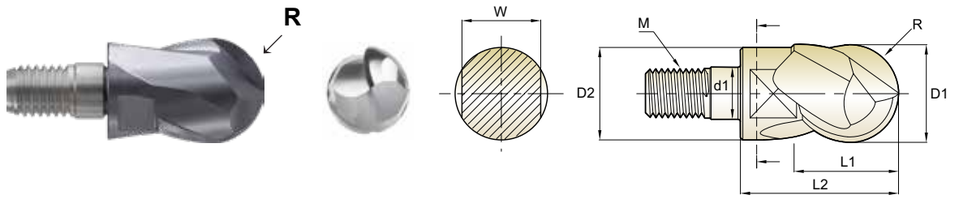
38	○	○	○	○				H
39	○	○	○	○				
40	◎	◎	◎	◎				
41	○	○	○	○				

BALL NOSE = 球头 CORNER RADIUS = 圆鼻 SQUARE = 平头 MULTIPLE HELIX = 不等螺旋
STRAIGHT NECK = 直颈 TAPER NECK = 锥颈 CARBIDE=硬质合金 STEEL = 钢件

i-Smart END MILLS

XSEMD98 SERIES

CARBIDE MODULAR HEAD, 2 FLUTE BALL NOSE (Center Match)
硬质合金 模块铣刀，2刃 球头 (中心对称)



CARBIDE | 2 | 30° | p.C70

Recommended ToolHolder

Plain Shank	Page
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角	Mill Diameter 直径	Neck Diameter 颈径	Length of Cut 刃长	Length Below Shank 颈长	Wrench Width 扳手宽度	Coupling Diameter 连接直径	Thread 螺纹
Y-COATED	R	D_1	D_2	L_1	L_2	W	d_1	M
XSEMD98100	R5.0	**10.0**	9.2	10	17.5	8	6.5	M6
XSEMD98120	R6.0	**12.0**	11.2	12	20.5	10	6.5	M6
XSEMD98160	R8.0	**16.0**	15.0	16	25.5	13	8.5	M8
XSEMD98200	R10.0	**20.0**	19.0	20	30.0	17	10.5	M10
XSEMD98250	R12.5	**25.0**	24.0	25	37.0	22	12.5	M12
XSEMD98300	R15.0	**30.0**	29.0	30	43.0	27	17.0	M16
XSEMD98320	R16.0	**32.0**	31.0	32	45.0	27	17.0	M16

Radius Tolerance(mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差
± 0.010	0 ~ - 0.02

◎ : Excellent (优秀) ○ : Good (良好)

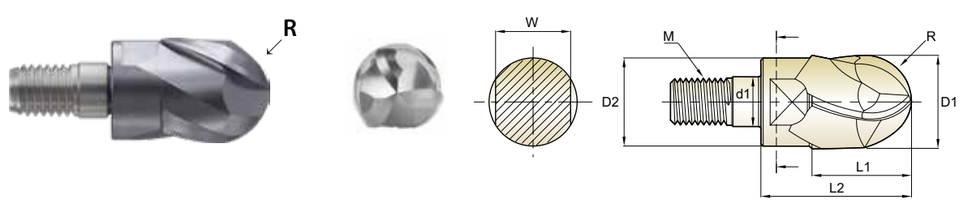
ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	○	◎	○

i-Smart END MILLS

XSEME59 SERIES

CARBIDE MODULAR HEAD, 3 FLUTE BALL NOSE (Center Match)
硬质合金 模块铣刀，3刃 球头 (中心对称)



CARBIDE | 3 | 30° | p.C70

Recommended ToolHolder

Plain Shank	Page
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角	Mill Diameter 直径	Neck Diameter 颈径	Length of Cut 刃长	Length Below Shank 颈长	Wrench Width 扳手宽度	Coupling Diameter 连接直径	Thread 螺纹
Y-COATED	R	D_1	D_2	L_1	L_2	W	d_1	M
XSEME59100	R5.0	**10.0**	9.2	10	17.5	8	6.5	M6
XSEME59120	R6.0	**12.0**	11.2	12	20.5	10	6.5	M6
XSEME59160	R8.0	**16.0**	15.0	16	25.5	13	8.5	M8
XSEME59200	R10.0	**20.0**	19.0	20	30.0	17	10.5	M10
XSEME59250	R12.5	**25.0**	24.0	25	37.0	22	12.5	M12
XSEME59300	R15.0	**30.0**	29.0	30	43.0	27	17.0	M16
XSEME59320	R16.0	**32.0**	31.0	32	45.0	27	17.0	M16

Radius Tolerance(mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差
± 0.010	0 ~ - 0.02

◎ : Excellent (优秀) ○ : Good (良好)

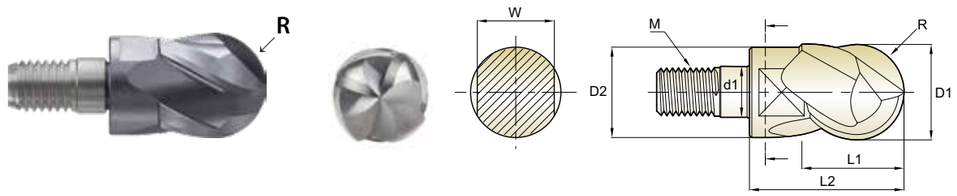
ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	○	◎	○

i-Smart END MILLS

XSEME60 SERIES

CARBIDE MODULAR HEAD, 4 FLUTE BALL NOSE (Center Match)
硬质合金 模块铣刀，4刃球头 (中心对称)



CARBIDE | 4 | 30° | p.C71

Recommended ToolHolder

Plain Shank	Page
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角	Mill Diameter 直径	Neck Diameter 颈径	Length of Cut 刃长	Length Below Shank 颈长	Wrench Width 扳手宽度	Coupling Diameter 连接直径	Thread 螺纹
Y-COATED	R	D_1	D_2	L_1	L_2	W	d_1	M
XSEME60100	R5.0	**10.0**	9.2	10	17.5	8	6.5	M6
XSEME60120	R6.0	**12.0**	11.2	12	20.5	10	6.5	M6
XSEME60160	R8.0	**16.0**	15.0	16	25.5	13	8.5	M8
XSEME60200	R10.0	**20.0**	19.0	20	30.0	17	10.5	M10
XSEME60250	R12.5	**25.0**	24.0	25	37.0	22	12.5	M12
XSEME60300	R15.0	**30.0**	29.0	30	43.0	27	17.0	M16
XSEME60320	R16.0	**32.0**	31.0	32	45.0	27	17.0	M16

Radius Tolerance(mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差
± 0.010	0 ~ - 0.02

◎ : Excellent (优秀) ○ : Good (良好)

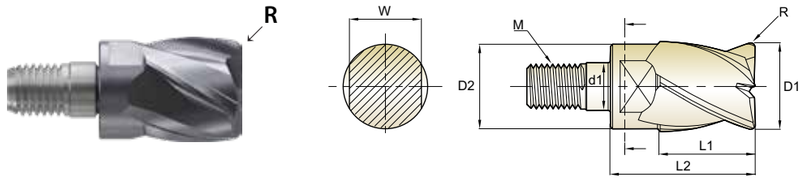
ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	○	◎	○

i-Smart END MILLS

XSEME01 SERIES

CARBIDE MODULAR HEAD, 4 FLUTE MULTIPLE HELIX CORNER RADIUS
硬质合金 模块铣刀，4刃 不等螺旋 圆鼻



CARBIDE | 4 | 27°/30° | p.C71

Recommended ToolHolder

Plain Shank	Page
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角	Mill Diameter 直径	Neck Diameter 颈径	Length of Cut 刃长	Length Below Shank 颈长	Wrench Width 扳手宽度	Coupling Diameter 连接直径	Thread 螺纹
Y-COATED	R	D_1	D_2	L_1	L_2	W	d_1	M
XSEME01100 010	R0.1	**10.0**	9.2	10	17.5	8	6.5	M6
XSEME01100 020	R0.2	**10.0**	9.2	10	17.5	8	6.5	M6
XSEME01100 030	R0.3	**10.0**	9.2	10	17.5	8	6.5	M6
XSEME01100 050	R0.5	**10.0**	9.2	10	17.5	8	6.5	M6
XSEME01100 100	R1.0	**10.0**	9.2	10	17.5	8	6.5	M6
XSEME01100 150	R1.5	**10.0**	9.2	10	17.5	8	6.5	M6
XSEME01100 200	R2.0	**10.0**	9.2	10	17.5	8	6.5	M6
XSEME01100 250	R2.5	**10.0**	9.2	10	17.5	8	6.5	M6
XSEME01100 300	R3.0	**10.0**	9.2	10	17.5	8	6.5	M6
XSEME01100 400	R4.0	**10.0**	9.2	10	17.5	8	6.5	M6
XSEME01120 010	R0.1	**12.0**	11.2	12	20.5	10	6.5	M6
XSEME01120 020	R0.2	**12.0**	11.2	12	20.5	10	6.5	M6
XSEME01120 030	R0.3	**12.0**	11.2	12	20.5	10	6.5	M6
XSEME01120 050	R0.5	**12.0**	11.2	12	20.5	10	6.5	M6
XSEME01120 100	R1.0	**12.0**	11.2	12	20.5	10	6.5	M6
XSEME01120 150	R1.5	**12.0**	11.2	12	20.5	10	6.5	M6
XSEME01120 200	R2.0	**12.0**	11.2	12	20.5	10	6.5	M6
XSEME01120 250	R2.5	**12.0**	11.2	12	20.5	10	6.5	M6
XSEME01120 300	R3.0	**12.0**	11.2	12	20.5	10	6.5	M6
XSEME01120 400	R4.0	**12.0**	11.2	12	20.5	10	6.5	M6
XSEME01120 500	R5.0	**12.0**	11.2	12	20.5	10	6.5	M6
XSEME01160 050	R0.5	**16.0**	15.0	16	25.5	13	8.5	M8
XSEME01160 100	R1.0	**16.0**	15.0	16	25.5	13	8.5	M8
XSEME01160 150	R1.5	**16.0**	15.0	16	25.5	13	8.5	M8

▶ NEXT PAGE 下页

Radius Tolerance(mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差
± 0.02	0 ~ - 0.03

◎ : Excellent (优秀) ○ : Good (良好)

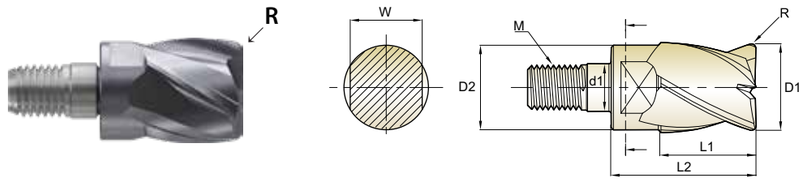
ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	○	◎	○

i-Smart END MILLS

XSEME01 SERIES

CARBIDE MODULAR HEAD, 4 FLUTE MULTIPLE HELIX CORNER RADIUS
硬质合金 模块铣刀，4刃 不等螺旋 圆鼻



CARBIDE | 4 | 27°/30° | p.C71

Recommended ToolHolder — Plain Shank — Page
POWER MILLING CHUCK D161 - 176
ER COLLET CHUCK D73 - 115

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角	Mill Diameter 直径	Neck Diameter 颈径	Length of Cut 刃长	Length Below Shank 颈长	Wrench Width 扳手宽度	Coupling Diameter 连接直径	Thread 螺纹
Y-COATED	R	D_1	D_2	L_1	L_2	W	d_1	M
XSEME01160 200	R2.0	**16.0**	15.0	16	25.5	13	8.5	M8
XSEME01200 050	R0.5	**20.0**	19.0	20	30.0	17	10.5	M10
XSEME01200 100	R1.0	**20.0**	19.0	20	30.0	17	10.5	M10
XSEME01200 150	R1.5	**20.0**	19.0	20	30.0	17	10.5	M10
XSEME01200 200	R2.0	**20.0**	19.0	20	30.0	17	10.5	M10
XSEME01250 050	R0.5	**25.0**	24.0	25	37.0	22	12.5	M12
XSEME01250 100	R1.0	**25.0**	24.0	25	37.0	22	12.5	M12
XSEME01250 150	R1.5	**25.0**	24.0	25	37.0	22	12.5	M12
XSEME01250 200	R2.0	**25.0**	24.0	25	37.0	22	12.5	M12
XSEME01300 050	R0.5	**30.0**	29.0	30	43.0	27	17.0	M16
XSEME01300 100	R1.0	**30.0**	29.0	30	43.0	27	17.0	M16
XSEME01300 150	R1.5	**30.0**	29.0	30	43.0	27	17.0	M16
XSEME01300 200	R2.0	**30.0**	29.0	30	43.0	27	17.0	M16
XSEME01320 050	R0.5	**32.0**	31.0	32	45.0	27	17.0	M16
XSEME01320 100	R1.0	**32.0**	31.0	32	45.0	27	17.0	M16
XSEME01320 150	R1.5	**32.0**	31.0	32	45.0	27	17.0	M16
XSEME01320 200	R2.0	**32.0**	31.0	32	45.0	27	17.0	M16

Radius Tolerance(mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差
± 0.02	0 ~ - 0.03

◎ : Excellent (优秀) ○ : Good (良好)

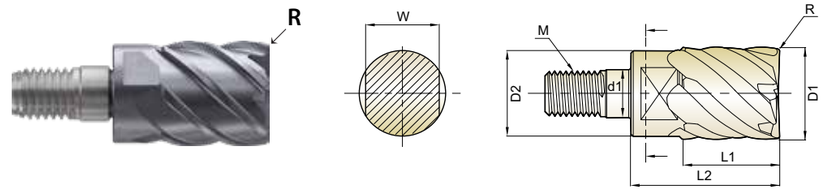
ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	○	◎	○

i-Smart END MILLS

XSEME68 SERIES

CARBIDE MODULAR HEAD, 6 FLUTE 45° HELIX CORNER RADIUS
硬质合金 模块铣刀，6刃 45度螺旋 圆鼻



CARBIDE | 6 | 45° | p.C72

Recommended ToolHolder — Plain Shank — Page
POWER MILLING CHUCK D161 - 176
ER COLLET CHUCK D73 - 115

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角	Mill Diameter 直径	Neck Diameter 颈径	Length of Cut 刃长	Length Below Shank 颈长	Wrench Width 扳手宽度	Coupling Diameter 连接直径	Thread 螺纹
Y-COATED	R	D_1	D_2	L_1	L_2	W	d_1	M
XSEME68100 030	R0.3	**10.0**	9.2	10	17.5	8	6.5	M6
XSEME68100 050	R0.5	**10.0**	9.2	10	17.5	8	6.5	M6
XSEME68100 100	R1.0	**10.0**	9.2	10	17.5	8	6.5	M6
XSEME68120 030	R0.3	**12.0**	11.2	12	20.5	10	6.5	M6
XSEME68120 050	R0.5	**12.0**	11.2	12	20.5	10	6.5	M6
XSEME68120 100	R1.0	**12.0**	11.2	12	20.5	10	6.5	M6
XSEME68160 050	R0.5	**16.0**	15.0	16	25.5	13	8.5	M8
XSEME68160 100	R1.0	**16.0**	15.0	16	25.5	13	8.5	M8
XSEME68160 150	R1.5	**16.0**	15.0	16	25.5	13	8.5	M8
XSEME68160 200	R2.0	**16.0**	15.0	16	25.5	13	8.5	M8
XSEME68200 050	R0.5	**20.0**	19.0	20	30.0	17	10.5	M10
XSEME68200 100	R1.0	**20.0**	19.0	20	30.0	17	10.5	M10
XSEME68200 150	R1.5	**20.0**	19.0	20	30.0	17	10.5	M10
XSEME68200 200	R2.0	**20.0**	19.0	20	30.0	17	10.5	M10
XSEME68250 050	R0.5	**25.0**	24.0	25	37.0	22	12.5	M12
XSEME68250 100	R1.0	**25.0**	24.0	25	37.0	22	12.5	M12
XSEME68250 150	R1.5	**25.0**	24.0	25	37.0	22	12.5	M12
XSEME68250 200	R2.0	**25.0**	24.0	25	37.0	22	12.5	M12
XSEME68300 050	R0.5	**30.0**	29.0	30	43.0	27	17.0	M16
XSEME68300 100	R1.0	**30.0**	29.0	30	43.0	27	17.0	M16
XSEME68300 150	R1.5	**30.0**	29.0	30	43.0	27	17.0	M16
XSEME68300 200	R2.0	**30.0**	29.0	30	43.0	27	17.0	M16
XSEME68320 050	R0.5	**32.0**	31.0	32	45.0	27	17.0	M16
XSEME68320 100	R1.0	**32.0**	31.0	32	45.0	27	17.0	M16
XSEME68320 150	R1.5	**32.0**	31.0	32	45.0	27	17.0	M16
XSEME68320 200	R2.0	**32.0**	31.0	32	45.0	27	17.0	M16

Radius Tolerance(mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差
± 0.015	0 ~ - 0.03

◎ : Excellent (优秀) ○ : Good (良好)

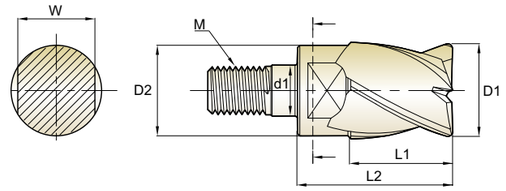
ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	○	◎	○

i-Smart END MILLS

XSEME36 SERIES

CARBIDE MODULAR HEAD, 4 FLUTE MULTIPLE HELIX
硬质合金 模块铣刀，4刃 不等螺旋



CARBIDE | 4 | 27°/30° | p.C72

Recommended ToolHolder

	Plain Shank	Page
◎	POWER MILLING CHUCK	D161 - 176
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Mill Diameter	Neck Diameter	Length of Cut	Length Below Shank	Wrench Width	Coupling Diameter	Thread
	直径	颈径	刃长	颈长	扳手宽度	连接直径	螺纹
Y-COATED	D_1	D_2	L_1	L_2	W	d_1	M
XSEME36100	**10.0**	9.2	10	17.5	8	6.5	M6
XSEME36120	**12.0**	11.2	12	20.5	10	6.5	M6
XSEME36160	**16.0**	15.0	16	25.5	13	8.5	M8
XSEME36200	**20.0**	19.0	20	30.0	17	10.5	M10
XSEME36250	**25.0**	24.0	25	37.0	22	12.5	M12
XSEME36300	**30.0**	29.0	30	43.0	27	17.0	M16
XSEME36320	**32.0**	31.0	32	45.0	27	17.0	M16

Mill Dia.Tolerance (mm) 直径公差
0 ~ - 0.03

◎ : Excellent (优秀) ○ : Good (良好)

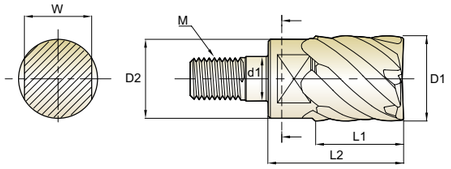
ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎			○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	○	◎	○

i-Smart END MILLS

XSEME75 SERIES

CARBIDE MODULAR HEAD, 6 FLUTE 45° HELIX
硬质合金 模块铣刀，6刃 45度螺旋



CARBIDE | 6 | 45° | p.C73

Recommended ToolHolder

	Plain Shank	Page
◎	POWER MILLING CHUCK	D161 - 176
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Mill Diameter	Neck Diameter	Length of Cut	Length Below Shank	Wrench Width	Coupling Diameter	Thread
	直径	颈径	刃长	颈长	扳手宽度	连接直径	螺纹
Y-COATED	D_1	D_2	L_1	L_2	W	d_1	M
XSEME75100	**10.0**	9.2	10	17.5	8	6.5	M6
XSEME75120	**12.0**	11.2	12	20.5	10	6.5	M6
XSEME75160	**16.0**	15.0	16	25.5	13	8.5	M8
XSEME75200	**20.0**	19.0	20	30.0	17	10.5	M10
XSEME75250	**25.0**	24.0	25	37.0	22	12.5	M12
XSEME75300	**30.0**	29.0	30	43.0	27	17.0	M16
XSEME75320	**32.0**	31.0	32	45.0	27	17.0	M16

Mill Dia.Tolerance (mm) 直径公差
0 ~ - 0.03

◎ : Excellent (优秀) ○ : Good (良好)

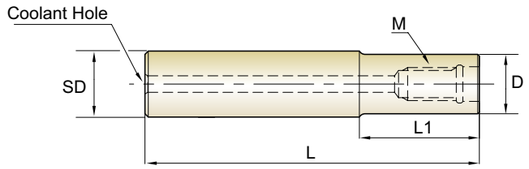
ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	○	◎	○

i-Smart END MILLS

ZMC SERIES

CARBIDE HOLDER - STRAIGHT NECK TYPE
硬质合金 刀杆 - 直颈



Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径 SD	Overall Length 全长 L	Neck Length 颈长 L_1	Neck Diameter 颈径 D	Thread Size 螺纹 M	Wrench No. 扳手号码	Coolant Hole 油孔
ZMC1001100	**10.0**	10	70	20	9.5	M6	SPIS0810	2
ZMC1002100	**10.0**	10	100	40	9.5	M6	SPIS0810	2
ZMC1003100	**10.0**	10	130	70	9.5	M6	SPIS0810	2
ZMC1201120	**12.0**	12	80	20	11.5	M6	SPIS0810	2
ZMC1202120	**12.0**	12	100	40	11.5	M6	SPIS0810	2
ZMC1203120	**12.0**	12	130	70	11.5	M6	SPIS0810	2
ZMC1601160	**16.0**	16	100	40	15.5	M8	SPIS1300	3
ZMC1602160	**16.0**	16	150	80	15.5	M8	SPIS1300	3
ZMC1603160	**16.0**	16	200	120	15.5	M8	SPIS1300	3
ZMC2001200	**20.0**	20	100	40	19.5	M10	SPIS1700	4
ZMC2002200	**20.0**	20	150	80	19.5	M10	SPIS1700	4
ZMC2003200	**20.0**	20	200	120	19.5	M10	SPIS1700	4
ZMC2004200	**20.0**	20	250	160	19.5	M10	SPIS1700	4
ZMC2501250	**25.0**	25	150	70	24.3	M12	SPIS2200	5
ZMC2502250	**25.0**	25	200	100	24.3	M12	SPIS2200	5
ZMC2503250	**25.0**	25	250	150	24.3	M12	SPIS2200	5
ZMC2504250	**25.0**	25	300	200	24.3	M12	SPIS2200	5
ZMC3001320	**30.0 / 32.0**	32	150	70	29.0	M16	SPIS2700	6
ZMC3002320	**30.0 / 32.0**	32	200	120	29.0	M16	SPIS2700	6
ZMC3003320	**30.0 / 32.0**	32	250	150	29.0	M16	SPIS2700	6
ZMC3004320	**30.0 / 32.0**	32	300	200	29.0	M16	SPIS2700	6
ZMC3005320	**30.0 / 32.0**	32	350	250	29.0	M16	SPIS2700	6

▸The wrench (1pc) for the relevant item is included.
If more is needed, available for sale.
扳手（1pc）包含，如再要，可以购买

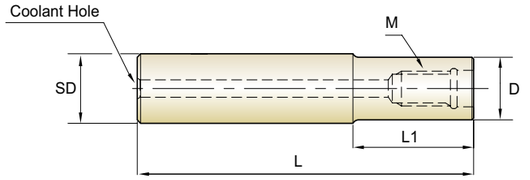
▸Please refer to the wrench table on the next page.
请参考下页的扳手表

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

i-Smart END MILLS

ZMS SERIES

STEEL HOLDER - STRAIGHT NECK TYPE
硬质合金 刀杆 - 直颈

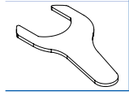


Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径 SD	Overall Length 全长 L	Neck Length 颈长 L_1	Neck Diameter 颈径 D	Thread Size 螺纹 M	Wrench No. 扳手号码	Coolant Hole 油孔
ZMS1001100	**10.0**	10	70	20	9	M6	SPIS0810	3
ZMS1201120	**12.0**	12	90	30	11	M6	SPIS0810	3
ZMS1601160	**16.0**	16	100	30	15	M8	SPIS1300	4
ZMS2001200	**20.0**	20	100	30	19	M10	SPIS1700	5
ZMS2501250	**25.0**	25	115	40	24	M12	SPIS2200	5
ZMS3001320	**30.0 / 32.0**	32	125	40	29	M16	SPIS2700	6

▸The wrench (1pc) for the relevant item is included.
If more is needed, available for sale.
扳手（1pc）包含，如再要，可以购买

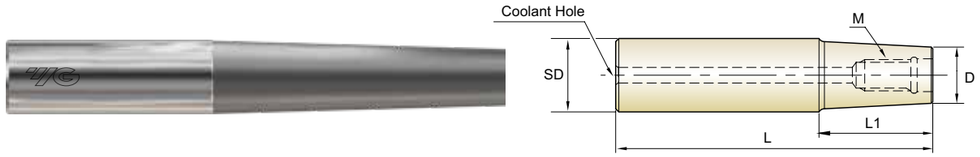
Wrench 扳手

Model	Wrench No. 扳手号码	Wrench Width 扳手宽度	Mill Diameter 直径	Clamping Torque [N·m] 夹紧扭矩
	SPIS0810	8	**10.0**	6.5
		10	**12.0**	6.5
	SPIS1300	13	**16.0**	10
	SPIS1700	17	**20.0**	12
	SPIS2200	22	**25.0**	15
	**SPIS2700**	27	**30.0 32.0**	20

i-Smart END MILLS

ZMT SERIES

STEEL HOLDER - TAPER NECK TYPE
钢件 刀杆 - 锥颈

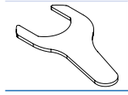


Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径 SD	Overall Length 全长 L	Neck Length 颈长 L1	Neck Diameter 颈径 D	Thread Size 螺纹 M	Wrench No. 扳手号码	Coolant Hole 油孔
ZMT1001120	10.0	12	100	50	9	M6	SPIS0810	3
ZMT1201160	12.0	16	130	70	11	M6	SPIS0810	3
ZMT1601200	16.0	20	150	90	15	M8	SPIS1300	4
ZMT2001250	20.0	25	170	100	19	M10	SPIS1700	5
ZMT2501320	25.0	32	200	110	24	M12	SPIS2200	5
ZMT3001320	30.0 / 32.0	32	200	110	29	M16	SPIS2700	6

▶The wrench(1pc) for the relevant item is included.
If more is needed, available for sale.
扳手（1pc）包含，如再要，可以购买

Wrench 扳手

Model	Wrench No. 扳手号码	Wrench Width 扳手宽度	Mill Diameter 直径	Clamping Torque [N·m] 夹紧扭矩
	SPIS0810	8	10.0	6.5
		10	12.0	6.5
	SPIS1300	13	16.0	10
	SPIS1700	17	20.0	12
	SPIS2200	22	25.0	15
	SPIS2700	27	30.0 32.0	20

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
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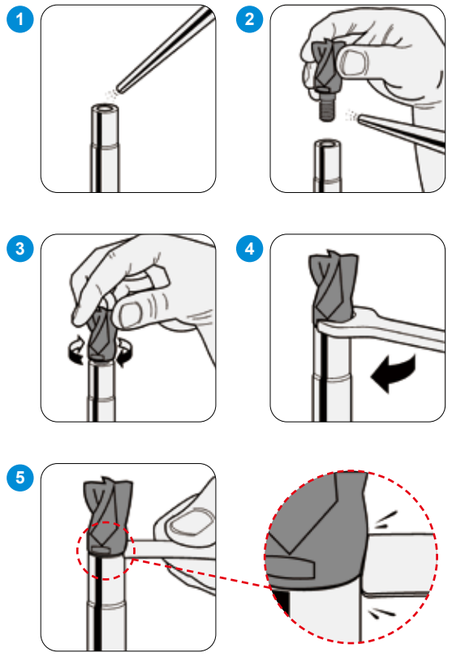
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

i-Smart END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

Instruction Manual
操作说明



Step 1, 2 : Clean
Please be sure to remove dirt and debris on all adjoining surfaces before assembling. (air preferred)

步骤1，2：请理
组装前，请务必清除所有结合表面上的污垢和碎屑。（空气优先）

Step 3, 4 : Assembly
Mount the modular head onto the shank by hand until it fits then use the supplied wrench to tighten.

步骤3，4：组装
用手将模块化铣刀安装到刀杆上，直到其安装到位，然后使用扳手拧紧。

Step 5 : Final Check
Re-check that there is no gap.

步骤5，最终检查
再次检查是否有间隙

Notice
Please tighten the screw with designated torque, too much torque will damage the screw.

注意：
请按规定力矩拧紧螺钉，扭矩过大会损坏螺钉。

Mill Diameter 直径 (D)	Clamping Torque 夹紧扭矩 [N·m]
10.0	6.5
12.0	6.5
16.0	10.0
20.0	12.0
25.0	15.0
30.0	20.0
32.0	20.0

i-Smart END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

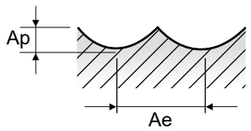
XSEMD98 SERIES — 2 FLUTE BALL NOSE / 2刃 球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 10	12	16	20	25	30	32
P	1-8	Non-alloy steel Low alloy steel	0.08D	0.03D	Vc	175	170	168	168	167	167	167
					fz	0.199	0.212	0.238	0.264	0.270	0.299	0.300
					RPM	5580	4510	3340	2670	2130	1770	1660
					FEED	2220	1910	1590	1410	1150	1060	995
	9		0.08D	0.03D	Vc	168	165	162	162	162	162	162
					fz	0.174	0.188	0.206	0.227	0.231	0.250	0.250
					RPM	5340	4380	3220	2580	2060	1720	1610
					FEED	1860	1645	1320	1170	950	860	805
	10-11.1	High alloyed steel, and tool steel	0.08D	0.03D	Vc	175	170	168	168	167	167	167
					fz	0.199	0.212	0.238	0.264	0.270	0.299	0.300
					RPM	5580	4510	3340	2670	2130	1770	1660
					FEED	2220	1910	1590	1410	1150	1060	995
	11.2		0.08D	0.03D	Vc	168	165	162	162	162	162	162
					fz	0.174	0.188	0.206	0.227	0.231	0.250	0.250
					RPM	5340	4380	3220	2580	2060	1720	1610
					FEED	1860	1645	1320	1170	950	860	805
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.08D	0.03D	Vc	175	170	168	168	167	167	167
					fz	0.199	0.212	0.238	0.264	0.270	0.299	0.300
					RPM	5580	4510	3340	2670	2130	1770	1660
					FEED	2220	1910	1590	1410	1150	1060	995
H	38.1 - 38.2	Hardened steel	0.08D	0.03D	Vc	141	138	136	136	136	136	136
					fz	0.160	0.170	0.189	0.208	0.211	0.229	0.230
					RPM	4500	3660	2700	2160	1730	1440	1350
					FEED	1440	1245	1020	900	730	660	620
	40	Chilled Cast Iron	0.08D	0.03D	Vc	168	165	162	162	162	162	162
					fz	0.174	0.188	0.206	0.227	0.231	0.250	0.250
					RPM	5340	4380	3220	2580	2060	1720	1610
					FEED	1860	1645	1320	1170	950	860	805
	41	Hardened Cast Iron	0.08D	0.03D	Vc	141	138	136	136	136	136	136
					fz	0.160	0.170	0.189	0.208	0.211	0.229	0.230
					RPM	4500	3660	2700	2160	1730	1440	1350
					FEED	1440	1245	1020	900	730	660	620

XSEME59 SERIES — 3 FLUTE BALL NOSE / 3刃 球头

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 10	12	16	20	25	30	32
P	1-8	Non-alloy steel Low alloy steel	0.05D	0.02D	Vc	307	307	307	307	307	307	307
					fz	0.201	0.225	0.234	0.238	0.248	0.259	0.268
					RPM	9770	8150	6100	4880	3910	3260	3050
					FEED	5890	5490	4280	3490	2910	2530	2450
	9		0.05D	0.02D	Vc	257	257	257	257	257	257	257
					fz	0.168	0.187	0.199	0.209	0.219	0.230	0.234
					RPM	8190	6830	5110	4090	3270	2730	2560
					FEED	4130	3830	3050	2560	2150	1880	1800
	10-11.1	High alloyed steel, and tool steel	0.05D	0.02D	Vc	307	307	307	307	307	307	307
					fz	0.201	0.225	0.234	0.238	0.248	0.259	0.268
					RPM	9770	8150	6100	4880	3910	3260	3050
					FEED	5890	5490	4280	3490	2910	2530	2450
	11.2		0.05D	0.02D	Vc	257	257	257	257	257	257	257
					fz	0.168	0.187	0.199	0.209	0.219	0.230	0.234
					RPM	8190	6830	5110	4090	3270	2730	2560
					FEED	4130	3830	3050	2560	2150	1880	1800
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.05D	0.02D	Vc	307	307	307	307	307	307	307
					fz	0.201	0.225	0.234	0.238	0.248	0.259	0.268
					RPM	9770	8150	6100	4880	3910	3260	3050
					FEED	5890	5490	4280	3490	2910	2530	2450
H	38.1 - 38.2	Hardened steel	0.05D	0.02D	Vc	208	208	208	208	208	208	208
					fz	0.156	0.173	0.180	0.190	0.200	0.210	0.221
					RPM	6620	5520	4140	3310	2650	2210	2070
					FEED	3100	2870	2240	1890	1590	1390	1370
	40	Chilled Cast Iron	0.05D	0.02D	Vc	257	257	257	257	257	257	257
					fz	0.168	0.187	0.199	0.209	0.219	0.230	0.234
					RPM	8190	6830	5110	4090	3270	2730	2560
					FEED	4130	3830	3050	2560	2150	1880	1800
	41	Hardened Cast Iron	0.05D	0.02D	Vc	208	208	208	208	208	208	208
					fz	0.156	0.173	0.180	0.190	0.200	0.210	0.221
					RPM	6620	5520	4140	3310	2650	2210	2070
					FEED	3100	2870	2240	1890	1590	1390	1370



i-Smart END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

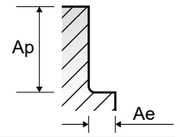
XSEME60 SERIES — 4 FLUTE BALL NOSE / 4刃 球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 10	12	16	20	25	30	32
P	1-8	Non-alloy steel Low alloy steel	0.05D	0.02D	Vc	341	341	341	341	341	341	341
					fz	0.148	0.165	0.175	0.179	0.186	0.194	0.201
					RPM	10850	9050	6780	5430	4340	3620	3390
					FEED	6430	5960	4750	3880	3230	2810	2720
	9		0.05D	0.02D	Vc	286	286	286	286	286	286	286
					fz	0.126	0.140	0.149	0.156	0.164	0.172	0.176
					RPM	9100	7500	5680	4550	3640	3030	2840
					FEED	4590	4260	3390	2840	2390	2090	2000
	10-11.1	High alloyed steel, and tool steel	0.05D	0.02D	Vc	341	341	341	341	341	341	341
					fz	0.148	0.165	0.175	0.179	0.186	0.194	0.201
					RPM	10850	9050	6780	5430	4340	3620	3390
					FEED	6430	5960	4750	3880	3230	2810	2720
	11.2		0.05D	0.02D	Vc	286	286	286	286	286	286	286
					fz	0.126	0.140	0.149	0.156	0.164	0.172	0.176
					RPM	9100	7500	5680	4550	3640	3030	2840
					FEED	4590	4260	3390	2840	2390	2090	2000
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.05D	0.02D	Vc	341	341	341	341	341	341	341
					fz	0.148	0.165	0.175	0.179	0.186	0.194	0.201
					RPM	10850	9050	6780	5430	4340	3620	3390
					FEED	6430	5960	4750	3880	3230	2810	2720
H	38.1 - 38.2	Hardened steel	0.05D	0.02D	Vc	231	231	231	231	231	231	231
					fz	0.117	0.130	0.135	0.143	0.150	0.157	0.165
					RPM	7350	6130	4600	3680	2940	2450	2300
					FEED	3450	3190	2490	2100	1760	1540	1520
	40	Chilled Cast Iron	0.05D	0.02D	Vc	286	286	286	286	286	286	286
					fz	0.126	0.140	0.149	0.156	0.164	0.172	0.176
					RPM	9100	7500	5680	4550	3640	3030	2840
					FEED	4590	4260	3390	2840	2390	2090	2000
	41	Hardened Cast Iron	0.05D	0.02D	Vc	231	231	231	231	231	231	231
					fz	0.117	0.130	0.135	0.143	0.150	0.157	0.165
					RPM	7350	6130	4600	3680	2940	2450	2300
					FEED	3450	3190	2490	2100	1760	1540	1520

XSEME01 SERIES — 4 FLUTE CORNER RADIUS - SIDE CUTTING / 4刃 圆鼻- 侧铣削

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 10	12	16	20	25	30	32
P	1-8	Non-alloy steel Low alloy steel	0.05D	0.8D	Vc	156	156	156	156	156	156	156
					fz	0.023	0.023	0.023	0.023	0.023	0.023	0.023
					RPM	4970	4140	3100	2480	1990	1650	1550
					FEED	455	380	280	230	180	150	140
	9		0.05D	0.8D	Vc	105	105	105	105	105	105	105
					fz	0.027	0.027	0.027	0.027	0.027	0.027	0.026
					RPM	3340	2780	2090	1670	1340	1110	1040
					FEED	360	300	225	180	145	120	110
	10-11.1	High alloyed steel, and tool steel	0.05D	0.8D	Vc	156	156	156	156	156	156	156
					fz	0.023	0.023	0.023	0.023	0.023	0.023	0.023
					RPM	4970	4140	3100	2480	1990	1650	1550
					FEED	455	380	280	230	180	150	140
	11.2		0.05D	0.8D	Vc	105	105	105	105	105	105	105
					fz	0.027	0.027	0.027	0.027	0.027	0.027	0.026
					RPM	3340	2780	2090	1670	1340	1110	1040
					FEED	360	300	225	180	145	120	110
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.02D	0.8D	Vc	156	156	156	156	156	156	156
					fz	0.023	0.023	0.023	0.023	0.023	0.023	0.023
					RPM	4960	4140	3100	2480	1990	1650	1550
					FEED	460	380	280	230	180	150	140
H	38.1 - 38.2	Hardened steel	0.02D	0.8D	Vc	63	63	63	63	63	63	63
					fz	0.021	0.021	0.022	0.023	0.023	0.024	0.024
					RPM	2020	1680	1250	1000	800	670	630
					FEED	170	140	110	90	75	65	60
	40	Chilled Cast Iron	0.05D	0.8D	Vc	105	105	105	105	105	105	105
					fz	0.027	0.027	0.027	0.027	0.027	0.027	0.026
					RPM	3340	2780	2090	1670	1340	1110	1040
					FEED	360	300	225	180	145	120	110
	41	Hardened Cast Iron	0.02D	0.8D	Vc	63	63	63	63	63	63	63
					fz	0.021	0.021	0.022	0.023	0.023	0.024	0.024
					RPM	2020	1680	1250	1000	800	670	630
					FEED	170	140	110	90	75	65	60



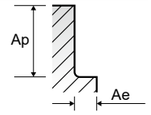
i-Smart END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

XSEME68 SERIES — 6 FLUTE CORNER RADIUS - SIDE CUTTING
6刃 圆鼻- 侧铣削

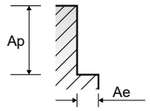
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 10	12	16	20	25	30	32
P	1-8	Non-alloy steel Low alloy steel	0.05D	1.0D	Vc	302	302	302	302	302	302	302
					fz	0.051	0.058	0.067	0.070	0.070	0.075	0.075
					RPM	9600	8010	6000	4800	3850	3200	3000
					FEED	2940	2790	2400	2010	1615	1440	1350
	9		0.05D	1.0D	Vc	294	294	294	294	294	294	294
					fz	0.025	0.025	0.025	0.025	0.027	0.029	0.030
					RPM	9360	7800	5850	4680	3740	3120	2920
					FEED	1400	1170	880	690	600	540	525
	10-11.1	High alloyed steel, and tool steel	0.05D	1.0D	Vc	302	302	302	302	302	302	302
					fz	0.051	0.058	0.067	0.070	0.070	0.075	0.075
					RPM	9600	8010	6000	4800	3850	3200	3000
					FEED	2940	2700	2400	2010	1615	1440	1350
	11.2		0.05D	1.0D	Vc	294	294	294	294	294	294	294
					fz	0.025	0.025	0.025	0.025	0.027	0.029	0.030
					RPM	9360	7800	5850	4680	3740	3120	2920
					FEED	1400	1170	880	690	600	540	525
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.05D	1.0D	Vc	302	302	302	302	302	302	302
					fz	0.051	0.058	0.067	0.070	0.070	0.075	0.075
					RPM	9600	8010	6000	4800	3850	3200	3000
					FEED	2940	2790	2400	2010	1615	1440	1350
H	38.1 - 38.2	Hardened steel	0.02D	1.0D	Vc	181	181	181	181	181	181	181
					fz	0.006	0.006	0.006	0.006	0.007	0.007	0.007
					RPM	5760	4800	3600	2880	2305	1920	1800
					FEED	210	180	130	110	90	85	80
	40	Chilled Cast Iron	0.05D	1.0D	Vc	294	294	294	294	294	294	294
					fz	0.025	0.025	0.025	0.025	0.027	0.029	0.030
					RPM	9360	7800	5850	4680	3740	3120	2920
					FEED	1400	1170	880	690	600	540	525
	41	Hardened Cast Iron	0.02D	1.0D	Vc	181	181	181	181	181	181	181
					fz	0.006	0.006	0.006	0.006	0.007	0.007	0.007
					RPM	5760	4800	3600	2880	2305	1920	1800
					FEED	210	180	130	110	90	85	80



XSEME36 SERIES — 4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 10	12	16	20	25	30	32
P	1-8	Non-alloy steel Low alloy steel	0.05D	0.6D	Vc	128	129	130	132	134	134	134
					fz	0.040	0.040	0.040	0.040	0.040	0.040	0.040
					RPM	4080	3430	2590	2100	1700	1420	1330
					FEED	650	545	415	335	270	230	215
	9		0.05D	0.6D	Vc	79	79	80	82	82	82	82
					fz	0.030	0.030	0.030	0.030	0.031	0.032	0.032
					RPM	2500	2100	1590	1300	1050	870	820
					FEED	300	250	190	155	130	110	105
	10-11.1	High alloyed steel, and tool steel	0.05D	0.6D	Vc	128	129	130	132	134	134	134
					fz	0.040	0.040	0.040	0.040	0.040	0.040	0.040
					RPM	4080	3430	2590	2100	1700	1420	1330
					FEED	650	545	415	335	270	230	215
	11.2		0.05D	0.6D	Vc	79	79	80	82	82	82	82
					fz	0.030	0.030	0.030	0.030	0.031	0.032	0.032
					RPM	2500	2100	1590	1300	1050	870	820
					FEED	300	250	190	155	130	110	105
M	12-14	Stainless steel	0.05D	0.6D	Vc	66	66	66	66	67	67	67
					fz	0.035	0.035	0.035	0.035	0.035	0.035	0.035
					RPM	2100	1750	1310	1050	850	710	670
					FEED	300	245	180	150	120	100	95
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.05D	0.6D	Vc	128	129	130	132	134	134	134
					fz	0.039	0.040	0.040	0.040	0.040	0.040	0.040
					RPM	4080	3430	2590	2100	1700	1420	1330
					FEED	640	545	415	335	270	230	215
H	38.1 - 38.2	Hardened steel	0.05D	0.6D	Vc	53	53	53	53	53	53	53
					fz	0.013	0.013	0.013	0.012	0.011	0.011	0.011
					RPM	1700	1400	1050	850	680	560	530
					FEED	90	70	55	40	30	25	25
	40	Chilled Cast Iron	0.05D	0.6D	Vc	79	79	80	82	82	82	82
					fz	0.030	0.030	0.030	0.030	0.031	0.032	0.032
					RPM	2500	2100	1590	1300	1050	870	820
					FEED	300	250	190	155	130	110	105
	41	Hardened Cast Iron	0.05D	0.6D	Vc	53	53	53	53	53	53	53
					fz	0.013	0.013	0.013	0.012	0.011	0.011	0.011
					RPM	1700	1400	1050	850	680	560	530
					FEED	90	70	55	40	30	25	25



i-Smart END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

XSEME75 SERIES — 6 FLUTE - SIDE CUTTING
6刃 - 侧铣削

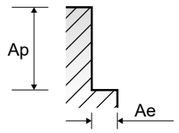
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

NORMAL SPEED 普通速度

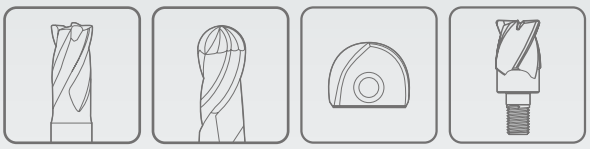
ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 10	12	16	20	25	30	32
P	1-8	Non-alloy steel Low alloy steel	0.1D	0.8D	Vc	111	111	111	111	111	111	111
					fz	0.099	0.099	0.100	0.100	0.100	0.100	0.100
					RPM	3530	2945	2205	1765	1410	1180	1100
					FEED	2100	1750	1325	1060	845	710	660
	9		0.05D	0.8D	Vc	77	77	77	77	77	77	77
					fz	0.094	0.094	0.094	0.094	0.094	0.094	0.094
					RPM	2450	2040	1530	1220	980	815	765
					FEED	1380	1150	860	690	555	460	430
	10-11.1	High alloyed steel, and tool steel	0.1D	0.8D	Vc	111	111	111	111	111	111	111
					fz	0.099	0.099	0.100	0.100	0.100	0.100	0.100
					RPM	3530	2945	2205	1765	1410	1180	1100
					FEED	2100	1750	1325	1060	845	710	660
	11.2		0.05D	0.8D	Vc	77	77	77	77	77	77	77
					fz	0.094	0.094	0.094	0.094	0.094	0.094	0.094
					RPM	2450	2040	1530	1220	980	815	765
					FEED	1380	1150	860	690	555	460	430
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	0.8D	Vc	111	111	111	111	111	111	111
					fz	0.099	0.099	0.100	0.100	0.100	0.100	0.100
					RPM	3530	2940	2205	1765	1410	1180	1100
					FEED	2100	1765	1325	1060	845	710	660
H	38.1 - 38.2	Hardened steel	0.05D	0.6D	Vc	33	33	33	33	33	33	33
					fz	0.033	0.034	0.034	0.035	0.035	0.036	0.036
					RPM	1050	880	655	525	420	350	330
					FEED	210	180	130	110	85	75	70
	40	Chilled Cast Iron	0.05D	0.8D	Vc	77	77	77	77	77	77	77
					fz	0.094	0.094	0.094	0.094	0.094	0.094	0.094
					RPM	2450	2040	1530	1220	980	815	765
					FEED	1380	1150	860	690	555	460	430
	41	Hardened Cast Iron	0.05D	0.6D	Vc	33	33	33	33	33	33	33
					fz	0.033	0.034	0.034	0.035	0.035	0.036	0.036
					RPM	1050	880	655	525	420	350	330
					FEED	210	180	130	110	85	75	70

HIGH SPEED 高速度

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 10	12	16	20	25	30	32
P	11.2	High alloyed steel, and tool steel	0.05D	0.6D	Vc	332	332	332	332	332	332	332
					fz	0.095	0.095	0.095	0.095	0.095	0.095	0.095
					RPM	10570	8810	6600	5290	4230	3520	3300
					FEED	6020	5020	3765	3050	2400	2000	1890
H	38.1 - 38.2	Hardened steel	0.05D	0.4D	Vc	166	166	166	166	166	166	166
					fz	0.096	0.095	0.095	0.095	0.095	0.095	0.095
					RPM	5290	4410	3300	2645	2114	1761	1651
					FEED	3050	2520	1880	1470	1200	1000	940
	40	Chilled Cast Iron	0.05D	0.6D	Vc	332	332	332	332	332	332	332
					fz	0.095	0.095	0.095	0.095	0.095	0.095	0.095
					RPM	10570	8810	6600	5290	4230	3520	3300
					FEED	6020	5020	3765	3050	2400	2000	1890
	41	Hardened Cast Iron	0.05D	0.4D	Vc	166	166	166	166	166	166	166
					fz	0.096	0.095	0.095	0.095	0.095	0.095	0.095
					RPM	5290	4410	3300	2645	2114	1761	1651
					FEED	3050	2520	1880	1470	1200	1000	940



Global Cutting Tool Leader **YG-1**



MILLING

Leading Through Innovation

NANO SOLIDE CARBIDE

X5070 END MILLS

- For High Hardened Steels (HRc45 to HRc70)
High Speed Machining and Dry Cutting
蓝色涂层，整体硬质合金立铣刀(HRc45 to HRc70)
用于加工高硬钢，用于高速切削和干切，用于模具

SELECTION GUIDE
选用指南

YG MILLING TOOLS

NANO SOLIDE CARBIDE
X5070
END MILLS

High Hardened Steels HRc45 to HRc70,
High Speed Machining, Dry Cutting

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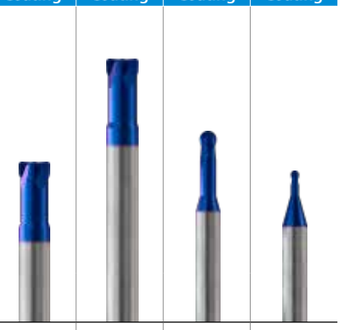
◎ : Excellent (优秀) ○ : Good (良好)

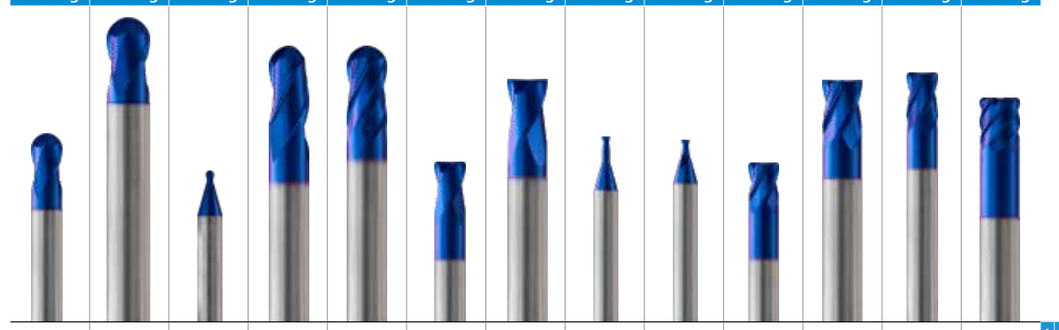
Recommended cutting conditions (推荐加工参数) : p.113

	SERIES 系列	G8B59	G8B54	G8A46	G8A54
	FLUTE 槽数	4	4	2	2
	HELIX ANGLE 螺旋角度	0°	0°	30°	30°
	CUTTING EDGE SHAPE 类型	CORNER RADIUS	CORNER RADIUS	BALL NOSE	BALL NOSE
	SIZE MIN 最小尺寸	D2.0	D2.0	R0.05	R0.25
	SIZE MAX 最大尺寸	D12.0	D16.0	R2.0	R1.0
	PAGE 页数	C79	C80	C81-84	C85
		HIGH FEED	HIGH FEED LONG SHANK	RIB PROCESSING	RIB PROCESSING
		Blue Coating	Blue Coating	Blue Coating	Blue Coating



ISO	VDI 3323	Material Description 工件材料	Composition / Structure / Heat Treatment 成分 / 结构 / 热处理		HB	HRc				
P	1	Non-alloy steel	About 0.15% C	Annealed	125					
	2		About 0.45% C	Annealed	190	13				
	3		About 0.45% C	Quenched & Tempered	250	25				
	4		About 0.75% C	Annealed	270	28				
	5		About 0.75% C	Quenched & Tempered	300	32	○	○	○	○
	6	Low alloy steel		Annealed	180	10				
	7			Quenched & Tempered	275	29				
	8			Quenched & Tempered	300	32	○	○	○	○
	9			Quenched & Tempered	350	38	○	○	○	○
	10	High alloyed steel, and tool steel		Annealed	200	15				
	11			Quenched & Tempered	325	35	○	○	○	○
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15				
	13		Martensitic	Quenched & Tempered	240	23				
	14		Austenitic		180	10				
K	15	Grey cast iron	Pearlitic / ferritic		180	10				
	16		Pearlitic (Martensitic)		260	26				
	17	Nodular cast iron	Ferritic		160	3				
	18		Pearlitic		250	25				
	19	Malleable cast iron	Ferritic		130					
	20		Pearlitic		230	21				
N	21	Aluminum-wrought alloy	Not Curable		60					
	22		Curable	Hardened	100					
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75					
	24		≤ 12% Si, Curable	Hardened	90					
	25		> 12% Si, Not Curable		130					
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110					
	27		CuZn, CuSnZn (Brass)		90					
	28		CuSn, lead-free copper and electrolytic copper		100					
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic							
	30		Rubber, Wood, etc.							
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15				
	32			Cured	280	30				
	33		Ni or Co Based	Annealed	250	25				
	34			Cured	350	38				
	35			Cast	320	34				
	36	Titanium Alloys	Pure Titanium		400 Rm					
	37		Alpha + Beta Alloys	Hardened	1050 Rm					
H	38	Hardened steel		Hardened	550	55	◎	◎	◎	◎
	39			Hardened	630	60	◎	◎	◎	◎
	40	Chilled Cast Iron		Cast	400	42	○	○	○	○
	41	Hardened Cast Iron		Hardened	550	55	◎	◎	◎	◎

	G8A28	G8A38	G8A53	G8A59	G8D62	G8A60	G8A36	G8A52	G8A50	G8A47	G8A37	G8B08	G8A39
	2	2	2	3	4	2	2	2	2	4	4	4	6
	30°	30°	30°	30°	30°	30°	30°	30°	30°	30°	30°	30°	45°
	BALL NOSE	BALL NOSE	BALL NOSE	BALL NOSE	BALL NOSE	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS
	R0.05	R0.5	R0.2	R1.5	R1.5	D0.5	D0.3	D0.5	D0.3	D3.0	D1.0	D6.0	D6.0
	R6.0	R12.5	R1.0	R10.0	R10.0	D12.0	D20.0	D2.0	D2.0	D12.0	D20.0	D12.0	D20.0
	C86-87	C88	C89	C90	C91	C92-96	C97-98	C99	C100	C101	C102	C103	104
	-	EXTENDED NECK	MINIATURE	Center Match	Center Match	RIB PROCESSING	EXTENDED NECK	RIB PROCESSING	MINIATURE	EXTENDED NECK	EXTENDED NECK	EXTENDED NECK	EXTENDED NECK
	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating



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9	○	○	○	○	○	○	○	○	○	○	○	○	○	
10														
11	○	○	○	○	○	○	○	○	○	○	○	○	○	
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40	○	○	○	○	○	○	○	○	○	○	○	○	○	
41	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

BALL NOSE = 球头 CORNER RADIUS = 圆鼻 SQUARE = 平头 HIGH FEED = 高进给 RIB PROCESSING = 颈部加长
MINIATURE = 微型 LONG LENGTH = 长刃 EXTRA LONG LENGTH = 螺旋角 长刃 EXTENDED NECK = 颈部加长 Center Match = 中心交接式

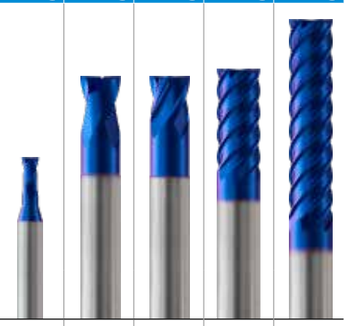
SELECTION GUIDE
选用指南

YG MILLING TOOLS

SERIES 系列	G8A45	G8A01	G8A02	G8D63	G8D64
FLUTE 槽数	2	2	4	6&8	6&8
HELIX ANGLE 螺旋角度	30°	30°	30°	45°	45°
CUTTING EDGE SHAPE 类型	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE
SIZE MIN 最小尺寸	D0.1	D0.1	D1.0	D6.0	D6.0
SIZE MAX 最大尺寸	D4.0	D20.0	D20.0	D25.0	D25.0
PAGE 页数	C105-108	C109	C110	C111	C112
	RIB PROCESSING	EXTENDED NECK	EXTENDED NECK	LONG LENGTH	EXTRA LONG LENGTH
	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating

SOLID CARBIDE
X5070 END MILLS

High Hardened Steels HRc45 to HRc70,
High Speed Machining, Dry Cutting



Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工参数) : p.C113

ISO	VDI 3323	Material Description 工件材料	Composition / Structure / Heat Treatment 成分 / 结构 / 热处理		HB	HRc					
P	1	Non-alloy steel	About 0.15% C	Annealed	125						
	2		About 0.45% C	Annealed	190	13					
	3		About 0.45% C	Quenched & Tempered	250	25					
	4		About 0.75% C	Annealed	270	28					
	5		About 0.75% C	Quenched & Tempered	300	32	○	○	○	○	○
	6	Low alloy steel		Annealed	180	10					
	7			Quenched & Tempered	275	29					
	8			Quenched & Tempered	300	32	○	○	○	○	○
	9			Quenched & Tempered	350	38	○	○	○	○	○
	10	High alloyed steel, and tool steel		Annealed	200	15					
	11			Quenched & Tempered	325	35	○	○	○	○	○
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15					
	13		Martensitic	Quenched & Tempered	240	23					
	14		Austenitic		180	10					
K	15	Grey cast iron	Pearlitic / ferritic		180	10					
	16		Pearlitic (Martensitic)		260	26					
	17	Nodular cast iron	Ferritic		160	3					
	18		Pearlitic		250	25					
	19	Malleable cast iron	Ferritic		130						
	20		Pearlitic		230	21					
N	21	Aluminum-wrought alloy	Not Curable		60						
	22		Curable	Hardened	100						
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75						
	24		≤ 12% Si, Curable	Hardened	90						
	25		> 12% Si, Not Curable		130						
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110						
	27		CuZn, CuSnZn (Brass)		90						
	28		CuSn, lead-free copper and electrolytic copper		100						
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic								
	30		Rubber, Wood, etc.								
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15					
	32			Cured	280	30					
	33		Ni or Co Based	Annealed	250	25					
	34			Cured	350	38					
	35			Cast	320	34					
	36	Titanium Alloys	Pure Titanium		400 Rm						
	37		Alpha + Beta Alloys	Hardened	1050 Rm						
H	38	Hardened steel		Hardened	550	55	◎	◎	◎	◎	◎
	39			Hardened	630	60	◎	◎	◎	◎	◎
	40	Chilled Cast Iron		Cast	400	42	○	○	○	○	○
	41	Hardened Cast Iron		Hardened	550	55	◎	◎	◎	◎	◎

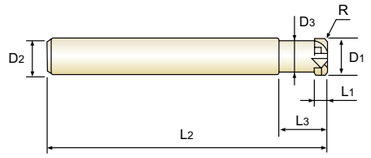
YG X5070 END MILLS

PLAIN SHANK **G8B59** SERIES

CARBIDE, 4 FLUTE STUB LENGTH CORNER RADIUS HIGH FEED
硬质合金，4刃 短刃 高进给 圆鼻

- ▶ Excellent wear resistance at heavy feed rates on high hardened material.
- ▶ Designed with reduced clearance angles and short flutes for strength.
- ▶ High hardness & heat resistance coating for long life in dry applications.

- ▶卓越耐磨性在高进给加工高硬度工况
- ▶由于减少后角及采用短槽，提高刚性
- ▶采用高硬度极高耐热性涂层，卓越刀具寿命在干切削工况



CARBIDE | 4 | BLUE | 0° | R ±0.005 | PLAIN

p.C113

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

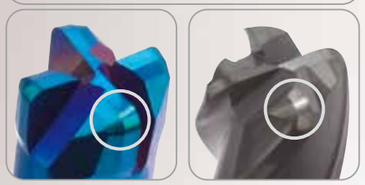
Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R (±0.005)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8B5902005	R0.5	**2.0**	6	1	6	50	1.8
G8B5903005	R0.5	**3.0**	6	1.2	8	50	2.8
G8B5904005	R0.5	**4.0**	6	1.5	10	50	3.8
G8B5906005	R0.5	**6.0**	6	2.5	12	60	5.4
G8B5906010	R1.0	**6.0**	6	2.5	12	60	5.4
G8B5908010	R1.0	**8.0**	8	3.5	16	60	7.2
G8B5908020	R2.0	**8.0**	8	3.5	16	60	7.2
G8B5910010	R1.0	**10.0**	10	4	20	70	9
G8B5910020	R2.0	**10.0**	10	4	20	70	9
G8B5912020	R2.0	**12.0**	12	5	25	80	11
G8B5912030	R3.0	**12.0**	12	5	25	80	11

Mill Dia. Tolerance (mm) 直径公差	Corner Radius Tolerance (mm) 圆弧角公差	Shank Dia. Tolerance 柄径公差
0 ~ - 0.02	± 0.005	h5

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

Comparison of the endteeth shape
刀尖形状对比图



High Feed End Mill 高进给铣刀 | Normal End Mill 普通铣刀

- Reduced clearance angles and short flutes strengthens corner radius and reduces chattering
  减少后角及采用短槽使提高圆弧角的刚性和减少震动
- Extra-short flute length for high rigidity
  超短槽提高刚性
- Heavy core with reduced diameter allows greater depths and maximum rigidity
  厚芯部和减直径的设计，加大切削深度及提高刚性

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

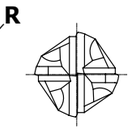
X5070 END MILLS

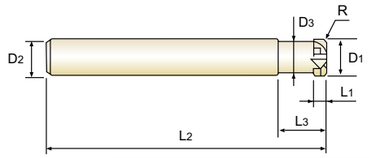
PLAIN SHANK **G8B54** SERIES

CARBIDE, 4 FLUTE STUB LENGTH CORNER RADIUS HIGH FEED (long shank)
硬质合金，4刃 短刃 高进给 圆鼻

- ▶ Excellent wear resistance at heavy feed rates on high hardened material.
- ▶ Designed with reduced clearance angles and short flutes for strength.
- ▶ High hardness & heat resistance coating for long life in dry applications.

- ▶卓越耐磨性在高进给加工高硬度工况
- ▶由于减少后角及采用短槽，提高刚性
- ▶采用高硬度极高耐热性涂层，卓越刀具寿命在干切削工况





CARBIDE | 4 | BLUE | 0° | R ±0.005 | PLAIN

p.C113

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

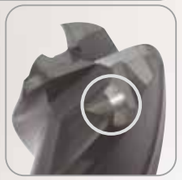
EDP No.	Corner Radius 圆弧角 R (±0.005)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8B5402005	R0.5	**2.0**	6	1	6	70	1.8
G8B5403005	R0.5	**3.0**	6	1.2	8	70	2.8
G8B5404005	R0.5	**4.0**	6	1.5	10	70	3.8
G8B5405005	R0.5	**5.0**	6	2	10	70	4.6
G8B5406005	R0.5	**6.0**	6	2.5	12	90	5.4
G8B5406010	R1.0	**6.0**	6	2.5	12	90	5.4
G8B5408010	R1.0	**8.0**	8	3.5	16	100	7.2
G8B5408020	R2.0	**8.0**	8	3.5	16	100	7.2
G8B5410010	R1.0	**10.0**	10	4	20	100	9
G8B5410020	R2.0	**10.0**	10	4	20	100	9
G8B5412020	R2.0	**12.0**	12	5	25	110	11
G8B5412030	R3.0	**12.0**	12	5	25	110	11
G8B5416030	R3.0	**16.0**	16	6.5	30	130	15

Mill Dia. Tolerance (mm) 直径公差	Corner Radius Tolerance (mm) 圆弧角公差	Shank Dia. Tolerance 柄径公差
0 ~ - 0.02	± 0.005	h5

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

Comparison of the endteeth shape
刀尖形状对比图

High Feed End Mill 高进给铣刀



Normal End Mill 普通铣刀

- Reduced clearance angles and short flutes strengthens corner radius and reduces chattering
  减少后角及采用短槽使提高圆弧角的刚性和减少震动
- Extra-short flute length for high rigidity
  超短槽提高刚性
- Heavy core with reduced diameter allows greater depths and maximum rigidity
  厚芯部和减直径的设计，加大切削深度及提高刚性

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

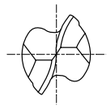
X5070 END MILLS

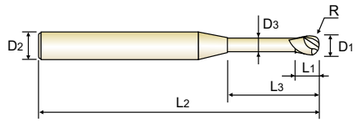
PLAIN SHANK **G8A46** SERIES

CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING
硬质合金，2刃 球头 深腔加工

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Designed for high precision milling operation.
- ▶ Higher wear-resistance.

- ▶为加工高硬度材料设计
- ▶由于最新开发的原材料和涂层，适用于干式切削，高速切削
- ▶卓越的工件表面粗糙度
- ▶高精密铣削设计
- ▶优异的耐磨性





CARBIDE | 2 | BLUE | 30° | R ±0.005 | PLAIN

p.C114-115

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R (±0.005)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8A46805	R0.05	**0.1**	4	0.1	0.3	45	0.085
G8A46806	R0.05	**0.1**	4	0.1	0.5	45	0.085
G8A46002	R0.1	**0.2**	4	0.2	0.5	45	0.17
G8A46977	R0.1	**0.2**	4	0.2	1	45	0.17
G8A46958	R0.1	**0.2**	4	0.2	1.5	45	0.17
G8A46003	R0.15	**0.3**	4	0.3	1	45	0.27
G8A46959	R0.15	**0.3**	4	0.3	2	45	0.27
G8A46986	R0.15	**0.3**	4	0.3	3	45	0.27
G8A46004	R0.2	**0.4**	4	0.4	1	45	0.37
G8A46960	R0.2	**0.4**	4	0.4	2	45	0.37
G8A46961	R0.2	**0.4**	4	0.4	3	45	0.37
G8A46981	R0.2	**0.4**	4	0.4	4	45	0.37
G8A46987	R0.2	**0.4**	4	0.4	5	45	0.37
G8A46005	R0.25	**0.5**	4	0.4	2	45	0.45
G8A46804	R0.25	**0.5**	4	0.4	2.5	45	0.45
G8A46962	R0.25	**0.5**	4	0.4	4	45	0.45
G8A46963	R0.25	**0.5**	4	0.4	6	45	0.45
G8A46964	R0.25	**0.5**	4	0.4	8	45	0.45
G8A46957	R0.3	**0.6**	4	0.5	2	45	0.55
G8A46988	R0.3	**0.6**	4	0.5	3	45	0.55
G8A46915	R0.3	**0.6**	4	0.5	4	45	0.55
G8A46989	R0.3	**0.6**	4	0.5	5	45	0.55

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M		K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend								○	○		○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

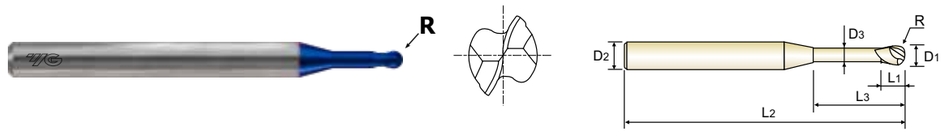
X5070 END MILLS

PLAIN SHANK **G8A46** SERIES

CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING
硬质合金，2刃 球头 深腔加工

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Designed for high precision milling operation.
- ▶ Higher wear-resistance.

- ▶为加工高硬度材料设计
- ▶由于最新开发的原材料和涂层，适用于干式切削，高速切削
- ▶卓越的工件表面粗糙度
- ▶高精密铣削设计
- ▶优异的耐磨性



CARBIDE | 2 | BLUE | 30° | R ±0.005 | PLAIN

p.C114-115

Recommended ToolHolder

	Plain Shank	Page
◎	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	POWER MILLING CHUCK	D161 - 176
○	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R (±0.005)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8A46916	R0.3	**0.6**	4	0.5	6	45	0.55
G8A46917	R0.3	**0.6**	4	0.5	8	45	0.55
G8A46990	R0.3	**0.6**	4	0.5	10	45	0.55
G8A46918	R0.4	**0.8**	4	0.6	2	45	0.75
G8A46919	R0.4	**0.8**	4	0.6	4	45	0.75
G8A46008	R0.4	**0.8**	4	0.6	6	45	0.75
G8A46901	R0.4	**0.8**	4	0.6	8	45	0.75
G8A46965	R0.4	**0.8**	4	0.6	10	45	0.75
G8A46920	R0.5	**1.0**	4	0.8	3	45	0.95
G8A46921	R0.5	**1.0**	4	0.8	4	45	0.95
G8A46923	R0.5	**1.0**	4	0.8	5	45	0.95
G8A46010	R0.5	**1.0**	4	0.8	6	45	0.95
G8A46924	R0.5	**1.0**	4	0.8	7	45	0.95
G8A46902	R0.5	**1.0**	4	0.8	8	45	0.95
G8A46925	R0.5	**1.0**	4	0.8	9	45	0.95
G8A46903	R0.5	**1.0**	4	0.8	10	45	0.95
G8A46904	R0.5	**1.0**	4	0.8	12	45	0.95
G8A46926	R0.5	**1.0**	4	0.8	14	50	0.95
G8A46927	R0.5	**1.0**	4	0.8	16	50	0.95
G8A46966	R0.5	**1.0**	4	0.8	20	55	0.95
G8A46982	R0.6	**1.2**	4	1.0	6	45	1.15
G8A46012	R0.6	**1.2**	4	1.0	8	45	1.15

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▶ NEXT PAGE 下页

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Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S						H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

X5070 END MILLS

PLAIN SHANK **G8A46** SERIES

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硬质合金，2刃 球头 深腔加工

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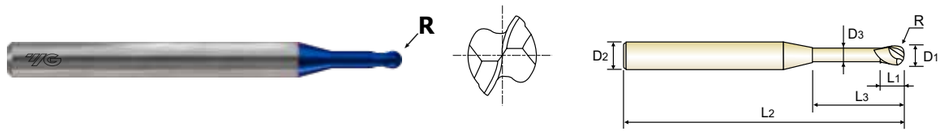
- ▶高精密铣削设计
- ▶优异的耐磨性



CARBIDE | 2 | BLUE | 30° | R ±0.005 | PLAIN

p.C114-115

Recommended ToolHolder

	Plain Shank	Page
◎	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	POWER MILLING CHUCK	D161 - 176
○	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R (±0.005)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8A46983	R0.6	**1.2**	4	1.0	10	45	1.15
G8A46905	R0.6	**1.2**	4	1.0	12	45	1.15
G8A46930	R0.75	**1.5**	4	1.2	6	45	1.45
G8A46015	R0.75	**1.5**	4	1.2	8	45	1.45
G8A46931	R0.75	**1.5**	4	1.2	10	45	1.45
G8A46906	R0.75	**1.5**	4	1.2	12	45	1.45
G8A46992	R0.75	**1.5**	4	1.2	14	50	1.45
G8A46907	R0.75	**1.5**	4	1.2	16	50	1.45
G8A46932	R0.75	**1.5**	4	1.2	20	55	1.45
G8A46939	R1.0	**2.0**	4	1.6	4	45	1.95
G8A46940	R1.0	**2.0**	4	1.6	6	45	1.95
G8A46020	R1.0	**2.0**	4	1.6	8	45	1.95
G8A46941	R1.0	**2.0**	4	1.6	10	45	1.95
G8A46942	R1.0	**2.0**	4	1.6	12	50	1.95
G8A46943	R1.0	**2.0**	4	1.6	14	50	1.95
G8A46909	R1.0	**2.0**	4	1.6	16	50	1.95
G8A46993	R1.0	**2.0**	4	1.6	18	55	1.95
G8A46910	R1.0	**2.0**	4	1.6	20	55	1.95
G8A46944	R1.0	**2.0**	4	1.6	22	60	1.95
G8A46945	R1.0	**2.0**	4	1.6	25	60	1.95
G8A46967	R1.0	**2.0**	4	1.6	30	70	1.95
G8A46948	R1.5	**3.0**	6	2.4	12	50	2.85

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▶ NEXT PAGE 下页

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Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S						H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

X5070 END MILLS

PLAIN SHANK **G8A46** SERIES

CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING
硬质合金，2刃 球头 深腔加工

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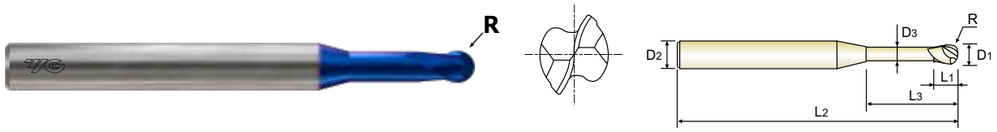

CARBIDE | 2 | BLUE | 30° | R ±0.005 | PLAIN

p.C114-115

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R (±0.005)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8A46984	R1.5	**3.0**	6	2.4	14	55	2.85
G8A46030	R1.5	**3.0**	6	2.4	16	55	2.85
G8A46985	R1.5	**3.0**	6	2.4	18	60	2.85
G8A46911	R1.5	**3.0**	6	2.4	20	60	2.85
G8A46968	R1.5	**3.0**	6	2.4	25	65	2.85
G8A46969	R1.5	**3.0**	6	2.4	30	70	2.85
G8A46970	R1.5	**3.0**	6	2.4	35	80	2.85
G8A46950	R2.0	**4.0**	6	3.2	12	60	3.85
G8A46040	R2.0	**4.0**	6	3.2	16	60	3.85
G8A46912	R2.0	**4.0**	6	3.2	20	65	3.85
G8A46913	R2.0	**4.0**	6	3.2	25	70	3.85
G8A46971	R2.0	**4.0**	6	3.2	30	70	3.85
G8A46972	R2.0	**4.0**	6	3.2	35	80	3.85
G8A46973	R2.0	**4.0**	6	3.2	40	90	3.85
G8A46974	R2.0	**4.0**	6	3.2	45	90	3.85
G8A46975	R2.0	**4.0**	6	3.2	50	100	3.85

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Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																				
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend					○			○	○		○										

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

X5070 END MILLS

PLAIN SHANK **G8A54** SERIES

CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING
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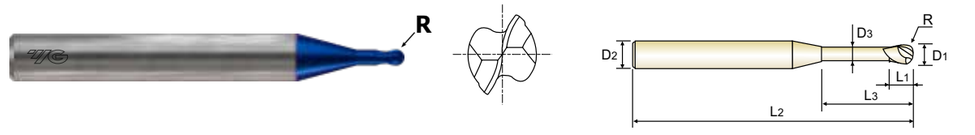

CARBIDE | 2 | BLUE | 30° | R ±0.005 | PLAIN

p.C114-115

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R (±0.005)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8A54005	R0.25	**0.5**	6	0.5	1.5	50	0.45
G8A54901	R0.25	**0.5**	6	0.5	3.3	50	0.45
G8A54006	R0.3	**0.6**	6	0.6	2	50	0.55
G8A54902	R0.3	**0.6**	6	0.6	4	50	0.55
G8A54008	R0.4	**0.8**	6	0.8	2.5	50	0.75
G8A54903	R0.4	**0.8**	6	0.8	5.5	50	0.75
G8A54010	R0.5	**1.0**	6	1	3.3	50	0.95
G8A54904	R0.5	**1.0**	6	1	6.7	50	0.95
G8A54905	R0.5	**1.0**	6	1	12	50	0.95
G8A54012	R0.6	**1.2**	6	1.2	4.4	50	1.15
G8A54906	R0.6	**1.2**	6	1.2	8	50	1.15
G8A54015	R0.75	**1.5**	6	1.5	5	50	1.45
G8A54907	R0.75	**1.5**	6	1.5	9.7	50	1.45
G8A54908	R0.75	**1.5**	6	1.5	15	50	1.45
G8A54020	R1.0	**2.0**	6	2	6	50	1.95
G8A54909	R1.0	**2.0**	6	2	13	50	1.95
G8A54910	R1.0	**2.0**	6	2	20	60	1.95

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◎ : Excellent (优秀) ○ : Good (良好)

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Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend					○			○	○		○										

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

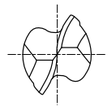
X5070 END MILLS

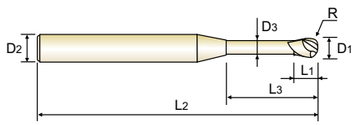
PLAIN SHANK **G8A28** SERIES

CARBIDE, 2 FLUTE BALL NOSE
硬质合金，2刃 球头

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Designed for high precision milling operation.
- ▶ Higher wear-resistance.

- ▶为加工高硬度材料设计
- ▶由于最新开发的原材料和涂层，适用于干式切削，高速切削
- ▶卓越的工件表面粗糙度
- ▶高精密铣削设计
- ▶优异的耐磨性





CARBIDE | 2 | BLUE | 30° | R ±0.005 R0.05~R3 | R ±0.010 R4~R6 | PLAIN

p.C116-117

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8A28001	R0.05	**0.1**	4	0.2	-	40	-
G8A28002	R0.1	**0.2**	4	0.3	-	40	-
G8A28003	R0.15	**0.3**	4	0.5	-	40	-
G8A28004	R0.2	**0.4**	4	0.6	-	40	-
G8A28005	R0.25	**0.5**	4	0.7	-	40	-
G8A28006	R0.3	**0.6**	4	0.9	-	40	-
G8A28007	R0.35	**0.7**	4	1.1	-	40	-
G8A28008	R0.4	**0.8**	4	1.2	-	40	-
G8A28009	R0.45	**0.9**	4	1.4	-	40	-
G8A280104S	R0.5	**1.0**	4	1.5	3	50	0.95
G8A28010	R0.5	**1.0**	6	1.5	3	50	0.95
G8A280154S	R0.75	**1.5**	4	2	4	50	1.45
G8A28015	R0.75	**1.5**	6	2	4	50	1.45
G8A280204S	R1.0	**2.0**	4	2.5	5	50	1.95
G8A28020	R1.0	**2.0**	6	2.5	5	50	1.95
G8A280254S	R1.25	**2.5**	4	3	7	50	2.4
G8A28025	R1.25	**2.5**	6	3	7	50	2.4
G8A28030	R1.5	**3.0**	6	4	10	60	2.85
G8A28035	R1.75	**3.5**	6	4.5	10	60	3.35
G8A28040	R2.0	**4.0**	6	5	10	60	3.85
G8A28045	R2.25	**4.5**	6	5.5	10	60	4.35
G8A28050	R2.5	**5.0**	6	6	12	60	4.85

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

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Size 尺寸	RadiusTolerance (mm) 半径公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

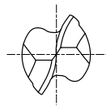
X5070 END MILLS

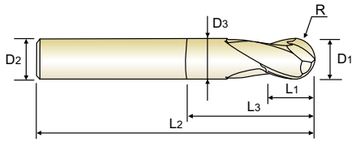
PLAIN SHANK **G8A28** SERIES

CARBIDE, 2 FLUTE BALL NOSE
硬质合金，2刃 球头

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Designed for high precision milling operation.
- ▶ Higher wear-resistance.

- ▶为加工高硬度材料设计
- ▶由于最新开发的原材料和涂层，适用于干式切削，高速切削
- ▶卓越的工件表面粗糙度
- ▶高精密铣削设计
- ▶优异的耐磨性





CARBIDE | 2 | BLUE | 30° | R ±0.005 R0.05~R3 | R ±0.010 R4~R6 | PLAIN

p.C116-117

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8A28055	R2.75	**5.5**	6	6.5	12	60	5.35
G8A28060	R3.0	**6.0**	6	7	15	60	5.85
G8A28903	R3.0	**6.0**	6	9	30	90	5.85
G8A28901	R4.0	**8.0**	8	9	15	60	7.7
G8A28080	R4.0	**8.0**	8	9	15	80	7.7
G8A28904	R4.0	**8.0**	8	12	30	100	7.7
G8A28902	R5.0	**10.0**	10	11	25	60	9.7
G8A28100	R5.0	**10.0**	10	11	25	80	9.7
G8A28905	R5.0	**10.0**	10	15	30	100	9.7
G8A28120	R6.0	**12.0**	12	14	25	80	11.7

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

Size 尺寸	RadiusTolerance (mm) 半径公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

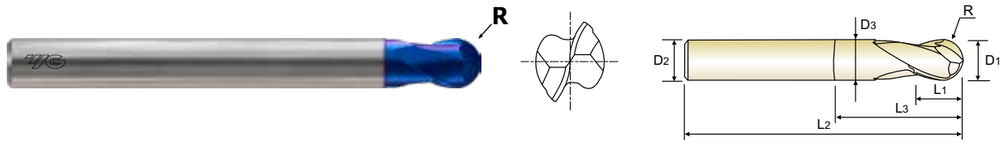
X5070 END MILLS

PLAIN SHANK **G8A38** SERIES

CARBIDE, 2 FLUTE STUB LENGTH BALL NOSE with EXTENDED NECK
硬质合金，2刃 短刃 颈部加长 球头

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Designed for high precision milling operation.
- ▶ Higher wear-resistance.

- ▶为加工高硬度材料设计
- ▶由于最新开发的原材料和涂层，适用于干式切削，高速切削
- ▶卓越的工件表面粗糙度
- ▶高精密铣削设计
- ▶优异的耐磨性



CARBIDE | 2 | BLUE | 30° | R ±0.005 R0.5~R3 | R ±0.010 R3.5~R12.5 | PLAIN

p.C116-117

Recommended ToolHolder

	Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER		D15 - 46 D47 - 72
POWER MILLING CHUCK		D161 - 176
ER COLLET CHUCK SK SLIM CHUCK		D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8A38010	R0.5	**1.0**	4	1	2.2	50	0.95
G8A38012	R0.6	**1.2**	4	1.2	2.6	50	1.15
G8A38015	R0.75	**1.5**	4	1.5	3	50	1.45
G8A380204S	R1.0	**2.0**	4	2	4	50	1.95
G8A38020	R1.0	**2.0**	6	2	4	50	1.95
G8A38030	R1.5	**3.0**	6	3	6	60	2.85
G8A38040	R2.0	**4.0**	6	4	8	70	3.85
G8A38050	R2.5	**5.0**	6	5	10	80	4.85
G8A38060	R3.0	**6.0**	6	6	12	90	5.85
G8A38070	R3.5	**7.0**	8	7	14	90	6.7
G8A38080	R4.0	**8.0**	8	8	16	100	7.7
G8A38090	R4.5	**9.0**	10	9	18	100	8.7
G8A38100	R5.0	**10.0**	10	10	20	100	9.7
G8A38120	R6.0	**12.0**	12	12	24	110	11.7
G8A38140	R7.0	**14.0**	14	14	28	110	13.7
G8A38160	R8.0	**16.0**	16	16	32	140	15.7
G8A38180	R9.0	**18.0**	18	18	36	140	17.7
G8A38200	R10.0	**20.0**	20	20	40	160	19.7
G8A38250	R12.5	**25.0**	25	25	50	180	24.7

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

Size 尺寸	RadiusTolerance (mm) 半径公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P												M			K					
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend					○			○	○		○										

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

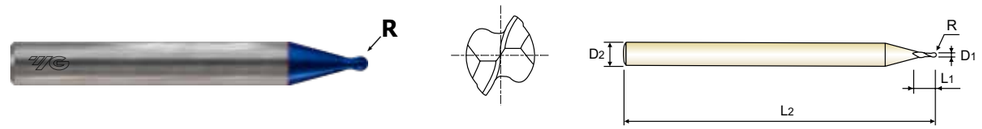
X5070 END MILLS

PLAIN SHANK **G8A53** SERIES

CARBIDE, 2 FLUTE MINIATURE BALL NOSE
硬质合金，2刃 微型 球头

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Designed for high precision milling operation.
- ▶ Higher wear-resistance.

- ▶为加工高硬度材料设计
- ▶由于最新开发的原材料和涂层，适用于干式切削，高速切削
- ▶卓越的工件表面粗糙度
- ▶高精密铣削设计
- ▶优异的耐磨性



CARBIDE | 2 | BLUE | 30° | R ±0.005 | PLAIN

p.C116-117

Recommended ToolHolder

	Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER		D15 - 46 D47 - 72
POWER MILLING CHUCK		D161 - 176
ER COLLET CHUCK SK SLIM CHUCK		D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R (±0.005)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
G8A53004	R0.2	**0.4**	6	0.4	50
G8A53005	R0.25	**0.5**	6	0.5	50
G8A53006	R0.3	**0.6**	6	0.6	50
G8A53008	R0.4	**0.8**	6	0.8	50
G8A53010	R0.5	**1.0**	6	1.0	50
G8A53012	R0.6	**1.2**	6	1.2	50
G8A53015	R0.75	**1.5**	6	1.5	50
G8A53020	R1.0	**2.0**	6	2.0	50

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P												M			K					
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend					○			○	○		○										

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

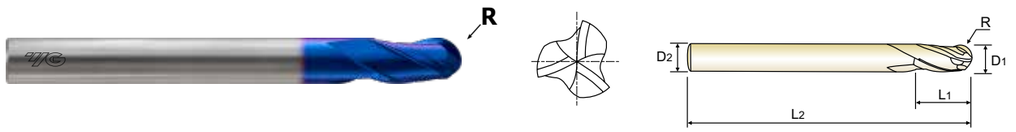
X5070 END MILLS

PLAIN SHANK **G8A59** SERIES

CARBIDE, 3 FLUTE BALL NOSE (Center Match)
硬质合金，3刃 球头 (中心对称)

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Designed for high precision milling operation.
- ▶ Higher wear-resistance.

- ▶为加工高硬度材料设计
- ▶由于最新开发的原材料和涂层，适用于干式切削，高速切削
- ▶卓越的工件表面粗糙度
- ▶高精密铣削设计
- ▶优异的耐磨性



CARBIDE | 3 | BLUE | 30° | R ±0.005 (R1.5~R3) | R ±0.010 (R4~R10) | PLAIN

p.C118

Recommended ToolHolder

	Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46	D47 - 72
POWER MILLING CHUCK	D161 - 176	
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115	D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
G8A59030	R1.5	**3.0**	6	8	60
G8A59040	R2.0	**4.0**	6	8	70
G8A59050	R2.5	**5.0**	6	10	80
G8A59060	R3.0	**6.0**	6	12	90
G8A59080	R4.0	**8.0**	8	14	100
G8A59100	R5.0	**10.0**	10	18	100
G8A59120	R6.0	**12.0**	12	22	110
G8A59160	R8.0	**16.0**	16	30	140
G8A59200	R10.0	**20.0**	20	38	160

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

Size 尺寸	RadiusTolerance (mm) 半径公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

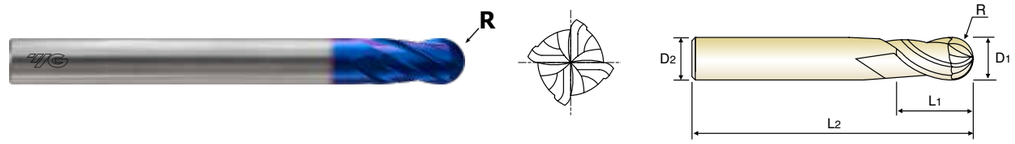
X5070 END MILLS

PLAIN SHANK **G8D62** SERIES

CARBIDE, 4 FLUTE BALL NOSE (Center Match)
硬质合金，4刃 球头(中心对称)

- ▶ Applied center match type & special new design on ball center shape.
- ▶ Excellent high wear resistance and high performance.
- ▶ Applied for high speed and feed.
- ▶ Increased the surface roughness.

- ▶采用中心交接式 & 独特设计的形状
- ▶卓越高耐磨性及性能
- ▶适用于高速度和进给
- ▶卓越的工件表面粗糙度



CARBIDE | 4 | BLUE | 30° | R ±0.005 (R1.5~R3) | R ±0.010 (R4~R10) | PLAIN

p.C119

Recommended ToolHolder

	Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46	D47 - 72
POWER MILLING CHUCK	D161 - 176	
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115	D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
G8D62030	R1.5	**3.0**	6	8	60
G8D62040	R2.0	**4.0**	6	8	70
G8D62050	R2.5	**5.0**	6	10	80
G8D62060	R3.0	**6.0**	6	12	90
G8D62080	R4.0	**8.0**	8	14	100
G8D62100	R5.0	**10.0**	10	18	100
G8D62120	R6.0	**12.0**	12	22	110
G8D62160	R8.0	**16.0**	16	30	140
G8D62200	R10.0	**20.0**	20	38	160

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

Size 尺寸	RadiusTolerance (mm) 半径公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

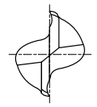
X5070 END MILLS

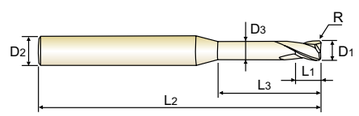
PLAIN SHANK **G8A60** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS for RIB PROCESSING
硬质合金，2刃 圆鼻 深腔加工

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Corner radius for preventing the chipping in high speed machining.
- ▶ Higher wear-resistance.

- ▶为加工高硬度工件设计
- ▶由于新开发的原材料和涂层，适用于，高速切削
- ▶卓越的工件表面粗糙度
- ▶深开槽可以通过减少的颈部设计
- ▶通过减小颈部设计，实现深槽铣加工
- ▶优异的耐磨性





CARBIDE | 2 | BLUE | 30° | R ±0.010 (Ø0.5~Ø6) | R ±0.015 (Ø8~Ø12) | PLAIN

p.C120-121

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK / SHRINK FIT HOLDER	D15 - 46 / D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK / SK SLIM CHUCK	D73 - 115 / D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8A60936	R0.05	**0.5**	4	0.7	1.5	45	0.45
G8A60932	R0.05	**0.5**	4	0.7	2.5	45	0.45
G8A60935	R0.05	**0.5**	4	0.7	4	45	0.45
G8A60931	R0.05	**0.6**	4	0.9	2	45	0.55
G8A60933	R0.05	**0.6**	4	0.9	3	45	0.55
G8A60934	R0.05	**0.6**	4	0.9	4	45	0.55
G8A600060102	R0.1	**0.6**	4	0.9	2	45	0.55
G8A600070104	R0.1	**0.7**	4	1	4	45	0.65
G8A600080102	R0.1	**0.8**	4	1.2	2	45	0.75
G8A60008	R0.1	**0.8**	4	1.2	4	45	0.75
G8A60924	R0.1	**0.8**	4	1.2	6	45	0.75
G8A6092545	R0.1	**1.0**	4	1.5	4	50	0.95
G8A6092645	R0.1	**1.0**	4	1.5	6	50	0.95
G8A600100204	R0.2	**1.0**	4	1.5	4	50	0.95
G8A600100206	R0.2	**1.0**	4	1.5	6	50	0.95
G8A6091145	R0.2	**1.0**	4	1.5	8	50	0.95
G8A600100304	R0.3	**1.0**	4	1.5	4	50	0.95
G8A600100306	R0.3	**1.0**	4	1.5	6	50	0.95
G8A60980	R0.3	**1.0**	4	1.5	8	50	0.95
G8A60925	R0.1	**1.0**	6	1.5	4	50	0.95
G8A60926	R0.1	**1.0**	6	1.5	6	50	0.95
G8A60010	R0.2	**1.0**	6	1.5	4	50	0.95

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.

▶ NEXT PAGE 下页

具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角精度	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

X5070 END MILLS

PLAIN SHANK G8A60 SERIES

CARBIDE, 2 FLUTE CORNER RADIUS for RIB PROCESSING
硬质合金，2刃 圆鼻 深腔加工

▶ Designed to machine high hardened materials.
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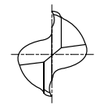

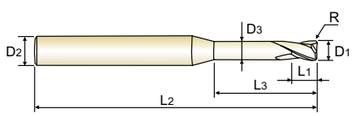

CARBIDE | 2 | BLUE | 30° | R ±0.010 (Ø0.5~Ø6) | R ±0.015 (Ø8~Ø12) | PLAIN

p.C120-121

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK / SHRINK FIT HOLDER	D15 - 46 / D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK / SK SLIM CHUCK	D73 - 115 / D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8A60910	R0.2	**1.0**	6	1.5	6	50	0.95
G8A60911	R0.2	**1.0**	6	1.5	8	50	0.95
G8A60912	R0.3	**1.0**	6	1.5	4	50	0.95
G8A60930	R0.3	**1.0**	6	1.5	6	50	0.95
G8A600100308	R0.3	**1.0**	6	1.5	8	50	0.95
G8A6001545	R0.2	**1.5**	4	2.5	4	50	1.45
G8A6001502064S	R0.2	**1.5**	4	2.5	6	50	1.45
G8A6001502084S	R0.2	**1.5**	4	2.5	8	50	1.45
G8A6091345	R0.2	**1.5**	4	2.5	10	50	1.45
G8A6091445	R0.2	**1.5**	4	2.5	12	50	1.45
G8A6091545	R0.3	**1.5**	4	2.5	4	50	1.45
G8A6001503064S	R0.3	**1.5**	4	2.5	6	50	1.45
G8A6001503084S	R0.3	**1.5**	4	2.5	8	50	1.45
G8A60015	R0.2	**1.5**	6	2.5	4	50	1.45
G8A600150206	R0.2	**1.5**	6	2.5	6	50	1.45
G8A600150208	R0.2	**1.5**	6	2.5	8	50	1.45
G8A60913	R0.2	**1.5**	6	2.5	10	50	1.45
G8A60914	R0.2	**1.5**	6	2.5	12	50	1.45
G8A60915	R0.3	**1.5**	6	2.5	4	50	1.45
G8A600150306	R0.3	**1.5**	6	2.5	6	50	1.45
G8A600150308	R0.3	**1.5**	6	2.5	8	50	1.45
G8A6092745	R0.2	**2.0**	4	3	6	50	1.95

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▶ NEXT PAGE 下页

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Size 尺寸	Corner Radius Tolerance (mm) 圆弧角精度	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

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ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

X5070 END MILLS

PLAIN SHANK **G8A60** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS for RIB PROCESSING
硬质合金，2刃 圆鼻 深腔加工

- ▶ Designed to machine high hardened materials.
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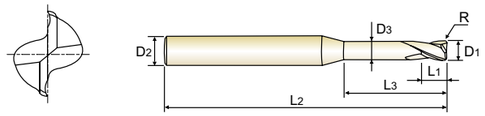

CARBIDE | 2 | BLUE | 30° | R ±0.010 | R ±0.015 | PLAIN

Ø0.5~Ø6 Ø8~Ø12

p.C120-121

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8A60020**02**084S	R0.2	**2.0**	4	3	8	50	1.95
G8A60020**02**104S	R0.2	**2.0**	4	3	10	55	1.95
G8A60020**02**124S	R0.2	**2.0**	4	3	12	55	1.95
G8A609164S	R0.3	**2.0**	4	3	6	50	1.95
G8A60020**03**084S	R0.3	**2.0**	4	3	8	50	1.95
G8A60020**03**104S	R0.3	**2.0**	4	3	10	55	1.95
G8A60020**03**124S	R0.3	**2.0**	4	3	12	55	1.95
G8A60020**03**164S	R0.3	**2.0**	4	3	16	55	1.95
G8A609174S	R0.5	**2.0**	4	3	6	50	1.95
G8A600204S	R0.5	**2.0**	4	3	10	55	1.95
G8A609184S	R0.5	**2.0**	4	3	12	55	1.95
G8A60927	R0.2	**2.0**	6	3	6	50	1.95
G8A600200208	R0.2	**2.0**	6	3	8	50	1.95
G8A600200210	R0.2	**2.0**	6	3	10	55	1.95
G8A600200212	R0.2	**2.0**	6	3	12	55	1.95
G8A60916	R0.3	**2.0**	6	3	6	50	1.95
G8A600200308	R0.3	**2.0**	6	3	8	50	1.95
G8A600200310	R0.3	**2.0**	6	3	10	55	1.95
G8A600200312	R0.3	**2.0**	6	3	12	55	1.95
G8A600200316	R0.3	**2.0**	6	3	16	55	1.95
G8A60917	R0.5	**2.0**	6	3	6	50	1.95
G8A60020	R0.5	**2.0**	6	3	10	55	1.95

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.

具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

▶ NEXT PAGE 下页

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角精度	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

X5070 END MILLS

PLAIN SHANK **G8A60** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS for RIB PROCESSING
硬质合金，2刃 圆鼻 深腔加工

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Corner radius for preventing the chipping in high speed machining.
- ▶ Higher wear-resistance.

- ▶为加工高硬度工件设计
- ▶由于新开发的原材料和涂层，适用于，高速切削
- ▶卓越的工件表面粗糙度
- ▶深开槽可以通过减少的颈部设计
- ▶通过减小颈部设计，实现深槽铣加工
- ▶优异的耐磨性

CARBIDE | 2 | BLUE | 30° | R ±0.010 | R ±0.015 | PLAIN

Ø0.5~Ø6 Ø8~Ø12

p.C120-121

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8A60918	R0.5	**2.0**	6	3	12	55	1.95
G8A600300208	R0.2	**3.0**	6	4	8	55	2.85
G8A600300210	R0.2	**3.0**	6	4	10	55	2.85
G8A600300212	R0.2	**3.0**	6	4	12	55	2.85
G8A600300216	R0.2	**3.0**	6	4	16	55	2.85
G8A600300308	R0.3	**3.0**	6	4	8	55	2.85
G8A60919	R0.3	**3.0**	6	4	10	55	2.85
G8A600300312	R0.3	**3.0**	6	4	12	55	2.85
G8A600300316	R0.3	**3.0**	6	4	16	55	2.85
G8A60030	R0.5	**3.0**	6	4	10	55	2.85
G8A600300512	R0.5	**3.0**	6	4	12	55	2.85
G8A60901	R0.5	**3.0**	6	4	16	55	2.85
G8A60902	R0.5	**3.0**	6	4	20	55	2.85
G8A600400212	R0.2	**4.0**	6	5	12	55	3.85
G8A600400216	R0.2	**4.0**	6	5	16	55	3.85
G8A600400220	R0.2	**4.0**	6	5	20	55	3.85
G8A600400310	R0.3	**4.0**	6	5	10	55	3.85
G8A60920	R0.3	**4.0**	6	5	12	55	3.85
G8A600400316	R0.3	**4.0**	6	5	16	55	3.85
G8A600400320	R0.3	**4.0**	6	5	20	55	3.85
G8A60040	R0.5	**4.0**	6	5	12	55	3.85
G8A60903	R0.5	**4.0**	6	5	16	55	3.85

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.

具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

▶ NEXT PAGE 下页

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角精度	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

X5070 END MILLS

PLAIN SHANK **G8A60** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS for RIB PROCESSING
硬质合金，2刃 圆鼻 深腔加工

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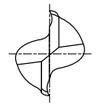
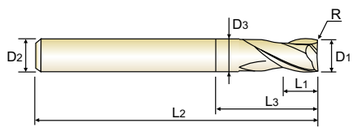
- ▶通过减小颈部设计，实现深槽铣加工
- ▶优异的耐磨性





CARBIDE | 2 | BLUE | 30° | R ±0.010 (Ø0.5~Ø6) | R ±0.015 (Ø8~Ø12) | PLAIN

p.C120-121

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8A60904	R0.5	**4.0**	6	5	20	55	3.85
G8A600401012	R1.0	**4.0**	6	5	12	55	3.85
G8A600401016	R1.0	**4.0**	6	5	16	55	3.85
G8A60921	R0.3	**6.0**	6	7	20	60	5.85
G8A60060	R0.5	**6.0**	6	7	20	60	5.85
G8A60905	R1.0	**6.0**	6	7	20	60	5.85
G8A60906	R1.5	**6.0**	6	7	20	60	5.85
G8A600602020	R2.0	**6.0**	6	7	20	60	5.85
G8A60922	R0.3	**8.0**	8	9	25	60	7.7
G8A60929	R0.5	**8.0**	8	9	25	60	7.7
G8A60080	R1.0	**8.0**	8	9	25	60	7.7
G8A60907	R1.5	**8.0**	8	9	25	60	7.7
G8A600802025	R2.0	**8.0**	8	9	25	60	7.7
G8A60923	R0.3	**10.0**	10	11	32	70	9.7
G8A601000532	R0.5	**10.0**	10	11	32	70	9.7
G8A60100	R1.0	**10.0**	10	11	32	70	9.7
G8A60908	R1.5	**10.0**	10	11	32	70	9.7
G8A601002032	R2.0	**10.0**	10	11	32	70	9.7
G8A601200538	R0.5	**12.0**	12	12	38	80	11.7
G8A60120	R1.0	**12.0**	12	12	38	80	11.7
G8A60909	R1.5	**12.0**	12	12	38	80	11.7
G8A601202038	R2.0	**12.0**	12	12	38	80	11.7

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具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角精度	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

X5070 END MILLS

PLAIN SHANK **G8A36** SERIES

CARBIDE, 2 FLUTE STUB LENGTH CORNER RADIUS with EXTENDED NECK
硬质合金，2刃 短刃 颈部加长 圆鼻

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Corner radius for preventing the chipping in high speed machining.
- ▶ Higher wear-resistance.

- ▶为加工高硬度工件设计
- ▶由于新开发的原材料和涂层，适用于，高速切削
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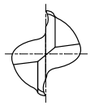
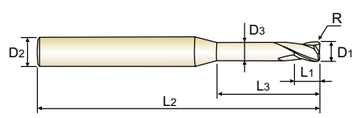
- ▶通过减小颈部设计，实现深槽铣加工
- ▶优异的耐磨性





CARBIDE | 2 | BLUE | 30° | R ±0.010 (Ø0.3~Ø6) | R ±0.015 (Ø8~Ø20) | PLAIN

p.C127-129

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8A36003	-	**0.3**	3	0.45	-	40	-
G8A36004	-	**0.4**	3	0.6	-	40	-
G8A36005	R0.05	**0.5**	3	0.7	-	40	-
G8A36907	R0.05	**0.5**	4	1	-	40	-
G8A36006	R0.05	**0.6**	3	0.9	-	40	-
G8A36908	R0.05	**0.6**	4	1.2	-	40	-
G8A36909	R0.05	**0.7**	4	1.4	-	40	-
G8A36008	R0.05	**0.8**	3	1.2	-	40	-
G8A36910	R0.05	**0.8**	4	1.6	-	40	-
G8A36911	R0.05	**0.9**	4	2	-	40	-
G8A36010	R0.1	**1.0**	3	1.5	-	40	-
G8A36901	R0.1	**1.0**	4	1.5	-	40	-
G8A36903	R0.1	**1.0**	6	1.5	-	40	-
G8A36015	R0.1	**1.5**	3	2.2	-	40	-
G8A36904	R0.1	**1.5**	6	2.2	-	40	-
G8A36020	R0.1	**2.0**	3	3	6	40	1.95
G8A36902	R0.1	**2.0**	4	3	6	40	1.95
G8A36905	R0.1	**2.0**	6	3	6	40	1.95
G8A36025	R0.1	**2.5**	3	4	6	40	2.4
G8A36906	R0.1	**2.5**	6	4	6	40	2.4
G8A36030	R0.1	**3.0**	6	4	7	45	2.85
G8A36035	R0.1	**3.5**	6	5	9	45	3.35

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▶ NEXT PAGE 下页
具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角精度	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

X5070 END MILLS

PLAIN SHANK **G8A36** SERIES

CARBIDE, 2 FLUTE STUB LENGTH CORNER RADIUS with EXTENDED NECK
硬质合金，2刃 短刃 颈部加长 圆鼻

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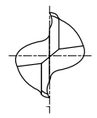
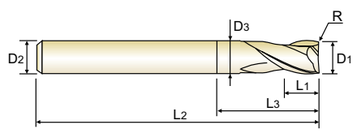




CARBIDE | 2 | BLUE | 30° | R ±0.010 Ø0.3~Ø6 | R ±0.015 Ø8~Ø20 | PLAIN

p.C127-129

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8A36040	R0.1	**4.0**	6	5	9	45	3.85
G8A36045	R0.1	**4.5**	6	6	10	45	4.35
G8A36050	R0.2	**5.0**	6	6	11	50	4.85
G8A36060	R0.2	**6.0**	6	7	14	50	5.85
G8A36080	R0.2	**8.0**	8	9	18	60	7.7
G8A36100	R0.2	**10.0**	10	12	25	75	9.7
G8A36120	R0.3	**12.0**	12	15	30	75	11.7
G8A36160	R0.3	**16.0**	16	18	38	90	15.7
G8A36200	R0.3	**20.0**	20	24	45	100	19.7

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角精度	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

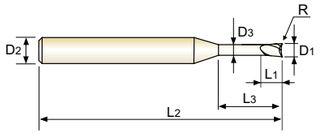
X5070 END MILLS

PLAIN SHANK **G8A52** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS for RIB PROCESSING
硬质合金，2刃 圆鼻 深腔加工

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Corner radius for preventing the chipping in high speed machining.
- ▶ Higher wear-resistance.

- ▶为加工高硬度工件设计
- ▶由于新开发的原材料和涂层，适用于，高速切削
- ▶卓越的工件表面粗糙度
- ▶深开槽可以通过减少的颈部设计
- ▶通过减小颈部设计，实现深槽铣加工
- ▶优异的耐磨性



CARBIDE | 2 | BLUE | 30° | R ±0.010 | PLAIN

p.C122

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R (±0.010)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8A52005	R0.05	**0.5**	6	0.7	1.5	50	0.45
G8A52901	R0.05	**0.5**	6	0.7	3.3	50	0.45
G8A52006	R0.05	**0.6**	6	0.9	2	50	0.55
G8A52902	R0.05	**0.6**	6	0.9	4	50	0.55
G8A52008	R0.05	**0.8**	6	1.2	2.5	50	0.75
G8A52903	R0.05	**0.8**	6	1.2	5.5	50	0.75
G8A52010	R0.10	**1.0**	6	1.5	3.3	50	0.95
G8A52904	R0.10	**1.0**	6	1.5	6.7	50	0.95
G8A52012	R0.10	**1.2**	6	1.8	4.4	50	1.15
G8A52905	R0.10	**1.2**	6	1.8	8	50	1.15
G8A52015	R0.15	**1.5**	6	2.2	5	50	1.45
G8A52906	R0.15	**1.5**	6	2.2	9.7	50	1.45
G8A52020	R0.15	**2.0**	6	2.2	6	50	1.95
G8A52907	R0.15	**2.0**	6	2.2	13	50	1.95

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

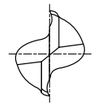
X5070 END MILLS

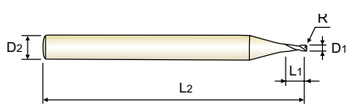
PLAIN SHANK **G8A50** SERIES

CARBIDE, 2 FLUTE MINIATURE CORNER RADIUS
硬质合金，2刃 微型 圆鼻

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Corner radius for preventing the chipping in high speed machining.
- ▶ Higher wear-resistance.

- ▶为加工高硬度工件设计
- ▶由于新开发的原材料和涂层，适用于，高速切削
- ▶卓越的工件表面粗糙度
- ▶深开槽可以通过减少的颈部设计
- ▶通过减小颈部设计，实现深槽铣加工
- ▶优异的耐磨性





CARBIDE | 2 | BLUE | 30° | R ±0.010 | PLAIN p.C123

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
G8A50003	-	0.3	6	0.45	50
G8A50004	-	0.4	6	0.6	50
G8A50005	R0.05	0.5	6	0.7	50
G8A50006	R0.05	0.6	6	0.9	50
G8A50008	R0.05	0.8	6	1.2	50
G8A50010	R0.10	1.0	6	1.5	50
G8A50012	R0.10	1.2	6	1.8	50
G8A50015	R0.15	1.5	6	2.2	50
G8A50020	R0.15	2.0	6	2.2	50

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

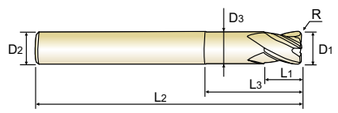
X5070 END MILLS

PLAIN SHANK **G8A47** SERIES

CARBIDE, 4 FLUTE CORNER RADIUS with EXTENDED NECK
硬质合金，4刃 颈部加长 圆鼻

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Corner radius for preventing the chipping in high speed machining.
- ▶ Higher wear-resistance.

- ▶为加工高硬度工件设计
- ▶由于新开发的原材料和涂层，适用于，高速切削
- ▶卓越的工件表面粗糙度
- ▶深开槽可以通过减少的颈部设计
- ▶通过减小颈部设计，实现深槽铣加工
- ▶优异的耐磨性



CARBIDE | 4 | BLUE | 30° | R ±0.010 Ø3~Ø6 | R ±0.015 Ø8~Ø12 | PLAIN p.C124

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8A47916	R0.3	3.0	6	4	12	55	2.85
G8A47917	R0.3	3.0	6	4	16	55	2.85
G8A47918	R0.3	3.0	6	4	20	55	2.85
G8A47030	R0.5	3.0	6	4	10	55	2.85
G8A47901	R0.5	3.0	6	4	16	55	2.85
G8A47902	R0.5	3.0	6	4	20	55	2.85
G8A47919	R0.3	4.0	6	5	12	55	3.85
G8A47920	R0.3	4.0	6	5	16	55	3.85
G8A47921	R0.3	4.0	6	5	20	55	3.85
G8A47040	R0.5	4.0	6	5	12	55	3.85
G8A47903	R0.5	4.0	6	5	16	55	3.85
G8A47904	R0.5	4.0	6	5	20	55	3.85
G8A47922	R1.0	4.0	6	5	12	55	3.85
G8A47060	R0.5	6.0	6	7	20	60	5.85
G8A47905	R1.0	6.0	6	7	20	60	5.85
G8A47906	R1.5	6.0	6	7	20	60	5.85
G8A47910	R0.5	8.0	8	9	25	60	7.7
G8A47080	R1.0	8.0	8	9	25	60	7.7
G8A47907	R1.5	8.0	8	9	25	60	7.7
G8A47913	R2.0	8.0	8	9	25	60	7.7
G8A47911	R0.5	10.0	10	11	32	70	9.7
G8A47100	R1.0	10.0	10	11	32	70	9.7
G8A47908	R1.5	10.0	10	11	32	70	9.7
G8A47914	R2.0	10.0	10	11	32	70	9.7
G8A47912	R0.5	12.0	12	12	38	80	11.7
G8A47120	R1.0	12.0	12	12	38	80	11.7
G8A47909	R1.5	12.0	12	12	38	80	11.7
G8A47915	R2.0	12.0	12	12	38	80	11.7

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角精度	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

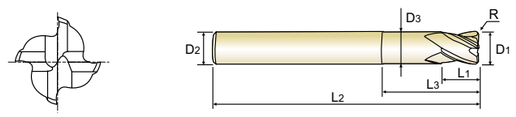
X5070 END MILLS

PLAIN SHANK **G8A37** SERIES

CARBIDE, 4 FLUTE STUB LENGTH CORNER RADIUS with EXTENDED NECK
硬质合金，4刃 颈部加长 短刃 圆鼻

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Corner radius for preventing the chipping in high speed machining.
- ▶ Higher wear-resistance.

- ▶为加工高硬度材料设计
- ▶由于最新开发的原材料和涂层，适用于，高速切削
- ▶卓越的工件表面粗糙度
- ▶由于颈部稍细可以加工深槽
- ▶圆弧可防止高速切削的崩刃
- ▶优异的耐磨性



CARBIDE | 4 | BLUE | 30° | R ±0.010 | R ±0.015 | PLAIN

Ø1~Ø6 Ø8~Ø20

p.C130

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8A37010	R0.1	1.0	3	1.5	-	40	-
G8A37901	R0.1	1.0	6	1.5	-	40	-
G8A37015	R0.1	1.5	3	2.2	-	40	-
G8A37902	R0.1	1.5	6	2.2	-	40	-
G8A37020	R0.1	2.0	3	3	6	40	1.95
G8A37903	R0.1	2.0	6	3	6	40	1.95
G8A37025	R0.1	2.5	3	4	6	40	2.4
G8A37904	R0.1	2.5	6	4	6	40	2.4
G8A37030	R0.1	3.0	6	4	7	45	2.85
G8A37035	R0.1	3.5	6	5	9	45	3.35
G8A37040	R0.1	4.0	6	5	9	45	3.85
G8A37045	R0.1	4.5	6	6	10	45	4.35
G8A37050	R0.2	5.0	6	6	11	50	4.85
G8A37060	R0.2	6.0	6	7	14	50	5.85
G8A37080	R0.2	8.0	8	9	18	60	7.7
G8A37100	R0.2	10.0	10	12	25	75	9.7
G8A37120	R0.3	12.0	12	15	30	75	11.7
G8A37160	R0.3	16.0	16	18	38	90	15.7
G8A37200	R0.3	20.0	20	24	45	100	19.7

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角精度	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

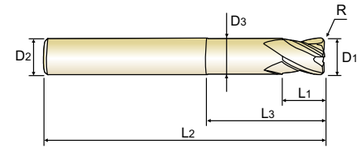
X5070 END MILLS

PLAIN SHANK **G8B08** SERIES

CARBIDE, 4 FLUTE CORNER RADIUS with EXTENDED NECK
硬质合金, 4刃 颈部加长 圆鼻

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Corner radius for preventing the chipping in high speed machining.
- ▶ Higher wear-resistance.

- ▶为加工高硬度工件设计
- ▶由于新开发的原材料和涂层，适用于，高速切削
- ▶卓越的工件表面粗糙度
- ▶深开槽可以通过减少的颈部设计
- ▶通过减小颈部设计，实现深槽铣加工
- ▶优异的耐磨性



CARBIDE | 4 | BLUE | 30° | R ±0.010 | R ±0.015 | PLAIN

Ø6 Ø8~Ø12

p.C124

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8B0806005090	R0.5	6.0	6	9	20	90	5.85
G8B0806010090	R1.0	6.0	6	9	20	90	5.85
G8B0808005100	R0.5	8.0	8	12	25	100	7.7
G8B0808010100	R1.0	8.0	8	12	25	100	7.7
G8B0810005100	R0.5	10.0	10	15	32	100	9.7
G8B0810010100	R1.0	10.0	10	15	32	100	9.7
G8B0810020100	R2.0	10.0	10	15	32	100	9.7
G8B0812005110	R0.5	12.0	12	18	38	110	11.7
G8B0812010110	R1.0	12.0	12	18	38	110	11.7
G8B0812020110	R2.0	12.0	12	18	38	110	11.7

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角精度	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

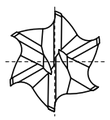
X5070 END MILLS

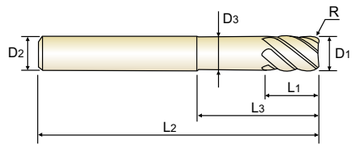
PLAIN SHANK **G8A39 SERIES**

CARBIDE, 6 FLUTE 45° HELIX CORNER RADIUS with EXTENDED NECK
硬质合金，6刃 45° 螺旋角 颈部加长 圆鼻

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Corner radius for preventing the chipping in high speed machining.
- ▶ Higher wear-resistance.

- ▶为加工高硬度材料设计
- ▶由于最新开发的原材料和涂层，适用于，高速切削
- ▶卓越的工件表面粗糙度
- ▶由于颈部稍细可以加工深槽
- ▶圆弧可防止高速切削的崩刃
- ▶优异的耐磨性





CARBIDE | 6 | BLUE | 45° | R ±0.010 Ø6 | R ±0.015 Ø8~Ø20 | PLAIN

p.C131

Recommended ToolHolder

	Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER		D15 - 46 D47 - 72
POWER MILLING CHUCK		D161 - 176
ER COLLET CHUCK SK SLIM CHUCK		D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8A39916	R0.25	**6.0**	6	6	14	50	5.85
G8A39060	R0.5	**6.0**	6	6	14	50	5.85
G8A39901	R0.5	**6.0**	6	13	-	70	-
* G8A39910	R0.5	**6.0**	6	26	-	70	-
G8A39080	R0.5	**8.0**	8	8	24	60	7.7
G8A39902	R0.5	**8.0**	8	19	-	90	-
* G8A39911	R0.5	**8.0**	8	36	-	90	-
G8A39903	R0.5	**10.0**	10	22	-	100	-
G8A39100	R1.0	**10.0**	10	10	30	70	9.7
G8A39904	R1.0	**10.0**	10	22	-	100	-
* G8A39912	R1.0	**10.0**	10	46	-	100	-
G8A39905	R0.5	**12.0**	12	26	-	110	-
G8A39120	R1.0	**12.0**	12	12	30	75	11.7
G8A39906	R1.0	**12.0**	12	26	-	110	-
* G8A39913	R1.0	**12.0**	12	56	-	110	-
G8A39160	R1.0	**16.0**	16	32	-	130	-
G8A39907	R1.5	**16.0**	16	32	-	130	-
* G8A39914	R1.5	**16.0**	16	66	-	130	-
G8A39200	R1.0	**20.0**	20	38	-	140	-
G8A39908	R1.5	**20.0**	20	38	-	140	-
G8A39909	R2.0	**20.0**	20	38	-	140	-
* G8A39915	R2.0	**20.0**	20	76	-	140	-

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角精度	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

* Mill Dia. Tolerance(mm) for Extra Long Type : 0~-0.03 * 超长铣刀直径精度为 : 0~-0.03

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

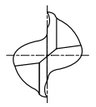
X5070 END MILLS

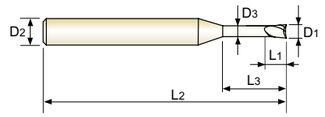
PLAIN SHANK **G8A45 SERIES**

CARBIDE, 2 FLUTE for RIB PROCESSING
硬质合金，2刃 深腔加工

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Designed for high precision milling operation.
- ▶ Higher wear-resistance.

- ▶为加工高硬度材料设计
- ▶由于最新开发的原材料和涂层，适用于，高速切削
- ▶卓越的工件表面粗糙度
- ▶由于颈部稍细可以加工深槽
- ▶圆弧可防止高速切削的崩刃
- ▶优异的耐磨性





CARBIDE | 2 | BLUE | 30° | PLAIN

p.C125~126

Recommended ToolHolder

	Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER		D15 - 46 D47 - 72
POWER MILLING CHUCK		D161 - 176
ER COLLET CHUCK SK SLIM CHUCK		D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8A45863	**0.1**	4	0.15	0.3	45	0.085
G8A45864	**0.1**	4	0.15	0.5	45	0.085
G8A45002	**0.2**	4	0.3	0.5	45	0.17
G8A45815	**0.2**	4	0.3	1	45	0.17
G8A45816	**0.2**	4	0.3	1.5	45	0.17
G8A45003	**0.3**	4	0.45	1	45	0.27
G8A45844	**0.3**	4	0.45	1.5	45	0.27
G8A45817	**0.3**	4	0.45	2	45	0.27
G8A45818	**0.3**	4	0.45	3	45	0.27
G8A45842	**0.3**	4	0.45	4	45	0.27
G8A45843	**0.4**	4	0.6	1	45	0.37
G8A45004	**0.4**	4	0.6	2	45	0.37
G8A45984	**0.4**	4	0.6	3	45	0.37
G8A45985	**0.4**	4	0.6	4	45	0.37
G8A45986	**0.4**	4	0.6	5	45	0.37
G8A45005	**0.5**	4	0.7	2	45	0.45
G8A45861	**0.5**	4	0.7	2.5	45	0.45
G8A45988	**0.5**	4	0.7	4	45	0.45
G8A45989	**0.5**	4	0.7	6	45	0.45
G8A45990	**0.5**	4	0.7	8	45	0.45
G8A45006	**0.6**	4	0.9	2	45	0.55
G8A45860	**0.6**	4	0.9	3	45	0.55

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

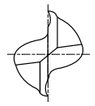
X5070 END MILLS

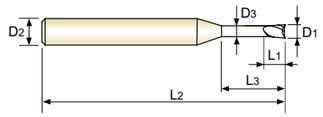
PLAIN SHANK **G8A45 SERIES**

CARBIDE, 2 FLUTE for RIB PROCESSING
硬质合金，2刃 深腔加工

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Designed for high precision milling operation.
- ▶ Higher wear-resistance.

- ▶为加工高硬度材料设计
- ▶由于最新开发的原材料和涂层，适用于，高速切削
- ▶卓越的工件表面粗糙度
- ▶由于颈部稍细可以加工深槽
- ▶圆弧可防止高速切削的崩刃
- ▶优异的耐磨性





CARBIDE | 2 | BLUE | 30° | PLAIN

p.C125~126

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8A45991	0.6	4	0.9	4	45	0.55
G8A45992	0.6	4	0.9	6	45	0.55
G8A45993	0.6	4	0.9	8	45	0.55
G8A45819	0.6	4	0.9	10	45	0.55
G8A45862	0.8	4	1.2	2	45	0.75
G8A45008	0.8	4	1.2	4	45	0.75
G8A45908	0.8	4	1.2	6	45	0.75
G8A45909	0.8	4	1.2	8	45	0.75
G8A45994	0.8	4	1.2	10	45	0.75
G8A45995	0.8	4	1.2	12	45	0.75
G8A45996	1.0	4	1.5	4	45	0.95
G8A45010	1.0	4	1.5	6	45	0.95
G8A45912	1.0	4	1.5	8	45	0.95
G8A45913	1.0	4	1.5	10	45	0.95
G8A45914	1.0	4	1.5	12	45	0.95
G8A45997	1.0	4	1.5	16	50	0.95
G8A45998	1.0	4	1.5	20	55	0.95
G8A45012	1.2	4	1.8	6	45	1.15
G8A45915	1.2	4	1.8	8	45	1.15
G8A45916	1.2	4	1.8	10	45	1.15
G8A45917	1.2	4	1.8	12	45	1.15
G8A45999	1.2	4	1.8	16	50	1.15

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

X5070 END MILLS

PLAIN SHANK **G8A45 SERIES**

CARBIDE, 2 FLUTE for RIB PROCESSING
硬质合金，2刃 深腔加工

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
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- ▶为加工高硬度材料设计
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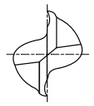
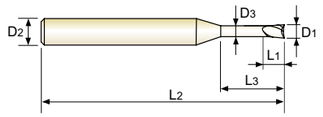
- ▶卓越的工件表面粗糙度
- ▶由于颈部稍细可以加工深槽
- ▶圆弧可防止高速切削的崩刃
- ▶优异的耐磨性





CARBIDE | 2 | BLUE | 30° | PLAIN

p.C125~126

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8A45015	1.5	4	2.3	6	45	1.45
G8A45923	1.5	4	2.3	8	45	1.45
G8A45924	1.5	4	2.3	10	45	1.45
G8A45925	1.5	4	2.3	12	45	1.45
G8A45926	1.5	4	2.3	14	50	1.45
G8A45927	1.5	4	2.3	16	50	1.45
G8A45928	1.5	4	2.3	18	55	1.45
G8A45810	1.5	4	2.3	20	55	1.45
G8A45958	2.0	4	3.0	6	45	1.95
G8A45020	2.0	4	3.0	8	45	1.95
G8A45959	2.0	4	3.0	10	45	1.95
G8A45960	2.0	4	3.0	12	45	1.95
G8A45961	2.0	4	3.0	14	50	1.95
G8A45962	2.0	4	3.0	16	50	1.95
G8A45963	2.0	4	3.0	18	55	1.95
G8A45964	2.0	4	3.0	20	55	1.95
G8A45966	2.0	4	3.0	25	60	1.95
G8A45814	2.0	4	3.0	30	70	1.95
G8A45975	3.0	6	4.5	10	45	2.85
G8A45976	3.0	6	4.5	12	45	2.85
G8A45977	3.0	6	4.5	14	50	2.85
G8A45978	3.0	6	4.5	16	55	2.85

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

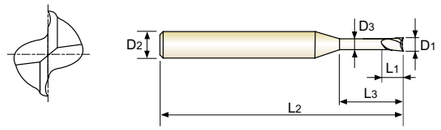
X5070 END MILLS

PLAIN SHANK **G8A45** SERIES

CARBIDE, 2 FLUTE for RIB PROCESSING
硬质合金，2刃 深腔加工

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Designed for high precision milling operation.
- ▶ Higher wear-resistance.

- ▶为加工高硬度材料设计
- ▶由于最新开发的原材料和涂层，适用于，高速切削
- ▶卓越的工件表面粗糙度
- ▶由于颈部稍细可以加工深槽
- ▶圆弧可防止高速切削的崩刃
- ▶优异的耐磨性



CARBIDE | 2 | BLUE | 30° | PLAIN

p.C125~126

Recommended ToolHolder

	Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER		D15 - 46 D47 - 72
POWER MILLING CHUCK		D161 - 176
ER COLLET CHUCK SK SLIM CHUCK		D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8A45979	3.0	6	4.5	18	55	2.85
G8A45980	3.0	6	4.5	20	60	2.85
G8A45981	3.0	6	4.5	25	65	2.85
G8A45832	3.0	6	4.5	30	70	2.85
G8A45833	3.0	6	4.5	35	80	2.85
G8A45983	3.0	6	4.5	40	90	2.85
G8A45040	4.0	6	6	12	50	3.85
G8A45801	4.0	6	6	16	60	3.85
G8A45802	4.0	6	6	20	60	3.85
G8A45803	4.0	6	6	25	70	3.85
G8A45834	4.0	6	6	30	70	3.85
G8A45835	4.0	6	6	35	80	3.85
G8A45836	4.0	6	6	40	90	3.85
G8A45837	4.0	6	6	45	90	3.85
G8A45838	4.0	6	6	50	100	3.85

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

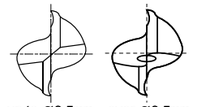
X5070 END MILLS

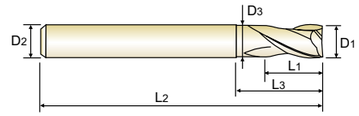
PLAIN SHANK **G8A01** SERIES

CARBIDE, 2 FLUTE with EXTENDED NECK
硬质合金，2刃 颈部加长

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Designed for high precision milling operation.
- ▶ Higher wear-resistance.

- ▶为加工高硬度材料设计
- ▶由于最新开发的原材料和涂层，适用于，高速切削
- ▶卓越的工件表面粗糙度
- ▶由于颈部稍细可以加工深槽
- ▶圆弧可防止高速切削的崩刃
- ▶优异的耐磨性





CARBIDE | 2 | BLUE | 30° | PLAIN

p.C127-129

Recommended ToolHolder

	Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER		D15 - 46 D47 - 72
POWER MILLING CHUCK		D161 - 176
ER COLLET CHUCK SK SLIM CHUCK		D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8A01001	0.1	4	0.2	-	40	-
G8A01002	0.2	4	0.4	-	40	-
G8A01003	0.3	4	0.6	-	40	-
G8A01004	0.4	4	0.8	-	40	-
G8A01005	0.5	4	1	-	40	-
G8A01006	0.6	4	1.2	-	40	-
G8A01007	0.7	4	1.4	-	40	-
G8A01008	0.8	4	1.6	-	40	-
G8A01009	0.9	4	2	-	40	-
G8A010104S	1.0	4	1.5	3	50	0.95
G8A01010	1.0	6	1.5	3	50	0.95
G8A010154S	1.5	4	1.7	4	50	1.45
G8A01015	1.5	6	1.7	4	50	1.45
G8A010204S	2.0	4	2	5	50	1.95
G8A01020	2.0	6	2	5	50	1.95
G8A010254S	2.5	4	2.5	6	55	2.4
G8A01025	2.5	6	2.5	6	55	2.4
G8A01030	3.0	6	3	8	55	2.85
G8A01035	3.5	6	3.5	9	55	3.35
G8A01040	4.0	6	4	10	55	3.85
G8A01050	5.0	6	5	13	55	4.85
G8A01060	6.0	6	6	15	55	5.85
G8A01080	8.0	8	8	20	65	7.7
G8A01100	10.0	10	10	25	75	9.7
G8A01120	12.0	12	12	28	85	11.7
G8A01160	16.0	16	16	32	90	15.7
G8A01200	20.0	20	20	40	105	19.7

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	0 ~ - 0.012	h5
over Ø6 超过Ø6	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

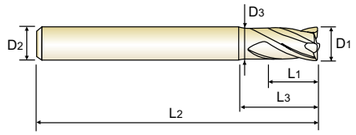
X5070 END MILLS

PLAIN SHANK **G8A02** SERIES

CARBIDE, 4 FLUTE with EXTENDED NECK
硬质合金，4刃 颈部加长

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Designed for high precision milling operation.
- ▶ Higher wear-resistance.

- ▶为加工高硬度材料设计
- ▶由于最新开发的原材料和涂层，适用于，高速切削
- ▶卓越的工件表面粗糙度
- ▶由于颈部稍细可以加工深槽
- ▶圆弧可防止高速切削的崩刃
- ▶优异的耐磨性



CARBIDE | 4 | BLUE | 30° | PLAIN

p.C130

Recommended ToolHolder

	Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER		D15 - 46 D47 - 72
POWER MILLING CHUCK		D161 - 176
ER COLLET CHUCK SK SLIM CHUCK		D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8A02010	1.0	6	1.5	3	50	0.95
G8A02020	2.0	6	2	5	50	1.95
G8A02030	3.0	6	3	8	55	2.85
G8A02040	4.0	6	4	10	55	3.85
G8A02050	5.0	6	5	13	55	4.85
G8A02060	6.0	6	6	15	55	5.85
G8A02080	8.0	8	8	20	65	7.7
G8A02100	10.0	10	10	25	75	9.7
G8A02120	12.0	12	12	28	85	11.7
G8A02160	16.0	16	16	32	90	15.7
G8A02200	20.0	20	20	40	105	19.7

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	0 ~ - 0.012	h5
over Ø6 超过Ø6	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

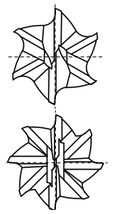
X5070 END MILLS

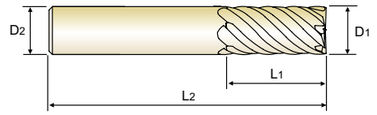
PLAIN SHANK **G8D63** SERIES

CARBIDE, 6&8 FLUTE 45° HELIX LONG LENGTH
硬质合金，6&8刃 45° 螺旋角 长刃

- ▶ Designed to machine high hardened materials.
- ▶ Designed for high abrasion resistance thanks to negative rake angle.
- ▶ Excellent side-cutting of press mold field.

- ▶为加工高硬度钢而设计
- ▶由于负前角的设计具有高耐磨性
- ▶在冲床模具领域有着极好的侧铣功能





CARBIDE | 6&8 | BLUE | 45° | PLAIN

p.C132

Recommended ToolHolder

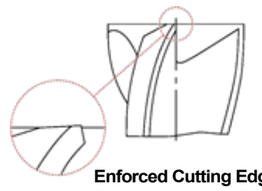
	Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER		D15 - 46 D47 - 72
POWER MILLING CHUCK		D161 - 176
ER COLLET CHUCK SK SLIM CHUCK		D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	No. of Flute 刃数
G8D63060	6.0	6	13	57	6
G8D63080	8.0	8	19	63	6
G8D63100	10.0	10	22	72	6
G8D63120	12.0	12	26	83	6
G8D63140	14.0	14	26	83	6
G8D63160	16.0	16	32	92	6
G8D63180	18.0	18	32	92	8
G8D63200	20.0	20	38	104	8
G8D63250	25.0	25	44	104	8

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.02	h5



◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

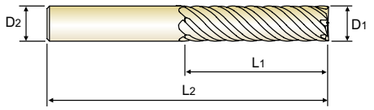
X5070 END MILLS

PLAIN SHANK **G8D64 SERIES**

CARBIDE, 6&8 FLUTE 45° HELIX EXTRA LONG LENGTH
硬质合金，6&8刃 45° 螺旋角 长刃

- ▶ Designed to machine high hardened materials.
- ▶ Designed for high abrasion resistance thanks to negative rake angle.
- ▶ Excellent side-cutting of press mold field.

- ▶为加工高硬度钢而设计
- ▶由于负前角的设计具有高耐磨性
- ▶在冲床模具领域有着极好的侧铣功能



CARBIDE | 6&8 | BLUE | 45° | PLAIN

p.C133

Recommended ToolHolder

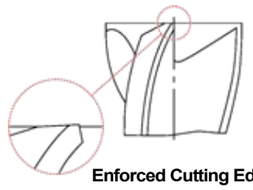
Plain Shank	Page
HYDRAULIC CHUCK / SHRINK FIT HOLDER	D15 - 46 / D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK / SK SLIM CHUCK	D73 - 115 / D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	No. of Flute 刃数
G8D64060	6.0	6	26	70	6
G8D64080	8.0	8	36	90	6
G8D64100	10.0	10	46	100	6
G8D64120	12.0	12	56	110	6
G8D64160	16.0	16	66	130	6
G8D64200	20.0	20	76	140	8
G8D64250	25.0	25	92	180	8

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
具有装饰性的蓝色涂层在初期使用时有可能会擦掉、该特性使得涂层厚度不均。可是、对刀具的性能没有影响。

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5



Enforced Cutting Edge

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○			○	○		○									

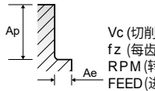
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎

X5070 END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8B59, G8B54 SERIES

4 FLUTE CORNER RADIUS - SIDE CUTTING
4刃 圆鼻 - 侧铣削



Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

HIGH SPEED 高速度

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0
P	5	Non-alloy steel	0.3D	0.1R	Vc	180	205	215	235	255	250	250	250	250
					fz	0.129	0.182	0.257	0.3	0.343	0.463	0.578	0.701	0.925
					RPM	28648	21751	17109	14961	13528	9947	7958	6631	4974
					FEED	14782	15835	17588	17953	18561	18422	18398	18595	18402
	8-9	Low alloy steel	0.3D	0.1R	Vc	180	205	215	235	255	250	250	250	250
					fz	0.129	0.182	0.257	0.3	0.343	0.463	0.578	0.701	0.925
					RPM	28648	21751	17109	14961	13528	9947	7958	6631	4974
					FEED	14782	15835	17588	17953	18561	18422	18398	18595	18402
	11.1	High alloyed steel, and tool steel	0.3D	0.1R	Vc	180	205	215	235	255	250	250	250	250
					fz	0.129	0.182	0.257	0.3	0.343	0.463	0.578	0.701	0.925
					RPM	28648	21751	17109	14961	13528	9947	7958	6631	4974
					FEED	14782	15835	17588	17953	18561	18422	18398	18595	18402
	11.2		0.3D	0.1R	Vc	140	160	165	175	200	200	200	200	195
					fz	0.111	0.147	0.231	0.284	0.329	0.438	0.547	0.66	0.897
					RPM	22282	16977	13130	11141	10610	7958	6366	5305	3879
					FEED	9893	9982	12132	12656	13963	13942	13929	14006	13919
H	38.1	Hardened steel	0.3D	0.1R	Vc	140	160	165	175	200	200	200	200	195
					fz	0.111	0.147	0.231	0.284	0.329	0.438	0.547	0.66	0.897
					RPM	22282	16977	13130	11141	10610	7958	6366	5305	3879
					FEED	9893	9982	12132	12656	13963	13942	13929	14006	13919
	38.2		0.3D	0.1R	Vc	95	200	140	155	170	170	170	170	165
					fz	0.131	0.16	0.209	0.25	0.306	0.404	0.509	0.611	0.833
					RPM	15120	21221	11141	9868	9019	6764	5411	4509	3283
					FEED	7923	13581	9314	9868	11039	10931	11017	11021	10938
	39.1		0.3D	0.05R	Vc	70	90	100	110	120	120	120	120	120
					fz	0.101	0.121	0.172	0.214	0.25	0.349	0.447	0.547	0.729
					RPM	11141	9549	7958	7003	6366	4775	3820	3183	2387
					FEED	4501	4622	5475	5994	6366	6665	6830	6965	6961
	39.2		0.3D	0.05R	Vc	55	65	70	75	85	85	85	85	85
					fz	0.07	0.091	0.129	0.158	0.2	0.301	0.352	0.4	0.5
					RPM	8754	6897	5570	4775	4509	3382	2706	2255	1691
					FEED	2451	2510	2874	3018	3608	4072	3810	3608	3382
	40	Chilled Cast Iron	0.3D	0.1R	Vc	140	160	165	175	200	200	200	200	195
					fz	0.111	0.147	0.231	0.284	0.329	0.438	0.547	0.66	0.897
					RPM	22282	16977	13130	11141	10610	7958	6366	5305	3879
					FEED	9893	9982	12132	12656	13963	13942	13929	14006	13919
	41	Hardened Cast Iron	0.3D	0.1R	Vc	95	200	140	155	170	170	170	170	165
					fz	0.131	0.16	0.209	0.25	0.306	0.404	0.509	0.611	0.833
					RPM	15120	21221	11141	9868	9019	6764	5411	4509	3283
					FEED	7923	13581	9314	9868	11039	10931	11017	11021	10938

NORMAL SPEED 普通速度

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0
P	5	Non-alloy steel	0.5D	0.2R	Vc	85	90	100	100	110	110	110	110	110
					fz	0.12	0.17	0.22	0.281	0.33	0.44	0.546	0.659	0.869
					RPM	13528	9549	7958	6366	5836	4377	3501	2918	2188
					FEED	6494	6494	7003	7156	7703	7703	7647	7691	7607
	8-9	Low alloy steel	0.5D	0.2R	Vc	85	90	100	100	110	110	110	110	110
					fz	0.12	0.17	0.22	0.281	0.33	0.44	0.546	0.659	0.869
					RPM	13528	9549	7958	6366	5836	4377	3501	2918	2188
					FEED	6494	6494	7003	7156	7703	7703	7647	7691	7607
	11.1	High alloyed steel, and tool steel	0.5D	0.2R	Vc	85	90	100	100	110	110	110	110	110
					fz	0.12	0.17	0.22	0.281	0.33	0.44	0.546	0.659	0.869
					RPM	13528	9549	7958	6366	5836	4377	3501	2918	2188
					FEED	6494	6494	7003	7156	7703	7703	7647	7691	7607
	11.2		0.5D	0.2R	Vc	60	65	70	75	75	75	75	75	80
					fz	0.099	0.15	0.2	0.25	0.299	0.402	0.5	0.598	0.79
					RPM	9549	6897	5570	4775	3979	2984	2387	1989	1592
					FEED	3782	4138	4456	4775	4759	4799	4775	4759	5029
H	38.1	Hardened steel	0.5D	0.2R	Vc	60	65	70	75	75	75	75	75	80
					fz	0.099	0.15	0.2	0.25	0.299	0.402	0.5	0.598	0.79
					RPM	9549	6897	5570	4775	3979	2984	2387	1989	1592
					FEED	3782	4138	4456	4775	4759	4799	4775	4759	5029
	38.2		0.5D	0.2R	Vc	35	45	50	55	55	55	55	55	55
					fz	0.1	0.151	0.2	0.235	0.302	0.398	0.5	0.603	0.795
					RPM	5570	4775	3979	3501	2918	2188	1751	1459	1094
					FEED	2228	2884	3183	3291	3525	3484	3501	3519	3480
	39.1		0.5D	0.1R	Vc	20	25	30	35	35	35	35	35	35
					fz	0.078	0.101	0.132	0.182	0.25	0.33	0.42	0.5	0.661
					RPM	3183	2653	2387	2228	1857	1393	1114	928	696
					FEED	993	1072	1261	1622	1857	1838	1872	1857	1841
	39.2		0.5D	0.1R	Vc	15	20	20	25	25	25	25	25	25
					fz	0.063	0.08	0.1	0.117	0.147	0.2	0.25	0.299	0.398
					RPM	2387	2122	1592	1592	1326	995	796	663	497
					FEED	602	679	637	745	780	796	796	793	792
	40	Chilled Cast Iron	0.5D	0.2R	Vc	60	65	70	75	75	75	75	75	80
					fz	0.099	0.15	0.2	0.25	0.299	0.402	0.5	0.598	0.79
					RPM	9549	6897	5570	4775	3979	2984	2387	1989	1592
					FEED	3782	4138	4456	4775	4759	4799	4775	4759	5029
	41	Hardened Cast Iron	0.5D	0.2R	Vc	35	45	50	55	55	55	55	55	55
					fz	0.1	0.151	0.2	0.235	0.302	0.398	0.5	0.603	0.795
					RPM	5570	4775	3979	3501	2918	2188	1751	1459	1094
					FEED	2228	2884	3183	3291	3525	3484	3501	3519	3480

X5070 END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8A46, G8A54 SERIES

2 FLUTE BALL NOSE - RIB PROCESSING
2刃 球头 - 深腔加工

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)
Ap (切削深度) = (mm)

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø) 0.2	0.3	0.4	0.5	0.6
P	5	Non-alloy steel	Vc	31	45~47	60~63	50~55	50~56
			fz	0.003~0.004	0.005~0.005	0.007~0.008	0.006~0.013	0.007~0.015
			RPM	50000	48000~50000	48000~50000	31900~35200	26400~29700
			FEED	265~310	440~460	450~550	450~540	440~540
			Ap	0.006~0.016	0.010~0.017	0.013~0.032	0.007~0.028	0.007~0.034
	8-9	Low alloy steel	Vc	31	45~47	60~63	54~78	54~77
			fz	0.003~0.004	0.005~0.005	0.007~0.008	0.006~0.013	0.007~0.015
			RPM	50000	48000~50000	48000~50000	34100~49500	28600~40700
			FEED	300~350	480~520	720~790	600~870	590~850
			Ap	0.006~0.016	0.010~0.017	0.013~0.032	0.007~0.028	0.007~0.034
	11.1 - 11.2	High alloyed steel, and tool steel	Vc	31	45~47	60~63	54~78	54~77
			fz	0.003~0.004	0.005~0.005	0.007~0.008	0.006~0.013	0.007~0.015
			RPM	50000	48000~50000	48000~50000	34100~49500	28600~40700
			FEED	300~350	480~520	720~790	600~870	590~850
			Ap	0.006~0.016	0.010~0.017	0.013~0.032	0.007~0.028	0.007~0.034
H	38.1 38.2	Hardened steel	Vc	31	45~47	60~63	50~55	50~56
			fz	0.003~0.003	0.004~0.005	0.005~0.006	0.006~0.008	0.007~0.010
			RPM	50000	48000~50000	48000~50000	31900~35200	26400~29700
			FEED	265~310	440~460	450~550	450~540	440~540
			Ap	0.005~0.013	0.008~0.014	0.011~0.026	0.005~0.023	0.006~0.028
	39.1		Vc	31	43~47	58~63	50~55	50~56
			fz	0.009~0.011	0.017~0.017	0.017~0.018	0.027~0.028	0.030~0.032
			RPM	50000	46000~50000	46000~50000	31900~35200	26400~29700
			FEED	225~265	390~420	400~460	440~480	400~480
			Ap	0.005~0.012	0.007~0.013	0.010~0.024	0.005~0.021	0.006~0.025
	39.2		Vc	31	43~47	58~63	50~55	50~56
			fz	0.009~0.011	0.017~0.017	0.017~0.018	0.027~0.028	0.030~0.032
			RPM	50000	46000~50000	46000~50000	31900~35200	26400~29700
			FEED	225~265	390~420	400~460	440~480	400~480
			Ap	0.005~0.012	0.007~0.013	0.010~0.024	0.005~0.021	0.006~0.025
	40	Chilled Cast Iron	Vc	31	45~47	60~63	54~78	54~77
			fz	0.003~0.004	0.005~0.005	0.007~0.008	0.006~0.013	0.007~0.015
			RPM	50000	48000~50000	48000~50000	34100~49500	28600~40700
			FEED	300~350	480~520	720~790	600~870	590~850
			Ap	0.006~0.016	0.010~0.017	0.013~0.032	0.007~0.028	0.007~0.034
	41	Hardened Cast Iron	Vc	31	45~47	60~63	50~55	50~56
			fz	0.003~0.003	0.004~0.005	0.005~0.006	0.006~0.008	0.007~0.010
			RPM	50000	48000~50000	48000~50000	31900~35200	26400~29700
			FEED	265~310	440~460	450~550	450~540	440~540
			Ap	0.005~0.013	0.008~0.014	0.011~0.026	0.005~0.023	0.006~0.028

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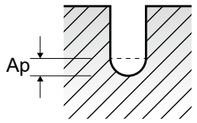


X5070 END MILLS

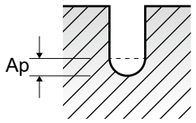
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8A46, G8A54 SERIES

2 FLUTE BALL NOSE - RIB PROCESSING
2刃 球头 - 深腔加工

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)
Ap (切削深度) = (mm)

VDI 3323	Parameter	Diameter (Ø) 0.8	1.0	1.2	1.5	2.0	3.0	4.0
5	Vc	50~55	48~55	45~53	47~54	50~55	50~55	50~55
	fz	0.010~0.020	0.012~0.024	0.016~0.027	0.020~0.035	0.027~0.047	0.045~0.088	0.055~0.115
	RPM	19800~22000	15400~17600	12000~14000	10000~11500	7900~8800	5300~5800	3950~4400
	FEED	460~550	470~540	460~540	440~540	470~530	590~650	550~620
	Ap	0.016~0.064	0.008~0.080	0.024~0.032	0.031~0.048	0.024~0.160	0.064~0.240	0.080~0.320
8-9	Vc	55~77	55~76	54~70	52~67	53~69	54~77	54~78
	fz	0.010~0.020	0.012~0.024	0.016~0.027	0.020~0.035	0.027~0.047	0.045~0.088	0.055~0.115
	RPM	22000~30800	17600~24200	14300~18700	11000~14300	8500~11000	5700~8200	4300~6200
	FEED	640~890	600~850	590~780	580~760	590~800	730~1000	680~990
	Ap	0.016~0.064	0.008~0.080	0.024~0.032	0.031~0.048	0.024~0.160	0.064~0.240	0.080~0.320
11.1 - 11.2	Vc	55~77	55~76	54~70	52~67	53~69	54~77	54~78
	fz	0.010~0.020	0.012~0.024	0.016~0.027	0.020~0.035	0.027~0.047	0.045~0.088	0.055~0.115
	RPM	22000~30800	17600~24200	14300~18700	11000~14300	8500~11000	5700~8200	4300~6200
	FEED	640~890	600~850	590~780	580~760	590~800	730~1000	680~990
	Ap	0.016~0.064	0.008~0.080	0.024~0.032	0.031~0.048	0.024~0.160	0.064~0.240	0.080~0.320
38.1 - 38.2	Vc	50~55	48~55	45~53	47~54	50~55	50~55	50~55
	fz	0.010~0.014	0.013~0.018	0.016~0.023	0.019~0.027	0.027~0.034	0.051~0.061	0.063~0.078
	RPM	19800~22000	15400~17600	12000~14000	10000~11500	7900~8800	5300~5800	3950~4400
	FEED	460~550	470~540	460~540	440~540	470~530	590~650	550~620
	Ap	0.013~0.052	0.007~0.065	0.020~0.026	0.025~0.039	0.020~0.130	0.052~0.195	0.065~0.260
39.1	Vc	50~55	48~55	45~53	47~54	50~55	50~55	48~55
	fz	0.044~0.045	0.057~0.057	0.069~0.070	0.083~0.084	0.109~0.111	0.208~0.214	0.259~0.275
	RPM	19800~22000	15400~17600	12000~14000	10000~11500	7900~8800	5300~5800	3850~4400
	FEED	440~500	440~500	420~480	420~480	440~480	550~620	530~570
	Ap	0.012~0.048	0.006~0.060	0.018~0.024	0.023~0.036	0.018~0.120	0.048~0.120	0.060~0.240
39.2	Vc	50~55	48~55	45~53	47~54	50~55	50~55	48~55
	fz	0.044~0.045	0.057~0.057	0.069~0.070	0.083~0.084	0.109~0.111	0.208~0.214	0.259~0.275
	RPM	19800~22000	15400~17600	12000~14000	10000~11500	7900~8800	5300~5800	3850~4400
	FEED	440~500	440~500	420~480	420~480	440~480	550~620	530~570
	Ap	0.012~0.048	0.006~0.060	0.018~0.024	0.023~0.036	0.018~0.120	0.048~0.120	0.060~0.240
40	Vc	55~77	55~76	54~70	52~67	53~69	54~77	54~78
	fz	0.010~0.020	0.012~0.024	0.016~0.027	0.020~0.035	0.027~0.047	0.045~0.088	0.055~0.115
	RPM	22000~30800	17600~24200	14300~18700	11000~14300	8500~11000	5700~8200	4300~6200
	FEED	640~890	600~850	590~780	580~760	590~800	730~1000	680~990
	Ap	0.016~0.064	0.008~0.080	0.024~0.032	0.031~0.048	0.024~0.160	0.064~0.240	0.080~0.320
41	Vc	50~55	48~55	45~53	47~54	50~55	50~55	50~55
	fz	0.010~0.014	0.013~0.018	0.016~0.023	0.019~0.027	0.027~0.034	0.051~0.061	0.063~0.078
	RPM	19800~22000	15400~17600	12000~14000	10000~11500	7900~8800	5300~5800	3950~4400
	FEED	460~550	470~540	460~540	440~540	470~530	590~650	550~620
	Ap	0.013~0.052	0.007~0.065	0.020~0.026	0.025~0.039	0.020~0.130	0.052~0.195	0.065~0.260



X5070 END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8A28, G8A38, G8A53 SERIES

2 FLUTE BALL NOSE
2刃 球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 0.2	0.3	0.4	0.5	0.6	0.8	1.0
P	5	Non-alloy steel	0.05D	0.02D	Vc	30	45	65	80	95	125	155
					fz	0.012	0.015	0.019	0.024	0.029	0.039	0.048
					RPM	47746	47746	51725	50930	50399	49736	49338
					FEED	1146	1432	1966	2445	2923	3879	4736
	8-9	Low alloy steel	0.05D	0.02D	Vc	30	45	65	80	95	125	155
					fz	0.012	0.015	0.019	0.024	0.029	0.039	0.048
					RPM	47746	47746	51725	50930	50399	49736	49338
					FEED	1146	1432	1966	2445	2923	3879	4736
	11.1	High alloyed steel, and tool steel	0.05D	0.02D	Vc	30	45	65	80	95	125	155
					fz	0.012	0.015	0.019	0.024	0.029	0.039	0.048
					RPM	47746	47746	51725	50930	50399	49736	49338
					FEED	1146	1432	1966	2445	2923	3879	4736
	11.2		0.05D	0.02D	Vc	30	45	65	80	95	125	155
					fz	0.011	0.014	0.017	0.021	0.025	0.033	0.042
					RPM	47746	47746	51725	50930	50399	49736	49338
					FEED	1050	1337	1759	2139	2520	3283	4144
H	38.1	Hardened steel	0.05D	0.02D	Vc	30	45	65	80	95	125	155
					fz	0.011	0.014	0.017	0.021	0.025	0.033	0.042
					RPM	47746	47746	51725	50930	50399	49736	49338
					FEED	1050	1337	1759	2139	2520	3283	4144
	38.2		0.05D	0.02D	Vc	30	40	55	70	85	115	140
					fz	0.011	0.013	0.017	0.021	0.024	0.033	0.042
					RPM	47746	42441	43768	44563	45094	45757	44563
					FEED	1050	1103	1488	1872	2165	3020	3743
	39.1		0.05D	0.02D	Vc	25	40	50	65	75	100	125
					fz	0.01	0.012	0.015	0.019	0.023	0.03	0.038
					RPM	39789	42441	39789	41380	39789	39789	39789
					FEED	796	1019	1194	1572	1830	2387	3024
	39.2		0.05D	0.02D	Vc	20	35	45	55	65	90	110
					fz	0.01	0.012	0.015	0.019	0.023	0.03	0.037
					RPM	31831	37136	35810	35014	34484	35810	35014
					FEED	637	891	1074	1331	1586	2149	2591
	39.3		0.05D	0.02D	Vc	20	30	40	50	60	80	110
					fz	0.009	0.011	0.014	0.017	0.022	0.029	0.033
					RPM	31831	31831	31831	31831	31831	31831	35014
					FEED	573	700	891	1082	1401	1846	2311
	40	Chilled Cast Iron	0.05D	0.02D	Vc	30	45	65	80	95	125	155
					fz	0.011	0.014	0.017	0.021	0.025	0.033	0.042
					RPM	47746	47746	51725	50930	50399	49736	49338
					FEED	1050	1337	1759	2139	2520	3283	4144
	41	Hardened Cast Iron	0.05D	0.02D	Vc	30	40	55	70	85	115	140
					fz	0.011	0.013	0.017	0.021	0.024	0.033	0.042
					RPM	47746	47746	51725	50930	50399	49736	49338
					FEED	1050	1337	1759	2139	2520	3283	4144

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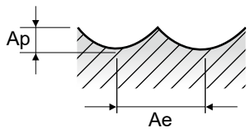
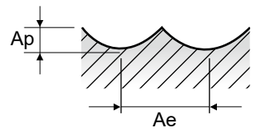


X5070 END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
G8A28, G8A38, G8A53 SERIES
2 FLUTE BALL NOSE
2刃 球头
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

VDI 3323	Parameter	Diameter (Ø) 1.2	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
5	Vc	190	235	310	310	315	290	260	280	290	260	280	280
	fz	0.051	0.054	0.057	0.091	0.12	0.156	0.174	0.189	0.199	0.212	0.238	0.264
	RPM	50399	49869	49338	32892	25067	18462	13793	11141	9231	6897	5570	4456
	FEED	5141	5386	5625	5986	6016	5760	4800	4211	3674	2924	2652	2353
8-9	Vc	190	235	310	310	315	290	260	280	290	260	280	280
	fz	0.051	0.054	0.057	0.091	0.12	0.156	0.174	0.189	0.199	0.212	0.238	0.264
	RPM	50399	49869	49338	32892	25067	18462	13793	11141	9231	6897	5570	4456
	FEED	5141	5386	5625	5986	6016	5760	4800	4211	3674	2924	2652	2353
11.1	Vc	190	235	310	310	315	290	260	280	290	260	280	280
	fz	0.051	0.054	0.057	0.091	0.12	0.156	0.174	0.189	0.199	0.212	0.238	0.264
	RPM	50399	49869	49338	32892	25067	18462	13793	11141	9231	6897	5570	4456
	FEED	5141	5386	5625	5986	6016	5760	4800	4211	3674	2924	2652	2353
11.2	Vc	180	225	300	300	300	280	255	270	280	250	270	270
	fz	0.045	0.047	0.05	0.083	0.111	0.138	0.153	0.164	0.174	0.187	0.206	0.227
	RPM	47746	47746	47746	31831	23873	17825	13528	10743	8913	6631	5371	4297
	FEED	4297	4488	4775	5284	5300	4920	4140	3524	3102	2480	2213	1951
38.1	Vc	180	225	300	300	300	280	255	270	280	250	270	270
	fz	0.045	0.047	0.05	0.083	0.111	0.138	0.153	0.164	0.174	0.187	0.206	0.227
	RPM	47746	47746	47746	31831	23873	17825	13528	10743	8913	6631	5371	4297
	FEED	4297	4488	4775	5284	5300	4920	4140	3524	3102	2480	2213	1951
38.2	Vc	160	205	250	250	250	235	205	225	235	210	225	225
	fz	0.045	0.047	0.05	0.075	0.1	0.125	0.141	0.15	0.16	0.17	0.189	0.208
	RPM	42441	43502	39789	26526	19894	14961	10876	8952	7480	5570	4476	3581
	FEED	3820	4089	3979	3979	3979	3740	3067	2686	2394	1894	1692	1490
39.1	Vc	145	175	220	220	220	210	190	200	205	190	200	200
	fz	0.039	0.042	0.045	0.067	0.09	0.113	0.125	0.134	0.144	0.155	0.169	0.188
	RPM	38462	37136	35014	23343	17507	13369	10080	7958	6525	5040	3979	3183
	FEED	3000	3119	3151	3128	3151	3021	2520	2133	1879	1562	1345	1197
39.2	Vc	130	155	200	200	200	180	165	175	180	165	175	175
	fz	0.04	0.041	0.044	0.067	0.088	0.111	0.122	0.132	0.142	0.142	0.143	0.143
	RPM	34484	32892	31831	21221	15915	11459	8754	6963	5730	4377	3482	2785
	FEED	2759	2697	2801	2844	2801	2544	2136	1838	1627	1243	996	797
39.3	Vc	115	140	180	180	180	165	150	165	165	150	160	160
	fz	0.038	0.039	0.04	0.061	0.079	0.1	0.109	0.119	0.13	0.131	0.133	0.129
	RPM	30505	29709	28648	19099	14324	10504	7958	6565	5252	3979	3183	2546
	FEED	2318	2317	2292	2330	2263	2101	1735	1562	1366	1042	847	657
40	Vc	180	225	300	300	300	280	255	270	280	250	270	270
	fz	0.045	0.047	0.05	0.083	0.111	0.138	0.153	0.164	0.174	0.187	0.206	0.227
	RPM	47746	47746	47746	31831	23873	17825	13528	10743	8913	6631	5371	4297
	FEED	4297	4488	4775	5284	5300	4920	4140	3524	3102	2480	2213	1951
41	Vc	160	205	250	250	250	235	205	225	235	210	225	225
	fz	0.045	0.047	0.05	0.075	0.1	0.125	0.141	0.15	0.16	0.17	0.189	0.208
	RPM	47746	47746	47746	31831	23873	17825	13528	10743	8913	6631	5371	4297
	FEED	4297	4488	4775	5284	5300	4920	4140	3524	3102	2480	2213	1951



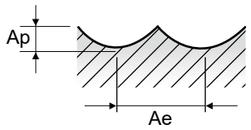
X5070 END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8A59 SERIES — 3 FLUTE BALL NOSE / 3刃 球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	5	Non-alloy steel	0.05D	0.02D	Vc	300	305	315	340	340	340	340	335	340
					fz	0.09	0.107	0.121	0.159	0.181	0.202	0.225	0.229	0.222
					RPM	31831	24271	20054	18038	13528	10823	9019	6665	5411
					FEED	8594	7791	7279	8604	7346	6558	6088	4579	3604
	8-9	Low alloy steel	0.05D	0.02D	Vc	300	305	315	340	340	340	340	335	340
					fz	0.09	0.107	0.121	0.159	0.181	0.202	0.225	0.229	0.222
					RPM	31831	24271	20054	18038	13528	10823	9019	6665	5411
					FEED	8594	7791	7279	8604	7346	6558	6088	4579	3604
	11.1 - 11.2	High alloyed steel, and tool steel	0.05D	0.02D	Vc	300	305	315	340	340	340	340	335	340
					fz	0.09	0.107	0.121	0.159	0.181	0.202	0.225	0.229	0.222
					RPM	31831	24271	20054	18038	13528	10823	9019	6665	5411
					FEED	8594	7791	7279	8604	7346	6558	6088	4579	3604
H	38.1 - 38.2	Hardened steel	0.05D	0.02D	Vc	255	255	265	285	285	285	285	285	285
					fz	0.072	0.09	0.108	0.136	0.155	0.168	0.187	0.19	0.192
					RPM	27056	20292	16870	15120	11340	9072	7560	5670	4536
					FEED	5844	5479	5466	6169	5273	4572	4241	3232	2613
	39.1		0.05D	0.02D	Vc	185	185	195	230	230	230	230	230	230
					fz	0.072	0.087	0.099	0.123	0.144	0.156	0.173	0.18	0.18
					RPM	19629	14722	12414	12202	9151	7321	6101	4576	3661
					FEED	4240	3842	3687	4502	3953	3426	3166	2471	1977
	39.2		0.05D	0.02D	Vc	175	180	185	210	210	210	210	210	205
					fz	0.072	0.086	0.099	0.115	0.134	0.144	0.145	0.144	0.145
					RPM	18568	14324	11777	11141	8356	6685	5570	4178	3263
					FEED	4011	3696	3498	3844	3359	2888	2423	1805	1419
	39.3		0.05D	0.02D	Vc	120	120	125	145	145	145	145	145	145
					fz	0.072	0.087	0.099	0.108	0.125	0.144	0.144	0.144	0.143
					RPM	12732	9549	7958	7692	5769	4615	3846	2885	2308
					FEED	2750	2492	2363	2492	2164	1994	1662	1246	990
	40	Chilled Cast Iron	0.05D	0.02D	Vc	300	305	315	340	340	340	340	335	340
					fz	0.09	0.107	0.121	0.159	0.181	0.202	0.225	0.229	0.222
					RPM	31831	24271	20054	18038	13528	10823	9019	6665	5411
					FEED	8594	7791	7279	8604	7346	6558	6088	4579	3604
	41	Hardened Cast Iron	0.05D	0.02D	Vc	255	255	265	285	285	285	285	285	285
					fz	0.072	0.09	0.108	0.136	0.155	0.168	0.187	0.19	0.192
					RPM	27056	20292	16870	15120	11340	9072	7560	5670	4536
					FEED	5844	5479	5466	6169	5273	4572	4241	3232	2613



CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

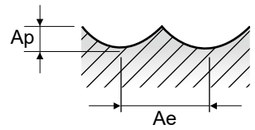
X5070 END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8D62 SERIES — 4 FLUTE BALL NOSE / 4刃 球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	5	Non-alloy steel	0.05D	0.02D	Vc	340	340	340	340	340	340	340	340	340
					fz	0.071	0.08	0.09	0.101	0.116	0.128	0.145	0.144	0.144
					RPM	36075	27056	21645	18038	13528	10823	9019	6764	5411
					FEED	10245	8658	7792	7287	6277	5541	5231	3896	3117
	8-9	Low alloy steel	0.05D	0.02D	Vc	340	340	340	340	340	340	340	340	340
					fz	0.071	0.08	0.09	0.101	0.116	0.128	0.145	0.144	0.144
					RPM	36075	27056	21645	18038	13528	10823	9019	6764	5411
					FEED	10245	8658	7792	7287	6277	5541	5231	3896	3117
	11.1 - 11.2	High alloyed steel, and tool steel	0.05D	0.02D	Vc	340	340	340	340	340	340	340	340	340
					fz	0.071	0.08	0.09	0.101	0.116	0.128	0.145	0.144	0.144
					RPM	36075	27056	21645	18038	13528	10823	9019	6764	5411
					FEED	10245	8658	7792	7287	6277	5541	5231	3896	3117
H	38.1 - 38.2	Hardened steel	0.05D	0.02D	Vc	285	285	280	285	285	285	285	285	285
					fz	0.06	0.07	0.081	0.092	0.103	0.111	0.125	0.129	0.126
					RPM	30239	22680	17825	15120	11340	9072	7560	5670	4536
					FEED	7257	6350	5775	5564	4672	4028	3780	2926	2286
	39.1		0.05D	0.02D	Vc	230	230	230	230	230	230	230	230	230
					fz	0.05	0.06	0.071	0.082	0.096	0.104	0.115	0.119	0.119
					RPM	24404	18303	14642	12202	9151	7321	6101	4576	3661
					FEED	4881	4393	4158	4002	3514	3046	2806	2178	1743
	39.2		0.05D	0.02D	Vc	210	210	210	210	210	210	210	210	205
					fz	0.045	0.055	0.067	0.077	0.089	0.095	0.097	0.096	0.096
					RPM	22282	16711	13369	11141	8356	6685	5570	4178	3263
					FEED	4011	3676	3583	3431	2975	2540	2161	1604	1253
	39.3		0.05D	0.02D	Vc	145	145	145	145	145	145	145	145	140
					fz	0.04	0.05	0.062	0.072	0.082	0.096	0.094	0.096	0.097
					RPM	15385	11539	9231	7692	5769	4615	3846	2885	2228
					FEED	2462	2308	2289	2215	1892	1772	1446	1108	864
	40	Chilled Cast Iron	0.05D	0.02D	Vc	340	340	340	340	340	340	340	340	340
					fz	0.071	0.08	0.09	0.101	0.116	0.128	0.145	0.144	0.144
					RPM	36075	27056	21645	18038	13528	10823	9019	6764	5411
					FEED	10245	8658	7792	7287	6277	5541	5231	3896	3117
	41	Hardened Cast Iron	0.05D	0.02D	Vc	285	285	280	285	285	285	285	285	285
					fz	0.06	0.07	0.081	0.092	0.103	0.111	0.125	0.129	0.126
					RPM	30239	22680	17825	15120	11340	9072	7560	5670	4536
					FEED	7257	6350	5775	5564	4672	4028	3780	2926	2286



X5070 END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8A60 SERIES

2 FLUTE CORNER RADIUS - SLOTTING
2刃 圆鼻- 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 0.5	0.6	0.8	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
P	5	Non-alloy steel	1.0D	0.05D	Vc	80	95	125	150	210	205	210	245	245	250	245	250
					fz	0.001	0.002	0.002	0.006	0.01	0.015	0.021	0.026	0.029	0.037	0.043	0.051
					RPM	50930	50399	49736	47746	33423	21751	16711	15597	12998	9947	7799	6631
					FEED	102	202	199	573	668	653	702	811	754	736	671	676
	8-9	Low alloy steel	1.0D	0.05D	Vc	80	95	125	150	210	205	210	245	245	250	245	250
					fz	0.001	0.002	0.002	0.006	0.01	0.015	0.021	0.026	0.029	0.037	0.043	0.051
					RPM	50930	50399	49736	47746	33423	21751	16711	15597	12998	9947	7799	6631
					FEED	102	202	199	573	668	653	702	811	754	736	671	676
	11.1	High alloyed steel, and tool steel	1.0D	0.05D	Vc	80	95	125	150	210	205	210	245	245	250	245	250
					fz	0.001	0.002	0.002	0.006	0.01	0.015	0.021	0.026	0.029	0.037	0.043	0.051
					RPM	50930	50399	49736	47746	33423	21751	16711	15597	12998	9947	7799	6631
					FEED	102	202	199	573	668	653	702	811	754	736	671	676
	11.2		1.0D	0.05D	Vc	70	85	100	120	165	165	165	195	195	195	195	200
					fz	0.001	0.002	0.002	0.006	0.01	0.016	0.021	0.026	0.03	0.037	0.044	0.051
					RPM	44563	45094	39789	38197	26261	17507	13130	12414	10345	7759	6207	5305
					FEED	89	180	159	458	525	560	551	646	621	574	546	541
H	38.1	Hardened steel	1.0D	0.05D	Vc	70	85	100	120	165	165	165	195	195	195	195	200
					fz	0.001	0.002	0.002	0.006	0.01	0.016	0.021	0.026	0.03	0.037	0.044	0.051
					RPM	44563	45094	39789	38197	26261	17507	13130	12414	10345	7759	6207	5305
					FEED	89	180	159	458	525	560	551	646	621	574	546	541
	38.2		1.0D	0.05D	Vc	65	75	75	80	110	110	110	130	130	130	130	130
					fz	0.001	0.001	0.002	0.006	0.01	0.015	0.02	0.024	0.028	0.034	0.04	0.047
					RPM	41380	39789	29842	25465	17507	11671	8754	8276	6897	5173	4138	3448
					FEED	83	80	119	306	350	350	350	397	386	352	331	324
	39.1		1.0D	0.05D	Vc	50	55	65	65	90	90	90	100	100	100	100	100
					fz	0.001	0.001	0.001	0.004	0.007	0.011	0.015	0.018	0.021	0.026	0.03	0.036
					RPM	31831	29178	25863	20690	14324	9549	7162	6366	5305	3979	3183	2653
					FEED	64	58	52	166	201	210	215	229	223	207	191	191
	39.2		1.0D	0.05D	Vc	40	45	50	50	70	70	70	80	80	80	80	80
					fz	0.001	0.001	0.001	0.003	0.006	0.009	0.012	0.014	0.017	0.02	0.024	0.029
					RPM	25465	23873	19894	15915	11141	7427	5570	5093	4244	3183	2546	2122
					FEED	51	48	40	95	134	134	134	143	144	127	122	123
	39.3		1.0D	0.02D	Vc	30	40	40	40	60	60	60	70	70	70	70	70
					fz	0.001	0.001	0.001	0.003	0.005	0.007	0.01	0.012	0.014	0.017	0.021	0.024
					RPM	19099	21221	15915	12732	9549	6366	4775	4456	3714	2785	2228	1857
					FEED	19	25	29	71	90	89	96	105	100	95	91	90
	40	Chilled Cast Iron	1.0D	0.05D	Vc	70	85	100	120	165	165	165	195	195	195	195	200
					fz	0.001	0.002	0.002	0.006	0.01	0.016	0.021	0.026	0.03	0.037	0.044	0.051
					RPM	44563	45094	39789	38197	26261	17507	13130	12414	10345	7759	6207	5305
					FEED	89	180	159	458	525	560	551	646	621	574	546	541
	41	Hardened Cast Iron	1.0D	0.05D	Vc	65	75	75	80	110	110	110	130	130	130	130	130
					fz	0.001	0.001	0.002	0.006	0.01	0.015	0.02	0.024	0.028	0.034	0.04	0.047
					RPM	41380	39789	29842	25465	17507	11671	8754	8276	6897	5173	4138	3448
					FEED	83	80	119	306	350	350	350	397	386	352	331	324

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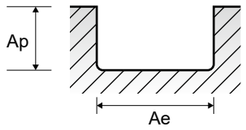

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

X5070 END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8A60 SERIES

4 FLUTE CORNER RADIUS - SIDE CUTTING
4刃 圆鼻- 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 0.5	0.6	0.8	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
P	5	Non-alloy steel	0.03D	1.0D	Vc	80	95	125	150	210	205	210	245	245	250	245	250
					fz	0.002	0.003	0.003	0.009	0.014	0.022	0.03	0.037	0.041	0.053	0.062	0.072
					RPM	50930	50399	49736	47746	33423	21751	16711	15597	12998	9947	7799	6631
					FEED	204	302	298	859	936	957	1003	1154	1066	1054	967	955
	8-9	Low alloy steel	0.03D	1.0D	Vc	80	95	125	150	210	205	210	245	245	250	245	250
					fz	0.002	0.003	0.003	0.009	0.014	0.022	0.03	0.037	0.041	0.053	0.062	0.072
					RPM	50930	50399	49736	47746	33423	21751	16711	15597	12998	9947	7799	6631
					FEED	204	302	298	859	936	957	1003	1154	1066	1054	967	955
	11.1	High alloyed steel, and tool steel	0.03D	1.0D	Vc	80	95	125	150	210	205	210	245	245	250	245	250
					fz	0.002	0.003	0.003	0.009	0.014	0.022	0.03	0.037	0.041	0.053	0.062	0.072
					RPM	50930	50399	49736	47746	33423	21751	16711	15597	12998	9947	7799	6631
					FEED	204	302	298	859	936	957	1003	1154	1066	1054	967	955
	11.2		0.03D	1.0D	Vc	70	85	100	120	165	165	165	195	195	195	195	200
					fz	0.002	0.002	0.003	0.009	0.015	0.022	0.03	0.037	0.043	0.053	0.063	0.074
					RPM	44563	45094	39789	38197	26261	17507	13130	12414	10345	7759	6207	5305
					FEED	178	180	239	688	788	770	788	919	890	822	782	785
H	38.1	Hardened steel	0.03D	1.0D	Vc	70	85	100	120	165	165	165	195	195	195	195	200
					fz	0.002	0.002	0.003	0.009	0.015	0.022	0.03	0.037	0.043	0.053	0.063	0.074
					RPM	44563	45094	39789	38197	26261	17507	13130	12414	10345	7759	6207	5305
					FEED	178	180	239	688	788	770	788	919	890	822	782	785
	38.2		0.03D	1.0D	Vc	65	75	75	80	110	110	110	130	130	130	130	130
					fz	0.002	0.002	0.003	0.008	0.014	0.021	0.028	0.034	0.04	0.049	0.058	0.067
					RPM	41380	39789	29842	25465	17507	11671	8754	8276	6897	5173	4138	3448
					FEED	166	159	179	407	490	490	490	563	552	507	480	462
	39.1		0.03D	1.0D	Vc	50	55	65	65	90	90	90	100	100	100	100	100
					fz	0.001	0.002	0.002	0.006	0.01	0.016	0.021	0.026	0.03	0.037	0.043	0.051
					RPM	31831	29178	25863	20690	14324	9549	7162	6366	5305	3979	3183	2653
					FEED	64	117	103	248	286	306	301	331	318	294	274	271
	39.2		0.03D	1.0D	Vc	40	45	50	50	70	70	70	80	80	80	80	80
					fz	0.001	0.001	0.002	0.005	0.008	0.012	0.017	0.02	0.024	0.029	0.035	0.042
					RPM	25465	23873	19894	15915	11141	7427	5570	5093	4244	3183	2546	2122
					FEED	51	48	80	159	178	178	189	204	204	185	178	178
	39.3		0.03D	1.0D	Vc	30	40	40	40	60	60	60	70	70	70	70	70
					fz	0.001	0.001	0.001	0.004	0.007	0.01	0.014	0.017	0.02	0.024	0.029	0.034
					RPM	19099	21221	15915	12732	9549	6366	4775	4456	3714	2785	2228	1857
					FEED	38	42	32	102	134	127	134	152	149	134	129	126
	40	Chilled Cast Iron	0.03D	1.0D	Vc	70	85	100	120	165	165	165	195	195	195	195	200
					fz	0.002	0.002	0.003	0.009	0.015	0.022	0.03	0.037	0.043	0.053	0.063	0.074
					RPM	44563	45094	39789	38197	26261	17507	13130	12414	10345	7759	6207	5305
					FEED	178	180	239	688	788	770	788	919	890	822	782	785
	41	Hardened Cast Iron	0.03D	1.0D	Vc	65	75	75	80	110	110	110	130	130	130	130	130
					fz	0.002	0.002	0.003	0.008	0.014	0.021	0.028	0.034	0.04	0.049	0.058	0.067
					RPM	41380	39789	29842	25465	17507	11671	8754	8276	6897	5173	4138	3448
					FEED	166	159	179	407	490	490	490	563	552	507	480	462

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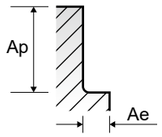


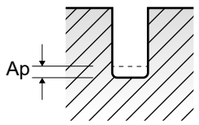
X5070 END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8A52 SERIES
2 FLUTE CORNER RADIUS - RIB PROCESSING
2刃 圆鼻 - 深腔加工

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)
Ap (切削深度) = (mm)

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø) 0.5	0.6	0.8	1.0	1.2	1.5	2.0
P	5	Non-alloy steel	Vc	40~52	39~66	41~66	39~59	39~66	43~83	40~66
			fz	0.006~0.009	0.005~0.013	0.007~0.018	0.009~0.022	0.010~0.028	0.012~0.046	0.016~0.045
			RPM	25650~33000	20900~35200	16150~26400	12300~18700	10450~17600	9100~17600	6350~10550
			FEED	370~470	330~560	360~590	350~540	350~590	430~830	340~570
			Ap	0.0056~0.0350	0.0063~0.0294	0.0084~0.0392	0.0105~0.0280	0.0245~0.0700	0.0161~0.0770	0.0210~0.1400
	8-9	Low alloy steel	Vc	40~52	39~66	41~66	39~59	39~66	43~83	40~66
			fz	0.006~0.009	0.005~0.013	0.007~0.018	0.009~0.022	0.010~0.028	0.012~0.046	0.016~0.045
			RPM	25650~33000	20900~35200	16150~26400	12300~18700	10450~17600	9100~17600	6350~10550
			FEED	370~470	330~560	360~590	350~540	350~590	430~830	340~570
			Ap	0.0056~0.0350	0.0063~0.0294	0.0084~0.0392	0.0105~0.0280	0.0245~0.0700	0.0161~0.0770	0.0210~0.1400
	11.1 - 11.2	High alloyed steel, and tool steel	Vc	40~52	39~66	41~66	39~59	39~66	43~83	40~66
			fz	0.006~0.009	0.005~0.013	0.007~0.018	0.009~0.022	0.010~0.028	0.012~0.046	0.016~0.045
			RPM	25650~33000	20900~35200	16150~26400	12300~18700	10450~17600	9100~17600	6350~10550
			FEED	370~470	330~560	360~590	350~540	350~590	430~830	340~570
			Ap	0.0056~0.0350	0.0063~0.0294	0.0084~0.0392	0.0105~0.0280	0.0245~0.0700	0.0161~0.0770	0.0210~0.1400
H	38.1 - 38.2	Hardened steel	Vc	37~41	38~41	38~42	33~36	34~38	33~38	38~42
			fz	0.005~0.007	0.004~0.007	0.006~0.010	0.008~0.013	0.009~0.015	0.011~0.020	0.015~0.025
			RPM	23750~26000	19900~22000	15200~16700	10500~11500	9100~10000	7000~8000	6100~6700
			FEED	285~315	190~290	210~310	190~280	180~280	180~280	200~300
			Ap	0.0040~0.0250	0.0450~0.0210	0.0060~0.0280	0.0075~0.0200	0.0150~0.0420	0.0115~0.0550	0.0150~0.1000
	39.1 - 39.3		Vc	22~28	22~29	23~29	20~25	20~26	20~26	23~30
			fz	0.014~0.016	0.015~0.017	0.021~0.024	0.029~0.032	0.033~0.037	0.042~0.047	0.051~0.056
			RPM	14200~18000	11900~15500	9000~11700	6300~8050	5400~7000	4300~5500	3600~4700
			FEED	115~130	100~120	110~125	100~115	100~115	100~115	100~120
			Ap	0.014~0.016	0.015~0.017	0.021~0.024	0.029~0.032	0.033~0.037	0.042~0.047	0.0510~0.056
	40	Chilled Cast Iron	Vc	40~52	39~66	41~66	39~59	39~66	43~83	40~66
			fz	0.006~0.009	0.005~0.013	0.007~0.018	0.009~0.022	0.010~0.028	0.012~0.046	0.016~0.045
			RPM	25650~33000	20900~35200	16150~26400	12300~18700	10450~17600	9100~17600	6350~10550
			FEED	370~470	330~560	360~590	350~540	350~590	430~830	340~570
			Ap	0.0056~0.0350	0.0063~0.0294	0.0084~0.0392	0.0105~0.0280	0.0245~0.0700	0.0161~0.0770	0.0210~0.1400
	41	Hardened Cast Iron	Vc	37~41	38~41	38~42	33~36	34~38	33~38	38~42
			fz	0.005~0.007	0.004~0.007	0.006~0.010	0.008~0.013	0.009~0.015	0.011~0.020	0.015~0.025
			RPM	23750~26000	19900~22000	15200~16700	10500~11500	9100~10000	7000~8000	6100~6700
			FEED	285~315	190~290	210~310	190~280	180~280	180~280	200~300
			Ap	0.0040~0.0250	0.0450~0.0210	0.0060~0.0280	0.0075~0.0200	0.0150~0.0420	0.0115~0.0550	0.0150~0.1000



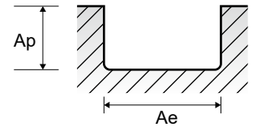
X5070 END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8A50 SERIES
2 FLUTE CORNER RADIUS - SLOTTING
2刃 圆鼻- 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 0.3	0.4	0.5	0.6	0.8	1.0	1.2	1.5	2.0
P	5	Non-alloy steel	1.0D	0.05D	Vc	45	65	80	95	125	150	160	175	210
					fz	0.002	0.002	0.004	0.005	0.006	0.008	0.009	0.011	0.013
					RPM	47746	51725	50930	50399	49736	47746	42441	37136	33423
					FEED	191	207	407	504	597	764	764	817	869
	8-9	Low alloy steel	1.0D	0.05D	Vc	45	65	80	95	125	150	160	175	210
					fz	0.002	0.002	0.004	0.005	0.006	0.008	0.009	0.011	0.013
					RPM	47746	51725	50930	50399	49736	47746	42441	37136	33423
					FEED	191	207	407	504	597	764	764	817	869
	11.1	High alloyed steel, and tool steel	1.0D	0.05D	Vc	45	65	80	95	125	150	160	175	210
					fz	0.002	0.002	0.004	0.005	0.006	0.008	0.009	0.011	0.013
					RPM	47746	51725	50930	50399	49736	47746	42441	37136	33423
					FEED	191	207	407	504	597	764	764	817	869
	11.2		1.0D	0.05D	Vc	40	55	70	85	100	120	130	145	165
					fz	0.002	0.002	0.003	0.004	0.006	0.008	0.009	0.011	0.013
					RPM	42441	43768	44563	45094	39789	38197	34484	30770	26261
					FEED	170	175	267	361	477	611	621	677	683
H	38.1	Hardened steel	1.0D	0.05D	Vc	40	55	70	85	100	120	130	145	165
					fz	0.002	0.002	0.003	0.004	0.006	0.008	0.009	0.011	0.013
					RPM	42441	43768	44563	45094	39789	38197	34484	30770	26261
					FEED	170	175	267	361	477	611	621	677	683
	38.2		1.0D	0.05D	Vc	40	50	65	75	75	80	85	100	110
					fz	0.001	0.002	0.003	0.004	0.005	0.007	0.008	0.01	0.012
					RPM	42441	39789	41380	39789	29842	25465	22547	21221	17507
					FEED	85	159	248	318	298	357	361	424	420
	39.1		1.0D	0.02D	Vc	30	40	50	55	65	65	75	80	90
					fz	0.001	0.001	0.002	0.003	0.004	0.005	0.006	0.007	0.009
					RPM	31831	31831	31831	29178	25863	20690	19894	16977	14324
					FEED	64	64	127	175	207	207	239	238	258
	39.2		1.0D	0.02D	Vc	25	30	40	45	50	50	55	60	70
					fz	0.001	0.001	0.002	0.002	0.003	0.004	0.005	0.006	0.007
					RPM	26526	23873	25465	23873	19894	15915	14589	12732	11141
					FEED	53	48	102	95	119	127	146	153	156
	40	Chilled Cast Iron	1.0D	0.05D	Vc	40	55	70	85	100	120	130	145	165
					fz	0.002	0.002	0.003	0.004	0.006	0.008	0.009	0.011	0.013
					RPM	42441	43768	44563	45094	39789	38197	34484	30770	26261
					FEED	170	175	267	361	477	611	621	677	683
	41	Hardened Cast Iron	1.0D	0.05D	Vc	40	50	65	75	75	80	85	100	110
					fz	0.001	0.002	0.003	0.004	0.005	0.007	0.008	0.01	0.012
					RPM	42441	39789	41380	39789	29842	25465	22547	21221	17507
					FEED	85	159	248	318	298	357	361	424	420



X5070 END MILLS

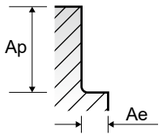
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8A47, G8B08 SERIES

4 FLUTE CORNER RADIUS - SIDE CUTTING
4刃 圆鼻- 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	5	Non-alloy steel	0.03D	1.0D	Vc	150	210	205	210	245	245	250	245	250	245	245
					fz	0.006	0.011	0.016	0.022	0.025	0.03	0.038	0.045	0.053	0.061	0.067
					RPM	47746	33423	21751	16711	15597	12998	9947	7799	6631	4874	3899
					FEED	1146	1471	1392	1471	1560	1560	1512	1404	1406	1189	1045
	8-9	Low alloy steel	0.03D	1.0D	Vc	150	210	205	210	245	245	250	245	250	245	245
					fz	0.006	0.011	0.016	0.022	0.025	0.03	0.038	0.045	0.053	0.061	0.067
					RPM	47746	33423	21751	16711	15597	12998	9947	7799	6631	4874	3899
					FEED	1146	1471	1392	1471	1560	1560	1512	1404	1406	1189	1045
	11.1	High alloyed steel, and tool steel	0.03D	1.0D	Vc	150	210	205	210	245	245	250	245	250	245	245
					fz	0.006	0.011	0.016	0.022	0.025	0.03	0.038	0.045	0.053	0.061	0.067
					RPM	47746	33423	21751	16711	15597	12998	9947	7799	6631	4874	3899
					FEED	1146	1471	1392	1471	1560	1560	1512	1404	1406	1189	1045
	11.2		0.03D	1.0D	Vc	120	165	165	165	195	195	195	195	200	195	195
					fz	0.006	0.01	0.014	0.02	0.024	0.027	0.035	0.041	0.048	0.056	0.063
					RPM	38197	26261	17507	13130	12414	10345	7759	6207	5305	3879	3104
					FEED	917	1050	980	1050	1192	1117	1086	1018	1019	869	782
H	38.1	Hardened steel	0.03D	1.0D	Vc	120	165	165	165	195	195	195	195	200	195	195
					fz	0.006	0.01	0.014	0.02	0.024	0.027	0.035	0.041	0.048	0.056	0.063
					RPM	38197	26261	17507	13130	12414	10345	7759	6207	5305	3879	3104
					FEED	917	1050	980	1050	1192	1117	1086	1018	1019	869	782
	38.2		0.03D	1.0D	Vc	80	110	110	110	130	130	130	130	130	130	130
					fz	0.006	0.01	0.015	0.02	0.024	0.028	0.035	0.041	0.048	0.056	0.063
					RPM	25465	17507	11671	8754	8276	6897	5173	4138	3448	2586	2069
					FEED	611	700	700	700	794	772	724	679	662	579	521
	39.1		0.03D	1.0D	Vc	65	90	90	90	100	100	100	100	100	100	100
					fz	0.004	0.007	0.011	0.015	0.018	0.021	0.026	0.03	0.036	0.042	0.048
					RPM	20690	14324	9549	7162	6366	5305	3979	3183	2653	1989	1592
					FEED	331	401	420	430	458	446	414	382	382	334	306
	39.2		0.03D	1.0D	Vc	50	70	70	70	80	80	80	80	80	80	80
					fz	0.003	0.006	0.009	0.012	0.015	0.017	0.021	0.024	0.029	0.034	0.038
					RPM	15915	11141	7427	5570	5093	4244	3183	2546	2122	1592	1273
					FEED	191	267	267	267	306	289	267	244	246	217	193
	39.3		0.03D	1.0D	Vc	40	60	60	60	70	70	70	70	70	70	70
					fz	0.003	0.005	0.007	0.01	0.012	0.014	0.017	0.02	0.024	0.029	0.033
					RPM	12732	9549	6366	4775	4456	3714	2785	2228	1857	1393	1114
					FEED	153	191	178	191	214	208	189	178	178	162	147
	40	Chilled Cast Iron	0.03D	1.0D	Vc	120	165	165	165	195	195	195	195	200	195	195
					fz	0.006	0.01	0.014	0.02	0.024	0.027	0.035	0.041	0.048	0.056	0.063
					RPM	38197	26261	17507	13130	12414	10345	7759	6207	5305	3879	3104
					FEED	917	1050	980	1050	1192	1117	1086	1018	1019	869	782
	41	Hardened Cast Iron	0.03D	1.0D	Vc	80	110	110	110	130	130	130	130	130	130	130
					fz	0.006	0.01	0.015	0.02	0.024	0.028	0.035	0.041	0.048	0.056	0.063
					RPM	25465	17507	11671	8754	8276	6897	5173	4138	3448	2586	2069
					FEED	611	700	700	700	794	772	724	679	662	579	521



X5070 END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8A45 SERIES

2 FLUTE - RIB PROCESSING
2刃- 深腔加工

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)
Ap (切削深度) = (mm)

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø) 0.2	0.3	0.4	0.5	0.6	0.8
P	5	Non-alloy steel	Vc	31	41~47	39~63	40~52	39~66	41~66
			fz	0.003~0.004	0.004~0.004	0.006~0.006	0.007~0.007	0.008~0.008	0.011~0.011
			RPM	50000	43000~50000	31400~50000	25650~33000	20900~35200	16150~26400
			FEED	300~350	330~420	350~590	370~470	330~560	360~590
			Ap	0.006~0.016	0.006~0.015	0.005~0.028	0.006~0.035	0.007~0.030	0.009~0.040
	8-9	Low alloy steel	Vc	31	41~47	39~63	40~52	39~66	41~66
			fz	0.003~0.004	0.004~0.004	0.006~0.006	0.007~0.007	0.008~0.008	0.011~0.011
			RPM	50000	43000~50000	31400~50000	25650~33000	20900~35200	16150~26400
			FEED	300~350	330~420	350~590	370~470	330~560	360~590
			Ap	0.006~0.016	0.006~0.015	0.005~0.028	0.006~0.035	0.007~0.030	0.009~0.040
	11.1 - 11.2	High alloyed steel, and tool steel	Vc	31	41~47	39~63	40~52	39~66	41~66
			fz	0.003~0.004	0.004~0.004	0.006~0.006	0.007~0.007	0.008~0.008	0.011~0.011
			RPM	50000	43000~50000	31400~50000	25650~33000	20900~35200	16150~26400
			FEED	300~350	330~420	350~590	370~470	330~560	360~590
			Ap	0.006~0.016	0.006~0.015	0.005~0.028	0.006~0.035	0.007~0.030	0.009~0.040
H	38.1 - 38.2	Hardened steel	Vc	31	38~44	38~44	37~41	38~41	38~42
			fz	0.003~0.003	0.003~0.003	0.005~0.005	0.006~0.006	0.007~0.007	0.009~0.009
			RPM	50000	39900~46200	30500~35200	23750~26000	19900~22000	15200~16700
			FEED	265~310	265~310	295~340	285~315	260~290	280~310
			Ap	0.005~0.013	0.004~0.011	0.003~0.020	0.004~0.025	0.005~0.021	0.006~0.028
	39.1 - 39.2		Vc	31	23~30	23~31	22~28	22~29	23~29
			fz	0.002~0.003	0.002~0.003	0.003~0.004	0.004~0.004	0.004~0.004	0.005~0.006
			RPM	50000	23900~32300	18300~24600	14200~18000	11900~15500	9000~11700
			FEED	225~265	105~185	120~200	115~130	100~120	110~125
			Ap	0.005~0.012	0.003~0.007	0.002~0.012	0.003~0.015	0.003~0.013	0.004~0.017
	40	Chilled Cast Iron	Vc	31	41~47	39~63	40~52	39~66	41~66
			fz	0.003~0.004	0.004~0.004	0.006~0.006	0.007~0.007	0.008~0.008	0.011~0.011
			RPM	50000	43000~50000	31400~50000	25650~33000	20900~35200	16150~26400
			FEED	300~350	330~420	350~590	370~470	330~560	360~590
			Ap	0.006~0.016	0.006~0.015	0.005~0.028	0.006~0.035	0.007~0.030	0.009~0.040
	41	Hardened Cast Iron	Vc	31	38~44	38~44	37~41	38~41	38~42
			fz	0.003~0.003	0.003~0.003	0.005~0.005	0.006~0.006	0.007~0.007	0.009~0.009
			RPM	50000	39900~46200	30500~35200	23750~26000	19900~22000	15200~16700
			FEED	265~310	265~310	295~340	285~315	260~290	280~310
			Ap	0.005~0.013	0.004~0.011	0.003~0.020	0.004~0.025	0.005~0.021	0.006~0.028

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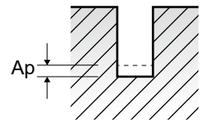


X5070 END MILLS

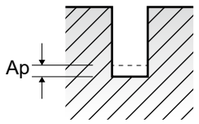
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8A45 SERIES

2 FLUTE - RIB PROCESSING
2刃- 深腔加工

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)
Ap (切削深度) = (mm)

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø) 1.0	1.2	1.5	2.0	3.0	4.0
P	5	Non-alloy steel	Vc	39~59	39~66	43~83	40~66	41~66	40~67
			fz	0.014~0.014	0.017~0.017	0.024~0.024	0.027~0.027	0.064~0.064	0.063~0.064
			RPM	12300~18700	10450~17600	9100~17600	6350~10550	4300~7050	3200~5300
			FEED	350~540	350~590	430~830	340~570	550~900	400~675
			Ap	0.011~0.028	0.025~0.070	0.017~0.077	0.021~0.140	0.056~0.210	0.074~0.280
	8-9	Low alloy steel	Vc	39~59	39~66	43~83	40~66	41~66	40~67
			fz	0.014~0.014	0.017~0.017	0.024~0.024	0.027~0.027	0.064~0.064	0.063~0.064
			RPM	12300~18700	10450~17600	9100~17600	6350~10550	4300~7050	3200~5300
			FEED	350~540	350~590	430~830	340~570	550~900	400~675
			Ap	0.011~0.028	0.025~0.070	0.017~0.077	0.021~0.140	0.056~0.210	0.074~0.280
	11.1 - 11.2	High alloyed steel, and tool steel	Vc	39~59	39~66	43~83	40~66	41~66	40~67
			fz	0.014~0.014	0.017~0.017	0.024~0.024	0.027~0.027	0.064~0.064	0.063~0.064
			RPM	12300~18700	10450~17600	9100~17600	6350~10550	4300~7050	3200~5300
			FEED	350~540	350~590	430~830	340~570	550~900	400~675
			Ap	0.011~0.028	0.025~0.070	0.017~0.077	0.021~0.140	0.056~0.210	0.074~0.280
H	38.1 - 38.2	Hardened steel	Vc	33~36	34~38	33~38	38~42	38~43	38~43
			fz	0.012~0.012	0.014~0.014	0.018~0.018	0.022~0.022	0.056~0.056	0.056~0.056
			RPM	10500~11500	9100~10000	7000~8000	6100~6700	3990~4600	3000~3400
			FEED	250~280	250~280	250~280	270~300	445~515	335~380
			Ap	0.008~0.020	0.015~0.042	0.012~0.055	0.015~0100	0.040~0.150	0.053~0.200
	39.1 - 39.2		Vc	20~25	20~26	20~26	23~30	23~30	23~30
			fz	0.007~0.008	0.008~0.009	0.010~0.012	0.013~0.014	0.022~0.048	0.021~0.048
			RPM	6300~8050	5400~7000	4300~5500	3600~4700	2400~3200	1800~2400
			FEED	100~115	100~115	100~115	100~120	105~310	75~230
			Ap	0.005~0.012	0.009~0.026	0.007~0.033	0.009~0.060	0.024~0.090	0.032~0.120
	40	Chilled Cast Iron	Vc	39~59	39~66	43~83	40~66	41~66	40~67
			fz	0.014~0.014	0.017~0.017	0.024~0.024	0.027~0.027	0.064~0.064	0.063~0.064
			RPM	12300~18700	10450~17600	9100~17600	6350~10550	4300~7050	3200~5300
			FEED	350~540	350~590	430~830	340~570	550~900	400~675
			Ap	0.011~0.028	0.025~0.070	0.017~0.077	0.021~0.140	0.056~0.210	0.074~0.280
	41	Hardened Cast Iron	Vc	33~36	34~38	33~38	38~42	38~43	38~43
			fz	0.012~0.012	0.014~0.014	0.018~0.018	0.022~0.022	0.056~0.056	0.056~0.056
			RPM	10500~11500	9100~10000	7000~8000	6100~6700	3990~4600	3000~3400
			FEED	250~280	250~280	250~280	270~300	445~515	335~380
			Ap	0.008~0.020	0.015~0.042	0.012~0.055	0.015~0100	0.040~0.150	0.053~0.200



CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

X5070 END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8A01, G8A36 SERIES

2 FLUTE - SLOTTING
2刃 - 槽铣削

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 0.2	0.3	0.4	0.5	0.6	0.8	0.9	1.0	2.0
P	5	Non-alloy steel	1.0D	0.05D	Vc	30	45	65	80	95	125	140	150	210
					fz	0.001	0.002	0.002	0.004	0.005	0.006	0.007	0.01	0.013
					RPM	47746	47746	51725	50930	50399	49736	49515	47746	33423
					FEED	95	191	207	407	504	597	693	955	869
	8-9	Low alloy steel	1.0D	0.05D	Vc	30	45	65	80	95	125	140	150	210
					fz	0.001	0.002	0.002	0.004	0.005	0.006	0.007	0.01	0.013
					RPM	47746	47746	51725	50930	50399	49736	49515	47746	33423
					FEED	95	191	207	407	504	597	693	955	869
	11.1	High alloyed steel, and tool steel	1.0D	0.05D	Vc	30	45	65	80	95	125	140	150	210
					fz	0.001	0.002	0.002	0.004	0.005	0.006	0.007	0.01	0.013
					RPM	47746	47746	51725	50930	50399	49736	49515	47746	33423
					FEED	95	191	207	407	504	597	693	955	869
	11.2		1.0D	0.05D	Vc	30	40	55	70	85	100	110	120	165
					fz	0.001	0.002	0.002	0.003	0.004	0.006	0.007	0.008	0.013
					RPM	47746	42441	43768	44563	45094	39789	38905	38197	26261
					FEED	95	170	175	267	361	477	545	611	683
H	38.1	Hardened steel	1.0D	0.05D	Vc	30	40	55	70	85	100	110	120	165
					fz	0.001	0.002	0.002	0.003	0.004	0.006	0.007	0.008	0.013
					RPM	47746	42441	43768	44563	45094	39789	38905	38197	26261
					FEED	95	170	175	267	361	477	545	611	683
	38.2		1.0D	0.05D	Vc	25	40	50	65	75	75	80	80	110
					fz	0.001	0.001	0.002	0.003	0.004	0.005	0.006	0.007	0.012
					RPM	39789	42441	39789	41380	39789	29842	28294	25465	17507
					FEED	80	85	159	248	318	298	340	357	420
	39.1		1.0D	0.05D	Vc	20	30	40	50	55	65	65	65	90
					fz	0.001	0.001	0.001	0.002	0.003	0.004	0.005	0.005	0.009
					RPM	31831	31831	31831	31831	29178	25863	22989	20690	14324
					FEED	64	64	64	127	175	207	230	207	258
	39.2		1.0D	0.05D	Vc	20	25	30	40	45	50	50	50	70
					fz	0.001	0.001	0.001	0.002	0.002	0.003	0.004	0.004	0.007
					RPM	31831	26526	23873	25465	23873	19894	17684	15915	11141
					FEED	64	53	48	102	95	119	141	127	156
	39.3		1.0D	0.02D	Vc	15	20	25	30	40	40	40	40	60
					fz	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.003	0.006
					RPM	23873	21221	19894	19099	21221	15915	14147	12732	9549
					FEED	29	38	40	57	81	83	91	87	116
	40	Chilled Cast Iron	1.0D	0.05D	Vc	30	40	55	70	85	100	110	120	165
					fz	0.001	0.002	0.002	0.003	0.004	0.006	0.007	0.008	0.013
					RPM	47746	42441	43768	44563	45094	39789	38905	38197	26261
					FEED	95	170	175	267	361	477	545	611	683
	41	Hardened Cast Iron	1.0D	0.05D	Vc	25	40	50	65	75	75	80	80	110
					fz	0.001	0.001	0.002	0.003	0.004	0.005	0.006	0.007	0.012
					RPM	39789	42441	39789	41380	39789	29842	28294	25465	17507
					FEED	80	85	159	248	318	298	340	357	420

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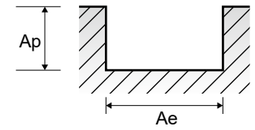

X5070 END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8A01, G8A36 SERIES

2 FLUTE - SLOTTING
2刃 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	5	Non-alloy steel	1.0D	0.05D	Vc	205	210	245	245	250	245	250	245	245
					fz	0.019	0.026	0.032	0.036	0.047	0.054	0.064	0.074	0.085
					RPM	21751	16711	15597	12998	9947	7799	6631	4874	3899
					FEED	827	869	998	936	935	842	849	721	663
	8-9	Low alloy steel	1.0D	0.05D	Vc	205	210	245	245	250	245	250	245	245
					fz	0.019	0.026	0.032	0.036	0.047	0.054	0.064	0.074	0.085
					RPM	21751	16711	15597	12998	9947	7799	6631	4874	3899
					FEED	827	869	998	936	935	842	849	721	663
	11.1	High alloyed steel, and tool steel	1.0D	0.05D	Vc	205	210	245	245	250	245	250	245	245
					fz	0.019	0.026	0.032	0.036	0.047	0.054	0.064	0.074	0.085
					RPM	21751	16711	15597	12998	9947	7799	6631	4874	3899
					FEED	827	869	998	936	935	842	849	721	663
	11.2		1.0D	0.05D	Vc	165	165	195	195	195	195	200	195	195
					fz	0.02	0.027	0.032	0.037	0.046	0.055	0.065	0.074	0.085
					RPM	17507	13130	12414	10345	7759	6207	5305	3879	3104
					FEED	700	709	794	766	714	683	690	574	528
H	38.1	Hardened steel	1.0D	0.05D	Vc	165	165	195	195	195	195	200	195	195
					fz	0.02	0.027	0.032	0.037	0.046	0.055	0.065	0.074	0.085
					RPM	17507	13130	12414	10345	7759	6207	5305	3879	3104
					FEED	700	709	794	766	714	683	690	574	528
	38.2		1.0D	0.05D	Vc	110	110	130	130	130	130	130	130	130
					fz	0.018	0.025	0.03	0.035	0.043	0.051	0.059	0.07	0.082
					RPM	11671	8754	8276	6897	5173	4138	3448	2586	2069
					FEED	420	438	497	483	445	422	407	362	339
	39.1		1.0D	0.05D	Vc	90	90	100	100	100	100	100	100	100
					fz	0.014	0.019	0.022	0.026	0.032	0.038	0.045	0.053	0.061
					RPM	9549	7162	6366	5305	3979	3183	2653	1989	1592
					FEED	267	272	280	276	255	242	239	211	194
	39.2		1.0D	0.05D	Vc	70	70	80	80	80	80	80	80	80
					fz	0.011	0.015	0.018	0.021	0.026	0.03	0.037	0.042	0.048
					RPM	7427	5570	5093	4244	3183	2546	2122	1592	1273
					FEED	163	167	183	178	166	153	157	134	122
	39.3		1.0D	0.02D	Vc	60	60	70	70	70	70	70	70	70
					fz	0.009	0.012	0.015	0.018	0.021	0.026	0.03	0.034	0.039
					RPM	6366	4775	4456	3714	2785	2228	1857	1393	1114
					FEED	115	118	132	131	119	114	112	94	86
	40	Chilled Cast Iron	1.0D	0.05D	Vc	165	165	195	195	195	195	200	195	195
					fz	0.02	0.027	0.032	0.037	0.046	0.055	0.065	0.074	0.085
					RPM	17507	13130	12414	10345	7759	6207	5305	3879	3104
					FEED	700	709	794	766	714	683	690	574	528
	41	Hardened Cast Iron	1.0D	0.05D	Vc	110	110	130	130	130	130	130	130	130
					fz	0.018	0.025	0.03	0.035	0.043	0.051	0.059	0.07	0.082
					RPM	11671	8754	8276	6897	5173	4138	3448	2586	2069
					FEED	420	438	497	483	445	422	407	362	339

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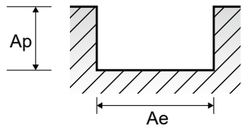


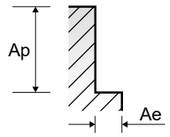
X5070 END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8A01, G8A36 SERIES

2 FLUTE - SIDE CUTTING
2刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	5	Non-alloy steel	0.03D	1.0D	Vc	150	210	205	210	245	245	250	245	250	245	245
					fz	0.011	0.018	0.028	0.037	0.046	0.052	0.067	0.077	0.09	0.107	0.122
					RPM	47746	33423	21751	16711	15597	12998	9947	7799	6631	4874	3899
					FEED	1050	1203	1218	1237	1435	1352	1333	1201	1194	1043	951
	8-9	Low alloy steel	0.03D	1.0D	Vc	150	210	205	210	245	245	250	245	250	245	245
					fz	0.011	0.018	0.028	0.037	0.046	0.052	0.067	0.077	0.09	0.107	0.122
					RPM	47746	33423	21751	16711	15597	12998	9947	7799	6631	4874	3899
					FEED	1050	1203	1218	1237	1435	1352	1333	1201	1194	1043	951
	11.1	High alloyed steel, and tool steel	0.03D	1.0D	Vc	150	210	205	210	245	245	250	245	250	245	245
					fz	0.011	0.018	0.028	0.037	0.046	0.052	0.067	0.08	0.09	0.107	0.122
					RPM	47746	33423	21751	16711	15597	12998	9947	7799	6631	4874	3899
					FEED	1050	1203	1218	1237	1435	1352	1333	1248	1194	1043	951
	11.2		0.03D	1.0D	Vc	120	165	165	165	195	195	195	195	200	195	195
					fz	0.011	0.019	0.028	0.038	0.046	0.053	0.066	0.079	0.092	0.108	0.121
					RPM	38197	26261	17507	13130	12414	10345	7759	6207	5305	3879	3104
					FEED	840	998	980	998	1142	1097	1024	981	976	838	751
H	38.1	Hardened steel	0.03D	1.0D	Vc	120	165	165	165	195	195	195	195	200	195	195
					fz	0.011	0.019	0.028	0.038	0.046	0.053	0.066	0.079	0.092	0.108	0.121
					RPM	38197	26261	17507	13130	12414	10345	7759	6207	5305	3879	3104
					FEED	840	998	980	998	1142	1097	1024	981	976	838	751
	38.2		0.03D	1.0D	Vc	80	110	110	110	130	130	130	130	130	130	130
					fz	0.01	0.017	0.026	0.036	0.043	0.05	0.061	0.072	0.084	0.1	0.116
					RPM	25465	17507	11671	8754	8276	6897	5173	4138	3448	2586	2069
					FEED	509	595	607	630	712	690	631	596	579	517	480
	39.1		0.03D	1.0D	Vc	65	90	90	90	100	100	100	100	100	100	100
					fz	0.008	0.013	0.019	0.027	0.032	0.038	0.046	0.053	0.064	0.075	0.086
					RPM	20690	14324	9549	7162	6366	5305	3979	3183	2653	1989	1592
					FEED	331	372	363	387	407	403	366	337	340	298	274
	39.2		0.03D	1.0D	Vc	50	70	70	70	80	80	80	80	80	80	80
					fz	0.006	0.01	0.015	0.021	0.025	0.03	0.037	0.043	0.052	0.059	0.067
					RPM	15915	11141	7427	5570	5093	4244	3183	2546	2122	1592	1273
					FEED	191	223	223	234	255	255	236	219	221	188	171
	39.3		0.03D	1.0D	Vc	40	60	60	60	70	70	70	70	70	70	70
					fz	0.005	0.009	0.013	0.018	0.021	0.025	0.03	0.036	0.043	0.05	0.057
					RPM	12732	9549	6366	4775	4456	3714	2785	2228	1857	1393	1114
					FEED	127	172	166	172	187	186	167	160	160	139	127
	40	Chilled Cast Iron	0.03D	1.0D	Vc	120	165	165	165	195	195	195	195	200	195	195
					fz	0.011	0.019	0.028	0.038	0.046	0.053	0.066	0.079	0.092	0.108	0.121
					RPM	38197	26261	17507	13130	12414	10345	7759	6207	5305	3879	3104
					FEED	840	998	980	998	1142	1097	1024	981	976	838	751
	41	Hardened Cast Iron	0.03D	1.0D	Vc	80	110	110	110	130	130	130	130	130	130	130
					fz	0.01	0.017	0.026	0.036	0.043	0.05	0.061	0.072	0.084	0.1	0.116
					RPM	25465	17507	11671	8754	8276	6897	5173	4138	3448	2586	2069
					FEED	509	595	607	630	712	690	631	596	579	517	480



X5070 END MILLS

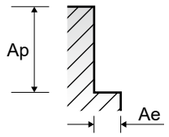
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8A02, G8A37 SERIES

4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	5	Non-alloy steel	0.03D	1.0D	Vc	150	210	205	210	245	245	250	245	250	245	245
					fz	0.008	0.013	0.02	0.027	0.032	0.037	0.048	0.056	0.066	0.077	0.083
					RPM	47746	33423	21751	16711	15597	12998	9947	7799	6631	4874	3899
					FEED	1528	1738	1740	1805	1996	1924	1910	1747	1751	1501	1294
	8-9	Low alloy steel	0.03D	1.0D	Vc	150	210	205	210	245	245	250	245	250	245	245
					fz	0.008	0.013	0.02	0.027	0.032	0.037	0.048	0.056	0.066	0.077	0.083
					RPM	47746	33423	21751	16711	15597	12998	9947	7799	6631	4874	3899
					FEED	1528	1738	1740	1805	1996	1924	1910	1747	1751	1501	1294
	11.1	High alloyed steel, and tool steel	0.03D	1.0D	Vc	150	210	205	210	245	245	250	245	250	245	245
					fz	0.008	0.013	0.02	0.027	0.032	0.037	0.048	0.056	0.066	0.077	0.083
					RPM	47746	33423	21751	16711	15597	12998	9947	7799	6631	4874	3899
					FEED	1528	1738	1740	1805	1996	1924	1910	1747	1751	1501	1294
	11.2		0.03D	1.0D	Vc	120	165	165	165	195	195	195	195	200	195	195
					fz	0.007	0.012	0.018	0.025	0.03	0.034	0.043	0.051	0.06	0.071	0.078
					RPM	38197	26261	17507	13130	12414	10345	7759	6207	5305	3879	3104
					FEED	1070	1261	1261	1313	1490	1407	1335	1266	1273	1102	968
H	38.1	Hardened steel	0.03D	1.0D	Vc	120	165	165	165	195	195	195	195	200	195	195
					fz	0.007	0.012	0.018	0.025	0.03	0.034	0.043	0.051	0.06	0.071	0.078
					RPM	38197	26261	17507	13130	12414	10345	7759	6207	5305	3879	3104
					FEED	1070	1261	1261	1313	1490	1407	1335	1266	1273	1102	968
	38.2		0.03D	1.0D	Vc	80	110	110	110	130	130	130	130	130	130	130
					fz	0.007	0.012	0.018	0.025	0.03	0.034	0.043	0.051	0.06	0.07	0.079
					RPM	25465	17507	11671	8754	8276	6897	5173	4138	3448	2586	2069
					FEED	713	840	840	875	993	938	890	844	828	724	654
	39.1		0.03D	1.0D	Vc	65	90	90	90	100	100	100	100	100	100	100
					fz	0.005	0.009	0.014	0.019	0.023	0.026	0.033	0.038	0.045	0.053	0.059
					RPM	20690	14324	9549	7162	6366	5305	3979	3183	2653	1989	1592
					FEED	414	516	535	544	586	552	525	484	478	422	376
	39.2		0.03D	1.0D	Vc	50	70	70	70	80	80	80	80	80	80	80
					fz	0.004	0.007	0.011	0.015	0.018	0.021	0.026	0.03	0.036	0.042	0.048
					RPM	15915	11141	7427	5570	5093	4244	3183	2546	2122	1592	1273
					FEED	255	312	327	334	367	356	331	306	306	267	244
	39.3		0.03D	1.0D	Vc	40	60	60	60	70	70	70	70	70	70	70
					fz	0.004	0.007	0.009	0.013	0.016	0.018	0.022	0.025	0.03	0.036	0.041
					RPM	12732	9549	6366	4775	4456	3714	2785	2228	1857	1393	1114
					FEED	204	267	229	248	285	267	245	223	223	201	183
	40	Chilled Cast Iron	0.03D	1.0D	Vc	120	165	165	165	195	195	195	195	200	195	195
					fz	0.007	0.012	0.018	0.025	0.03	0.034	0.043	0.051	0.06	0.071	0.078
					RPM	38197	26261	17507	13130	12414	10345	7759	6207	5305	3879	3104
					FEED	1070	1261	1261	1313	1490	1407	1335	1266	1273	1102	968
	41	Hardened Cast Iron	0.03D	1.0D	Vc	80	110	110	110	130	130	130	130	130	130	130
					fz	0.007	0.012	0.018	0.025	0.03	0.034	0.043	0.051	0.06	0.07	0.079
					RPM	25465	17507	11671	8754	8276	6897	5173	4138	3448	2586	2069
					FEED	713	840	840	875	993	938	890	844	828	724	654



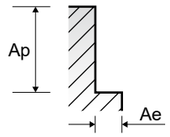
X5070 END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8A39 SERIES

6 FLUTE - SIDE CUTTING
6刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 6.0	8.0	10.0	12.0	16.0	20.0
P	5	Non-alloy steel	0.05D	1.0D	Vc	120	121	121	122	121	121
					fz	0.039	0.052	0.063	0.07	0.09	0.079
					RPM	6366	4814	3852	3236	2407	1926
					FEED	1490	1502	1456	1359	1300	913
	8-9	Low alloy steel	0.05D	1.0D	Vc	120	121	121	122	121	121
					fz	0.039	0.052	0.063	0.07	0.09	0.079
					RPM	6366	4814	3852	3236	2407	1926
					FEED	1490	1502	1456	1359	1300	913
	11.1	High alloyed steel, and tool steel	0.05D	1.0D	Vc	120	121	121	122	121	121
					fz	0.039	0.052	0.063	0.07	0.09	0.079
					RPM	6366	4814	3852	3236	2407	1926
					FEED	1490	1502	1456	1359	1300	913
	11.2		0.05D	1.0D	Vc	106	108	106	106	108	110
					fz	0.036	0.049	0.058	0.065	0.083	0.095
					RPM	5623	4297	3374	2812	2149	1751
					FEED	1215	1263	1174	1097	1070	998
H	38.1	Hardened steel	0.05D	1.0D	Vc	106	108	106	106	108	110
					fz	0.036	0.049	0.058	0.065	0.083	0.095
					RPM	5623	4297	3374	2812	2149	1751
					FEED	1215	1263	1174	1097	1070	998
	38.2		0.05D	1.0D	Vc	95	97	94	95	97	98
					fz	0.035	0.046	0.055	0.062	0.079	0.091
					RPM	5040	3860	2992	2520	1930	1560
					FEED	1058	1065	987	937	915	852
	39.1		0.03D	1.0D	Vc	83	83	82	83	83	87
					fz	0.033	0.044	0.053	0.059	0.076	0.072
					RPM	4403	3302	2610	2202	1651	1385
					FEED	872	872	830	780	753	598
	39.2		0.03D	1.0D	Vc	72	72	72	72	72	75
					fz	0.031	0.042	0.05	0.056	0.072	0.069
					RPM	3820	2865	2292	1910	1432	1194
					FEED	711	722	688	642	619	494
	39.3		0.03D	1.0D	Vc	48	48	49	50	48	45
					fz	0.028	0.037	0.045	0.05	0.064	0.071
					RPM	2546	1910	1560	1326	955	716
					FEED	428	424	421	398	367	305
	40	Chilled Cast Iron	0.05D	1.0D	Vc	106	108	106	106	108	110
					fz	0.036	0.049	0.058	0.065	0.083	0.095
					RPM	5623	4297	3374	2812	2149	1751
					FEED	1215	1263	1174	1097	1070	998
	41	Hardened Cast Iron	0.05D	1.0D	Vc	95	97	94	95	97	98
					fz	0.035	0.046	0.055	0.062	0.079	0.091
					RPM	5040	3860	2992	2520	1930	1560
					FEED	1058	1065	987	937	915	852



X5070 END MILLS

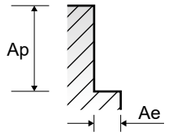
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8D63 SERIES

6&8FLUTE 45° HELIX - SIDE CUTTING
6&8刃 45度螺旋 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	25.0
P	5	Non-alloy steel	0.04D	1.5D	Vc	120	120	120	120	120	120	120	120	125
					fz	0.039	0.052	0.063	0.07	0.081	0.09	0.095	0.08	0.11
					RPM	6366	4775	3820	3183	2728	2387	2122	1910	1592
					FEED	1490	1490	1444	1337	1326	1289	1613	1222	1401
	8-9	Low alloy steel	0.04D	1.5D	Vc	120	120	120	120	120	120	120	120	125
					fz	0.039	0.052	0.063	0.07	0.081	0.09	0.095	0.08	0.11
					RPM	6366	4775	3820	3183	2728	2387	2122	1910	1592
					FEED	1490	1490	1444	1337	1326	1289	1613	1222	1401
	11.1	High alloyed steel, and tool steel	0.04D	1.5D	Vc	120	120	120	120	120	120	120	120	125
					fz	0.039	0.052	0.063	0.07	0.081	0.09	0.095	0.08	0.11
					RPM	6366	4775	3820	3183	2728	2387	2122	1910	1592
					FEED	1490	1490	1444	1337	1326	1289	1613	1222	1401
	11.2		0.04D	1.5D	Vc	95	95	95	95	95	95	95	100	95
					fz	0.035	0.046	0.055	0.062	0.07	0.079	0.08	0.091	0.096
					RPM	5040	3780	3024	2520	2160	1890	1680	1592	1210
					FEED	1058	1043	998	937	907	896	1075	1159	929
H	38.1 - 38.2	Hardened steel	0.04D	1.5D	Vc	95	95	95	95	95	95	95	100	95
					fz	0.035	0.046	0.055	0.062	0.07	0.079	0.08	0.091	0.096
					RPM	5040	3780	3024	2520	2160	1890	1680	1592	1210
					FEED	1058	1043	998	937	907	896	1075	1159	929
	39.1 - 39.2		0.04D	1.5D	Vc	70	70	70	70	70	70	70	75	75
					fz	0.031	0.042	0.05	0.056	0.066	0.072	0.073	0.069	0.087
					RPM	3714	2785	2228	1857	1592	1393	1238	1194	955
					FEED	691	702	668	624	630	602	723	659	665
	39.3		0.04D	1.5D	Vc	50	50	50	50	45	50	50	45	50
					fz	0.028	0.037	0.045	0.05	0.051	0.064	0.066	0.071	0.079
					RPM	2653	1989	1592	1326	1023	995	884	716	637
					FEED	446	442	430	398	313	382	467	407	403
	40	Chilled Cast Iron	0.04D	1.5D	Vc	95	95	95	95	95	95	95	100	95
					fz	0.035	0.046	0.055	0.062	0.07	0.079	0.08	0.091	0.096
					RPM	5040	3780	3024	2520	2160	1890	1680	1592	1210
					FEED	1058	1043	998	937	907	896	1075	1159	929
	41	Hardened Cast Iron	0.04D	1.5D	Vc	95	95	95	95	95	95	95	100	95
					fz	0.035	0.046	0.055	0.062	0.07	0.079	0.08	0.091	0.096
					RPM	5040	3780	3024	2520	2160	1890	1680	1592	1210
					FEED	1058	1043	998	937	907	896	1075	1159	929



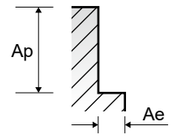
X5070 END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8D64 SERIES

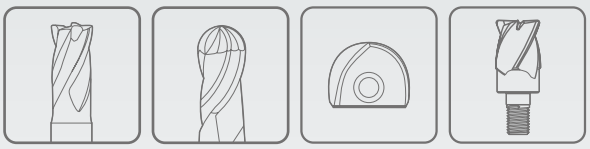
6&8FLUTE 45° HELIX - SIDE CUTTING
6&8刃 45度螺旋 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	25.0
P	5	Non-alloy steel	0.01D	3.0D	Vc	60	60	60	60	60	60	60	60	60
					fz	0.04	0.05	0.06	0.07	0.075	0.081	0.085	0.086	0.089
					RPM	3183	2387	1910	1592	1364	1194	1061	955	764
					FEED	764	716	688	669	614	580	721	657	544
	8-9	Low alloy steel	0.01D	3.0D	Vc	60	60	60	60	60	60	60	60	60
					fz	0.04	0.05	0.06	0.07	0.075	0.081	0.085	0.086	0.089
					RPM	3183	2387	1910	1592	1364	1194	1061	955	764
					FEED	764	716	688	669	614	580	721	657	544
	11.1	High alloyed steel, and tool steel	0.01D	3.0D	Vc	60	60	60	60	60	60	60	60	60
					fz	0.04	0.05	0.06	0.07	0.075	0.081	0.085	0.086	0.089
					RPM	3183	2387	1910	1592	1364	1194	1061	955	764
					FEED	764	716	688	669	614	580	721	657	544
	11.2		0.01D	3.0D	Vc	60	60	60	60	60	60	60	60	60
					fz	0.03	0.04	0.05	0.061	0.066	0.071	0.08	0.09	0.08
					RPM	3183	2387	1910	1592	1364	1194	1061	955	764
					FEED	573	573	573	583	540	509	679	688	489
H	38.1 - 38.2	Hardened steel	0.01D	3.0D	Vc	60	60	60	60	60	60	60	60	60
					fz	0.03	0.04	0.05	0.061	0.066	0.071	0.08	0.09	0.08
					RPM	3183	2387	1910	1592	1364	1194	1061	955	764
					FEED	573	573	573	583	540	509	679	688	489
	39.1 - 39.2		0.01D	3.0D	Vc	50	50	50	50	50	50	50	50	50
					fz	0.03	0.04	0.05	0.06	0.066	0.071	0.081	0.091	0.081
					RPM	2653	1989	1592	1326	1137	995	884	796	637
					FEED	478	477	478	477	450	424	573	579	413
	40	Chilled Cast Iron	0.01D	3.0D	Vc	60	60	60	60	60	60	60	60	60
					fz	0.03	0.04	0.05	0.061	0.066	0.071	0.08	0.09	0.08
					RPM	3183	2387	1910	1592	1364	1194	1061	955	764
					FEED	573	573	573	583	540	509	679	688	489
	41	Hardened Cast Iron	0.01D	3.0D	Vc	60	60	60	60	60	60	60	60	60
					fz	0.03	0.04	0.05	0.061	0.066	0.071	0.08	0.09	0.08
					RPM	3183	2387	1910	1592	1364	1194	1061	955	764
					FEED	573	573	573	583	540	509	679	688	489



Global Cutting Tool Leader **YG-1**



MILLING

YG

Leading Through Innovation

SOLID CARBIDE

4G Mill END MILLS

- High Speed Cutting for Pre-Hardened Steels up to HRc55

- 适用于高速加工 预硬钢 (~HRc55)

SELECTION GUIDE
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Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工参数) : p.C250

ISO	VDI 3323	Material Description 工件材料	Composition / Structure / Heat Treatment 成分 / 结构 / 热处理		HB	HRc	SEMD98	SEM846	SEM846	SEMD99
		SERIES 系列					SEMD98	SEM846	SEM846	SEMD99
		FLUTE 槽数					2	2	2	2
		HELIX ANGLE 螺旋角度					30°	30°	30°	30°
		CUTTING EDGE SHAPE 类型					BALL NOSE	BALL NOSE	BALL NOSE	CORNER RADIUS
		SIZE MIN 最小尺寸					R0.05	R0.05	R0.25	D0.2
		SIZE MAX 最大尺寸					R12.5	R6.0	R1.0	D20.0
		PAGE 页数					C140-145	C146-155	C156-158	C159-166
							-	EXTENDED NECK	EXTENDED NECK (6mm Shank)	-
							Y-Coating	Y-Coating	Y-Coating	Y-Coating
P	1	Non-alloy steel	About 0.15% C	Annealed	125		○	○	○	○
	2		About 0.45% C	Annealed	190	13	○	○	○	○
	3		About 0.45% C	Quenched & Tempered	250	25	○	○	○	◎
	4		About 0.75% C	Annealed	270	28	◎	◎	◎	◎
	5		About 0.75% C	Quenched & Tempered	300	32	◎	◎	◎	◎
	6	Low alloy steel		Annealed	180	10	○	○	○	○
	7			Quenched & Tempered	275	29	◎	◎	◎	◎
	8			Quenched & Tempered	300	32	◎	◎	◎	◎
	9			Quenched & Tempered	350	38	◎	◎	◎	◎
	10	High alloyed steel, and tool steel		Annealed	200	15	○	○	○	○
	11			Quenched & Tempered	325	35	◎	◎	◎	◎
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15				
	13		Martensitic	Quenched & Tempered	240	23				
	14		Austenitic		180	10				
K	15	Grey cast iron	Pearlitic / ferritic		180	10	○	○	○	○
	16		Pearlitic (Martensitic)		260	26	○	○	○	○
	17	Nodular cast iron	Ferritic		160	3	○	○	○	○
	18		Pearlitic		250	25	○	○	○	○
	19	Malleable cast iron	Ferritic		130		○	○	○	○
	20		Pearlitic		230	21	○	○	○	○
N	21	Aluminum-wrought alloy	Not Curable		60					
	22		Curable	Hardened	100					
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75					
	24		≤ 12% Si, Curable	Hardened	90					
	25		> 12% Si, Not Curable		130					
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110					
	27		CuZn, CuSnZn (Brass)		90					
	28		CuSn, lead-free copper and electrolytic copper		100					
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic							
	30		Rubber, Wood, etc.							
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15				
	32			Cured	280	30				
	33		Ni or Co Based	Annealed	250	25				
	34			Cured	350	38				
	35			Cast	320	34				
	36	Titanium Alloys	Pure Titanium		400 Rm					
	37		Alpha + Beta Alloys	Hardened	1050 Rm					
H	38	Hardened steel		Hardened	550	55	○	○	○	○
	39			Hardened	630	60				
	40	Chilled Cast Iron		Cast	400	42	◎	◎	◎	◎
	41	Hardened Cast Iron		Hardened	550	55	○	○	○	○

SEME61	SEME01	SEME64	SEME35	SEME35	SEME35	SEME70	SEM845	SEME36	SEME71	SEME72	SEME73	SEME75
2	4	4	2	2	2	2	2	4	4	4	4	6
30°	27°/30° (MULTIPLE HELIX)	27°/30° (MULTIPLE HELIX)	30°	30°	30°	30°	30°	27°/30° (MULTIPLE HELIX)	35°/38° (MULTIPLE HELIX)	30°	30°	45°
CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE
D0.2	D1.0	D1.0	D0.1	D0.1	D0.1	D1.0	D0.1	D0.8	D1.0	D1.0	D1.0	D6.0
D20.0	D20.0	D20.0	D25.0	D4.0	D3.0	D25.0	D12.0	D25.0	D20.0	D25.0	D12.0	D20.0
C167-185	C186-192	C193-207	C208-210	C211	C212	C213-218	C219-227	C228-229	C230-233	C234-239	C240-244	C245-246
EXTENDED NECK	-	EXTENDED NECK	-	4mm Shank	3mm Shank	LONG LENGTH	EXTENDED NECK	-	Sharp Corner Removal	LONG LENGTH	EXTENDED NECK	-
Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating
○	○	○	○	○	○	○	○	○	○	○	○	○
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○	○	○	○	○	○	○	○	○	○	○	○	○
○	○	○	○	○	○	○	○	○	○	○	○	○

BALL NOSE = 球头　SQUARE = 平头　MULTIPLE HELIX = 不等螺旋　SHORT LENGTH = 短刃　EXTENDED NECK = 颈部加长　Sharp Corner Removal = 保护刀尖处理
CORNER RADIUS = 圆鼻　ROUGHING = 粗加工　LONG LENGTH = 长刃　(6mm Shank) = (6mm 柄径)

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4G Mill END MILLS
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for Pre-Hardened Steels up to HRc55
适用于高速加工 预硬钢 (~HRc55)

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◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工参数) : p.C250

						G9D75 G9D67	G9D76 G9D68	G9D77 G9D69	GAE53
SERIES 系列									
FLUTE 槽数						4&5	4&5	4&5	4&5
HELIX ANGLE 螺旋角度						44°~45° (MULTIPLE HELIX)	44°~45° (MULTIPLE HELIX)	44°~45° (MULTIPLE HELIX)	44°~45° (MULTIPLE HELIX)
CUTTING EDGE SHAPE 类型						CORNER RADIUS ROUGHING	CORNER RADIUS ROUGHING	CORNER RADIUS ROUGHING	CORNER RADIUS ROUGHING
SIZE MIN 最小尺寸						D6.0	D6.0	D6.0	D6.0
SIZE MAX 最大尺寸						D20.0	D20.0	D20.0	D20.0
PAGE 页数						C247		C248	C249
						SHORT LENGTH	LONG LENGTH	LONG LENGTH	SHORT LENGTH
						X-Coating	X-Coating	X-Coating	X-Coating
									HSS-PM
ISO	VDI 3323	Material Description 工件材料	Composition / Structure / Heat Treatment 成分 / 结构 / 热处理		HB	HRc				
P	1	Non-alloy steel	About 0.15% C	Annealed	125		○	○	○	○
	2		About 0.45% C	Annealed	190	13	○	○	○	○
	3		About 0.45% C	Quenched & Tempered	250	25	◎	◎	◎	◎
	4		About 0.75% C	Annealed	270	28	◎	◎	◎	◎
	5		About 0.75% C	Quenched & Tempered	300	32	◎	◎	◎	○
	6	Low alloy steel		Annealed	180	10	○	○	○	○
	7			Quenched & Tempered	275	29	◎	◎	◎	◎
	8			Quenched & Tempered	300	32	◎	◎	◎	○
	9			Quenched & Tempered	350	38	◎	◎	◎	○
	10	High alloyed steel, and tool steel		Annealed	200	15	○	○	○	○
	11			Quenched & Tempered	325	35	◎	◎	◎	○
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15	○	○	○	
	13		Martensitic	Quenched & Tempered	240	23	○	○	○	
	14		Austenitic		180	10	○	○	○	◎
K	15	Grey cast iron	Pearlitic / ferritic		180	10	◎	◎	◎	◎
	16		Pearlitic (Martensitic)		260	26	◎	◎	◎	◎
	17	Nodular cast iron	Ferritic		160	3	◎	◎	◎	◎
	18		Pearlitic		250	25	◎	◎	◎	◎
	19	Malleable cast iron	Ferritic		130		◎	◎	◎	◎
	20		Pearlitic		230	21	◎	◎	◎	◎
N	21	Aluminum-wrought alloy	Not Curable		60					
	22		Curable	Hardened	100					
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75					
	24		≤ 12% Si, Curable	Hardened	90					
	25		> 12% Si, Not Curable		130					
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110		○	○	○	○
	27		CuZn, CuSnZn (Brass)		90		○	○	○	○
	28		CuSn, lead-free copper and electrolytic copper		100		○	○	○	○
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic							
	30		Rubber, Wood, etc.							
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15				
	32			Cured	280	30				
	33		Ni or Co Based	Annealed	250	25				
	34			Cured	350	38				
	35			Cast	320	34				
	36	Titanium Alloys	Pure Titanium		400 Rm					
	37		Alpha + Beta Alloys	Hardened	1050 Rm					
H	38	Hardened steel		Hardened	550	55				
	39			Hardened	630	60				
	40	Chilled Cast Iron		Cast	400	42				
	41	Hardened Cast Iron		Hardened	550	55				

BALL NOSE = 球头 SQUARE = 平头 MULTIPLE HELIX = 不等螺旋 SHORT LENGTH = 短刃 EXTENDED NECK = 颈部加长 Sharp Corner Removal = 保护刀尖处理
CORNER RADIUS = 圆鼻 ROUGHING = 粗加工 LONG LENGTH = 长刃 (6mm Shank) = (6mm 柄径)

X-SPEED ROUGHER

CHARACTERISTICS 特点

Unique flute design for excellent chip evacuation and vibration reduction.
Optimal roughing tooth profile to reduce cutting forces.
Special tool geometry for high feed rate and heavy cutting.
Strong end tooth design for plunge and pocket milling.
Custom engineered coating to allow long tool life and excellent chip evacuation.

特殊沟槽设计提高排屑性能和减少振动
最佳粗加工用牙设计减少切削阻力
特殊刀具设计可适用于高进给和重切削
刚性底刃设计可用坡走铣削
最佳涂层提高刀具寿命和提高排屑性能

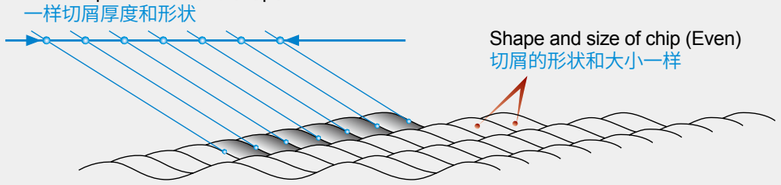
▶ 4 FLUTE (刃)

▶ 5 FLUTE (刃)

CHIP THICKNESS AND SHAPE
切屑厚度和形状

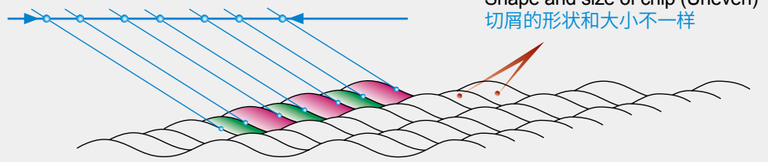
▶ Conventional Roughing End Mills 普通粗加工用铣刀

Even chip thickness and shape
一样切屑厚度和形状



▶ X-SPEED Rougher

Uneven chip thickness and shape
不一样切屑厚度和形状



4G MILL END MILLS

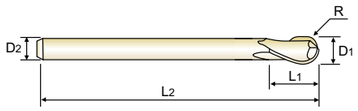
PLAIN SHANK **SEMD98** SERIES

CARBIDE, 2 FLUTE BALL NOSE (Short, Regular, Long Shank)

硬质合金，2刃 球头 (短刃, 普通刃长, 长柄)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ With its unique ball nose geometry and cutting edges the cutting force has decreased, also increasing wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.

- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶基于独特设计球头及刀尖形状, 减少切削阻力, 提高耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色



CARBIDE | 2 | 30° | R ±0.005 | R ±0.010 | PLAIN

p.C250-251

R0.05~R3 R3.25~R12.5

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
	-	-	POWER MILLING CHUCK	D161 - 176
	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEMD98001SE	R0.05	**0.1**	4	0.1	40	Short
SEMD98001E	R0.05	**0.1**	4	0.2	40	Regular
SEMD980013SE	R0.05	**0.1**	3	0.2	40	3mm Shank
SEMD980015SE	R0.075	**0.15**	4	0.15	40	Short
SEMD980015E	R0.075	**0.15**	4	0.3	40	Regular
SEMD9800153SE	R0.075	**0.15**	3	0.3	40	3mm Shank
SEMD98002SE	R0.1	**0.2**	4	0.2	40	Short
SEMD98002E	R0.1	**0.2**	4	0.4	40	Regular
SEMD980023SE	R0.1	**0.2**	3	0.4	40	3mm Shank
SEMD98003SE	R0.15	**0.3**	4	0.3	40	Short
SEMD98003E	R0.15	**0.3**	4	0.6	40	Regular
SEMD980033SE	R0.15	**0.3**	3	0.6	40	3mm Shank
SEMD98004SE	R0.2	**0.4**	4	0.4	40	Short
SEMD98004E	R0.2	**0.4**	4	0.8	40	Regular
SEMD980043SE	R0.2	**0.4**	3	0.8	40	3mm Shank
SEMD98005SE	R0.25	**0.5**	4	0.5	40	Short
SEMD98005S6SE	R0.25	**0.5**	6	0.8	40	-
SEMD98005E	R0.25	**0.5**	4	1.0	40	Regular
SEMD980053SE	R0.25	**0.5**	3	1.0	40	3mm Shank
SEMD98006SE	R0.3	**0.6**	4	0.6	40	Short
SEMD98006E	R0.3	**0.6**	4	1.2	40	Regular
SEMD980063SE	R0.3	**0.6**	3	1.2	40	3mm Shank
SEMD98007SE	R0.35	**0.7**	4	0.7	40	Short
SEMD98007E	R0.35	**0.7**	4	1.4	40	Regular

▶ NEXT PAGE 下页

Size 尺寸	RadiusTolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

4G MILL END MILLS

PLAIN SHANK **SEMD98** SERIES

CARBIDE, 2 FLUTE BALL NOSE (Short, Regular, Long Shank)

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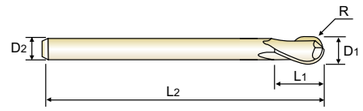
- ▶加工模具产业的预硬钢(HRc55以下)表现出色



CARBIDE | 2 | 30° | R ±0.005 | R ±0.010 | PLAIN

p.C250-251

R0.05~R3 R3.25~R12.5

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
	-	-	POWER MILLING CHUCK	D161 - 176
	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEMD980073SE	R0.35	**0.7**	3	1.4	40	3mm Shank
SEMD98008SE	R0.4	**0.8**	4	0.8	40	Short
SEMD98008E	R0.4	**0.8**	4	1.6	40	Regular
SEMD980083SE	R0.4	**0.8**	3	1.6	40	3mm Shank
SEMD98009SE	R0.45	**0.9**	4	0.9	40	Short
SEMD98009E	R0.45	**0.9**	4	1.8	40	Regular
SEMD980093SE	R0.45	**0.9**	3	1.8	40	3mm Shank
SEMD98010040E	R0.5	**1.0**	6	1.5	40	Short
SEMD980103SE	R0.5	**1.0**	3	2.5	50	3mm Shank
SEMD98010S4SE	R0.5	**1.0**	4	1.5	40	-
SEMD980104SE	R0.5	**1.0**	4	2.5	50	Regular
SEMD98010E	R0.5	**1.0**	6	2.5	50	Regular
SEMD98010070E	R0.5	**1.0**	6	2.5	70	Long
SEMD98010100E	R0.5	**1.0**	6	2.5	100	Long
SEMD98012040E	R0.6	**1.2**	6	2	40	Short
SEMD980123SE	R0.6	**1.2**	3	3	50	3mm Shank
SEMD980124SE	R0.6	**1.2**	4	3	50	Regular
SEMD98012E	R0.6	**1.2**	6	3	50	Regular
SEMD98012070E	R0.6	**1.2**	6	3	70	Long
SEMD98012100E	R0.6	**1.2**	6	3	100	Long
SEMD98015040E	R0.75	**1.5**	6	2.5	40	Short
SEMD980153SE	R0.75	**1.5**	3	4	50	3mm Shank
SEMD980154SE	R0.75	**1.5**	4	4	50	Regular
SEMD98015E	R0.75	**1.5**	6	4	50	Regular

▶ NEXT PAGE 下页

Size 尺寸	RadiusTolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK **SEMD98** SERIES

CARBIDE, 2 FLUTE BALL NOSE (Short, Regular, Long Shank)
硬质合金，2刃 球头 (短刃, 普通刃长, 长柄)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
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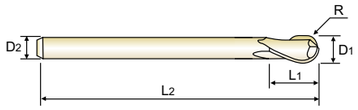
- ▶基于独特设计球头及刀尖形状, 减少切削阻力, 提高耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色



CARBIDE | 2 | 30° | R ±0.005 | R ±0.010 | PLAIN | p.C250-251

R0.05~R3 R3.25~R12.5

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
	-	-	POWER MILLING CHUCK	D161 - 176
	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEMD98015070E	R0.75	1.5	6	4	70	Long
SEMD98015100E	R0.75	1.5	6	4	100	Long
SEMD98020040E	R1.0	2.0	6	3	40	Short
SEMD980203SE	R1.0	2.0	3	5	50	3mm Shank
SEMD980204SE	R1.0	2.0	4	5	50	Regular
SEMD98020E	R1.0	2.0	6	5	50	Regular
SEMD98020080E	R1.0	2.0	6	5	80	Long
SEMD98020100E	R1.0	2.0	6	5	100	Long
SEMD98025040E	R1.25	2.5	6	4	40	Short
SEMD980253SE	R1.25	2.5	3	6	60	3mm Shank
SEMD980254SE	R1.25	2.5	4	6	60	Regular
SEMD98025E	R1.25	2.5	6	6	60	Regular
SEMD98025080E	R1.25	2.5	6	6	80	Long
SEMD98025100E	R1.25	2.5	6	6	100	Long
SEMD98030040E	R1.5	3.0	6	4.5	40	Short
SEMD980303SE	R1.5	3.0	3	6	60	3mm Shank
SEMD980304SE	R1.5	3.0	4	6	60	Regular
SEMD98030E	R1.5	3.0	6	6	60	Regular
SEMD98030080E	R1.5	3.0	6	6	80	Long
SEMD98030100E	R1.5	3.0	6	6	100	Long
SEMD98035E	R1.75	3.5	6	8	70	-
SEMD98040050E	R2.0	4.0	6	6	50	Short
SEMD980404SE	R2.0	4.0	4	8	70	Regular
SEMD98040E	R2.0	4.0	6	8	70	Regular

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Size 尺寸	RadiusTolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK SEMD98 SERIES

CARBIDE, 2 FLUTE BALL NOSE (Short, Regular, Long Shank)
硬质合金，2刃 球头 (短刃, 普通刃长, 长柄)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
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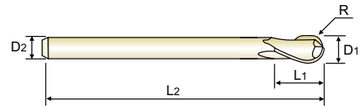
- ▶加工模具产业的预硬钢(HRc55以下)表现出色



CARBIDE | 2 | 30° | R ±0.005 | R ±0.010 | PLAIN | p.C250-251

R0.05~R3 R3.25~R12.5

Recommended ToolHolder | Flat Shank | Page | Plain Shank | Page
END MILL HOLDER | D118 - 137 | HYDRAULIC CHUCK / SHRINK FIT HOLDER | D15 - 46 / D47 - 72
- | - | POWER MILLING CHUCK | D161 - 176
- | - | ER COLLET CHUCK / SK SLIM CHUCK | D73 - 115 / D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEMD980401004SE	R2.0	4.0	4	8	100	Long
SEMD980401204SE	R2.0	4.0	4	8	120	Long
SEMD98040100E	R2.0	4.0	6	8	100	Long
SEMD98040120E	R2.0	4.0	6	8	120	Long
SEMD98045E	R2.25	4.5	6	9	80	-
SEMD98050060E	R2.5	5.0	6	7.5	60	Short
SEMD98050E	R2.5	5.0	6	10	80	Regular
SEMD980505SE	R2.5	5.0	5	10	80	5mmShank
SEMD98055E	R2.75	5.5	6	11	90	-
SEMD98060050E	R3.0	6.0	6	9	50	Short
SEMD98060060E	R3.0	6.0	6	9	60	Short
SEMD98060080E	R3.0	6.0	6	9	80	Short
SEMD98060E	R3.0	6.0	6	12	90	Regular
SEMD98060110E	R3.0	6.0	6	12	110	Long
SEMD98060130E	R3.0	6.0	6	12	130	Long
SEMD98060150E	R3.0	6.0	6	12	150	Long
SEMD98065E	R3.25	6.5	8	13	90	-
SEMD98070E	R3.5	7.0	8	14	90	-
SEMD98080050E	R4.0	8.0	8	12	50	Short
SEMD98080060E	R4.0	8.0	8	12	60	Short
SEMD98080080E	R4.0	8.0	8	12	80	Short
SEMD98080090E	R4.0	8.0	8	12	90	Short
SEMD98080E	R4.0	8.0	8	14	100	Regular
SEMD98080130E	R4.0	8.0	8	14	130	Long

▶ NEXT PAGE 下页

Size 尺寸	RadiusTolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

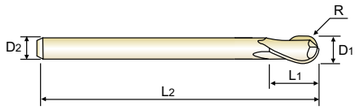
PLAIN SHANK **SEMD98** SERIES

CARBIDE, 2 FLUTE BALL NOSE (Short, Regular, Long Shank)

硬质合金，2刃 球头 (短刃, 普通刃长, 长柄)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ With its unique ball nose geometry and cutting edges the cutting force has decreased, also increasing wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.

- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶基于独特设计球头及刀尖形状, 减少切削阻力, 提高耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色



CARBIDE | 2 | 30° | R ±0.005 | R ±0.010 | PLAIN

R0.05~R3 R3.25~R12.5

p.C250-251

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEMD98080150E	R4.0	**8.0**	8	14	150	Long
SEMD98085E	R4.25	**8.5**	10	16	100	-
SEMD98090E	R4.5	**9.0**	10	18	100	-
SEMD98100050E	R5.0	**10.0**	10	15	50	Short
SEMD98100060E	R5.0	**10.0**	10	15	60	Short
SEMD98100080E	R5.0	**10.0**	10	15	80	Short
SEMD98100090E	R5.0	**10.0**	10	15	90	Short
SEMD98100E	R5.0	**10.0**	10	18	100	Regular
SEMD98100130E	R5.0	**10.0**	10	18	130	Long
SEMD98100150E	R5.0	**10.0**	10	18	150	Long
SEMD98100180E	R5.0	**10.0**	10	18	180	Long
SEMD98100200E	R5.0	**10.0**	10	18	200	Long
SEMD98110E	R5.5	**11.0**	12	20	100	-
SEMD98120060E	R6.0	**12.0**	12	18	60	Short
SEMD98120080E	R6.0	**12.0**	12	18	80	Short
SEMD98120090E	R6.0	**12.0**	12	18	90	Short
SEMD98120100E	R6.0	**12.0**	12	18	100	Short
SEMD98120E	R6.0	**12.0**	12	22	110	Regular
SEMD98120130E	R6.0	**12.0**	12	22	130	Long
SEMD98120150E	R6.0	**12.0**	12	22	150	Long
SEMD98120180E	R6.0	**12.0**	12	22	180	Long
SEMD98120200E	R6.0	**12.0**	12	22	200	Long
SEMD98130E	R6.5	**13.0**	12	24	100	-
SEMD98140E	R7.0	**14.0**	12	26	100	Regular

▶ NEXT PAGE 下页

Size 尺寸	RadiusTolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK SEMD98 SERIES

CARBIDE, 2 FLUTE BALL NOSE (Short, Regular, Long Shank)

硬质合金，2刃 球头 (短刃, 普通刃长, 长柄)

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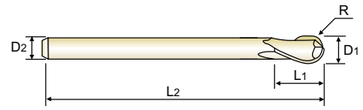
- ▶加工模具产业的预硬钢(HRc55以下)表现出色



CARBIDE | 2 | 30° | R ±0.005 | R ±0.010 | PLAIN

R0.05~R3 R3.25~R12.5

p.C250-251

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEMD9814014SE	R7.0	**14.0**	14	26	100	-
SEMD9814016SE	R7.0	**14.0**	16	26	100	-
SEMD98150E	R7.5	**15.0**	16	28	140	-
SEMD98160100E	R8.0	**16.0**	16	24	100	Short
SEMD98160130E	R8.0	**16.0**	16	24	130	Short
SEMD98160E	R8.0	**16.0**	16	30	150	Regular
SEMD98160180E	R8.0	**16.0**	16	30	180	Long
SEMD98160200E	R8.0	**16.0**	16	30	200	Long
SEMD98180E	R9.0	**18.0**	16	34	150	Regular
SEMD9818018SE	R9.0	**18.0**	18	34	150	-
SEMD98200100E	R10.0	**20.0**	20	30	100	Short
SEMD98200130E	R10.0	**20.0**	20	30	130	Short
SEMD98200E	R10.0	**20.0**	20	38	150	Regular
SEMD98200200E	R10.0	**20.0**	20	38	200	Long
SEMD98250120E	R12.5	**25.0**	25	50	120	Short
SEMD98250E	R12.5	**25.0**	25	50	180	Regular

Size 尺寸	RadiusTolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK **SEM846** SERIES

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK
硬质合金，2刃 球头 颈部加长

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
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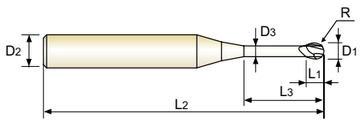
- ▶加工模具产业的预硬钢(HRc55以下)表现出色



CARBIDE | 2 | 30° | R ±0.005 | R ±0.010 | PLAIN | p.C252-263

R0.05~R3 R4~R6

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
	-	-	POWER MILLING CHUCK	D161 - 176
	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEM846001002E	R0.05	**0.1**	4	0.1	0.2	40	0.085
SEM846001003E	R0.05	**0.1**	4	0.1	0.3	40	0.085
SEM846001005E	R0.05	**0.1**	4	0.1	0.5	40	0.085
SEM84600101E	R0.05	**0.1**	4	0.1	1	40	0.085
SEM846002005E	R0.1	**0.2**	4	0.2	0.5	40	0.17
SEM84600201E	R0.1	**0.2**	4	0.2	1	40	0.17
SEM846002015E	R0.1	**0.2**	4	0.2	1.5	40	0.17
SEM84600202E	R0.1	**0.2**	4	0.2	2	40	0.17
SEM84600203E	R0.1	**0.2**	4	0.2	3	40	0.17
SEM84600301E	R0.15	**0.3**	4	0.3	1	40	0.27
SEM846003015E	R0.15	**0.3**	4	0.3	1.5	40	0.27
SEM84600302E	R0.15	**0.3**	4	0.3	2	40	0.27
SEM846003025E	R0.15	**0.3**	4	0.3	2.5	40	0.27
SEM84600303E	R0.15	**0.3**	4	0.3	3	40	0.27
SEM84600304E	R0.15	**0.3**	4	0.3	4	40	0.27
SEM84600305E	R0.15	**0.3**	4	0.3	5	40	0.27
SEM84600401E	R0.2	**0.4**	4	0.4	1	40	0.37
SEM846004015E	R0.2	**0.4**	4	0.4	1.5	40	0.37
SEM84600402E	R0.2	**0.4**	4	0.4	2	40	0.37
SEM846004025E	R0.2	**0.4**	4	0.4	2.5	40	0.37
SEM84600403E	R0.2	**0.4**	4	0.4	3	40	0.37
SEM84600404E	R0.2	**0.4**	4	0.4	4	40	0.37
SEM84600405E	R0.2	**0.4**	4	0.4	5	40	0.37
SEM84600406E	R0.2	**0.4**	4	0.4	6	40	0.37

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Size 尺寸	RadiusTolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK SEM846 SERIES

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK
硬质合金，2刃 球头 颈部加长

▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
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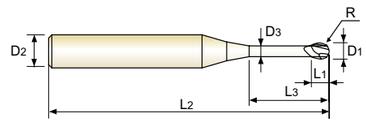
▶加工模具产业的预硬钢(HRc55以下)表现出色



CARBIDE | 2 | 30° | R ±0.005 | R ±0.010 | PLAIN | p.C252-263

R0.05~R3 R4~R6

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
	-	-	POWER MILLING CHUCK	D161 - 176
	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEM84600408E	R0.2	**0.4**	4	0.4	8	40	0.37
SEM84600410E	R0.2	**0.4**	4	0.4	10	40	0.37
SEM84600501E	R0.25	**0.5**	4	0.5	1	45	0.45
SEM846005015E	R0.25	**0.5**	4	0.5	1.5	45	0.45
SEM84600502E	R0.25	**0.5**	4	0.5	2	45	0.45
SEM846005025E	R0.25	**0.5**	4	0.5	2.5	45	0.45
SEM84600503E	R0.25	**0.5**	4	0.5	3	45	0.45
SEM84600504E	R0.25	**0.5**	4	0.5	4	45	0.45
SEM84600505E	R0.25	**0.5**	4	0.5	5	45	0.45
SEM84600506E	R0.25	**0.5**	4	0.5	6	45	0.45
SEM84600508E	R0.25	**0.5**	4	0.5	8	45	0.45
SEM84600510E	R0.25	**0.5**	4	0.5	10	45	0.45
SEM84600512E	R0.25	**0.5**	4	0.5	12	45	0.45
SEM84600514E	R0.25	**0.5**	4	0.5	14	45	0.45
SEM84600516E	R0.25	**0.5**	4	0.5	16	45	0.45
SEM84600601E	R0.3	**0.6**	4	0.6	1	45	0.55
SEM84600602E	R0.3	**0.6**	4	0.6	2	45	0.55
SEM84600603E	R0.3	**0.6**	4	0.6	3	45	0.55
SEM84600604E	R0.3	**0.6**	4	0.6	4	45	0.55
SEM84600605E	R0.3	**0.6**	4	0.6	5	45	0.55
SEM84600606E	R0.3	**0.6**	4	0.6	6	45	0.55
SEM84600608E	R0.3	**0.6**	4	0.6	8	45	0.55
SEM84600610E	R0.3	**0.6**	4	0.6	10	45	0.55
SEM84600612E	R0.3	**0.6**	4	0.6	12	45	0.55

▶ NEXT PAGE 下页

Size 尺寸	RadiusTolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
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◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
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HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK **SEM846** SERIES

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK
硬质合金，2刃 球头 颈部加长

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- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
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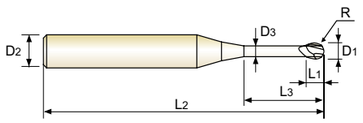
- ▶加工模具产业的预硬钢(HRc55以下)表现出色



CARBIDE | 2 | 30° | R ±0.005 | R ±0.010 | PLAIN | p.C252-263

R0.05~R3 R4~R6

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
	-	-	POWER MILLING CHUCK	D161 - 176
	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEM84600614E	R0.3	**0.6**	4	0.6	14	45	0.55
SEM84600616E	R0.3	**0.6**	4	0.6	16	45	0.55
SEM84600702E	R0.35	**0.7**	4	0.7	2	45	0.65
SEM84600704E	R0.35	**0.7**	4	0.7	4	45	0.65
SEM84600706E	R0.35	**0.7**	4	0.7	6	45	0.65
SEM84600708E	R0.35	**0.7**	4	0.7	8	45	0.65
SEM84600710E	R0.35	**0.7**	4	0.7	10	45	0.65
SEM84600712E	R0.35	**0.7**	4	0.7	12	45	0.65
SEM84600801E	R0.4	**0.8**	4	0.8	1	45	0.75
SEM84600802E	R0.4	**0.8**	4	0.8	2	45	0.75
SEM84600803E	R0.4	**0.8**	4	0.8	3	45	0.75
SEM84600804E	R0.4	**0.8**	4	0.8	4	45	0.75
SEM84600805E	R0.4	**0.8**	4	0.8	5	45	0.75
SEM84600806E	R0.4	**0.8**	4	0.8	6	45	0.75
SEM84600808E	R0.4	**0.8**	4	0.8	8	45	0.75
SEM84600810E	R0.4	**0.8**	4	0.8	10	45	0.75
SEM84600812E	R0.4	**0.8**	4	0.8	12	45	0.75
SEM84600814E	R0.4	**0.8**	4	0.8	14	45	0.75
SEM84600816E	R0.4	**0.8**	4	0.8	16	45	0.75
SEM84600820E	R0.4	**0.8**	4	0.8	20	45	0.75
SEM84600904E	R0.45	**0.9**	4	0.9	4	45	0.85
SEM84600906E	R0.45	**0.9**	4	0.9	6	45	0.85
SEM84600908E	R0.45	**0.9**	4	0.9	8	45	0.85
SEM84600910E	R0.45	**0.9**	4	0.9	10	45	0.85

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Size 尺寸	RadiusTolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK SEM846 SERIES

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK
硬质合金，2刃 球头 颈部加长

▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
▶ With its unique ball nose geometry and cutting edges the cutting force has decreased, also increasing wear resistance.
▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.

▶基于新涂层及形状, 实现出色切削性能和耐磨性
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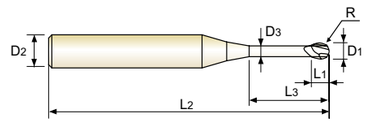
▶加工模具产业的预硬钢(HRc55以下)表现出色



CARBIDE | 2 | 30° | R ±0.005 | R ±0.010 | PLAIN | p.C252-263

R0.05~R3 R4~R6

Recommended ToolHolder | Flat Shank | Page | Plain Shank | Page
END MILL HOLDER | D118 - 137 | HYDRAULIC CHUCK / SHRINK FIT HOLDER | D15 - 46 / D47 - 72
- | - | POWER MILLING CHUCK | D161 - 176
- | - | ER COLLET CHUCK / SK SLIM CHUCK | D73 - 115 / D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEM84601002E	R0.5	**1.0**	4	1	2	50	0.95
SEM84601003E	R0.5	**1.0**	4	1	3	50	0.95
SEM84601004E	R0.5	**1.0**	4	1	4	50	0.95
SEM84601005E	R0.5	**1.0**	4	1	5	50	0.95
SEM84601006E	R0.5	**1.0**	4	1	6	50	0.95
SEM84601007E	R0.5	**1.0**	4	1	7	50	0.95
SEM84601008E	R0.5	**1.0**	4	1	8	50	0.95
SEM84601009E	R0.5	**1.0**	4	1	9	50	0.95
SEM84601010E	R0.5	**1.0**	4	1	10	50	0.95
SEM84601012E	R0.5	**1.0**	4	1	12	50	0.95
SEM84601014E	R0.5	**1.0**	4	1	14	50	0.95
SEM84601016E	R0.5	**1.0**	4	1	16	50	0.95
SEM84601018E	R0.5	**1.0**	4	1	18	50	0.95
SEM84601020E	R0.5	**1.0**	4	1	20	50	0.95
SEM84601022E	R0.5	**1.0**	4	1	22	60	0.95
SEM84601026E	R0.5	**1.0**	4	1	26	60	0.95
SEM84601030E	R0.5	**1.0**	4	1	30	70	0.95
SEM84601040E	R0.5	**1.0**	4	1	40	80	0.95
SEM84601050E	R0.5	**1.0**	4	1	50	100	0.95
SEM84601204E	R0.6	**1.2**	4	1.2	4	50	1.15
SEM84601206E	R0.6	**1.2**	4	1.2	6	50	1.15
SEM84601208E	R0.6	**1.2**	4	1.2	8	50	1.15
SEM84601210E	R0.6	**1.2**	4	1.2	10	50	1.15
SEM84601212E	R0.6	**1.2**	4	1.2	12	50	1.15

▶ NEXT PAGE 下页

Size 尺寸	RadiusTolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK **SEM846** SERIES

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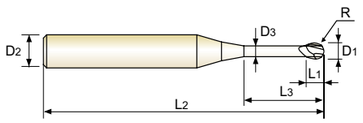

CARBIDE | 2 | 30° | R ±0.005 | R ±0.010 | PLAIN

R0.05~R3 R4~R6

p.C252-263

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEM84601216E	R0.6	**1.2**	4	1.2	16	50	1.15
SEM84601220E	R0.6	**1.2**	4	1.2	20	50	1.15
SEM84601226E	R0.6	**1.2**	4	1.2	26	60	1.15
SEM84601406E	R0.7	**1.4**	4	1.4	6	50	1.35
SEM84601408E	R0.7	**1.4**	4	1.4	8	50	1.35
SEM84601410E	R0.7	**1.4**	4	1.4	10	50	1.35
SEM84601412E	R0.7	**1.4**	4	1.4	12	50	1.35
SEM84601416E	R0.7	**1.4**	4	1.4	16	50	1.35
SEM84601503E	R0.75	**1.5**	4	1.5	3	50	1.45
SEM84601504E	R0.75	**1.5**	4	1.5	4	50	1.45
SEM84601505E	R0.75	**1.5**	4	1.5	5	50	1.45
SEM84601506E	R0.75	**1.5**	4	1.5	6	50	1.45
SEM84601507E	R0.75	**1.5**	4	1.5	7	50	1.45
SEM84601508E	R0.75	**1.5**	4	1.5	8	50	1.45
SEM84601510E	R0.75	**1.5**	4	1.5	10	50	1.45
SEM84601512E	R0.75	**1.5**	4	1.5	12	50	1.45
SEM84601514E	R0.75	**1.5**	4	1.5	14	50	1.45
SEM84601516E	R0.75	**1.5**	4	1.5	16	50	1.45
SEM84601518E	R0.75	**1.5**	4	1.5	18	50	1.45
SEM84601520E	R0.75	**1.5**	4	1.5	20	50	1.45
SEM84601522E	R0.75	**1.5**	4	1.5	22	60	1.45
SEM84601526E	R0.75	**1.5**	4	1.5	26	60	1.45
SEM84601530E	R0.75	**1.5**	4	1.5	30	70	1.45
SEM84601535E	R0.75	**1.5**	4	1.5	35	70	1.45

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Size 尺寸	RadiusTolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK SEM846 SERIES

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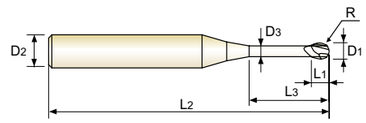

CARBIDE | 2 | 30° | R ±0.005 | R ±0.010 | PLAIN

R0.05~R3 R4~R6

p.C252-263

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEM84601540E	R0.75	**1.5**	4	1.5	40	80	1.45
SEM84601604E	R0.8	**1.6**	4	1.6	4	50	1.55
SEM84601606E	R0.8	**1.6**	4	1.6	6	50	1.55
SEM84601608E	R0.8	**1.6**	4	1.6	8	50	1.55
SEM84601610E	R0.8	**1.6**	4	1.6	10	50	1.55
SEM84601612E	R0.8	**1.6**	4	1.6	12	50	1.55
SEM84601616E	R0.8	**1.6**	4	1.6	16	50	1.55
SEM84601620E	R0.8	**1.6**	4	1.6	20	50	1.55
SEM84601804E	R0.9	**1.8**	4	1.8	4	50	1.75
SEM84601806E	R0.9	**1.8**	4	1.8	6	50	1.75
SEM84601808E	R0.9	**1.8**	4	1.8	8	50	1.75
SEM84601810E	R0.9	**1.8**	4	1.8	10	50	1.75
SEM84601812E	R0.9	**1.8**	4	1.8	12	50	1.75
SEM84601816E	R0.9	**1.8**	4	1.8	16	50	1.75
SEM84601820E	R0.9	**1.8**	4	1.8	20	50	1.75
SEM84602004E	R1.0	**2.0**	4	2	4	50	1.95
SEM84602006E	R1.0	**2.0**	4	2	6	50	1.95
SEM84602008E	R1.0	**2.0**	4	2	8	50	1.95
SEM84602010E	R1.0	**2.0**	4	2	10	50	1.95
SEM84602012E	R1.0	**2.0**	4	2	12	50	1.95
SEM84602014E	R1.0	**2.0**	4	2	14	50	1.95
SEM84602016E	R1.0	**2.0**	4	2	16	50	1.95
SEM84602018E	R1.0	**2.0**	4	2	18	50	1.95
SEM84602020E	R1.0	**2.0**	4	2	20	50	1.95

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Size 尺寸	RadiusTolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
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ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK **SEM846** SERIES

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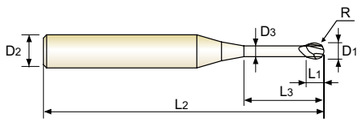
- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶基于独特设计球头及刀尖形状, 减少切削阻力, 提高耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色



CARBIDE | 2 | 30° | R ±0.005 | R ±0.010 | PLAIN | p.C278-289

R0.05~R3 R4~R6

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
	-	-	POWER MILLING CHUCK	D161 - 176
	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEM84602022E	R1.0	**2.0**	4	2	22	60	1.95
SEM84602026E	R1.0	**2.0**	4	2	26	60	1.95
SEM84602030E	R1.0	**2.0**	4	2	30	70	1.95
SEM84602035E	R1.0	**2.0**	4	2	35	70	1.95
SEM84602040E	R1.0	**2.0**	4	2	40	80	1.95
SEM84602045E	R1.0	**2.0**	4	2	45	90	1.95
SEM84602050E	R1.0	**2.0**	4	2	50	100	1.95
SEM84602060E	R1.0	**2.0**	4	2	60	110	1.95
SEM84602508E	R1.25	**2.5**	4	2.5	8	50	2.40
SEM84602510E	R1.25	**2.5**	4	2.5	10	50	2.40
SEM84602512E	R1.25	**2.5**	4	2.5	12	50	2.40
SEM84602516E	R1.25	**2.5**	4	2.5	16	50	2.40
SEM84602520E	R1.25	**2.5**	4	2.5	20	50	2.40
SEM84602522E	R1.25	**2.5**	4	2.5	22	60	2.40
SEM84602526E	R1.25	**2.5**	4	2.5	26	60	2.40
SEM84602530E	R1.25	**2.5**	4	2.5	30	70	2.40
SEM84602535E	R1.25	**2.5**	4	2.5	35	70	2.40
SEM84602540E	R1.25	**2.5**	4	2.5	40	80	2.40
SEM84602545E	R1.25	**2.5**	4	2.5	45	90	2.40
SEM84602550E	R1.25	**2.5**	4	2.5	50	100	2.40
SEM84603006E	R1.5	**3.0**	6	3	6	50	2.85
SEM84603008E	R1.5	**3.0**	6	3	8	50	2.85
SEM84603010E	R1.5	**3.0**	6	3	10	50	2.85
SEM84603012E	R1.5	**3.0**	6	3	12	50	2.85

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Size 尺寸	RadiusTolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

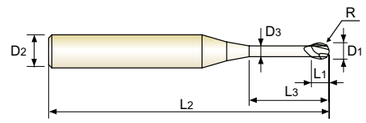
4G MILL END MILLS

PLAIN SHANK SEM846 SERIES

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK
硬质合金，2刃 球头 颈部加长

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ With its unique ball nose geometry and cutting edges the cutting force has decreased, also increasing wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.

- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶基于独特设计球头及刀尖形状, 减少切削阻力, 提高耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色



CARBIDE | 2 | 30° | R ±0.005 | R ±0.010 | PLAIN | p.C278-289

R0.05~R3 R4~R6

Recommended ToolHolder | Flat Shank | Page | Plain Shank | Page
END MILL HOLDER | D118 - 137 | HYDRAULIC CHUCK / SHRINK FIT HOLDER | D15 - 46 / D47 - 72
- | - | POWER MILLING CHUCK | D161 - 176
- | - | ER COLLET CHUCK / SK SLIM CHUCK | D73 - 115 / D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEM84603014E	R1.5	**3.0**	6	3	14	60	2.85
SEM84603015E	R1.5	**3.0**	6	3	15	60	2.85
SEM84603016E	R1.5	**3.0**	6	3	16	60	2.85
SEM84603018E	R1.5	**3.0**	6	3	18	60	2.85
SEM84603020E	R1.5	**3.0**	6	3	20	60	2.85
SEM84603022E	R1.5	**3.0**	6	3	22	65	2.85
SEM84603026E	R1.5	**3.0**	6	3	26	65	2.85
SEM84603030E	R1.5	**3.0**	6	3	30	70	2.85
SEM84603035E	R1.5	**3.0**	6	3	35	70	2.85
SEM84603040E	R1.5	**3.0**	6	3	40	80	2.85
SEM84603045E	R1.5	**3.0**	6	3	45	90	2.85
SEM84603050E	R1.5	**3.0**	6	3	50	100	2.85
SEM84603060E	R1.5	**3.0**	6	3	60	100	2.85
SEM84604008E	R2.0	**4.0**	6	4	8	50	3.85
SEM84604010E	R2.0	**4.0**	6	4	10	50	3.85
SEM84604012E	R2.0	**4.0**	6	4	12	50	3.85
SEM84604014E	R2.0	**4.0**	6	4	14	60	3.85
SEM84604016E	R2.0	**4.0**	6	4	16	60	3.85
SEM84604018E	R2.0	**4.0**	6	4	18	60	3.85
SEM84604020E	R2.0	**4.0**	6	4	20	60	3.85
SEM84604022E	R2.0	**4.0**	6	4	22	65	3.85
SEM84604026E	R2.0	**4.0**	6	4	26	65	3.85
SEM84604030E	R2.0	**4.0**	6	4	30	70	3.85
SEM84604035E	R2.0	**4.0**	6	4	35	70	3.85

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Size 尺寸	RadiusTolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK **SEM846** SERIES

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK
硬质合金，2刃 球头 颈部加长

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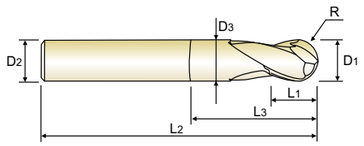
- ▶基于独特设计球头及刀尖形状, 减少切削阻力, 提高耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色



CARBIDE | 2 | 30° | R ±0.005 | R ±0.010 | PLAIN

R0.05~R3 R4~R6

p.C252-263

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-		POWER MILLING CHUCK	D161 - 176
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEM84604040E	R2.0	**4.0**	6	4	40	80	3.85
SEM84604045E	R2.0	**4.0**	6	4	45	90	3.85
SEM84604050E	R2.0	**4.0**	6	4	50	100	3.85
SEM84604055E	R2.0	**4.0**	6	4	55	100	3.85
SEM84604060E	R2.0	**4.0**	6	4	60	100	3.85
SEM84605015E	R2.5	**5.0**	6	6	15	60	4.85
SEM84605020E	R2.5	**5.0**	6	6	20	60	4.85
SEM84605026E	R2.5	**5.0**	6	6	26	65	4.85
SEM84605030E	R2.5	**5.0**	6	6	30	70	4.85
SEM84605035E	R2.5	**5.0**	6	6	35	70	4.85
SEM84605040E	R2.5	**5.0**	6	6	40	80	4.85
SEM84605045E	R2.5	**5.0**	6	6	45	90	4.85
SEM84605050E	R2.5	**5.0**	6	6	50	100	4.85
SEM84605055E	R2.5	**5.0**	6	6	55	100	4.85
SEM84605060E	R2.5	**5.0**	6	6	60	100	4.85
SEM84606020E	R3.0	**6.0**	6	8	20	60	5.85
SEM84606030E	R3.0	**6.0**	6	8	30	60	5.85
SEM84606020090E	R3.0	**6.0**	6	12	20	90	5.85
SEM84606030090E	R3.0	**6.0**	6	12	30	90	5.85
SEM84608025E	R4.0	**8.0**	8	10	25	70	7.70
SEM84608035E	R4.0	**8.0**	8	10	35	70	7.70
SEM84608025100E	R4.0	**8.0**	8	14	25	100	7.70
SEM84608035100E	R4.0	**8.0**	8	14	35	100	7.70
SEM84610030E	R5.0	**10.0**	10	12	30	75	9.70

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Size 尺寸	RadiusTolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

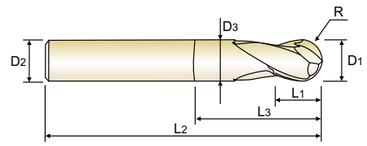
4G MILL END MILLS

PLAIN SHANK SEM846 SERIES

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK
硬质合金，2刃 球头 颈部加长

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ With its unique ball nose geometry and cutting edges the cutting force has decreased, also increasing wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.

- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶基于独特设计球头及刀尖形状, 减少切削阻力, 提高耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色



CARBIDE | 2 | 30° | R ±0.005 | R ±0.010 | PLAIN

R0.05~R3 R4~R6

p.C252-263

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-		POWER MILLING CHUCK	D161 - 176
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEM84610040E	R5.0	**10.0**	10	12	40	75	9.70
SEM84610030100E	R5.0	**10.0**	10	18	30	100	9.70
SEM84610040100E	R5.0	**10.0**	10	18	40	100	9.70
SEM84612032E	R6.0	**12.0**	12	14	32	80	11.70
SEM84612045E	R6.0	**12.0**	12	14	45	80	11.70
SEM84612032110E	R6.0	**12.0**	12	22	32	110	11.70
SEM84612045110E	R6.0	**12.0**	12	22	45	110	11.70

Size 尺寸	RadiusTolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

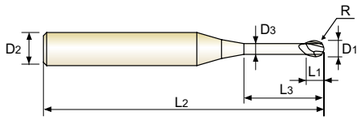
PLAIN SHANK **SEM846** SERIES

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK (6mm shank)

硬质合金，2刃 球头 颈部加长 (6mm 柄径)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ With its unique ball nose geometry and cutting edges the cutting force has decreased, also increasing wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.

- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶基于独特设计球头及刀尖形状, 减少切削阻力, 提高耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色



CARBIDE | 2 | 30° | R ±0.005 | PLAIN | p.C252-263

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEM846005016SE	R0.25	**0.5**	6	0.5	1	45	0.45
SEM846005026SE	R0.25	**0.5**	6	0.5	2	45	0.45
SEM846005046SE	R0.25	**0.5**	6	0.5	4	45	0.45
SEM846006016SE	R0.3	**0.6**	6	0.6	1	45	0.55
SEM846006026SE	R0.3	**0.6**	6	0.6	2	45	0.55
SEM846006036SE	R0.3	**0.6**	6	0.6	3	45	0.55
SEM846006046SE	R0.3	**0.6**	6	0.6	4	45	0.55
SEM846006056SE	R0.3	**0.6**	6	0.6	5	45	0.55
SEM846006066SE	R0.3	**0.6**	6	0.6	6	45	0.55
SEM846006086SE	R0.3	**0.6**	6	0.6	8	45	0.55
SEM846006106SE	R0.3	**0.6**	6	0.6	10	45	0.55
SEM846006126SE	R0.3	**0.6**	6	0.6	12	45	0.55
SEM846006146SE	R0.3	**0.6**	6	0.6	14	45	0.55
SEM846006166SE	R0.3	**0.6**	6	0.6	16	45	0.55
SEM846008016SE	R0.4	**0.8**	6	0.8	1	45	0.75
SEM846008026SE	R0.4	**0.8**	6	0.8	2	45	0.75
SEM846008036SE	R0.4	**0.8**	6	0.8	3	45	0.75
SEM846008046SE	R0.4	**0.8**	6	0.8	4	45	0.75
SEM846008056SE	R0.4	**0.8**	6	0.8	5	45	0.75
SEM846008066SE	R0.4	**0.8**	6	0.8	6	45	0.75
SEM846008086SE	R0.4	**0.8**	6	0.8	8	45	0.75
SEM846008106SE	R0.4	**0.8**	6	0.8	10	45	0.75
SEM846008126SE	R0.4	**0.8**	6	0.8	12	45	0.75
SEM846008146SE	R0.4	**0.8**	6	0.8	14	45	0.75

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RadiusTolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.005	0 ~ - 0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

4G MILL END MILLS

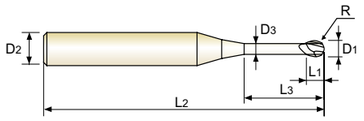
PLAIN SHANK **SEM846** SERIES

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK (6mm shank)

硬质合金，2刃 球头 颈部加长 (6mm 柄径)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ With its unique ball nose geometry and cutting edges the cutting force has decreased, also increasing wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.

- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶基于独特设计球头及刀尖形状, 减少切削阻力, 提高耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色



CARBIDE | 2 | 30° | R ±0.005 | PLAIN | p.C252-263

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEM846008166SE	R0.4	**0.8**	6	0.8	16	45	0.75
SEM846008206SE	R0.4	**0.8**	6	0.8	20	45	0.75
SEM846010026SE	R0.5	**1.0**	6	1	2	50	0.95
SEM846010036SE	R0.5	**1.0**	6	1	3	50	0.95
SEM846010046SE	R0.5	**1.0**	6	1	4	50	0.95
SEM846010056SE	R0.5	**1.0**	6	1	5	50	0.95
SEM846010066SE	R0.5	**1.0**	6	1	6	50	0.95
SEM846010076SE	R0.5	**1.0**	6	1	7	50	0.95
SEM846010086SE	R0.5	**1.0**	6	1	8	50	0.95
SEM846010096SE	R0.5	**1.0**	6	1	9	50	0.95
SEM846010106SE	R0.5	**1.0**	6	1	10	50	0.95
SEM846010126SE	R0.5	**1.0**	6	1	12	50	0.95
SEM846010146SE	R0.5	**1.0**	6	1	14	50	0.95
SEM846010166SE	R0.5	**1.0**	6	1	16	50	0.95
SEM846010186SE	R0.5	**1.0**	6	1	18	50	0.95
SEM846010206SE	R0.5	**1.0**	6	1	20	50	0.95
SEM846010226SE	R0.5	**1.0**	6	1	22	60	0.95
SEM846010266SE	R0.5	**1.0**	6	1	26	60	0.95
SEM846010306SE	R0.5	**1.0**	6	1	30	70	0.95
SEM846015036SE	R0.75	**1.5**	6	1.5	3	50	1.45
SEM846015046SE	R0.75	**1.5**	6	1.5	4	50	1.45
SEM846015066SE	R0.75	**1.5**	6	1.5	6	50	1.45
SEM846015086SE	R0.75	**1.5**	6	1.5	8	50	1.45
SEM846015106SE	R0.75	**1.5**	6	1.5	10	50	1.45

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RadiusTolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.005	0 ~ - 0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

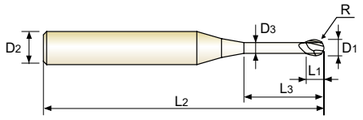
PLAIN SHANK **SEM846** SERIES

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK (6mm shank)

硬质合金，2刃 球头 颈部加长 (6mm 柄径)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ With its unique ball nose geometry and cutting edges the cutting force has decreased, also increasing wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.

- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶基于独特设计球头及刀尖形状, 减少切削阻力, 提高耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色



CARBIDE | 2 | 30° | R ±0.005 | PLAIN

p.C252-263

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
	-	-	POWER MILLING CHUCK	D161 - 176
	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEM846015126SE	R0.75	1.5	6	1.5	12	50	1.45
SEM846015146SE	R0.75	1.5	6	1.5	14	50	1.45
SEM846015166SE	R0.75	1.5	6	1.5	16	50	1.45
SEM846015186SE	R0.75	1.5	6	1.5	18	50	1.45
SEM846015206SE	R0.75	1.5	6	1.5	20	50	1.45
SEM846015226SE	R0.75	1.5	6	1.5	22	60	1.45
SEM846015266SE	R0.75	1.5	6	1.5	26	60	1.45
SEM846015306SE	R0.75	1.5	6	1.5	30	70	1.45
SEM846015356SE	R0.75	1.5	6	1.5	35	70	1.45
SEM846015406SE	R0.75	1.5	6	1.5	40	80	1.45
SEM846020046SE	R1.0	2.0	6	2	4	50	1.95
SEM846020066SE	R1.0	2.0	6	2	6	50	1.95
SEM846020086SE	R1.0	2.0	6	2	8	50	1.95
SEM846020106SE	R1.0	2.0	6	2	10	50	1.95
SEM846020126SE	R1.0	2.0	6	2	12	50	1.95
SEM846020146SE	R1.0	2.0	6	2	14	50	1.95
SEM846020166SE	R1.0	2.0	6	2	16	50	1.95
SEM846020186SE	R1.0	2.0	6	2	18	50	1.95
SEM846020206SE	R1.0	2.0	6	2	20	50	1.95
SEM846020226SE	R1.0	2.0	6	2	22	60	1.95
SEM846020266SE	R1.0	2.0	6	2	26	60	1.95
SEM846020306SE	R1.0	2.0	6	2	30	70	1.95
SEM846020356SE	R1.0	2.0	6	2	35	70	1.95
SEM846020406SE	R1.0	2.0	6	2	40	80	1.95
SEM846020456SE	R1.0	2.0	6	2	45	90	1.95
SEM846020506SE	R1.0	2.0	6	2	50	100	1.95

RadiusTolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.005	0 ~ - 0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

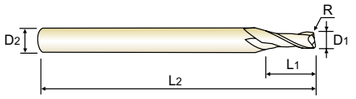
PLAIN SHANK **SEMD99** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS (Short, Regular, Long Shank)

硬质合金，2刃 圆鼻 (短刃, 普通刃长, 长柄)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Available in short, regular and long shank end mills.
- ▶ Available with various corner radius end mills, from 0.02mm to 5.0mm corner radius.

- ▶基于新形状设计, 纳米颗粒基体和涂层, 出色切削性能及耐磨性涂
- ▶加工模具产业的预硬钢, 碳钢, 合金钢(HRc55以下)表现出色
- ▶可提供短,普通和长柄铣刀
- ▶可提供多种圆弧角铣刀(R0.02mm~R5.0mm)



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN

p.C264-265

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
	-	-	POWER MILLING CHUCK	D161 - 176
	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Ø0.2~Ø6 Ø7~Ø20

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEMD99002002E	R0.02	0.2	4	0.4	40	-
SEMD99002005E	R0.05	0.2	4	0.4	40	-
SEMD99003002E	R0.02	0.3	4	0.6	40	-
SEMD99003005E	R0.05	0.3	4	0.6	40	-
SEMD99004005E	R0.05	0.4	4	0.8	40	-
SEMD9900401E	R0.1	0.4	4	0.8	40	-
SEMD99005005E	R0.05	0.5	4	1	40	-
SEMD9900501E	R0.1	0.5	4	1	40	-
SEMD99006005E	R0.05	0.6	4	1.2	40	-
SEMD9900601E	R0.1	0.6	4	1.2	40	-
SEMD9900602E	R0.2	0.6	4	1.2	40	-
SEMD99007005E	R0.05	0.7	4	1.4	40	-
SEMD9900701E	R0.1	0.7	4	1.4	40	-
SEMD9900702E	R0.2	0.7	4	1.4	40	-
SEMD99008005E	R0.05	0.8	4	1.6	40	-
SEMD9900801E	R0.1	0.8	4	1.6	40	-
SEMD9900802E	R0.2	0.8	4	1.6	40	-
SEMD99009005E	R0.05	0.9	4	1.8	40	-
SEMD9900901E	R0.1	0.9	4	1.8	40	-
SEMD990100054SE	R0.05	1.0	4	2.5	50	4mm Shank
SEMD99010014SE	R0.1	1.0	4	2.5	50	4mm Shank
SEMD99010024SE	R0.2	1.0	4	2.5	50	4mm Shank
SEMD99010034SE	R0.3	1.0	4	2.5	50	4mm Shank
SEMD99010005E	R0.05	1.0	6	2.5	50	-

▶ NEXT PAGE 下页

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

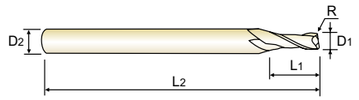
PLAIN SHANK **SEMD99** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS (Short, Regular, Long Shank)

硬质合金，2刃 圆鼻 (短刃, 普通刃长, 长柄)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Available in short, regular and long shank end mills.
- ▶ Available with various corner radius end mills, from 0.02mm to 5.0mm corner radius.

- ▶基于新形状设计, 纳米颗粒基体和涂层, 出色切削性能及耐磨性涂
- ▶加工模具产业的预硬钢, 碳钢, 合金钢(HRc55以下)表现出色
- ▶可提供短,普通和长柄铣刀
- ▶可提供多种圆弧角铣刀(R0.02mm~R5.0mm)



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN

Ø0.2~Ø6 Ø7~Ø20

p.C264-265

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEMD9901001E	R0.1	1.0	6	2.5	50	-
SEMD9901002E	R0.2	1.0	6	2.5	50	-
SEMD9901003E	R0.3	1.0	6	2.5	50	-
SEMD990120054SE	R0.05	1.2	4	3	50	4mm Shank
SEMD99012014SE	R0.1	1.2	4	3	50	4mm Shank
SEMD99012024SE	R0.2	1.2	4	3	50	4mm Shank
SEMD99012034SE	R0.3	1.2	4	3	50	4mm Shank
SEMD99012005E	R0.05	1.2	6	3	50	-
SEMD9901201E	R0.1	1.2	6	3	50	-
SEMD9901202E	R0.2	1.2	6	3	50	-
SEMD9901203E	R0.3	1.2	6	3	50	-
SEMD990150054SE	R0.05	1.5	4	4	50	-
SEMD99015014SE	R0.1	1.5	4	4	50	4mm Shank
SEMD99015024SE	R0.2	1.5	4	4	50	4mm Shank
SEMD99015034SE	R0.3	1.5	4	4	50	4mm Shank
SEMD99015054SE	R0.5	1.5	4	4	50	4mm Shank
SEMD99015005E	R0.05	1.5	6	4	50	-
SEMD9901501E	R0.1	1.5	6	4	50	-
SEMD9901502E	R0.2	1.5	6	4	50	-
SEMD9901503E	R0.3	1.5	6	4	50	-
SEMD9901505E	R0.5	1.5	6	4	50	-
SEMD99020014SE	R0.1	2.0	4	6	50	4mm Shank
SEMD99020024SE	R0.2	2.0	4	6	50	4mm Shank
SEMD99020034SE	R0.3	2.0	4	6	50	4mm Shank

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Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

4G MILL END MILLS

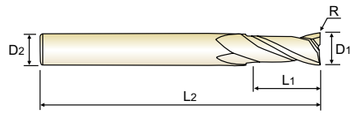
PLAIN SHANK **SEMD99** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS (Short, Regular, Long Shank)

硬质合金，2刃 圆鼻 (短刃, 普通刃长, 长柄)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Available in short, regular and long shank end mills.
- ▶ Available with various corner radius end mills, from 0.02mm to 5.0mm corner radius.

- ▶基于新形状设计, 纳米颗粒基体和涂层, 出色切削性能及耐磨性涂
- ▶加工模具产业的预硬钢, 碳钢, 合金钢(HRc55以下)表现出色
- ▶可提供短,普通和长柄铣刀
- ▶可提供多种圆弧角铣刀(R0.02mm~R5.0mm)



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN

Ø0.2~Ø6 Ø7~Ø20

p.C264-265

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEMD99020054SE	R0.5	2.0	4	6	50	4mm Shank
SEMD9902001E	R0.1	2.0	6	6	50	-
SEMD9902002E	R0.2	2.0	6	6	50	-
SEMD9902003E	R0.3	2.0	6	6	50	-
SEMD9902005E	R0.5	2.0	6	6	50	-
SEMD99025014SE	R0.1	2.5	4	7	60	4mm Shank
SEMD99025024SE	R0.2	2.5	4	7	60	4mm Shank
SEMD99025034SE	R0.3	2.5	4	7	60	4mm Shank
SEMD99025054SE	R0.5	2.5	4	7	60	4mm Shank
SEMD9902501E	R0.1	2.5	6	7	60	-
SEMD9902502E	R0.2	2.5	6	7	60	-
SEMD9902503E	R0.3	2.5	6	7	60	-
SEMD9902505E	R0.5	2.5	6	7	60	-
SEMD9903001E	R0.1	3.0	6	8	60	-
SEMD9903002E	R0.2	3.0	6	8	60	-
SEMD9903003E	R0.3	3.0	6	8	60	-
SEMD9903005E	R0.5	3.0	6	8	60	-
SEMD9903010E	R1.0	3.0	6	8	60	-
SEMD9903501E	R0.1	3.5	6	10	70	-
SEMD9903502E	R0.2	3.5	6	10	70	-
SEMD9903503E	R0.3	3.5	6	10	70	-
SEMD9903505E	R0.5	3.5	6	10	70	-
SEMD99040014SE	R0.1	4.0	4	10	70	4mm Shank
SEMD99040024SE	R0.2	4.0	4	10	70	4mm Shank

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Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK **SEMD99** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS (Short, Regular, Long Shank)

硬质合金，2刃 圆鼻 (短刃, 普通刃长, 长柄)

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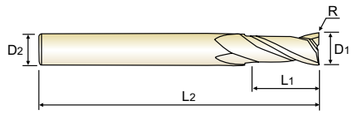
- ▶基于新形状设计, 纳米颗粒基体和涂层, 出色切削性能及耐磨性涂
- ▶加工模具产业的预硬钢, 碳钢, 合金钢(HRc55以下)表现出色
- ▶可提供短,普通和长柄铣刀
- ▶可提供多种圆弧角铣刀(R0.02mm~R5.0mm)



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN

Ø0.2~Ø6 Ø7~Ø20

p.C264-265

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-		POWER MILLING CHUCK	D161 - 176
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEMD99040034SE	R0.3	**4.0**	4	10	70	4mm Shank
SEMD99040054SE	R0.5	**4.0**	4	10	70	4mm Shank
SEMD99040104SE	R1.0	**4.0**	4	10	70	4mm Shank
SEMD99040011004SE	R0.1	**4.0**	4	10	100	4mm Shank
SEMD99040021004SE	R0.2	**4.0**	4	10	100	4mm Shank
SEMD99040031004SE	R0.3	**4.0**	4	10	100	4mm Shank
SEMD99040051004SE	R0.5	**4.0**	4	10	100	4mm Shank
SEMD99040101004SE	R1.0	**4.0**	4	10	100	4mm Shank
SEMD9904001E	R0.1	**4.0**	6	10	70	Regular
SEMD9904002E	R0.2	**4.0**	6	10	70	Regular
SEMD9904003E	R0.3	**4.0**	6	10	70	Regular
SEMD9904005E	R0.5	**4.0**	6	10	70	Regular
SEMD9904010E	R1.0	**4.0**	6	10	70	Regular
SEMD9904501E	R0.1	**4.5**	6	11	80	-
SEMD9904502E	R0.2	**4.5**	6	11	80	-
SEMD9904503E	R0.3	**4.5**	6	11	80	-
SEMD9904505E	R0.5	**4.5**	6	11	80	-
SEMD9905001E	R0.1	**5.0**	6	13	90	-
SEMD9905002E	R0.2	**5.0**	6	13	90	-
SEMD9905003E	R0.3	**5.0**	6	13	90	-
SEMD9905005E	R0.5	**5.0**	6	13	90	-
SEMD9905010E	R1.0	**5.0**	6	13	90	-
SEMD9905501E	R0.1	**5.5**	6	13	90	-
SEMD9905502E	R0.2	**5.5**	6	13	90	-

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Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK SEMD99 SERIES

CARBIDE, 2 FLUTE CORNER RADIUS (Short, Regular, Long Shank)

硬质合金，2刃 圆鼻 (短刃, 普通刃长, 长柄)

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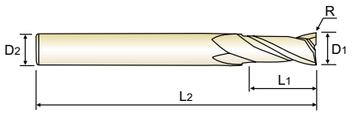
▶加工模具产业的预硬钢, 碳钢, 合金钢(HRc55以下)表现出色
▶可提供短,普通和长柄铣刀
▶可提供多种圆弧角铣刀(R0.02mm~R5.0mm)



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN

Ø0.2~Ø6 Ø7~Ø20

p.C264-265

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-		POWER MILLING CHUCK	D161 - 176
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEMD9905503E	R0.3	**5.5**	6	13	90	-
SEMD9905505E	R0.5	**5.5**	6	13	90	-
SEMD9905510E	R1.0	**5.5**	6	13	90	-
SEMD9906002060E	R0.2	**6.0**	6	15	60	Short
SEMD9906003060E	R0.3	**6.0**	6	15	60	Short
SEMD9906005060E	R0.5	**6.0**	6	15	60	Short
SEMD9906010060E	R1.0	**6.0**	6	15	60	Short
SEMD9906001E	R0.1	**6.0**	6	15	90	Regular
SEMD9906002E	R0.2	**6.0**	6	15	90	Regular
SEMD9906003E	R0.3	**6.0**	6	15	90	Regular
SEMD9906005E	R0.5	**6.0**	6	15	90	Regular
SEMD9906010E	R1.0	**6.0**	6	15	90	Regular
SEMD9906015E	R1.5	**6.0**	6	15	90	Regular
SEMD9906020E	R2.0	**6.0**	6	15	90	Regular
SEMD9906005110E	R0.5	**6.0**	6	15	110	Long
SEMD9906010110E	R1.0	**6.0**	6	15	110	Long
SEMD9906005130E	R0.5	**6.0**	6	15	130	Long
SEMD9906010130E	R1.0	**6.0**	6	15	130	Long
SEMD9907001E	R0.1	**7.0**	8	16	90	-
SEMD9907002E	R0.2	**7.0**	8	16	90	-
SEMD9907003E	R0.3	**7.0**	8	16	90	-
SEMD9907005E	R0.5	**7.0**	8	16	90	-
SEMD9907010E	R1.0	**7.0**	8	16	90	-
SEMD9907020E	R2.0	**7.0**	8	16	90	-

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Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK **SEMD99** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS (Short, Regular, Long Shank)

硬质合金，2刃 圆鼻 (短刃, 普通刃长, 长柄)

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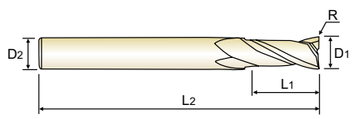
- ▶加工模具产业的预硬钢, 碳钢, 合金钢(HRc55以下)表现出色
- ▶可提供短,普通和长柄铣刀
- ▶可提供多种圆弧角铣刀(R0.02mm~R5.0mm)



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN

Ø0.2~Ø6 Ø7~Ø20

p.C264-265

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEMD9908003070E	R0.3	**8.0**	8	20	70	Short
SEMD9908005070E	R0.5	**8.0**	8	20	70	Short
SEMD9908010070E	R1.0	**8.0**	8	20	70	Short
SEMD9908001E	R0.1	**8.0**	8	20	100	Regular
SEMD9908002E	R0.2	**8.0**	8	20	100	Regular
SEMD9908003E	R0.3	**8.0**	8	20	100	Regular
SEMD9908005E	R0.5	**8.0**	8	20	100	Regular
SEMD9908010E	R1.0	**8.0**	8	20	100	Regular
SEMD9908015E	R1.5	**8.0**	8	20	100	Regular
SEMD9908020E	R2.0	**8.0**	8	20	100	Regular
SEMD9908025E	R2.5	**8.0**	8	20	100	Regular
SEMD9908030E	R3.0	**8.0**	8	20	100	Regular
SEMD9908005120E	R0.5	**8.0**	8	20	120	Long
SEMD9908010120E	R1.0	**8.0**	8	20	120	Long
SEMD9908015150E	R0.5	**8.0**	8	20	150	Long
SEMD9908010150E	R1.0	**8.0**	8	20	150	Long
SEMD9910003075E	R0.3	**10.0**	10	25	75	Short
SEMD9910005075E	R0.5	**10.0**	10	25	75	Short
SEMD9910010075E	R1.0	**10.0**	10	25	75	Short
SEMD9910001E	R0.1	**10.0**	10	25	100	Regular
SEMD9910002E	R0.2	**10.0**	10	25	100	Regular
SEMD9910003E	R0.3	**10.0**	10	25	100	Regular
SEMD9910005E	R0.5	**10.0**	10	25	100	Regular
SEMD9910010E	R1.0	**10.0**	10	25	100	Regular

▶ NEXT PAGE 下页

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

4G MILL END MILLS

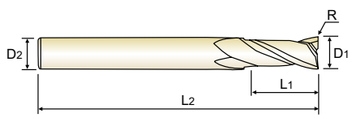
PLAIN SHANK **SEMD99** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS (Short, Regular, Long Shank)

硬质合金，2刃 圆鼻 (短刃, 普通刃长, 长柄)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Available in short, regular and long shank end mills.
- ▶ Available with various corner radius end mills, from 0.02mm to 5.0mm corner radius.

- ▶基于新形状设计, 纳米颗粒基体和涂层, 出色切削性能及耐磨性涂
- ▶加工模具产业的预硬钢, 碳钢, 合金钢(HRc55以下)表现出色
- ▶可提供短,普通和长柄铣刀
- ▶可提供多种圆弧角铣刀(R0.02mm~R5.0mm)



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN

Ø0.2~Ø6 Ø7~Ø20

p.C264-265

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEMD9910015E	R1.5	**10.0**	10	25	100	Regular
SEMD9910020E	R2.0	**10.0**	10	25	100	Regular
SEMD9910025E	R2.5	**10.0**	10	25	100	Regular
SEMD9910030E	R3.0	**10.0**	10	25	100	Regular
SEMD9910040E	R4.0	**10.0**	10	25	100	Regular
SEMD9910005130E	R0.5	**10.0**	10	25	130	Long
SEMD9910010130E	R1.0	**10.0**	10	25	130	Long
SEMD9910005150E	R0.5	**10.0**	10	25	150	Long
SEMD9910010150E	R1.0	**10.0**	10	25	150	Long
SEMD9911002E	R0.2	**11.0**	12	25	110	-
SEMD9911003E	R0.3	**11.0**	12	25	110	-
SEMD9911005E	R0.5	**11.0**	12	25	110	-
SEMD9911010E	R1.0	**11.0**	12	25	110	-
SEMD9911020E	R2.0	**11.0**	12	25	110	-
SEMD9912003080E	R0.3	**12.0**	12	30	80	Short
SEMD9912005080E	R0.5	**12.0**	12	30	80	Short
SEMD9912010080E	R1.0	**12.0**	12	30	80	Short
SEMD9912001E	R0.1	**12.0**	12	30	110	Regular
SEMD9912002E	R0.2	**12.0**	12	30	110	Regular
SEMD9912003E	R0.3	**12.0**	12	30	110	Regular
SEMD9912005E	R0.5	**12.0**	12	30	110	Regular
SEMD9912010E	R1.0	**12.0**	12	30	110	Regular
SEMD9912015E	R1.5	**12.0**	12	30	110	Regular
SEMD9912020E	R2.0	**12.0**	12	30	110	Regular

▶ NEXT PAGE 下页

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

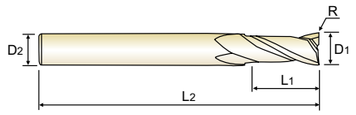
PLAIN SHANK **SEMD99** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS (Short, Regular, Long Shank)

硬质合金，2刃 圆鼻 (短刃, 普通刃长, 长柄)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Available in short, regular and long shank end mills.
- ▶ Available with various corner radius end mills, from 0.02mm to 5.0mm corner radius.

- ▶基于新形状设计, 纳米颗粒基体和涂层, 出色切削性能及耐磨性涂
- ▶加工模具产业的预硬钢, 碳钢, 合金钢(HRc55以下)表现出色
- ▶可提供短,普通和长柄铣刀
- ▶可提供多种圆弧角铣刀(R0.02mm~R5.0mm)



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN

Ø0.2~Ø6 Ø7~Ø20

p.C264-265

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEMD9912025E	R2.5	**12.0**	12	30	110	Regular
SEMD9912030E	R3.0	**12.0**	12	30	110	Regular
SEMD9912040E	R4.0	**12.0**	12	30	110	Regular
SEMD9912050E	R5.0	**12.0**	12	30	110	Regular
SEMD9912005130E	R0.5	**12.0**	12	30	130	Long
SEMD9912010130E	R1.0	**12.0**	12	30	130	Long
SEMD9912005150E	R0.5	**12.0**	12	30	150	Long
SEMD9912010150E	R1.0	**12.0**	12	30	150	Long
SEMD9914005E	R0.5	**14.0**	16	35	150	-
SEMD9914010E	R1.0	**14.0**	16	35	150	-
SEMD9914020E	R2.0	**14.0**	16	35	150	-
SEMD9916005E	R0.5	**16.0**	16	32	150	-
SEMD9916010E	R1.0	**16.0**	16	32	150	-
SEMD9916015E	R1.5	**16.0**	16	32	150	-
SEMD9916020E	R2.0	**16.0**	16	32	150	-
SEMD9920005E	R0.5	**20.0**	20	38	150	-
SEMD9920010E	R1.0	**20.0**	20	38	150	-
SEMD9920015E	R1.5	**20.0**	20	38	150	-
SEMD9920020E	R2.0	**20.0**	20	38	150	-

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

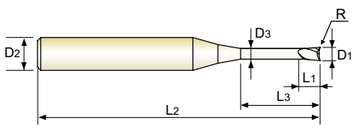
PLAIN SHANK **SEME61** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS with EXTENDED NECK

硬质合金，2刃 圆鼻 颈部加长

- ▶ Due to new coating and new tool geometry, outstanding cutting ability and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Available various products like regular length and long shank end mills etc.
- ▶ Available various corner radius end mills, from min. 0.02mm corner radius to max. 2.0mm corner radius.
- ▶ Available more various effective length and overall length end mills than previous standard products.

- ▶ 基于新形状设计, 纳米颗粒基体和涂层, 出色切削性能及耐磨性涂
- ▶ 加工模具产业的预硬钢, 碳钢, 合金钢(HRc55以下)表现出色
- ▶ 可提供短,普通和长柄铣刀
- ▶ 可提供多种圆弧角铣刀(R0.02mm~R2.0mm)
- ▶ 可提供比以前标准品更多种有效长和全长产品



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN

Ø0.2~Ø6 Ø7~Ø20

p.C266-273

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark
SEME61002002005E	R0.02	**0.2**	4	0.3	0.5	40	0.17	-
SEME6100200201E	R0.02	**0.2**	4	0.3	1	40	0.17	-
SEME61002002015E	R0.02	**0.2**	4	0.3	1.5	40	0.17	-
SEME6100200202E	R0.02	**0.2**	4	0.3	2	40	0.17	-
SEME61002005005E	R0.05	**0.2**	4	0.3	0.5	40	0.17	-
SEME6100200501E	R0.05	**0.2**	4	0.3	1	40	0.17	-
SEME61002005015E	R0.05	**0.2**	4	0.3	1.5	40	0.17	-
SEME6100200502E	R0.05	**0.2**	4	0.3	2	40	0.17	-
SEME61003005015SE	R0.05	**0.3**	4	0.25	1.5	40	0.27	-
SEME6100300201E	R0.02	**0.3**	4	0.5	1	40	0.27	-
SEME6100300202E	R0.02	**0.3**	4	0.5	2	40	0.27	-
SEME6100300203E	R0.02	**0.3**	4	0.5	3	40	0.27	-
SEME6100300501E	R0.05	**0.3**	4	0.5	1	40	0.27	-
SEME6100300502E	R0.05	**0.3**	4	0.5	2	40	0.27	-
SEME6100300503E	R0.05	**0.3**	4	0.5	3	40	0.27	-
SEME61003005025S6SE	R0.05	**0.3**	6	0.25	2	40	0.27	
SEME6100400501E	R0.05	**0.4**	4	0.6	1	40	0.37	-
SEME61004005015E	R0.05	**0.4**	4	0.6	1.5	40	0.37	-
SEME6100400502E	R0.05	**0.4**	4	0.6	2	40	0.37	-
SEME61004005025E	R0.05	**0.4**	4	0.6	2.5	40	0.37	-
SEME6100400503E	R0.05	**0.4**	4	0.6	3	40	0.37	-
SEME6100400504E	R0.05	**0.4**	4	0.6	4	40	0.37	-
SEME610040101E	R0.1	**0.4**	4	0.6	1	40	0.37	-
SEME6100401015E	R0.1	**0.4**	4	0.6	1.5	40	0.37	-

▶ NEXT PAGE 下页

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

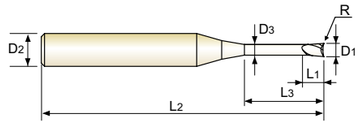
4G MILL END MILLS

PLAIN SHANK **SEME61** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS with EXTENDED NECK
硬质合金，2刃 圆鼻 颈部加长

- ▶ Due to new coating and new tool geometry, outstanding cutting ability and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Available various products like regular length and long shank end mills etc.
- ▶ Available various corner radius end mills, from min. 0.02mm corner radius to max. 2.0mm corner radius.
- ▶ Available more various effective length and overall length end mills than previous standard products.

- ▶ 基于新形状设计，纳米颗粒基体和涂层，出色切削性能及耐磨性涂
- ▶ 加工模具产业的预硬钢，碳钢，合金钢(HRc55以下)表现出色
- ▶ 可提供短,普通和长柄铣刀
- ▶ 可提供多种圆弧角铣刀(R0.02mm~R2.0mm)
- ▶ 可提供比以前标准品更多种有效长和全长产品



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN

Ø0.2~Ø6 Ø7~Ø20

p.C266-273

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Length Below Shank 颈长 L_3	Overall Length 全长 L_2	Neck Diameter 颈径 D_3	Remark 备注
SEME610040102E	R0.1	**0.4**	4	0.6	2	40	0.37	-
SEME6100401025E	R0.1	**0.4**	4	0.6	2.5	40	0.37	-
SEME610040103E	R0.1	**0.4**	4	0.6	3	40	0.37	-
SEME610040104E	R0.1	**0.4**	4	0.6	4	40	0.37	-
SEME6100500501E	R0.05	**0.5**	4	0.7	1	45	0.45	-
SEME61005005015E	R0.05	**0.5**	4	0.7	1.5	45	0.45	-
SEME6100500502E	R0.05	**0.5**	4	0.7	2	45	0.45	-
SEME6100500502S25E	R0.05	**0.5**	4	0.7	2.5	45	0.45	-
SEME6100500503E	R0.05	**0.5**	4	0.7	3	45	0.45	-
SEME6100500504E	R0.05	**0.5**	4	0.7	4	45	0.45	-
SEME6100500505E	R0.05	**0.5**	4	0.7	5	45	0.45	-
SEME6100500506E	R0.05	**0.5**	4	0.7	6	45	0.45	-
SEME6100500504S6SE	R0.05	**0.5**	6	0.4	4	45	0.45	-
SEME610050101E	R0.1	**0.5**	4	0.7	1	45	0.45	-
SEME6100501015E	R0.1	**0.5**	4	0.7	1.5	45	0.45	-
SEME610050102E	R0.1	**0.5**	4	0.7	2	45	0.45	-
SEME6100501025E	R0.1	**0.5**	4	0.7	2.5	45	0.45	-
SEME610050103E	R0.1	**0.5**	4	0.7	3	45	0.45	-
SEME610050104E	R0.1	**0.5**	4	0.7	4	45	0.45	-
SEME610050105E	R0.1	**0.5**	4	0.7	5	45	0.45	-
SEME610050106E	R0.1	**0.5**	4	0.7	6	45	0.45	-
SEME610050102S6SE	R0.1	**0.5**	6	0.4	2	45	0.45	-
SEME610050104S6SE	R0.1	**0.5**	6	0.4	4	45	0.45	-
SEME6100600502E	R0.05	**0.6**	4	0.9	2	45	0.55	-

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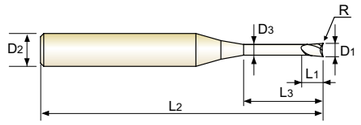
Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS
PLAIN SHANK SEME61 SERIES
CARBIDE, 2 FLUTE CORNER RADIUS with EXTENDED NECK
硬质合金，2刃 圆鼻 颈部加长
▶ Due to new coating and new tool geometry, outstanding cutting ability and wear resistance.
▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
▶ Available various products like regular length and long shank end mills etc.
▶ Available various corner radius end mills, from min. 0.02mm corner radius to max. 2.0mm corner radius.
▶ Available more various effective length and overall length end mills than previous standard products.
▶ 基于新形状设计，纳米颗粒基体和涂层，出色切削性能及耐磨性涂
▶ 加工模具产业的预硬钢，碳钢，合金钢(HRc55以下)表现出色
▶ 可提供短,普通和长柄铣刀
▶ 可提供多种圆弧角铣刀(R0.02mm~R2.0mm)
▶ 可提供比以前标准品更多种有效长和全长产品



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN
Ø0.2~Ø6 Ø7~Ø20
p.C266-273
Recommended ToolHolder
Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Length Below Shank 颈长 L_3	Overall Length 全长 L_2	Neck Diameter 颈径 D_3	Remark 备注
SEME6100600503E	R0.05	**0.6**	4	0.9	3	45	0.55	-
SEME6100600504E	R0.05	**0.6**	4	0.9	4	45	0.55	-
SEME6100600506E	R0.05	**0.6**	4	0.9	6	45	0.55	-
SEME6100600508E	R0.05	**0.6**	4	0.9	8	45	0.55	-
SEME6100600510E	R0.05	**0.6**	4	0.9	10	45	0.55	-
SEME610060102E	R0.1	**0.6**	4	0.9	2	45	0.55	-
SEME610060103E	R0.1	**0.6**	4	0.9	3	45	0.55	-
SEME610060104E	R0.1	**0.6**	4	0.9	4	45	0.55	-
SEME610060106E	R0.1	**0.6**	4	0.9	6	45	0.55	-
SEME610060108E	R0.1	**0.6**	4	0.9	8	45	0.55	-
SEME610060110E	R0.1	**0.6**	4	0.9	10	45	0.55	-
SEME610060202E	R0.2	**0.6**	4	0.9	2	45	0.55	-
SEME610060203E	R0.2	**0.6**	4	0.9	3	45	0.55	-
SEME610060204E	R0.2	**0.6**	4	0.9	4	45	0.55	-
SEME610060206E	R0.2	**0.6**	4	0.9	6	45	0.55	-
SEME610060208E	R0.2	**0.6**	4	0.9	8	45	0.55	-
SEME610060210E	R0.2	**0.6**	4	0.9	10	45	0.55	-
SEME6100700502E	R0.05	**0.7**	4	1.2	2	45	0.65	-
SEME6100700504E	R0.05	**0.7**	4	1.2	4	45	0.65	-
SEME6100700506E	R0.05	**0.7**	4	1.2	6	45	0.65	-
SEME6100700508E	R0.05	**0.7**	4	1.2	8	45	0.65	-
SEME6100700510E	R0.05	**0.7**	4	1.2	10	45	0.65	-
SEME6100700102E	R0.1	**0.7**	4	1.2	2	45	0.65	-
SEME6100700104E	R0.1	**0.7**	4	1.2	4	45	0.65	-

▶ NEXT PAGE 下页

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

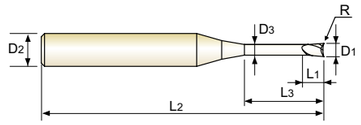
4G MILL END MILLS

PLAIN SHANK **SEME61** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS with EXTENDED NECK
硬质合金，2刃 圆鼻 颈部加长

- ▶ Due to new coating and new tool geometry, outstanding cutting ability and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Available various products like regular length and long shank end mills etc.
- ▶ Available various corner radius end mills, from min. 0.02mm corner radius to max. 2.0mm corner radius.
- ▶ Available more various effective length and overall length end mills than previous standard products.

- ▶ 基于新形状设计，纳米颗粒基体和涂层，出色切削性能及耐磨性涂
- ▶ 加工模具产业的预硬钢，碳钢，合金钢(HRc55以下)表现出色
- ▶ 可提供短,普通和长柄铣刀
- ▶ 可提供多种圆弧角铣刀(R0.02mm~R2.0mm)
- ▶ 可提供比以前标准品更多种有效长和全长产品



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN

Ø0.2~Ø6 Ø7~Ø20

p.C266-273

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME610070106E	R0.1	**0.7**	4	1.2	6	45	0.65	-
SEME610070108E	R0.1	**0.7**	4	1.2	8	45	0.65	-
SEME610070110E	R0.1	**0.7**	4	1.2	10	45	0.65	-
SEME610070202E	R0.2	**0.7**	4	1.2	2	45	0.65	-
SEME610070204E	R0.2	**0.7**	4	1.2	4	45	0.65	-
SEME610070206E	R0.2	**0.7**	4	1.2	6	45	0.65	-
SEME610070208E	R0.2	**0.7**	4	1.2	8	45	0.65	-
SEME610070210E	R0.2	**0.7**	4	1.2	10	45	0.65	-
SEME6100800502E	R0.05	**0.8**	4	1.2	2	45	0.75	-
SEME6100800503E	R0.05	**0.8**	4	1.2	3	45	0.75	-
SEME6100800504E	R0.05	**0.8**	4	1.2	4	45	0.75	-
SEME6100800506E	R0.05	**0.8**	4	1.2	6	45	0.75	-
SEME6100800508E	R0.05	**0.8**	4	1.2	8	45	0.75	-
SEME6100800510E	R0.05	**0.8**	4	1.2	10	45	0.75	-
SEME610080102E	R0.1	**0.8**	4	1.2	2	45	0.75	-
SEME610080103E	R0.1	**0.8**	4	1.2	3	45	0.75	-
SEME610080104E	R0.1	**0.8**	4	1.2	4	45	0.75	-
SEME610080106E	R0.1	**0.8**	4	1.2	6	45	0.75	-
SEME610080108E	R0.1	**0.8**	4	1.2	8	45	0.75	-
SEME610080110E	R0.1	**0.8**	4	1.2	10	45	0.75	-
SEME610080202E	R0.2	**0.8**	4	1.2	2	45	0.75	-
SEME610080203E	R0.2	**0.8**	4	1.2	3	45	0.75	-
SEME610080204E	R0.2	**0.8**	4	1.2	4	45	0.75	-
SEME610080206E	R0.2	**0.8**	4	1.2	6	45	0.75	-

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Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK SEME61 SERIES

CARBIDE, 2 FLUTE CORNER RADIUS with EXTENDED NECK
硬质合金，2刃 圆鼻 颈部加长

▶ Due to new coating and new tool geometry, outstanding cutting ability and wear resistance.
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▶ 基于新形状设计，纳米颗粒基体和涂层，出色切削性能及耐磨性涂
▶ 加工模具产业的预硬钢，碳钢，合金钢(HRc55以下)表现出色
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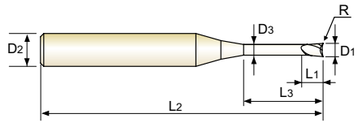
▶ 可提供比以前标准品更多种有效长和全长产品



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN

Ø0.2~Ø6 Ø7~Ø20

p.C266-273

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME610080208E	R0.2	**0.8**	4	1.2	8	45	0.75	-
SEME610080210E	R0.2	**0.8**	4	1.2	10	45	0.75	-
SEME6101000503E	R0.05	**1.0**	4	1.5	3	50	0.95	-
SEME6101000504E	R0.05	**1.0**	4	1.5	4	50	0.95	-
SEME6101000505E	R0.05	**1.0**	4	1.5	5	50	0.95	
SEME6101000506E	R0.05	**1.0**	4	1.5	6	50	0.95	-
SEME6101000508E	R0.05	**1.0**	4	1.5	8	50	0.95	-
SEME6101000510E	R0.05	**1.0**	4	1.5	10	50	0.95	-
SEME6101000512E	R0.05	**1.0**	4	1.5	12	50	0.95	-
SEME6101000514E	R0.05	**1.0**	4	1.5	14	50	0.95	-
SEME6101000516E	R0.05	**1.0**	4	1.5	16	50	0.95	-
SEME6101000520E	R0.05	**1.0**	4	1.5	20	50	0.95	-
SEME610100103E	R0.1	**1.0**	4	1.5	3	50	0.95	-
SEME610100104E	R0.1	**1.0**	4	1.5	4	50	0.95	-
SEME610100105E	R0.1	**1.0**	4	1.5	5	50	0.95	-
SEME610100106E	R0.1	**1.0**	4	1.5	6	50	0.95	-
SEME610100108E	R0.1	**1.0**	4	1.5	8	50	0.95	-
SEME610100110E	R0.1	**1.0**	4	1.5	10	50	0.95	-
SEME610100112E	R0.1	**1.0**	4	1.5	12	50	0.95	-
SEME610100114E	R0.1	**1.0**	4	1.5	14	50	0.95	-
SEME610100116E	R0.1	**1.0**	4	1.5	16	50	0.95	-
SEME610100120E	R0.1	**1.0**	4	1.5	20	50	0.95	-
SEME610100203E	R0.2	**1.0**	4	1.5	3	50	0.95	-
SEME610100204E	R0.2	**1.0**	4	1.5	4	50	0.95	-

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Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

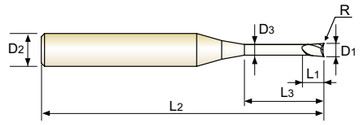
4G MILL END MILLS

PLAIN SHANK **SEME61** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS with EXTENDED NECK
硬质合金，2刃 圆鼻 颈部加长

- ▶ Due to new coating and new tool geometry, outstanding cutting ability and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Available various products like regular length and long shank end mills etc.
- ▶ Available various corner radius end mills, from min. 0.02mm corner radius to max. 2.0mm corner radius.
- ▶ Available more various effective length and overall length end mills than previous standard products.

- ▶ 基于新形状设计，纳米颗粒基体和涂层，出色切削性能及耐磨性涂
- ▶ 加工模具产业的预硬钢，碳钢，合金钢(HRc55以下)表现出色
- ▶ 可提供短,普通和长柄铣刀
- ▶ 可提供多种圆弧角铣刀(R0.02mm~R2.0mm)
- ▶ 可提供比以前标准品更多种有效长和全长产品



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN

Ø0.2~Ø6 Ø7~Ø20

p.C266-273

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-		POWER MILLING CHUCK	D161 - 176
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Length Below Shank 颈长 L_3	Overall Length 全长 L_2	Neck Diameter 颈径 D_3	Remark 备注
SEME610100205E	R0.2	1.0	4	1.5	5	50	0.95	
SEME610100206E	R0.2	1.0	4	1.5	6	50	0.95	-
SEME610100208E	R0.2	1.0	4	1.5	8	50	0.95	-
SEME610100210E	R0.2	1.0	4	1.5	10	50	0.95	-
SEME610100212E	R0.2	1.0	4	1.5	12	50	0.95	-
SEME610100214E	R0.2	1.0	4	1.5	14	50	0.95	-
SEME610100216E	R0.2	1.0	4	1.5	16	50	0.95	-
SEME610100220E	R0.2	1.0	4	1.5	20	50	0.95	-
SEME610100303E	R0.3	1.0	4	1.5	3	50	0.95	-
SEME610100304E	R0.3	1.0	4	1.5	4	50	0.95	-
SEME610100306E	R0.3	1.0	4	1.5	6	50	0.95	-
SEME610100308E	R0.3	1.0	4	1.5	8	50	0.95	-
SEME610100310E	R0.3	1.0	4	1.5	10	50	0.95	-
SEME610100312E	R0.3	1.0	4	1.5	12	50	0.95	-
SEME610100314E	R0.3	1.0	4	1.5	14	50	0.95	-
SEME610100316E	R0.3	1.0	4	1.5	16	50	0.95	-
SEME610100320E	R0.3	1.0	4	1.5	20	50	0.95	-
SEME6101200503E	R0.05	1.2	4	1.8	3	50	1.15	-
SEME6101200504E	R0.05	1.2	4	1.8	4	50	1.15	-
SEME6101200506E	R0.05	1.2	4	1.8	6	50	1.15	-
SEME6101200508E	R0.05	1.2	4	1.8	8	50	1.15	-
SEME6101200510E	R0.05	1.2	4	1.8	10	50	1.15	-
SEME6101200512E	R0.05	1.2	4	1.8	12	50	1.15	-
SEME6101200516E	R0.05	1.2	4	1.8	16	50	1.15	-

▶ NEXT PAGE 下页

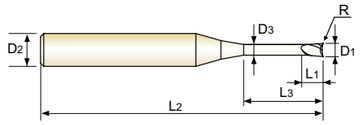
Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS
PLAIN SHANK SEME61 SERIES
CARBIDE, 2 FLUTE CORNER RADIUS with EXTENDED NECK
硬质合金，2刃 圆鼻 颈部加长



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN
Ø0.2~Ø6 Ø7~Ø20
p.C266-273
Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-		POWER MILLING CHUCK	D161 - 176
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Length Below Shank 颈长 L_3	Overall Length 全长 L_2	Neck Diameter 颈径 D_3	Remark 备注
SEME6101200520E	R0.05	1.2	4	1.8	20	50	1.15	-
SEME610120103E	R0.1	1.2	4	1.8	3	50	1.15	-
SEME610120104E	R0.1	1.2	4	1.8	4	50	1.15	-
SEME610120106E	R0.1	1.2	4	1.8	6	50	1.15	-
SEME610120108E	R0.1	1.2	4	1.8	8	50	1.15	-
SEME610120110E	R0.1	1.2	4	1.8	10	50	1.15	-
SEME610120112E	R0.1	1.2	4	1.8	12	50	1.15	-
SEME610120116E	R0.1	1.2	4	1.8	16	50	1.15	-
SEME610120120E	R0.1	1.2	4	1.8	20	50	1.15	-
SEME610120203E	R0.2	1.2	4	1.8	3	50	1.15	-
SEME610120204E	R0.2	1.2	4	1.8	4	50	1.15	-
SEME610120206E	R0.2	1.2	4	1.8	6	50	1.15	-
SEME610120208E	R0.2	1.2	4	1.8	8	50	1.15	-
SEME610120210E	R0.2	1.2	4	1.8	10	50	1.15	-
SEME610120212E	R0.2	1.2	4	1.8	12	50	1.15	-
SEME610120216E	R0.2	1.2	4	1.8	16	50	1.15	-
SEME610120220E	R0.2	1.2	4	1.8	20	50	1.15	-
SEME610120303E	R0.3	1.2	4	1.8	3	50	1.15	-
SEME610120304E	R0.3	1.2	4	1.8	4	50	1.15	-
SEME610120306E	R0.3	1.2	4	1.8	6	50	1.15	-
SEME610120308E	R0.3	1.2	4	1.8	8	50	1.15	-
SEME610120310E	R0.3	1.2	4	1.8	10	50	1.15	-
SEME610120312E	R0.3	1.2	4	1.8	12	50	1.15	-
SEME610120316E	R0.3	1.2	4	1.8	16	50	1.15	-

▶ NEXT PAGE 下页

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK **SEME61** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS with EXTENDED NECK
硬质合金，2刃 圆鼻 颈部加长

- ▶ Due to new coating and new tool geometry, outstanding cutting ability and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
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- ▶ Available various corner radius end mills, from min. 0.02mm corner radius to max. 2.0mm corner radius.
- ▶ Available more various effective length and overall length end mills than previous standard products.

- ▶ 基于新形状设计，纳米颗粒基体和涂层，出色切削性能及耐磨性涂
- ▶ 加工模具产业的预硬钢，碳钢，合金钢(HRc55以下)表现出色
- ▶ 可提供短,普通和长柄铣刀
- ▶ 可提供多种圆弧角铣刀(R0.02mm~R2.0mm)
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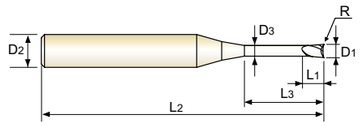

CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN

Ø0.2~Ø6 Ø7~Ø20

p.C266-273

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
◎ END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎ -	-	POWER MILLING CHUCK	D161 - 176
○ -	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME610120320E	R0.3	1.2	4	1.8	20	50	1.15	-
SEME6101500504E	R0.05	1.5	4	2.3	4	50	1.45	-
SEME6101500506E	R0.05	1.5	4	2.3	6	50	1.45	-
SEME6101500508E	R0.05	1.5	4	2.3	8	50	1.45	-
SEME6101500510E	R0.05	1.5	4	2.3	10	50	1.45	-
SEME6101500512E	R0.05	1.5	4	2.3	12	50	1.45	-
SEME6101500514E	R0.05	1.5	4	2.3	14	50	1.45	-
SEME6101500516E	R0.05	1.5	4	2.3	16	50	1.45	-
SEME6101500520E	R0.05	1.5	4	2.3	20	50	1.45	-
SEME6101500522E	R0.05	1.5	4	2.3	22	60	1.45	-
SEME6101500526E	R0.05	1.5	4	2.3	26	60	1.45	-
SEME610150104E	R0.1	1.5	4	2.3	4	50	1.45	-
SEME610150106E	R0.1	1.5	4	2.3	6	50	1.45	-
SEME610150108E	R0.1	1.5	4	2.3	8	50	1.45	-
SEME610150110E	R0.1	1.5	4	2.3	10	50	1.45	-
SEME610150112E	R0.1	1.5	4	2.3	12	50	1.45	-
SEME610150114E	R0.1	1.5	4	2.3	14	50	1.45	-
SEME610150116E	R0.1	1.5	4	2.3	16	50	1.45	-
SEME610150120E	R0.1	1.5	4	2.3	20	50	1.45	-
SEME610150122E	R0.1	1.5	4	2.3	22	60	1.45	-
SEME610150126E	R0.1	1.5	4	2.3	26	60	1.45	-
SEME610150204E	R0.2	1.5	4	2.3	4	50	1.45	-
SEME610150206E	R0.2	1.5	4	2.3	6	50	1.45	-
SEME610150208E	R0.2	1.5	4	2.3	8	50	1.45	-

▶ NEXT PAGE 下页

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

4G MILL END MILLS

PLAIN SHANK **SEME61** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS with EXTENDED NECK
硬质合金，2刃 圆鼻 颈部加长

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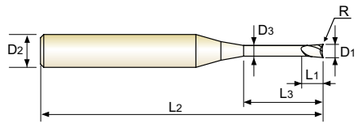
- ▶ 基于新形状设计，纳米颗粒基体和涂层，出色切削性能及耐磨性涂
- ▶ 加工模具产业的预硬钢，碳钢，合金钢(HRc55以下)表现出色
- ▶ 可提供短,普通和长柄铣刀
- ▶ 可提供多种圆弧角铣刀(R0.02mm~R2.0mm)
- ▶ 可提供比以前标准品更多种有效长和全长产品



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN

Ø0.2~Ø6 Ø7~Ø20

p.C266-273

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
◎ END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎ -	-	POWER MILLING CHUCK	D161 - 176
○ -	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME610150210E	R0.2	1.5	4	2.3	10	50	1.45	-
SEME610150212E	R0.2	1.5	4	2.3	12	50	1.45	-
SEME610150214E	R0.2	1.5	4	2.3	14	50	1.45	-
SEME610150216E	R0.2	1.5	4	2.3	16	50	1.45	-
SEME610150220E	R0.2	1.5	4	2.3	20	50	1.45	-
SEME610150222E	R0.2	1.5	4	2.3	22	60	1.45	-
SEME610150226E	R0.2	1.5	4	2.3	26	60	1.45	-
SEME610150304E	R0.3	1.5	4	2.3	4	50	1.45	-
SEME610150306E	R0.3	1.5	4	2.3	6	50	1.45	-
SEME610150308E	R0.3	1.5	4	2.3	8	50	1.45	-
SEME610150310E	R0.3	1.5	4	2.3	10	50	1.45	-
SEME610150312E	R0.3	1.5	4	2.3	12	50	1.45	-
SEME610150314E	R0.3	1.5	4	2.3	14	50	1.45	-
SEME610150316E	R0.3	1.5	4	2.3	16	50	1.45	-
SEME610150320E	R0.3	1.5	4	2.3	20	50	1.45	-
SEME610150322E	R0.3	1.5	4	2.3	22	60	1.45	-
SEME610150326E	R0.3	1.5	4	2.3	26	60	1.45	-
SEME610150504E	R0.5	1.5	4	2.3	4	50	1.45	-
SEME610150506E	R0.5	1.5	4	2.3	6	50	1.45	-
SEME610150508E	R0.5	1.5	4	2.3	8	50	1.45	-
SEME610150510E	R0.5	1.5	4	2.3	10	50	1.45	-
SEME610150512E	R0.5	1.5	4	2.3	12	50	1.45	-
SEME610150514E	R0.5	1.5	4	2.3	14	50	1.45	-
SEME610150516E	R0.5	1.5	4	2.3	16	50	1.45	-

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Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

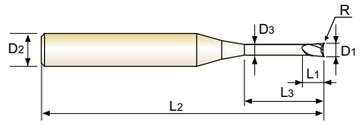
4G MILL END MILLS

PLAIN SHANK **SEME61** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS with EXTENDED NECK
硬质合金，2刃 圆鼻 颈部加长

- ▶ Due to new coating and new tool geometry, outstanding cutting ability and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Available various products like regular length and long shank end mills etc.
- ▶ Available various corner radius end mills, from min. 0.02mm corner radius to max. 2.0mm corner radius.
- ▶ Available more various effective length and overall length end mills than previous standard products.

- ▶ 基于新形状设计，纳米颗粒基体和涂层，出色切削性能及耐磨性涂
- ▶ 加工模具产业的预硬钢，碳钢，合金钢(HRc55以下)表现出色
- ▶ 可提供短,普通和长柄铣刀
- ▶ 可提供多种圆弧角铣刀(R0.02mm~R2.0mm)
- ▶ 可提供比以前标准品更多种有效长和全长产品



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN

Ø0.2~Ø6 Ø7~Ø20

p.C266-273

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME610150520E	R0.5	1.5	4	2.3	20	50	1.45	-
SEME610150522E	R0.5	1.5	4	2.3	22	60	1.45	-
SEME610150526E	R0.5	1.5	4	2.3	26	60	1.45	-
SEME610200106E	R0.1	2.0	4	3	6	50	1.95	-
SEME610200108E	R0.1	2.0	4	3	8	50	1.95	-
SEME610200110E	R0.1	2.0	4	3	10	50	1.95	-
SEME610200112E	R0.1	2.0	4	3	12	50	1.95	-
SEME610200114E	R0.1	2.0	4	3	14	50	1.95	-
SEME610200116E	R0.1	2.0	4	3	16	50	1.95	-
SEME610200120E	R0.1	2.0	4	3	20	50	1.95	-
SEME610200122E	R0.1	2.0	4	3	22	60	1.95	-
SEME610200126E	R0.1	2.0	4	3	26	60	1.95	-
SEME610200130E	R0.1	2.0	4	3	30	70	1.95	-
SEME610200206E	R0.2	2.0	4	3	6	50	1.95	-
SEME610200208E	R0.2	2.0	4	3	8	50	1.95	-
SEME610200210E	R0.2	2.0	4	3	10	50	1.95	-
SEME610200212E	R0.2	2.0	4	3	12	50	1.95	-
SEME610200214E	R0.2	2.0	4	3	14	50	1.95	-
SEME610200216E	R0.2	2.0	4	3	16	50	1.95	-
SEME610200220E	R0.2	2.0	4	3	20	50	1.95	-
SEME610200222E	R0.2	2.0	4	3	22	60	1.95	-
SEME610200226E	R0.2	2.0	4	3	26	60	1.95	-
SEME610200230E	R0.2	2.0	4	3	30	70	1.95	-
SEME610200306E	R0.3	2.0	4	3	6	50	1.95	-

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Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK SEME61 SERIES

CARBIDE, 2 FLUTE CORNER RADIUS with EXTENDED NECK
硬质合金，2刃 圆鼻 颈部加长

▶ Due to new coating and new tool geometry, outstanding cutting ability and wear resistance.
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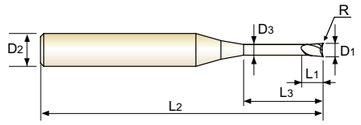
▶ 基于新形状设计，纳米颗粒基体和涂层，出色切削性能及耐磨性涂
▶ 加工模具产业的预硬钢，碳钢，合金钢(HRc55以下)表现出色
▶ 可提供短,普通和长柄铣刀
▶ 可提供多种圆弧角铣刀(R0.02mm~R2.0mm)
▶ 可提供比以前标准品更多种有效长和全长产品



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN

Ø0.2~Ø6 Ø7~Ø20

p.C266-273

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME610200308E	R0.3	2.0	4	3	8	50	1.95	-
SEME610200310E	R0.3	2.0	4	3	10	50	1.95	-
SEME610200312E	R0.3	2.0	4	3	12	50	1.95	-
SEME610200314E	R0.3	2.0	4	3	14	50	1.95	-
SEME610200316E	R0.3	2.0	4	3	16	50	1.95	-
SEME610200320E	R0.3	2.0	4	3	20	50	1.95	-
SEME610200322E	R0.3	2.0	4	3	22	60	1.95	-
SEME610200326E	R0.3	2.0	4	3	26	60	1.95	-
SEME610200330E	R0.3	2.0	4	3	30	70	1.95	-
SEME610200506E	R0.5	2.0	4	3	6	50	1.95	-
SEME610200508E	R0.5	2.0	4	3	8	50	1.95	-
SEME610200510E	R0.5	2.0	4	3	10	50	1.95	-
SEME610200512E	R0.5	2.0	4	3	12	50	1.95	-
SEME610200514E	R0.5	2.0	4	3	14	50	1.95	-
SEME610200516E	R0.5	2.0	4	3	16	50	1.95	-
SEME610200520E	R0.5	2.0	4	3	20	50	1.95	-
SEME610200522E	R0.5	2.0	4	3	22	60	1.95	-
SEME610200526E	R0.5	2.0	4	3	26	60	1.95	-
SEME610200530E	R0.5	2.0	4	3	30	70	1.95	-
SE5E6102005086SE	R0.5	2.0	6	3	8	50	1.95	
SEME610250108E	R0.1	2.5	4	4	8	50	2.40	-
SEME610250110E	R0.1	2.5	4	4	10	50	2.40	-
SEME610250112E	R0.1	2.5	4	4	12	50	2.40	-
SEME610250114E	R0.1	2.5	4	4	14	50	2.40	-

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Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK **SEME61** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS with EXTENDED NECK
硬质合金，2刃 圆鼻 颈部加长

- ▶ Due to new coating and new tool geometry, outstanding cutting ability and wear resistance.
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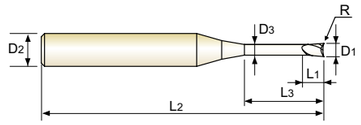
- ▶ 基于新形状设计，纳米颗粒基体和涂层，出色切削性能及耐磨性涂
- ▶ 加工模具产业的预硬钢，碳钢，合金钢(HRc55以下)表现出色
- ▶ 可提供短,普通和长柄铣刀
- ▶ 可提供多种圆弧角铣刀(R0.02mm~R2.0mm)
- ▶ 可提供比以前标准品更多种有效长和全长产品



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN

Ø0.2~Ø6 Ø7~Ø20

p.C266-273

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Length Below Shank 颈长 L_3	Overall Length 全长 L_2	Neck Diameter 颈径 D_3	Remark 备注
SEME610250116E	R0.1	2.5	4	4	16	50	2.40	-
SEME610250120E	R0.1	2.5	4	4	20	50	2.40	-
SEME610250126E	R0.1	2.5	4	4	26	60	2.40	-
SEME610250130E	R0.1	2.5	4	4	30	70	2.40	-
SEME610250208E	R0.2	2.5	4	4	8	50	2.40	-
SEME610250210E	R0.2	2.5	4	4	10	50	2.40	-
SEME610250212E	R0.2	2.5	4	4	12	50	2.40	-
SEME610250214E	R0.2	2.5	4	4	14	50	2.40	-
SEME610250216E	R0.2	2.5	4	4	16	50	2.40	-
SEME610250220E	R0.2	2.5	4	4	20	50	2.40	-
SEME610250226E	R0.2	2.5	4	4	26	60	2.40	-
SEME610250230E	R0.2	2.5	4	4	30	70	2.40	-
SEME610250308E	R0.3	2.5	4	4	8	50	2.40	-
SEME610250310E	R0.3	2.5	4	4	10	50	2.40	-
SEME610250312E	R0.3	2.5	4	4	12	50	2.40	-
SEME610250314E	R0.3	2.5	4	4	14	50	2.40	-
SEME610250316E	R0.3	2.5	4	4	16	50	2.40	-
SEME610250320E	R0.3	2.5	4	4	20	50	2.40	-
SEME610250326E	R0.3	2.5	4	4	26	60	2.40	-
SEME610250330E	R0.3	2.5	4	4	30	70	2.40	-
SEME610250508E	R0.5	2.5	4	4	8	50	2.40	-
SEME610250510E	R0.5	2.5	4	4	10	50	2.40	-
SEME610250512E	R0.5	2.5	4	4	12	50	2.40	-
SEME610250514E	R0.5	2.5	4	4	14	50	2.40	-

▶ NEXT PAGE 下页

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

4G MILL END MILLS

PLAIN SHANK **SEME61** SERIES

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硬质合金，2刃 圆鼻 颈部加长

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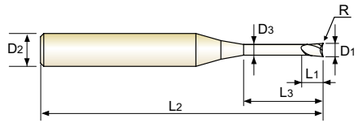
- ▶ 可提供比以前标准品更多种有效长和全长产品



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN

Ø0.2~Ø6 Ø7~Ø20

p.C266-273

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Length Below Shank 颈长 L_3	Overall Length 全长 L_2	Neck Diameter 颈径 D_3	Remark 备注
SEME610250516E	R0.5	2.5	4	4	16	50	2.40	-
SEME610250520E	R0.5	2.5	4	4	20	50	2.40	-
SEME610250526E	R0.5	2.5	4	4	26	60	2.40	-
SEME610250530E	R0.5	2.5	4	4	30	70	2.40	-
SEME610300108E	R0.1	3.0	6	4.5	8	50	2.85	-
SEME610300110E	R0.1	3.0	6	4.5	10	50	2.85	-
SEME610300112E	R0.1	3.0	6	4.5	12	50	2.85	-
SEME610300114E	R0.1	3.0	6	4.5	14	60	2.85	-
SEME610300116E	R0.1	3.0	6	4.5	16	60	2.85	-
SEME610300120E	R0.1	3.0	6	4.5	20	60	2.85	-
SEME610300126E	R0.1	3.0	6	4.5	26	65	2.85	-
SEME610300130E	R0.1	3.0	6	4.5	30	70	2.85	-
SEME610300135E	R0.1	3.0	6	4.5	35	70	2.85	-
SEME610300140E	R0.1	3.0	6	4.5	40	80	2.85	-
SEME610300208E	R0.2	3.0	6	4.5	8	50	2.85	-
SEME610300210E	R0.2	3.0	6	4.5	10	50	2.85	-
SEME610300212E	R0.2	3.0	6	4.5	12	50	2.85	-
SEME610300214E	R0.2	3.0	6	4.5	14	60	2.85	-
SEME610300216E	R0.2	3.0	6	4.5	16	60	2.85	-
SEME610300220E	R0.2	3.0	6	4.5	20	60	2.85	-
SEME610300226E	R0.2	3.0	6	4.5	26	65	2.85	-
SEME610300230E	R0.2	3.0	6	4.5	30	70	2.85	-
SEME610300235E	R0.2	3.0	6	4.5	35	70	2.85	-
SEME610300240E	R0.2	3.0	6	4.5	40	80	2.85	-

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Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

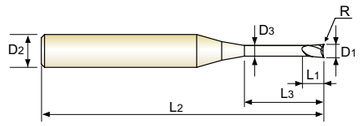
4G MILL END MILLS

PLAIN SHANK **SEME61** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS with EXTENDED NECK
硬质合金，2刃 圆鼻 颈部加长

- ▶ Due to new coating and new tool geometry, outstanding cutting ability and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Available various products like regular length and long shank end mills etc.
- ▶ Available various corner radius end mills, from min. 0.02mm corner radius to max. 2.0mm corner radius.
- ▶ Available more various effective length and overall length end mills than previous standard products.

- ▶ 基于新形状设计, 纳米颗粒基体和涂层, 出色切削性能及耐磨性涂
- ▶ 加工模具产业的预硬钢, 碳钢, 合金钢(HRc55以下)表现出色
- ▶ 可提供短,普通和长柄铣刀
- ▶ 可提供多种圆弧角铣刀(R0.02mm~R2.0mm)
- ▶ 可提供比以前标准品更多种有效长和全长产品



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN

Ø0.2~Ø6 Ø7~Ø20

p.C266-273

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Length Below Shank 颈长 L_3	Overall Length 全长 L_2	Neck Diameter 颈径 D_3	Remark 备注
SEME610300308E	R0.3	3.0	6	4.5	8	50	2.85	-
SEME610300310E	R0.3	3.0	6	4.5	10	50	2.85	-
SEME610300312E	R0.3	3.0	6	4.5	12	50	2.85	-
SEME610300314E	R0.3	3.0	6	4.5	14	60	2.85	-
SEME610300316E	R0.3	3.0	6	4.5	16	60	2.85	-
SEME610300320E	R0.3	3.0	6	4.5	20	60	2.85	-
SEME610300326E	R0.3	3.0	6	4.5	26	65	2.85	-
SEME610300330E	R0.3	3.0	6	4.5	30	70	2.85	-
SEME610300335E	R0.3	3.0	6	4.5	35	70	2.85	-
SEME610300340E	R0.3	3.0	6	4.5	40	80	2.85	-
SEME610300508E	R0.5	3.0	6	4.5	8	50	2.85	-
SEME610300510E	R0.5	3.0	6	4.5	10	50	2.85	-
SEME610300512E	R0.5	3.0	6	4.5	12	50	2.85	-
SEME610300514E	R0.5	3.0	6	4.5	14	60	2.85	-
SEME610300516E	R0.5	3.0	6	4.5	16	60	2.85	-
SEME610300520E	R0.5	3.0	6	4.5	20	60	2.85	-
SEME610300526E	R0.5	3.0	6	4.5	26	65	2.85	-
SEME610300530E	R0.5	3.0	6	4.5	30	70	2.85	-
SEME610300535E	R0.5	3.0	6	4.5	35	70	2.85	-
SEME610300540E	R0.5	3.0	6	4.5	40	80	2.85	-
SEME610301008E	R1.0	3.0	6	4.5	8	50	2.85	-
SEME610301010E	R1.0	3.0	6	4.5	10	50	2.85	-
SEME610301012E	R1.0	3.0	6	4.5	12	50	2.85	-
SEME610301014E	R1.0	3.0	6	4.5	14	60	2.85	-

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Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

4G MILL END MILLS

PLAIN SHANK **SEME61** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS with EXTENDED NECK
硬质合金，2刃 圆鼻 颈部加长

- ▶ Due to new coating and new tool geometry, outstanding cutting ability and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Available various products like regular length and long shank end mills etc.
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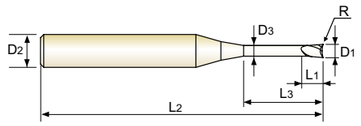
- ▶ Available more various effective length and overall length end mills than previous standard products.

- ▶ 基于新形状设计, 纳米颗粒基体和涂层, 出色切削性能及耐磨性涂
- ▶ 加工模具产业的预硬钢, 碳钢, 合金钢(HRc55以下)表现出色
- ▶ 可提供短,普通和长柄铣刀
- ▶ 可提供多种圆弧角铣刀(R0.02mm~R2.0mm)
- ▶ 可提供比以前标准品更多种有效长和全长产品



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN

Ø0.2~Ø6 Ø7~Ø20

p.C266-273

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Length Below Shank 颈长 L_3	Overall Length 全长 L_2	Neck Diameter 颈径 D_3	Remark 备注
SEME610301016E	R1.0	3.0	6	4.5	16	60	2.85	-
SEME610301020E	R1.0	3.0	6	4.5	20	60	2.85	-
SEME610301026E	R1.0	3.0	6	4.5	26	65	2.85	-
SEME610301030E	R1.0	3.0	6	4.5	30	70	2.85	-
SEME610301035E	R1.0	3.0	6	4.5	35	70	2.85	-
SEME610301040E	R1.0	3.0	6	4.5	40	80	2.85	-
SEME610400110E	R0.1	4.0	6	6	10	50	3.85	-
SEME610400112E	R0.1	4.0	6	6	12	50	3.85	-
SEME610400114E	R0.1	4.0	6	6	14	60	3.85	-
SEME610400116E	R0.1	4.0	6	6	16	60	3.85	-
SEME610400120E	R0.1	4.0	6	6	20	60	3.85	-
SEME610400126E	R0.1	4.0	6	6	26	65	3.85	-
SEME610400130E	R0.1	4.0	6	6	30	70	3.85	-
SEME610400135E	R0.1	4.0	6	6	35	70	3.85	-
SEME610400140E	R0.1	4.0	6	6	40	80	3.85	-
SEME610400145E	R0.1	4.0	6	6	45	90	3.85	-
SEME610400150E	R0.1	4.0	6	6	50	100	3.85	-
SEME610400210E	R0.2	4.0	6	6	10	50	3.85	-
SEME610400212E	R0.2	4.0	6	6	12	50	3.85	-
SEME610400214E	R0.2	4.0	6	6	14	60	3.85	-
SEME610400216E	R0.2	4.0	6	6	16	60	3.85	-
SEME610400220E	R0.2	4.0	6	6	20	60	3.85	-
SEME610400226E	R0.2	4.0	6	6	26	65	3.85	-
SEME610400230E	R0.2	4.0	6	6	30	70	3.85	-

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Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK **SEME61** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS with EXTENDED NECK
硬质合金，2刃 圆鼻 颈部加长

- ▶ Due to new coating and new tool geometry, outstanding cutting ability and wear resistance.
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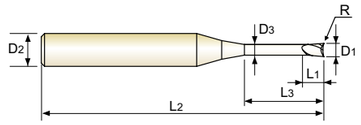
- ▶ Available more various effective length and overall length end mills than previous standard products.

- ▶ 基于新形状设计，纳米颗粒基体和涂层，出色切削性能及耐磨性涂
- ▶ 加工模具产业的预硬钢，碳钢，合金钢(HRc55以下)表现出色
- ▶ 可提供短,普通和长柄铣刀
- ▶ 可提供多种圆弧角铣刀(R0.02mm~R2.0mm)
- ▶ 可提供比以前标准品更多种有效长和全长产品



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN

p.C266-273

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-		POWER MILLING CHUCK	D161 - 176
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Length Below Shank 颈长 L_3	Overall Length 全长 L_2	Neck Diameter 颈径 D_3	Remark 备注
SEME610400235E	R0.2	4.0	6	6	35	70	3.85	-
SEME610400240E	R0.2	4.0	6	6	40	80	3.85	-
SEME610400245E	R0.2	4.0	6	6	45	90	3.85	-
SEME610400250E	R0.2	4.0	6	6	50	100	3.85	-
SEME610400310E	R0.3	4.0	6	6	10	50	3.85	-
SEME610400312E	R0.3	4.0	6	6	12	50	3.85	-
SEME610400314E	R0.3	4.0	6	6	14	50	3.85	-
SEME610400316E	R0.3	4.0	6	6	16	50	3.85	-
SEME610400320E	R0.3	4.0	6	6	20	50	3.85	-
SEME610400326E	R0.3	4.0	6	6	26	65	3.85	-
SEME610400330E	R0.3	4.0	6	6	30	70	3.85	-
SEME610400335E	R0.3	4.0	6	6	35	70	3.85	-
SEME610400340E	R0.3	4.0	6	6	40	80	3.85	-
SEME610400345E	R0.3	4.0	6	6	45	90	3.85	-
SEME610400350E	R0.3	4.0	6	6	50	100	3.85	-
SEME610400510E	R0.5	4.0	6	6	10	50	3.85	-
SEME610400512E	R0.5	4.0	6	6	12	50	3.85	-
SEME610400514E	R0.5	4.0	6	6	14	60	3.85	-
SEME610400516E	R0.5	4.0	6	6	16	60	3.85	-
SEME610400520E	R0.5	4.0	6	6	20	60	3.85	-
SEME610400526E	R0.5	4.0	6	6	26	65	3.85	-
SEME610400530E	R0.5	4.0	6	6	30	70	3.85	-
SEME610400535E	R0.5	4.0	6	6	35	70	3.85	-
SEME610400540E	R0.5	4.0	6	6	40	80	3.85	-

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Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS
PLAIN SHANK SEME61 SERIES
CARBIDE, 2 FLUTE CORNER RADIUS with EXTENDED NECK
硬质合金，2刃 圆鼻 颈部加长
▶ Due to new coating and new tool geometry, outstanding cutting ability and wear resistance.
▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
▶ Available various products like regular length and long shank end mills etc.
▶ Available various corner radius end mills, from min. 0.02mm corner radius to max. 2.0mm corner radius.
▶ Available more various effective length and overall length end mills than previous standard products.
▶ 基于新形状设计，纳米颗粒基体和涂层，出色切削性能及耐磨性涂
▶ 加工模具产业的预硬钢，碳钢，合金钢(HRc55以下)表现出色
▶ 可提供短,普通和长柄铣刀
▶ 可提供多种圆弧角铣刀(R0.02mm~R2.0mm)
▶ 可提供比以前标准品更多种有效长和全长产品
CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN
p.C266-273
Recommended ToolHolder
Unit(单位) : mm
◎ : Excellent (优秀) ○ : Good (良好)

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Length Below Shank 颈长 L_3	Overall Length 全长 L_2	Neck Diameter 颈径 D_3	Remark 备注
SEME610400545E	R0.5	4.0	6	6	45	90	3.85	-
SEME610400550E	R0.5	4.0	6	6	50	100	3.85	-
SEME610401010E	R1.0	4.0	6	6	10	50	3.85	-
SEME610401012E	R1.0	4.0	6	6	12	50	3.85	-
SEME610401014E	R1.0	4.0	6	6	14	60	3.85	-
SEME610401016E	R1.0	4.0	6	6	16	60	3.85	-
SEME610401020E	R1.0	4.0	6	6	20	60	3.85	-
SEME610401026E	R1.0	4.0	6	6	26	65	3.85	-
SEME610401030E	R1.0	4.0	6	6	30	70	3.85	-
SEME610401035E	R1.0	4.0	6	6	35	70	3.85	-
SEME610401040E	R1.0	4.0	6	6	40	80	3.85	-
SEME610401045E	R1.0	4.0	6	6	45	90	3.85	-
SEME610401050E	R1.0	4.0	6	6	50	100	3.85	-
SEME6105001E	R0.1	5.0	6	8	15	60	4.85	-
SEME6105002E	R0.2	5.0	6	8	15	60	4.85	-
SEME6105003E	R0.3	5.0	6	8	15	60	4.85	-
SEME6105005E	R0.5	5.0	6	8	15	60	4.85	-
SEME6105010E	R1.0	5.0	6	8	15	60	4.85	-
SEME6105015E	R1.5	5.0	6	8	15	60	4.85	-
SEME6105020E	R2.0	5.0	6	8	15	60	4.85	-
SEME6106001E	R0.1	6.0	6	9	20	60	5.85	Regular
SEME6106002E	R0.2	6.0	6	9	20	60	5.85	Regular
SEME6106003E	R0.3	6.0	6	9	20	60	5.85	Regular
SEME6106005E	R0.5	6.0	6	9	20	60	5.85	Regular

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Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

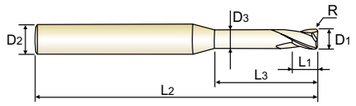
4G MILL END MILLS

PLAIN SHANK **SEME61** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS with EXTENDED NECK
硬质合金，2刃 圆鼻 颈部加长

- ▶ Due to new coating and new tool geometry, outstanding cutting ability and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Available various products like regular length and long shank end mills etc.
- ▶ Available various corner radius end mills, from min. 0.02mm corner radius to max. 2.0mm corner radius.
- ▶ Available more various effective length and overall length end mills than previous standard products.

- ▶ 基于新形状设计, 纳米颗粒基体和涂层, 出色切削性能及耐磨性涂
- ▶ 加工模具产业的预硬钢, 碳钢, 合金钢(HRc55以下)表现出色
- ▶ 可提供短,普通和长柄铣刀
- ▶ 可提供多种圆弧角铣刀(R0.02mm~R2.0mm)
- ▶ 可提供比以前标准品更多种有效长和全长产品



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN

p.C266-273

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-		POWER MILLING CHUCK	D161 - 176
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME6106010E	R1.0	**6.0**	6	9	20	60	5.85	Regular
SEME6106015E	R1.5	**6.0**	6	9	20	60	5.85	Regular
SEME6106020E	R2.0	**6.0**	6	9	20	60	5.85	Regular
SEME6106003090E	R0.3	**6.0**	6	15	30	90	5.85	Long
SEME610600524E	R0.5	**6.0**	6	9	24	90	5.85	-
SEME6106005090E	R0.5	**6.0**	6	15	30	90	5.85	Long
SEME6106010090E	R1.0	**6.0**	6	15	30	90	5.85	Long
SEME6108001E	R0.1	**8.0**	8	12	25	70	7.70	Regular
SEME6108002E	R0.2	**8.0**	8	12	25	70	7.70	Regular
SEME6108003E	R0.3	**8.0**	8	12	25	70	7.70	Regular
SEME6108005E	R0.5	**8.0**	8	12	25	70	7.70	Regular
SEME6108010E	R1.0	**8.0**	8	12	25	70	7.70	Regular
SEME6108015E	R1.5	**8.0**	8	12	25	70	7.70	Regular
SEME6108020E	R2.0	**8.0**	8	12	25	70	7.70	Regular
SEME6108003100E	R0.3	**8.0**	8	20	35	100	7.70	Long
SEME6108005100E	R0.5	**8.0**	8	20	35	100	7.70	Long
SEME6108010100E	R1.0	**8.0**	8	20	35	100	7.70	Long
SEME6110001E	R0.1	**10.0**	10	15	30	75	9.70	Regular
SEME6110002E	R0.2	**10.0**	10	15	30	75	9.70	Regular
SEME6110003E	R0.3	**10.0**	10	15	30	75	9.70	Regular
SEME6110005E	R0.5	**10.0**	10	15	30	75	9.70	Regular
SEME6110010E	R1.0	**10.0**	10	15	30	75	9.70	Regular
SEME6110015E	R1.5	**10.0**	10	15	30	75	9.70	Regular
SEME6110020E	R2.0	**10.0**	10	15	30	75	9.70	Regular

▶ NEXT PAGE 下页

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			M				K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel										Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20										
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21										
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230										
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○										

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

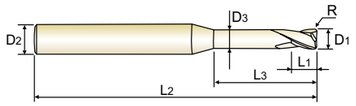
4G MILL END MILLS

PLAIN SHANK SEME61 SERIES

CARBIDE, 2 FLUTE CORNER RADIUS with EXTENDED NECK
硬质合金，2刃 圆鼻 颈部加长

▶ Due to new coating and new tool geometry, outstanding cutting ability and wear resistance.
▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
▶ Available various products like regular length and long shank end mills etc.
▶ Available various corner radius end mills, from min. 0.02mm corner radius to max. 2.0mm corner radius.
▶ Available more various effective length and overall length end mills than previous standard products.

▶ 基于新形状设计, 纳米颗粒基体和涂层, 出色切削性能及耐磨性涂
▶ 加工模具产业的预硬钢, 碳钢, 合金钢(HRc55以下)表现出色
▶ 可提供短,普通和长柄铣刀
▶ 可提供多种圆弧角铣刀(R0.02mm~R2.0mm)
▶ 可提供比以前标准品更多种有效长和全长产品



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN

p.C266-273

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-		POWER MILLING CHUCK	D161 - 176
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME6110003100E	R0.3	**10.0**	10	25	40	100	9.70	Long
SEME6110005100E	R0.5	**10.0**	10	25	40	100	9.70	Long
SEME6110010100E	R1.0	**10.0**	10	25	40	100	9.70	Long
SEME6112002E	R0.2	**12.0**	12	18	32	80	11.70	Regular
SEME6112003E	R0.3	**12.0**	12	18	32	80	11.70	Regular
SEME6112005E	R0.5	**12.0**	12	18	32	80	11.70	Regular
SEME6112010E	R1.0	**12.0**	12	18	32	80	11.70	Regular
SEME6112015E	R1.5	**12.0**	12	18	32	80	11.70	Regular
SEME6112020E	R2.0	**12.0**	12	18	32	80	11.70	Regular
SEME6112003110E	R0.3	**12.0**	12	30	50	110	11.70	Long
SEME6112005110E	R0.5	**12.0**	12	30	50	110	11.70	Long
SEME6112010110E	R1.0	**12.0**	12	30	50	110	11.70	Long
SEME6116005E	R0.5	**16.0**	16	20	35	100	15.70	Regular
SEME6116010E	R1.0	**16.0**	16	20	35	100	15.70	Regular
SEME6116005150E	R0.5	**16.0**	16	35	50	150	15.70	Long
SEME6116010150E	R1.0	**16.0**	16	35	50	150	15.70	Long
SEME6120005E	R0.5	**20.0**	20	25	40	100	19.70	Regular
SEME6120010E	R1.0	**20.0**	20	25	40	100	19.70	Regular
SEME6120005150E	R0.5	**20.0**	20	40	55	150	19.70	Long
SEME6120010150E	R1.0	**20.0**	20	40	55	150	19.70	Long

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			M				K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel										Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20										
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21										
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230										
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○										

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

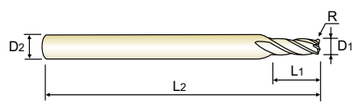
4G MILL END MILLS

PLAIN SHANK **SEME01** SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS (Short, Regular, Long Shank)
硬质合金，4刃 不等螺旋 圆鼻 (短刃, 普通刃长, 长柄)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
- ▶ Multiple Helix for 3.0mm and over 3.0mm diameter endmills minimizing vibration and decreasing wear in cutting.
- ▶ Available in short, regular and long shank end mills.

- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色
- ▶基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性
- ▶可提供多种产品包括短, 普通和长柄铣刀



CARBIDE | 4 | 27°/30° | R ±0.02 | PLAIN

p.C274-275

D<Ø3, 30° HELIX

Recommended Toolholder	Flat Shank	Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
	-	-	POWER MILLING CHUCK	D161 - 176
	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEME010100054SE	R0.05	1.0	4	2.5	50	4mm Shank
SEME010100014SE	R0.1	1.0	4	2.5	50	4mm Shank
SEME01010024SE	R0.2	1.0	4	2.5	50	4mm Shank
SEME01010034SE	R0.3	1.0	4	2.5	50	4mm Shank
SEME01010005E	R0.05	1.0	6	2.5	50	-
SEME0101001E	R0.1	1.0	6	2.5	50	-
SEME0101002E	R0.2	1.0	6	2.5	50	-
SEME0101003E	R0.3	1.0	6	2.5	50	-
SEME010120054SE	R0.05	1.2	4	3	50	4mm Shank
SEME01012014SE	R0.1	1.2	4	3	50	4mm Shank
SEME01012024SE	R0.2	1.2	4	3	50	4mm Shank
SEME01012034SE	R0.3	1.2	4	3	50	4mm Shank
SEME01012005E	R0.05	1.2	6	3	50	-
SEME0101201E	R0.1	1.2	6	3	50	-
SEME0101202E	R0.2	1.2	6	3	50	-
SEME0101203E	R0.3	1.2	6	3	50	-
SEME010150054SE	R0.05	1.5	4	4	50	4mm Shank
SEME01015014SE	R0.1	1.5	4	4	50	4mm Shank
SEME01015024SE	R0.2	1.5	4	4	50	4mm Shank
SEME01015034SE	R0.3	1.5	4	4	50	4mm Shank
SEME01015054SE	R0.5	1.5	4	4	50	4mm Shank
SEME01015005E	R0.05	1.5	6	4	50	-
SEME0101501E	R0.1	1.5	6	4	50	-
SEME0101502E	R0.2	1.5	6	4	50	-

▶ NEXT PAGE 下页

Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

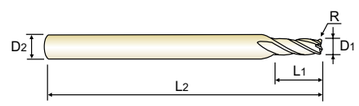
4G MILL END MILLS

PLAIN SHANK SEME01 SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS (Short, Regular, Long Shank)
硬质合金，4刃 不等螺旋 圆鼻 (短刃, 普通刃长, 长柄)

▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
▶ Multiple Helix for 3.0mm and over 3.0mm diameter endmills minimizing vibration and decreasing wear in cutting.
▶ Available in short, regular and long shank end mills.

▶基于新涂层及形状, 实现出色切削性能和耐磨性
▶加工模具产业的预硬钢(HRc55以下)表现出色
▶基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性
▶可提供多种产品包括短, 普通和长柄铣刀



CARBIDE | 4 | 27°/30° | R ±0.02 | PLAIN

p.C274-275

D<Ø3, 30° HELIX

Recommended Toolholder	Flat Shank	Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
	-	-	POWER MILLING CHUCK	D161 - 176
	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEME0101503E	R0.3	1.5	6	4	50	-
SEME0101505E	R0.5	1.5	6	4	50	-
SEME01020014SE	R0.1	2.0	4	6	50	4mm Shank
SEME01020024SE	R0.2	2.0	4	6	50	4mm Shank
SEME01020034SE	R0.3	2.0	4	6	50	4mm Shank
SEME01020054SE	R0.5	2.0	4	6	50	4mm Shank
SEME0102001E	R0.1	2.0	6	6	50	-
SEME0102002E	R0.2	2.0	6	6	50	-
SEME0102003E	R0.3	2.0	6	6	50	-
SEME0102005E	R0.5	2.0	6	6	50	-
SEME01025014SE	R0.1	2.5	4	7	60	4mm Shank
SEME01025024SE	R0.2	2.5	4	7	60	4mm Shank
SEME01025034SE	R0.3	2.5	4	7	60	4mm Shank
SEME01025054SE	R0.5	2.5	4	7	60	4mm Shank
SEME0102501E	R0.1	2.5	6	7	60	-
SEME0102502E	R0.2	2.5	6	7	60	-
SEME0102503E	R0.3	2.5	6	7	60	-
SEME0102505E	R0.5	2.5	6	7	60	-
SEME0103001E	R0.1	3.0	6	8	60	-
SEME0103002E	R0.2	3.0	6	8	60	-
SEME0103003E	R0.3	3.0	6	8	60	-
SEME0103005E	R0.5	3.0	6	8	60	-
SEME0103010E	R1.0	3.0	6	8	60	-
SEME0103501E	R0.1	3.5	6	10	70	-

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Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK **SEME01** SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS (Short, Regular, Long Shank)
硬质合金，4刃 不等螺旋 圆鼻 (短刃, 普通刃长, 长柄)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
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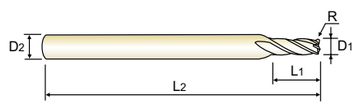
- ▶加工模具产业的预硬钢(HRc55以下)表现出色
- ▶基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性
- ▶可提供多种产品包括短, 普通和长柄铣刀



CARBIDE | 4 | 27°/30° | R ±0.02 | PLAIN

p.C274-275

D<Ø3, 30° HELIX

Recommended Tool Holder	Flat Shank	Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
	-	-	POWER MILLING CHUCK	D161 - 176
	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEME0103502E	R0.2	3.5	6	10	70	-
SEME0103503E	R0.3	3.5	6	10	70	-
SEME0103505E	R0.5	3.5	6	10	70	-
SEME01040014SE	R0.1	4.0	4	10	70	4mm Shank
SEME01040024SE	R0.2	4.0	4	10	70	4mm Shank
SEME01040034SE	R0.3	4.0	4	10	70	4mm Shank
SEME01040054SE	R0.5	4.0	4	10	70	4mm Shank
SEME01040104SE	R1.0	4.0	4	10	70	4mm Shank
SEME01040011004SE	R0.1	4.0	4	10	100	4mm Shank
SEME01040021004SE	R0.2	4.0	4	10	100	4mm Shank
SEME01040031004SE	R0.3	4.0	4	10	100	4mm Shank
SEME01040051004SE	R0.5	4.0	4	10	100	4mm Shank
SEME01040101004SE	R1.0	4.0	4	10	100	4mm Shank
SEME0104001E	R0.1	4.0	6	10	70	Regular
SEME0104002E	R0.2	4.0	6	10	70	Regular
SEME0104003E	R0.3	4.0	6	10	70	Regular
SEME0104005E	R0.5	4.0	6	10	70	Regular
SEME0104010E	R1.0	4.0	6	10	70	Regular
SEME0104501E	R0.1	4.5	6	11	80	-
SEME0104502E	R0.2	4.5	6	11	80	-
SEME0104503E	R0.3	4.5	6	11	80	-
SEME0104505E	R0.5	4.5	6	11	80	-
SEME0105001E	R0.1	5.0	6	13	90	-
SEME0105002E	R0.2	5.0	6	13	90	-

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Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

4G MILL END MILLS

PLAIN SHANK **SEME01** SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS (Short, Regular, Long Shank)
硬质合金，4刃 不等螺旋 圆鼻 (短刃, 普通刃长, 长柄)

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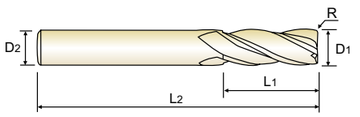
- ▶基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性
- ▶可提供多种产品包括短, 普通和长柄铣刀



CARBIDE | 4 | 27°/30° | R ±0.02 | PLAIN

p.C274-275

D<Ø3, 30° HELIX

Recommended Tool Holder	Flat Shank	Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
	-	-	POWER MILLING CHUCK	D161 - 176
	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEME0105003E	R0.3	5.0	6	13	90	-
SEME0105005E	R0.5	5.0	6	13	90	-
SEME0105010E	R1.0	5.0	6	13	90	-
SEME0105501E	R0.1	5.5	6	13	90	-
SEME0105502E	R0.2	5.5	6	13	90	-
SEME0105503E	R0.3	5.5	6	13	90	-
SEME0105505E	R0.5	5.5	6	13	90	-
SEME0105510E	R1.0	5.5	6	13	90	-
SEME0106001060E	R0.1	6.0	6	15	60	Short
SEME0106002060E	R0.2	6.0	6	15	60	Short
SEME0106001E	R0.1	6.0	6	15	90	Regular
SEME0106002E	R0.2	6.0	6	15	90	Regular
SEME0106003E	R0.3	6.0	6	15	90	Regular
SEME0106005E	R0.5	6.0	6	15	90	Regular
SEME0106010E	R1.0	6.0	6	15	90	Regular
SEME0106015E	R1.5	6.0	6	15	90	Regular
SEME0106020E	R2.0	6.0	6	15	90	Regular
SEME0106005110E	R0.5	6.0	6	15	110	Long
SEME0106010110E	R1.0	6.0	6	15	110	Long
SEME0106005130E	R0.5	6.0	6	15	130	Long
SEME0106010130E	R1.0	6.0	6	15	130	Long
SEME0107001E	R0.1	7.0	8	16	90	-
SEME0107002E	R0.2	7.0	8	16	90	-
SEME0107003E	R0.3	7.0	8	16	90	-

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Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

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ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK **SEME01** SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS (Short, Regular, Long Shank)
硬质合金，4刃 不等螺旋 圆鼻 (短刃, 普通刃长, 长柄)

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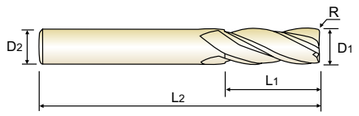
- ▶基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性
- ▶可提供多种产品包括短, 普通和长柄铣刀



CARBIDE | 4 | 27°/30° | R ±0.02 | PLAIN

D<Ø3, 30° HELIX

p.C274-275

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-		POWER MILLING CHUCK	D161 - 176
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Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEME0107005E	R0.5	7.0	8	16	90	-
SEME0107010E	R1.0	7.0	8	16	90	-
SEME0107020E	R2.0	7.0	8	16	90	-
SEME0108003070E	R0.3	8.0	8	20	70	Short
SEME0108005070E	R0.5	8.0	8	20	70	Short
SEME0108010070E	R1.0	8.0	8	20	70	Short
SEME0108001E	R0.1	8.0	8	20	100	Regular
SEME0108002E	R0.2	8.0	8	20	100	Regular
SEME0108003E	R0.3	8.0	8	20	100	Regular
SEME0108005E	R0.5	8.0	8	20	100	Regular
SEME0108010E	R1.0	8.0	8	20	100	Regular
SEME0108015E	R1.5	8.0	8	20	100	Regular
SEME0108020E	R2.0	8.0	8	20	100	Regular
SEME0108025E	R2.5	8.0	8	20	100	Regular
SEME0108030E	R3.0	8.0	8	20	100	Regular
SEME0108005120E	R0.5	8.0	8	20	120	Long
SEME0108010120E	R1.0	8.0	8	20	120	Long
SEME0108005150E	R0.5	8.0	8	20	150	Long
SEME0108010150E	R1.0	8.0	8	20	150	Long
SEME0110003075E	R0.3	10.0	10	25	75	Short
SEME0110005075E	R0.5	10.0	10	25	75	Short
SEME0110010075E	R1.0	10.0	10	25	75	Short
SEME0110001E	R0.1	10.0	10	25	100	Regular
SEME0110002E	R0.2	10.0	10	25	100	Regular

▶ NEXT PAGE 下页

Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
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HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

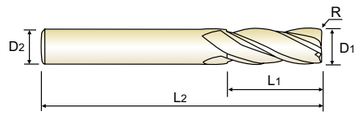
4G MILL END MILLS

PLAIN SHANK **SEME01** SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS (Short, Regular, Long Shank)
硬质合金，4刃 不等螺旋 圆鼻 (短刃, 普通刃长, 长柄)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
- ▶ Multiple Helix for 3.0mm and over 3.0mm diameter endmills minimizing vibration and decreasing wear in cutting.
- ▶ Available in short, regular and long shank end mills.

- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色
- ▶基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性
- ▶可提供多种产品包括短, 普通和长柄铣刀



CARBIDE | 4 | 27°/30° | R ±0.02 | PLAIN

D<Ø3, 30° HELIX

p.C274-275

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-		POWER MILLING CHUCK	D161 - 176
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEME0110003E	R0.3	10.0	10	25	100	Regular
SEME0110005E	R0.5	10.0	10	25	100	Regular
SEME0110010E	R1.0	10.0	10	25	100	Regular
SEME0110015E	R1.5	10.0	10	25	100	Regular
SEME0110020E	R2.0	10.0	10	25	100	Regular
SEME0110025E	R2.5	10.0	10	25	100	Regular
SEME0110030E	R3.0	10.0	10	25	100	Regular
SEME0110040E	R4.0	10.0	10	25	100	Regular
SEME0110005130E	R0.5	10.0	10	22	130	Long
SEME0110010130E	R1.0	10.0	10	22	130	Long
SEME0110005150E	R0.5	10.0	10	22	150	Long
SEME0110010150E	R1.0	10.0	10	22	150	Long
SEME0111002E	R0.2	11.0	12	25	110	-
SEME0111003E	R0.3	11.0	12	25	110	-
SEME0111005E	R0.5	11.0	12	25	110	-
SEME0111010E	R1.0	11.0	12	25	110	-
SEME0111020E	R2.0	11.0	12	25	110	-
SEME0112003080E	R0.3	12.0	12	30	80	Short
SEME0112005080E	R0.5	12.0	12	30	80	Short
SEME0112010080E	R1.0	12.0	12	30	80	Short
SEME0112001E	R0.1	12.0	12	30	110	Regular
SEME0112002E	R0.2	12.0	12	30	110	Regular
SEME0112003E	R0.3	12.0	12	30	110	Regular
SEME0112005E	R0.5	12.0	12	30	110	Regular

▶ NEXT PAGE 下页

Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK **SEME01** SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS (Short, Regular, Long Shank)

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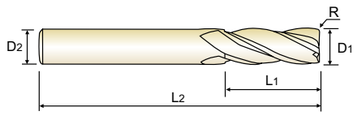

CARBIDE | 4 | 27°/30° | R ±0.02 | PLAIN

p.C274-275

D<Ø3, 30° HELIX

Recommended Tool Holder	Flat Shank	Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
	-	-	POWER MILLING CHUCK	D161 - 176
	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEME0112010E	R1.0	**12.0**	12	30	110	Regular
SEME0112015E	R1.5	**12.0**	12	30	110	Regular
SEME0112020E	R2.0	**12.0**	12	30	110	Regular
SEME0112025E	R2.5	**12.0**	12	30	110	Regular
SEME0112030E	R3.0	**12.0**	12	30	110	Regular
SEME0112040E	R4.0	**12.0**	12	30	110	Regular
SEME0112050E	R5.0	**12.0**	12	30	110	Regular
SEME0112005130E	R0.5	**12.0**	12	30	130	Long
SEME0112010130E	R1.0	**12.0**	12	30	130	Long
SEME0112005150E	R0.5	**12.0**	12	30	150	Long
SEME0112010150E	R1.0	**12.0**	12	30	150	Long
SEME0114005E	R0.5	**14.0**	16	35	150	-
SEME0114010E	R1.0	**14.0**	16	35	150	-
SEME0114020E	R2.0	**14.0**	16	35	150	-
SEME0116005E	R0.5	**16.0**	16	32	150	-
SEME0116010E	R1.0	**16.0**	16	32	150	-
SEME0116015E	R1.5	**16.0**	16	32	150	-
SEME0116020E	R2.0	**16.0**	16	32	150	-
SEME0120005E	R0.5	**20.0**	20	38	150	-
SEME0120010E	R1.0	**20.0**	20	38	150	-
SEME0120015E	R1.5	**20.0**	20	38	150	-
SEME0120020E	R2.0	**20.0**	20	38	150	-

Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

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ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK **SEME64** SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS with EXTENDED NECK

硬质合金，4刃 不等螺旋 圆鼻 颈部加长

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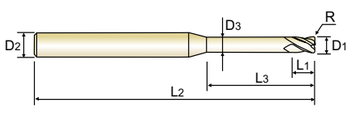

CARBIDE | 4 | 27°/30° | R ±0.02 | PLAIN

p.C276-279

D<Ø3, 30° HELIX

Recommended Tool Holder	Flat Shank	Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
	-	-	POWER MILLING CHUCK	D161 - 176
	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME6401000503E	R0.05	**1.0**	4	1.5	3	50	0.95	-
SEME6401000504E	R0.05	**1.0**	4	1.5	4	50	0.95	-
SEME6401000506E	R0.05	**1.0**	4	1.5	6	50	0.95	-
SEME6401000508E	R0.05	**1.0**	4	1.5	8	50	0.95	-
SEME6401000510E	R0.05	**1.0**	4	1.5	10	50	0.95	-
SEME6401000512E	R0.05	**1.0**	4	1.5	12	50	0.95	-
SEME6401000514E	R0.05	**1.0**	4	1.5	14	50	0.95	-
SEME6401000516E	R0.05	**1.0**	4	1.5	16	50	0.95	-
SEME6401000520E	R0.05	**1.0**	4	1.5	20	50	0.95	-
SEME640100103E	R0.1	**1.0**	4	1.5	3	50	0.95	-
SEME640100104E	R0.1	**1.0**	4	1.5	4	50	0.95	-
SEME640100106E	R0.1	**1.0**	4	1.5	6	50	0.95	-
SEME640100108E	R0.1	**1.0**	4	1.5	8	50	0.95	-
SEME640100110E	R0.1	**1.0**	4	1.5	10	50	0.95	-
SEME640100112E	R0.1	**1.0**	4	1.5	12	50	0.95	-
SEME640100114E	R0.1	**1.0**	4	1.5	14	50	0.95	-
SEME640100116E	R0.1	**1.0**	4	1.5	16	50	0.95	-
SEME640100120E	R0.1	**1.0**	4	1.5	20	50	0.95	-
SEME640100203E	R0.2	**1.0**	4	1.5	3	50	0.95	-
SEME640100204E	R0.2	**1.0**	4	1.5	4	50	0.95	-
SEME640100206E	R0.2	**1.0**	4	1.5	6	50	0.95	-
SEME640100208E	R0.2	**1.0**	4	1.5	8	50	0.95	-
SEME640100210E	R0.2	**1.0**	4	1.5	10	50	0.95	-
SEME640100212E	R0.2	**1.0**	4	1.5	12	50	0.95	-

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Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

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ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK **SEME64** SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS with EXTENDED NECK
硬质合金，4刃 不等螺旋 圆鼻 颈部加长

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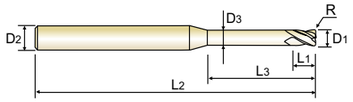

CARBIDE | 4 | 27°/30° | R ±0.02 | PLAIN

D<Ø3, 30° HELIX

p.C276-279

Recommended ToolHolder

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Unit(单位) : mm

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SEME640100214E	R0.2	1.0	4	1.5	14	50	0.95	-
SEME640100216E	R0.2	1.0	4	1.5	16	50	0.95	-
SEME640100220E	R0.2	1.0	4	1.5	20	50	0.95	-
SEME640100303E	R0.3	1.0	4	1.5	3	50	0.95	-
SEME640100304E	R0.3	1.0	4	1.5	4	50	0.95	-
SEME640100306E	R0.3	1.0	4	1.5	6	50	0.95	-
SEME640100308E	R0.3	1.0	4	1.5	8	50	0.95	-
SEME640100310E	R0.3	1.0	4	1.5	10	50	0.95	-
SEME640100312E	R0.3	1.0	4	1.5	12	50	0.95	-
SEME640100314E	R0.3	1.0	4	1.5	14	50	0.95	-
SEME640100316E	R0.3	1.0	4	1.5	16	50	0.95	-
SEME640100320E	R0.3	1.0	4	1.5	20	50	0.95	-
SEME6401200503E	R0.05	1.2	4	1.8	3	50	1.15	-
SEME6401200504E	R0.05	1.2	4	1.8	4	50	1.15	-
SEME6401200506E	R0.05	1.2	4	1.8	6	50	1.15	-
SEME6401200508E	R0.05	1.2	4	1.8	8	50	1.15	-
SEME6401200510E	R0.05	1.2	4	1.8	10	50	1.15	-
SEME6401200512E	R0.05	1.2	4	1.8	12	50	1.15	-
SEME6401200516E	R0.05	1.2	4	1.8	16	50	1.15	-
SEME6401200520E	R0.05	1.2	4	1.8	20	50	1.15	-
SEME640120103E	R0.1	1.2	4	1.8	3	50	1.15	-
SEME640120104E	R0.1	1.2	4	1.8	4	50	1.15	-
SEME640120106E	R0.1	1.2	4	1.8	6	50	1.15	-
SEME640120108E	R0.1	1.2	4	1.8	8	50	1.15	-

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HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	◎	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
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HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS
PLAIN SHANK SEME64 SERIES
CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS with EXTENDED NECK
硬质合金，4刃 不等螺旋 圆鼻 颈部加长
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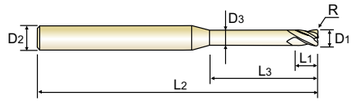
▶基于Ø3.0mm以上采用不等螺旋,
减少切削震动及增加切削耐磨性



CARBIDE | 4 | 27°/30° | R ±0.02 | PLAIN
D<Ø3, 30° HELIX
p.C276-279
Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME640120110E	R0.1	1.2	4	1.8	10	50	1.15	-
SEME640120112E	R0.1	1.2	4	1.8	12	50	1.15	-
SEME640120116E	R0.1	1.2	4	1.8	16	50	1.15	-
SEME640120120E	R0.1	1.2	4	1.8	20	50	1.15	-
SEME640120203E	R0.2	1.2	4	1.8	3	50	1.15	-
SEME640120204E	R0.2	1.2	4	1.8	4	50	1.15	-
SEME640120206E	R0.2	1.2	4	1.8	6	50	1.15	-
SEME640120208E	R0.2	1.2	4	1.8	8	50	1.15	-
SEME640120210E	R0.2	1.2	4	1.8	10	50	1.15	-
SEME640120212E	R0.2	1.2	4	1.8	12	50	1.15	-
SEME640120216E	R0.2	1.2	4	1.8	16	50	1.15	-
SEME640120220E	R0.2	1.2	4	1.8	20	50	1.15	-
SEME640120303E	R0.3	1.2	4	1.8	3	50	1.15	-
SEME640120304E	R0.3	1.2	4	1.8	4	50	1.15	-
SEME640120306E	R0.3	1.2	4	1.8	6	50	1.15	-
SEME640120308E	R0.3	1.2	4	1.8	8	50	1.15	-
SEME640120310E	R0.3	1.2	4	1.8	10	50	1.15	-
SEME640120312E	R0.3	1.2	4	1.8	12	50	1.15	-
SEME640120316E	R0.3	1.2	4	1.8	16	50	1.15	-
SEME640120320E	R0.3	1.2	4	1.8	20	50	1.15	-
SEME6401500504E	R0.05	1.5	4	2.3	4	50	1.45	-
SEME6401500506E	R0.05	1.5	4	2.3	6	50	1.45	-
SEME6401500508E	R0.05	1.5	4	2.3	8	50	1.45	-
SEME6401500510E	R0.05	1.5	4	2.3	10	50	1.45	-

▶ NEXT PAGE 下页

Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	◎	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

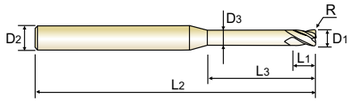
4G MILL END MILLS

PLAIN SHANK **SEME64** SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS with EXTENDED NECK
硬质合金，4刃 不等螺旋 圆鼻 颈部加长

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
- ▶Multiple Helix for 3.0mm and over 3.0mm diameter endmills minimizing vibration and decreasing wear in cutting.

- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色
- ▶基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性



CARBIDE | 4 | 27°/30° | R ±0.02 | PLAIN

D<Ø3, 30° HELIX

p.C276-279

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME6401500512E	R0.05	1.5	4	2.3	12	50	1.45	-
SEME6401500514E	R0.05	1.5	4	2.3	14	50	1.45	-
SEME6401500516E	R0.05	1.5	4	2.3	16	50	1.45	-
SEME6401500520E	R0.05	1.5	4	2.3	20	50	1.45	-
SEME6401500522E	R0.05	1.5	4	2.3	22	60	1.45	-
SEME6401500526E	R0.05	1.5	4	2.3	26	60	1.45	-
SEME640150104E	R0.1	1.5	4	2.3	4	50	1.45	-
SEME640150106E	R0.1	1.5	4	2.3	6	50	1.45	-
SEME640150108E	R0.1	1.5	4	2.3	8	50	1.45	-
SEME640150110E	R0.1	1.5	4	2.3	10	50	1.45	-
SEME640150112E	R0.1	1.5	4	2.3	12	50	1.45	-
SEME640150114E	R0.1	1.5	4	2.3	14	50	1.45	-
SEME640150116E	R0.1	1.5	4	2.3	16	50	1.45	-
SEME640150118E	R0.1	1.5	4	2.3	18	50	1.45	
SEME640150120E	R0.1	1.5	4	2.3	20	50	1.45	-
SEME640150122E	R0.1	1.5	4	2.3	22	60	1.45	-
SEME640150126E	R0.1	1.5	4	2.3	26	60	1.45	-
SEME640150204E	R0.2	1.5	4	2.3	4	50	1.45	-
SEME640150206E	R0.2	1.5	4	2.3	6	50	1.45	-
SEME640150208E	R0.2	1.5	4	2.3	8	50	1.45	-
SEME640150210E	R0.2	1.5	4	2.3	10	50	1.45	-
SEME640150212E	R0.2	1.5	4	2.3	12	50	1.45	-
SEME640150214E	R0.2	1.5	4	2.3	14	50	1.45	-
SEME640150216E	R0.2	1.5	4	2.3	16	50	1.45	-

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Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	◎	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK SEME64 SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS with EXTENDED NECK
硬质合金，4刃 不等螺旋 圆鼻 颈部加长

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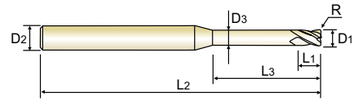

CARBIDE | 4 | 27°/30° | R ±0.02 | PLAIN

D<Ø3, 30° HELIX

p.C276-279

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME640150220E	R0.2	1.5	4	2.3	20	50	1.45	-
SEME640150222E	R0.2	1.5	4	2.3	22	60	1.45	-
SEME640150226E	R0.2	1.5	4	2.3	26	60	1.45	-
SEME640150304E	R0.3	1.5	4	2.3	4	50	1.45	-
SEME640150306E	R0.3	1.5	4	2.3	6	50	1.45	-
SEME640150308E	R0.3	1.5	4	2.3	8	50	1.45	-
SEME640150310E	R0.3	1.5	4	2.3	10	50	1.45	-
SEME640150312E	R0.3	1.5	4	2.3	12	50	1.45	-
SEME640150314E	R0.3	1.5	4	2.3	14	50	1.45	-
SEME640150316E	R0.3	1.5	4	2.3	16	50	1.45	-
SEME640150320E	R0.3	1.5	4	2.3	20	50	1.45	-
SEME640150322E	R0.3	1.5	4	2.3	22	60	1.45	-
SEME640150326E	R0.3	1.5	4	2.3	26	60	1.45	-
SEME640150504E	R0.5	1.5	4	2.3	4	50	1.45	-
SEME640150506E	R0.5	1.5	4	2.3	6	50	1.45	-
SEME640150508E	R0.5	1.5	4	2.3	8	50	1.45	-
SEME640150510E	R0.5	1.5	4	2.3	10	50	1.45	-
SEME640150512E	R0.5	1.5	4	2.3	12	50	1.45	-
SEME640150514E	R0.5	1.5	4	2.3	14	50	1.45	-
SEME640150516E	R0.5	1.5	4	2.3	16	50	1.45	-
SEME640150520E	R0.5	1.5	4	2.3	20	50	1.45	-
SEME640150522E	R0.5	1.5	4	2.3	22	60	1.45	-
SEME640150526E	R0.5	1.5	4	2.3	26	60	1.45	-
SEME640200106E	R0.1	2.0	4	3	6	50	1.95	-

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Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	◎	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK **SEME64** SERIES

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硬质合金，4刃 不等螺旋 圆鼻 颈部加长

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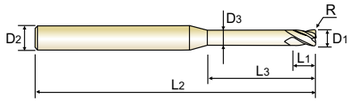

CARBIDE | 4 | 27°/30° | R ±0.02 | PLAIN

D<Ø3, 30° HELIX

p.C276-279

Recommended Tool Holder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME640200108E	R0.1	2.0	4	3	8	50	1.95	-
SEME640200110E	R0.1	2.0	4	3	10	50	1.95	-
SEME640200112E	R0.1	2.0	4	3	12	50	1.95	-
SEME640200114E	R0.1	2.0	4	3	14	50	1.95	-
SEME640200116E	R0.1	2.0	4	3	16	50	1.95	-
SEME640200120E	R0.1	2.0	4	3	20	50	1.95	-
SEME640200122E	R0.1	2.0	4	3	22	60	1.95	-
SEME640200126E	R0.1	2.0	4	3	26	60	1.95	-
SEME640200130E	R0.1	2.0	4	3	30	70	1.95	-
SEME640200206E	R0.2	2.0	4	3	6	50	1.95	-
SEME640200208E	R0.2	2.0	4	3	8	50	1.95	-
SEME640200210E	R0.2	2.0	4	3	10	50	1.95	-
SEME640200212E	R0.2	2.0	4	3	12	50	1.95	-
SEME640200214E	R0.2	2.0	4	3	14	50	1.95	-
SEME640200216E	R0.2	2.0	4	3	16	50	1.95	-
SEME640200220E	R0.2	2.0	4	3	20	50	1.95	-
SEME640200222E	R0.2	2.0	4	3	22	60	1.95	-
SEME640200226E	R0.2	2.0	4	3	26	60	1.95	-
SEME640200230E	R0.2	2.0	4	3	30	70	1.95	-
SEME640200306E	R0.3	2.0	4	3	6	50	1.95	-
SEME640200308E	R0.3	2.0	4	3	8	50	1.95	-
SEME640200310E	R0.3	2.0	4	3	10	50	1.95	-
SEME640200312E	R0.3	2.0	4	3	12	50	1.95	-
SEME640200314E	R0.3	2.0	4	3	14	50	1.95	-

▶ NEXT PAGE 下页

Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

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Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
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HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	◎	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK SEME64 SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS with EXTENDED NECK
硬质合金，4刃 不等螺旋 圆鼻 颈部加长

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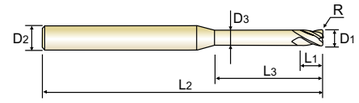
▶基于新涂层及形状, 实现出色切削性能和耐磨性
▶加工模具产业的预硬钢(HRc55以下)表现出色
▶基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性



CARBIDE | 4 | 27°/30° | R ±0.02 | PLAIN

D<Ø3, 30° HELIX

p.C276-279

Recommended Tool Holder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME640200316E	R0.3	2.0	4	3	16	50	1.95	-
SEME640200320E	R0.3	2.0	4	3	20	50	1.95	-
SEME640200322E	R0.3	2.0	4	3	22	60	1.95	-
SEME640200326E	R0.3	2.0	4	3	26	60	1.95	-
SEME640200330E	R0.3	2.0	4	3	30	70	1.95	-
SEME640200506E	R0.5	2.0	4	3	6	50	1.95	-
SEME640200508E	R0.5	2.0	4	3	8	50	1.95	-
SEME640200510E	R0.5	2.0	4	3	10	50	1.95	-
SEME640200512E	R0.5	2.0	4	3	12	50	1.95	-
SEME640200514E	R0.5	2.0	4	3	14	50	1.95	-
SEME640200516E	R0.5	2.0	4	3	16	50	1.95	-
SEME640200520E	R0.5	2.0	4	3	20	50	1.95	-
SEME640200522E	R0.5	2.0	4	3	22	60	1.95	-
SEME640200526E	R0.5	2.0	4	3	26	60	1.95	-
SEME640200530E	R0.5	2.0	4	3	30	70	1.95	-
SEME640250108E	R0.1	2.5	4	4	8	50	2.40	-
SEME640250110E	R0.1	2.5	4	4	10	50	2.40	-
SEME640250112E	R0.1	2.5	4	4	12	50	2.40	-
SEME640250114E	R0.1	2.5	4	4	14	50	2.40	-
SEME640250116E	R0.1	2.5	4	4	16	50	2.40	-
SEME640250120E	R0.1	2.5	4	4	20	50	2.40	-
SEME640250126E	R0.1	2.5	4	4	26	60	2.40	-
SEME640250130E	R0.1	2.5	4	4	30	70	2.40	-
SEME640250208E	R0.2	2.5	4	4	8	50	2.40	-

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Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	◎	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

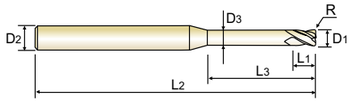
4G MILL END MILLS

PLAIN SHANK **SEME64** SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS with EXTENDED NECK
硬质合金，4刃 不等螺旋 圆鼻 颈部加长

▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
▶Multiple Helix for 3.0mm and over 3.0mm diameter endmills minimizing vibration and decreasing wear in cutting.

▶基于新涂层及形状, 实现出色切削性能和耐磨性
▶加工模具产业的预硬钢(HRc55以下)表现出色
▶基于Ø3.0mm以上采用不等螺旋,
减少切削震动及增加切削耐磨性



CARBIDE | 4 | 27°/30° | R ±0.02 | PLAIN

D<Ø3, 30° HELIX

p.C276-279

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME640250210E	R0.2	2.5	4	4	10	50	2.40	-
SEME640250212E	R0.2	2.5	4	4	12	50	2.40	-
SEME640250214E	R0.2	2.5	4	4	14	50	2.40	-
SEME640250216E	R0.2	2.5	4	4	16	50	2.40	-
SEME640250220E	R0.2	2.5	4	4	20	50	2.40	-
SEME640250226E	R0.2	2.5	4	4	26	60	2.40	-
SEME640250230E	R0.2	2.5	4	4	30	70	2.40	-
SEME640250308E	R0.3	2.5	4	4	8	50	2.40	-
SEME640250310E	R0.3	2.5	4	4	10	50	2.40	-
SEME640250312E	R0.3	2.5	4	4	12	50	2.40	-
SEME640250314E	R0.3	2.5	4	4	14	50	2.40	-
SEME640250316E	R0.3	2.5	4	4	16	50	2.40	-
SEME640250320E	R0.3	2.5	4	4	20	50	2.40	-
SEME640250326E	R0.3	2.5	4	4	26	60	2.40	-
SEME640250330E	R0.3	2.5	4	4	30	70	2.40	-
SEME640250508E	R0.5	2.5	4	4	8	50	2.40	-
SEME640250510E	R0.5	2.5	4	4	10	50	2.40	-
SEME640250512E	R0.5	2.5	4	4	12	50	2.40	-
SEME640250514E	R0.5	2.5	4	4	14	50	2.40	-
SEME640250516E	R0.5	2.5	4	4	16	50	2.40	-
SEME640250520E	R0.5	2.5	4	4	20	50	2.40	-
SEME640250526E	R0.5	2.5	4	4	26	60	2.40	-
SEME640250530E	R0.5	2.5	4	4	30	70	2.40	-
SEME640300108E	R0.1	3.0	6	4.5	8	50	2.85	-

▶ NEXT PAGE 下页

Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	◎	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS
PLAIN SHANK SEME64 SERIES
CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS with EXTENDED NECK
硬质合金，4刃 不等螺旋 圆鼻 颈部加长
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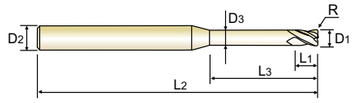

CARBIDE | 4 | 27°/30° | R ±0.02 | PLAIN
D<Ø3, 30° HELIX
p.C276-279
Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME640300110E	R0.1	3.0	6	4.5	10	50	2.85	-
SEME640300112E	R0.1	3.0	6	4.5	12	50	2.85	-
SEME640300114E	R0.1	3.0	6	4.5	14	60	2.85	-
SEME640300116E	R0.1	3.0	6	4.5	16	60	2.85	-
SEME640300120E	R0.1	3.0	6	4.5	20	60	2.85	-
SEME640300126E	R0.1	3.0	6	4.5	26	65	2.85	-
SEME640300130E	R0.1	3.0	6	4.5	30	70	2.85	-
SEME640300135E	R0.1	3.0	6	4.5	35	70	2.85	-
SEME640300140E	R0.1	3.0	6	4.5	40	80	2.85	-
SEME640300208E	R0.2	3.0	6	4.5	8	50	2.85	-
SEME640300210E	R0.2	3.0	6	4.5	10	50	2.85	-
SEME640300212E	R0.2	3.0	6	4.5	12	50	2.85	-
SEME640300214E	R0.2	3.0	6	4.5	14	60	2.85	-
SEME640300216E	R0.2	3.0	6	4.5	16	60	2.85	-
SEME640300218E	R0.2	3.0	6	4.5	18	60	2.85	-
SEME640300220E	R0.2	3.0	6	4.5	20	60	2.85	-
SEME640300226E	R0.2	3.0	6	4.5	26	65	2.85	-
SEME640300230E	R0.2	3.0	6	4.5	30	70	2.85	-
SEME640300235E	R0.2	3.0	6	4.5	35	70	2.85	-
SEME640300240E	R0.2	3.0	6	4.5	40	80	2.85	-
SEME640300308E	R0.3	3.0	6	4.5	8	50	2.85	-
SEME640300310E	R0.3	3.0	6	4.5	10	50	2.85	-
SEME640300312E	R0.3	3.0	6	4.5	12	50	2.85	-
SEME640300314E	R0.3	3.0	6	4.5	14	60	2.85	-

▶ NEXT PAGE 下页

Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	◎	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK **SEME64** SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS with EXTENDED NECK
硬质合金，4刃 不等螺旋 圆鼻 颈部加长

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
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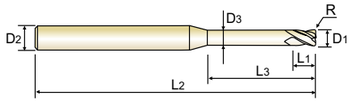

CARBIDE | 4 | 27°/30° | R ±0.02 | PLAIN | p.C276-279

D<Ø3, 30° HELIX

Recommended Tool Holder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME640300316E	R0.3	3.0	6	4.5	16	60	2.85	-
SEME640300320E	R0.3	3.0	6	4.5	20	60	2.85	-
SEME640300326E	R0.3	3.0	6	4.5	26	65	2.85	-
SEME640300330E	R0.3	3.0	6	4.5	30	70	2.85	-
SEME640300335E	R0.3	3.0	6	4.5	35	70	2.85	-
SEME640300340E	R0.3	3.0	6	4.5	40	80	2.85	-
SEME640300508E	R0.5	3.0	6	4.5	8	50	2.85	-
SEME640300510E	R0.5	3.0	6	4.5	10	50	2.85	-
SEME640300512E	R0.5	3.0	6	4.5	12	50	2.85	-
SEME640300514E	R0.5	3.0	6	4.5	14	60	2.85	-
SEME640300516E	R0.5	3.0	6	4.5	16	60	2.85	-
SEME640300520E	R0.5	3.0	6	4.5	20	60	2.85	-
SEME640300526E	R0.5	3.0	6	4.5	26	65	2.85	-
SEME640300530E	R0.5	3.0	6	4.5	30	70	2.85	-
SEME640300535E	R0.5	3.0	6	4.5	35	70	2.85	-
SEME640300540E	R0.5	3.0	6	4.5	40	80	2.85	-
SEME640301008E	R1.0	3.0	6	4.5	8	50	2.85	-
SEME640301010E	R1.0	3.0	6	4.5	10	50	2.85	-
SEME640301012E	R1.0	3.0	6	4.5	12	50	2.85	-
SEME640301014E	R1.0	3.0	6	4.5	14	60	2.85	-
SEME640301016E	R1.0	3.0	6	4.5	16	60	2.85	-
SEME640301020E	R1.0	3.0	6	4.5	20	60	2.85	-
SEME640301026E	R1.0	3.0	6	4.5	26	65	2.85	-
SEME640301030E	R1.0	3.0	6	4.5	30	70	2.85	-

▶ NEXT PAGE 下页

Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	◎	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK SEME64 SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS with EXTENDED NECK
硬质合金，4刃 不等螺旋 圆鼻 颈部加长

▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
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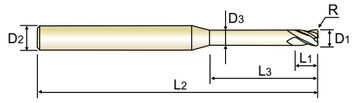
▶基于新涂层及形状, 实现出色切削性能和耐磨性
▶加工模具产业的预硬钢(HRc55以下)表现出色
▶基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性



CARBIDE | 4 | 27°/30° | R ±0.02 | PLAIN | p.C276-279

D<Ø3, 30° HELIX

Recommended Tool Holder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME640301035E	R1.0	3.0	6	4.5	35	70	2.85	-
SEME640301040E	R1.0	3.0	6	4.5	40	80	2.85	-
SEME640400110E	R0.1	4.0	6	6	10	50	3.85	-
SEME640400112E	R0.1	4.0	6	6	12	50	3.85	-
SEME640400114E	R0.1	4.0	6	6	14	60	3.85	-
SEME640400116E	R0.1	4.0	6	6	16	60	3.85	-
SEME640400120E	R0.1	4.0	6	6	20	60	3.85	-
SEME640400126E	R0.1	4.0	6	6	26	65	3.85	-
SEME640400130E	R0.1	4.0	6	6	30	70	3.85	-
SEME640400135E	R0.1	4.0	6	6	35	70	3.85	-
SEME640400140E	R0.1	4.0	6	6	40	80	3.85	-
SEME640400145E	R0.1	4.0	6	6	45	90	3.85	-
SEME640400150E	R0.1	4.0	6	6	50	100	3.85	-
SEME640400210E	R0.2	4.0	6	6	10	50	3.85	-
SEME640400212E	R0.2	4.0	6	6	12	50	3.85	-
SEME640400214E	R0.2	4.0	6	6	14	60	3.85	-
SEME640400216E	R0.2	4.0	6	6	16	60	3.85	-
SEME640400220E	R0.2	4.0	6	6	20	60	3.85	-
SEME640400224E	R0.2	4.0	6	6	24	65	3.85	-
SEME640400226E	R0.2	4.0	6	6	26	65	3.85	-
SEME640400230E	R0.2	4.0	6	6	30	70	3.85	-
SEME640400235E	R0.2	4.0	6	6	35	70	3.85	-
SEME640400240E	R0.2	4.0	6	6	40	80	3.85	-
SEME640400245E	R0.2	4.0	6	6	45	90	3.85	-

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Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	◎	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

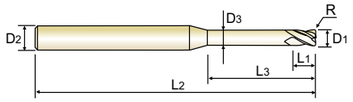
4G MILL END MILLS

PLAIN SHANK **SEME64** SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS with EXTENDED NECK
硬质合金，4刃 不等螺旋 圆鼻 颈部加长

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
- ▶Multiple Helix for 3.0mm and over 3.0mm diameter endmills minimizing vibration and decreasing wear in cutting.

- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色
- ▶基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性



CARBIDE | 4 | 27°/30° | R ±0.02 | PLAIN

D<Ø3, 30° HELIX

p.C276-279

Recommended Tool Holder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME640400250E	R0.2	4.0	6	6	50	100	3.85	-
SEME640400310E	R0.3	4.0	6	6	10	50	3.85	-
SEME640400312E	R0.3	4.0	6	6	12	50	3.85	-
SEME640400314E	R0.3	4.0	6	6	14	60	3.85	-
SEME640400316E	R0.3	4.0	6	6	16	60	3.85	-
SEME640400320E	R0.3	4.0	6	6	20	60	3.85	-
SEME640400326E	R0.3	4.0	6	6	26	65	3.85	-
SEME640400330E	R0.3	4.0	6	6	30	70	3.85	-
SEME640400335E	R0.3	4.0	6	6	35	70	3.85	-
SEME640400340E	R0.3	4.0	6	6	40	80	3.85	-
SEME640400345E	R0.3	4.0	6	6	45	90	3.85	-
SEME640400350E	R0.3	4.0	6	6	50	100	3.85	-
SEME640400510E	R0.5	4.0	6	6	10	50	3.85	-
SEME640400512E	R0.5	4.0	6	6	12	50	3.85	-
SEME640400514E	R0.5	4.0	6	6	14	60	3.85	-
SEME640400516E	R0.5	4.0	6	6	16	60	3.85	-
SEME640400520E	R0.5	4.0	6	6	20	60	3.85	-
SEME640400526E	R0.5	4.0	6	6	26	65	3.85	-
SEME640400530E	R0.5	4.0	6	6	30	70	3.85	-
SEME640400535E	R0.5	4.0	6	6	35	70	3.85	-
SEME640400540E	R0.5	4.0	6	6	40	80	3.85	-
SEME640400545E	R0.5	4.0	6	6	45	90	3.85	-
SEME640400550E	R0.5	4.0	6	6	50	100	3.85	-
SEME640401010E	R1.0	4.0	6	6	10	50	3.85	-

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Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	◎	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK SEME64 SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS with EXTENDED NECK
硬质合金，4刃 不等螺旋 圆鼻 颈部加长

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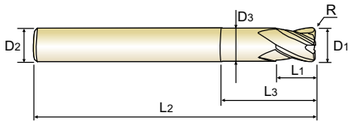
▶加工模具产业的预硬钢(HRc55以下)表现出色
▶基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性



CARBIDE | 4 | 27°/30° | R ±0.02 | PLAIN

D<Ø3, 30° HELIX

p.C276-279

Recommended Tool Holder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME640401012E	R1.0	4.0	6	6	12	50	3.85	-
SEME640401014E	R1.0	4.0	6	6	14	60	3.85	-
SEME640401016E	R1.0	4.0	6	6	16	60	3.85	-
SEME640401020E	R1.0	4.0	6	6	20	60	3.85	-
SEME640401026E	R1.0	4.0	6	6	26	65	3.85	-
SEME640401030E	R1.0	4.0	6	6	30	70	3.85	-
SEME640401035E	R1.0	4.0	6	6	35	70	3.85	-
SEME640401040E	R1.0	4.0	6	6	40	80	3.85	-
SEME640401045E	R1.0	4.0	6	6	45	90	3.85	-
SEME640401050E	R1.0	4.0	6	6	50	100	3.85	-
SEME6405001E	R0.1	5.0	6	8	15	60	4.85	-
SEME6405002E	R0.2	5.0	6	8	15	60	4.85	-
SEME6405003E	R0.3	5.0	6	8	15	60	4.85	-
SEME6405005E	R0.5	5.0	6	8	15	60	4.85	-
SEME6405010E	R1.0	5.0	6	8	15	60	4.85	-
SEME6405015E	R1.5	5.0	6	8	15	60	4.85	-
SEME6405020E	R2.0	5.0	6	8	15	60	4.85	-
SEME6406001E	R0.1	6.0	6	9	20	60	5.85	Regular
SEME6406002E	R0.2	6.0	6	9	20	60	5.85	Regular
SEME6406003E	R0.3	6.0	6	9	20	60	5.85	Regular
SEME6406005E	R0.5	6.0	6	9	20	60	5.85	Regular
SEME6406010E	R1.0	6.0	6	9	20	60	5.85	Regular
SEME6406015E	R1.5	6.0	6	9	20	60	5.85	Regular
SEME6406020E	R2.0	6.0	6	9	20	60	5.85	Regular

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Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	◎	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK **SEME64** SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS with EXTENDED NECK
硬质合金，4刃 不等螺旋 圆鼻 颈部加长

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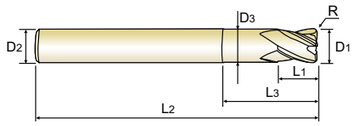


CARBIDE | 4 | 27°/30° | R ±0.02 | PLAIN

D<Ø3, 30° HELIX

p.C276-279

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
	-	-	POWER MILLING CHUCK	D161 - 176
	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME6406003090E	R0.3	**6.0**	6	15	30	90	5.85	Long
SE5E640600524LE	R0.5	**6.0**	6	9	24	90	5.85	-
SEME6406005090E	R0.5	**6.0**	6	15	30	90	5.85	Long
SEME6406010090E	R1.0	**6.0**	6	15	30	90	5.85	Long
SEME6408001E	R0.1	**8.0**	8	12	25	70	7.70	Regular
SEME6408002E	R0.2	**8.0**	8	12	25	70	7.70	Regular
SEME6408003E	R0.3	**8.0**	8	12	25	70	7.70	Regular
SEME6408005E	R0.5	**8.0**	8	12	25	70	7.70	Regular
SEME6408010E	R1.0	**8.0**	8	12	25	70	7.70	Regular
SEME6408015E	R1.5	**8.0**	8	12	25	70	7.70	Regular
SEME6408020E	R2.0	**8.0**	8	12	25	70	7.70	Regular
SEME6408003100E	R0.3	**8.0**	8	20	35	100	7.70	Long
SEME6408005100E	R0.5	**8.0**	8	20	35	100	7.70	Long
SEME6408010100E	R1.0	**8.0**	8	20	35	100	7.70	Long
SEME6410001E	R0.1	**10.0**	10	15	30	75	9.70	Regular
SEME6410002E	R0.2	**10.0**	10	15	30	75	9.70	Regular
SEME6410003E	R0.3	**10.0**	10	15	30	75	9.70	Regular
SEME6410005E	R0.5	**10.0**	10	15	30	75	9.70	Regular
SEME6410010E	R1.0	**10.0**	10	15	30	75	9.70	Regular
SEME6410015E	R1.5	**10.0**	10	15	30	75	9.70	Regular
SEME6410020E	R2.0	**10.0**	10	15	30	75	9.70	Regular
SEME6410003100E	R0.3	**10.0**	10	25	40	100	9.70	Long
SEME6410005100E	R0.5	**10.0**	10	25	40	100	9.70	Long
SEME6410010100E	R1.0	**10.0**	10	25	40	100	9.70	Long

▶ NEXT PAGE 下页

Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	◎	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

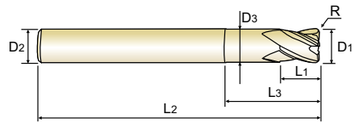
4G MILL END MILLS

PLAIN SHANK **SEME64** SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS with EXTENDED NECK
硬质合金，4刃 不等螺旋 圆鼻 颈部加长

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
- ▶Multiple Helix for 3.0mm and over 3.0mm diameter endmills minimizing vibration and decreasing wear in cutting.

- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色
- ▶基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性



CARBIDE | 4 | 27°/30° | R ±0.02 | PLAIN

D<Ø3, 30° HELIX

p.C276-279

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
	-	-	POWER MILLING CHUCK	D161 - 176
	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME6412002E	R0.2	**12.0**	12	18	32	80	11.70	Regular
SEME6412003E	R0.3	**12.0**	12	18	32	80	11.70	Regular
SEME6412005E	R0.5	**12.0**	12	18	32	80	11.70	Regular
SEME6412010E	R1.0	**12.0**	12	18	32	80	11.70	Regular
SEME6412015E	R1.5	**12.0**	12	18	32	80	11.70	Regular
SEME6412020E	R2.0	**12.0**	12	18	32	80	11.70	Regular
SEME6412003110E	R0.3	**12.0**	12	30	50	110	11.70	Long
SEME6412005110E	R0.5	**12.0**	12	30	50	110	11.70	Long
SEME6412010110E	R1.0	**12.0**	12	30	50	110	11.70	Long
SEME6416005E	R0.5	**16.0**	16	20	35	100	15.70	Regular
SEME6416010E	R1.0	**16.0**	16	20	35	100	15.70	Regular
SEME6416005150E	R0.5	**16.0**	16	35	50	150	15.70	Long
SEME6416010150E	R1.0	**16.0**	16	35	50	150	15.70	Long
SEME6420005E	R0.5	**20.0**	20	25	40	100	19.70	Regular
SEME6420010E	R1.0	**20.0**	20	25	40	100	19.70	Regular
SEME6420005150E	R0.5	**20.0**	20	40	55	150	19.70	Long
SEME6420010150E	R1.0	**20.0**	20	40	55	150	19.70	Long

Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	◎	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

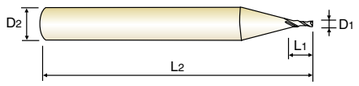
4G MILL END MILLS

PLAIN SHANK **SEME35** SERIES

CARBIDE, 2 FLUTE
硬质合金，2刃

▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
▶Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
▶From a sharp edge geometry at the end tooth, cutting abilities at work process is increased.

▶基于新涂层及形状, 实现出色切削性能和耐磨性
▶加工模具产业的预硬钢(HRc55以下)表现出色
▶基于锋利底刃刀尖设计, 增加切削性能



CARBIDE 2 30° PLAIN p.C280-283

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-		POWER MILLING CHUCK	D161 - 176
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
SEME35001E	0.1	4	0.2	40
SEME350015E	0.15	4	0.3	40
SEME35002E	0.2	4	0.4	40
SEME350025E	0.25	4	0.5	40
SEME35003E	0.3	4	0.6	40
SEME350035E	0.35	4	0.7	40
SEME35004E	0.4	4	0.8	40
SEME350045E	0.45	4	0.9	40
SEME35005E	0.5	4	1.0	40
SEME350055E	0.55	4	1.1	40
SEME35006E	0.6	4	1.2	40
SEME350065E	0.65	4	1.3	40
SEME35007E	0.7	4	1.4	40
SEME350075E	0.75	4	1.5	40
SEME35008E	0.8	4	1.6	40
SEME350085E	0.85	4	1.7	40
SEME35009E	0.9	4	1.8	40
SEME350095E	0.95	4	2	40
SEME35010E	1.0	6	2.5	50
SEME35012E	1.2	6	3	50
SEME35015E	1.5	6	4	50
SEME35020E	2.0	6	6	50
SEME35025E	2.5	6	7	50
SEME35030E	3.0	6	8	50

▶ NEXT PAGE 下页

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	0~ - 0.012	h5
over Ø6 超过Ø6	0~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			M					K						
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel									Stainless steel					Grey cast iron				Nodular cast iron			Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20											
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21											
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230											
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎			○	○	○	○	○	○	○											

ISO	N										S							H					
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc											15	30	25	38	34			55	60	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550		
Recommend																		○		◎	○		

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

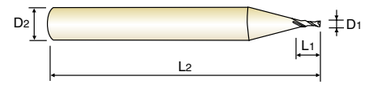
4G MILL END MILLS

PLAIN SHANK **SEME35** SERIES

CARBIDE, 2 FLUTE
硬质合金，2刃

▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
▶Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
▶From a sharp edge geometry at the end tooth, cutting abilities at work process is increased.

▶基于新涂层及形状, 实现出色切削性能和耐磨性
▶加工模具产业的预硬钢(HRc55以下)表现出色
▶基于锋利底刃刀尖设计, 增加切削性能



CARBIDE 2 30° PLAIN p.C280-283

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-		POWER MILLING CHUCK	D161 - 176
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
SEME35035E	3.5	6	10	50
SEME35040E	4.0	6	10	50
SEME35045E	4.5	6	14	50
SEME35050E	5.0	6	15	60
SEME35055E	5.5	6	15	60
SEME35060E	6.0	6	15	60
SEME35065E	6.5	8	18	60
SEME35070E	7.0	8	20	60
SEME35075E	7.5	8	20	60
SEME35080E	8.0	8	20	70
SEME35085E	8.5	10	22	70
SEME35090E	9.0	10	22	70
SEME35095E	9.5	10	24	70
SEME35100E	10.0	10	25	75
SEME35105E	10.5	12	26	75
SEME35110E	11.0	12	30	75
SEME35115E	11.5	12	30	80
SEME35120E	12.0	12	30	80
SEME35130E	13.0	12	35	100
SEME3514012SE	14.0	12	35	100
SEME3514014SE	14.0	14	35	100
SEME35140E	14.0	16	35	100
SEME35150E	15.0	16	38	100
SEME35160E	16.0	16	40	100

▶ NEXT PAGE 下页

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	0~ - 0.012	h5
over Ø6 超过Ø6	0~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			M					K						
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel									Stainless steel					Grey cast iron				Nodular cast iron			Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20											
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21											
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260															
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎			○	○	○	○	○	○	○											

ISO	N										S							H					
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc											15	30	25	38	34			55	60	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550		
Recommend																		○		◎	○		

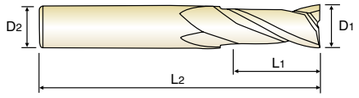
4G MILL END MILLS

PLAIN SHANK **SEME35** SERIES

CARBIDE, 2 FLUTE
硬质合金，2刃

▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
▶Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
▶From a sharp edge geometry at the end tooth, cutting abilities at work process is increased.

▶基于新涂层及形状, 实现出色切削性能和耐磨性
▶加工模具产业的预硬钢(HRc55以下)表现出色
▶基于锋利底刃刀尖设计, 增加切削性能



CARBIDE 2 30° PLAIN p.C280-283

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
SEME35170E	17.0	16	42	100
SEME35180E	18.0	16	45	100
SEME3518018SE	18.0	18	45	100
SEME35190E	19.0	20	45	100
SEME35200E	20.0	20	45	100
SEME35210E	21.0	20	45	100
SEME35220E	22.0	20	45	100
SEME35230E	23.0	25	50	120
SEME35240E	24.0	25	50	120
SEME35250E	25.0	25	50	120

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	0~ - 0.012	h5
over Ø6 超过Ø6	0~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎			○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

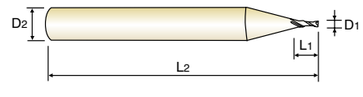
4G MILL END MILLS

PLAIN SHANK **SEME35** SERIES

CARBIDE, 2 FLUTE (4mm Shank)
硬质合金，2刃 (4mm 柄径)

▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
▶Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
▶From a sharp edge geometry at the end tooth, cutting abilities at work process is increased.

▶基于新涂层及形状, 实现出色切削性能和耐磨性
▶加工模具产业的预硬钢(HRc55以下)表现出色
▶基于锋利底刃刀尖设计, 增加切削性能



CARBIDE 2 30° PLAIN p.C280-283

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
SEME350104SE	1.0	4	2.5	50
SEME350114SE	1.1	4	3	50
SEME350124SE	1.2	4	3	50
SEME350134SE	1.3	4	3	50
SEME350144SE	1.4	4	4	50
SEME350154SE	1.5	4	4	50
SEME350164SE	1.6	4	4	50
SEME350174SE	1.7	4	4	50
SEME350184SE	1.8	4	5	50
SEME350194SE	1.9	4	5	50
SEME350204SE	2.0	4	6	50
SEME350214SE	2.1	4	6	50
SEME350224SE	2.2	4	6	50
SEME350234SE	2.3	4	6	50
SEME350244SE	2.4	4	6	50
SEME350254SE	2.5	4	8	50
SEME350264SE	2.6	4	8	50
SEME350274SE	2.7	4	8	50
SEME350284SE	2.8	4	8	50
SEME350294SE	2.9	4	8	50
SEME350304SE	3.0	4	8	50
SEME350354SE	3.5	4	10	50
SEME350404SE	4.0	4	10	50
SEME350404S080E	4.0	4	10	80

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0~ - 0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎			○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

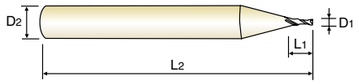
4G MILL END MILLS

PLAIN SHANK **SEME35** SERIES

CARBIDE, 2 FLUTE (3mm Shank)
硬质合金，2刃 (3mm 柄径)

▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
▶Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
▶From a sharp edge geometry at the end tooth, cutting abilities at work process is increased.

▶基于新涂层及形状, 实现出色切削性能和耐磨性
▶加工模具产业的预硬钢(HRc55以下)表现出色
▶基于锋利底刃刀尖设计, 增加切削性能



CARBIDE 2 30° PLAIN p.C280-283

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
SEME350013SE	0.1	3	0.2	40
SEME350023SE	0.2	3	0.4	40
SEME350033SE	0.3	3	0.6	40
SEME350043SE	0.4	3	0.8	40
SEME350053SE	0.5	3	1.0	40
SEME350063SE	0.6	3	1.2	40
SEME350073SE	0.7	3	1.4	40
SEME350083SE	0.8	3	1.6	40
SEME350093SE	0.9	3	1.8	40
SEME350103SE	1.0	3	2.5	50
SEME350123SE	1.2	3	3	50
SEME350153SE	1.5	3	4	50
SEME350203SE	2.0	3	6	50
SEME350253SE	2.5	3	7	50
SEME350303SE	3.0	3	8	50

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0~ - 0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎			○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

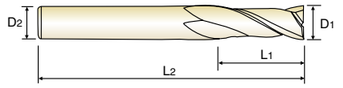
4G MILL END MILLS

PLAIN SHANK **SEME70** SERIES

CARBIDE, 2 FLUTE LONG LENGTH
硬质合金，2刃 长刃

▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
▶Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
▶ Available in various lengths of cut and also overall lengths.

▶基于新涂层及形状, 实现出色切削性能和耐磨性
▶加工模具产业的预硬钢(HRc55以下)表现出色
▶可提供多种刃长和全长



CARBIDE 2 30° PLAIN p.C284-289

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
SEME7001003E	1.0	6	3	60
SEME7001004E	1.0	6	4	60
SEME7001005E	1.0	6	5	60
SEME7001006E	1.0	6	6	60
SEME7001007E	1.0	6	7	60
SEME7001008E	1.0	6	8	60
SEME7001010E	1.0	6	10	60
SEME7001012E	1.0	6	12	60
SEME7001204E	1.2	6	4	60
SEME7001206E	1.2	6	6	60
SEME7001208E	1.2	6	8	60
SEME7001210E	1.2	6	10	60
SEME7001212E	1.2	6	12	60
SEME7001506E	1.5	6	6	60
SEME7001508E	1.5	6	8	60
SEME7001510E	1.5	6	10	60
SEME7001512E	1.5	6	12	60
SEME7001514E	1.5	6	14	60
SEME7001516E	1.5	6	16	60
SEME7002008E	2.0	6	8	60
SEME7002010E	2.0	6	10	60
SEME7002012E	2.0	6	12	60
SEME7002014E	2.0	6	14	60
SEME7002016E	2.0	6	16	60

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎			○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

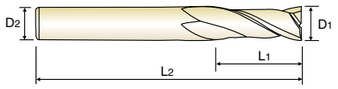
4G MILL END MILLS

PLAIN SHANK **SEME70** SERIES

CARBIDE, 2 FLUTE LONG LENGTH
硬质合金，2刃 长刃

▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
▶Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
▶ Available in various lengths of cut and also overall lengths.

▶基于新涂层及形状, 实现出色切削性能和耐磨性
▶加工模具产业的预硬钢(HRc55以下)表现出色
▶可提供多种刃长和全长



CARBIDE | 2 | 30° | PLAIN | p.C284-289

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-		POWER MILLING CHUCK	D161 - 176
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
SEME7002510E	2.5	6	10	60
SEME7002512E	2.5	6	12	60
SEME7002516E	2.5	6	16	60
SEME7002520E	2.5	6	20	60
SEME7002526E	2.5	6	26	60
SEME70030163SE	3.0	3	16	100
SEME7003010E	3.0	6	10	70
SEME7003012E	3.0	6	12	70
SEME7003014E	3.0	6	14	70
SEME7003016E	3.0	6	16	70
SEME7003020E	3.0	6	20	70
SEME7003026E	3.0	6	26	70
SEME7003030E	3.0	6	30	70
SEME70040204SE	4.0	4	20	100
SEME7004012E	4.0	6	12	70
SEME7004016E	4.0	6	16	70
SEME7004020E	4.0	6	20	70
SEME7004026E	4.0	6	26	70
SEME7004030E	4.0	6	30	70
SEME7005020E	5.0	6	20	70
SEME7005025E	5.0	6	25	70
SEME7005025100E	5.0	6	25	100
SEME7005030E	5.0	6	30	80
SEME7005035E	5.0	6	35	90

▶ NEXT PAGE 下页

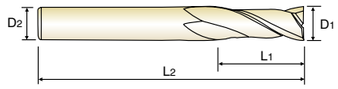
Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS
PLAIN SHANK SEME70 SERIES
CARBIDE, 2 FLUTE LONG LENGTH
硬质合金，2刃 长刃
▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
▶Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
▶ Available in various lengths of cut and also overall lengths.
▶基于新涂层及形状, 实现出色切削性能和耐磨性
▶加工模具产业的预硬钢(HRc55以下)表现出色
▶可提供多种刃长和全长



CARBIDE | 2 | 30° | PLAIN | p.C284-289
Recommended ToolHolder
Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
SEME7005040E	5.0	6	40	100
SEME7006015E	6.0	6	15	60
SEME7006015080E	6.0	6	15	80
SEME7006020E	6.0	6	20	70
SEME70060200090E	6.0	6	20	90
SEME7006025E	6.0	6	25	75
SEME7006030E	6.0	6	30	80
SEME70060300100E	6.0	6	30	100
SEME70060300150E	6.0	6	30	150
SEME7006035E	6.0	6	35	90
SEME7006040E	6.0	6	40	90
SEME70060400120E	6.0	6	40	120
SEME7006045E	6.0	6	45	150
SEME7008025E	8.0	8	25	80
SEME7008030E	8.0	8	30	80
SEME70080300100E	8.0	8	30	100
SEME7008035E	8.0	8	35	90
SEME7008040E	8.0	8	40	90
SEME70080400120E	8.0	8	40	120
SEME70080400150E	8.0	8	40	150
SEME7008045E	8.0	8	45	100
SEME7008050E	8.0	8	50	100
SEME70080500150E	8.0	8	50	150
SEME7010030E	10.0	10	30	80

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差 | Shank Dia.Tolerance 柄径公差
0 ~ - 0.03 | h5
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

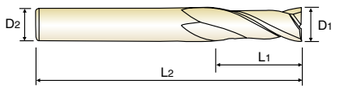
4G MILL END MILLS

PLAIN SHANK **SEME70** SERIES

CARBIDE, 2 FLUTE LONG LENGTH
硬质合金，2刃 长刃

▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
▶Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
▶ Available in various lengths of cut and also overall lengths.

▶基于新涂层及形状, 实现出色切削性能和耐磨性
▶加工模具产业的预硬钢(HRc55以下)表现出色
▶可提供多种刃长和全长



CARBIDE | 2 | 30° | PLAIN | p.C284-289

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-		POWER MILLING CHUCK	D161 - 176
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
SEME7010030100E	10.0	10	30	100
SEME7010035E	10.0	10	35	90
SEME7010040E	10.0	10	40	90
SEME7010040120E	10.0	10	40	120
SEME7010045E	10.0	10	45	100
SEME7010050E	10.0	10	50	100
SEME7010050150E	10.0	10	50	150
SEME7010050200E	10.0	10	50	200
SEME7010055E	10.0	10	55	150
SEME7010060E	10.0	10	60	110
SEME7010060200E	10.0	10	60	200
SEME7012035E	12.0	12	35	90
SEME7012040E	12.0	12	40	100
SEME7012040120E	12.0	12	40	120
SEME7012045E	12.0	12	45	130
SEME7012050E	12.0	12	50	100
SEME7012050150E	12.0	12	50	150
SEME7012055E	12.0	12	55	110
SEME7012060E	12.0	12	60	110
SEME7012060150E	12.0	12	60	150
SEME7012060200E	12.0	12	60	200
SEME7012065E	12.0	12	65	150
SEME7012070E	12.0	12	70	120
SEME7012070200E	12.0	12	70	200

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK SEME70 SERIES

CARBIDE, 2 FLUTE LONG LENGTH
硬质合金，2刃 长刃

▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
▶Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
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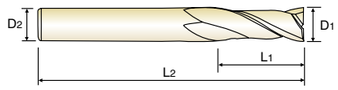
▶基于新涂层及形状, 实现出色切削性能和耐磨性
▶加工模具产业的预硬钢(HRc55以下)表现出色
▶可提供多种刃长和全长



CARBIDE | 2 | 30° | PLAIN | p.C284-289

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-		POWER MILLING CHUCK	D161 - 176
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
SEME7014050E	14.0	16	50	110
SEME7014060E	14.0	16	60	150
SEME7016040E	16.0	16	40	150
SEME7016050E	16.0	16	50	110
SEME7016050150E	16.0	16	50	150
SEME7016060E	16.0	16	60	120
SEME7016070E	16.0	16	70	130
SEME7016070150E	16.0	16	70	150
SEME7016070200E	16.0	16	70	200
SEME7016080E	16.0	16	80	150
SEME7016090E	16.0	16	90	150
SEME70160110E	16.0	16	110	200
SEME70160120E	16.0	16	120	250
SEME7018050E	18.0	20	50	120
SEME7018070E	18.0	20	70	130
SEME70180100E	18.0	20	100	200
SEME7020050E	20.0	20	50	110
SEME7020050150E	20.0	20	50	150
SEME7020060E	20.0	20	60	130
SEME7020070E	20.0	20	70	130
SEME7020080E	20.0	20	80	150
SEME7020090E	20.0	20	90	150
SEME7020090200E	20.0	20	90	200
SEME70200110E	20.0	20	110	200

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

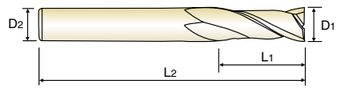
4G MILL END MILLS

PLAIN SHANK **SEME70** SERIES

CARBIDE, 2 FLUTE LONG LENGTH
硬质合金，2刃 长刃

▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
▶Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
▶ Available in various lengths of cut and also overall lengths.

▶基于新涂层及形状, 实现出色切削性能和耐磨性
▶加工模具产业的预硬钢(HRc55以下)表现出色
▶可提供多种刃长和全长



CARBIDE 2 30° PLAIN p.C284-289

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
SEME70200120E	20.0	20	120	250
SEME7022075E	22.0	20	75	150
SEME70220110E	22.0	20	110	200
SEME7025070E	25.0	25	70	150
SEME7025090E	25.0	25	90	150
SEME70250110E	25.0	25	110	200
SEME70250120E	25.0	25	120	250

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																				M			K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel											Stainless steel			Grey cast iron		Nodular cast iron			Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20										
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21										
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230										
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○										

ISO	N										S							H					
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc											15	30	25	38	34			55	60	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550		
Recommend																		○		◎	○		

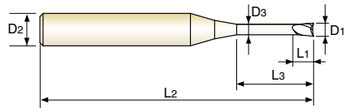
4G MILL END MILLS

PLAIN SHANK **SEM845** SERIES

CARBIDE, 2 FLUTE with EXTENDED NECK
硬质合金，2刃 颈部加长

▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
▶ For 1.0mm and under 1.0mm diameter size products, it is designed with a double neck to increase tool rigidity and to minimize vibration.
▶ Available in several effective lengths of cut and also overall lengths to apply on various rib processing.

▶基于新形状设计, 纳米颗粒基体和涂层, 出色切削性能及耐磨性涂
▶加工模具产业的预硬钢，碳钢，合金钢(HRc55以下)表现出色
▶基于Ø1.0mm以下产品采用双颈设计, 增加刀具强生及减少切削震动
▶按照有效长和全长条件, 可提供各种颈部类型



CARBIDE 2 30° PLAIN p.C290-299

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEM845001003E	0.1	4	0.15	0.3	40	0.085
SEM845001005E	0.1	4	0.15	0.5	40	0.085
SEM84500101E	0.1	4	0.15	1	40	0.085
SEM84500150035SE	0.15	4	0.2	0.35	40	0.13
SEM845002005E	0.2	4	0.3	0.5	40	0.17
SEM84500201E	0.2	4	0.3	1	40	0.17
SEM845002015E	0.2	4	0.3	1.5	40	0.17
SEM84500202E	0.2	4	0.3	2	40	0.17
SEM84500301E	0.3	4	0.5	1	40	0.27
SEM845003015E	0.3	4	0.5	1.5	40	0.27
SEM84500302E	0.3	4	0.5	2	40	0.27
SEM845003025E	0.3	4	0.5	2.5	40	0.27
SEM84500303E	0.3	4	0.5	3	40	0.27
SEM84500304E	0.3	4	0.5	4	40	0.27
SEM84500305E	0.3	4	0.5	5	40	0.27
SEM84500401E	0.4	4	0.6	1	40	0.37
SEM845004015E	0.4	4	0.6	1.5	40	0.37
SEM84500402E	0.4	4	0.6	2	40	0.37
SEM845004025E	0.4	4	0.6	2.5	40	0.37
SEM84500403E	0.4	4	0.6	3	40	0.37
SEM84500404E	0.4	4	0.6	4	40	0.37
SEM84500405E	0.4	4	0.6	5	40	0.37
SEM84500406E	0.4	4	0.6	6	40	0.37
SEM84500408E	0.4	4	0.6	8	40	0.37

▶ NEXT PAGE 下页

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	0~ - 0.012	h5
over Ø6 超过Ø6	0~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																				M			K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel											Stainless steel			Grey cast iron		Nodular cast iron			Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20										
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21										
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230										
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎	○	○	○	○	○	○	○	○	○										

ISO	N										S							H					
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc											15	30	25	38	34			55	60	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550		
Recommend																		○		◎	○		

4G MILL END MILLS

PLAIN SHANK **SEM845** SERIES

CARBIDE, 2 FLUTE with EXTENDED NECK
硬质合金，2刃 颈部加长

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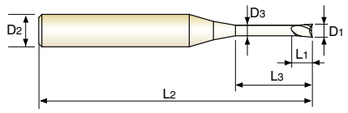
▶基于Ø1.0mm以下产品采用双颈设计，增加刀具强生及减少切削震动
▶按照有效长和全长条件，可提供各种颈部类型



CARBIDE | 2 | 30° | PLAIN | p.C290-299

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEM84500410E	0.4	4	0.6	10	40	0.37
SEM84500501E	0.5	4	0.7	1	45	0.45
SEM845005015E	0.5	4	0.7	1.5	45	0.45
SEM84500502E	0.5	4	0.7	2	45	0.45
SEM845005025E	0.5	4	0.7	2.5	45	0.45
SEM84500503E	0.5	4	0.7	3	45	0.45
SEM84500504E	0.5	4	0.7	4	45	0.45
SEM84500505E	0.5	4	0.7	5	45	0.45
SEM84500506E	0.5	4	0.7	6	45	0.45
SEM84500508E	0.5	4	0.7	8	45	0.45
SEM84500510E	0.5	4	0.7	10	45	0.45
SEM84500512E	0.5	4	0.7	12	45	0.45
SEM84500514E	0.5	4	0.7	14	45	0.45
SEM84500516E	0.5	4	0.7	16	45	0.45
SEM84500602E	0.6	4	0.9	2	45	0.55
SEM84500603E	0.6	4	0.9	3	45	0.55
SEM84500604E	0.6	4	0.9	4	45	0.55
SEM84500605E	0.6	4	0.9	5	45	0.55
SEM84500606E	0.6	4	0.9	6	45	0.55
SEM84500608E	0.6	4	0.9	8	45	0.55
SEM84500610E	0.6	4	0.9	10	45	0.55
SEM84500612E	0.6	4	0.9	12	45	0.55
SEM84500614E	0.6	4	0.9	14	45	0.55
SEM84500616E	0.6	4	0.9	16	45	0.55

▶ NEXT PAGE 下页

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	0~ - 0.012	h5
over Ø6 超过Ø6	0~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎	○	○	○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS
PLAIN SHANK SEM845 SERIES
CARBIDE, 2 FLUTE with EXTENDED NECK
硬质合金，2刃 颈部加长

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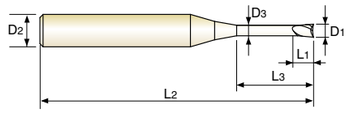

CARBIDE | 2 | 30° | PLAIN | p.C290-299

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEM84500702E	0.7	4	1.2	2	45	0.65
SEM84500704E	0.7	4	1.2	4	45	0.65
SEM84500706E	0.7	4	1.2	6	45	0.65
SEM84500708E	0.7	4	1.2	8	45	0.65
SEM84500710E	0.7	4	1.2	10	45	0.65
SEM84500712E	0.7	4	1.2	12	45	0.65
SEM84500802E	0.8	4	1.2	2	45	0.75
SEM84500803E	0.8	4	1.2	3	45	0.75
SEM84500804E	0.8	4	1.2	4	45	0.75
SEM84500805E	0.8	4	1.2	5	45	0.75
SEM84500806E	0.8	4	1.2	6	45	0.75
SEM84500808E	0.8	4	1.2	8	45	0.75
SEM84500810E	0.8	4	1.2	10	45	0.75
SEM84500812E	0.8	4	1.2	12	45	0.75
SEM84500814E	0.8	4	1.2	14	45	0.75
SEM84500816E	0.8	4	1.2	16	45	0.75
SEM84500820E	0.8	4	1.2	20	45	0.75
SEM84500906E	0.9	4	1.3	6	45	0.85
SEM84500908E	0.9	4	1.3	8	45	0.85
SEM84500910E	0.9	4	1.3	10	45	0.85
SEM84501002E	1.0	4	1.5	2	50	0.95
SEM84501003E	1.0	4	1.5	3	50	0.95
SEM84501004E	1.0	4	1.5	4	50	0.95
SEM84501005E	1.0	4	1.5	5	50	0.95

▶ NEXT PAGE 下页

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	0~ - 0.012	h5
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Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎	○	○	○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK **SEM845** SERIES

CARBIDE, 2 FLUTE with EXTENDED NECK
硬质合金，2刃 颈部加长

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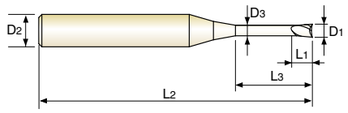
- ▶按照有效长和全长条件，可提供各种颈部类型



CARBIDE | 2 | 30° | PLAIN | p.C290-299

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEM84501006E	1.0	4	1.5	6	50	0.95
SEM84501007E	1.0	4	1.5	7	50	0.95
SEM84501008E	1.0	4	1.5	8	50	0.95
SEM84501010E	1.0	4	1.5	10	50	0.95
SEM84501012E	1.0	4	1.5	12	50	0.95
SEM84501014E	1.0	4	1.5	14	50	0.95
SEM84501016E	1.0	4	1.5	16	50	0.95
SEM84501018E	1.0	4	1.5	18	50	0.95
SEM84501020E	1.0	4	1.5	20	50	0.95
SEM84501022E	1.0	4	1.5	22	60	0.95
SEM84501026E	1.0	4	1.5	26	60	0.95
SEM84501030E	1.0	4	1.5	30	70	0.95
SEM84501040E	1.0	4	1.5	40	80	0.95
SEM84501050E	1.0	4	1.5	50	100	0.95
SEM84501204E	1.2	4	1.8	4	50	1.15
SEM84501206E	1.2	4	1.8	6	50	1.15
SEM84501208E	1.2	4	1.8	8	50	1.15
SEM84501210E	1.2	4	1.8	10	50	1.15
SEM84501212E	1.2	4	1.8	12	50	1.15
SEM84501214E	1.2	4	1.8	14	50	1.15
SEM84501216E	1.2	4	1.8	16	50	1.15
SEM84501220E	1.2	4	1.8	20	50	1.15
SEM84501226E	1.2	4	1.8	26	60	1.15
SEM84501230E	1.2	4	1.8	30	70	1.15

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Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	0~ - 0.012	h5
over Ø6 超过Ø6	0~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎	○	○	○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

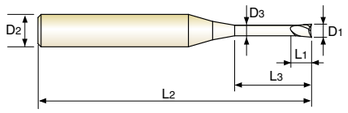
4G MILL END MILLS

PLAIN SHANK **SEM845** SERIES

CARBIDE, 2 FLUTE with EXTENDED NECK
硬质合金，2刃 颈部加长

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ For 1.0mm and under 1.0mm diameter size products, it is designed with a double neck to increase tool rigidity and to minimize vibration.
- ▶ Available in several effective lengths of cut and also overall lengths to apply on various rib processing.

- ▶基于新形状设计，纳米颗粒基体和涂层，出色切削性能及耐磨性涂
- ▶加工模具产业的预硬钢，碳钢，合金钢(HRc55以下)表现出色
- ▶基于Ø1.0mm以下产品采用双颈设计，增加刀具强生及减少切削震动
- ▶按照有效长和全长条件，可提供各种颈部类型



CARBIDE | 2 | 30° | PLAIN | p.C290-299

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEM84501406E	1.4	4	2.1	6	50	1.35
SEM84501408E	1.4	4	2.1	8	50	1.35
SEM84501410E	1.4	4	2.1	10	50	1.35
SEM84501414E	1.4	4	2.1	14	50	1.35
SEM84501416E	1.4	4	2.1	16	50	1.35
SEM84501420E	1.4	4	2.1	20	50	1.35
SEM84501504E	1.5	4	2.3	4	50	1.45
SEM84501505E	1.5	4	2.3	5	50	1.45
SEM84501506E	1.5	4	2.3	6	50	1.45
SEM84501507E	1.5	4	2.3	7	50	1.45
SEM84501508E	1.5	4	2.3	8	50	1.45
SEM84501510E	1.5	4	2.3	10	50	1.45
SEM84501512E	1.5	4	2.3	12	50	1.45
SEM84501514E	1.5	4	2.3	14	50	1.45
SEM84501516E	1.5	4	2.3	16	50	1.45
SEM84501518E	1.5	4	2.3	18	50	1.45
SEM84501520E	1.5	4	2.3	20	50	1.45
SEM84501522E	1.5	4	2.3	22	60	1.45
SEM84501526E	1.5	4	2.3	26	60	1.45
SEM84501530E	1.5	4	2.3	30	70	1.45
SEM84501608E	1.6	4	2.3	8	50	1.55
SEM84501610E	1.6	4	2.3	10	50	1.55
SEM84501612E	1.6	4	2.3	12	50	1.55
SEM84501616E	1.6	4	2.3	16	50	1.55

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Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	0~ - 0.012	h5
over Ø6 超过Ø6	0~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎	○	○	○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK **SEM845** SERIES

CARBIDE, 2 FLUTE with EXTENDED NECK
硬质合金，2刃 颈部加长

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- ▶ Available in several effective lengths of cut and also overall lengths to apply on various rib processing.

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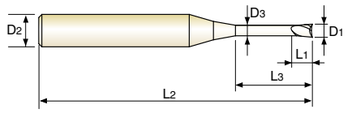
- ▶基于Ø1.0mm以下产品采用双颈设计，增加刀具强生及减少切削震动
- ▶按照有效长和全长条件，可提供各种颈部类型



CARBIDE | 2 | 30° | PLAIN | p.C290-299

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEM84501620E	1.6	4	2.3	20	50	1.55
SEM84501808E	1.8	4	2.7	8	50	1.75
SEM84501810E	1.8	4	2.7	10	50	1.75
SEM84501812E	1.8	4	2.7	12	50	1.75
SEM84501816E	1.8	4	2.7	16	50	1.75
SEM84501820E	1.8	4	2.7	20	50	1.75
SEM84502006E	2.0	4	3	6	50	1.95
SEM84502008E	2.0	4	3	8	50	1.95
SEM84502010E	2.0	4	3	10	50	1.95
SEM84502012E	2.0	4	3	12	50	1.95
SEM84502014E	2.0	4	3	14	50	1.95
SEM84502016E	2.0	4	3	16	50	1.95
SEM84502018E	2.0	4	3	18	50	1.95
SEM84502020E	2.0	4	3	20	50	1.95
SEM84502022E	2.0	4	3	22	60	1.95
SEM84502026E	2.0	4	3	26	60	1.95
SEM84502030E	2.0	4	3	30	70	1.95
SEM84502035E	2.0	4	3	35	70	1.95
SEM84502040E	2.0	4	3	40	80	1.95
SEM84502045E	2.0	4	3	45	90	1.95
SEM84502050E	2.0	4	3	50	100	1.95
SEM84502060E	2.0	4	3	60	110	1.95
SEM84502508E	2.5	4	4	8	50	2.40
SEM84502510E	2.5	4	4	10	50	2.40

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Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	0~ - 0.012	h5
over Ø6 超过Ø6	0~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎	○	○	○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS
PLAIN SHANK SEM845 SERIES
CARBIDE, 2 FLUTE with EXTENDED NECK
硬质合金，2刃 颈部加长

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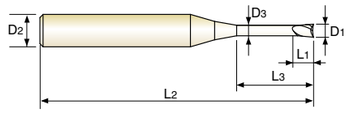
- ▶按照有效长和全长条件，可提供各种颈部类型



CARBIDE | 2 | 30° | PLAIN | p.C290-299

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEM84502512E	2.5	4	4	12	50	2.40
SEM84502514E	2.5	4	4	14	50	2.40
SEM84502516E	2.5	4	4	16	50	2.40
SEM84502518E	2.5	4	4	18	50	2.40
SEM84502520E	2.5	4	4	20	50	2.40
SEM84502522E	2.5	4	4	22	60	2.40
SEM84502526E	2.5	4	4	26	60	2.40
SEM84502530E	2.5	4	4	30	70	2.40
SEM84502535E	2.5	4	4	35	70	2.40
SEM84502540E	2.5	4	4	40	80	2.40
SEM84502545E	2.5	4	4	45	90	2.40
SEM84502550E	2.5	4	4	50	100	2.40
SEM84503006E	3.0	6	4.5	6	50	2.85
SEM84503008E	3.0	6	4.5	8	50	2.85
SEM84503010E	3.0	6	4.5	10	50	2.85
SEM84503012E	3.0	6	4.5	12	50	2.85
SEM84503014E	3.0	6	4.5	14	60	2.85
SEM84503016E	3.0	6	4.5	16	60	2.85
SEM84503018E	3.0	6	4.5	18	60	2.85
SEM84503020E	3.0	6	4.5	20	60	2.85
SEM84503022E	3.0	6	4.5	22	65	2.85
SEM84503026E	3.0	6	4.5	26	65	2.85
SEM84503030E	3.0	6	4.5	30	70	2.85
SEM84503035E	3.0	6	4.5	35	70	2.85

▶ NEXT PAGE 下页

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	0~ - 0.012	h5
over Ø6 超过Ø6	0~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎	○	○	○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

PLAIN SHANK **SEM845** SERIES

CARBIDE, 2 FLUTE with EXTENDED NECK
硬质合金，2刃 颈部加长

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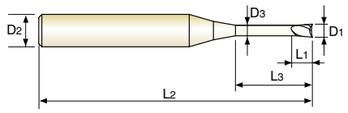
▶基于Ø1.0mm以下产品采用双颈设计，增加刀具强生及减少切削震动
▶按照有效长和全长条件，可提供各种颈部类型



CARBIDE | 2 | 30° | PLAIN | p.C290-299

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEM84503040E	3.0	6	4.5	40	80	2.85
SEM84503045E	3.0	6	4.5	45	90	2.85
SEM84503050E	3.0	6	4.5	50	100	2.85
SEM84503060E	3.0	6	4.5	60	100	2.85
SEM84504008E	4.0	6	6	8	50	3.85
SEM84504010E	4.0	6	6	10	50	3.85
SEM84504012E	4.0	6	6	12	50	3.85
SEM84504014E	4.0	6	6	14	60	3.85
SEM84504016E	4.0	6	6	16	60	3.85
SEM84504018E	4.0	6	6	18	60	3.85
SEM84504020E	4.0	6	6	20	60	3.85
SEM84504022E	4.0	6	6	22	65	3.85
SEM84504026E	4.0	6	6	26	65	3.85
SEM84504030E	4.0	6	6	30	70	3.85
SEM84504035E	4.0	6	6	35	70	3.85
SEM84504040E	4.0	6	6	40	80	3.85
SEM84504045E	4.0	6	6	45	90	3.85
SEM84504050E	4.0	6	6	50	100	3.85
SEM84504060E	4.0	6	6	60	100	3.85
SEM84505016E	5.0	6	8	16	60	4.85
SEM84505020E	5.0	6	8	20	60	4.85
SEM84505026E	5.0	6	8	26	65	4.85
SEM84505030E	5.0	6	8	30	70	4.85
SEM84505035E	5.0	6	8	35	75	4.85

▶ NEXT PAGE 下页

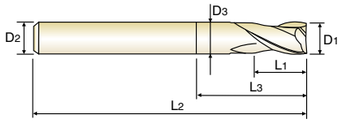
Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	0~ - 0.012	h5
over Ø6 超过Ø6	0~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎	○	○	○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS
PLAIN SHANK SEM845 SERIES
CARBIDE, 2 FLUTE with EXTENDED NECK
硬质合金，2刃 颈部加长
▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
▶ For 1.0mm and under 1.0mm diameter size products, it is designed with a double neck to increase tool rigidity and to minimize vibration.
▶ Available in several effective lengths of cut and also overall lengths to apply on various rib processing.
▶基于新形状设计，纳米颗粒基体和涂层，出色切削性能及耐磨性涂
▶加工模具产业的预硬钢，碳钢，合金钢(HRc55以下)表现出色
▶基于Ø1.0mm以下产品采用双颈设计，增加刀具强生及减少切削震动
▶按照有效长和全长条件，可提供各种颈部类型



CARBIDE | 2 | 30° | PLAIN | p.C290-299
Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEM84505040E	5.0	6	8	40	80	4.85
SEM84505050E	5.0	6	8	50	90	4.85
SEM84505060E	5.0	6	8	60	100	4.85
SEM84506015E	6.0	6	9	15	60	5.85
SEM84506020E	6.0	6	9	20	60	5.85
SEM84506030E	6.0	6	9	30	70	5.85
SEM84506032E	6.0	6	9	32	90	5.85
SEM84508025E	8.0	8	12	25	70	7.70
SEM84508030E	8.0	8	12	30	80	7.70
SEM84508042E	8.0	8	12	42	100	7.70
SEM84510030E	10.0	10	15	30	75	9.70
SEM84510035E	10.0	10	15	35	80	9.70
SEM84510045E	10.0	10	15	45	100	9.70
SEM84512035E	12.0	12	20	35	80	11.70
SEM84512040E	12.0	12	20	40	90	11.70
SEM84512050E	12.0	12	20	50	110	11.70

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 Ø6以下	0~ - 0.012	h5
over Ø6 超过Ø6	0~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎	○	○	○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

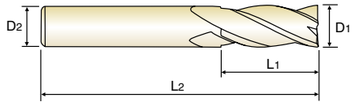
4G MILL END MILLS

PLAIN SHANK **SEME36** SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX
硬质合金，4刃 不等螺旋

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Multiple Helix for 3.0mm and over 3.0mm diameter end mills minimizing vibration and decreasing wear in cutting.

- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色
- ▶基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性



CARBIDE | 4 | 27°/30° | PLAIN | p.C300-303

D<Ø3, 30˚ HELIX

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEME36008E	0.8	4	1.6	40	4mm Shank
SEME36009E	0.9	4	1.8	40	4mm Shank
SEME360104SE	1.0	4	2.5	50	4mm Shank
SEME36010E	1.0	6	2.5	50	-
SEME360124SE	1.2	4	3	50	4mm Shank
SEME36012E	1.2	6	3	50	-
SEME360154SE	1.5	4	4	50	4mm Shank
SEME36015E	1.5	6	4	50	-
SEME360204SE	2.0	4	6	50	4mm Shank
SEME36020E	2.0	6	6	50	-
SEME360254SE	2.5	4	7	50	4mm Shank
SEME36025E	2.5	6	7	50	-
SEME36030E	3.0	6	8	50	-
SEME36035E	3.5	6	10	50	-
SEME36040E	4.0	6	10	50	-
SEME36045E	4.5	6	14	50	-
SEME36050E	5.0	6	15	60	-
SEME36055E	5.5	6	15	60	-
SEME36060E	6.0	6	15	60	-
SEME36065E	6.5	8	18	60	-
SEME36070E	7.0	8	20	60	-
SEME36075E	7.5	8	20	60	-
SEME36080E	8.0	8	20	70	-
SEME36085E	8.5	10	22	70	-

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Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎			○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

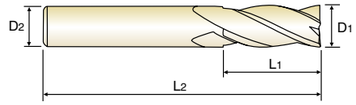
4G MILL END MILLS

PLAIN SHANK **SEME36** SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX
硬质合金，4刃 不等螺旋

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Multiple Helix for 3.0mm and over 3.0mm diameter end mills minimizing vibration and decreasing wear in cutting.

- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色
- ▶基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性



CARBIDE | 4 | 27°/30° | PLAIN | p.C300-303

D<Ø3, 30˚ HELIX

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEME36090E	9.0	10	22	70	-
SEME36095E	9.5	10	24	70	-
SEME36100E	10.0	10	25	75	-
SEME36105E	10.5	12	26	75	-
SEME36110E	11.0	12	30	75	-
SEME36115E	11.5	12	30	80	-
SEME36120E	12.0	12	30	80	-
SEME36130E	13.0	12	35	100	-
SEME3614012SE	14.0	12	35	100	-
SEME3614014SE	14.0	14	35	100	-
SEME36140E	14.0	16	35	100	-
SEME36150E	15.0	16	38	100	-
SEME36160E	16.0	16	40	100	-
SEME36170E	17.0	16	42	100	-
SEME36180E	18.0	16	45	100	-
SEME3618018SE	18.0	18	45	100	-
SEME36190E	19.0	20	45	100	-
SEME36200E	20.0	20	45	100	-
SEME36210E	21.0	20	45	100	-
SEME36220E	22.0	20	45	100	-
SEME36230E	23.0	25	50	120	-
SEME36240E	24.0	25	50	120	-
SEME36250E	25.0	25	50	120	-

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎			○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

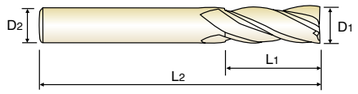
4G MILL END MILLS

PLAIN SHANK **SEME71** SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX (Sharp corner removal)
硬质合金，4刃 不等螺旋（保护刀尖处理）

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Multiple Helix for 3.0mm and over 3.0mm diameter endmills minimizing vibration and decreasing wear in cutting.
  - Equal index flutes design for long length and single helix (38°) end mills.
- ▶ Gash land geometry applied at the end tooth, achieving heavy duty cutting.
- ▶ Available various length products like short, regular and long length end mills etc.
- ▶ Available in short, regular and long shank end mills.

- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色
- ▶基于Ø3.0mm以上采用不等螺旋,
  减少切削震动及增加切削耐磨性
  - 长刃产品和单螺旋（38度）产品不采用不等螺旋
- ▶基于在底刃的月牙槽形状, 可用重切削
- ▶可提供多种刃长包括短,普通和长刃铣刀等
- ▶可提供短，普通和长柄铣刀



CARBIDE | 4 | 35°/38° | PLAIN | p.C300-303

D<Ø3, Long Length 38˚ HELIX

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEME71010014SE	1.0	4	1	40	4mm Shank
SEME71010024SE	1.0	4	2	40	4mm Shank
SEME710104SE	1.0	4	2.5	50	4mm Shank
SEME71010034SE	1.0	4	3	50	4mm Shank
SEME71010044SE	1.0	4	4	50	4mm Shank
SEME71010064SE	1.0	4	6	50	4mm Shank
SEME7101001E	1.0	6	1	40	Short
SEME7101002E	1.0	6	2	40	Short
SEME71010E	1.0	6	2.5	50	Regular
SEME7101003E	1.0	6	3	50	Long
SEME7101004E	1.0	6	4	50	Long
SEME7101006E	1.0	6	6	50	Long
SEME71012024SE	1.2	4	2	40	4mm Shank
SEME710124SE	1.2	4	3	50	4mm Shank
SEME71012044SE	1.2	4	4	50	4mm Shank
SEME71012064SE	1.2	4	6	50	4mm Shank
SEME7101202E	1.2	6	2	40	Short
SEME71012E	1.2	6	3	50	Regular
SEME7101204E	1.2	6	4	50	Long
SEME7101206E	1.2	6	6	50	Long
SEME710150154SE	1.5	4	1.5	40	4mm Shank
SEME71015034SE	1.5	4	3	40	4mm Shank
SEME710154SE	1.5	4	4	50	4mm Shank
SEME71015064SE	1.5	4	6	50	4mm Shank

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

Enforced Cutting Edge(保护尖角处理)

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																				M		K						
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel										Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20									
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21									
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230									
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎			○	○	○	○	○	○	○									

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

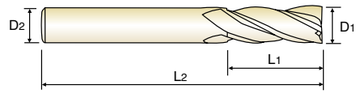
4G MILL END MILLS

PLAIN SHANK **SEME71** SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX (Sharp corner removal)
硬质合金，4刃 不等螺旋（保护刀尖处理）

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Multiple Helix for 3.0mm and over 3.0mm diameter endmills minimizing vibration and decreasing wear in cutting.
  - Equal index flutes design for long length and single helix (38°) end mills.
- ▶ Gash land geometry applied at the end tooth, achieving heavy duty cutting.
- ▶ Available various length products like short, regular and long length end mills etc.
- ▶ Available in short, regular and long shank end mills.

- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色
- ▶基于Ø3.0mm以上采用不等螺旋,
  减少切削震动及增加切削耐磨性
  - 长刃产品和单螺旋（38度）产品不采用不等螺旋
- ▶基于在底刃的月牙槽形状, 可用重切削
- ▶可提供多种刃长包括短,普通和长刃铣刀等
- ▶可提供短，普通和长柄铣刀



CARBIDE | 4 | 35°/38° | PLAIN | p.C300-303

D<Ø3, Long Length 38˚ HELIX

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEME71015084SE	1.5	4	8	50	4mm Shank
SEME71015104SE	1.5	4	10	50	4mm Shank
SEME71015015E	1.5	6	1.5	40	Short
SEME7101503E	1.5	6	3	40	Short
SEME71015E	1.5	6	4	50	Regular
SEME7101506E	1.5	6	6	50	Long
SEME7101508E	1.5	6	8	50	Long
SEME7101510E	1.5	6	10	50	Long
SEME71020024SE	2.0	4	2	40	4mm Shank
SEME71020044SE	2.0	4	4	40	4mm Shank
SEME710204SE	2.0	4	6	50	4mm Shank
SEME71020084SE	2.0	4	8	50	4mm Shank
SEME71020104SE	2.0	4	10	50	4mm Shank
SEME71020124SE	2.0	4	12	50	4mm Shank
SEME7102002E	2.0	6	2	40	Short
SEME7102004E	2.0	6	4	40	Short
SEME71020E	2.0	6	6	50	Regular
SEME7102008E	2.0	6	8	50	Long
SEME7102010E	2.0	6	10	50	Long
SEME7102012E	2.0	6	12	50	Long
SEME710250254SE	2.5	4	2.5	40	4mm Shank
SEME71025054SE	2.5	4	5	40	4mm Shank
SEME710254SE	2.5	4	7	50	4mm Shank
SEME71025104SE	2.5	4	10	50	4mm Shank

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

Enforced Cutting Edge(保护尖角处理)

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																				M		K						
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel										Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20									
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21									
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230									
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎			○	○	○	○	○	○	○									

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

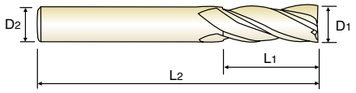
PLAIN SHANK **SEME71** SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX (Sharp corner removal)

硬质合金，4刃 不等螺旋（保护刀尖处理）

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Multiple Helix for 3.0mm and over 3.0mm diameter endmills minimizing vibration and decreasing wear in cutting.
  - Equal index flutes design for long length and single helix (38°) end mills.
- ▶ Gash land geometry applied at the end tooth, achieving heavy duty cutting.
- ▶ Available various length products like short, regular and long length end mills etc.
- ▶ Available in short, regular and long shank end mills.

- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色
- ▶基于Ø3.0mm以上采用不等螺旋,
  减少切削震动及增加切削耐磨性
  - 长切产品和单螺旋（38度）产品不采用不等螺旋
- ▶基于在底刃的月牙槽形状, 可用重切削
- ▶可提供多种刃长包括短,普通和长刃铣刀等
- ▶可提供短，普通和长柄铣刀



CARBIDE | 4 | 35°/38° | PLAIN | p.C300-303

D<Ø3, Long Length 38˚ HELIX

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEME71025124SE	2.5	4	12	50	4mm Shank
SEME71025025E	2.5	6	2.5	40	Short
SEME7102505E	2.5	6	5	40	Short
SEME71025E	2.5	6	7	50	Regular
SEME7102510E	2.5	6	10	50	Long
SEME7102512E	2.5	6	12	50	Long
SEME7103003E	3.0	6	3	40	Short
SEME7103006E	3.0	6	6	40	Short
SEME71030E	3.0	6	8	50	Regular
SEME7103010E	3.0	6	10	50	Long
SEME7103012E	3.0	6	12	50	Long
SEME7103014E	3.0	6	14	50	Long
SEME7104004E	4.0	6	4	40	Short
SEME7104008E	4.0	6	8	40	Short
SEME71040E	4.0	6	10	50	Regular
SEME7104012E	4.0	6	12	50	Long
SEME7104014E	4.0	6	14	50	Long
SEME7104016E	4.0	6	16	50	Long
SEME7105005E	5.0	6	5	50	Short
SEME7105010E	5.0	6	10	50	Short
SEME71050E	5.0	6	15	60	Regular
SEME7105020E	5.0	6	20	60	Long
SEME7105025E	5.0	6	25	60	Long
SEME7106006E	6.0	6	6	50	Short

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

Enforced Cutting Edge(保护尖角处理)

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎			○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

4G MILL END MILLS

PLAIN SHANK **SEME71** SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX (Sharp corner removal)

硬质合金，4刃 不等螺旋（保护刀尖处理）

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
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- ▶ Available in short, regular and long shank end mills.

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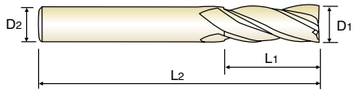
- ▶加工模具产业的预硬钢(HRc55以下)表现出色
- ▶基于Ø3.0mm以上采用不等螺旋,
  减少切削震动及增加切削耐磨性
  - 长切产品和单螺旋（38度）产品不采用不等螺旋
- ▶基于在底刃的月牙槽形状, 可用重切削
- ▶可提供多种刃长包括短,普通和长刃铣刀等
- ▶可提供短，普通和长柄铣刀



CARBIDE | 4 | 35°/38° | PLAIN | p.C300-303

D<Ø3, Long Length 38˚ HELIX

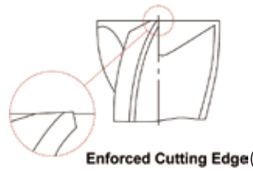
Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEME7106012E	6.0	6	12	50	Short
SEME71060E	6.0	6	15	60	Regular
SEME7106020E	6.0	6	20	60	Long
SEME7106025E	6.0	6	25	60	Long
SEME7108016E	8.0	8	16	60	Short
SEME71080E	8.0	8	20	70	Regular
SEME7108025E	8.0	8	25	70	Long
SEME7108030E	8.0	8	30	70	Long
SEME7110022E	10.0	10	22	65	Short
SEME71100E	10.0	10	25	75	Regular
SEME7110030E	10.0	10	30	75	Long
SEME7110035E	10.0	10	35	75	Long
SEME7112026E	12.0	12	26	70	Short
SEME71120E	12.0	12	30	80	Regular
SEME7112035E	12.0	12	35	80	Long
SEME7112040E	12.0	12	40	80	Long
SEME71140E	14.0	16	35	100	Regular
SEME7116032E	16.0	16	32	100	Short
SEME71160E	16.0	16	40	100	Regular
SEME71180E	18.0	20	45	100	Regular
SEME71200E	20.0	20	45	100	Regular

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5



Enforced Cutting Edge(保护尖角处理)

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎			○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

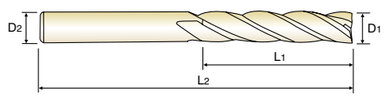
4G MILL END MILLS

PLAIN SHANK **SEME72** SERIES

CARBIDE, 4 FLUTE LONG LENGTH
硬质合金，4刃 长刃

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Available in short, regular and long shank end mills.

- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色
- ▶可提供短，普通和长柄铣刀



CARBIDE | 4 | 30° | PLAIN | p.C304-309

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-		POWER MILLING CHUCK	D161 - 176
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
SEME7201003E	1.0	6	3	60
SEME7201004E	1.0	6	4	60
SEME7201005E	1.0	6	5	60
SEME7201006E	1.0	6	6	60
SEME7201007E	1.0	6	7	60
SEME7201008E	1.0	6	8	60
SEME7201010E	1.0	6	10	60
SEME7201012E	1.0	6	12	60
SEME7201204E	1.2	6	4	60
SEME7201206E	1.2	6	6	60
SEME7201208E	1.2	6	8	60
SEME7201210E	1.2	6	10	60
SEME7201212E	1.2	6	12	60
SEME7201506E	1.5	6	6	60
SEME7201508E	1.5	6	8	60
SEME7201510E	1.5	6	10	60
SEME7201512E	1.5	6	12	60
SEME7201514E	1.5	6	14	60
SEME7201516E	1.5	6	16	60
SEME7202008E	2.0	6	8	60
SEME7202010E	2.0	6	10	60
SEME7202012E	2.0	6	12	60
SEME7202014E	2.0	6	14	60
SEME7202016E	2.0	6	16	60

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS
PLAIN SHANK SEME72 SERIES
CARBIDE, 4 FLUTE LONG LENGTH
硬质合金，4刃 长刃
▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
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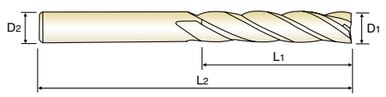


CARBIDE | 4 | 30° | PLAIN | p.C304-309
Recommended ToolHolder
Flat Shank Page: END MILL HOLDER D118 - 137; - -; POWER MILLING CHUCK D161 - 176; ER COLLET CHUCK D73 - 115
Plain Shank Page: HYDRAULIC CHUCK / SHRINK FIT HOLDER D15 - 46 / D47 - 72; POWER MILLING CHUCK D161 - 176; ER COLLET CHUCK / SK SLIM CHUCK D73 - 115 / D183 - 201
Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
SEME7202510E	2.5	6	10	60
SEME7202512E	2.5	6	12	60
SEME7202516E	2.5	6	16	60
SEME7202520E	2.5	6	20	60
SEME7202526E	2.5	6	26	60
SEME72030163SE	3.0	3	16	100
SEME7203010E	3.0	6	10	70
SEME7203012E	3.0	6	12	70
SEME7203014E	3.0	6	14	70
SEME7203016E	3.0	6	16	70
SEME7203020E	3.0	6	20	70
SEME7203026E	3.0	6	26	70
SEME7203030E	3.0	6	30	70
SEME72040204SE	4.0	4	20	100
SEME7204012E	4.0	6	12	70
SEME7204016E	4.0	6	16	70
SEME7204020E	4.0	6	20	70
SEME7204026E	4.0	6	26	70
SEME7204030E	4.0	6	30	70
SEME7205020E	5.0	6	20	70
SEME7205025E	5.0	6	25	70
SEME7205025100E	5.0	6	25	100
SEME7205030E	5.0	6	30	80
SEME7205035E	5.0	6	35	90
SEME7205040E	5.0	6	40	100

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差: 0 ~ - 0.03
Shank Dia.Tolerance 柄径公差: h5
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

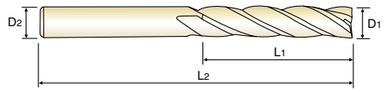
4G MILL END MILLS

PLAIN SHANK **SEME72** SERIES

CARBIDE, 4 FLUTE LONG LENGTH
硬质合金，4刃 长刃

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Available in short, regular and long shank end mills.

- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色
- ▶可提供短，普通和长柄铣刀



CARBIDE | 4 | 30° | PLAIN | p.C304-309

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-		POWER MILLING CHUCK	D161 - 176
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
SEME7206015E	6.0	6	15	60
SEME7206015080E	6.0	6	15	80
SEME7206020E	6.0	6	20	70
SEME7206020090E	6.0	6	20	90
SEME7206025E	6.0	6	25	75
SEME7206030E	6.0	6	30	80
SEME7206030100E	6.0	6	30	100
SEME7206030150E	6.0	6	30	150
SEME7206035E	6.0	6	35	90
SEME7206040E	6.0	6	40	90
SEME7206040120E	6.0	6	40	120
SEME7206045E	6.0	6	45	150
SEME7208025E	8.0	8	25	80
SEME7208030E	8.0	8	30	80
SEME7208030100E	8.0	8	30	100
SEME7208035E	8.0	8	35	90
SEME7208040E	8.0	8	40	90
SEME7208040120E	8.0	8	40	120
SEME7208040150E	8.0	8	40	150
SEME7208045E	8.0	8	45	100
SEME7208050E	8.0	8	50	100
SEME7208050150E	8.0	8	50	150

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Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			M				K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel										Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20										
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21										
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230										
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○										

ISO	N										S							H						
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRc											15	30	25	38	34			55	60	42	55			
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550			
Recommend																		○		◎	○			

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

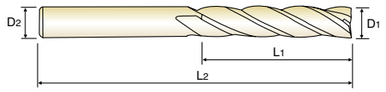
4G MILL END MILLS

PLAIN SHANK **SEME72** SERIES

CARBIDE, 4 FLUTE LONG LENGTH
硬质合金，4刃 长刃

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Available in short, regular and long shank end mills.

- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色
- ▶可提供短，普通和长柄铣刀



CARBIDE | 4 | 30° | PLAIN | p.C304-309

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-		POWER MILLING CHUCK	D161 - 176
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
SEME7210030E	10.0	10	30	80
SEME7210030100E	10.0	10	30	100
SEME7210035E	10.0	10	35	90
SEME7210040E	10.0	10	40	90
SEME7210040120E	10.0	10	40	120
SEME7210045E	10.0	10	45	100
SEME7210050E	10.0	10	50	100
SEME7210050150E	10.0	10	50	150
SEME7210050200E	10.0	10	50	200
SEME7210055E	10.0	10	55	150
SEME7210060E	10.0	10	60	110
SEME7210060200E	10.0	10	60	200
SEME7212035E	12.0	12	35	90
SEME7212040E	12.0	12	40	100
SEME7212040120E	12.0	12	40	120
SEME7212045E	12.0	12	45	130
SEME7212050E	12.0	12	50	100
SEME7212050150E	12.0	12	50	150
SEME7212055E	12.0	12	55	110
SEME7212060E	12.0	12	60	110
SEME7212060150E	12.0	12	60	150
SEME7212060200E	12.0	12	60	200
SEME7212065E	12.0	12	65	150
SEME7212070E	12.0	12	70	120
SEME7212070200E	12.0	12	70	200

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Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			M				K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel										Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20										
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21										
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230										
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○										

ISO	N										S							H						
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRc											15	30	25	38	34			55	60	42	55			
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550			
Recommend																		○		◎	○			

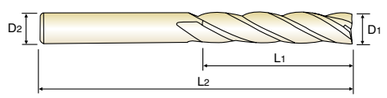
4G MILL END MILLS

PLAIN SHANK **SEME72** SERIES

CARBIDE, 4 FLUTE LONG LENGTH
硬质合金，4刃 长刃

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Available in short, regular and long shank end mills.

- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色
- ▶可提供短，普通和长柄铣刀



CARBIDE | 4 | 30° | PLAIN | p.C304-309

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-		POWER MILLING CHUCK	D161 - 176
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
SEME7214050E	14.0	16	50	110
SEME7214060E	14.0	16	60	150
SEME7216040E	16.0	16	40	150
SEME7216050E	16.0	16	50	110
SEME7216050150E	16.0	16	50	150
SEME7216060E	16.0	16	60	120
SEME7216070E	16.0	16	70	130
SEME7216070150E	16.0	16	70	150
SEME7216070200E	16.0	16	70	200
SEME7216080E	16.0	16	80	150
SEME7216090E	16.0	16	90	150
SEME72160110E	16.0	16	110	200
SEME72160120E	16.0	16	120	250
SEME7218050E	18.0	20	50	120
SEME7218070E	18.0	20	70	130
SEME72180100E	18.0	20	100	200
SEME7220050E	20.0	20	50	110
SEME7220050150E	20.0	20	50	150
SEME7220060E	20.0	20	60	130
SEME7220070E	20.0	20	70	130
SEME7220080E	20.0	20	80	150
SEME7220090E	20.0	20	90	150
SEME7220090200E	20.0	20	90	200
SEME72200110E	20.0	20	110	200
SEME72200120E	20.0	20	120	250

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Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

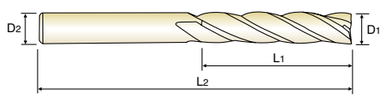
4G MILL END MILLS

PLAIN SHANK SEME72 SERIES

CARBIDE, 4 FLUTE LONG LENGTH
硬质合金，4刃 长刃

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Available in short, regular and long shank end mills.

- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色
- ▶可提供短，普通和长柄铣刀



CARBIDE | 4 | 30° | PLAIN | p.C304-309

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-		POWER MILLING CHUCK	D161 - 176
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
SEME7222075E	22.0	20	75	150
SEME72220110E	22.0	20	110	200
SEME7225070E	25.0	25	70	150
SEME7225090E	25.0	25	90	150
SEME72250110E	25.0	25	110	200
SEME72250120E	25.0	25	120	250

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

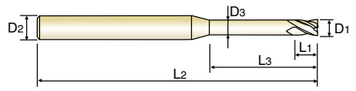
4G MILL END MILLS

PLAIN SHANK **SEME73** SERIES

CARBIDE, 4 FLUTE with EXTENDED NECK
硬质合金，4刃 颈部加长

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Available in several effective lengths of cut and also overall lengths than previous standard products.

- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色
- ▶可提供比以前标准品更多种有效长和全长产品



CARBIDE | 4 | 30° | PLAIN | p.C310-315

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEME7301002E	1.0	4	1.5	2	50	0.95
SEME7301003E	1.0	4	1.5	3	50	0.95
SEME7301004E	1.0	4	1.5	4	50	0.95
SEME7301005E	1.0	4	1.5	5	50	0.95
SEME7301006E	1.0	4	1.5	6	50	0.95
SEME7301007E	1.0	4	1.5	7	50	0.95
SEME7301008E	1.0	4	1.5	8	50	0.95
SEME7301010E	1.0	4	1.5	10	50	0.95
SEME7301012E	1.0	4	1.5	12	50	0.95
SEME7301014E	1.0	4	1.5	14	50	0.95
SEME7301016E	1.0	4	1.5	16	50	0.95
SEME7301018E	1.0	4	1.5	18	50	0.95
SEME7301020E	1.0	4	1.5	20	50	0.95
SEME7301022E	1.0	4	1.5	22	60	0.95
SEME7301026E	1.0	4	1.5	26	60	0.95
SEME7301030E	1.0	4	1.5	30	70	0.95
SEME7301040E	1.0	4	1.5	40	80	0.95
SEME7301050E	1.0	4	1.5	50	100	0.95
SEME7301204E	1.2	4	1.8	4	50	1.15
SEME7301206E	1.2	4	1.8	6	50	1.15
SEME7301208E	1.2	4	1.8	8	50	1.15
SEME7301210E	1.2	4	1.8	10	50	1.15
SEME7301212E	1.2	4	1.8	12	50	1.15
SEME7301214E	1.2	4	1.8	14	50	1.15

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																				
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎	○	○	○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

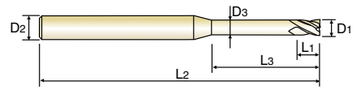
4G MILL END MILLS

PLAIN SHANK **SEME73** SERIES

CARBIDE, 4 FLUTE with EXTENDED NECK
硬质合金，4刃 颈部加长

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Available in several effective lengths of cut and also overall lengths than previous standard products.

- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色
- ▶可提供比以前标准品更多种有效长和全长产品



CARBIDE | 4 | 30° | PLAIN | p.C310-315

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEME7301216E	1.2	4	1.8	16	50	1.15
SEME7301220E	1.2	4	1.8	20	50	1.15
SEME7301226E	1.2	4	1.8	26	60	1.15
SEME7301230E	1.2	4	1.8	30	70	1.15
SEME7301504E	1.5	4	2.3	4	50	1.45
SEME7301505E	1.5	4	2.3	5	50	1.45
SEME7301506E	1.5	4	2.3	6	50	1.45
SEME7301507E	1.5	4	2.3	7	50	1.45
SEME7301508E	1.5	4	2.3	8	50	1.45
SEME7301510E	1.5	4	2.3	10	50	1.45
SEME7301512E	1.5	4	2.3	12	50	1.45
SEME7301514E	1.5	4	2.3	14	50	1.45
SEME7301516E	1.5	4	2.3	16	50	1.45
SEME7301518E	1.5	4	2.3	18	50	1.45
SEME7301520E	1.5	4	2.3	20	50	1.45
SEME7301522E	1.5	4	2.3	22	60	1.45
SEME7301526E	1.5	4	2.3	26	60	1.45
SEME7301530E	1.5	4	2.3	30	70	1.45
SEME7302006E	2.0	4	3	6	50	1.95
SEME7302008E	2.0	4	3	8	50	1.95
SEME7302010E	2.0	4	3	10	50	1.95
SEME7302012E	2.0	4	3	12	50	1.95
SEME7302014E	2.0	4	3	14	50	1.95
SEME7302016E	2.0	4	3	16	50	1.95

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																				
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎	○	○	○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

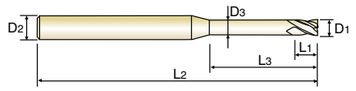
4G MILL END MILLS

PLAIN SHANK **SEME73** SERIES

CARBIDE, 4 FLUTE with EXTENDED NECK
硬质合金，4刃 颈部加长

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Available in several effective lengths of cut and also overall lengths than previous standard products.

- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色
- ▶可提供比以前标准品更多种有效长和全长产品



CARBIDE 4 30° PLAIN p.C310-315

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEME7302018E	2.0	4	3	18	50	1.95
SEME7302020E	2.0	4	3	20	50	1.95
SEME7302022E	2.0	4	3	22	60	1.95
SEME7302026E	2.0	4	3	26	60	1.95
SEME7302030E	2.0	4	3	30	70	1.95
SEME7302035E	2.0	4	3	35	70	1.95
SEME7302040E	2.0	4	3	40	80	1.95
SEME7302045E	2.0	4	3	45	90	1.95
SEME7302050E	2.0	4	3	50	100	1.95
SEME7302060E	2.0	4	3	60	110	1.95
SEME7302508E	2.5	4	4	8	50	2.40
SEME7302510E	2.5	4	4	10	50	2.40
SEME7302512E	2.5	4	4	12	50	2.40
SEME7302514E	2.5	4	4	14	50	2.40
SEME7302516E	2.5	4	4	16	50	2.40
SEME7302518E	2.5	4	4	18	50	2.40
SEME7302520E	2.5	4	4	20	50	2.40
SEME7302522E	2.5	4	4	22	60	2.40
SEME7302526E	2.5	4	4	26	60	2.40
SEME7302530E	2.5	4	4	30	70	2.40
SEME7302535E	2.5	4	4	35	70	2.40
SEME7302540E	2.5	4	4	40	80	2.40
SEME7302545E	2.5	4	4	45	90	2.40
SEME7302550E	2.5	4	4	50	100	2.40
SEME7303006E	3.0	6	4.5	6	50	2.85
SEME7303008E	3.0	6	4.5	8	50	2.85

▶ NEXT PAGE 下页

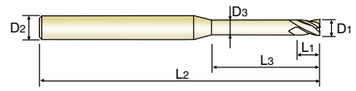
Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P													M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel				Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎	○	○	○	○	○	○	○	○	○		

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS
PLAIN SHANK SEME73 SERIES
CARBIDE, 4 FLUTE with EXTENDED NECK
硬质合金，4刃 颈部加长
▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
▶ Available in several effective lengths of cut and also overall lengths than previous standard products.
▶基于新涂层及形状, 实现出色切削性能和耐磨性
▶加工模具产业的预硬钢(HRc55以下)表现出色
▶可提供比以前标准品更多种有效长和全长产品



CARBIDE 4 30° PLAIN p.C310-315
Recommended ToolHolder
Flat Shank / Page / Plain Shank / Page
◎ END MILL HOLDER D118 - 137 | HYDRAULIC CHUCK, SHRINK FIT HOLDER D15 - 46, D47 - 72
◎ - - | POWER MILLING CHUCK D161 - 176
○ - - | ER COLLET CHUCK, SK SLIM CHUCK D73 - 115, D183 - 201
Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEME7303010E	3.0	6	4.5	10	50	2.85
SEME7303012E	3.0	6	4.5	12	50	2.85
SEME7303014E	3.0	6	4.5	14	60	2.85
SEME7303016E	3.0	6	4.5	16	60	2.85
SEME7303018E	3.0	6	4.5	18	60	2.85
SEME7303020E	3.0	6	4.5	20	60	2.85
SEME7303022E	3.0	6	4.5	22	65	2.85
SEME7303026E	3.0	6	4.5	26	65	2.85
SEME7303030E	3.0	6	4.5	30	70	2.85
SEME7303035E	3.0	6	4.5	35	70	2.85
SEME7303040E	3.0	6	4.5	40	80	2.85
SEME7303045E	3.0	6	4.5	45	90	2.85
SEME7303050E	3.0	6	4.5	50	100	2.85
SEME7303060E	3.0	6	4.5	60	100	2.85
SEME7304008E	4.0	6	6	8	50	3.85
SEME7304010E	4.0	6	6	10	50	3.85
SEME7304012E	4.0	6	6	12	50	3.85
SEME7304014E	4.0	6	6	14	60	3.85
SEME7304016E	4.0	6	6	16	60	3.85
SEME7304018E	4.0	6	6	18	60	3.85
SEME7304020E	4.0	6	6	20	60	3.85
SEME7304022E	4.0	6	6	22	65	3.85
SEME7304025E	4.0	6	6	25	65	3.85
SEME7304026E	4.0	6	6	26	65	3.85
SEME7304030E	4.0	6	6	30	70	3.85
SEME7304035E	4.0	6	6	35	70	3.85

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差: 0 ~ - 0.03
Shank Dia.Tolerance 柄径公差: h5
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P													M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel				Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎	○	○	○	○	○	○	○	○	○		

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																				◎	○

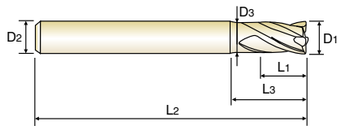
4G MILL END MILLS

PLAIN SHANK **SEME73** SERIES

CARBIDE, 4 FLUTE with EXTENDED NECK
硬质合金，4刃 颈部加长

▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
▶ Available in several effective lengths of cut and also overall lengths than previous standard products.

▶基于新涂层及形状, 实现出色切削性能和耐磨性
▶加工模具产业的预硬钢(HRc55以下)表现出色
▶可提供比以前标准品更多种有效长和全长产品



CARBIDE 4 30° PLAIN p.C310-315

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
◎ END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎ -	-	POWER MILLING CHUCK	D161 - 176
○ -	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEME7304040E	4.0	6	6	40	80	3.85
SEME7304045E	4.0	6	6	45	90	3.85
SEME7304050E	4.0	6	6	50	100	3.85
SEME7304060E	4.0	6	6	60	100	3.85
SEME7305016E	5.0	6	8	16	60	4.85
SEME7305020E	5.0	6	8	20	60	4.85
SEME7305026E	5.0	6	8	26	65	4.85
SEME7305030E	5.0	6	8	30	70	4.85
SEME7305035E	5.0	6	8	35	75	4.85
SEME7305040E	5.0	6	8	40	80	4.85
SEME7305050E	5.0	6	8	50	90	4.85
SEME7305060E	5.0	6	8	60	100	4.85
SEME7306015E	6.0	6	9	15	60	5.85
SEME7306020E	6.0	6	9	20	60	5.85
SEME7306030E	6.0	6	9	30	70	5.85
SEME7306032E	6.0	6	9	32	90	5.85
SEME7308025E	8.0	8	12	25	70	7.70
SEME7308030E	8.0	8	12	30	80	7.70
SEME7308042E	8.0	8	12	42	100	7.70
SEME7310030E	10.0	10	15	30	75	9.70
SEME7310035E	10.0	10	15	35	80	9.70
SEME7310045E	10.0	10	15	45	100	9.70
SEME7312035E	12.0	12	20	35	80	11.70
SEME7312040E	12.0	12	20	40	90	11.70
SEME7312050E	12.0	12	20	50	110	11.70

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			M			K		
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron						
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21					
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230					
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎	○	○	○	○	○	○	○	○	○					

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

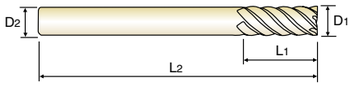
4G MILL END MILLS

PLAIN SHANK **SEME75** SERIES

CARBIDE, 6 FLUTE 45° HELIX (Regular, Long Shank)
硬质合金，6刃 45度螺旋 (普通刃长, 长柄)

▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
▶ From the 45 helix angle, better surface roughness can be achieved at side cutting.
▶ Available in several effective lengths of cut and also overall lengths

▶基于新涂层及形状, 实现出色切削性能和耐磨性
▶加工模具产业的预硬钢(HRc55以下)表现出色
▶基于采用45°螺旋角, 侧铣削提高工件表面粗糙度
▶可提供比以前标准品更多种有效长和全长产品



CARBIDE 6 45° PLAIN p.C316-317

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
◎ END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎ -	-	POWER MILLING CHUCK	D161 - 176
○ -	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEME75060E	6.0	6	15	60	Regular
SEME7506020E	6.0	6	20	70	Long
SEME7506030E	6.0	6	30	80	Long
SEME7506030110E	6.0	6	30	110	Long
SEME75080E	8.0	8	20	70	Regular
SEME7508030E	8.0	8	30	80	Long
SEME7508035E	8.0	8	35	90	Long
SEME7508040E	8.0	8	40	90	Long
SEME7508040130E	8.0	8	40	130	Long
SEME75100E	10.0	10	25	75	Regular
SEME7510030E	10.0	10	30	80	Long
SEME7510040E	10.0	10	40	90	Long
SEME7510050E	10.0	10	50	100	Long
SEME7510050150E	10.0	10	50	150	Long
SEME75120E	12.0	12	30	80	Regular
SEME7512040E	12.0	12	40	90	Long
SEME7512050E	12.0	12	50	100	Long
SEME7512060E	12.0	12	60	110	Long
SEME7512060150E	12.0	12	60	150	Long
SEME75160E	16.0	16	40	100	Regular
SEME7516050E	16.0	16	50	110	Long
SEME7516060E	16.0	16	60	120	Long
SEME7516090E	16.0	16	90	150	Long
SEME75160110E	16.0	16	110	200	Long

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

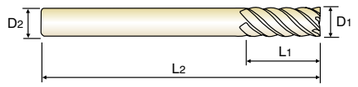
PLAIN SHANK **SEME75** SERIES

CARBIDE, 6 FLUTE 45° HELIX (Regular, Long Shank)

硬质合金，6刃 45度螺旋 (普通刃长, 长柄)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
- ▶ From the 45 helix angle, better surface roughness can be achieved at side cutting.
- ▶ Available in several effective lengths of cut and also overall lengths

- ▶基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶加工模具产业的预硬钢(HRc55以下)表现出色
- ▶基于采用45°螺旋角, 侧铣削提高工件表面粗糙度
- ▶可提供比以前标准品更多种有效长和全长产品



CARBIDE | 6 | 45° | PLAIN

p.C316-317

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D1 18 - 137		HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-		POWER MILLING CHUCK	D161 - 176
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEME75160110250E	16.0	16	110	250	Long
SEME75200E	20.0	20	45	100	Regular
SEME7520060E	20.0	20	60	120	Long
SEME7520070E	20.0	20	70	130	Long
SEME75200110E	20.0	20	110	200	Long
SEME75200110250E	20.0	20	110	250	Long
SEME75200110300E	20.0	20	110	300	Long

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

4G MILL END MILLS

X-SPEED ROUGHER

PLAIN SHANK **G9D75** **G9D76**

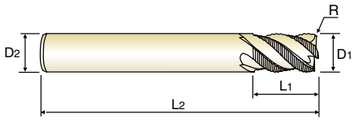
FLAT SHANK **G9D67** **G9D68**

CARBIDE, 4&5 FLUTE MULTIPLE HELIX CORNER RADIUS

硬质合金，4&5刃 不等螺旋 圆鼻

- ▶ Unique flute design for excellent chip evacuation and vibration reduction.
- ▶ Optimal roughing tooth profile to reduce cutting forces.
- ▶ Special tool geometry for high feed rate and heavy cutting.
- ▶ Strong end tooth design for plunge and pocket milling.
- ▶ Custom engineered coating to allow long tool life and excellent chip evacuation.

- ▶基于独有槽型设计, 卓越的排屑性能及减少产品震动
- ▶采用最佳粗加工设计, 减少切削阻力
- ▶独特的刀具设计, 可适应高进给及重切削
- ▶高强度刃部设计为插铣削和型腔铣削
- ▶YG-1自身开发涂层加强刀具寿命和排屑性能



CARBIDE | 4&5 | 44°~45° | PLAIN | FLAT

p.C318

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D1 18 - 137		HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
-	-		POWER MILLING CHUCK	D161 - 176
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

SHORT LENGTH 短刃

Unit(单位) : mm

EDP No. PLAIN	EDP No. FLAT	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	No. of Flute 槽数
G9D75060	G9D67060	R0.5	6.0	6	9	57	4
G9D75080	G9D67080	R0.5	8.0	8	12	63	4
G9D75100	G9D67100	R0.5	10.0	10	15	72	4
G9D75120	G9D67120	R0.5	12.0	12	18	83	4
G9D75160	G9D67160	R1.0	16.0	16	24	92	5
G9D75200	G9D67200	R1.0	20.0	20	30	104	5

LONG LENGTH 长刃

Unit(单位) : mm

EDP No. PLAIN	EDP No. FLAT	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	No. of Flute 槽数
G9D76060	G9D68060	R0.5	6.0	6	12	57	4
G9D76080	G9D68080	R0.5	8.0	8	16	63	4
G9D76100	G9D68100	R0.5	10.0	10	20	72	4
G9D76120	G9D68120	R0.5	12.0	12	24	83	4
G9D76160	G9D68160	R1.0	16.0	16	32	92	5
G9D76200	G9D68200	R1.0	20.0	20	40	104	5

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.05	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎	○	○	○	◎	◎	◎	◎	◎	◎

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○													

4G MILL END MILLS

X-SPEED ROUGHER

PLAIN SHANK **G9D77** SERIES

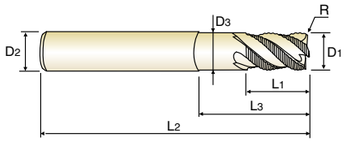
FLAT SHANK **G9D69** SERIES

CARBIDE, 4&5 FLUTE MULTIPLE HELIX LONG REACH CORNER RADIUS

硬质合金，4&5刃 不等螺旋 长有效刃长 圆鼻

- ▶ Unique flute design for excellent chip evacuation and vibration reduction.
- ▶ Optimal roughing tooth profile to reduce cutting forces.
- ▶ Special tool geometry for high feed rate and heavy cutting.
- ▶ Strong end tooth design for plunge and pocket milling.
- ▶ Custom engineered coating to allow long tool life and excellent chip evacuation.

- ▶基于独有槽型设计，卓越的排屑性能及减少产品震动
- ▶采用最佳粗加工设计，减少切削阻力
- ▶独特的刀具设计，可适应高进给及重切削
- ▶高强度刃部设计为插铣削和型腔铣削
- ▶YG-1自身开发涂层加强刀具寿命和排屑性能



CARBIDE | 4&5 | 44°~45° | PLAIN | FLAT

p.C318

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No. PLAIN	EDP No. FLAT	Corner Radius 圆弧角 R	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Length Below Shank 颈长 L_3	Overall Length 全长 L_2	Neck Diameter 颈径 D_3	No. of Flute 槽数
G9D77060	G9D69060	R0.5	**6.0**	6	9	18	57	5.50	4
G9D77080	G9D69080	R0.5	**8.0**	8	12	24	63	7.50	4
G9D77100	G9D69100	R0.5	**10.0**	10	15	30	72	9.50	4
G9D77120	G9D69120	R0.5	**12.0**	12	18	36	83	11.50	4
G9D77160	G9D69160	R1.0	**16.0**	16	24	48	100	15.50	5
G9D77200	G9D69200	R1.0	**20.0**	20	30	60	110	19.20	5

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.05	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎	○	○	○	◎	◎	◎	◎	◎	◎

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○													

4G MILL END MILLS

X-SPEED ROUGHER

FLAT SHANK **GAE53** SERIES

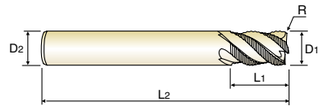
HSS-PM, 4&5 FLUTE MULTIPLE HELIX SHORT LENGTH CORNER RADIUS

粉末高速钢，4&5刃 不等螺旋 短刃 圆鼻

- ▶ Unique flute design for excellent chip evacuation and vibration reduction.
- ▶ Optimal roughing tooth profile to reduce cutting forces.
- ▶ Special tool geometry for high feed rate and heavy cutting.
- ▶ Strong end tooth design for plunge and pocket milling.
- ▶ Custom engineered coating to allow long tool life and excellent chip evacuation.

- ▶基于独有槽型设计，卓越的排屑性能及减少产品震动
- ▶采用最佳粗加工设计，减少切削阻力
- ▶独特的刀具设计，可适应高进给及重切削
- ▶高强度刃部设计为插铣削和型腔铣削
- ▶YG-1自身开发涂层加强刀具寿命和排屑性能

Only available till stock runs out



HSS PM | 4&5 | 44°~45° | FLAT

p.C319

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
◎	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Overall Length 全长 L_2	No. of Flute 槽数
▲ GAE53060	R0.5	**6.0**	6	13	57	4
▲ GAE53070	R0.5	**7.0**	10	16	66	4
▲ GAE53080	R0.5	**8.0**	10	19	69	4
▲ GAE53090	R0.5	**9.0**	10	19	69	4
▲ GAE53100	R0.5	**10.0**	10	22	72	4
▲ GAE53120	R0.5	**12.0**	12	26	83	4
▲ GAE53140	R1.0	**14.0**	16	26	83	5
▲ GAE53160	R1.0	**16.0**	16	32	92	5
▲ GAE53180	R1.0	**18.0**	20	32	92	5
▲ GAE53200	R1.0	**20.0**	20	38	104	5

▲ : Only available till stock runs out 只提供到消耗现库存

Tolerances according to DIN 7160 & 7161 (标准精度)

Tolerance range in (精度单位为) μm Nominal-Diameter in (直径单位为) mm	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50
js12	± 50	± 60	± 75	± 90	± 105	± 125
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	○	○	◎	○	○	○	○			◎	◎	◎	◎	◎	◎	◎

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○													

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEMD98 SERIES — 2 FLUTE BALL NOSE / 2刃 球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径													
						0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.2	1.5	2.0	2.5
P	1-5	Non-alloy steel	0.08D	0.05D	Vc	13	19	28	38	47	57	66	75	85	94	113	141	187	187
					fz	0.007	0.012	0.015	0.019	0.024	0.029	0.034	0.039	0.044	0.048	0.051	0.054	0.057	0.074
					RPM	41380	30239	29709	30239	29921	30239	30012	29842	30063	29921	29974	29921	29762	23810
					FEED	579	726	891	1149	1436	1754	2041	2328	2646	2872	3057	3231	3393	3524
	6-8	Low alloy steel	0.08D	0.05D	Vc	13	19	28	38	47	57	66	75	85	94	113	141	187	187
					fz	0.007	0.012	0.015	0.019	0.024	0.029	0.034	0.039	0.044	0.048	0.051	0.054	0.057	0.074
					RPM	41380	30239	29709	30239	29921	30239	30012	29842	30063	29921	29974	29921	29762	23810
					FEED	579	726	891	1149	1436	1754	2041	2328	2646	2872	3057	3231	3393	3524
	9		0.08D	0.05D	Vc	13	19	28	38	47	57	66	75	85	94	109	136	180	180
					fz	0.006	0.011	0.014	0.017	0.021	0.025	0.029	0.033	0.038	0.042	0.045	0.047	0.05	0.066
					RPM	41380	30239	29709	30239	29921	30239	30012	29842	30063	29921	28913	28860	28648	22918
					FEED	497	665	832	1028	1257	1512	1741	1970	2285	2513	2602	2713	2865	3025
	10-11.1	High alloyed steel, and tool steel	0.08D	0.05D	Vc	13	19	28	38	47	57	66	75	85	94	113	141	187	187
					fz	0.007	0.012	0.015	0.019	0.024	0.029	0.034	0.039	0.044	0.048	0.051	0.054	0.057	0.074
					RPM	41380	30239	29709	30239	29921	30239	30012	29842	30063	29921	29974	29921	29762	23810
					FEED	579	726	891	1149	1436	1754	2041	2328	2646	2872	3057	3231	3393	3524
	11.2		0.08D	0.05D	Vc	13	19	28	38	47	57	66	75	85	94	109	136	180	180
					fz	0.006	0.011	0.014	0.017	0.021	0.025	0.029	0.033	0.038	0.042	0.045	0.047	0.05	0.066
					RPM	41380	30239	29709	30239	29921	30239	30012	29842	30063	29921	28913	28860	28648	22918
					FEED	497	665	832	1028	1257	1512	1741	1970	2285	2513	2602	2713	2865	3025
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.08D	0.05D	Vc	13	19	28	38	47	57	66	75	85	94	113	141	187	187
					fz	0.007	0.012	0.015	0.019	0.024	0.029	0.034	0.039	0.044	0.048	0.051	0.054	0.057	0.074
					RPM	41380	30239	29709	30239	29921	30239	30012	29842	30063	29921	29974	29921	29762	23810
					FEED	579	726	891	1149	1436	1754	2041	2328	2646	2872	3057	3231	3393	3524
H	38.1 - 38.2	Hardened steel	0.08D	0.05D	Vc	10	17	25	34	42	51	59	68	76	85	97	122	151	151
					fz	0.006	0.011	0.013	0.017	0.021	0.024	0.029	0.033	0.038	0.042	0.045	0.047	0.05	0.063
					RPM	31831	27056	26526	27056	26738	27056	26829	27056	26880	27056	25730	25889	24032	19226
					FEED	382	595	690	920	1123	1299	1556	1786	2043	2273	2316	2434	2403	2422
	40	Chilled Cast Iron	0.08D	0.05D	Vc	13	19	28	38	47	57	66	75	85	94	109	136	180	180
					fz	0.006	0.011	0.014	0.017	0.021	0.025	0.029	0.033	0.038	0.042	0.045	0.047	0.05	0.066
					RPM	41380	30239	29709	30239	29921	30239	30012	29842	30063	29921	28913	28860	28648	22918
					FEED	497	665	832	1028	1257	1512	1741	1970	2285	2513	2602	2713	2865	3025
	41	Hardened Cast Iron	0.08D	0.05D	Vc	10	17	25	34	42	51	59	68	76	85	97	122	151	151
					fz	0.006	0.011	0.013	0.017	0.021	0.024	0.029	0.033	0.038	0.042	0.045	0.047	0.05	0.063
					RPM	31831	27056	26526	27056	26738	27056	26829	27056	26880	27056	25730	25889	24032	19226
					FEED	382	595	690	920	1123	1299	1556	1786	2043	2273	2316	2434	2403	2422

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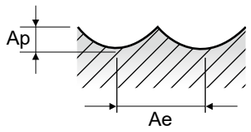


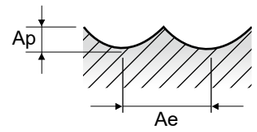
4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEMD98 SERIES — 2 FLUTE BALL NOSE / 2刃 球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

VDI 3323	Parameter 参数	Diameter (Ø) 直径																				
		3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	8.0	8.5	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	18.0	20.0	25.0
1-5	Vc	187	187	187	184	175	168	157	159	159	167	168	168	175	168	157	162	165	167	168	170	168	167
	fz	0.091	0.106	0.121	0.136	0.156	0.164	0.174	0.179	0.184	0.189	0.192	0.195	0.199	0.205	0.212	0.218	0.224	0.23	0.238	0.25	0.264	0.27
	RPM	19841	17007	14881	13015	11141	9723	8329	7786	7230	6645	6291	5942	5570	4861	4165	3967	3752	3544	3342	3006	2674	2126
	FEED	3611	3605	3601	3540	3476	3189	2899	2788	2661	2512	2416	2317	2217	1993	1766	1729	1681	1630	1591	1503	1412	1148
6-8	Vc	187	187	187	184	175	168	157	159	159	167	168	168	175	168	157	162	165	167	168	170	168	167
	fz	0.091	0.106	0.121	0.136	0.156	0.164	0.174	0.179	0.184	0.189	0.192	0.195	0.199	0.205	0.212	0.218	0.224	0.23	0.238	0.25	0.264	0.27
	RPM	19841	17007	14881	13015	11141	9723	8329	7786	7230	6645	6291	5942	5570	4861	4165	3967	3752	3544	3342	3006	2674	2126
	FEED	3611	3605	3601	3540	3476	3189	2899	2788	2661	2512	2416	2317	2217	1993	1766	1729	1681	1630	1591	1503	1412	1148
9	Vc	180	180	180	177	168	162	152	153	153	161	162	161	168	161	151	155	158	160	161	164	162	162
	fz	0.083	0.097	0.111	0.122	0.138	0.144	0.153	0.156	0.159	0.164	0.167	0.17	0.174	0.18	0.188	0.197	0.208	0.221	0.206	0.215	0.227	0.231
	RPM	19099	16370	14324	12520	10695	9376	8064	7493	6957	6406	6067	5694	5348	4659	4005	3795	3592	3395	3203	2900	2578	2063
	FEED	3170	3176	3180	3055	2952	2700	2468	2338	2212	2101	2026	1936	1861	1677	1506	1495	1494	1501	1320	1247	1171	953
10 - 11.1	Vc	187	187	187	184	175	168	157	159	159	167	168	168	175	168	157	162	165	167	168	170	168	167
	fz	0.091	0.106	0.121	0.136	0.156	0.164	0.174	0.179	0.184	0.189	0.192	0.195	0.199	0.205	0.212	0.218	0.224	0.23	0.238	0.25	0.264	0.27
	RPM	19841	17007	14881	13015	11141	9723	8329	7786	7230	6645	6291	5942	5570	4861	4165	3967	3752	3544	3342	3006	2674	2126
	FEED	3611	3605	3601	3540	3476	3189	2899	2788	2661	2512	2416	2317	2217	1993	1766	1729	1681	1630	1591	1503	1412	1148
11.2	Vc	180	180	180	177	168	162	152	153	153	161	162	161	168	161	151	155	158	160	161	164	162	162
	fz	0.083	0.097	0.111	0.122	0.138	0.144	0.153	0.156	0.159	0.164	0.167	0.17	0.174	0.18	0.188	0.197	0.208	0.221	0.206	0.215	0.227	0.231
	RPM	19099	16370	14324	12520	10695	9376	8064	7493	6957	6406	6067	5694	5348	4659	4005	3795	3592	3395	3203	2900	2578	2063
	FEED	3170	3176	3180	3055	2952	2700	2468	2338	2212	2101	2026	1936	1861	1677	1506	1495	1494	1501	1320	1247	1171	953
15 - 20	Vc	187	187	187	184	175	168	157	159	159	167	168	168	175	168	157	162	165	167	168	170	168	167
	fz	0.091	0.106	0.121	0.136	0.156	0.164	0.174	0.179	0.184	0.189	0.192	0.195	0.199	0.205	0.212	0.218	0.224	0.23	0.238	0.25	0.264	0.27
	RPM	19841	17007	14881	13015	11141	9723	8329	7786	7230	6645	6291	5942	5570	4861	4165	3967	3752	3544	3342	3006	2674	2126
	FEED	3611	3605	3601	3540	3476	3189	2899	2788	2661	2512	2416	2317	2217	1993	1766	1729	1681	1630	1591	1503	1412	1148
38.1 - 38.2	Vc	151	151	151	148	141	135	124	127	128	136	136	136	141	136	127	131	133	135	136	137	136	136
	fz	0.075	0.088	0.1	0.111	0.125	0.132	0.141	0.144	0.147	0.15	0.153	0.156	0.16	0.164	0.17	0.173	0.178	0.183	0.189	0.198	0.208	0.211
	RPM	16022	13733	12016	10469	8976	7813	6578	6219	5821	5411	5093	4810	4488	3935	3369	3208	3024	2865	2706	2423	2165	1732
	FEED	2403	2417	2403	2324	2244	2063	1855	1791	1711	1623	1558	1501	1436	1291	1145	1110	1077	1049	1023	959	900	731
40	Vc	180	180	180	177	168	162	152	153	153	161	162	161	168	161	151	155	158	160	161	164	162	162
	fz	0.083	0.097	0.111	0.122	0.138	0.144	0.153	0.156	0.159	0.164	0.167	0.17	0.174	0.18	0.188	0.197	0.208	0.221	0.206	0.215	0.227	0.231
	RPM	19099	16370	14324	12520	10695	9376	8064	7493	6957	6406	6067	5694	5348	4659	4005	3795	3592	3395	3203	2900	2578	2063
	FEED	3170	3176	3180	3055	2952	2700	2468	2338	2212	2101	2026	1936	1861	1677	1506	1495	1494	1501	1320	1247	1171	953
41	Vc	151	151	151	148	141	135	124	127	128	136	136	136	141	136	127	131	133	135	136	137	136	136
	fz	0.075	0.088	0.1	0.111	0.125	0.132	0.141	0.144	0.147	0.15	0.153	0.156	0.16	0.164	0.17	0.173	0.178	0.183	0.189	0.198	0.208	0.211
	RPM	16022	13733	12016	10469	8976	7813	6578	6219	5821	5411	5093	4810	4488	3935	3369	3208	3024	2865	2706	2423	2165	1732
	FEED	2403	2417	2403	2324	2244	2063	1855	1791	1711	1623	1558	1501	1436	1291	1145	1110	1077	1049	1023	959	900	731



4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEM846 SERIES
2 FLUTE BALL NOSE - SLOTTING
2刃 球头 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

ISO	VDI 3323	Material Description 工件材料	Parameter 参数	Diameter (Ø) 直径															
				0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3
			LBS	0.2	0.3	0.5	1	0.5	1	1.5	2	3	1	1.5	2	2.5	3	4
P	1-5	Non-alloy steel	Vc	16	16	16	14	31	31	28	28	28	47	47	42	42	42	38
			fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.005	0.005	0.004	0.004	0.004	0.004
			RPM	50930	50930	50930	44563	49338	49338	44563	44563	44563	49869	49869	44563	44563	44563	40319
			FEED	204	204	204	178	296	296	267	267	267	499	499	357	357	357	323
			Ap	0.009	0.009	0.006	0.002	0.018	0.013	0.007	0.005	0.003	0.019	0.019	0.011	0.007	0.007	0.004
	6-8	Low alloy steel	Vc	16	16	16	14	31	31	28	28	28	47	47	42	42	42	38
			fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.005	0.005	0.004	0.004	0.004	0.004
			RPM	50930	50930	50930	44563	49338	49338	44563	44563	44563	49869	49869	44563	44563	44563	40319
			FEED	204	204	204	178	296	296	267	267	267	499	499	357	357	357	323
			Ap	0.009	0.009	0.006	0.002	0.018	0.013	0.007	0.005	0.003	0.019	0.019	0.011	0.007	0.007	0.004
	9		Vc	16	16	16	14	31	31	28	28	28	47	47	42	42	42	38
			fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.003
			RPM	50930	50930	50930	44563	49338	49338	44563	44563	44563	49869	49869	44563	44563	44563	40319
			FEED	204	204	204	178	296	296	267	267	267	399	399	357	357	357	242
			Ap	0.007	0.007	0.005	0.002	0.014	0.01	0.006	0.004	0.003	0.015	0.015	0.008	0.005	0.005	0.003
	10-11.1	High alloyed steel, and tool steel	Vc	16	16	16	14	31	31	28	28	28	47	47	42	42	42	38
			fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.005	0.005	0.004	0.004	0.004	0.004
			RPM	50930	50930	50930	44563	49338	49338	44563	44563	44563	49869	49869	44563	44563	44563	40319
			FEED	204	204	204	178	296	296	267	267	267	499	499	357	357	357	323
			Ap	0.009	0.009	0.006	0.002	0.018	0.013	0.007	0.005	0.003	0.019	0.019	0.011	0.007	0.007	0.004
	11.2		Vc	16	16	16	14	31	31	28	28	28	47	47	42	42	42	38
			fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.003
			RPM	50930	50930	50930	44563	49338	49338	44563	44563	44563	49869	49869	44563	44563	44563	40319
			FEED	204	204	204	178	296	296	267	267	267	399	399	357	357	357	242
			Ap	0.007	0.007	0.005	0.002	0.014	0.01	0.006	0.004	0.003	0.015	0.015	0.008	0.005	0.005	0.003
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	Vc	16	16	16	14	31	31	28	28	28	47	47	42	42	42	38
			fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.005	0.005	0.004	0.004	0.004	0.004
			RPM	50930	50930	50930	44563	49338	49338	44563	44563	44563	49869	49869	44563	44563	44563	40319
			FEED	204	204	204	178	296	296	267	267	267	499	499	357	357	357	323
			Ap	0.009	0.009	0.006	0.002	0.018	0.013	0.007	0.005	0.003	0.019	0.019	0.011	0.007	0.007	0.004
H	38.1 - 38.2	Hardened steel	Vc	16	16	16	14	27	27	24	24	24	40	40	36	36	36	32
			fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.003
			RPM	50930	50930	50930	44563	42972	42972	38197	38197	38197	42441	42441	38197	38197	38197	33953
			FEED	204	204	204	178	258	258	229	229	229	340	340	306	306	306	204
			Ap	0.005	0.005	0.004	0.001	0.01	0.007	0.004	0.003	0.002	0.011	0.011	0.006	0.004	0.004	0.002
	40	Chilled Cast Iron	Vc	16	16	16	14	31	31	28	28	28	47	47	42	42	42	38
			fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.003
			RPM	50930	50930	50930	44563	49338	49338	44563	44563	44563	49869	49869	44563	44563	44563	40319
			FEED	204	204	204	178	296	296	267	267	267	399	399	357	357	357	242
			Ap	0.007	0.007	0.005	0.002	0.014	0.01	0.006	0.004	0.003	0.015	0.015	0.008	0.005	0.005	0.003
	41	Hardened Cast Iron	Vc	16	16	16	14	27	27	24	24	24	40	40	36	36	36	32
			fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.003
			RPM	50930	50930	50930	44563	42972	42972	38197	38197	38197	42441	42441	38197	38197	38197	33953
			FEED	204	204	204	178	258	258	229	229	229	340	340	306	306	306	204
			Ap	0.005	0.005	0.004	0.001	0.01	0.007	0.004	0.003	0.002	0.011	0.011	0.006	0.004	0.004	0.002

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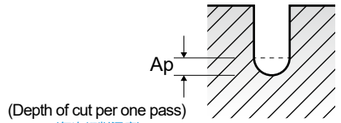

4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
SEM846 SERIES
2 FLUTE BALL NOSE - SLOTTING
2刃 球头 - 槽铣削
Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

VDI 3323	Parameter 参数	Diameter (Ø) 直径																			
		0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	LBS	5	1	1.5	2	2.5	3	4	5	6	8	10	1	1.5	2	2.5	3	4	5	6	8
1-5	Vc	28	52	52	52	46	46	46	41	41	31	15	54	54	54	54	48	48	48	43	32
	fz	0.003	0.006	0.006	0.006	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.01	0.01	0.01	0.01	0.009	0.009	0.009	0.008	0.007
	RPM	29709	41380	41380	41380	36606	36606	36606	32627	32627	24669	11937	34377	34377	34377	34377	30558	30558	30558	27375	20372
	FEED	178	497	497	497	366	366	366	326	326	197	95	688	688	688	688	550	550	550	438	285
	Ap	0.003	0.036	0.025	0.025	0.014	0.014	0.009	0.009	0.005	0.004	0.004	0.045	0.045	0.032	0.032	0.018	0.018	0.011	0.011	0.007
6-8	Vc	28	52	52	52	46	46	46	41	41	31	15	54	54	54	54	48	48	48	43	32
	fz	0.003	0.006	0.006	0.006	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.01	0.01	0.01	0.01	0.009	0.009	0.009	0.008	0.007
	RPM	29709	41380	41380	41380	36606	36606	36606	32627	32627	24669	11937	34377	34377	34377	34377	30558	30558	30558	27375	20372
	FEED	178	497	497	497	366	366	366	326	326	197	95	688	688	688	688	550	550	550	438	285
	Ap	0.003	0.036	0.025	0.025	0.014	0.014	0.009	0.009	0.005	0.004	0.004	0.045	0.045	0.032	0.032	0.018	0.018	0.011	0.011	0.007
9	Vc	28	49	49	49	44	44	44	39	39	29	15	51	51	51	51	46	46	46	41	30
	fz	0.003	0.005	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.003	0.009	0.009	0.009	0.009	0.008	0.008	0.008	0.007	0.006
	RPM	29709	38993	38993	38993	35014	35014	35014	31035	31035	23077	11937	32468	32468	32468	32468	29285	29285	29285	26101	19099
	FEED	178	390	390	390	350	350	350	248	248	185	72	584	584	584	584	469	469	469	365	229
	Ap	0.002	0.028	0.02	0.02	0.011	0.011	0.007	0.007	0.004	0.003	0.003	0.035	0.035	0.025	0.025	0.014	0.014	0.009	0.009	0.005
10 - 11.1	Vc	28	52	52	52	46	46	46	41	41	31	15	54	54	54	54	48	48	48	43	32
	fz	0.003	0.006	0.006	0.006	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.01	0.01	0.01	0.01	0.009	0.009	0.009	0.008	0.007
	RPM	29709	41380	41380	41380	36606	36606	36606	32627	32627	24669	11937	34377	34377	34377	34377	30558	30558	30558	27375	20372
	FEED	178	497	497	497	366	366	366	326	326	197	95	688	688	688	688	550	550	550	438	285
	Ap	0.003	0.036	0.025	0.025	0.014	0.014	0.009	0.009	0.005	0.004	0.004	0.045	0.045	0.032	0.032	0.018	0.018	0.011	0.011	0.007
11.2	Vc	28	49	49	49	44	44	44	39	39	29	15	51	51	51	51	46	46	46	41	30
	fz	0.003	0.005	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.003	0.009	0.009	0.009	0.009	0.008	0.008	0.008	0.007	0.006
	RPM	29709	38993	38993	38993	35014	35014	35014	31035	31035	23077	11937	32468	32468	32468	32468	29285	29285	29285	26101	19099
	FEED	178	390	390	390	350	350	350	248	248	185	72	584	584	584	584	469	469	469	365	229
	Ap	0.002	0.028	0.02	0.02	0.011	0.011	0.007	0.007	0.004	0.003	0.003	0.035	0.035	0.025	0.025	0.014	0.014	0.009	0.009	0.005
15 - 20	Vc	28	52	52	52	46	46	46	41	41	31	15	54	54	54	54	48	48	48	43	32
	fz	0.003	0.006	0.006	0.006	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.01	0.01	0.01	0.01	0.009	0.009	0.009	0.008	0.007
	RPM	29709	41380	41380	41380	36606	36606	36606	32627	32627	24669	11937	34377	34377	34377	34377	30558	30558	30558	27375	20372
	FEED	178	497	497	497	366	366	366	326	326	197	95	688	688	688	688	550	550	550	438	285
	Ap	0.003	0.036	0.025	0.025	0.014	0.014	0.009	0.009	0.005	0.004	0.004	0.045	0.045	0.032	0.032	0.018	0.018	0.011	0.011	0.007
38.1 - 38.2	Vc	24	43	43	43	39	39	39	34	34	26	13	45	45	45	45	40	40	40	36	27
	fz	0.003	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.004	0.003	0.009	0.009	0.009	0.009	0.008	0.008	0.008	0.007	0.006
	RPM	25465	34218	34218	34218	31035	31035	31035	27056	27056	20690	10345	28648	28648	28648	28648	25465	25465	25465	22918	17189
	FEED	153	342	342	342	248	248	248	216	216	166	62	516	516	516	516	407	407	407	321	206
	Ap	0.002	0.02	0.014	0.014	0.008	0.008	0.005	0.005	0.003	0.002	0.002	0.025	0.025	0.018	0.018	0.01	0.01	0.006	0.006	0.004
40	Vc	28	49	49	49	44	44	44	39	39	29	15	51	51	51	51	46	46	46	41	30
	fz	0.003	0.005	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.003	0.009	0.009	0.009	0.009	0.008	0.008	0.008	0.007	0.006
	RPM	29709	38993	38993	38993	35014	35014	35014	31035	31035	23077	11937	32468	32468	32468	32468	29285	29285	29285	26101	19099
	FEED	178	390	390	390	350	350	350	248	248	185	72	584	584	584	584	469	469	469	365	229
	Ap	0.002	0.028	0.02	0.02	0.011	0.011	0.007	0.007	0.004	0.003	0.003	0.035	0.035	0.025	0.025	0.014	0.014	0.009	0.009	0.005
41	Vc	24	43	43	43	39	39	39	34	34	26	13	45	45	45	45	40	40	40	36	27
	fz	0.003	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.004	0.003	0.009	0.009	0.009	0.009	0.008	0.008	0.008	0.007	0.006
	RPM	25465	34218	34218	34218	31035	31035	31035	27056	27056	20690	10345	28648	28648	28648	28648	25465	25465	25465	22918	17189
	FEED	153	342	342	342	248	248	248	216	216	166	62	516	516	516	516	407	407	407	321	206
	Ap	0.002	0.02	0.014	0.014	0.008	0.008	0.005	0.005	0.003	0.002	0.002	0.025	0.025	0.018	0.018	0.01	0.01	0.006	0.006	0.004

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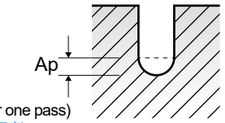

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEM846 SERIES — 2 FLUTE BALL NOSE - SLOTTING
2刃 球头 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

ISO	VDI 3323	Parameter 参数	Diameter (Ø) 直径																
			0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7
		LBS	10	12	14	16	1	2	3	4	5	6	8	10	12	14	16	2	4
P	1-5	Vc	32	16	16	5	64	64	64	58	58	58	52	39	39	19	19	75	68
		fz	0.007	0.006	0.006	0.005	0.015	0.015	0.015	0.013	0.013	0.013	0.012	0.01	0.01	0.009	0.009	0.017	0.015
		RPM	20372	10186	10186	3183	33953	33953	33953	30770	30770	30770	27587	20690	20690	10080	10080	34105	30922
		FEED	285	122	122	32	1019	1019	1019	800	800	800	662	414	414	181	181	1160	928
		Ap	0.005	0.005	0.005	0.005	0.038	0.038	0.038	0.022	0.014	0.014	0.008	0.005	0.005	0.005	0.005	0.063	0.025
	6-8	Vc	32	16	16	5	64	64	64	58	58	58	52	39	39	19	19	75	68
		fz	0.007	0.006	0.006	0.005	0.015	0.015	0.015	0.013	0.013	0.013	0.012	0.01	0.01	0.009	0.009	0.017	0.015
		RPM	20372	10186	10186	3183	33953	33953	33953	30770	30770	30770	27587	20690	20690	10080	10080	34105	30922
		FEED	285	122	122	32	1019	1019	1019	800	800	800	662	414	414	181	181	1160	928
		Ap	0.005	0.005	0.005	0.005	0.038	0.038	0.038	0.022	0.014	0.014	0.008	0.005	0.005	0.005	0.005	0.063	0.025
	9	Vc	30	15	15	5	61	61	61	55	55	55	49	37	37	18	18	71	64
		fz	0.006	0.005	0.005	0.005	0.013	0.013	0.013	0.012	0.012	0.012	0.01	0.009	0.009	0.008	0.008	0.014	0.013
		RPM	19099	9549	9549	3183	32362	32362	32362	29178	29178	29178	25995	19629	19629	9549	9549	32286	29103
		FEED	229	95	95	32	841	841	841	700	700	700	520	353	353	153	153	904	757
		Ap	0.004	0.004	0.004	0.004	0.029	0.029	0.029	0.017	0.011	0.011	0.006	0.004	0.004	0.004	0.004	0.049	0.02
	10-11.1	Vc	32	16	16	5	64	64	64	58	58	58	52	39	39	19	19	75	68
		fz	0.007	0.006	0.006	0.005	0.015	0.015	0.015	0.013	0.013	0.013	0.012	0.01	0.01	0.009	0.009	0.017	0.015
		RPM	20372	10186	10186	3183	33953	33953	33953	30770	30770	30770	27587	20690	20690	10080	10080	34105	30922
		FEED	285	122	122	32	1019	1019	1019	800	800	800	662	414	414	181	181	1160	928
		Ap	0.005	0.005	0.005	0.005	0.038	0.038	0.038	0.022	0.014	0.014	0.008	0.005	0.005	0.005	0.005	0.063	0.025
	11.2	Vc	30	15	15	5	61	61	61	55	55	55	49	37	37	18	18	71	64
		fz	0.006	0.005	0.005	0.005	0.013	0.013	0.013	0.012	0.012	0.012	0.01	0.009	0.009	0.008	0.008	0.014	0.013
		RPM	19099	9549	9549	3183	32362	32362	32362	29178	29178	29178	25995	19629	19629	9549	9549	32286	29103
		FEED	229	95	95	32	841	841	841	700	700	700	520	353	353	153	153	904	757
		Ap	0.004	0.004	0.004	0.004	0.029	0.029	0.029	0.017	0.011	0.011	0.006	0.004	0.004	0.004	0.004	0.049	0.02
K	15-20	Vc	32	16	16	5	64	64	64	58	58	58	52	39	39	19	19	75	68
		fz	0.007	0.006	0.006	0.005	0.015	0.015	0.015	0.013	0.013	0.013	0.012	0.01	0.01	0.009	0.009	0.017	0.015
		RPM	20372	10186	10186	3183	33953	33953	33953	30770	30770	30770	27587	20690	20690	10080	10080	34105	30922
		FEED	285	122	122	32	1019	1019	1019	800	800	800	662	414	414	181	181	1160	928
		Ap	0.005	0.005	0.005	0.005	0.038	0.038	0.038	0.022	0.014	0.014	0.008	0.005	0.005	0.005	0.005	0.063	0.025
H	38.1 - 38.2	Vc	27	13	13	4	54	54	54	48	48	48	43	32	32	16	16	63	56
		fz	0.006	0.006	0.006	0.004	0.012	0.012	0.012	0.011	0.011	0.011	0.01	0.008	0.008	0.007	0.007	0.013	0.012
		RPM	17189	8276	8276	2546	28648	28648	28648	25465	25465	25465	22812	16977	16977	8488	8488	28648	25465
		FEED	206	99	99	20	688	688	688	560	560	560	456	272	272	119	119	745	611
		Ap	0.003	0.003	0.003	0.003	0.021	0.021	0.021	0.012	0.008	0.008	0.005	0.003	0.003	0.003	0.003	0.035	0.014
	40	Vc	30	15	15	5	61	61	61	55	55	55	49	37	37	18	18	71	64
		fz	0.006	0.005	0.005	0.005	0.013	0.013	0.013	0.012	0.012	0.012	0.01	0.009	0.009	0.008	0.008	0.014	0.013
		RPM	19099	9549	9549	3183	32362	32362	32362	29178	29178	29178	25995	19629	19629	9549	9549	32286	29103
		FEED	229	95	95	32	841	841	841	700	700	700	520	353	353	153	153	904	757
		Ap	0.004	0.004	0.004	0.004	0.029	0.029	0.029	0.017	0.011	0.011	0.006	0.004	0.004	0.004	0.004	0.049	0.02
	41	Vc	27	13	13	4	54	54	54	48	48	48	43	32	32	16	16	63	56
		fz	0.006	0.006	0.006	0.004	0.012	0.012	0.012	0.011	0.011	0.011	0.01	0.008	0.008	0.007	0.007	0.013	0.012
		RPM	17189	8276	8276	2546	28648	28648	28648	25465	25465	25465	22812	16977	16977	8488	8488	28648	25465
		FEED	206	99	99	20	688	688	688	560	560	560	456	272	272	119	119	745	611
		Ap	0.003	0.003	0.003	0.003	0.021	0.021	0.021	0.012	0.008	0.008	0.005	0.003	0.003	0.003	0.003	0.035	0.014

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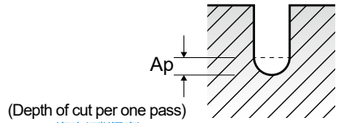

4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
SEM846 SERIES — 2 FLUTE BALL NOSE - SLOTTING
2刃 球头 - 槽铣削
Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

VDI 3323	Parameter 参数	Diameter (Ø) 直径																	
		0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	1.0
	LBS	6	8	10	12	2	3	4	5	6	8	10	12	14	16	20	4	6	8	10	2
1-5	Vc	68	60	60	45	86	86	86	77	77	77	69	69	52	52	26	83	83	83	74	97
	fz	0.015	0.013	0.013	0.012	0.018	0.018	0.018	0.016	0.016	0.016	0.014	0.014	0.013	0.013	0.011	0.019	0.019	0.019	0.017	0.025
	RPM	30922	27284	27284	20463	34218	34218	34218	30637	30637	30637	27454	27454	20690	20690	10345	29355	29355	29355	26172	30876
	FEED	928	709	709	491	1232	1232	1232	980	980	980	769	769	538	538	228	1115	1115	1115	890	1544
	Ap	0.016	0.016	0.009	0.006	0.072	0.05	0.05	0.029	0.029	0.018	0.018	0.011	0.007	0.007	0.007	0.032	0.032	0.02	0.02	0.09
6-8	Vc	68	60	60	45	86	86	86	77	77	77	69	69	52	52	26	83	83	83	74	97
	fz	0.015	0.013	0.013	0.012	0.018	0.018	0.018	0.016	0.016	0.016	0.014	0.014	0.013	0.013	0.011	0.019	0.019	0.019	0.017	0.025
	RPM	30922	27284	27284	20463	34218	34218	34218	30637	30637	30637	27454	27454	20690	20690	10345	29355	29355	29355	26172	30876
	FEED	928	709	709	491	1232	1232	1232	980	980	980	769	769	538	538	228	1115	1115	1115	890	1544
	Ap	0.016	0.016	0.009	0.006	0.072	0.05	0.05	0.029	0.029	0.018	0.018	0.011	0.007	0.007	0.007	0.032	0.032	0.02	0.02	0.09
9	Vc	64	57	57	43	81	81	81	73	73	73	65	65	49	49	24	78	78	78	69	91
	fz	0.013	0.012	0.012	0.01	0.016	0.016	0.016	0.014	0.014	0.014	0.013	0.013	0.011	0.011	0.01	0.017	0.017	0.017	0.015	0.023
	RPM	29103	25920	25920	19553	32229	32229	32229	29046	29046	29046	25863	25863	19496	19496	9549	27587	27587	27587	24404	28966
	FEED	757	622	622	391	1031	1031	1031	813	813	813	672	672	429	429	191	938	938	938	732	1332
	Ap	0.012	0.012	0.007	0.005	0.056	0.039	0.039	0.022	0.022	0.014	0.014	0.008	0.006	0.006	0.006	0.025	0.025	0.016	0.016	0.07
10 - 11.1	Vc	68	60	60	45	86	86	86	77	77	77	69	69	52	52	26	83	83	83	74	97
	fz	0.015	0.013	0.013	0.012	0.018	0.018	0.018	0.016	0.016	0.016	0.014	0.014	0.013	0.013	0.011	0.019	0.019	0.019	0.017	0.025
	RPM	30922	27284	27284	20463	34218	34218	34218	30637	30637	30637	27454	27454	20690	20690	10345	29355	29355	29355	26172	30876
	FEED	928	709	709	491	1232	1232	1232	980	980	980	769	769	538	538	228	1115	1115	1115	890	1544
	Ap	0.016	0.016	0.009	0.006	0.072	0.05	0.05	0.029	0.029	0.018	0.018	0.011	0.007	0.007	0.007	0.032	0.032	0.02	0.02	0.09
11.2	Vc	64	57	57	43	81	81	81	73	73	73	65	65	49	49	24	78	78	78	69	91
	fz	0.013	0.012	0.012	0.01	0.016	0.016	0.016	0.014	0.014	0.014	0.013	0.013	0.011	0.011	0.01	0.017	0.017	0.017	0.015	0.023
	RPM	29103	25920	25920	19553	32229	32229	32229	29046	29046	29046	25863	25863	19496	19496	9549	27587	27587	27587	24404	28966
	FEED	757	622	622	391	1031	1031	1031	813	813	813	672	672	429	429	191	938	938	938	732	1332
	Ap	0.012	0.012	0.007	0.005	0.056	0.039	0.039	0.022	0.022	0.014	0.014	0.008	0.006	0.006	0.006	0.025	0.025	0.016	0.016	0.07
15 - 20	Vc	68	60	60	45	86	86	86	77	77	77	69	69	52	52	26	83	83	83	74	97
	fz	0.015	0.013	0.013	0.012	0.018	0.018	0.018	0.016	0.016	0.016	0.014	0.014	0.013	0.013	0.011	0.019	0.019	0.019	0.017	0.025
	RPM	30922	27284	27284	20463	34218	34218	34218	30637	30637	30637	27454	27454	20690	20690	10345	29355	29355	29355	26172	30876
	FEED	928	709	709	491	1232	1232	1232	980	980	980	769	769	538	538	228	1115	1115	1115	890	1544
	Ap	0.016	0.016	0.009	0.006	0.072	0.05	0.05	0.029	0.029	0.018	0.018	0.011	0.007	0.007	0.007	0.032	0.032	0.02	0.02	0.09
38.1 - 38.2	Vc	56	50	50	38	72	72	72	64	64	64	57	57	43	43	21	69	69	69	61	81
	fz	0.012	0.011	0.011	0.009	0.015	0.015	0.015	0.014	0.014	0.014	0.012	0.012	0.011	0.011	0.009	0.016	0.016	0.016	0.014	0.021
	RPM	25465	22736	22736	17280	28648	28648	28648	25465	25465	25465	22680	22680	17109	17109	8356	24404	24404	24404	21574	25783
	FEED	611	500	500	311	859	859	859	713	713	713	544	544	376	376	150	781	781	781	604	1083
	Ap	0.009	0.009	0.005	0.004	0.04	0.028	0.028	0.016	0.016	0.01	0.01	0.006	0.004	0.004	0.004	0.018	0.018	0.011	0.011	0.05
40	Vc	64	57	57	43	81	81	81	73	73	73	65	65	49	49	24	78	78	78	69	91
	fz	0.013	0.012	0.012	0.01	0.016	0.016	0.016	0.014	0.014	0.014	0.013	0.013	0.011	0.011	0.01	0.017	0.017	0.017	0.015	0.023
	RPM	29103	25920	25920	19553	32229	32229	32229	29046	29046	29046	25863	25863	19496	19496	9549	27587	27587	27587	24404	28966
	FEED	757	622	622	391	1031	1031	1031	813	813	813	672	672	429	429	191	938	938	938	732	1332
	Ap	0.012	0.012	0.007	0.005	0.056	0.039	0.039	0.022	0.022	0.014	0.014	0.008	0.006	0.006	0.006	0.025	0.025	0.016	0.016	0.07
41	Vc	56	50	50	38	72	72	72	64	64	64	57	57	43	43	21	69	69	69	61	81
	fz	0.012	0.011	0.011	0.009	0.015	0.015	0.015	0.014	0.014	0.014	0.012	0.012	0.011	0.011	0.009	0.016	0.016	0.016	0.014	0.021
	RPM	25465	22736	22736	17280	28648	28648	28648	25465	25465	25465	22680	22680	17109	17109	8356	24404	24404	24404	21574	25783
	FEED	611	500	500	311	859	859	859	713	713	713	544	544	376	376	150	781	781	781	604	1083
	Ap	0.009	0.009	0.005	0.004	0.04	0.028	0.028	0.016	0.016	0.01	0.01	0.006	0.004	0.004	0.004	0.018	0.018	0.011	0.011	0.05

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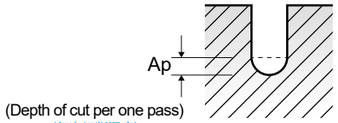

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEM846 SERIES — 2 FLUTE BALL NOSE - SLOTTING
2刃 球头 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

ISO	VDI 3323	Parameter 参数	Diameter (Ø) 直径																
			1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
		LBS	3	4	5	6	7	8	10	12	14	16	18	20	22	26	30	40	50
P	1-5	Vc	97	97	97	87	87	87	87	77	77	58	58	58	29	29	29	10	10
		fz	0.025	0.025	0.025	0.022	0.022	0.022	0.022	0.02	0.02	0.017	0.017	0.017	0.015	0.015	0.015	0.012	0.012
		RPM	30876	30876	30876	27693	27693	27693	27693	24510	24510	18462	18462	18462	9231	9231	9231	3183	3183
		FEED	1544	1544	1544	1218	1218	1218	1218	980	980	628	628	628	277	277	277	76	76
		Ap	0.09	0.063	0.063	0.036	0.036	0.036	0.023	0.023	0.014	0.014	0.009	0.009	0.009	0.009	0.009	0.009	0.006
	6-8	Vc	97	97	97	87	87	87	87	77	77	58	58	58	29	29	29	10	10
		fz	0.025	0.025	0.025	0.022	0.022	0.022	0.022	0.02	0.02	0.017	0.017	0.017	0.015	0.015	0.015	0.012	0.012
		RPM	30876	30876	30876	27693	27693	27693	27693	24510	24510	18462	18462	18462	9231	9231	9231	3183	3183
		FEED	1544	1544	1544	1218	1218	1218	1218	980	980	628	628	628	277	277	277	76	76
		Ap	0.09	0.063	0.063	0.036	0.036	0.036	0.023	0.023	0.014	0.014	0.009	0.009	0.009	0.009	0.009	0.009	0.006
	9	Vc	91	91	91	82	82	82	82	73	73	55	55	55	27	27	27	9	9
		fz	0.023	0.023	0.023	0.02	0.02	0.02	0.02	0.018	0.018	0.016	0.016	0.016	0.013	0.013	0.013	0.011	0.011
		RPM	28966	28966	28966	26101	26101	26101	26101	23237	23237	17507	17507	17507	8594	8594	8594	2865	2865
		FEED	1332	1332	1332	1044	1044	1044	1044	837	837	560	560	560	223	223	223	63	63
		Ap	0.07	0.049	0.049	0.028	0.028	0.028	0.018	0.018	0.011	0.011	0.007	0.007	0.007	0.007	0.007	0.007	0.005
	10-11.1	Vc	97	97	97	87	87	87	87	77	77	58	58	58	29	29	29	10	10
		fz	0.025	0.025	0.025	0.022	0.022	0.022	0.022	0.02	0.02	0.017	0.017	0.017	0.015	0.015	0.015	0.012	0.012
		RPM	30876	30876	30876	27693	27693	27693	27693	24510	24510	18462	18462	18462	9231	9231	9231	3183	3183
		FEED	1544	1544	1544	1218	1218	1218	1218	980	980	628	628	628	277	277	277	76	76
		Ap	0.09	0.063	0.063	0.036	0.036	0.036	0.023	0.023	0.014	0.014	0.009	0.009	0.009	0.009	0.009	0.009	0.006
	11.2	Vc	91	91	91	82	82	82	82	73	73	55	55	55	27	27	27	9	9
		fz	0.023	0.023	0.023	0.02	0.02	0.02	0.02	0.018	0.018	0.016	0.016	0.016	0.013	0.013	0.013	0.011	0.011
		RPM	28966	28966	28966	26101	26101	26101	26101	23237	23237	17507	17507	17507	8594	8594	8594	2865	2865
		FEED	1332	1332	1332	1044	1044	1044	1044	837	837	560	560	560	223	223	223	63	63
		Ap	0.07	0.049	0.049	0.028	0.028	0.028	0.018	0.018	0.011	0.011	0.007	0.007	0.007	0.007	0.007	0.007	0.005
K	15-20	Vc	97	97	97	87	87	87	87	77	77	58	58	58	29	29	29	10	10
		fz	0.025	0.025	0.025	0.022	0.022	0.022	0.022	0.02	0.02	0.017	0.017	0.017	0.015	0.015	0.015	0.012	0.012
		RPM	30876	30876	30876	27693	27693	27693	27693	24510	24510	18462	18462	18462	9231	9231	9231	3183	3183
		FEED	1544	1544	1544	1218	1218	1218	1218	980	980	628	628	628	277	277	277	76	76
		Ap	0.09	0.063	0.063	0.036	0.036	0.036	0.023	0.023	0.014	0.014	0.009	0.009	0.009	0.009	0.009	0.009	0.006
H	38.1 - 38.2	Vc	81	81	81	73	73	73	73	65	65	48	48	48	24	24	24	8	8
		fz	0.021	0.021	0.021	0.019	0.019	0.019	0.019	0.017	0.017	0.015	0.015	0.015	0.013	0.013	0.013	0.011	0.011
		RPM	25783	25783	25783	23237	23237	23237	23237	20690	20690	15279	15279	15279	7639	7639	7639	2546	2546
		FEED	1083	1083	1083	883	883	883	883	703	703	458	458	458	199	199	199	56	56
		Ap	0.05	0.035	0.035	0.02	0.02	0.02	0.013	0.013	0.008	0.008	0.005	0.005	0.005	0.005	0.005	0.005	0.003
	40	Vc	91	91	91	82	82	82	82	73	73	55	55	55	27	27	27	9	9
		fz	0.023	0.023	0.023	0.02	0.02	0.02	0.02	0.018	0.018	0.016	0.016	0.016	0.013	0.013	0.013	0.011	0.011
		RPM	28966	28966	28966	26101	26101	26101	26101	23237	23237	17507	17507	17507	8594	8594	8594	2865	2865
		FEED	1332	1332	1332	1044	1044	1044	1044	837	837	560	560	560	223	223	223	63	63
		Ap	0.07	0.049	0.049	0.028	0.028	0.028	0.018	0.018	0.011	0.011	0.007	0.007	0.007	0.007	0.007	0.007	0.005
	41	Vc	81	81	81	73	73	73	73	65	65	48	48	48	24	24	24	8	8
		fz	0.021	0.021	0.021	0.019	0.019	0.019	0.019	0.017	0.017	0.015	0.015	0.015	0.013	0.013	0.013	0.011	0.011
		RPM	25783	25783	25783	23237	23237	23237	23237	20690	20690	15279	15279	15279	7639	7639	7639	2546	2546
		FEED	1083	1083	1083	883	883	883	883	703	703	458	458	458	199	199	199	56	56
		Ap	0.05	0.035	0.035	0.02	0.02	0.02	0.013	0.013	0.008	0.008	0.005	0.005	0.005	0.005	0.005	0.005	0.003

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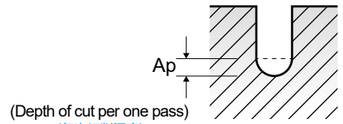

(Depth of cut per one pass)
(每次切削深度)

4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
SEM846 SERIES — 2 FLUTE BALL NOSE - SLOTTING
2刃 球头 - 槽铣削
Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

VDI 3323	Parameter 参数	Diameter (Ø) 直径																	
		1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	LBS	4	6	8	10	12	16	20	26	6	8	10	16	4	5	6	7	8	10	12	14
1-5	Vc	99	99	89	89	89	79	59	30	95	85	85	76	113	113	113	113	101	101	101	101
	fz	0.026	0.026	0.024	0.024	0.024	0.021	0.018	0.016	0.03	0.027	0.027	0.024	0.033	0.033	0.033	0.033	0.03	0.03	0.03	0.03
	RPM	26261	26261	23608	23608	23608	20955	15650	7958	21600	19326	19326	17280	23979	23979	23979	23979	21433	21433	21433	21433
	FEED	1366	1366	1133	1133	1133	880	563	255	1296	1044	1044	829	1583	1583	1583	1583	1286	1286	1286	1286
	Ap	0.076	0.076	0.043	0.027	0.027	0.016	0.011	0.011	0.088	0.05	0.05	0.032	0.135	0.095	0.095	0.095	0.054	0.054	0.054	0.034
6-8	Vc	99	99	89	89	89	79	59	30	95	85	85	76	113	113	113	113	101	101	101	101
	fz	0.026	0.026	0.024	0.024	0.024	0.021	0.018	0.016	0.03	0.027	0.027	0.024	0.033	0.033	0.033	0.033	0.03	0.03	0.03	0.03
	RPM	26261	26261	23608	23608	23608	20955	15650	7958	21600	19326	19326	17280	23979	23979	23979	23979	21433	21433	21433	21433
	FEED	1366	1366	1133	1133	1133	880	563	255	1296	1044	1044	829	1583	1583	1583	1583	1286	1286	1286	1286
	Ap	0.076	0.076	0.043	0.027	0.027	0.016	0.011	0.011	0.088	0.05	0.05	0.032	0.135	0.095	0.095	0.095	0.054	0.054	0.054	0.034
9	Vc	93	93	84	84	84	75	56	28	89	80	80	71	106	106	106	106	96	96	96	96
	fz	0.023	0.023	0.021	0.021	0.021	0.019	0.016	0.014	0.027	0.024	0.024	0.022	0.03	0.03	0.03	0.03	0.027	0.027	0.027	0.027
	RPM	24669	24669	22282	22282	22282	19894	14854	7427	20235	18189	18189	16143	22494	22494	22494	22494	20372	20372	20372	20372
	FEED	1135	1135	936	936	936	756	475	208	1093	873	873	710	1350	1350	1350	1350	1100	1100	1100	1100
	Ap	0.059	0.059	0.034	0.021	0.021	0.013	0.008	0.008	0.069	0.039	0.039	0.025	0.105	0.074	0.074	0.074	0.042	0.042	0.042	0.026
10 - 11.1	Vc	99	99	89	89	89	79	59	30	95	85	85	76	113	113	113	113	101	101	101	101
	fz	0.026	0.026	0.024	0.024	0.024	0.021	0.018	0.016	0.03	0.027	0.027	0.024	0.033	0.033	0.033	0.033	0.03	0.03	0.03	0.03
	RPM	26261	26261	23608	23608	23608	20955	15650	7958	21600	19326	19326	17280	23979	23979	23979	23979	21433	21433	21433	21433
	FEED	1366	1366	1133	1133	1133	880	563	255	1296	1044	1044	829	1583	1583	1583	1583	1286	1286	1286	1286
	Ap	0.076	0.076	0.043	0.027	0.027	0.016	0.011	0.011	0.088	0.05	0.05	0.032	0.135	0.095	0.095	0.095	0.054	0.054	0.054	0.034
11.2	Vc	93	93	84	84	84	75	56	28	89	80	80	71	106	106	106	106	96	96	96	96
	fz	0.023	0.023	0.021	0.021	0.021	0.019	0.016	0.014	0.027	0.024	0.024	0.022	0.03	0.03	0.03	0.03	0.027	0.027	0.027	0.027
	RPM	24669	24669	22282	22282	22282	19894	14854	7427	20235	18189	18189	16143	22494	22494	22494	22494	20372	20372	20372	20372
	FEED	1135	1135	936	936	936	756	475	208	1093	873	873	710	1350	1350	1350	1350	1100	1100	1100	1100
	Ap	0.059	0.059	0.034	0.021	0.021	0.013	0.008	0.008	0.069	0.039	0.039	0.025	0.105	0.074	0.074	0.074	0.042	0.042	0.042	0.026
15 - 20	Vc	99	99	89	89	89	79	59	30	95	85	85	76	113	113	113	113	101	101	101	101
	fz	0.026	0.026	0.024	0.024	0.024	0.021	0.018	0.016	0.03	0.027	0.027	0.024	0.033	0.033	0.033	0.033	0.03	0.03	0.03	0.03
	RPM	26261	26261	23608	23608	23608	20955	15650	7958	21600	19326	19326	17280	23979	23979	23979	23979	21433	21433	21433	21433
	FEED	1366	1366	1133	1133	1133	880	563	255	1296	1044	1044	829	1583	1583	1583	1583	1286	1286	1286	1286
	Ap	0.076	0.076	0.043	0.027	0.027	0.016	0.011	0.011	0.088	0.05	0.05	0.032	0.135	0.095	0.095	0.095	0.054	0.054	0.054	0.034
38.1 - 38.2	Vc	83	83	74	74	74	66	50	25	79	71	71	63	94	94	94	94	85	85	85	85
	fz	0.022	0.022	0.02	0.02	0.02	0.017	0.015	0.013	0.026	0.023	0.023	0.021	0.027	0.027	0.027	0.027	0.024	0.024	0.024	0.024
	RPM	22016	22016	19629	19629	19629	17507	13263	6631	17962	16143	16143	14324	19947	19947	19947	19947	18038	18038	18038	18038
	FEED	969	969	785	785	785	595	398	172	934	743	743	602	1077	1077	1077	1077	866	866	866	866
	Ap	0.042	0.042	0.024	0.015	0.015	0.009	0.006	0.006	0.049	0.028	0.028	0.018	0.075	0.053	0.053	0.053	0.03	0.03	0.03	0.019
40	Vc	93	93	84	84	84	75	56	28	89	80	80	71	106	106	106	106	96	96	96	96
	fz	0.023	0.023	0.021	0.021	0.021	0.019	0.016	0.014	0.027	0.024	0.024	0.022	0.03	0.03	0.03	0.03	0.027	0.027	0.027	0.027
	RPM	24669	24669	22282	22282	22282	19894	14854	7427	20235	18189	18189	16143	22494	22494	22494	22494	20372	20372	20372	20372
	FEED	1135	1135	936	936	936	756	475	208	1093	873	873	710	1350	1350	1350	1350	1100	1100	1100	1100
	Ap	0.059	0.059	0.034	0.021	0.021	0.013	0.008	0.008	0.069	0.039	0.039	0.025	0.105	0.074	0.074	0.074	0.042	0.042	0.042	0.026
41	Vc	83	83	74	74	74	66	50	25	79	71	71	63	94	94	94	94	85	85	85	85
	fz	0.022	0.022	0.02	0.02	0.02	0.017	0.015	0.013	0.026	0.023	0.023	0.021	0.027	0.027	0.027	0.027	0.024	0.024	0.024	0.024
	RPM	22016	22016	19629	19629	19629	17507	13263	6631	17962	16143	16143	14324	19947	19947	19947	19947	18038	18038	18038	18038
	FEED	969	969	785	785	785	595	398	172	934	743	743	602	1077	1077	1077	1077	866	866	866	866
	Ap	0.042	0.042	0.024	0.015	0.015	0.009	0.006	0.006	0.049	0.028	0.028	0.018	0.075	0.053	0.053	0.053	0.03	0.03	0.03	0.019

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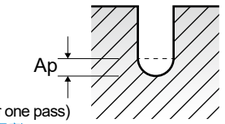

(Depth of cut per one pass)
(每次切削深度)

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEM846 SERIES — 2 FLUTE BALL NOSE - SLOTTING
2刃 球头 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

ISO	VDI 3323	Parameter 参数	Diameter (Ø) 直径																
			1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.8	1.8
		LBS	16	18	20	22	26	30	35	40	4	6	8	10	12	16	20	4	6
P	1-5	Vc	90	90	90	90	68	68	34	34	112	112	112	100	100	100	89	126	126
		fz	0.026	0.026	0.026	0.026	0.023	0.023	0.02	0.02	0.035	0.035	0.035	0.032	0.032	0.032	0.028	0.04	0.04
		RPM	19099	19099	19099	19099	14430	14430	7215	7215	22282	22282	22282	19894	19894	19894	17706	22282	22282
		FEED	993	993	993	993	664	664	289	289	1560	1560	1560	1273	1273	1273	992	1783	1783
		Ap	0.034	0.034	0.02	0.02	0.014	0.014	0.01	0.01	0.101	0.101	0.101	0.058	0.058	0.036	0.036	0.113	0.113
	6-8	Vc	90	90	90	90	68	68	34	34	112	112	112	100	100	100	89	126	126
		fz	0.026	0.026	0.026	0.026	0.023	0.023	0.02	0.02	0.035	0.035	0.035	0.032	0.032	0.032	0.028	0.04	0.04
		RPM	19099	19099	19099	19099	14430	14430	7215	7215	22282	22282	22282	19894	19894	19894	17706	22282	22282
		FEED	993	993	993	993	664	664	289	289	1560	1560	1560	1273	1273	1273	992	1783	1783
		Ap	0.034	0.034	0.02	0.02	0.014	0.014	0.01	0.01	0.101	0.101	0.101	0.058	0.058	0.036	0.036	0.113	0.113
	9	Vc	85	85	85	85	64	64	32	32	106	106	106	95	95	95	84	119	119
		fz	0.024	0.024	0.024	0.024	0.021	0.021	0.018	0.018	0.031	0.031	0.031	0.028	0.028	0.028	0.025	0.035	0.035
		RPM	18038	18038	18038	18038	13581	13581	6791	6791	21088	21088	21088	18900	18900	18900	16711	21044	21044
		FEED	866	866	866	866	570	570	244	244	1307	1307	1307	1058	1058	1058	836	1473	1473
		Ap	0.026	0.026	0.016	0.016	0.011	0.011	0.008	0.008	0.078	0.078	0.078	0.045	0.045	0.028	0.028	0.088	0.088
	10-11.1	Vc	90	90	90	90	68	68	34	34	112	112	112	100	100	100	89	126	126
		fz	0.026	0.026	0.026	0.026	0.023	0.023	0.02	0.02	0.035	0.035	0.035	0.032	0.032	0.032	0.028	0.04	0.04
		RPM	19099	19099	19099	19099	14430	14430	7215	7215	22282	22282	22282	19894	19894	19894	17706	22282	22282
		FEED	993	993	993	993	664	664	289	289	1560	1560	1560	1273	1273	1273	992	1783	1783
		Ap	0.034	0.034	0.02	0.02	0.014	0.014	0.01	0.01	0.101	0.101	0.101	0.058	0.058	0.036	0.036	0.113	0.113
	11.2	Vc	85	85	85	85	64	64	32	32	106	106	106	95	95	95	84	119	119
		fz	0.024	0.024	0.024	0.024	0.021	0.021	0.018	0.018	0.031	0.031	0.031	0.028	0.028	0.028	0.025	0.035	0.035
		RPM	18038	18038	18038	18038	13581	13581	6791	6791	21088	21088	21088	18900	18900	18900	16711	21044	21044
		FEED	866	866	866	866	570	570	244	244	1307	1307	1307	1058	1058	1058	836	1473	1473
		Ap	0.026	0.026	0.016	0.016	0.011	0.011	0.008	0.008	0.078	0.078	0.078	0.045	0.045	0.028	0.028	0.088	0.088
K	15-20	Vc	90	90	90	90	68	68	34	34	112	112	112	100	100	100	89	126	126
		fz	0.026	0.026	0.026	0.026	0.023	0.023	0.02	0.02	0.035	0.035	0.035	0.032	0.032	0.032	0.028	0.04	0.04
		RPM	19099	19099	19099	19099	14430	14430	7215	7215	22282	22282	22282	19894	19894	19894	17706	22282	22282
		FEED	993	993	993	993	664	664	289	289	1560	1560	1560	1273	1273	1273	992	1783	1783
		Ap	0.034	0.034	0.02	0.02	0.014	0.014	0.01	0.01	0.101	0.101	0.101	0.058	0.058	0.036	0.036	0.113	0.113
H	38.1 - 38.2	Vc	75	75	75	75	57	57	28	28	93	93	93	84	84	84	74	105	105
		fz	0.022	0.022	0.022	0.022	0.019	0.019	0.016	0.016	0.03	0.03	0.03	0.027	0.027	0.027	0.024	0.033	0.033
		RPM	15915	15915	15915	15915	12096	12096	5942	5942	18502	18502	18502	16711	16711	16711	14722	18568	18568
		FEED	700	700	700	700	460	460	190	190	1110	1110	1110	902	902	902	707	1225	1225
		Ap	0.019	0.019	0.011	0.011	0.008	0.008	0.005	0.005	0.056	0.056	0.056	0.032	0.032	0.02	0.02	0.063	0.063
	40	Vc	85	85	85	85	64	64	32	32	106	106	106	95	95	95	84	119	119
		fz	0.024	0.024	0.024	0.024	0.021	0.021	0.018	0.018	0.031	0.031	0.031	0.028	0.028	0.028	0.025	0.035	0.035
		RPM	18038	18038	18038	18038	13581	13581	6791	6791	21088	21088	21088	18900	18900	18900	16711	21044	21044
		FEED	866	866	866	866	570	570	244	244	1307	1307	1307	1058	1058	1058	836	1473	1473
		Ap	0.026	0.026	0.016	0.016	0.011	0.011	0.008	0.008	0.078	0.078	0.078	0.045	0.045	0.028	0.028	0.088	0.088
	41	Vc	75	75	75	75	57	57	28	28	93	93	93	84	84	84	74	105	105
		fz	0.022	0.022	0.022	0.022	0.019	0.019	0.016	0.016	0.03	0.03	0.03	0.027	0.027	0.027	0.024	0.033	0.033
		RPM	15915	15915	15915	15915	12096	12096	5942	5942	18502	18502	18502	16711	16711	16711	14722	18568	18568
		FEED	700	700	700	700	460	460	190	190	1110	1110	1110	902	902	902	707	1225	1225
		Ap	0.019	0.019	0.011	0.011	0.008	0.008	0.005	0.005	0.056	0.056	0.056	0.032	0.032	0.02	0.02	0.063	0.063

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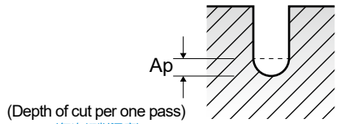

4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
SEM846 SERIES — 2 FLUTE BALL NOSE - SLOTTING
2刃 球头 - 槽铣削
Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

VDI 3323	Parameter 参数	Diameter (Ø) 直径																	
		1.8	1.8	1.8	1.8	1.8	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
	LBS	8	10	12	16	20	6	8	10	12	14	16	18	20	22	26	30	35	40	45	50
1-5	Vc	126	113	113	113	100	113	113	113	102	102	102	102	102	90	90	90	68	68	34	34
	fz	0.04	0.036	0.036	0.036	0.032	0.05	0.05	0.05	0.045	0.045	0.045	0.045	0.045	0.04	0.04	0.04	0.035	0.035	0.03	0.03
	RPM	22282	19983	19983	19983	17684	17985	17985	17985	16234	16234	16234	16234	16234	14324	14324	14324	10823	10823	5411	5411
	FEED	1783	1439	1439	1439	1132	1798	1798	1798	1461	1461	1461	1461	1461	1146	1146	1146	758	758	325	325
	Ap	0.113	0.065	0.065	0.041	0.041	0.18	0.126	0.126	0.072	0.072	0.072	0.045	0.045	0.045	0.045	0.027	0.018	0.018	0.018	0.018
6-8	Vc	126	113	113	113	100	113	113	113	102	102	102	102	102	90	90	90	68	68	34	34
	fz	0.04	0.036	0.036	0.036	0.032	0.05	0.05	0.05	0.045	0.045	0.045	0.045	0.045	0.04	0.04	0.04	0.035	0.035	0.03	0.03
	RPM	22282	19983	19983	19983	17684	17985	17985	17985	16234	16234	16234	16234	16234	14324	14324	14324	10823	10823	5411	5411
	FEED	1783	1439	1439	1439	1132	1798	1798	1798	1461	1461	1461	1461	1461	1146	1146	1146	758	758	325	325
	Ap	0.113	0.065	0.065	0.041	0.041	0.18	0.126	0.126	0.072	0.072	0.072	0.045	0.045	0.045	0.045	0.027	0.018	0.018	0.018	0.018
9	Vc	119	107	107	107	95	107	107	107	96	96	96	96	96	85	85	85	64	64	32	32
	fz	0.035	0.031	0.031	0.031	0.028	0.045	0.045	0.045	0.04	0.04	0.04	0.04	0.04	0.036	0.036	0.036	0.031	0.031	0.027	0.027
	RPM	21044	18922	18922	18922	16800	17030	17030	17030	15279	15279	15279	15279	15279	13528	13528	13528	10186	10186	5093	5093
	FEED	1473	1173	1173	1173	941	1533	1533	1533	1222	1222	1222	1222	1222	974	974	974	632	632	275	275
	Ap	0.088	0.05	0.05	0.032	0.032	0.14	0.098	0.098	0.056	0.056	0.056	0.035	0.035	0.035	0.035	0.021	0.014	0.014	0.014	0.014
10 - 11.1	Vc	126	113	113	113	100	113	113	113	102	102	102	102	102	90	90	90	68	68	34	34
	fz	0.04	0.036	0.036	0.036	0.032	0.05	0.05	0.05	0.045	0.045	0.045	0.045	0.045	0.04	0.04	0.04	0.035	0.035	0.03	0.03
	RPM	22282	19983	19983	19983	17684	17985	17985	17985	16234	16234	16234	16234	16234	14324	14324	14324	10823	10823	5411	5411
	FEED	1783	1439	1439	1439	1132	1798	1798	1798	1461	1461	1461	1461	1461	1146	1146	1146	758	758	325	325
	Ap	0.113	0.065	0.065	0.041	0.041	0.18	0.126	0.126	0.072	0.072	0.072	0.045	0.045	0.045	0.045	0.027	0.018	0.018	0.018	0.018
11.2	Vc	119	107	107	107	95	107	107	107	96	96	96	96	96	85	85	85	64	64	32	32
	fz	0.035	0.031	0.031	0.031	0.028	0.045	0.045	0.045	0.04	0.04	0.04	0.04	0.04	0.036	0.036	0.036	0.031	0.031	0.027	0.027
	RPM	21044	18922	18922	18922	16800	17030	17030	17030	15279	15279	15279	15279	15279	13528	13528	13528	10186	10186	5093	5093
	FEED	1473	1173	1173	1173	941	1533	1533	1533	1222	1222	1222	1222	1222	974	974	974	632	632	275	275
	Ap	0.088	0.05	0.05	0.032	0.032	0.14	0.098	0.098	0.056	0.056	0.056	0.035	0.035	0.035	0.035	0.021	0.014	0.014	0.014	0.014
15 - 20	Vc	126	113	113	113	100	113	113	113	102	102	102	102	102	90	90	90	68	68	34	34
	fz	0.04	0.036	0.036	0.036	0.032	0.05	0.05	0.05	0.045	0.045	0.045	0.045	0.045	0.04	0.04	0.04	0.035	0.035	0.03	0.03
	RPM	22282	19983	19983	19983	17684	17985	17985	17985	16234	16234	16234	16234	16234	14324	14324	14324	10823	10823	5411	5411
	FEED	1783	1439	1439	1439	1132	1798	1798	1798	1461	1461	1461	1461	1461	1146	1146	1146	758	758	325	325
	Ap	0.113	0.065	0.065	0.041	0.041	0.18	0.126	0.126	0.072	0.072	0.072	0.045	0.045	0.045	0.045	0.027	0.018	0.018	0.018	0.018
38.1 - 38.2	Vc	105	94	94	94	84	94	94	94	85	85	85	85	85	75	75	75	57	57	28	28
	fz	0.033	0.03	0.03	0.03	0.027	0.043	0.043	0.043	0.039	0.039	0.039	0.039	0.039	0.034	0.034	0.034	0.03	0.03	0.026	0.026
	RPM	18568	16623	16623	16623	14854	14961	14961	14961	13528	13528	13528	13528	13528	11937	11937	11937	9072	9072	4456	4456
	FEED	1225	997	997	997	802	1287	1287	1287	1055	1055	1055	1055	1055	812	812	812	544	544	232	232
	Ap	0.063	0.036	0.036	0.023	0.023	0.1	0.07	0.07	0.04	0.04	0.04	0.025	0.025	0.025	0.025	0.015	0.01	0.01	0.01	0.01
40	Vc	119	107	107	107	95	107	107	107	96	96	96	96	96	85	85	85	64	64	32	32
	fz	0.035	0.031	0.031	0.031	0.028	0.045	0.045	0.045	0.04	0.04	0.04	0.04	0.04	0.036	0.036	0.036	0.031	0.031	0.027	0.027
	RPM	21044	18922	18922	18922	16800	17030	17030	17030	15279	15279	15279	15279	15279	13528	13528	13528	10186	10186	5093	5093
	FEED	1473	1173	1173	1173	941	1533	1533	1533	1222	1222	1222	1222	1222	974	974	974	632	632	275	275
	Ap	0.088	0.05	0.05	0.032	0.032	0.14	0.098	0.098	0.056	0.056	0.056	0.035	0.035	0.035	0.035	0.021	0.014	0.014	0.014	0.014
41	Vc	105	94	94	94	84	94	94	94	85	85	85	85	85	75	75	75	57	57	28	28
	fz	0.033	0.03	0.03	0.03	0.027	0.043	0.043	0.043	0.039	0.039	0.039	0.039	0.039	0.034	0.034	0.034	0.03	0.03	0.026	0.026
	RPM	18568	16623	16623	16623	14854	14961	14961	14961	13528	13528	13528	13528	13528	11937	11937	11937	9072	9072	4456	4456
	FEED	1225	997	997	997	802	1287	1287	1287	1055	1055	1055	1055	1055	812	812	812	544	544	232	232
	Ap	0.063	0.036	0.036	0.023	0.023	0.1	0.07	0.07	0.04	0.04	0.04	0.025	0.025	0.025	0.025	0.015	0.01	0.01	0.01	0.01

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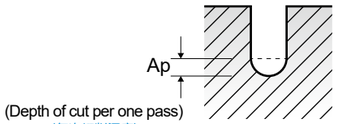

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEM846 SERIES — 2 FLUTE BALL NOSE - SLOTTING
2刃 球头 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

ISO	VDI 3323	Parameter 参数	Diameter (Ø) 直径															
			2.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.0	3.0	3.0	3.0
		LBS	60	8	10	12	16	20	22	26	30	35	40	45	50	6	8	10	12
P	1-5	Vc	34	124	124	124	112	112	112	99	99	99	74	74	74	129	129	129	129
		fz	0.03	0.061	0.061	0.061	0.055	0.055	0.055	0.049	0.049	0.049	0.043	0.043	0.043	0.075	0.075	0.075	0.075
		RPM	5411	15788	15788	15788	14260	14260	14260	12605	12605	12605	9422	9422	9422	13687	13687	13687	13687
		FEED	325	1926	1926	1926	1569	1569	1569	1235	1235	1235	810	810	810	2053	2053	2053	2053
		Ap	0.018	0.158	0.158	0.158	0.09	0.09	0.056	0.056	0.056	0.034	0.034	0.023	0.023	0.27	0.27	0.189	0.189
	6-8	Vc	34	124	124	124	112	112	112	99	99	99	74	74	74	129	129	129	129
		fz	0.03	0.061	0.061	0.061	0.055	0.055	0.055	0.049	0.049	0.049	0.043	0.043	0.043	0.075	0.075	0.075	0.075
		RPM	5411	15788	15788	15788	14260	14260	14260	12605	12605	12605	9422	9422	9422	13687	13687	13687	13687
		FEED	325	1926	1926	1926	1569	1569	1569	1235	1235	1235	810	810	810	2053	2053	2053	2053
		Ap	0.018	0.158	0.158	0.158	0.09	0.09	0.056	0.056	0.056	0.034	0.034	0.023	0.023	0.27	0.27	0.189	0.189
	9	Vc	32	117	117	117	105	105	105	94	94	94	70	70	70	122	122	122	122
		fz	0.027	0.054	0.054	0.054	0.048	0.048	0.048	0.043	0.043	0.043	0.038	0.038	0.038	0.067	0.067	0.067	0.067
		RPM	5093	14897	14897	14897	13369	13369	13369	11968	11968	11968	8913	8913	8913	12945	12945	12945	12945
		FEED	275	1609	1609	1609	1283	1283	1283	1029	1029	1029	677	677	677	1735	1735	1735	1735
		Ap	0.014	0.123	0.123	0.123	0.07	0.07	0.044	0.044	0.044	0.026	0.026	0.018	0.018	0.21	0.21	0.147	0.147
	10-11.1	Vc	34	124	124	124	112	112	112	99	99	99	74	74	74	129	129	129	129
		fz	0.03	0.061	0.061	0.061	0.055	0.055	0.055	0.049	0.049	0.049	0.043	0.043	0.043	0.075	0.075	0.075	0.075
		RPM	5411	15788	15788	15788	14260	14260	14260	12605	12605	12605	9422	9422	9422	13687	13687	13687	13687
		FEED	325	1926	1926	1926	1569	1569	1569	1235	1235	1235	810	810	810	2053	2053	2053	2053
		Ap	0.018	0.158	0.158	0.158	0.09	0.09	0.056	0.056	0.056	0.034	0.034	0.023	0.023	0.27	0.27	0.189	0.189
	11.2	Vc	32	117	117	117	105	105	105	94	94	94	70	70	70	122	122	122	122
		fz	0.027	0.054	0.054	0.054	0.048	0.048	0.048	0.043	0.043	0.043	0.038	0.038	0.038	0.067	0.067	0.067	0.067
		RPM	5093	14897	14897	14897	13369	13369	13369	11968	11968	11968	8913	8913	8913	12945	12945	12945	12945
		FEED	275	1609	1609	1609	1283	1283	1283	1029	1029	1029	677	677	677	1735	1735	1735	1735
		Ap	0.014	0.123	0.123	0.123	0.07	0.07	0.044	0.044	0.044	0.026	0.026	0.018	0.018	0.21	0.21	0.147	0.147
K	15-20	Vc	34	124	124	124	112	112	112	99	99	99	74	74	74	129	129	129	129
		fz	0.03	0.061	0.061	0.061	0.055	0.055	0.055	0.049	0.049	0.049	0.043	0.043	0.043	0.075	0.075	0.075	0.075
		RPM	5411	15788	15788	15788	14260	14260	14260	12605	12605	12605	9422	9422	9422	13687	13687	13687	13687
		FEED	325	1926	1926	1926	1569	1569	1569	1235	1235	1235	810	810	810	2053	2053	2053	2053
		Ap	0.018	0.158	0.158	0.158	0.09	0.09	0.056	0.056	0.056	0.034	0.034	0.023	0.023	0.27	0.27	0.189	0.189
H	38.1 - 38.2	Vc	28	104	104	104	93	93	93	83	83	83	62	62	62	107	107	107	107
		fz	0.026	0.049	0.049	0.049	0.044	0.044	0.044	0.04	0.04	0.04	0.035	0.035	0.035	0.063	0.063	0.063	0.063
		RPM	4456	13242	13242	13242	11841	11841	11841	10568	10568	10568	7894	7894	7894	11353	11353	11353	11353
		FEED	232	1298	1298	1298	1042	1042	1042	845	845	845	553	553	553	1430	1430	1430	1430
		Ap	0.01	0.088	0.088	0.088	0.05	0.05	0.031	0.031	0.031	0.019	0.019	0.013	0.013	0.15	0.15	0.105	0.105
	40	Vc	32	117	117	117	105	105	105	94	94	94	70	70	70	122	122	122	122
		fz	0.027	0.054	0.054	0.054	0.048	0.048	0.048	0.043	0.043	0.043	0.038	0.038	0.038	0.067	0.067	0.067	0.067
		RPM	5093	14897	14897	14897	13369	13369	13369	11968	11968	11968	8913	8913	8913	12945	12945	12945	12945
		FEED	275	1609	1609	1609	1283	1283	1283	1029	1029	1029	677	677	677	1735	1735	1735	1735
		Ap	0.014	0.123	0.123	0.123	0.07	0.07	0.044	0.044	0.044	0.026	0.026	0.018	0.018	0.21	0.21	0.147	0.147
	41	Vc	28	104	104	104	93	93	93	83	83	83	62	62	62	107	107	107	107
		fz	0.026	0.049	0.049	0.049	0.044	0.044	0.044	0.04	0.04	0.04	0.035	0.035	0.035	0.063	0.063	0.063	0.063
		RPM	4456	13242	13242	13242	11841	11841	11841	10568	10568	10568	7894	7894	7894	11353	11353	11353	11353
		FEED	232	1298	1298	1298	1042	1042	1042	845	845	845	553	553	553	1430	1430	1430	1430
		Ap	0.01	0.088	0.088	0.088	0.05	0.05	0.031	0.031	0.031	0.019	0.019	0.013	0.013	0.15	0.15	0.105	0.105

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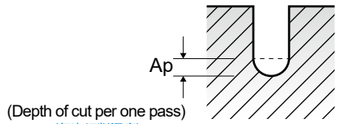

4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
SEM846 SERIES — 2 FLUTE BALL NOSE - SLOTTING
2刃 球头 - 槽铣削
Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

VDI 3323	Parameter 参数	Diameter (Ø) 直径																
		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	LBS	14	16	18	20	22	26	30	35	40	45	50	60	8	10	12	14	16	18	20	22
1-5	Vc	129	116	116	116	116	116	116	103	103	103	77	77	123	123	123	123	123	123	123	111
	fz	0.075	0.067	0.067	0.067	0.067	0.067	0.067	0.06	0.06	0.06	0.052	0.052	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.09
	RPM	13687	12308	12308	12308	12308	12308	12308	10929	10929	10929	8170	8170	9788	9788	9788	9788	9788	9788	9788	8833
	FEED	2053	1649	1649	1649	1649	1649	1649	1311	1311	1311	850	850	1958	1958	1958	1958	1958	1958	1958	1590
	Ap	0.189	0.108	0.108	0.108	0.108	0.068	0.068	0.068	0.041	0.041	0.027	0.027	0.36	0.36	0.36	0.252	0.252	0.252	0.252	0.144
6-8	Vc	129	116	116	116	116	116	116	103	103	103	77	77	123	123	123	123	123	123	123	111
	fz	0.075	0.067	0.067	0.067	0.067	0.067	0.067	0.06	0.06	0.06	0.052	0.052	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.09
	RPM	13687	12308	12308	12308	12308	12308	12308	10929	10929	10929	8170	8170	9788	9788	9788	9788	9788	9788	9788	8833
	FEED	2053	1649	1649	1649	1649	1649	1649	1311	1311	1311	850	850	1958	1958	1958	1958	1958	1958	1958	1590
	Ap	0.189	0.108	0.108	0.108	0.108	0.068	0.068	0.068	0.041	0.041	0.027	0.027	0.36	0.36	0.36	0.252	0.252	0.252	0.252	0.144
9	Vc	122	109	109	109	109	109	109	97	97	97	73	73	117	117	117	117	117	117	117	105
	fz	0.067	0.06	0.06	0.06	0.06	0.06	0.06	0.054	0.054	0.054	0.047	0.047	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.081
	RPM	12945	11565	11565	11565	11565	11565	11565	10292	10292	10292	7746	7746	9311	9311	9311	9311	9311	9311	9311	8356
	FEED	1735	1388	1388	1388	1388	1388	1388	1112	1112	1112	728	728	1676	1676	1676	1676	1676	1676	1676	1354
	Ap	0.147	0.084	0.084	0.084	0.084	0.053	0.053	0.053	0.032	0.032	0.021	0.021	0.28	0.28	0.28	0.196	0.196	0.196	0.196	0.112
10 - 11.1	Vc	129	116	116	116	116	116	116	103	103	103	77	77	123	123	123	123	123	123	123	111
	fz	0.075	0.067	0.067	0.067	0.067	0.067	0.067	0.06	0.06	0.06	0.052	0.052	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.09
	RPM	13687	12308	12308	12308	12308	12308	12308	10929	10929	10929	8170	8170	9788	9788	9788	9788	9788	9788	9788	8833
	FEED	2053	1649	1649	1649	1649	1649	1649	1311	1311	1311	850	850	1958	1958	1958	1958	1958	1958	1958	1590
	Ap	0.189	0.108	0.108	0.108	0.108	0.068	0.068	0.068	0.041	0.041	0.027	0.027	0.36	0.36	0.36	0.252	0.252	0.252	0.252	0.144
11.2	Vc	122	109	109	109	109	109	109	97	97	97	73	73	117	117	117	117	117	117	117	105
	fz	0.067	0.06	0.06	0.06	0.06	0.06	0.06	0.054	0.054	0.054	0.047	0.047	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.081
	RPM	12945	11565	11565	11565	11565	11565	11565	10292	10292	10292	7746	7746	9311	9311	9311	9311	9311	9311	9311	8356
	FEED	1735	1388	1388	1388	1388	1388	1388	1112	1112	1112	728	728	1676	1676	1676	1676	1676	1676	1676	1354
	Ap	0.147	0.084	0.084	0.084	0.084	0.053	0.053	0.053	0.032	0.032	0.021	0.021	0.28	0.28	0.28	0.196	0.196	0.196	0.196	0.112
15 - 20	Vc	129	116	116	116	116	116	116	103	103	103	77	77	123	123	123	123	123	123	123	111
	fz	0.075	0.067	0.067	0.067	0.067	0.067	0.067	0.06	0.06	0.06	0.052	0.052	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.09
	RPM	13687	12308	12308	12308	12308	12308	12308	10929	10929	10929	8170	8170	9788	9788	9788	9788	9788	9788	9788	8833
	FEED	2053	1649	1649	1649	1649	1649	1649	1311	1311	1311	850	850	1958	1958	1958	1958	1958	1958	1958	1590
	Ap	0.189	0.108	0.108	0.108	0.108	0.068	0.068	0.068	0.041	0.041	0.027	0.027	0.36	0.36	0.36	0.252	0.252	0.252	0.252	0.144
38.1 - 38.2	Vc	107	97	97	97	97	97	97	86	86	86	64	64	103	103	103	103	103	103	103	93
	fz	0.063	0.057	0.057	0.057	0.057	0.057	0.057	0.05	0.05	0.05	0.044	0.044	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.077
	RPM	11353	10292	10292	10292	10292	10292	10292	9125	9125	9125	6791	6791	8196	8196	8196	8196	8196	8196	8196	7401
	FEED	1430	1173	1173	1173	1173	1173	1173	912	912	912	598	598	1393	1393	1393	1393	1393	1393	1393	1140
	Ap	0.105	0.06	0.06	0.06	0.06	0.038	0.038	0.038	0.023	0.023	0.015	0.015	0.2	0.2	0.2	0.14	0.14	0.14	0.14	0.08
40	Vc	122	109	109	109	109	109	109	97	97	97	73	73	117	117	117	117	117	117	117	105
	fz	0.067	0.06	0.06	0.06	0.06	0.06	0.06	0.054	0.054	0.054	0.047	0.047	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.081
	RPM	12945	11565	11565	11565	11565	11565	11565	10292	10292	10292	7746	7746	9311	9311	9311	9311	9311	9311	9311	8356
	FEED	1735	1388	1388	1388	1388	1388	1388	1112	1112	1112	728	728	1676	1676	1676	1676	1676	1676	1676	1354
	Ap	0.147	0.084	0.084	0.084	0.084	0.053	0.053	0.053	0.032	0.032	0.021	0.021	0.28	0.28	0.28	0.196	0.196	0.196	0.196	0.112
41	Vc	107	97	97	97	97	97	97	86	86	86	64	64	103	103	103	103	103	103	103	93
	fz	0.063	0.057	0.057	0.057	0.057	0.057	0.057	0.05	0.05	0.05	0.044	0.044	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.077
	RPM	11353	10292	10292	10292	10292	10292	10292	9125	9125	9125	6791	6791	8196	8196	8196	8196	8196	8196	8196	7401
	FEED	1430	1173	1173	1173	1173	1173	1173	912	912	912	598	598	1393	1393	1393	1393	1393	1393	1393	1140
	Ap	0.105	0.06	0.06	0.06	0.06	0.038	0.038	0.038	0.023	0.023	0.015	0.015	0.2	0.2	0.2	0.14	0.14	0.14	0.14	0.08

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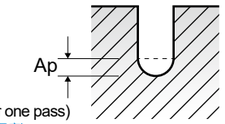

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEM846 SERIES
2 FLUTE BALL NOSE - SLOTTING
2刃 球头 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

ISO	VDI 3323	Parameter 参数	Diameter (Ø) 直径									
		LBS	4.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0
			26	30	35	40	45	50	60	15	20	26	30
P	1-5	Vc	111	111	111	111	99	99	99	121	121	109	109
		fz	0.09	0.09	0.09	0.09	0.08	0.08	0.08	0.12	0.12	0.108	0.108
		RPM	8833	8833	8833	8833	7878	7878	7878	7703	7703	6939	6939
		FEED	1590	1590	1590	1590	1261	1261	1261	1849	1849	1499	1499
		Ap	0.144	0.144	0.09	0.09	0.09	0.09	0.054	0.315	0.315	0.18	0.18
	6-8	Vc	111	111	111	111	99	99	99	121	121	109	109
		fz	0.09	0.09	0.09	0.09	0.08	0.08	0.08	0.12	0.12	0.108	0.108
		RPM	8833	8833	8833	8833	7878	7878	7878	7703	7703	6939	6939
		FEED	1590	1590	1590	1590	1261	1261	1261	1849	1849	1499	1499
		Ap	0.144	0.144	0.09	0.09	0.09	0.09	0.054	0.315	0.315	0.18	0.18
	9	Vc	105	105	105	105	93	93	93	115	115	103	103
		fz	0.081	0.081	0.081	0.081	0.072	0.072	0.072	0.1	0.1	0.09	0.09
		RPM	8356	8356	8356	8356	7401	7401	7401	7321	7321	6557	6557
		FEED	1354	1354	1354	1354	1066	1066	1066	1464	1464	1180	1180
		Ap	0.112	0.112	0.07	0.07	0.07	0.07	0.042	0.245	0.245	0.14	0.14
	10-11.1	Vc	111	111	111	111	99	99	99	121	121	109	109
		fz	0.09	0.09	0.09	0.09	0.08	0.08	0.08	0.12	0.12	0.108	0.108
		RPM	8833	8833	8833	8833	7878	7878	7878	7703	7703	6939	6939
		FEED	1590	1590	1590	1590	1261	1261	1261	1849	1849	1499	1499
		Ap	0.144	0.144	0.09	0.09	0.09	0.09	0.054	0.315	0.315	0.18	0.18
	11.2	Vc	105	105	105	105	93	93	93	115	115	103	103
		fz	0.081	0.081	0.081	0.081	0.072	0.072	0.072	0.1	0.1	0.09	0.09
		RPM	8356	8356	8356	8356	7401	7401	7401	7321	7321	6557	6557
		FEED	1354	1354	1354	1354	1066	1066	1066	1464	1464	1180	1180
		Ap	0.112	0.112	0.07	0.07	0.07	0.07	0.042	0.245	0.245	0.14	0.14
K	15-20	Vc	111	111	111	111	99	99	99	121	121	109	109
		fz	0.09	0.09	0.09	0.09	0.08	0.08	0.08	0.12	0.12	0.108	0.108
		RPM	8833	8833	8833	8833	7878	7878	7878	7703	7703	6939	6939
		FEED	1590	1590	1590	1590	1261	1261	1261	1849	1849	1499	1499
		Ap	0.144	0.144	0.09	0.09	0.09	0.09	0.054	0.315	0.315	0.18	0.18
H	38.1 - 38.2	Vc	93	93	93	93	82	82	82	101	101	90	90
		fz	0.077	0.077	0.077	0.077	0.068	0.068	0.068	0.1	0.1	0.09	0.09
		RPM	7401	7401	7401	7401	6525	6525	6525	6430	6430	5730	5730
		FEED	1140	1140	1140	1140	887	887	887	1286	1286	1031	1031
		Ap	0.08	0.08	0.05	0.05	0.05	0.05	0.03	0.175	0.175	0.1	0.1
	40	Vc	105	105	105	105	93	93	93	115	115	103	103
		fz	0.081	0.081	0.081	0.081	0.072	0.072	0.072	0.1	0.1	0.09	0.09
		RPM	8356	8356	8356	8356	7401	7401	7401	7321	7321	6557	6557
		FEED	1354	1354	1354	1354	1066	1066	1066	1464	1464	1180	1180
		Ap	0.112	0.112	0.07	0.07	0.07	0.07	0.042	0.245	0.245	0.14	0.14
	41	Vc	93	93	93	93	82	82	82	101	101	90	90
		fz	0.077	0.077	0.077	0.077	0.068	0.068	0.068	0.1	0.1	0.09	0.09
		RPM	7401	7401	7401	7401	6525	6525	6525	6430	6430	5730	5730
		FEED	1140	1140	1140	1140	887	887	887	1286	1286	1031	1031
		Ap	0.08	0.08	0.05	0.05	0.05	0.05	0.03	0.175	0.175	0.1	0.1

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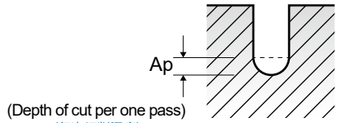

4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
SEM846 SERIES
2 FLUTE BALL NOSE - SLOTTING
2刃 球头 - 槽铣削
Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

VDI 3323	Parameter 参数	Diameter (Ø) 直径												
	LBS	5.0	5.0	5.0	5.0	6.0	6.0	8.0	8.0	10.0	10.0	12.0	12.0	12.0
		35	40	50	60	20	30	25	30	30	40	32	45	50
1-5	Vc	109	109	109	97	123	123	122	122	121	121	121	121	100
	fz	0.108	0.108	0.108	0.096	0.146	0.146	0.186	0.186	0.214	0.214	0.238	0.238	0.151
	RPM	6939	6939	6939	6175	6525	6525	4854	4854	3852	3852	3210	3210	2653
	FEED	1499	1499	1499	1186	1905	1905	1806	1806	1648	1648	1528	1528	801
	Ap	0.18	0.18	0.113	0.113	0.378	0.378	0.504	0.504	0.9	0.63	1.08	0.756	0.756
6-8	Vc	109	109	109	97	123	123	122	122	121	121	121	121	100
	fz	0.108	0.108	0.108	0.096	0.146	0.146	0.186	0.186	0.214	0.214	0.238	0.238	0.151
	RPM	6939	6939	6939	6175	6525	6525	4854	4854	3852	3852	3210	3210	2653
	FEED	1499	1499	1499	1186	1905	1905	1806	1806	1648	1648	1528	1528	801
	Ap	0.18	0.18	0.113	0.113	0.378	0.378	0.504	0.504	0.9	0.63	1.08	0.756	0.756
9	Vc	103	103	103	92	117	117	116	116	116	116	115	115	95
	fz	0.09	0.09	0.09	0.08	0.129	0.129	0.163	0.163	0.19	0.19	0.213	0.213	0.119
	RPM	6557	6557	6557	5857	6207	6207	4615	4615	3692	3692	3050	3050	2520
	FEED	1180	1180	1180	937	1601	1601	1505	1505	1403	1403	1300	1300	600
	Ap	0.14	0.14	0.088	0.088	0.294	0.294	0.392	0.392	0.7	0.49	0.84	0.588	0.588
10 - 11.1	Vc	109	109	109	97	123	123	122	122	121	121	121	121	100
	fz	0.108	0.108	0.108	0.096	0.146	0.146	0.186	0.186	0.214	0.214	0.238	0.238	0.151
	RPM	6939	6939	6939	6175	6525	6525	4854	4854	3852	3852	3210	3210	2653
	FEED	1499	1499	1499	1186	1905	1905	1806	1806	1648	1648	1528	1528	801
	Ap	0.18	0.18	0.113	0.113	0.378	0.378	0.504	0.504	0.9	0.63	1.08	0.756	0.756
11.2	Vc	103	103	103	92	117	117	116	116	116	116	115	115	95
	fz	0.09	0.09	0.09	0.08	0.129	0.129	0.163	0.163	0.19	0.19	0.213	0.213	0.119
	RPM	6557	6557	6557	5857	6207	6207	4615	4615	3692	3692	3050	3050	2520
	FEED	1180	1180	1180	937	1601	1601	1505	1505	1403	1403	1300	1300	600
	Ap	0.14	0.14	0.088	0.088	0.294	0.294	0.392	0.392	0.7	0.49	0.84	0.588	0.588
15 - 20	Vc	109	109	109	97	123	123	122	122	121	121	121	121	100
	fz	0.108	0.108	0.108	0.096	0.146	0.146	0.186	0.186	0.214	0.214	0.238	0.238	0.151
	RPM	6939	6939	6939	6175	6525	6525	4854	4854	3852	3852	3210	3210	2653
	FEED	1499	1499	1499	1186	1905	1905	1806	1806	1648	1648	1528	1528	801
	Ap	0.18	0.18	0.113	0.113	0.378	0.378	0.504	0.504	0.9	0.63	1.08	0.756	0.756
38.1 - 38.2	Vc	90	90	90	80	104	104	101	101	101	101	100	100	82
	fz	0.09	0.09	0.09	0.08	0.121	0.121	0.16	0.16	0.188	0.188	0.208	0.208	0.08
	RPM	5730	5730	5730	5093	5517	5517	4019	4019	3215	3215	2653	2653	2175
	FEED	1031	1031	1031	815	1335	1335	1286	1286	1209	1209	1103	1103	348
	Ap	0.1	0.1	0.063	0.063	0.21	0.21	0.28	0.28	0.5	0.35	0.6	0.42	0.42
40	Vc	103	103	103	92	117	117	116	116	116	116	115	115	95
	fz	0.09	0.09	0.09	0.08	0.129	0.129	0.163	0.163	0.19	0.19	0.213	0.213	0.119
	RPM	6557	6557	6557	5857	6207	6207	4615	4615	3692	3692	3050	3050	2520
	FEED	1180	1180	1180	937	1601	1601	1505	1505	1403	1403	1300	1300	600
	Ap	0.14	0.14	0.088	0.088	0.294	0.294	0.392	0.392	0.7	0.49	0.84	0.588	0.588
41	Vc	90	90	90	80	104	104	101	101	101	101	100	100	82
	fz	0.09	0.09	0.09	0.08	0.121	0.121	0.16	0.16	0.188	0.188	0.208	0.208	0.08
	RPM	5730	5730	5730	5093	5517	5517	4019	4019	3215	3215	2653	2653	2175
	FEED	1031	1031	1031	815	1335	1335	1286	1286	1209	1209	1103	1103	348
	Ap	0.1	0.1	0.063	0.063	0.21	0.21	0.28	0.28	0.5	0.35	0.6	0.42	0.42

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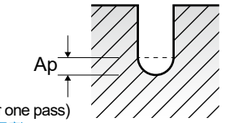

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEMD99 SERIES
2 FLUTE CORNER RADIUS - SLOTTING
2刃 圆鼻- 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.2	1.5
P	1-5	Non-alloy steel	1.0D	0.2D	Vc	28	39	52	57	57	66	75	85	87	93	104
					fz	0.002	0.002	0.002	0.003	0.004	0.004	0.004	0.004	0.004	0.005	0.006
					RPM	44563	41380	41380	36287	30239	30012	29842	30063	27693	24669	22069
					FEED	178	166	166	218	242	240	239	241	222	247	265
	6-8	Low alloy steel	1.0D	0.2D	Vc	28	39	52	57	57	66	75	85	87	93	104
					fz	0.002	0.002	0.002	0.003	0.004	0.004	0.004	0.004	0.004	0.005	0.006
					RPM	44563	41380	41380	36287	30239	30012	29842	30063	27693	24669	22069
					FEED	178	166	166	218	242	240	239	241	222	247	265
	9		1.0D	0.2D	Vc	18	25	34	37	37	44	50	53	57	59	64
					fz	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.004
					RPM	28648	26526	27056	23555	19629	20008	19894	18745	18144	15650	13581
					FEED	57	53	54	94	79	80	80	75	109	94	109
	10-11.1	High alloyed steel, and tool steel	1.0D	0.2D	Vc	28	39	52	57	57	66	75	85	87	93	104
					fz	0.002	0.002	0.002	0.003	0.004	0.004	0.004	0.004	0.004	0.005	0.006
					RPM	44563	41380	41380	36287	30239	30012	29842	30063	27693	24669	22069
					FEED	178	166	166	218	242	240	239	241	222	247	265
	11.2		1.0D	0.2D	Vc	18	25	34	37	37	44	50	53	57	59	64
					fz	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.004
					RPM	28648	26526	27056	23555	19629	20008	19894	18745	18144	15650	13581
					FEED	57	53	54	94	79	80	80	75	109	94	109
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	0.2D	Vc	28	39	52	57	57	66	75	85	87	93	104
					fz	0.002	0.002	0.002	0.003	0.004	0.004	0.004	0.004	0.004	0.005	0.006
					RPM	44563	41380	41380	36287	30239	30012	29842	30063	27693	24669	22069
					FEED	178	166	166	218	242	240	239	241	222	247	265
H	38.1 - 38.2	Hardened steel	1.0D	0.2D	Vc	11	16	21	22	23	27	30	33	35	37	40
					fz	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.004
					RPM	17507	16977	16711	14006	12202	12278	11937	11671	11141	9815	8488
					FEED	35	34	33	56	49	49	48	47	67	59	68
	40	Chilled Cast Iron	1.0D	0.2D	Vc	18	25	34	37	37	44	50	53	57	59	64
					fz	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.004
					RPM	28648	26526	27056	23555	19629	20008	19894	18745	18144	15650	13581
					FEED	57	53	54	94	79	80	80	75	109	94	109
	41	Hardened Cast Iron	1.0D	0.2D	Vc	11	16	21	22	23	27	30	33	35	37	40
					fz	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.004
					RPM	17507	16977	16711	14006	12202	12278	11937	11671	11141	9815	8488
					FEED	35	34	33	56	49	49	48	47	67	59	68

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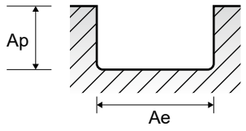
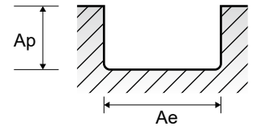


4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
SEMD99 SERIES
2 FLUTE CORNER RADIUS - SLOTTING
2刃 圆鼻- 槽铣削
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

VDI 3323	Parameter 参数	Diameter (Ø) 直径 2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	7.0	8.0	10.0	11.0	12.0	14.0	16.0	20.0
1-5	Vc	113	118	125	132	135	141	144	147	149	153	151	158	158	155	159	156	158
	fz	0.007	0.009	0.011	0.013	0.016	0.019	0.023	0.027	0.032	0.037	0.045	0.054	0.052	0.051	0.054	0.058	0.056
	RPM	17985	15024	13263	12005	10743	9974	9167	8508	7905	6957	6008	5029	4572	4112	3615	3104	2515
	FEED	252	270	292	312	344	379	422	459	506	515	541	543	475	419	390	360	282
6-8	Vc	113	118	125	132	135	141	144	147	149	153	151	158	158	155	159	156	158
	fz	0.007	0.009	0.011	0.013	0.016	0.019	0.023	0.027	0.032	0.037	0.045	0.054	0.052	0.051	0.054	0.058	0.056
	RPM	17985	15024	13263	12005	10743	9974	9167	8508	7905	6957	6008	5029	4572	4112	3615	3104	2515
	FEED	252	270	292	312	344	379	422	459	506	515	541	543	475	419	390	360	282
9	Vc	73	75	81	85	86	89	91	94	95	97	96	103	105	105	107	106	103
	fz	0.005	0.007	0.008	0.01	0.012	0.015	0.017	0.021	0.025	0.028	0.033	0.038	0.04	0.041	0.041	0.04	0.037
	RPM	11618	9549	8594	7730	6844	6295	5793	5440	5040	4411	3820	3279	3038	2785	2433	2109	1639
	FEED	116	134	138	155	164	189	197	228	252	247	252	249	243	228	199	169	121
10 - 11.1	Vc	113	118	125	132	135	141	144	147	149	153	151	158	158	155	159	156	158
	fz	0.007	0.009	0.011	0.013	0.016	0.019	0.023	0.027	0.032	0.037	0.045	0.054	0.052	0.051	0.054	0.058	0.056
	RPM	17985	15024	13263	12005	10743	9974	9167	8508	7905	6957	6008	5029	4572	4112	3615	3104	2515
	FEED	252	270	292	312	344	379	422	459	506	515	541	543	475	419	390	360	282
11.2	Vc	73	75	81	85	86	89	91	94	95	97	96	103	105	105	107	106	103
	fz	0.005	0.007	0.008	0.01	0.012	0.015	0.017	0.021	0.025	0.028	0.033	0.038	0.04	0.041	0.041	0.04	0.037
	RPM	11618	9549	8594	7730	6844	6295	5793	5440	5040	4411	3820	3279	3038	2785	2433	2109	1639
	FEED	116	134	138	155	164	189	197	228	252	247	252	249	243	228	199	169	121
15 - 20	Vc	113	118	125	132	135	141	144	147	149	153	151	158	158	155	159	156	158
	fz	0.007	0.009	0.011	0.013	0.016	0.019	0.023	0.027	0.032	0.037	0.045	0.054	0.052	0.051	0.054	0.058	0.056
	RPM	17985	15024	13263	12005	10743	9974	9167	8508	7905	6957	6008	5029	4572	4112	3615	3104	2515
	FEED	252	270	292	312	344	379	422	459	506	515	541	543	475	419	390	360	282
38.1 - 38.2	Vc	45	48	50	53	54	61	60	61	62	64	63	63	64	63	65	64	63
	fz	0.005	0.006	0.007	0.008	0.009	0.01	0.013	0.016	0.018	0.021	0.024	0.03	0.03	0.03	0.03	0.031	0.03
	RPM	7162	6112	5305	4820	4297	4315	3820	3530	3289	2910	2507	2005	1852	1671	1478	1273	1003
	FEED	72	73	74	77	77	86	99	113	118	122	120	120	111	100	89	79	60
40	Vc	73	75	81	85	86	89	91	94	95	97	96	103	105	105	107	106	103
	fz	0.005	0.007	0.008	0.01	0.012	0.015	0.017	0.021	0.025	0.028	0.033	0.038	0.04	0.041	0.041	0.04	0.037
	RPM	11618	9549	8594	7730	6844	6295	5793	5440	5040	4411	3820	3279	3038	2785	2433	2109	1639
	FEED	116	134	138	155	164	189	197	228	252	247	252	249	243	228	199	169	121
41	Vc	45	48	50	53	54	61	60	61	62	64	63	63	64	63	65	64	63
	fz	0.005	0.006	0.007	0.008	0.009	0.01	0.013	0.016	0.018	0.021	0.024	0.03	0.03	0.03	0.03	0.031	0.03
	RPM	7162	6112	5305	4820	4297	4315	3820	3530	3289	2910	2507	2005	1852	1671	1478	1273	1003
	FEED	72	73	74	77	77	86	99	113	118	122	120	120	111	100	89	79	60



4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME61 SERIES
2 FLUTE CORNER RADIUS - SLOTTING
2刃 圆鼻 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

ISO	VDI 3323	Material Description 工件材料	Parameter 参数	Diameter (Ø) 直径											
				0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4
			LBS	0.5	1	1.5	2	1	2	3	1	1.5	2	2.5	3
P	1-5	Non-alloy steel	Vc	31	31	28	28	47	42	42	63	63	63	57	57
			fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
			RPM	49338	49338	44563	44563	49869	44563	44563	50134	50134	50134	45359	45359
			FEED	197	197	178	178	199	178	178	201	201	201	181	181
			Ap	0.04	0.028	0.016	0.01	0.042	0.024	0.015	0.08	0.056	0.056	0.032	0.032
	6-8	Low alloy steel	Vc	31	31	28	28	47	42	42	63	63	63	57	57
			fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
			RPM	49338	49338	44563	44563	49869	44563	44563	50134	50134	50134	45359	45359
			FEED	197	197	178	178	199	178	178	201	201	201	181	181
			Ap	0.04	0.028	0.016	0.01	0.042	0.024	0.015	0.08	0.056	0.056	0.032	0.032
	9		Vc	22	22	20	20	30	27	27	40	40	40	36	36
			fz	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
			RPM	35014	35014	31831	31831	31831	28648	28648	31831	31831	31831	28648	28648
			FEED	70	70	64	64	64	57	57	64	64	64	57	57
			Ap	0.03	0.021	0.012	0.008	0.032	0.018	0.011	0.06	0.042	0.042	0.024	0.024
	10-11.1	High alloyed steel, and tool steel	Vc	31	31	28	28	47	42	42	63	63	63	57	57
			fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
			RPM	49338	49338	44563	44563	49869	44563	44563	50134	50134	50134	45359	45359
			FEED	197	197	178	178	199	178	178	201	201	201	181	181
			Ap	0.04	0.028	0.016	0.01	0.042	0.024	0.015	0.08	0.056	0.056	0.032	0.032
	11.2		Vc	22	22	20	20	30	27	27	40	40	40	36	36
			fz	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
			RPM	35014	35014	31831	31831	31831	28648	28648	31831	31831	31831	28648	28648
			FEED	70	70	64	64	64	57	57	64	64	64	57	57
			Ap	0.03	0.021	0.012	0.008	0.032	0.018	0.011	0.06	0.042	0.042	0.024	0.024
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	Vc	31	31	28	28	47	42	42	63	63	63	57	57
			fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
			RPM	49338	49338	44563	44563	49869	44563	44563	50134	50134	50134	45359	45359
			FEED	197	197	178	178	199	178	178	201	201	201	181	181
			Ap	0.04	0.028	0.016	0.01	0.042	0.024	0.015	0.08	0.056	0.056	0.032	0.032
H	38.1 - 38.2	Hardened steel	Vc	13	13	12	12	19	17	17	25	25	25	23	23
			fz	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
			RPM	20690	20690	19099	19099	20160	18038	18038	19894	19894	19894	18303	18303
			FEED	41	41	38	38	40	36	36	40	40	40	37	37
			Ap	0.024	0.017	0.01	0.006	0.025	0.014	0.009	0.048	0.034	0.034	0.019	0.019
	40	Chilled Cast Iron	Vc	22	22	20	20	30	27	27	40	40	40	36	36
			fz	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
			RPM	35014	35014	31831	31831	31831	28648	28648	31831	31831	31831	28648	28648
			FEED	70	70	64	64	64	57	57	64	64	64	57	57
			Ap	0.03	0.021	0.012	0.008	0.032	0.018	0.011	0.06	0.042	0.042	0.024	0.024
	41	Hardened Cast Iron	Vc	13	13	12	12	19	17	17	25	25	25	23	23
			fz	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
			RPM	20690	20690	19099	19099	20160	18038	18038	19894	19894	19894	18303	18303
			FEED	41	41	38	38	40	36	36	40	40	40	37	37
			Ap	0.024	0.017	0.01	0.006	0.025	0.014	0.009	0.048	0.034	0.034	0.019	0.019

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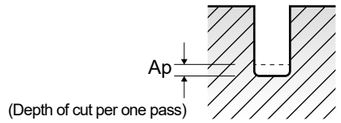

4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
SEME61 SERIES
2 FLUTE CORNER RADIUS - SLOTTING
2刃 圆鼻 - 槽铣削
Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

VDI 3323	Parameter 参数	Diameter (Ø) 直径														
		0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.7
	LBS	4	1	1.5	2	2.5	3	4	5	6	2	3	4	6	8	10	2
1-5	Vc	57	68	68	68	68	61	61	61	54	69	69	62	62	55	41	80
	fz	0.002	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.002	0.003
	RPM	45359	43290	43290	43290	43290	38834	38834	38834	34377	36606	36606	32892	32892	29178	21751	36378
	FEED	181	260	260	260	260	155	155	155	138	220	220	197	197	175	87	218
	Ap	0.02	0.1	0.1	0.07	0.07	0.04	0.04	0.025	0.025	0.084	0.084	0.048	0.03	0.018	0.012	0.14
6-8	Vc	57	68	68	68	68	61	61	61	54	69	69	62	62	55	41	80
	fz	0.002	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.002	0.003
	RPM	45359	43290	43290	43290	43290	38834	38834	38834	34377	36606	36606	32892	32892	29178	21751	36378
	FEED	181	260	260	260	260	155	155	155	138	220	220	197	197	175	87	218
	Ap	0.02	0.1	0.1	0.07	0.07	0.04	0.04	0.025	0.025	0.084	0.084	0.048	0.03	0.018	0.012	0.14
9	Vc	36	44	44	44	44	40	40	40	35	45	45	41	41	36	27	53
	fz	0.001	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002
	RPM	28648	28011	28011	28011	28011	25465	25465	25465	22282	23873	23873	21751	21751	19099	14324	24101
	FEED	57	112	112	112	112	51	51	51	45	95	95	87	87	76	57	96
	Ap	0.015	0.075	0.075	0.053	0.053	0.03	0.03	0.019	0.019	0.063	0.063	0.036	0.023	0.014	0.009	0.105
10 - 11.1	Vc	57	68	68	68	68	61	61	61	54	69	69	62	62	55	41	80
	fz	0.002	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.002	0.003
	RPM	45359	43290	43290	43290	43290	38834	38834	38834	34377	36606	36606	32892	32892	29178	21751	36378
	FEED	181	260	260	260	260	155	155	155	138	220	220	197	197	175	87	218
	Ap	0.02	0.1	0.1	0.07	0.07	0.04	0.04	0.025	0.025	0.084	0.084	0.048	0.03	0.018	0.012	0.14
11.2	Vc	36	44	44	44	44	40	40	40	35	45	45	41	41	36	27	53
	fz	0.001	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002
	RPM	28648	28011	28011	28011	28011	25465	25465	25465	22282	23873	23873	21751	21751	19099	14324	24101
	FEED	57	112	112	112	112	51	51	51	45	95	95	87	87	76	57	96
	Ap	0.015	0.075	0.075	0.053	0.053	0.03	0.03	0.019	0.019	0.063	0.063	0.036	0.023	0.014	0.009	0.105
15 - 20	Vc	57	68	68	68	68	61	61	61	54	69	69	62	62	55	41	80
	fz	0.002	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.002	0.003
	RPM	45359	43290	43290	43290	43290	38834	38834	38834	34377	36606	36606	32892	32892	29178	21751	36378
	FEED	181	260	260	260	260	155	155	155	138	220	220	197	197	175	87	218
	Ap	0.02	0.1	0.1	0.07	0.07	0.04	0.04	0.025	0.025	0.084	0.084	0.048	0.03	0.018	0.012	0.14
38.1 - 38.2	Vc	23	27	27	27	27	24	24	24	21	27	27	25	25	22	16	32
	fz	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.002	0.002	0.002	0.002	0.002	0.001	0.002
	RPM	18303	17189	17189	17189	17189	15279	15279	15279	13369	14324	14324	13263	13263	11671	8488	14551
	FEED	37	69	69	69	69	61	61	61	27	57	57	53	53	47	17	58
	Ap	0.012	0.06	0.06	0.042	0.042	0.024	0.024	0.015	0.015	0.05	0.05	0.029	0.018	0.011	0.007	0.084
40	Vc	36	44	44	44	44	40	40	40	35	45	45	41	41	36	27	53
	fz	0.001	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002
	RPM	28648	28011	28011	28011	28011	25465	25465	25465	22282	23873	23873	21751	21751	19099	14324	24101
	FEED	57	112	112	112	112	51	51	51	45	95	95	87	87	76	57	96
	Ap	0.015	0.075	0.075	0.053	0.053	0.03	0.03	0.019	0.019	0.063	0.063	0.036	0.023	0.014	0.009	0.105
41	Vc	23	27	27	27	27	24	24	24	21	27	27	25	25	22	16	32
	fz	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.002	0.002	0.002	0.002	0.002	0.001	0.002
	RPM	18303	17189	17189	17189	17189	15279	15279	15279	13369	14324	14324	13263	13263	11671	8488	14551
	FEED	37	69	69	69	69	61	61	61	27	57	57	53	53	47	17	58
	Ap	0.012	0.06	0.06	0.042	0.042	0.024	0.024	0.015	0.015	0.05	0.05	0.029	0.018	0.011	0.007	0.084

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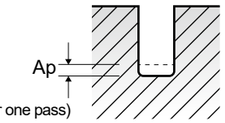

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME61 SERIES
2 FLUTE CORNER RADIUS - SLOTTING
2刃 圆鼻 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

ISO	VDI 3323	Parameter 参数	Diameter (Ø) 直径														
			0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	1.0	1.0	1.0	1.0	1.0
		LBS	4	6	8	10	2	3	4	6	8	10	3	4	6	8	10
P	1-5	Vc	72	72	64	64	91	91	91	82	82	73	104	104	94	94	94
		fz	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.004
		RPM	32740	32740	29103	29103	36208	36208	36208	32627	32627	29046	33104	33104	29921	29921	29921
		FEED	196	196	175	175	217	217	217	196	196	174	265	265	239	239	239
		Ap	0.056	0.035	0.035	0.021	0.16	0.112	0.112	0.064	0.04	0.04	0.2	0.14	0.08	0.08	0.05
	6-8	Vc	72	72	64	64	91	91	91	82	82	73	104	104	94	94	94
		fz	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.004
		RPM	32740	32740	29103	29103	36208	36208	36208	32627	32627	29046	33104	33104	29921	29921	29921
		FEED	196	196	175	175	217	217	217	196	196	174	265	265	239	239	239
		Ap	0.056	0.035	0.035	0.021	0.16	0.112	0.112	0.064	0.04	0.04	0.2	0.14	0.08	0.08	0.05
	9	Vc	48	48	42	42	60	60	60	54	54	48	68	68	61	61	61
		fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002	0.002
		RPM	21827	21827	19099	19099	23873	23873	23873	21486	21486	19099	21645	21645	19417	19417	19417
		FEED	87	87	76	76	95	95	95	86	86	76	130	130	78	78	78
		Ap	0.042	0.026	0.026	0.016	0.12	0.084	0.084	0.048	0.03	0.03	0.15	0.105	0.06	0.06	0.038
	10-11.1	Vc	72	72	64	64	91	91	91	82	82	73	104	104	94	94	94
		fz	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.004
		RPM	32740	32740	29103	29103	36208	36208	36208	32627	32627	29046	33104	33104	29921	29921	29921
		FEED	196	196	175	175	217	217	217	196	196	174	265	265	239	239	239
		Ap	0.056	0.035	0.035	0.021	0.16	0.112	0.112	0.064	0.04	0.04	0.2	0.14	0.08	0.08	0.05
	11.2	Vc	48	48	42	42	60	60	60	54	54	48	68	68	61	61	61
		fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002	0.002
		RPM	21827	21827	19099	19099	23873	23873	23873	21486	21486	19099	21645	21645	19417	19417	19417
		FEED	87	87	76	76	95	95	95	86	86	76	130	130	78	78	78
		Ap	0.042	0.026	0.026	0.016	0.12	0.084	0.084	0.048	0.03	0.03	0.15	0.105	0.06	0.06	0.038
K	15-20	Vc	72	72	64	64	91	91	91	82	82	73	104	104	94	94	94
		fz	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.004
		RPM	32740	32740	29103	29103	36208	36208	36208	32627	32627	29046	33104	33104	29921	29921	29921
		FEED	196	196	175	175	217	217	217	196	196	174	265	265	239	239	239
		Ap	0.056	0.035	0.035	0.021	0.16	0.112	0.112	0.064	0.04	0.04	0.2	0.14	0.08	0.08	0.05
H	38.1 - 38.2	Vc	29	29	26	26	36	36	36	33	33	29	41	41	37	37	37
		fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002	0.002
		RPM	13187	13187	11823	11823	14324	14324	14324	13130	13130	11539	13051	13051	11777	11777	11777
		FEED	53	53	47	47	57	57	57	53	53	46	78	78	47	47	47
		Ap	0.034	0.021	0.021	0.013	0.096	0.067	0.067	0.038	0.024	0.024	0.12	0.084	0.048	0.048	0.03
	40	Vc	48	48	42	42	60	60	60	54	54	48	68	68	61	61	61
		fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002	0.002
		RPM	21827	21827	19099	19099	23873	23873	23873	21486	21486	19099	21645	21645	19417	19417	19417
		FEED	87	87	76	76	95	95	95	86	86	76	130	130	78	78	78
		Ap	0.042	0.026	0.026	0.016	0.12	0.084	0.084	0.048	0.03	0.03	0.15	0.105	0.06	0.06	0.038
	41	Vc	29	29	26	26	36	36	36	33	33	29	41	41	37	37	37
		fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002	0.002
		RPM	13187	13187	11823	11823	14324	14324	14324	13130	13130	11539	13051	13051	11777	11777	11777
		FEED	53	53	47	47	57	57	57	53	53	46	78	78	47	47	47
		Ap	0.034	0.021	0.021	0.013	0.096	0.067	0.067	0.038	0.024	0.024	0.12	0.084	0.048	0.048	0.03

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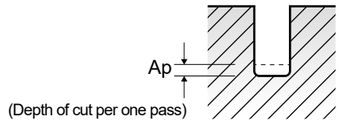

(Depth of cut per one pass)
(每次切削深度)

4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
SEME61 SERIES
2 FLUTE CORNER RADIUS - SLOTTING
2刃 圆鼻 - 槽铣削
Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

VDI 3323	Parameter 参数	Diameter (Ø) 直径															
		1.0	1.0	1.0	1.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.5	1.5	1.5	1.5
	LBS	12	14	16	20	3	4	6	8	10	12	16	20	4	6	8	10
1-5	Vc	83	83	62	62	112	112	112	101	101	101	90	67	124	124	112	112
	fz	0.003	0.003	0.003	0.003	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.003	0.006	0.006	0.005	0.005
	RPM	26420	26420	19735	19735	29709	29709	29709	26791	26791	26791	23873	17772	26314	26314	23767	23767
	FEED	159	159	118	118	297	297	297	214	214	214	191	107	316	316	238	238
	Ap	0.05	0.03	0.03	0.02	0.24	0.168	0.168	0.096	0.06	0.06	0.036	0.024	0.3	0.21	0.12	0.12
6-8	Vc	83	83	62	62	112	112	112	101	101	101	90	67	124	124	112	112
	fz	0.003	0.003	0.003	0.003	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.003	0.006	0.006	0.005	0.005
	RPM	26420	26420	19735	19735	29709	29709	29709	26791	26791	26791	23873	17772	26314	26314	23767	23767
	FEED	159	159	118	118	297	297	297	214	214	214	191	107	316	316	238	238
	Ap	0.05	0.03	0.03	0.02	0.24	0.168	0.168	0.096	0.06	0.06	0.036	0.024	0.3	0.21	0.12	0.12
9	Vc	54	54	41	41	71	71	71	64	64	64	57	43	76	76	69	69
	fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.004	0.004	0.004	0.004
	RPM	17189	17189	13051	13051	18833	18833	18833	16977	16977	16977	15120	11406	16128	16128	14642	14642
	FEED	69	69	52	52	113	113	113	102	102	102	91	46	129	129	117	117
	Ap	0.038	0.023	0.023	0.015	0.18	0.126	0.126	0.072	0.045	0.045	0.027	0.018	0.225	0.158	0.09	0.09
10 - 11.1	Vc	83	83	62	62	112	112	112	101	101	101	90	67	124	124	112	112
	fz	0.003	0.003	0.003	0.003	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.003	0.006	0.006	0.005	0.005
	RPM	26420	26420	19735	19735	29709	29709	29709	26791	26791	26791	23873	17772	26314	26314	23767	23767
	FEED	159	159	118	118	297	297	297	214	214	214	191	107	316	316	238	238
	Ap	0.05	0.03	0.03	0.02	0.24	0.168	0.168	0.096	0.06	0.06	0.036	0.024	0.3	0.21	0.12	0.12
11.2	Vc	54	54	41	41	71	71	71	64	64	64	57	43	76	76	69	69
	fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.004	0.004	0.004	0.004
	RPM	17189	17189	13051	13051	18833	18833	18833	16977	16977	16977	15120	11406	16128	16128	14642	14642
	FEED	69	69	52	52	113	113	113	102	102	102	91	46	129	129	117	117
	Ap	0.038	0.023	0.023	0.015	0.18	0.126	0.126	0.072	0.045	0.045	0.027	0.018	0.225	0.158	0.09	0.09
15 - 20	Vc	83	83	62	62	112	112	112	101	101	101	90	67	124	124	112	112
	fz	0.003	0.003	0.003	0.003	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.003	0.006	0.006	0.005	0.005
	RPM	26420	26420	19735	19735	29709	29709	29709	26791	26791	26791	23873	17772	26314	26314	23767	23767
	FEED	159	159	118	118	297	297	297	214	214	214	191	107	316	316	238	238
	Ap	0.05	0.03	0.03	0.02	0.24	0.168	0.168	0.096	0.06	0.06	0.036	0.024	0.3	0.21	0.12	0.12
38.1 - 38.2	Vc	33	33	25	25	44	44	44	40	40	40	35	26	48	48	43	43
	fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.003	0.003	0.003	0.003
	RPM	10504	10504	7958	7958	11671	11671	11671	10610	10610	10610	9284	6897	10186	10186	9125	9125
	FEED	42	42	32	32	70	70	70	64	64	64	37	28	61	61	55	55
	Ap	0.03	0.018	0.018	0.012	0.144	0.101	0.101	0.058	0.036	0.036	0.022	0.014	0.18	0.126	0.072	0.072
40	Vc	54	54	41	41	71	71	71	64	64	64	57	43	76	76	69	69
	fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.004	0.004	0.004	0.004
	RPM	17189	17189	13051	13051	18833	18833	18833	16977	16977	16977	15120	11406	16128	16128	14642	14642
	FEED	69	69	52	52	113	113	113	102	102	102	91	46	129	129	117	117
	Ap	0.038	0.023	0.023	0.015	0.18	0.126	0.126	0.072	0.045	0.045	0.027	0.018	0.225	0.158	0.09	0.09
41	Vc	33	33	25	25	44	44	44	40	40	40	35	26	48	48	43	43
	fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.003	0.003	0.003	0.003
	RPM	10504	10504	7958	7958	11671	11671	11671	10610	10610	10610	9284	6897	10186	10186	9125	9125
	FEED	42	42	32	32	70	70	70	64	64	64	37	28	61	61	55	55
	Ap	0.03	0.018	0.018	0.012	0.144	0.101	0.101	0.058	0.036	0.036	0.022	0.014	0.18	0.126	0.072	0.072

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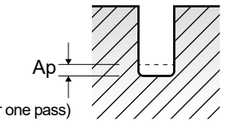

(Depth of cut per one pass)
(每次切削深度)

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME61 SERIES
2 FLUTE CORNER RADIUS - SLOTTING
2刃 圆鼻 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

ISO	VDI 3323	Parameter 参数	Diameter (Ø) 直径														
			1.5	1.5	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
		LBS	12	14	16	20	22	26	6	8	10	12	14	16	20	22	26
P	1-5	Vc	112	112	100	100	100	75	136	136	136	122	122	122	122	109	109
		fz	0.005	0.005	0.004	0.004	0.004	0.004	0.007	0.007	0.007	0.006	0.006	0.006	0.006	0.006	0.006
		RPM	23767	23767	21221	21221	21221	15915	21645	21645	21645	19417	19417	19417	19417	17348	17348
		FEED	238	238	170	170	170	127	303	303	303	233	233	233	233	208	208
		Ap	0.12	0.075	0.075	0.045	0.045	0.03	0.4	0.28	0.28	0.16	0.16	0.16	0.1	0.1	0.1
	6-8	Vc	112	112	100	100	100	75	136	136	136	122	122	122	122	109	109
		fz	0.005	0.005	0.004	0.004	0.004	0.004	0.007	0.007	0.007	0.006	0.006	0.006	0.006	0.006	0.006
		RPM	23767	23767	21221	21221	21221	15915	21645	21645	21645	19417	19417	19417	19417	17348	17348
		FEED	238	238	170	170	170	127	303	303	303	233	233	233	233	208	208
		Ap	0.12	0.075	0.075	0.045	0.045	0.03	0.4	0.28	0.28	0.16	0.16	0.16	0.1	0.1	0.1
	9	Vc	69	69	61	61	61	46	87	87	87	78	78	78	78	69	69
		fz	0.004	0.004	0.003	0.003	0.003	0.003	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.004	0.004
		RPM	14642	14642	12945	12945	12945	9762	13846	13846	13846	12414	12414	12414	12414	10982	10982
		FEED	117	117	78	78	78	59	138	138	138	124	124	124	124	88	88
		Ap	0.09	0.056	0.056	0.034	0.034	0.023	0.3	0.21	0.21	0.12	0.12	0.12	0.075	0.075	0.075
	10-11.1	Vc	112	112	100	100	100	75	136	136	136	122	122	122	122	109	109
		fz	0.005	0.005	0.004	0.004	0.004	0.004	0.007	0.007	0.007	0.006	0.006	0.006	0.006	0.006	0.006
		RPM	23767	23767	21221	21221	21221	15915	21645	21645	21645	19417	19417	19417	19417	17348	17348
		FEED	238	238	170	170	170	127	303	303	303	233	233	233	233	208	208
		Ap	0.12	0.075	0.075	0.045	0.045	0.03	0.4	0.28	0.28	0.16	0.16	0.16	0.1	0.1	0.1
	11.2	Vc	69	69	61	61	61	46	87	87	87	78	78	78	78	69	69
		fz	0.004	0.004	0.003	0.003	0.003	0.003	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.004	0.004
		RPM	14642	14642	12945	12945	12945	9762	13846	13846	13846	12414	12414	12414	12414	10982	10982
		FEED	117	117	78	78	78	59	138	138	138	124	124	124	124	88	88
		Ap	0.09	0.056	0.056	0.034	0.034	0.023	0.3	0.21	0.21	0.12	0.12	0.12	0.075	0.075	0.075
K	15-20	Vc	112	112	100	100	100	75	136	136	136	122	122	122	122	109	109
		fz	0.005	0.005	0.004	0.004	0.004	0.004	0.007	0.007	0.007	0.006	0.006	0.006	0.006	0.006	0.006
		RPM	23767	23767	21221	21221	21221	15915	21645	21645	21645	19417	19417	19417	19417	17348	17348
		FEED	238	238	170	170	170	127	303	303	303	233	233	233	233	208	208
		Ap	0.12	0.075	0.075	0.045	0.045	0.03	0.4	0.28	0.28	0.16	0.16	0.16	0.1	0.1	0.1
H	38.1 - 38.2	Vc	43	43	38	38	38	29	54	54	54	49	49	49	49	43	43
		fz	0.003	0.003	0.003	0.003	0.003	0.002	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.004
		RPM	9125	9125	8064	8064	8064	6154	8594	8594	8594	7799	7799	7799	7799	6844	6844
		FEED	55	55	48	48	48	25	86	86	86	62	62	62	62	55	55
		Ap	0.072	0.045	0.045	0.027	0.027	0.018	0.24	0.168	0.168	0.096	0.096	0.096	0.06	0.06	0.06
	40	Vc	69	69	61	61	61	46	87	87	87	78	78	78	78	69	69
		fz	0.004	0.004	0.003	0.003	0.003	0.003	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.004	0.004
		RPM	14642	14642	12945	12945	12945	9762	13846	13846	13846	12414	12414	12414	12414	10982	10982
		FEED	117	117	78	78	78	59	138	138	138	124	124	124	124	88	88
		Ap	0.09	0.056	0.056	0.034	0.034	0.023	0.3	0.21	0.21	0.12	0.12	0.12	0.075	0.075	0.075
	41	Vc	43	43	38	38	38	29	54	54	54	49	49	49	49	43	43
		fz	0.003	0.003	0.003	0.003	0.003	0.002	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.004
		RPM	9125	9125	8064	8064	8064	6154	8594	8594	8594	7799	7799	7799	7799	6844	6844
		FEED	55	55	48	48	48	25	86	86	86	62	62	62	62	55	55
		Ap	0.072	0.045	0.045	0.027	0.027	0.018	0.24	0.168	0.168	0.096	0.096	0.096	0.06	0.06	0.06

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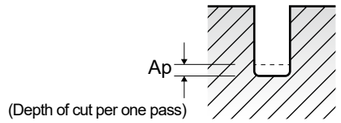

4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
SEME61 SERIES
2 FLUTE CORNER RADIUS - SLOTTING
2刃 圆鼻 - 槽铣削
Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

VDI 3323	Parameter 参数	Diameter (Ø) 直径															
		2.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0
	LBS	30	8	10	12	14	16	20	26	30	8	10	12	14	16	20	26
1-5	Vc	109	141	141	141	127	127	127	113	113	150	150	150	150	135	135	135
	fz	0.006	0.009	0.009	0.009	0.008	0.008	0.008	0.007	0.007	0.01	0.01	0.01	0.01	0.009	0.009	0.009
	RPM	17348	17953	17953	17953	16170	16170	16170	14388	14388	15915	15915	15915	15915	14324	14324	14324
	FEED	208	323	323	323	259	259	259	201	201	318	318	318	318	258	258	258
	Ap	0.06	0.35	0.35	0.35	0.2	0.2	0.2	0.125	0.125	0.6	0.42	0.42	0.42	0.24	0.24	0.15
6-8	Vc	109	141	141	141	127	127	127	113	113	150	150	150	150	135	135	135
	fz	0.006	0.009	0.009	0.009	0.008	0.008	0.008	0.007	0.007	0.01	0.01	0.01	0.01	0.009	0.009	0.009
	RPM	17348	17953	17953	17953	16170	16170	16170	14388	14388	15915	15915	15915	15915	14324	14324	14324
	FEED	208	323	323	323	259	259	259	201	201	318	318	318	318	258	258	258
	Ap	0.06	0.35	0.35	0.35	0.2	0.2	0.2	0.125	0.125	0.6	0.42	0.42	0.42	0.24	0.24	0.15
9	Vc	69	90	90	90	81	81	81	72	72	97	97	97	97	87	87	87
	fz	0.004	0.007	0.007	0.007	0.006	0.006	0.006	0.005	0.005	0.008	0.008	0.008	0.008	0.007	0.007	0.007
	RPM	10982	11459	11459	11459	10313	10313	10313	9167	9167	10292	10292	10292	10292	9231	9231	9231
	FEED	88	160	160	160	124	124	124	92	92	165	165	165	165	129	129	129
	Ap	0.045	0.263	0.263	0.263	0.15	0.15	0.15	0.094	0.094	0.45	0.315	0.315	0.315	0.18	0.18	0.113
10 - 11.1	Vc	109	141	141	141	127	127	127	113	113	150	150	150	150	135	135	135
	fz	0.006	0.009	0.009	0.009	0.008	0.008	0.008	0.007	0.007	0.01	0.01	0.01	0.01	0.009	0.009	0.009
	RPM	17348	17953	17953	17953	16170	16170	16170	14388	14388	15915	15915	15915	15915	14324	14324	14324
	FEED	208	323	323	323	259	259	259	201	201	318	318	318	318	258	258	258
	Ap	0.06	0.35	0.35	0.35	0.2	0.2	0.2	0.125	0.125	0.6	0.42	0.42	0.42	0.24	0.24	0.15
11.2	Vc	69	90	90	90	81	81	81	72	72	97	97	97	97	87	87	87
	fz	0.004	0.007	0.007	0.007	0.006	0.006	0.006	0.005	0.005	0.008	0.008	0.008	0.008	0.007	0.007	0.007
	RPM	10982	11459	11459	11459	10313	10313	10313	9167	9167	10292	10292	10292	10292	9231	9231	9231
	FEED	88	160	160	160	124	124	124	92	92	165	165	165	165	129	129	129
	Ap	0.045	0.263	0.263	0.263	0.15	0.15	0.15	0.094	0.094	0.45	0.315	0.315	0.315	0.18	0.18	0.113
15 - 20	Vc	109	141	141	141	127	127	127	113	113	150	150	150	150	135	135	135
	fz	0.006	0.009	0.009	0.009	0.008	0.008	0.008	0.007	0.007	0.01	0.01	0.01	0.01	0.009	0.009	0.009
	RPM	17348	17953	17953	17953	16170	16170	16170	14388	14388	15915	15915	15915	15915	14324	14324	14324
	FEED	208	323	323	323	259	259	259	201	201	318	318	318	318	258	258	258
	Ap	0.06	0.35	0.35	0.35	0.2	0.2	0.2	0.125	0.125	0.6	0.42	0.42	0.42	0.24	0.24	0.15
38.1 - 38.2	Vc	43	57	57	57	52	52	52	46	46	59	59	59	59	53	53	53
	fz	0.004	0.005	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.006	0.006	0.006	0.006	0.006	0.006	0.006
	RPM	6844	7257	7257	7257	6621	6621	6621	5857	5857	6260	6260	6260	6260	5623	5623	5623
	FEED	55	73	73	73	66	66	66	47	47	75	75	75	75	67	67	67
	Ap	0.036	0.21	0.21	0.21	0.12	0.12	0.12	0.075	0.075	0.36	0.252	0.252	0.252	0.144	0.144	0.09
40	Vc	69	90	90	90	81	81	81	72	72	97	97	97	97	87	87	87
	fz	0.004	0.007	0.007	0.007	0.006	0.006	0.006	0.005	0.005	0.008	0.008	0.008	0.008	0.007	0.007	0.007
	RPM	10982	11459	11459	11459	10313	10313	10313	9167	9167	10292	10292	10292	10292	9231	9231	9231
	FEED	88	160	160	160	124	124	124	92	92	165	165	165	165	129	129	129
	Ap	0.045	0.263	0.263	0.263	0.15	0.15	0.15	0.094	0.094	0.45	0.315	0.315	0.315	0.18	0.18	0.113
41	Vc	43	57	57	57	52	52	52	46	46	59	59	59	59	53	53	53
	fz	0.004	0.005	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.006	0.006	0.006	0.006	0.006	0.006	0.006
	RPM	6844	7257	7257	7257	6621	6621	6621	5857	5857	6260	6260	6260	6260	5623	5623	5623
	FEED	55	73	73	73	66	66	66	47	47	75	75	75	75	67	67	67
	Ap	0.036	0.21	0.21	0.21	0.12	0.12	0.12	0.075	0.075	0.36	0.252	0.252	0.252	0.144	0.144	0.09

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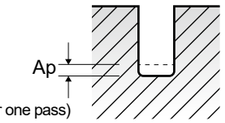

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME61 SERIES
2 FLUTE CORNER RADIUS - SLOTTING
2刃 圆鼻 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

ISO	VDI 3323	Parameter 参数	Diameter (Ø) 直径												
			3.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
		LBS	30	35	40	10	12	14	16	20	26	30	35	40	45
P	1-5	Vc	135	120	120	161	161	161	161	161	145	145	145	145	129
		fz	0.009	0.008	0.008	0.016	0.016	0.016	0.016	0.016	0.014	0.014	0.014	0.014	0.012
		RPM	14324	12732	12732	12812	12812	12812	12812	12812	11539	11539	11539	11539	10265
		FEED	258	204	204	410	410	410	410	410	323	323	323	323	246
		Ap	0.15	0.15	0.09	0.8	0.8	0.56	0.56	0.56	0.32	0.32	0.2	0.2	0.2
	6-8	Vc	135	120	120	161	161	161	161	161	145	145	145	145	129
		fz	0.009	0.008	0.008	0.016	0.016	0.016	0.016	0.016	0.014	0.014	0.014	0.014	0.012
		RPM	14324	12732	12732	12812	12812	12812	12812	12812	11539	11539	11539	11539	10265
		FEED	258	204	204	410	410	410	410	410	323	323	323	323	246
		Ap	0.15	0.15	0.09	0.8	0.8	0.56	0.56	0.56	0.32	0.32	0.2	0.2	0.2
	9	Vc	87	78	78	103	103	103	103	103	93	93	93	93	82
		fz	0.007	0.006	0.006	0.012	0.012	0.012	0.012	0.012	0.011	0.011	0.011	0.011	0.01
		RPM	9231	8276	8276	8196	8196	8196	8196	8196	7401	7401	7401	7401	6525
		FEED	129	99	99	197	197	197	197	197	163	163	163	163	131
		Ap	0.113	0.113	0.068	0.6	0.6	0.42	0.42	0.42	0.24	0.24	0.15	0.15	0.15
	10-11.1	Vc	135	120	120	161	161	161	161	161	145	145	145	145	129
		fz	0.009	0.008	0.008	0.016	0.016	0.016	0.016	0.016	0.014	0.014	0.014	0.014	0.012
		RPM	14324	12732	12732	12812	12812	12812	12812	12812	11539	11539	11539	11539	10265
		FEED	258	204	204	410	410	410	410	410	323	323	323	323	246
		Ap	0.15	0.15	0.09	0.8	0.8	0.56	0.56	0.56	0.32	0.32	0.2	0.2	0.2
	11.2	Vc	87	78	78	103	103	103	103	103	93	93	93	93	82
		fz	0.007	0.006	0.006	0.012	0.012	0.012	0.012	0.012	0.011	0.011	0.011	0.011	0.01
		RPM	9231	8276	8276	8196	8196	8196	8196	8196	7401	7401	7401	7401	6525
		FEED	129	99	99	197	197	197	197	197	163	163	163	163	131
		Ap	0.113	0.113	0.068	0.6	0.6	0.42	0.42	0.42	0.24	0.24	0.15	0.15	0.15
K	15-20	Vc	135	120	120	161	161	161	161	161	145	145	145	145	129
		fz	0.009	0.008	0.008	0.016	0.016	0.016	0.016	0.016	0.014	0.014	0.014	0.014	0.012
		RPM	14324	12732	12732	12812	12812	12812	12812	12812	11539	11539	11539	11539	10265
		FEED	258	204	204	410	410	410	410	410	323	323	323	323	246
		Ap	0.15	0.15	0.09	0.8	0.8	0.56	0.56	0.56	0.32	0.32	0.2	0.2	0.2
H	38.1 - 38.2	Vc	53	48	48	65	65	65	65	65	58	58	58	58	52
		fz	0.006	0.005	0.005	0.009	0.009	0.009	0.009	0.009	0.008	0.008	0.008	0.008	0.007
		RPM	5623	5093	5093	5173	5173	5173	5173	5173	4615	4615	4615	4615	4138
		FEED	67	51	51	93	93	93	93	93	74	74	74	74	58
		Ap	0.09	0.09	0.054	0.48	0.48	0.336	0.336	0.336	0.192	0.192	0.12	0.12	0.12
	40	Vc	87	78	78	103	103	103	103	103	93	93	93	93	82
		fz	0.007	0.006	0.006	0.012	0.012	0.012	0.012	0.012	0.011	0.011	0.011	0.011	0.01
		RPM	9231	8276	8276	8196	8196	8196	8196	8196	7401	7401	7401	7401	6525
		FEED	129	99	99	197	197	197	197	197	163	163	163	163	131
		Ap	0.113	0.113	0.068	0.6	0.6	0.42	0.42	0.42	0.24	0.24	0.15	0.15	0.15
	41	Vc	53	48	48	65	65	65	65	65	58	58	58	58	52
		fz	0.006	0.005	0.005	0.009	0.009	0.009	0.009	0.009	0.008	0.008	0.008	0.008	0.007
		RPM	5623	5093	5093	5173	5173	5173	5173	5173	4615	4615	4615	4615	4138
		FEED	67	51	51	93	93	93	93	93	74	74	74	74	58
		Ap	0.09	0.09	0.054	0.48	0.48	0.336	0.336	0.336	0.192	0.192	0.12	0.12	0.12

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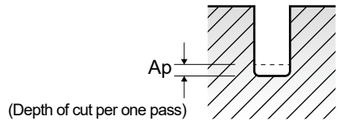
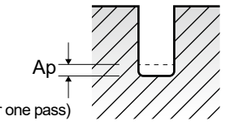


4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
SEME61 SERIES
2 FLUTE CORNER RADIUS - SLOTTING
2刃 圆鼻 - 槽铣削
Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

VDI 3323	Parameter 参数	Diameter (Ø) 直径													
		4.0	5.0	6.0	6.0	8.0	8.0	10.0	10.0	12.0	12.0	16.0	16.0	20.0	20.0
	LBS	50	15	20	30	25	35	30	40	32	45	35	50	40	55
1-5	Vc	129	173	179	179	181	181	188	188	188	188	187	187	188	188
	fz	0.012	0.023	0.032	0.032	0.044	0.044	0.053	0.053	0.05	0.05	0.06	0.06	0.055	0.055
	RPM	10265	11014	9496	9496	7202	7202	5984	5984	4987	4987	3720	3720	2992	2992
	FEED	246	507	608	608	634	634	634	634	499	499	446	446	329	329
	Ap	0.2	1	0.84	0.84	1.12	1.12	2	1.4	2.4	1.68	3.2	2.24	4	4
6-8	Vc	129	173	179	179	181	181	188	188	188	188	187	187	188	188
	fz	0.012	0.023	0.032	0.032	0.044	0.044	0.053	0.053	0.05	0.05	0.06	0.06	0.055	0.055
	RPM	10265	11014	9496	9496	7202	7202	5984	5984	4987	4987	3720	3720	2992	2992
	FEED	246	507	608	608	634	634	634	634	499	499	446	446	329	329
	Ap	0.2	1	0.84	0.84	1.12	1.12	2	1.4	2.4	1.68	3.2	2.24	4	4
9	Vc	82	110	113	113	114	114	126	126	126	126	127	127	123	123
	fz	0.01	0.017	0.025	0.025	0.033	0.033	0.038	0.038	0.04	0.04	0.042	0.042	0.036	0.036
	RPM	6525	7003	5995	5995	4536	4536	4011	4011	3342	3342	2527	2527	1958	1958
	FEED	131	238	300	300	299	299	305	305	267	267	212	212	141	141
	Ap	0.15	0.75	0.63	0.63	0.84	0.84	1.5	1.05	1.8	1.26	2.4	1.68	3	3
10 - 11.1	Vc	129	173	179	179	181	181	188	188	188	188	187	187	188	188
	fz	0.012	0.023	0.032	0.032	0.044	0.044	0.053	0.053	0.05	0.05	0.06	0.06	0.055	0.055
	RPM	10265	11014	9496	9496	7202	7202	5984	5984	4987	4987	3720	3720	2992	2992
	FEED	246	507	608	608	634	634	634	634	499	499	446	446	329	329
	Ap	0.2	1	0.84	0.84	1.12	1.12	2	1.4	2.4	1.68	3.2	2.24	4	4
11.2	Vc	82	110	113	113	114	114	126	126	126	126	127	127	123	123
	fz	0.01	0.017	0.025	0.025	0.033	0.033	0.038	0.038	0.04	0.04	0.042	0.042	0.036	0.036
	RPM	6525	7003	5995	5995	4536	4536	4011	4011	3342	3342	2527	2527	1958	1958
	FEED	131	238	300	300	299	299	305	305	267	267	212	212	141	141
	Ap	0.15	0.75	0.63	0.63	0.84	0.84	1.5	1.05	1.8	1.26	2.4	1.68	3	3
15 - 20	Vc	129	173	179	179	181	181	188	188	188	188	187	187	188	188
	fz	0.012	0.023	0.032	0.032	0.044	0.044	0.053	0.053	0.05	0.05	0.06	0.06	0.055	0.055
	RPM	10265	11014	9496	9496	7202	7202	5984	5984	4987	4987	3720	3720	2992	2992
	FEED	246	507	608	608	634	634	634	634	499	499	446	446	329	329
	Ap	0.2	1	0.84	0.84	1.12	1.12	2	1.4	2.4	1.68	3.2	2.24	4	4
38.1 - 38.2	Vc	52	72	74	74	76	76	76	76	75	75	77	77	75	75
	fz	0.007	0.013	0.018	0.018	0.023	0.023	0.029	0.029	0.03	0.03	0.031	0.031	0.029	0.029
	RPM	4138	4584	3926	3926	3024	3024	2419	2419	1989	1989	1532	1532	1194	1194
	FEED	58	119	141	141	139	139	140	140	119	119	95	95	69	69
	Ap	0.12	0.6	0.504	0.504	0.672	0.672	1.2	0.84	1.44	1.008	1.92	1.344	2.4	2.4
40	Vc	82	110	113	113	114	114	126	126	126	126	127	127	123	123
	fz	0.01	0.017	0.025	0.025	0.033	0.033	0.038	0.038	0.04	0.04	0.042	0.042	0.036	0.036
	RPM	6525	7003	5995	5995	4536	4536	4011	4011	3342	3342	2527	2527	1958	1958
	FEED	131	238	300	300	299	299	305	305	267	267	212	212	141	141
	Ap	0.15	0.75	0.63	0.63	0.84	0.84	1.5	1.05	1.8	1.26	2.4	1.68	3	3
41	Vc	52	72	74	74	76	76	76	76	75	75	77	77	75	75
	fz	0.007	0.013	0.018	0.018	0.023	0.023	0.029	0.029	0.03	0.03	0.031	0.031	0.029	0.029
	RPM	4138	4584	3926	3926	3024	3024	2419	2419	1989	1989	1532	1532	1194	1194
	FEED	58	119	141	141	139	139	140	140	119	119	95	95	69	69
	Ap	0.12	0.6	0.504	0.504	0.672	0.672	1.2	0.84	1.44	1.008	1.92	1.344	2.4	2.4



4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME01 SERIES
4 FLUTE CORNER RADIUS - SIDE CUTTING
4刃 圆鼻- 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 1.0	1.2	1.5	2.0	2.5	3.0	3.5	4.0
P	1-5	Non-alloy steel	0.05D	2D	Vc	87	93	104	113	118	125	132	135
					fz	0.003	0.003	0.004	0.004	0.006	0.006	0.008	0.01
					RPM	27693	24669	22069	17985	15024	13263	12005	10743
					FEED	332	296	353	288	361	318	384	430
	6-8	Low alloy steel	0.05D	2D	Vc	87	93	104	113	118	125	132	135
					fz	0.003	0.003	0.004	0.004	0.006	0.006	0.008	0.01
					RPM	27693	24669	22069	17985	15024	13263	12005	10743
					FEED	332	296	353	288	361	318	384	430
	9		0.05D	2D	Vc	57	59	64	73	75	81	85	86
					fz	0.003	0.004	0.004	0.005	0.007	0.008	0.009	0.011
					RPM	18144	15650	13581	11618	9549	8594	7730	6844
					FEED	218	250	217	232	267	275	278	301
	10-11.1	High alloyed steel, and tool steel	0.05D	2D	Vc	87	93	104	113	118	125	132	135
					fz	0.003	0.003	0.004	0.004	0.006	0.006	0.008	0.01
					RPM	27693	24669	22069	17985	15024	13263	12005	10743
					FEED	332	296	353	288	361	318	384	430
	11.2		0.05D	2D	Vc	57	59	64	73	75	81	85	86
					fz	0.003	0.004	0.004	0.005	0.007	0.008	0.009	0.011
					RPM	18144	15650	13581	11618	9549	8594	7730	6844
					FEED	218	250	217	232	267	275	278	301
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.05D	2D	Vc	87	93	104	113	118	125	132	135
					fz	0.003	0.003	0.004	0.004	0.006	0.006	0.008	0.01
					RPM	27693	24669	22069	17985	15024	13263	12005	10743
					FEED	332	296	353	288	361	318	384	430
H	38.1 - 38.2	Hardened steel	0.02D	2D	Vc	35	37	40	45	48	50	53	54
					fz	0.003	0.003	0.004	0.005	0.005	0.006	0.007	0.008
					RPM	11141	9815	8488	7162	6112	5305	4820	4297
					FEED	134	118	136	143	122	127	135	138
	40	Chilled Cast Iron	0.05D	2D	Vc	57	59	64	73	75	81	85	86
					fz	0.003	0.004	0.004	0.005	0.007	0.008	0.009	0.011
					RPM	18144	15650	13581	11618	9549	8594	7730	6844
					FEED	218	250	217	232	267	275	278	301
	41	Hardened Cast Iron	0.02D	2D	Vc	35	37	40	45	48	50	53	54
					fz	0.003	0.003	0.004	0.005	0.005	0.006	0.007	0.008
					RPM	11141	9815	8488	7162	6112	5305	4820	4297
					FEED	134	118	136	143	122	127	135	138

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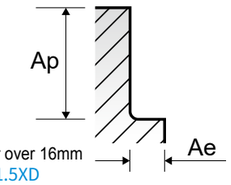


* 1.5XD Axial cutting depth should be for diameter over 16mm
* 如直径超过16mm轴向切削深度(Ap)应为是1.5XD

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

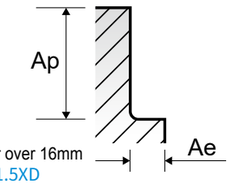
4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME01 SERIES
4 FLUTE CORNER RADIUS - SIDE CUTTING
4刃 圆鼻- 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

VDI 3323	Parameter 参数	Diameter (Ø) 直径 4.5	5.0	5.5	6.0	7.0	8.0	10.0	11.0	12.0	14.0	16.0	20.0
1-5	Vc	141	144	147	149	153	151	158	158	155	159	156	158
	fz	0.011	0.012	0.013	0.014	0.016	0.019	0.023	0.022	0.022	0.022	0.023	0.023
	RPM	9974	9167	8508	7905	6957	6008	5029	4572	4112	3615	3104	2515
	FEED	439	440	442	443	445	457	463	402	362	318	286	231
6-8	Vc	141	144	147	149	153	151	158	158	155	159	156	158
	fz	0.011	0.012	0.013	0.014	0.016	0.019	0.023	0.022	0.022	0.022	0.023	0.023
	RPM	9974	9167	8508	7905	6957	6008	5029	4572	4112	3615	3104	2515
	FEED	439	440	442	443	445	457	463	402	362	318	286	231
9	Vc	89	91	94	95	97	96	103	105	105	107	106	103
	fz	0.013	0.016	0.017	0.018	0.02	0.024	0.027	0.028	0.029	0.028	0.027	0.027
	RPM	6295	5793	5440	5040	4411	3820	3279	3038	2785	2433	2109	1639
	FEED	327	371	370	363	353	367	354	340	323	272	228	177
10 - 11.1	Vc	141	144	147	149	153	151	158	158	155	159	156	158
	fz	0.011	0.012	0.013	0.014	0.016	0.019	0.023	0.022	0.022	0.022	0.023	0.023
	RPM	9974	9167	8508	7905	6957	6008	5029	4572	4112	3615	3104	2515
	FEED	439	440	442	443	445	457	463	402	362	318	286	231
11.2	Vc	89	91	94	95	97	96	103	105	105	107	106	103
	fz	0.013	0.016	0.017	0.018	0.02	0.024	0.027	0.028	0.029	0.028	0.027	0.027
	RPM	6295	5793	5440	5040	4411	3820	3279	3038	2785	2433	2109	1639
	FEED	327	371	370	363	353	367	354	340	323	272	228	177
15 - 20	Vc	141	144	147	149	153	151	158	158	155	159	156	158
	fz	0.011	0.012	0.013	0.014	0.016	0.019	0.023	0.022	0.022	0.022	0.023	0.023
	RPM	9974	9167	8508	7905	6957	6008	5029	4572	4112	3615	3104	2515
	FEED	439	440	442	443	445	457	463	402	362	318	286	231
38.1 - 38.2	Vc	57	60	61	62	64	63	63	64	63	65	64	63
	fz	0.01	0.011	0.012	0.013	0.015	0.017	0.021	0.021	0.021	0.021	0.022	0.023
	RPM	4032	3820	3530	3289	2910	2507	2005	1852	1671	1478	1273	1003
	FEED	161	168	169	171	175	170	168	156	140	124	112	92
40	Vc	89	91	94	95	97	96	103	105	105	107	106	103
	fz	0.013	0.016	0.017	0.018	0.02	0.024	0.027	0.028	0.029	0.028	0.027	0.027
	RPM	6295	5793	5440	5040	4411	3820	3279	3038	2785	2433	2109	1639
	FEED	327	371	370	363	353	367	354	340	323	272	228	177
41	Vc	57	60	61	62	64	63	63	64	63	65	64	63
	fz	0.01	0.011	0.012	0.013	0.015	0.017	0.021	0.021	0.021	0.021	0.022	0.023
	RPM	4032	3820	3530	3289	2910	2507	2005	1852	1671	1478	1273	1003
	FEED	161	168	169	171	175	170	168	156	140	124	112	92



* 1.5XD Axial cutting depth should be for diameter over 16mm
* 如直径超过16mm轴向切削深度(Ap)应为是1.5XD

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME64 SERIES

4 FLUTE CORNER RADIUS - SIDE CUTTING
4刃 圆鼻- 侧铣削

Vc (切削速度) = (m/min.)　FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth)　Ae (切削宽度) = (mm)
RPM (转速) = (rev./min.)　LBS (颈长) = Length Below Shank

ISO	VDI 3323	Material Description 工件材料	Parameter 参数	Diameter (Ø) 直径														
				1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2
			LBS	4	6	8	10	12	16	20	22	26	3	4	6	8	10	12	16
P	1-5	Non-alloy steel	Vc	104	94	94	94	83	62	62	31	31	112	112	112	101	101	101	90
			fz	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.002
			RPM	33104	29921	29921	29921	26420	19735	19735	9868	9868	29709	29709	29709	26791	26791	26791	23873
			FEED	397	239	239	239	211	158	158	79	79	357	357	357	321	321	321	191
			Ae	0.021	0.012	0.012	0.008	0.008	0.005	0.003	0.003	0.003	0.036	0.025	0.025	0.014	0.009	0.009	0.005
	6-8	Low alloy steel	Vc	104	94	94	94	83	62	62	31	31	112	112	112	101	101	101	90
			fz	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.002
			RPM	33104	29921	29921	29921	26420	19735	19735	9868	9868	29709	29709	29709	26791	26791	26791	23873
			FEED	397	239	239	239	211	158	158	79	79	357	357	357	321	321	321	191
			Ae	0.021	0.012	0.012	0.008	0.008	0.005	0.003	0.003	0.003	0.036	0.025	0.025	0.014	0.009	0.009	0.005
	9		Vc	68	61	61	61	54	41	41	20	20	71	71	71	64	64	64	57
			fz	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.004	0.004	0.004	0.003	0.003	0.003	0.003
			RPM	21645	19417	19417	19417	17189	13051	13051	6366	6366	18833	18833	18833	16977	16977	16977	15120
			FEED	260	233	233	233	138	104	104	51	51	301	301	301	204	204	204	181
			Ae	0.016	0.009	0.009	0.006	0.006	0.003	0.002	0.002	0.002	0.027	0.01	0.019	0.011	0.007	0.007	0.004
	10-11.1	High alloyed steel, and tool steel	Vc	104	94	94	94	83	62	62	31	31	112	112	112	101	101	101	90
			fz	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.002
			RPM	33104	29921	29921	29921	26420	19735	19735	9868	9868	29709	29709	29709	26791	26791	26791	23873
			FEED	397	239	239	239	211	158	158	79	79	357	357	357	321	321	321	191
			Ae	0.021	0.012	0.012	0.008	0.008	0.005	0.003	0.003	0.003	0.036	0.025	0.025	0.014	0.009	0.009	0.005
	11.2		Vc	68	61	61	61	54	41	41	20	20	71	71	71	64	64	64	57
			fz	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.004	0.004	0.004	0.003	0.003	0.003	0.003
			RPM	21645	19417	19417	19417	17189	13051	13051	6366	6366	18833	18833	18833	16977	16977	16977	15120
			FEED	260	233	233	233	138	104	104	51	51	301	301	301	204	204	204	181
			Ae	0.016	0.009	0.009	0.006	0.006	0.003	0.002	0.002	0.002	0.027	0.01	0.019	0.011	0.007	0.007	0.004
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	Vc	104	94	94	94	83	62	62	31	31	112	112	112	101	101	101	90
			fz	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.002
			RPM	33104	29921	29921	29921	26420	19735	19735	9868	9868	29709	29709	29709	26791	26791	26791	23873
			FEED	397	239	239	239	211	158	158	79	79	357	357	357	321	321	321	191
			Ae	0.021	0.012	0.012	0.008	0.008	0.005	0.003	0.003	0.003	0.036	0.025	0.025	0.014	0.009	0.009	0.005
H	38.1 - 38.2	Hardened steel	Vc	41	37	37	37	33	25	25	12	12	44	44	44	40	40	40	35
			fz	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.002
			RPM	13051	11777	11777	11777	10504	7958	7958	3820	3820	11671	11671	11671	10610	10610	10610	9284
			FEED	157	94	94	94	84	64	64	31	31	140	140	140	127	127	127	74
			Ae	0.013	0.007	0.007	0.005	0.005	0.003	0.002	0.002	0.002	0.022	0.015	0.015	0.009	0.005	0.005	0.003
	40	Chilled Cast Iron	Vc	68	61	61	61	54	41	41	20	20	71	71	71	64	64	64	57
			fz	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.004	0.004	0.004	0.003	0.003	0.003	0.003
			RPM	21645	19417	19417	19417	17189	13051	13051	6366	6366	18833	18833	18833	16977	16977	16977	15120
			FEED	260	233	233	233	138	104	104	51	51	301	301	301	204	204	204	181
			Ae	0.016	0.009	0.009	0.006	0.006	0.003	0.002	0.002	0.002	0.027	0.01	0.019	0.011	0.007	0.007	0.004
	41	Hardened Cast Iron	Vc	41	37	37	37	33	25	25	12	12	44	44	44	40	40	40	35
			fz	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.002
			RPM	13051	11777	11777	11777	10504	7958	7958	3820	3820	11671	11671	11671	10610	10610	10610	9284
			FEED	157	94	94	94	84	64	64	31	31	140	140	140	127	127	127	74
			Ae	0.013	0.007	0.007	0.005	0.005	0.003	0.002	0.002	0.002	0.022	0.015	0.015	0.009	0.005	0.005	0.003

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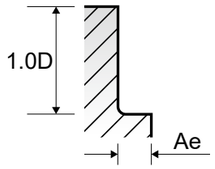

4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
SEME64 SERIES
4 FLUTE CORNER RADIUS - SIDE CUTTING
4刃 圆鼻- 侧铣削
Vc (切削速度) = (m/min.)　FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth)　Ae (切削宽度) = (mm)
RPM (转速) = (rev./min.)　LBS (颈长) = Length Below Shank

VDI 3323	Parameter 参数	Diameter (Ø) 直径																	
		1.2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.5
	LBS	20	4	6	8	10	12	14	16	20	22	26	6	8	10	12	14	16	20	22	26	30	8
1-5	Vc	67	124	124	112	112	112	112	100	100	100	75	136	136	136	122	122	122	122	109	109	109	141
	fz	0.002	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.005
	RPM	17772	26314	26314	23767	23767	23767	23767	21221	21221	21221	15915	21645	21645	21645	19417	19417	19417	19417	17348	17348	17348	17953
	FEED	142	421	421	285	285	285	285	255	255	255	127	346	346	346	311	311	311	311	278	278	278	359
	Ae	0.004	0.045	0.032	0.018	0.018	0.018	0.011	0.011	0.007	0.007	0.005	0.06	0.042	0.042	0.024	0.024	0.024	0.015	0.015	0.015	0.009	0.053
6-8	Vc	67	124	124	112	112	112	112	100	100	100	75	136	136	136	122	122	122	122	109	109	109	141
	fz	0.002	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.005
	RPM	17772	26314	26314	23767	23767	23767	23767	21221	21221	21221	15915	21645	21645	21645	19417	19417	19417	19417	17348	17348	17348	17953
	FEED	142	421	421	285	285	285	285	255	255	255	127	346	346	346	311	311	311	311	278	278	278	359
	Ae	0.004	0.045	0.032	0.018	0.018	0.018	0.011	0.011	0.007	0.007	0.005	0.06	0.042	0.042	0.024	0.024	0.024	0.015	0.015	0.015	0.009	0.053
9	Vc	43	76	76	69	69	69	69	61	61	61	46	87	87	87	78	78	78	78	69	69	69	90
	fz	0.002	0.004	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.007
	RPM	11406	16128	16128	14642	14642	14642	14642	12945	12945	12945	9762	13846	13846	13846	12414	12414	12414	12414	10982	10982	10982	11459
	FEED	91	258	258	234	234	234	234	155	155	155	117	277	277	277	248	248	248	248	176	176	176	321
	Ae	0.003	0.034	0.024	0.014	0.014	0.014	0.008	0.008	0.005	0.005	0.003	0.045	0.032	0.032	0.018	0.018	0.018	0.011	0.011	0.011	0.007	0.039
10 - 11.1	Vc	67	124	124	112	112	112	112	100	100	100	75	136	136	136	122	122	122	122	109	109	109	141
	fz	0.002	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.005
	RPM	17772	26314	26314	23767	23767	23767	23767	21221	21221	21221	15915	21645	21645	21645	19417	19417	19417	19417	17348	17348	17348	17953
	FEED	142	421	421	285	285	285	285	255	255	255	127	346	346	346	311	311	311	311	278	278	278	359
	Ae	0.004	0.045	0.032	0.018	0.018	0.018	0.011	0.011	0.007	0.007	0.005	0.06	0.042	0.042	0.024	0.024	0.024	0.015	0.015	0.015	0.009	0.053
11.2	Vc	43	76	76	69	69	69	69	61	61	61	46	87	87	87	78	78	78	78	69	69	69	90
	fz	0.002	0.004	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.007
	RPM	11406	16128	16128	14642	14642	14642	14642	12945	12945	12945	9762	13846	13846	13846	12414	12414	12414	12414	10982	10982	10982	11459
	FEED	91	258	258	234	234	234	234	155	155	155	117	277	277	277	248	248	248	248	176	176	176	321
	Ae	0.003	0.034	0.024	0.014	0.014	0.014	0.008	0.008	0.005	0.005	0.003	0.045	0.032	0.032	0.018	0.018	0.018	0.011	0.011	0.011	0.007	0.039
15 - 20	Vc	67	124	124	112	112	112	112	100	100	100	75	136	136	136	122	122	122	122	109	109	109	141
	fz	0.002	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.005
	RPM	17772	26314	26314	23767	23767	23767	23767	21221	21221	21221	15915	21645	21645	21645	19417	19417	19417	19417	17348	17348	17348	17953
	FEED	142	421	421	285	285	285	285	255	255	255	127	346	346	346	311	311	311	311	278	278	278	359
	Ae	0.004	0.045	0.032	0.018	0.018	0.018	0.011	0.011	0.007	0.007	0.005	0.06	0.042	0.042	0.024	0.024	0.024	0.015	0.015	0.015	0.009	0.053
38.1 - 38.2	Vc	26	48	48	43	43	43	43	38	38	38	29	54	54	54	49	49	49	49	43	43	43	57
	fz	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.005
	RPM	6897	10186	10186	9125	9125	9125	9125	8064	8064	8064	6154	8594	8594	8594	7799	7799	7799	7799	6844	6844	6844	7257
	FEED	55	122	122	109	109	109	109	97	97	97	49	138	138	138	125	125	125	125	82	82	82	145
	Ae	0.002	0.027	0.019	0.011	0.011	0.011	0.007	0.007	0.004	0.004	0.003	0.036	0.025	0.025	0.014	0.014	0.014	0.009	0.009	0.009	0.005	0.032
40	Vc	43	76	76	69	69	69	69	61	61	61	46	87	87	87	78	78	78	78	69	69	69	90
	fz	0.002	0.004	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.007
	RPM	11406	16128	16128	14642	14642	14642	14642	12945	12945	12945	9762	13846	13846	13846	12414	12414	12414	12414	10982	10982	10982	11459
	FEED	91	258	258	234	234	234	234	155	155	155	117	277	277	277	248	248	248	248	176	176	176	321
	Ae	0.003	0.034	0.024	0.014	0.014	0.014	0.008	0.008	0.005	0.005	0.003	0.045	0.032	0.032	0.018	0.018	0.018	0.011	0.011	0.011	0.007	0.039
41	Vc	26	48	48	43	43	43	43	38	38	38	29	54	54	54	49	49	49	49	43	43	43	57
	fz	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.005
	RPM	6897	10186	10186	9125	9125	9125	9125	8064	8064	8064	6154	8594	8594	8594	7799	7799	7799	7799	6844	6844	6844	7257
	FEED	55	122	122	109	109	109	109	97	97	97	49	138	138	138	125	125	125	125	82	82	82	145
	Ae	0.002	0.027	0.019	0.011	0.011	0.011	0.007	0.007	0.004	0.004	0.003	0.036	0.025	0.025	0.014	0.014	0.014	0.009	0.009	0.009	0.005	0.032

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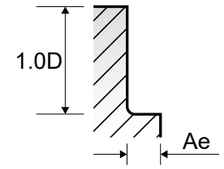

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME64 SERIES
4 FLUTE CORNER RADIUS - SIDE CUTTING
4刃 圆鼻- 侧铣削

Vc (切削速度) = (m/min.)　FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth)　Ae (切削宽度) = (mm)
RPM (转速) = (rev./min.)　LBS (颈长) = Length Below Shank

ISO	VDI 3323	Parameter 参数	Diameter (Ø) 直径																	
			2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0
		LBS	10	12	14	16	20	26	30	8	10	12	14	16	20	26	30	35	40	10	12
P	1-5	Vc	141	141	127	127	127	113	113	150	150	150	150	135	135	135	135	120	120	161	161
		fz	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.005	0.005	0.01	0.01
		RPM	17953	17953	16170	16170	16170	14388	14388	15915	15915	15915	15915	14324	14324	14324	14324	12732	12732	12812	12812
		FEED	359	359	323	323	323	230	230	382	382	382	382	344	344	344	344	255	255	512	512
		Ae	0.053	0.053	0.03	0.03	0.03	0.019	0.019	0.09	0.063	0.063	0.063	0.036	0.036	0.023	0.023	0.023	0.014	0.12	0.12
	6-8	Vc	141	141	127	127	127	113	113	150	150	150	150	135	135	135	135	120	120	161	161
		fz	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.005	0.005	0.01	0.01
		RPM	17953	17953	16170	16170	16170	14388	14388	15915	15915	15915	15915	14324	14324	14324	14324	12732	12732	12812	12812
		FEED	359	359	323	323	323	230	230	382	382	382	382	344	344	344	344	255	255	512	512
		Ae	0.053	0.053	0.03	0.03	0.03	0.019	0.019	0.09	0.063	0.063	0.063	0.036	0.036	0.023	0.023	0.023	0.014	0.12	0.12
	9	Vc	90	90	81	81	81	72	72	97	97	97	97	87	87	87	87	78	78	103	103
		fz	0.007	0.007	0.006	0.006	0.006	0.005	0.005	0.008	0.008	0.008	0.008	0.007	0.007	0.007	0.007	0.006	0.006	0.011	0.011
		RPM	11459	11459	10313	10313	10313	9167	9167	10292	10292	10292	10292	9231	9231	9231	9231	8276	8276	8196	8196
		FEED	321	321	248	248	248	183	183	329	329	329	329	258	258	258	258	199	199	361	361
		Ae	0.039	0.039	0.023	0.023	0.023	0.014	0.014	0.068	0.047	0.047	0.047	0.027	0.027	0.017	0.017	0.017	0.01	0.09	0.09
	10-11.1	Vc	141	141	127	127	127	113	113	150	150	150	150	135	135	135	135	120	120	161	161
		fz	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.005	0.005	0.01	0.01
		RPM	17953	17953	16170	16170	16170	14388	14388	15915	15915	15915	15915	14324	14324	14324	14324	12732	12732	12812	12812
		FEED	359	359	323	323	323	230	230	382	382	382	382	344	344	344	344	255	255	512	512
		Ae	0.053	0.053	0.03	0.03	0.03	0.019	0.019	0.09	0.063	0.063	0.063	0.036	0.036	0.023	0.023	0.023	0.014	0.12	0.12
	11.2	Vc	90	90	81	81	81	72	72	97	97	97	97	87	87	87	87	78	78	103	103
		fz	0.007	0.007	0.006	0.006	0.006	0.005	0.005	0.008	0.008	0.008	0.008	0.007	0.007	0.007	0.007	0.006	0.006	0.011	0.011
		RPM	11459	11459	10313	10313	10313	9167	9167	10292	10292	10292	10292	9231	9231	9231	9231	8276	8276	8196	8196
		FEED	321	321	248	248	248	183	183	329	329	329	329	258	258	258	258	199	199	361	361
		Ae	0.039	0.039	0.023	0.023	0.023	0.014	0.014	0.068	0.047	0.047	0.047	0.027	0.027	0.017	0.017	0.017	0.01	0.09	0.09
K	15-20	Vc	141	141	127	127	127	113	113	150	150	150	150	135	135	135	135	120	120	161	161
		fz	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.005	0.005	0.01	0.01
		RPM	17953	17953	16170	16170	16170	14388	14388	15915	15915	15915	15915	14324	14324	14324	14324	12732	12732	12812	12812
		FEED	359	359	323	323	323	230	230	382	382	382	382	344	344	344	344	255	255	512	512
		Ae	0.053	0.053	0.03	0.03	0.03	0.019	0.019	0.09	0.063	0.063	0.063	0.036	0.036	0.023	0.023	0.023	0.014	0.12	0.12
H	38.1 - 38.2	Vc	57	57	52	52	52	46	46	59	59	59	59	53	53	53	53	48	48	65	65
		fz	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.006	0.006	0.006	0.006	0.005	0.005	0.005	0.005	0.005	0.005	0.008	0.008
		RPM	7257	7257	6621	6621	6621	5857	5857	6260	6260	6260	6260	5623	5623	5623	5623	5093	5093	5173	5173
		FEED	145	145	132	132	132	94	94	150	150	150	150	112	112	112	112	102	102	166	166
		Ae	0.032	0.032	0.018	0.018	0.018	0.011	0.011	0.054	0.038	0.038	0.038	0.022	0.022	0.014	0.014	0.014	0.008	0.072	0.072
	40	Vc	90	90	81	81	81	72	72	97	97	97	97	87	87	87	87	78	78	103	103
		fz	0.007	0.007	0.006	0.006	0.006	0.005	0.005	0.008	0.008	0.008	0.008	0.007	0.007	0.007	0.007	0.006	0.006	0.011	0.011
		RPM	11459	11459	10313	10313	10313	9167	9167	10292	10292	10292	10292	9231	9231	9231	9231	8276	8276	8196	8196
		FEED	321	321	248	248	248	183	183	329	329	329	329	258	258	258	258	199	199	361	361
		Ae	0.039	0.039	0.023	0.023	0.023	0.014	0.014	0.068	0.047	0.047	0.047	0.027	0.027	0.017	0.017	0.017	0.01	0.09	0.09
	41	Vc	57	57	52	52	52	46	46	59	59	59	59	53	53	53	53	48	48	65	65
		fz	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.006	0.006	0.006	0.006	0.005	0.005	0.005	0.005	0.005	0.005	0.008	0.008
		RPM	7257	7257	6621	6621	6621	5857	5857	6260	6260	6260	6260	5623	5623	5623	5623	5093	5093	5173	5173
		FEED	145	145	132	132	132	94	94	150	150	150	150	112	112	112	112	102	102	166	166
		Ae	0.032	0.032	0.018	0.018	0.018	0.011	0.011	0.054	0.038	0.038	0.038	0.022	0.022	0.014	0.014	0.014	0.008	0.072	0.072

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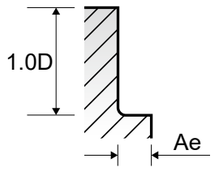
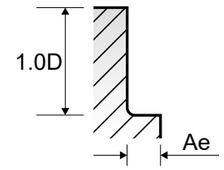


4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
SEME64 SERIES
4 FLUTE CORNER RADIUS - SIDE CUTTING
4刃 圆鼻- 侧铣削
Vc (切削速度) = (m/min.)　FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth)　Ae (切削宽度) = (mm)
RPM (转速) = (rev./min.)　LBS (颈长) = Length Below Shank

VDI 3323	Parameter 参数	Diameter (Ø) 直径																		
		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	6.0	6.0	8.0	8.0	10.0	10.0	12.0	12.0	16.0	16.0	20.0	20.0
	LBS	14	16	20	26	30	35	40	45	50	15	20	30	25	35	30	40	32	45	35	50	40	55
1-5	Vc	161	161	161	145	145	145	145	129	129	173	179	179	181	181	188	188	188	188	187	187	188	188
	fz	0.01	0.01	0.01	0.009	0.009	0.009	0.009	0.008	0.008	0.012	0.013	0.013	0.019	0.019	0.023	0.023	0.022	0.022	0.022	0.022	0.023	0.023
	RPM	12812	12812	12812	11539	11539	11539	11539	10265	10265	11014	9496	9496	7202	7202	5984	5984	4987	4987	3720	3720	2992	2992
	FEED	512	512	512	415	415	415	415	328	328	529	494	494	547	547	551	551	439	439	327	327	275	275
	Ae	0.084	0.084	0.084	0.048	0.048	0.03	0.03	0.03	0.03	0.15	0.126	0.126	0.168	0.168	0.3	0.21	0.36	0.252	0.48	0.336	0.6	0.6
6-8	Vc	161	161	161	145	145	145	145	129	129	173	179	179	181	181	188	188	188	188	187	187	188	188
	fz	0.01	0.01	0.01	0.009	0.009	0.009	0.009	0.008	0.008	0.012	0.013	0.013	0.019	0.019	0.023	0.023	0.022	0.022	0.022	0.022	0.023	0.023
	RPM	12812	12812	12812	11539	11539	11539	11539	10265	10265	11014	9496	9496	7202	7202	5984	5984	4987	4987	3720	3720	2992	2992
	FEED	512	512	512	415	415	415	415	328	328	529	494	494	547	547	551	551	439	439	327	327	275	275
	Ae	0.084	0.084	0.084	0.048	0.048	0.03	0.03	0.03	0.03	0.15	0.126	0.126	0.168	0.168	0.3	0.21	0.36	0.252	0.48	0.336	0.6	0.6
9	Vc	103	103	103	93	93	93	93	82	82	110	113	113	114	114	126	126	126	126	127	127	123	123
	fz	0.011	0.011	0.011	0.01	0.01	0.01	0.01	0.009	0.009	0.015	0.018	0.018	0.024	0.024	0.027	0.027	0.028	0.028	0.028	0.028	0.027	0.027
	RPM	8196	8196	8196	7401	7401	7401	7401	6525	6525	7003	5995	5995	4536	4536	4011	4011	3342	3342	2527	2527	1958	1958
	FEED	361	361	361	296	296	296	296	235	235	420	432	432	435	435	433	433	374	374	283	283	211	211
	Ae	0.063	0.063	0.063	0.036	0.036	0.023	0.023	0.023	0.023	0.113	0.095	0.095	0.126	0.126	0.225	0.158	0.27	0.189	0.36	0.252	0.45	0.45
10 - 11.1	Vc	161	161	161	145	145	145	145	129	129	173	179	179	181	181	188	188	188	188	187	187	188	188
	fz	0.01	0.01	0.01	0.009	0.009	0.009	0.009	0.008	0.008	0.012	0.013	0.013	0.019	0.019	0.023	0.023	0.022	0.022	0.022	0.022	0.023	0.023
	RPM	12812	12812	12812	11539	11539	11539	11539	10265	10265	11014	9496	9496	7202	7202	5984	5984	4987	4987	3720	3720	2992	2992
	FEED	512	512	512	415	415	415	415	328	328	529	494	494	547	547	551	551	439	439	327	327	275	275
	Ae	0.084	0.084	0.084	0.048	0.048	0.03	0.03	0.03	0.03	0.15	0.126	0.126	0.168	0.168	0.3	0.21	0.36	0.252	0.48	0.336	0.6	0.6
11.2	Vc	103	103	103	93	93	93	93	82	82	110	113	113	114	114	126	126	126	126	127	127	123	123
	fz	0.011	0.011	0.011	0.01	0.01	0.01	0.01	0.009	0.009	0.015	0.018	0.018	0.024	0.024	0.027	0.027	0.028	0.028	0.028	0.028	0.027	0.027
	RPM	8196	8196	8196	7401	7401	7401	7401	6525	6525	7003	5995	5995	4536	4536	4011	4011	3342	3342	2527	2527	1958	1958
	FEED	361	361	361	296	296	296	296	235	235	420	432	432	435	435	433	433	374	374	283	283	211	211
	Ae	0.063	0.063	0.063	0.036	0.036	0.023	0.023	0.023	0.023	0.113	0.095	0.095	0.126	0.126	0.225	0.158	0.27	0.189	0.36	0.252	0.45	0.45
15 - 20	Vc	161	161	161	145	145	145	145	129	129	173	179	179	181	181	188	188	188	188	187	187	188	188
	fz	0.01	0.01	0.01	0.009	0.009	0.009	0.009	0.008	0.008	0.012	0.013	0.013	0.019	0.019	0.023	0.023	0.022	0.022	0.022	0.022	0.023	0.023
	RPM	12812	12812	12812	11539	11539	11539	11539	10265	10265	11014	9496	9496	7202	7202	5984	5984	4987	4987	3720	3720	2992	2992
	FEED	512	512	512	415	415	415	415	328	328	529	494	494	547	547	551	551	439	439	327	327	275	275
	Ae	0.084	0.084	0.084	0.048	0.048	0.03	0.03	0.03	0.03	0.15	0.126	0.126	0.168	0.168	0.3	0.21	0.36	0.252	0.48	0.336	0.6	0.6
38.1 - 38.2	Vc	65	65	65	58	58	58	58	52	52	72	74	74	76	76	76	76	75	75	77	77	75	75
	fz	0.008	0.008	0.008	0.007	0.007	0.007	0.007	0.006	0.006	0.011	0.013	0.013	0.017	0.017	0.021	0.021	0.02	0.02	0.022	0.022	0.021	0.021
	RPM	5173	5173	5173	4615	4615	4615	4615	4138	4138	4584	3926	3926	3024	3024	2419	2419	1989	1989	1532	1532	1194	1194
	FEED	166	166	166	129	129	129	129	99	99	202	204	204	206	206	203	203	159	159	135	135	100	100
	Ae	0.05	0.05	0.05	0.029	0.029	0.018	0.018	0.018	0.018	0.09	0.076	0.076	0.101	0.101	0.18	0.126	0.216	0.151	0.288	0.202	0.36	0.36
40	Vc	103	103	103	93	93	93	93	82	82	110	113	113	114	114	126	126	126	126	127	127	123	123
	fz	0.011	0.011	0.011	0.01	0.01	0.01	0.01	0.009	0.009	0.015	0.018	0.018	0.024	0.024	0.027	0.027	0.028	0.028	0.028	0.028	0.027	0.027
	RPM	8196	8196	8196	7401	7401	7401	7401	6525	6525	7003	5995	5995	4536	4536	4011	4011	3342	3342	2527	2527	1958	1958
	FEED	361	361	361	296	296	296	296	235	235	420	432	432	435	435	433	433	374	374	283	283	211	211
	Ae	0.063	0.063	0.063	0.036	0.036	0.023	0.023	0.023	0.023	0.113	0.095	0.095	0.126	0.126	0.225	0.158	0.27	0.189	0.36	0.252	0.45	0.45
41	Vc	65	65	65	58	58	58	58	52	52	72	74	74	76	76	76	76	75	75	77	77	75	75
	fz	0.008	0.008	0.008	0.007	0.007	0.007	0.007	0.006	0.006	0.011	0.013	0.013	0.017	0.017	0.021	0.021	0.02	0.02	0.022	0.022	0.021	0.021
	RPM	5173	5173	5173	4615	4615	4615	4615	4138	4138	4584	3926	3926	3024	3024	2419	2419	1989	1989	1532	1532	1194	1194
	FEED	166	166	166	129	129	129	129	99	99	202	204	204	206	206	203	203	159	159	135	135	100	100
	Ae	0.05	0.05	0.05	0.029	0.029	0.018	0.018	0.018	0.018	0.09	0.076	0.076	0.101	0.101	0.18	0.126	0.216	0.151	0.288	0.202	0.36	0.36



4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME35 SERIES — 2 FLUTE - SLOTTING / 2刃- 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径								
						0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
P	1-5	Non-alloy steel	1.0D	0.5D (up to Ø3: 0.2D) (up to Ø1: 0.15D)	Vc	13	26	37	49	57	60	62	63	66
					fz	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.004
					RPM	41380	41380	39258	38993	36287	31831	28193	25067	23343
					FEED	83	83	79	78	145	127	169	150	187
	6-8	Low alloy steel	1.0D	0.5D (up to Ø3: 0.2D) (up to Ø1: 0.15D)	Vc	13	26	37	49	57	60	62	63	66
					fz	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.004
					RPM	41380	41380	39258	38993	36287	31831	28193	25067	23343
					FEED	83	83	79	78	145	127	169	150	187
	9		1.0D	0.5D (up to Ø3: 0.2D) (up to Ø1: 0.15D)	Vc	8	16	22	29	34	36	37	38	40
					fz	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.003
					RPM	25465	25465	23343	23077	21645	19099	16825	15120	14147
					FEED	51	51	47	46	87	76	101	91	85
	10 - 11.1	High alloyed steel, and tool steel	1.0D	0.5D (up to Ø3: 0.2D) (up to Ø1: 0.15D)	Vc	13	26	37	49	57	60	62	63	66
					fz	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.004
					RPM	41380	41380	39258	38993	36287	31831	28193	25067	23343
					FEED	83	83	79	78	145	127	169	150	187
	11.2		1.0D	0.5D (up to Ø3: 0.2D) (up to Ø1: 0.15D)	Vc	8	16	22	29	34	36	37	38	40
					fz	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.003
					RPM	25465	25465	23343	23077	21645	19099	16825	15120	14147
					FEED	51	51	47	46	87	76	101	91	85
M	14.1	Stainless steel	1.0D	0.5D (up to Ø1: 0.02D)	Vc	7	13	18	25	28	30	31	31	33
					fz	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.003
					RPM	22282	20690	19099	19894	17825	15915	14097	12335	11671
					FEED	45	41	38	40	71	64	85	74	70
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	0.5D (up to Ø3: 0.2D) (up to Ø1: 0.15D)	Vc	13	26	37	49	57	60	62	63	66
					fz	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.004
					RPM	41380	41380	39258	38993	36287	31831	28193	25067	23343
					FEED	83	83	79	78	145	127	169	150	187
H	38.1 - 38.2	Hardened steel	1.0D	0.05D (up to Ø1: 0.02D)	Vc	5	11	15	20	23	24	25	25	27
					fz	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002
					RPM	15915	17507	15915	15915	14642	12732	11368	9947	9549
					FEED	16	35	32	32	29	25	23	40	38
	40	Chilled Cast Iron	1.0D	0.05D (up to Ø1: 0.02D)	Vc	8	16	22	29	34	36	37	38	40
					fz	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.003
					RPM	25465	25465	23343	23077	21645	19099	16825	15120	14147
					FEED	51	51	47	46	87	76	101	91	85
	41	Hardened Cast Iron	1.0D	0.05D (up to Ø1: 0.02D)	Vc	5	11	15	20	23	24	25	25	27
					fz	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002
					RPM	15915	17507	15915	15915	14642	12732	11368	9947	9549
					FEED	16	35	32	32	29	25	23	40	38

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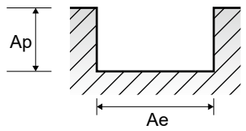

4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
SEME35 SERIES — 2 FLUTE - SLOTTING / 2刃- 槽铣削
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

VDI 3323	Parameter 参数	Diameter (Ø) 直径													
		1.0	1.2	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0
1-5	Vc	68	68	71	73	80	84	91	95	98	99	102	105	107	107
	fz	0.004	0.005	0.006	0.009	0.01	0.012	0.016	0.021	0.023	0.027	0.03	0.033	0.036	0.039
	RPM	21645	18038	15067	11618	10186	8913	8276	7560	6932	6303	5903	5570	5240	4866
	FEED	173	180	181	209	204	214	265	318	319	340	354	368	377	380
6-8	Vc	68	68	71	73	80	84	91	95	98	99	102	105	107	107
	fz	0.004	0.005	0.006	0.009	0.01	0.012	0.016	0.021	0.023	0.027	0.03	0.033	0.036	0.039
	RPM	21645	18038	15067	11618	10186	8913	8276	7560	6932	6303	5903	5570	5240	4866
	FEED	173	180	181	209	204	214	265	318	319	340	354	368	377	380
9	Vc	41	41	42	48	52	52	56	58	59	59	62	63	64	65
	fz	0.004	0.005	0.006	0.008	0.01	0.013	0.017	0.021	0.023	0.026	0.03	0.034	0.036	0.037
	RPM	13051	10876	8913	7639	6621	5517	5093	4615	4173	3756	3588	3342	3134	2956
	FEED	104	109	107	122	132	143	173	194	192	195	215	227	226	219
10 - 11.1	Vc	68	68	71	73	80	84	91	95	98	99	102	105	107	107
	fz	0.004	0.005	0.006	0.009	0.01	0.012	0.016	0.021	0.023	0.027	0.03	0.033	0.036	0.039
	RPM	21645	18038	15067	11618	10186	8913	8276	7560	6932	6303	5903	5570	5240	4866
	FEED	173	180	181	209	204	214	265	318	319	340	354	368	377	380
11.2	Vc	41	41	42	48	52	52	56	58	59	59	62	63	64	65
	fz	0.004	0.005	0.006	0.008	0.01	0.013	0.017	0.021	0.023	0.026	0.03	0.034	0.036	0.037
	RPM	13051	10876	8913	7639	6621	5517	5093	4615	4173	3756	3588	3342	3134	2956
	FEED	104	109	107	122	132	143	173	194	192	195	215	227	226	219
14.1	Vc	34	34	35	40	43	44	47	49	50	50	52	54	54	54
	fz	0.004	0.005	0.006	0.008	0.01	0.014	0.016	0.021	0.023	0.027	0.03	0.033	0.036	0.038
	RPM	10823	9019	7427	6366	5475	4669	4274	3899	3537	3183	3009	2865	2644	2456
	FEED	87	90	89	102	109	131	137	164	163	172	181	189	190	187
15 - 20	Vc	68	68	71	73	80	84	91	95	98	99	102	105	107	107
	fz	0.004	0.005	0.006	0.009	0.01	0.012	0.016	0.021	0.023	0.027	0.03	0.033	0.036	0.039
	RPM	21645	18038	15067	11618	10186	8913	8276	7560	6932	6303	5903	5570	5240	4866
	FEED	173	180	181	209	204	214	265	318	319	340	354	368	377	380
38.1 - 38.2	Vc	27	27	28	32	33	32	35	37	37	36	37	38	39	40
	fz	0.002	0.002	0.003	0.004	0.005	0.006	0.007	0.007	0.009	0.011	0.013	0.015	0.016	0.018
	RPM	8594	7162	5942	5093	4202	3395	3183	2944	2617	2292	2141	2016	1910	1819
	FEED	34	29	36	41	42	41	45	41	47	50	56	60	61	65
40	Vc	41	41	42	48	52	52	56	58	59	59	62	63	64	65
	fz	0.004	0.005	0.006	0.008	0.01	0.013	0.017	0.021	0.023	0.026	0.03	0.034	0.036	0.037
	RPM	13051	10876	8913	7639	6621	5517	5093	4615	4173	3756	3588	3342	3134	2956
	FEED	104	109	107	122	132	143	173	194	192	195	215	227	226	219
41	Vc	27	27	28	32	33	32	35	37	37	36	37	38	39	40
	fz	0.002	0.002	0.003	0.004	0.005	0.006	0.007	0.007	0.009	0.011	0.013	0.015	0.016	0.018
	RPM	8594	7162	5942	5093	4202	3395	3183	2944	2617	2292	2141	2016	1910	1819
	FEED	34	29	36	41	42	41	45	41	47	50	56	60	61	65

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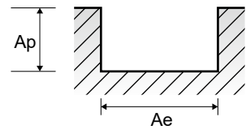

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME35 SERIES — 2 FLUTE - SLOTTING 2刃- 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0
P	1-5	1.0D	0.5D (up to Ø3: 0.2D) (up to Ø1: 0.15D)	Vc	107	106	106	105	104	102	103	104	104	103
				fz	0.043	0.048	0.049	0.05	0.051	0.053	0.053	0.053	0.053	0.054
				RPM	4541	4218	3970	3714	3485	3247	3122	3009	2879	2732
				FEED	391	405	389	371	355	344	331	319	305	295
	6-8	1.0D	0.5D (up to Ø3: 0.2D) (up to Ø1: 0.15D)	Vc	107	106	106	105	104	102	103	104	104	103
				fz	0.043	0.048	0.049	0.05	0.051	0.053	0.053	0.053	0.053	0.054
				RPM	4541	4218	3970	3714	3485	3247	3122	3009	2879	2732
				FEED	391	405	389	371	355	344	331	319	305	295
	9	1.0D	0.5D (up to Ø3: 0.2D) (up to Ø1: 0.15D)	Vc	64	63	64	64	64	63	63	64	64	63
				fz	0.039	0.042	0.042	0.042	0.042	0.043	0.042	0.041	0.04	0.04
				RPM	2716	2507	2397	2264	2144	2005	1910	1852	1771	1671
				FEED	212	211	201	190	180	172	160	152	142	134
	10 - 11.1	1.0D	0.5D (up to Ø3: 0.2D) (up to Ø1: 0.15D)	Vc	107	106	106	105	104	102	103	104	104	103
				fz	0.043	0.048	0.049	0.05	0.051	0.053	0.053	0.053	0.053	0.054
				RPM	4541	4218	3970	3714	3485	3247	3122	3009	2879	2732
				FEED	391	405	389	371	355	344	331	319	305	295
	11.2	1.0D	0.5D (up to Ø3: 0.2D) (up to Ø1: 0.15D)	Vc	64	63	64	64	64	63	63	64	64	63
				fz	0.039	0.042	0.042	0.042	0.042	0.043	0.042	0.041	0.04	0.04
				RPM	2716	2507	2397	2264	2144	2005	1910	1852	1771	1671
				FEED	212	211	201	190	180	172	160	152	142	134
M	14.1	1.0D	0.5D (up to Ø1: 0.02D)	Vc	54	53	53	53	53	53	53	53	52	51
				fz	0.042	0.045	0.046	0.048	0.049	0.051	0.05	0.049	0.049	0.05
				RPM	2292	2109	1985	1874	1776	1687	1607	1534	1439	1353
				FEED	193	190	183	180	174	172	161	150	141	135
K	15-20	1.0D	0.5D (up to Ø3: 0.2D) (up to Ø1: 0.15D)	Vc	107	106	106	105	104	102	103	104	104	103
				fz	0.043	0.048	0.049	0.05	0.051	0.053	0.053	0.053	0.053	0.054
				RPM	4541	4218	3970	3714	3485	3247	3122	3009	2879	2732
				FEED	391	405	389	371	355	344	331	319	305	295
H	38.1 - 38.2	1.0D	0.05D (up to Ø1: 0.02D)	Vc	41	42	43	43	43	43	43	44	44	44
				fz	0.021	0.024	0.023	0.022	0.022	0.023	0.023	0.023	0.024	0.025
				RPM	1740	1671	1610	1521	1441	1369	1304	1273	1218	1167
				FEED	73	80	74	67	63	63	60	59	58	58
	40	1.0D	0.05D (up to Ø1: 0.02D)	Vc	64	63	64	64	64	63	63	64	64	63
				fz	0.039	0.042	0.042	0.042	0.042	0.043	0.042	0.041	0.04	0.04
				RPM	2716	2507	2397	2264	2144	2005	1910	1852	1771	1671
				FEED	212	211	201	190	180	172	160	152	142	134
	41	1.0D	0.05D (up to Ø1: 0.02D)	Vc	41	42	43	43	43	43	43	44	44	44
				fz	0.021	0.024	0.023	0.022	0.022	0.023	0.023	0.023	0.024	0.025
				RPM	1740	1671	1610	1521	1441	1369	1304	1273	1218	1167
				FEED	73	80	74	67	63	63	60	59	58	58

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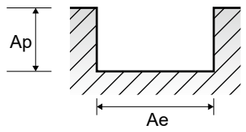

4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
SEME35 SERIES — 2 FLUTE - SLOTTING 2刃- 槽铣削
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

VDI 3323	Parameter 参数	Diameter (Ø) 直径 13.0	14.0	15.0	16.0	17.0	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0
1-5	Vc	106	109	110	111	111	110	108	106	107	107	107	107	107
	fz	0.054	0.054	0.052	0.052	0.052	0.053	0.052	0.054	0.053	0.053	0.051	0.049	0.05
	RPM	2595	2478	2334	2208	2078	1945	1809	1687	1622	1548	1481	1419	1362
	FEED	280	268	243	230	216	206	188	182	172	164	151	139	136
6-8	Vc	106	109	110	111	111	110	108	106	107	107	107	107	107
	fz	0.054	0.054	0.052	0.052	0.052	0.053	0.052	0.054	0.053	0.053	0.051	0.049	0.05
	RPM	2595	2478	2334	2208	2078	1945	1809	1687	1622	1548	1481	1419	1362
	FEED	280	268	243	230	216	206	188	182	172	164	151	139	136
9	Vc	65	67	68	68	69	68	68	67	67	67	67	67	66
	fz	0.041	0.041	0.042	0.042	0.041	0.041	0.04	0.04	0.04	0.041	0.042	0.043	0.044
	RPM	1592	1523	1443	1353	1292	1203	1139	1066	1016	969	927	889	840
	FEED	131	125	121	114	106	99	91	85	81	79	78	76	74
10 - 11.1	Vc	106	109	110	111	111	110	108	106	107	107	107	107	107
	fz	0.054	0.054	0.052	0.052	0.052	0.053	0.052	0.054	0.053	0.053	0.051	0.049	0.05
	RPM	2595	2478	2334	2208	2078	1945	1809	1687	1622	1548	1481	1419	1362
	FEED	280	268	243	230	216	206	188	182	172	164	151	139	136
11.2	Vc	65	67	68	68	69	68	68	67	67	67	67	67	66
	fz	0.041	0.041	0.042	0.042	0.041	0.041	0.04	0.04	0.04	0.041	0.042	0.043	0.044
	RPM	1592	1523	1443	1353	1292	1203	1139	1066	1016	969	927	889	840
	FEED	131	125	121	114	106	99	91	85	81	79	78	76	74
14.1	Vc	52	53	53	53	54	54	53	53	53	54	54	54	53
	fz	0.051	0.052	0.053	0.054	0.052	0.053	0.05	0.05	0.05	0.049	0.048	0.047	0.046
	RPM	1273	1205	1125	1054	1011	955	888	844	803	781	747	716	675
	FEED	130	125	119	114	105	101	89	84	80	77	72	67	62
15 - 20	Vc	106	109	110	111	111	110	108	106	107	107	107	107	107
	fz	0.054	0.054	0.052	0.052	0.052	0.053	0.052	0.054	0.053	0.053	0.051	0.049	0.05
	RPM	2595	2478	2334	2208	2078	1945	1809	1687	1622	1548	1481	1419	1362
	FEED	280	268	243	230	216	206	188	182	172	164	151	139	136
38.1 - 38.2	Vc	45	45	45	45	45	45	44	43	43	43	43	43	42
	fz	0.025	0.024	0.023	0.023	0.023	0.023	0.023	0.024	0.022	0.022	0.021	0.02	0.019
	RPM	1102	1023	955	895	843	796	737	684	652	622	595	570	535
	FEED	55	49	44	41	39	37	34	33	29	27	25	23	20
40	Vc	65	67	68	68	69	68	68	67	67	67	67	67	66
	fz	0.041	0.041	0.042	0.042	0.041	0.041	0.04	0.04	0.04	0.041	0.042	0.043	0.044
	RPM	1592	1523	1443	1353	1292	1203	1139	1066	1016	969	927	889	840
	FEED	131	125	121	114	106	99	91	85	81	79	78	76	74
41	Vc	45	45	45	45	45	45	44	43	43	43	43	43	42
	fz	0.025	0.024	0.023	0.023	0.023	0.023	0.023	0.024	0.022	0.022	0.021	0.02	0.019
	RPM	1102	1023	955	895	843	796	737	684	652	622	595	570	535
	FEED	55	49	44	41	39	37	34	33	29	27	25	23	20

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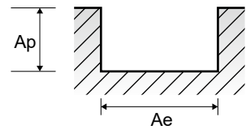

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME70 SERIES — 2 FLUTE - SLOTTING / 2刃 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) LOC (刃长) = Length of Cut
RPM (转速) = (rev./min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径											
						1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.2	1.2	1.2	1.2	
					LOC	3	4	5	6	7	8	10	12	4	6	8	10
P	1-5	Non-alloy steel	1.0D	0.3D (up to Ø3:0.4mm)	Vc	50	50	50	45	45	45	45	40	51	51	46	46
					fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002
					RPM	15915	15915	15915	14324	14324	14324	14324	12732	13528	13528	12202	12202
					FEED	64	64	64	57	57	57	57	51	81	81	49	49
	6-8	Low alloy steel	1.0D	0.3D (up to Ø3:0.4mm)	Vc	50	50	50	45	45	45	45	40	51	51	46	46
					fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002
					RPM	15915	15915	15915	14324	14324	14324	14324	12732	13528	13528	12202	12202
					FEED	64	64	64	57	57	57	57	51	81	81	49	49
	9		1.0D	0.3D (up to Ø3:0.4mm)	Vc	40	40	40	36	36	36	36	32	41	41	37	37
					fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002
					RPM	12732	12732	12732	11459	11459	11459	11459	10186	10876	10876	9815	9815
					FEED	51	51	51	46	46	46	46	41	65	65	59	39
	10-11.1	High alloyed steel, and tool steel	1.0D	0.3D (up to Ø3:0.4mm)	Vc	50	50	50	45	45	45	45	40	51	51	46	46
					fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002
					RPM	15915	15915	15915	14324	14324	14324	14324	12732	13528	13528	12202	12202
					FEED	64	64	64	57	57	57	57	51	81	81	49	49
	11.2		1.0D	0.3D (up to Ø3:0.4mm)	Vc	40	40	40	36	36	36	36	32	41	41	37	37
					fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002
					RPM	12732	12732	12732	11459	11459	11459	11459	10186	10876	10876	9815	9815
					FEED	51	51	51	46	46	46	46	41	65	65	59	39
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	0.3D (up to Ø3:0.4mm)	Vc	50	50	50	45	45	45	45	40	51	51	46	46
					fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002
					RPM	15915	15915	15915	14324	14324	14324	14324	12732	13528	13528	12202	12202
					FEED	64	64	64	57	57	57	57	51	81	81	49	49
H	38.1 - 38.2	Hardened steel	1.0D	0.05D	Vc	25	25	25	23	23	23	23	20	25	25	23	23
					fz	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.002	0.002	0.002	0.002
					RPM	7958	7958	7958	7321	7321	7321	7321	6366	6631	6631	6101	6101
					FEED	32	32	32	29	29	15	15	13	27	27	24	24
	40	Chilled Cast Iron	1.0D	0.3D (up to Ø3:0.4mm)	Vc	40	40	40	36	36	36	36	32	41	41	37	37
					fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002
					RPM	12732	12732	12732	11459	11459	11459	11459	10186	10876	10876	9815	9815
					FEED	51	51	51	46	46	46	46	41	65	65	59	39
	41	Hardened Cast Iron	1.0D	0.05D	Vc	25	25	25	23	23	23	23	20	25	25	23	23
					fz	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.002	0.002	0.002	0.002
					RPM	7958	7958	7958	7321	7321	7321	7321	6366	6631	6631	6101	6101
					FEED	32	32	32	29	29	15	15	13	27	27	24	24

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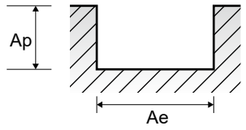

4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME70 SERIES — 2 FLUTE - SLOTTING / 2刃 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) LOC (刃长) = Length of Cut
RPM (转速) = (rev./min.)

VDI 3323	Parameter 参数	Diameter (Ø) 直径sa																			
		1.2	1.5	1.5	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	3.0	3.0	3.0
	LOC	12	6	8	10	12	14	16	8	10	12	14	16	10	12	16	20	26	10	12	14
1-5	Vc	46	53	48	48	48	48	42	57	57	51	51	51	60	60	54	54	48	60	60	60
	fz	0.002	0.004	0.003	0.003	0.003	0.003	0.003	0.005	0.005	0.004	0.004	0.004	0.006	0.006	0.005	0.005	0.004	0.008	0.008	0.008
	RPM	12202	11247	10186	10186	10186	10186	8913	9072	9072	8117	8117	8117	7639	7639	6875	6875	6112	6366	6366	6366
	FEED	49	90	61	61	61	61	53	91	91	65	65	65	92	92	69	69	49	102	102	102
6-8	Vc	46	53	48	48	48	48	42	57	57	51	51	51	60	60	54	54	48	60	60	60
	fz	0.002	0.004	0.003	0.003	0.003	0.003	0.003	0.005	0.005	0.004	0.004	0.004	0.006	0.006	0.005	0.005	0.004	0.008	0.008	0.008
	RPM	12202	11247	10186	10186	10186	10186	8913	9072	9072	8117	8117	8117	7639	7639	6875	6875	6112	6366	6366	6366
	FEED	49	90	61	61	61	61	53	91	91	65	65	65	92	92	69	69	49	102	102	102
9	Vc	37	42	38	38	38	38	34	46	46	41	41	41	49	49	44	44	39	49	49	49
	fz	0.002	0.004	0.004	0.003	0.003	0.003	0.003	0.005	0.005	0.005	0.005	0.004	0.006	0.006	0.006	0.005	0.005	0.008	0.008	0.008
	RPM	9815	8913	8064	8064	8064	8064	7215	7321	7321	6525	6525	6525	6239	6239	5602	5602	4966	5199	5199	5199
	FEED	39	71	65	48	48	48	43	73	73	65	65	52	75	75	67	56	50	83	83	83
10 - 11.1	Vc	46	53	48	48	48	48	42	57	57	51	51	51	60	60	54	54	48	60	60	60
	fz	0.002	0.004	0.003	0.003	0.003	0.003	0.003	0.005	0.005	0.004	0.004	0.004	0.006	0.006	0.005	0.005	0.004	0.008	0.008	0.008
	RPM	12202	11247	10186	10186	10186	10186	8913	9072	9072	8117	8117	8117	7639	7639	6875	6875	6112	6366	6366	6366
	FEED	49	90	61	61	61	61	53	91	91	65	65	65	92	92	69	69	49	102	102	102
11.2	Vc	37	42	38	38	38	38	34	46	46	41	41	41	49	49	44	44	39	49	49	49
	fz	0.002	0.004	0.004	0.003	0.003	0.003	0.003	0.005	0.005	0.005	0.005	0.004	0.006	0.006	0.006	0.005	0.005	0.008	0.008	0.008
	RPM	9815	8913	8064	8064	8064	8064	7215	7321	7321	6525	6525	6525	6239	6239	5602	5602	4966	5199	5199	5199
	FEED	39	71	65	48	48	48	43	73	73	65	65	52	75	75	67	56	50	83	83	83
15 - 20	Vc	46	53	48	48	48	48	42	57	57	51	51	51	60	60	54	54	48	60	60	60
	fz	0.002	0.004	0.003	0.003	0.003	0.003	0.003	0.005	0.005	0.004	0.004	0.004	0.006	0.006	0.005	0.005	0.004	0.008	0.008	0.008
	RPM	12202	11247	10186	10186	10186	10186	8913	9072	9072	8117	8117	8117	7639	7639	6875	6875	6112	6366	6366	6366
	FEED	49	90	61	61	61	61	53	91	91	65	65	65	92	92	69	69	49	102	102	102
38.1 - 38.2	Vc	23	26	24	24	24	24	21	29	29	26	26	26	30	30	27	27	24	30	30	30
	fz	0.002	0.003	0.003	0.002	0.002	0.002	0.002	0.004	0.004	0.004	0.004	0.003	0.005	0.005	0.004	0.004	0.003	0.006	0.006	0.006
	RPM	6101	5517	5093	5093	5093	5093	4456	4615	4615	4138	4138	4138	3820	3820	3438	3438	3056	3183	3183	3183
	FEED	24	33	31	20	20	20	18	37	37	33	33	25	38	38	28	28	18	38	38	38
40	Vc	37	42	38	38	38	38	34	46	46	41	41	41	49	49	44	44	39	49	49	49
	fz	0.002	0.004	0.004	0.003	0.003	0.003	0.003	0.005	0.005	0.005	0.005	0.004	0.006	0.006	0.006	0.005	0.005	0.008	0.008	0.008
	RPM	9815	8913	8064	8064	8064	8064	7215	7321	7321	6525	6525	6525	6239	6239	5602	5602	4966	5199	5199	5199
	FEED	39	71	65	48	48	48	43	73	73	65	65	52	75	75	67	56	50	83	83	83
41	Vc	23	26	24	24	24	24	21	29	29	26	26	26	30	30	27	27	24	30	30	30
	fz	0.002	0.003	0.003	0.002	0.002	0.002	0.002	0.004	0.004	0.004	0.004	0.003	0.005	0.005	0.004	0.004	0.003	0.006	0.006	0.006
	RPM	6101	5517	5093	5093	5093	5093	4456	4615	4615	4138	4138	4138	3820	3820	3438	3438	3056	3183	3183	3183
	FEED	24	33	31	20	20	20	18	37	37	33	33	25	38	38	28	28	18	38	38	38

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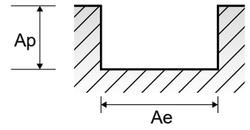

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME70 SERIES — 2 FLUTE - SLOTTING — 2刃 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) LOC (刃长) = Length of Cut
RPM (转速) = (rev./min.)

ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径														
				LOC	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	6.0
P	1-5	1.0D	0.3D (up to Ø3:0.4mm)		16	20	26	30	12	16	20	26	30	20	25	30	35	40	15
				Vc	54	54	54	54	65	65	65	58	58	69	69	62	62	62	72
				fz	0.008	0.007	0.006	0.006	0.012	0.012	0.012	0.01	0.01	0.017	0.017	0.015	0.015	0.014	0.024
				RPM	5730	5730	5730	5730	5173	5173	5173	4615	4615	4393	4393	3947	3947	3947	3820
				FEED	92	80	69	69	124	124	124	92	92	149	149	118	118	111	183
	6-8	1.0D	0.3D (up to Ø3:0.4mm)	Vc	54	54	54	54	65	65	65	58	58	69	69	62	62	62	72
				fz	0.008	0.007	0.006	0.006	0.012	0.012	0.012	0.01	0.01	0.017	0.017	0.015	0.015	0.014	0.024
				RPM	5730	5730	5730	5730	5173	5173	5173	4615	4615	4393	4393	3947	3947	3947	3820
				FEED	92	80	69	69	124	124	124	92	92	149	149	118	118	111	183
	9	1.0D	0.3D (up to Ø3:0.4mm)	Vc	44	44	44	44	52	52	52	46	46	55	55	49	49	49	57
				fz	0.008	0.008	0.006	0.006	0.012	0.012	0.012	0.012	0.012	0.018	0.018	0.016	0.016	0.014	0.025
				RPM	4669	4669	4669	4669	4138	4138	4138	3661	3661	3501	3501	3119	3119	3119	3024
				FEED	75	75	56	56	99	99	99	88	88	126	126	100	100	87	151
	10-11.1	1.0D	0.3D (up to Ø3:0.4mm)	Vc	54	54	54	54	65	65	65	58	58	69	69	62	62	62	72
				fz	0.008	0.007	0.006	0.006	0.012	0.012	0.012	0.01	0.01	0.017	0.017	0.015	0.015	0.014	0.024
				RPM	5730	5730	5730	5730	5173	5173	5173	4615	4615	4393	4393	3947	3947	3947	3820
				FEED	92	80	69	69	124	124	124	92	92	149	149	118	118	111	183
	11.2	1.0D	0.3D (up to Ø3:0.4mm)	Vc	44	44	44	44	52	52	52	46	46	55	55	49	49	49	57
				fz	0.008	0.008	0.006	0.006	0.012	0.012	0.012	0.012	0.012	0.018	0.018	0.016	0.016	0.014	0.025
				RPM	4669	4669	4669	4669	4138	4138	4138	3661	3661	3501	3501	3119	3119	3119	3024
				FEED	75	75	56	56	99	99	99	88	88	126	126	100	100	87	151
K	15-20	1.0D	0.3D (up to Ø3:0.4mm)	Vc	54	54	54	54	65	65	65	58	58	69	69	62	62	62	72
				fz	0.008	0.007	0.006	0.006	0.012	0.012	0.012	0.01	0.01	0.017	0.017	0.015	0.015	0.014	0.024
				RPM	5730	5730	5730	5730	5173	5173	5173	4615	4615	4393	4393	3947	3947	3947	3820
				FEED	92	80	69	69	124	124	124	92	92	149	149	118	118	111	183
H	38.1 - 38.2	1.0D	0.05D	Vc	27	27	27	27	32	32	32	29	29	36	36	32	32	32	37
				fz	0.007	0.006	0.005	0.005	0.01	0.01	0.01	0.009	0.009	0.012	0.012	0.011	0.011	0.01	0.018
				RPM	2865	2865	2865	2865	2546	2546	2546	2308	2308	2292	2292	2037	2037	2037	1963
				FEED	40	34	29	29	51	51	51	42	42	55	55	45	45	41	71
	40	1.0D	0.3D (up to Ø3:0.4mm)	Vc	44	44	44	44	52	52	52	46	46	55	55	49	49	49	57
				fz	0.008	0.008	0.006	0.006	0.012	0.012	0.012	0.012	0.012	0.018	0.018	0.016	0.016	0.014	0.025
				RPM	4669	4669	4669	4669	4138	4138	4138	3661	3661	3501	3501	3119	3119	3119	3024
				FEED	75	75	56	56	99	99	99	88	88	126	126	100	100	87	151
	41	1.0D	0.05D	Vc	27	27	27	27	32	32	32	29	29	36	36	32	32	32	37
				fz	0.007	0.006	0.005	0.005	0.01	0.01	0.01	0.009	0.009	0.012	0.012	0.011	0.011	0.01	0.018
				RPM	4669	4669	4669	4669	4138	4138	4138	3661	3661	3501	3501	3119	3119	3119	3024
				FEED	75	75	56	56	99	99	99	88	88	126	126	100	100	87	151

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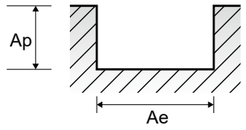

4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME70 SERIES — 2 FLUTE - SLOTTING — 2刃 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) LOC (刃长) = Length of Cut
RPM (转速) = (rev./min.)

VDI 3323	Parameter 参数	Diameter (Ø) 直径																			
	LOC	6.0	6.0	6.0	6.0	6.0	6.0	8.0	8.0	8.0	8.0	8.0	8.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	12.0
		20	25	30	35	40	45	25	30	35	40	45	50	30	35	40	45	50	55	60	35
1-5	Vc	72	72	72	64	64	64	72	72	72	72	65	65	77	77	77	77	77	69	69	75
	fz	0.024	0.024	0.02	0.02	0.018	0.018	0.033	0.033	0.033	0.028	0.028	0.025	0.039	0.039	0.039	0.033	0.033	0.033	0.029	0.038
	RPM	3820	3820	3820	3395	3395	3395	2865	2865	2865	2865	2586	2586	2451	2451	2451	2451	2451	2196	2196	1989
	FEED	183	183	153	136	122	122	189	189	189	160	145	129	191	191	191	162	162	145	127	151
6-8	Vc	72	72	72	64	64	64	72	72	72	72	65	65	77	77	77	77	77	69	69	75
	fz	0.024	0.024	0.02	0.02	0.018	0.018	0.033	0.033	0.033	0.028	0.028	0.025	0.039	0.039	0.039	0.033	0.033	0.033	0.029	0.038
	RPM	3820	3820	3820	3395	3395	3395	2865	2865	2865	2865	2586	2586	2451	2451	2451	2451	2451	2196	2196	1989
	FEED	183	183	153	136	122	122	189	189	189	160	145	129	191	191	191	162	162	145	127	151
9	Vc	57	57	57	52	52	52	57	57	57	57	52	52	63	63	63	63	63	57	57	63
	fz	0.025	0.025	0.021	0.021	0.018	0.018	0.033	0.033	0.033	0.027	0.028	0.024	0.038	0.038	0.038	0.031	0.031	0.032	0.028	0.04
	RPM	3024	3024	3024	2759	2759	2759	2268	2268	2268	2268	2069	2069	2005	2005	2005	2005	2005	1814	1814	1671
	FEED	151	151	127	116	99	99	150	150	150	122	116	99	152	152	152	124	124	116	102	134
10 - 11.1	Vc	72	72	72	64	64	64	72	72	72	72	65	65	77	77	77	77	77	69	69	75
	fz	0.024	0.024	0.02	0.02	0.018	0.018	0.033	0.033	0.033	0.028	0.028	0.025	0.039	0.039	0.039	0.033	0.033	0.033	0.029	0.038
	RPM	3820	3820	3820	3395	3395	3395	2865	2865	2865	2865	2586	2586	2451	2451	2451	2451	2451	2196	2196	1989
	FEED	183	183	153	136	122	122	189	189	189	160	145	129	191	191	191	162	162	145	127	151
11.2	Vc	57	57	57	52	52	52	57	57	57	57	52	52	63	63	63	63	63	57	57	63
	fz	0.025	0.025	0.021	0.021	0.018	0.018	0.033	0.033	0.033	0.027	0.028	0.024	0.038	0.038	0.038	0.031	0.031	0.032	0.028	0.04
	RPM	3024	3024	3024	2759	2759	2759	2268	2268	2268	2268	2069	2069	2005	2005	2005	2005	2005	1814	1814	1671
	FEED	151	151	127	116	99	99	150	150	150	122	116	99	152	152	152	124	124	116	102	134
15 - 20	Vc	72	72	72	64	64	64	72	72	72	72	65	65	77	77	77	77	77	69	69	75
	fz	0.024	0.024	0.02	0.02	0.018	0.018	0.033	0.033	0.033	0.028	0.028	0.025	0.039	0.039	0.039	0.033	0.033	0.033	0.029	0.038
	RPM	3820	3820	3820	3395	3395	3395	2865	2865	2865	2865	2586	2586	2451	2451	2451	2451	2451	2196	2196	1989
	FEED	183	183	153	136	122	122	189	189	189	160	145	129	191	191	191	162	162	145	127	151
38.1 - 38.2	Vc	37	37	37	33	33	33	38	38	38	38	34	34	38	38	38	38	38	34	34	38
	fz	0.018	0.018	0.015	0.016	0.014	0.014	0.023	0.023	0.023	0.02	0.02	0.018	0.029	0.029	0.029	0.025	0.025	0.025	0.023	0.027
	RPM	1963	1963	1963	1751	1751	1751	1512	1512	1512	1512	1353	1353	1210	1210	1210	1210	1210	1082	1082	1008
	FEED	71	71	59	56	49	49	70	70	70	60	54	49	70	70	70	60	60	54	50	54
40	Vc	57	57	57	52	52	52	57	57	57	57	52	52	63	63	63	63	63	57	57	63
	fz	0.025	0.025	0.021	0.021	0.018	0.018	0.033	0.033	0.033	0.027	0.028	0.024	0.038	0.038	0.038	0.031	0.031	0.032	0.028	0.04
	RPM	3024	3024	3024	2759	2759	2759	2268	2268	2268	2268	2069	2069	2005	2005	2005	2005	2005	1814	1814	1671
	FEED	151	151	127	116	99	99	150	150	150	122	116	99	152	152	152	124	124	116	102	134
41	Vc	37	37	37	33	33	33	38	38	38	38	34	34	38	38	38	38	38	34	34	38
	fz	0.018	0.018	0.015	0.016	0.014	0.014	0.023	0.023	0.023	0.02	0.02	0.018	0.029	0.029	0.029	0.025	0.025	0.025	0.023	0.027
	RPM	1963	1963	1963	1751	1751	1751	1512	1512	1512	1512	1353	1353	1210	1210	1210	1210	1210	1082	1082	1008
	FEED	71	71	59	56	49	49	70	70	70	60	54	49	70	70	70	60	60	54	50	54

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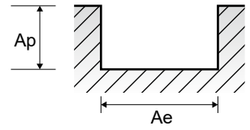

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME70 SERIES — 2 FLUTE - SLOTTING
2刃 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) LOC (刃长) = Length of Cut
RPM (转速) = (rev./min.)

ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径														
				LOC	12.0	12.0	12.0	12.0	12.0	12.0	12.0	14.0	14.0	16.0	16.0	16.0	16.0	16.0	16.0
					40	45	50	55	60	65	70	50	60	40	50	60	70	80	
P	1-5	1.0D	0.3D (up to Ø3:0.4mm)	Vc	75	75	75	75	75	68	68	81	81	85	85	85	85	85	
				fz	0.038	0.033	0.033	0.033	0.028	0.028	0.028	0.034	0.034	0.041	0.041	0.035	0.035	0.031	
				RPM	1989	1989	1989	1989	1989	1804	1804	1842	1842	1691	1691	1691	1691	1691	
				FEED	151	131	131	131	111	101	101	125	125	139	139	118	118	105	
	6-8	1.0D	0.3D (up to Ø3:0.4mm)	Vc	75	75	75	75	75	68	68	81	81	85	85	85	85	85	
				fz	0.038	0.033	0.033	0.033	0.028	0.028	0.028	0.034	0.034	0.041	0.041	0.035	0.035	0.031	
				RPM	1989	1989	1989	1989	1989	1804	1804	1842	1842	1691	1691	1691	1691	1691	
				FEED	151	131	131	131	111	101	101	125	125	139	139	118	118	105	
	9	1.0D	0.3D (up to Ø3:0.4mm)	Vc	63	63	63	63	63	57	57	65	65	64	64	64	64	64	
				fz	0.04	0.034	0.034	0.034	0.03	0.03	0.03	0.034	0.034	0.041	0.041	0.035	0.035	0.031	
				RPM	1671	1671	1671	1671	1671	1512	1512	1478	1478	1273	1273	1273	1273	1273	
				FEED	134	114	114	114	100	91	91	100	100	104	104	89	89	79	
	10-11.1	1.0D	0.3D (up to Ø3:0.4mm)	Vc	75	75	75	75	75	68	68	81	81	85	85	85	85	85	
				fz	0.038	0.033	0.033	0.033	0.028	0.028	0.028	0.034	0.034	0.041	0.041	0.035	0.035	0.031	
				RPM	1989	1989	1989	1989	1989	1804	1804	1842	1842	1691	1691	1691	1691	1691	
				FEED	151	131	131	131	111	101	101	125	125	139	139	118	118	105	
	11.2	1.0D	0.3D (up to Ø3:0.4mm)	Vc	63	63	63	63	63	57	57	65	65	64	64	64	64	64	
				fz	0.04	0.034	0.034	0.034	0.03	0.03	0.03	0.034	0.034	0.041	0.041	0.035	0.035	0.031	
				RPM	1671	1671	1671	1671	1671	1512	1512	1478	1478	1273	1273	1273	1273	1273	
				FEED	134	114	114	114	100	91	91	100	100	104	104	89	89	79	
K	15-20	1.0D	0.3D (up to Ø3:0.4mm)	Vc	75	75	75	75	75	68	68	81	81	85	85	85	85	85	
				fz	0.038	0.033	0.033	0.033	0.028	0.028	0.028	0.034	0.034	0.041	0.041	0.035	0.035	0.031	
				RPM	1989	1989	1989	1989	1989	1804	1804	1842	1842	1691	1691	1691	1691	1691	
				FEED	151	131	131	131	111	101	101	125	125	139	139	118	118	105	
H	38.1 - 38.2	1.0D	0.05D	Vc	38	38	38	38	38	34	34	40	40	40	40	40	40	40	
				fz	0.027	0.022	0.022	0.022	0.02	0.019	0.019	0.025	0.025	0.031	0.031	0.025	0.025	0.022	
				RPM	1008	1008	1008	1008	1008	902	902	909	909	796	796	796	796	796	
				FEED	54	44	44	44	40	34	34	45	45	49	49	40	40	35	
	40	1.0D	0.3D (up to Ø3:0.4mm)	Vc	63	63	63	63	63	57	57	65	65	64	64	64	64	64	
				fz	0.04	0.034	0.034	0.034	0.03	0.03	0.03	0.034	0.034	0.041	0.041	0.035	0.035	0.031	
				RPM	1671	1671	1671	1671	1671	1512	1512	1478	1478	1273	1273	1273	1273	1273	
				FEED	134	114	114	114	100	91	91	100	100	104	104	89	89	79	
	41	1.0D	0.05D	Vc	38	38	38	38	38	34	34	40	40	40	40	40	40	40	
				fz	0.027	0.022	0.022	0.022	0.02	0.019	0.019	0.025	0.025	0.031	0.031	0.025	0.025	0.022	
				RPM	1008	1008	1008	1008	1008	902	902	909	909	796	796	796	796	796	
				FEED	54	44	44	44	40	34	34	45	45	49	49	40	40	35	

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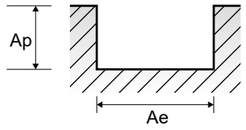
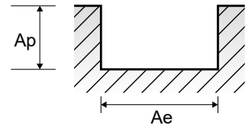


4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME70 SERIES — 2 FLUTE - SLOTTING
2刃 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) LOC (刃长) = Length of Cut
RPM (转速) = (rev./min.)

VDI 3323	Parameter 参数	Diameter (Ø) 直径																	
	LOC	16.0	16.0	16.0	18.0	18.0	18.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	22.0	22.0	25.0	25.0	25.0	25.0
		90	110	120	50	70	100	50	60	70	80	90	110	120	75	110	70	90	110	120
1-5	Vc	77	77	77	82	82	74	77	77	77	77	77	69	69	76	76	77	77	77	77
	fz	0.031	0.031	0.031	0.041	0.034	0.031	0.041	0.041	0.035	0.035	0.031	0.032	0.032	0.034	0.032	0.041	0.036	0.036	0.031
	RPM	1532	1532	1532	1450	1450	1309	1225	1225	1225	1225	1225	1098	1098	1100	1100	980	980	980	980
	FEED	95	95	95	119	99	81	100	100	86	86	76	70	70	75	70	80	71	71	61
6-8	Vc	77	77	77	82	82	74	77	77	77	77	77	69	69	76	76	77	77	77	77
	fz	0.031	0.031	0.031	0.041	0.034	0.031	0.041	0.041	0.035	0.035	0.031	0.032	0.032	0.034	0.032	0.041	0.036	0.036	0.031
	RPM	1532	1532	1532	1450	1450	1309	1225	1225	1225	1225	1225	1098	1098	1100	1100	980	980	980	980
	FEED	95	95	95	119	99	81	100	100	86	86	76	70	70	75	70	80	71	71	61
9	Vc	58	58	58	63	63	57	60	60	60	60	60	54	54	58	58	59	59	59	59
	fz	0.03	0.03	0.03	0.04	0.033	0.03	0.039	0.039	0.034	0.034	0.029	0.029	0.029	0.033	0.03	0.04	0.033	0.033	0.03
	RPM	1154	1154	1154	1114	1114	1008	955	955	955	955	955	859	859	839	839	751	751	751	751
	FEED	69	69	69	89	74	60	74	74	65	65	55	50	50	55	50	60	50	50	45
10 - 11.1	Vc	77	77	77	82	82	74	77	77	77	77	77	69	69	76	76	77	77	77	77
	fz	0.031	0.031	0.031	0.041	0.034	0.031	0.041	0.041	0.035	0.035	0.031	0.032	0.032	0.034	0.032	0.041	0.036	0.036	0.031
	RPM	1532	1532	1532	1450	1450	1309	1225	1225	1225	1225	1225	1098	1098	1100	1100	980	980	980	980
	FEED	95	95	95	119	99	81	100	100	86	86	76	70	70	75	70	80	71	71	61
11.2	Vc	58	58	58	63	63	57	60	60	60	60	60	54	54	58	58	59	59	59	59
	fz	0.03	0.03	0.03	0.04	0.033	0.03	0.039	0.039	0.034	0.034	0.029	0.029	0.029	0.033	0.03	0.04	0.033	0.033	0.03
	RPM	1154	1154	1154	1114	1114	1008	955	955	955	955	955	859	859	839	839	751	751	751	751
	FEED	69	69	69	89	74	60	74	74	65	65	55	50	50	55	50	60	50	50	45
15 - 20	Vc	77	77	77	82	82	74	77	77	77	77	77	69	69	76	76	77	77	77	77
	fz	0.031	0.031	0.031	0.041	0.034	0.031	0.041	0.041	0.035	0.035	0.031	0.032	0.032	0.034	0.032	0.041	0.036	0.036	0.031
	RPM	1532	1532	1532	1450	1450	1309	1225	1225	1225	1225	1225	1098	1098	1100	1100	980	980	980	980
	FEED	95	95	95	119	99	81	100	100	86	86	76	70	70	75	70	80	71	71	61
38.1 - 38.2	Vc	36	36	36	40	40	36	38	38	38	38	38	34	34	38	38	38	38	38	38
	fz	0.021	0.021	0.021	0.029	0.025	0.024	0.029	0.029	0.025	0.025	0.021	0.023	0.023	0.027	0.023	0.031	0.026	0.026	0.026
	RPM	716	716	716	707	707	637	605	605	605	605	605	541	541	550	550	484	484	484	484
	FEED	30	30	30	41	35	31	35	35	30	30	25	25	25	30	25	30	25	25	25
40	Vc	58	58	58	63	63	57	60	60	60	60	60	54	54	58	58	59	59	59	59
	fz	0.03	0.03	0.03	0.04	0.033	0.03	0.039	0.039	0.034	0.034	0.029	0.029	0.029	0.033	0.03	0.04	0.033	0.033	0.03
	RPM	1154	1154	1154	1114	1114	1008	955	955	955	955	955	859	859	839	839	751	751	751	751
	FEED	69	69	69	89	74	60	74	74	65	65	55	50	50	55	50	60	50	50	45
41	Vc	36	36	36	40	40	36	38	38	38	38	38	34	34	38	38	38	38	38	38
	fz	0.021	0.021	0.021	0.029	0.025	0.024	0.029	0.029	0.025	0.025	0.021	0.023	0.023	0.027	0.023	0.031	0.026	0.026	0.026
	RPM	716	716	716	707	707	637	605	605	605	605	605	541	541	550	550	484	484	484	484
	FEED	30	30	30	41	35	31	35	35	30	30	25	25	25	30	25	30	25	25	25



4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEM845 SERIES — 2 FLUTE - SLOTTING / 2刃- 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

ISO	VDI 3323	Material Description 工件材料	Parameter 参数	Diameter (Ø) 直径																
				0.1	0.1	0.1	0.15	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4
			LBS	0.3	0.5	1	0.35	0.5	1	1.5	2	1	1.5	2	2.5	3	4	5	1	1.5
P	1-5	Non-alloy steel	Vc	16	16	14	20	24	24	22	22	32	32	29	29	29	26	19	34	34
			fz	0.003	0.003	0.003	0.004	0.005	0.005	0.004	0.004	0.006	0.006	0.005	0.005	0.005	0.005	0.004	0.01	0.01
			RPM	50930	50930	44563	42441	38197	38197	35014	35014	33953	33953	30770	30770	30770	27587	20160	27056	27056
			FEED	306	306	267	340	382	382	280	280	407	407	308	308	308	276	161	541	541
			Ap	0.009	0.006	0.002	0.013	0.018	0.013	0.007	0.005	0.019	0.019	0.011	0.007	0.007	0.004	0.003	0.036	0.025
	6-8	Low alloy steel	Vc	16	16	14	20	24	24	22	22	32	32	29	29	29	26	19	34	34
			fz	0.003	0.003	0.003	0.004	0.005	0.005	0.004	0.004	0.006	0.006	0.005	0.005	0.005	0.005	0.004	0.01	0.01
			RPM	50930	50930	44563	42441	38197	38197	35014	35014	33953	33953	30770	30770	30770	27587	20160	27056	27056
			FEED	306	306	267	340	382	382	280	280	407	407	308	308	308	276	161	541	541
			Ap	0.009	0.006	0.002	0.013	0.018	0.013	0.007	0.005	0.019	0.019	0.011	0.007	0.007	0.004	0.003	0.036	0.025
	9		Vc	15	15	13	19	23	23	21	21	30	30	27	27	27	24	18	32	32
			fz	0.002	0.002	0.002	0.003	0.004	0.004	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.007	0.007
			RPM	47746	47746	41380	40319	36606	36606	33423	33423	31831	31831	28648	28648	28648	25465	19099	25465	25465
			FEED	191	191	166	242	293	293	201	201	255	255	229	229	229	153	115	357	357
			Ap	0.007	0.005	0.002	0.010	0.014	0.01	0.006	0.004	0.015	0.015	0.008	0.005	0.005	0.003	0.002	0.028	0.02
	10-11.1	High alloyed steel, and tool steel	Vc	16	16	14	20	24	24	22	22	32	32	29	29	29	26	19	34	34
			fz	0.003	0.003	0.003	0.004	0.005	0.005	0.004	0.004	0.006	0.006	0.005	0.005	0.005	0.005	0.004	0.01	0.01
			RPM	50930	50930	44563	42441	38197	38197	35014	35014	33953	33953	30770	30770	30770	27587	20160	27056	27056
			FEED	306	306	267	340	382	382	280	280	407	407	308	308	308	276	161	541	541
			Ap	0.009	0.006	0.002	0.013	0.018	0.013	0.007	0.005	0.019	0.019	0.011	0.007	0.007	0.004	0.003	0.036	0.025
	11.2		Vc	15	15	13	19	23	23	21	21	30	30	27	27	27	24	18	32	32
			fz	0.002	0.002	0.002	0.003	0.004	0.004	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.007	0.007
			RPM	47746	47746	41380	40319	36606	36606	33423	33423	31831	31831	28648	28648	28648	25465	19099	25465	25465
			FEED	191	191	166	242	293	293	201	201	255	255	229	229	229	153	115	357	357
			Ap	0.007	0.005	0.002	0.010	0.014	0.01	0.006	0.004	0.015	0.015	0.008	0.005	0.005	0.003	0.002	0.028	0.02
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	Vc	16	16	14	20	24	24	22	22	32	32	29	29	29	26	19	34	34
			fz	0.003	0.003	0.003	0.004	0.005	0.005	0.004	0.004	0.006	0.006	0.005	0.005	0.005	0.005	0.004	0.01	0.01
			RPM	50930	50930	44563	42441	38197	38197	35014	35014	33953	33953	30770	30770	30770	27587	20160	27056	27056
			FEED	306	306	267	340	382	382	280	280	407	407	308	308	308	276	161	541	541
			Ap	0.009	0.006	0.002	0.013	0.018	0.013	0.007	0.005	0.019	0.019	0.011	0.007	0.007	0.004	0.003	0.036	0.025
H	38.1 - 38.2	Hardened steel	Vc	13	13	11	16	20	20	18	18	27	27	24	24	24	21	16	29	29
			fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.006	0.006
			RPM	41380	41380	35014	33953	31831	31831	28648	28648	28648	28648	25465	25465	25465	22282	16977	23077	23077
			FEED	166	166	140	136	191	191	172	172	229	229	204	204	204	134	102	277	277
			Ap	0.005	0.004	0.001	0.007	0.01	0.007	0.004	0.003	0.011	0.011	0.006	0.004	0.004	0.002	0.002	0.02	0.014
	40	Chilled Cast Iron	Vc	15	15	13	19	23	23	21	21	30	30	27	27	27	24	18	32	32
			fz	0.002	0.002	0.002	0.003	0.004	0.004	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.007	0.007
			RPM	47746	47746	41380	40319	36606	36606	33423	33423	31831	31831	28648	28648	28648	25465	19099	25465	25465
			FEED	191	191	166	242	293	293	201	201	255	255	229	229	229	153	115	357	357
			Ap	0.007	0.005	0.002	0.010	0.014	0.01	0.006	0.004	0.015	0.015	0.008	0.005	0.005	0.003	0.002	0.028	0.02
	41	Hardened Cast Iron	Vc	13	13	11	16	20	20	18	18	27	27	24	24	24	21	16	29	29
			fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.006	0.006
			RPM	41380	41380	35014	33953	31831	31831	28648	28648	28648	28648	25465	25465	25465	22282	16977	23077	23077
			FEED	166	166	140	136	191	191	172	172	229	229	204	204	204	134	102	277	277
			Ap	0.005	0.004	0.001	0.007	0.01	0.007	0.004	0.003	0.011	0.011	0.006	0.004	0.004	0.002	0.002	0.02	0.014

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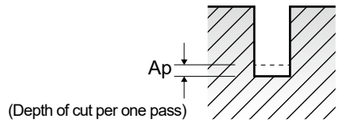

4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
SEM845 SERIES — 2 FLUTE - SLOTTING / 2刃- 槽铣削
Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

VDI 3323	Parameter 参数	Diameter (Ø) 直径																							
		0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6
	LBS	2	2.5	3	4	5	6	8	10	1	1.5	2	2.5	3	4	5	6	8	10	12	14	16	2	3
1-5	Vc	34	31	31	31	28	28	21	10	43	43	43	43	39	39	39	34	26	26	13	13	4	52	52
	fz	0.01	0.009	0.009	0.009	0.008	0.008	0.007	0.006	0.01	0.01	0.01	0.01	0.009	0.009	0.009	0.008	0.007	0.007	0.006	0.006	0.005	0.014	0.014
	RPM	27056	24669	24669	24669	22282	22282	16711	7958	27375	27375	27375	27375	24828	24828	24828	21645	16552	16552	8276	8276	2546	27587	27587
	FEED	541	444	444	444	357	357	234	95	547	547	547	547	447	447	447	346	232	232	99	99	25	772	772
	Ap	0.025	0.014	0.014	0.009	0.009	0.005	0.004	0.004	0.045	0.045	0.032	0.032	0.018	0.018	0.011	0.011	0.007	0.005	0.005	0.005	0.005	0.038	0.038
6-8	Vc	34	31	31	31	28	28	21	10	43	43	43	43	39	39	39	34	26	26	13	13	4	52	52
	fz	0.01	0.009	0.009	0.009	0.008	0.008	0.007	0.006	0.01	0.01	0.01	0.01	0.009	0.009	0.009	0.008	0.007	0.007	0.006	0.006	0.005	0.014	0.014
	RPM	27056	24669	24669	24669	22282	22282	16711	7958	27375	27375	27375	27375	24828	24828	24828	21645	16552	16552	8276	8276	2546	27587	27587
	FEED	541	444	444	444	357	357	234	95	547	547	547	547	447	447	447	346	232	232	99	99	25	772	772
	Ap	0.025	0.014	0.014	0.009	0.009	0.005	0.004	0.004	0.045	0.045	0.032	0.032	0.018	0.018	0.011	0.011	0.007	0.005	0.005	0.005	0.005	0.038	0.038
9	Vc	32	29	29	29	26	26	19	10	41	41	41	41	36	36	36	32	24	24	12	12	4	49	49
	fz	0.007	0.007	0.007	0.007	0.006	0.006	0.005	0.005	0.008	0.008	0.008	0.008	0.007	0.007	0.007	0.007	0.006	0.006	0.005	0.005	0.004	0.011	0.011
	RPM	25465	23077	23077	23077	20690	20690	15120	7958	26101	26101	26101	26101	22918	22918	22918	20372	15279	15279	7639	7639	2546	25995	25995
	FEED	357	323	323	323	248	248	151	80	418	418	418	418	321	321	321	285	183	183	76	76	20	572	572
	Ap	0.02	0.011	0.011	0.007	0.007	0.004	0.003	0.003	0.035	0.035	0.025	0.025	0.014	0.014	0.009	0.009	0.005	0.004	0.004	0.004	0.004	0.029	0.029
10 - 11.1	Vc	34	31	31	31	28	28	21	10	43	43	43	43	39	39	39	34	26	26	13	13	4	52	52
	fz	0.01	0.009	0.009	0.009	0.008	0.008	0.007	0.006	0.01	0.01	0.01	0.01	0.009	0.009	0.009	0.008	0.007	0.007	0.006	0.006	0.005	0.014	0.014
	RPM	27056	24669	24669	24669	22282	22282	16711	7958	27375	27375	27375	27375	24828	24828	24828	21645	16552	16552	8276	8276	2546	27587	27587
	FEED	541	444	444	444	357	357	234	95	547	547	547	547	447	447	447	346	232	232	99	99	25	772	772
	Ap	0.025	0.014	0.014	0.009	0.009	0.005	0.004	0.004	0.045	0.045	0.032	0.032	0.018	0.018	0.011	0.011	0.007	0.005	0.005	0.005	0.005	0.038	0.038
11.2	Vc	32	29	29	29	26	26	19	10	41	41	41	41	36	36	36	32	24	24	12	12	4	49	49
	fz	0.007	0.007	0.007	0.007	0.006	0.006	0.005	0.005	0.008	0.008	0.008	0.008	0.007	0.007	0.007	0.007	0.006	0.006	0.005	0.005	0.004	0.011	0.011
	RPM	25465	23077	23077	23077	20690	20690	15120	7958	26101	26101	26101	26101	22918	22918	22918	20372	15279	15279	7639	7639	2546	25995	25995
	FEED	357	323	323	323	248	248	151	80	418	418	418	418	321	321	321	285	183	183	76	76	20	572	572
	Ap	0.02	0.011	0.011	0.007	0.007	0.004	0.003	0.003	0.035	0.035	0.025	0.025	0.014	0.014	0.009	0.009	0.005	0.004	0.004	0.004	0.004	0.029	0.029
15 - 20	Vc	34	31	31	31	28	28	21	10	43	43	43	43	39	39	39	34	26	26	13	13	4	52	52
	fz	0.01	0.009	0.009	0.009	0.008	0.008	0.007	0.006	0.01	0.01	0.01	0.01	0.009	0.009	0.009	0.008	0.007	0.007	0.006	0.006	0.005	0.014	0.014
	RPM	27056	24669	24669	24669	22282	22282	16711	7958	27375	27375	27375	27375	24828	24828	24828	21645	16552	16552	8276	8276	2546	27587	27587
	FEED	541	444	444	444	357	357	234	95	547	547	547	547	447	447	447	346	232	232	99	99	25	772	772
	Ap	0.025	0.014	0.014	0.009	0.009	0.005	0.004	0.004	0.045	0.045	0.032	0.032	0.018	0.018	0.011	0.011	0.007	0.005	0.005	0.005	0.005	0.038	0.038
38.1 - 38.2	Vc	29	26	26	26	23	23	17	9	36	36	36	36	32	32	32	29	21	21	11	11	4	43	43
	fz	0.006	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.005	0.004	0.004	0.004	0.004	0.003	0.009	0.009
	RPM	23077	20690	20690	20690	18303	18303	13528	7162	22918	22918	22918	22918	20372	20372	20372	18462	13369	13369	7003	7003	2546	22812	22812
	FEED	277	207	207	207	183	183	108	57	275	275	275	275	244	244	244	185	107	107	56	56	15	411	411
	Ap	0.014	0.008	0.008	0.005	0.005	0.003	0.002	0.002	0.025	0.025	0.018	0.018	0.01	0.01	0.006	0.006	0.004	0.003	0.003	0.003	0.003	0.021	0.021
40	Vc	32	29	29	29	26	26	19	10	41	41	41	41	36	36	36	32	24	24	12	12	4	49	49
	fz	0.007	0.007	0.007	0.007	0.006	0.006	0.005	0.005	0.008	0.008	0.008	0.008	0.007	0.007	0.007	0.007	0.006	0.006	0.005	0.005	0.004	0.011	0.011
	RPM	25465	23077	23077	23077	20690	20690	15120	7958	26101	26101	26101	26101	22918	22918	22918	20372	15279	15279	7639	7639	2546	25995	25995
	FEED	357	323	323	323	248	248	151	80	418	418	418	418	321	321	321	285	183	183	76	76	20	572	572
	Ap	0.02	0.011	0.011	0.007	0.007	0.004	0.003	0.003	0.035	0.035	0.025	0.025	0.014	0.014	0.009	0.009	0.005	0.004	0.004	0.004	0.004	0.029	0.029
41	Vc	29	26	26	26	23	23	17	9	36	36	36	36	32	32	32	29	21	21	11	11	4	43	43
	fz	0.006	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.005	0.004	0.004	0.004	0.004	0.003	0.009	0.009
	RPM	23077	20690	20690	20690	18303	18303	13528	7162	22918	22918	22918	22918	20372	20372	20372	18462	13369	13369	7003	7003	2546	22812	22812
	FEED	277	207	207	207	183	183	108	57	275	275	275	275	244	244	244	185	107	107	56	56	15	411	411
	Ap	0.014	0.008	0.008	0.005	0.005	0.003	0.002	0.002	0.025	0.025	0.018	0.018	0.01	0.01	0.006	0.006	0.004	0.003	0.003	0.003	0.003	0.021	0.021

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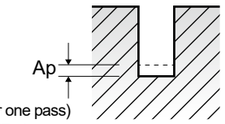

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEM845 SERIES — 2 FLUTE - SLOTTING / 2刃- 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

ISO	VDI 3323	Parameter 参数	Diameter (Ø) 直径																		
			0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8
		LBS	4	5	6	8	10	12	14	16	2	4	6	8	10	12	2	3	4	5	6	8
P	1-5	Vc	46	46	46	41	31	31	15	15	60	54	54	48	48	36	69	69	69	62	62	62
		fz	0.013	0.013	0.013	0.011	0.01	0.01	0.009	0.009	0.014	0.013	0.013	0.011	0.011	0.01	0.014	0.014	0.014	0.013	0.013	0.013
		RPM	24404	24404	24404	21751	16446	16446	7958	7958	27284	24555	24555	21827	21827	16370	27454	27454	27454	24669	24669	24669
		FEED	634	634	634	479	329	329	143	143	764	638	638	480	480	327	769	769	769	641	641	641
		Ap	0.022	0.014	0.014	0.008	0.005	0.005	0.005	0.005	0.063	0.025	0.016	0.016	0.009	0.006	0.072	0.05	0.05	0.029	0.029	0.018
	6-8	Vc	46	46	46	41	31	31	15	15	60	54	54	48	48	36	69	69	69	62	62	62
		fz	0.013	0.013	0.013	0.011	0.01	0.01	0.009	0.009	0.014	0.013	0.013	0.011	0.011	0.01	0.014	0.014	0.014	0.013	0.013	0.013
		RPM	24404	24404	24404	21751	16446	16446	7958	7958	27284	24555	24555	21827	21827	16370	27454	27454	27454	24669	24669	24669
		FEED	634	634	634	479	329	329	143	143	764	638	638	480	480	327	769	769	769	641	641	641
		Ap	0.022	0.014	0.014	0.008	0.005	0.005	0.005	0.005	0.063	0.025	0.016	0.016	0.009	0.006	0.072	0.05	0.05	0.029	0.029	0.018
	9	Vc	44	44	44	39	29	29	15	15	57	51	51	45	45	34	65	65	65	58	58	58
		fz	0.009	0.009	0.009	0.008	0.007	0.007	0.006	0.006	0.011	0.009	0.009	0.008	0.008	0.007	0.012	0.012	0.012	0.011	0.011	0.011
		RPM	23343	23343	23343	20690	15385	15385	7958	7958	25920	23191	23191	20463	20463	15461	25863	25863	25863	23077	23077	23077
		FEED	420	420	420	331	215	215	95	95	570	417	417	327	327	216	621	621	621	508	508	508
		Ap	0.017	0.011	0.011	0.006	0.004	0.004	0.004	0.004	0.049	0.02	0.012	0.012	0.007	0.005	0.056	0.039	0.039	0.022	0.022	0.014
	10-11.1	Vc	46	46	46	41	31	31	15	15	60	54	54	48	48	36	69	69	69	62	62	62
		fz	0.013	0.013	0.013	0.011	0.01	0.01	0.009	0.009	0.014	0.013	0.013	0.011	0.011	0.01	0.014	0.014	0.014	0.013	0.013	0.013
		RPM	24404	24404	24404	21751	16446	16446	7958	7958	27284	24555	24555	21827	21827	16370	27454	27454	27454	24669	24669	24669
		FEED	634	634	634	479	329	329	143	143	764	638	638	480	480	327	769	769	769	641	641	641
		Ap	0.022	0.014	0.014	0.008	0.005	0.005	0.005	0.005	0.063	0.025	0.016	0.016	0.009	0.006	0.072	0.05	0.05	0.029	0.029	0.018
	11.2	Vc	44	44	44	39	29	29	15	15	57	51	51	45	45	34	65	65	65	58	58	58
		fz	0.009	0.009	0.009	0.008	0.007	0.007	0.006	0.006	0.011	0.009	0.009	0.008	0.008	0.007	0.012	0.012	0.012	0.011	0.011	0.011
		RPM	23343	23343	23343	20690	15385	15385	7958	7958	25920	23191	23191	20463	20463	15461	25863	25863	25863	23077	23077	23077
		FEED	420	420	420	331	215	215	95	95	570	417	417	327	327	216	621	621	621	508	508	508
		Ap	0.017	0.011	0.011	0.006	0.004	0.004	0.004	0.004	0.049	0.02	0.012	0.012	0.007	0.005	0.056	0.039	0.039	0.022	0.022	0.014
K	15-20	Vc	46	46	46	41	31	31	15	15	60	54	54	48	48	36	69	69	69	62	62	62
		fz	0.013	0.013	0.013	0.011	0.01	0.01	0.009	0.009	0.014	0.013	0.013	0.011	0.011	0.01	0.014	0.014	0.014	0.013	0.013	0.013
		RPM	24404	24404	24404	21751	16446	16446	7958	7958	27284	24555	24555	21827	21827	16370	27454	27454	27454	24669	24669	24669
		FEED	634	634	634	479	329	329	143	143	764	638	638	480	480	327	769	769	769	641	641	641
		Ap	0.022	0.014	0.014	0.008	0.005	0.005	0.005	0.005	0.063	0.025	0.016	0.016	0.009	0.006	0.072	0.05	0.05	0.029	0.029	0.018
H	38.1 - 38.2	Vc	39	39	39	34	26	26	13	13	50	45	45	40	40	30	57	57	57	52	52	52
		fz	0.008	0.008	0.008	0.007	0.006	0.006	0.005	0.005	0.009	0.008	0.008	0.007	0.007	0.006	0.01	0.01	0.01	0.009	0.009	0.009
		RPM	20690	20690	20690	18038	13793	13793	6897	6897	22736	20463	20463	18189	18189	13642	22680	22680	22680	20690	20690	20690
		FEED	331	331	331	253	166	166	69	69	409	327	327	255	255	164	454	454	454	372	372	372
		Ap	0.012	0.008	0.008	0.005	0.003	0.003	0.003	0.003	0.035	0.014	0.009	0.009	0.005	0.004	0.04	0.028	0.028	0.016	0.016	0.01
	40	Vc	44	44	44	39	29	29	15	15	57	51	51	45	45	34	65	65	65	58	58	58
		fz	0.009	0.009	0.009	0.008	0.007	0.007	0.006	0.006	0.011	0.009	0.009	0.008	0.008	0.007	0.012	0.012	0.012	0.011	0.011	0.011
		RPM	23343	23343	23343	20690	15385	15385	7958	7958	25920	23191	23191	20463	20463	15461	25863	25863	25863	23077	23077	23077
		FEED	420	420	420	331	215	215	95	95	570	417	417	327	327	216	621	621	621	508	508	508
		Ap	0.017	0.011	0.011	0.006	0.004	0.004	0.004	0.004	0.049	0.02	0.012	0.012	0.007	0.005	0.056	0.039	0.039	0.022	0.022	0.014
	41	Vc	39	39	39	34	26	26	13	13	50	45	45	40	40	30	57	57	57	52	52	52
		fz	0.008	0.008	0.008	0.007	0.006	0.006	0.005	0.005	0.009	0.008	0.008	0.007	0.007	0.006	0.01	0.01	0.01	0.009	0.009	0.009
		RPM	20690	20690	20690	18038	13793	13793	6897	6897	22736	20463	20463	18189	18189	13642	22680	22680	22680	20690	20690	20690
		FEED	331	331	331	253	166	166	69	69	409	327	327	255	255	164	454	454	454	372	372	372
		Ap	0.012	0.008	0.008	0.005	0.003	0.003	0.003	0.003	0.035	0.014	0.009	0.009	0.005	0.004	0.04	0.028	0.028	0.016	0.016	0.01

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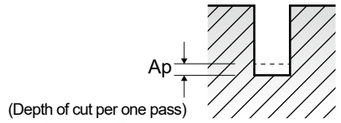

4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
SEM845 SERIES — 2 FLUTE - SLOTTING / 2刃- 槽铣削
Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

VDI 3323	Parameter 参数	Diameter (Ø) 直径																			
		0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	LBS	10	12	14	16	20	6	8	10	2	3	4	5	6	7	8	10	12	14	16	18	20	22
1-5	Vc	55	55	41	41	21	63	63	56	77	77	77	77	70	70	70	70	62	62	46	46	46	23
	fz	0.011	0.011	0.01	0.01	0.009	0.013	0.013	0.012	0.021	0.021	0.021	0.021	0.019	0.019	0.019	0.019	0.017	0.017	0.015	0.015	0.015	0.013
	RPM	21884	21884	16313	16313	8356	22282	22282	19806	24510	24510	24510	24510	22282	22282	22282	22282	19735	19735	14642	14642	14642	7321
	FEED	481	481	326	326	150	579	579	475	1029	1029	1029	1029	847	847	847	847	671	671	439	439	439	190
	Ap	0.018	0.011	0.007	0.007	0.007	0.032	0.02	0.02	0.09	0.09	0.063	0.063	0.036	0.036	0.036	0.023	0.023	0.014	0.014	0.009	0.009	0.009
6-8	Vc	55	55	41	41	21	63	63	56	77	77	77	77	70	70	70	70	62	62	46	46	46	23
	fz	0.011	0.011	0.01	0.01	0.009	0.013	0.013	0.012	0.021	0.021	0.021	0.021	0.019	0.019	0.019	0.019	0.017	0.017	0.015	0.015	0.015	0.013
	RPM	21884	21884	16313	16313	8356	22282	22282	19806	24510	24510	24510	24510	22282	22282	22282	22282	19735	19735	14642	14642	14642	7321
	FEED	481	481	326	326	150	579	579	475	1029	1029	1029	1029	847	847	847	847	671	671	439	439	439	190
	Ap	0.018	0.011	0.007	0.007	0.007	0.032	0.02	0.02	0.09	0.09	0.063	0.063	0.036	0.036	0.036	0.023	0.023	0.014	0.014	0.009	0.009	0.009
9	Vc	52	52	39	39	19	59	59	53	73	73	73	73	66	66	66	66	59	59	44	44	44	22
	fz	0.009	0.009	0.008	0.008	0.007	0.01	0.01	0.009	0.019	0.019	0.019	0.019	0.017	0.017	0.017	0.017	0.015	0.015	0.013	0.013	0.013	0.011
	RPM	20690	20690	15518	15518	7560	20867	20867	18745	23237	23237	23237	23237	21008	21008	21008	21008	18780	18780	14006	14006	14006	7003
	FEED	372	372	248	248	106	417	417	337	883	883	883	883	714	714	714	714	563	563	364	364	364	154
	Ap	0.014	0.008	0.006	0.006	0.006	0.025	0.016	0.016	0.07	0.07	0.049	0.049	0.028	0.028	0.028	0.018	0.018	0.011	0.011	0.007	0.007	0.007
10 - 11.1	Vc	55	55	41	41	21	63	63	56	77	77	77	77	70	70	70	70	62	62	46	46	46	23
	fz	0.011	0.011	0.01	0.01	0.009	0.013	0.013	0.012	0.021	0.021	0.021	0.021	0.019	0.019	0.019	0.019	0.017	0.017	0.015	0.015	0.015	0.013
	RPM	21884	21884	16313	16313	8356	22282	22282	19806	24510	24510	24510	24510	22282	22282	22282	22282	19735	19735	14642	14642	14642	7321
	FEED	481	481	326	326	150	579	579	475	1029	1029	1029	1029	847	847	847	847	671	671	439	439	439	190
	Ap	0.018	0.011	0.007	0.007	0.007	0.032	0.02	0.02	0.09	0.09	0.063	0.063	0.036	0.036	0.036	0.023	0.023	0.014	0.014	0.009	0.009	0.009
11.2	Vc	52	52	39	39	19	59	59	53	73	73	73	73	66	66	66	66	59	59	44	44	44	22
	fz	0.009	0.009	0.008	0.008	0.007	0.01	0.01	0.009	0.019	0.019	0.019	0.019	0.017	0.017	0.017	0.017	0.015	0.015	0.013	0.013	0.013	0.011
	RPM	20690	20690	15518	15518	7560	20867	20867	18745	23237	23237	23237	23237	21008	21008	21008	21008	18780	18780	14006	14006	14006	7003
	FEED	372	372	248	248	106	417	417	337	883	883	883	883	714	714	714	714	563	563	364	364	364	154
	Ap	0.014	0.008	0.006	0.006	0.006	0.025	0.016	0.016	0.07	0.07	0.049	0.049	0.028	0.028	0.028	0.018	0.018	0.011	0.011	0.007	0.007	0.007
15 - 20	Vc	55	55	41	41	21	63	63	56	77	77	77	77	70	70	70	70	62	62	46	46	46	23
	fz	0.011	0.011	0.01	0.01	0.009	0.013	0.013	0.012	0.021	0.021	0.021	0.021	0.019	0.019	0.019	0.019	0.017	0.017	0.015	0.015	0.015	0.013
	RPM	21884	21884	16313	16313	8356	22282	22282	19806	24510	24510	24510	24510	22282	22282	22282	22282	19735	19735	14642	14642	14642	7321
	FEED	481	481	326	326	150	579	579	475	1029	1029	1029	1029	847	847	847	847	671	671	439	439	439	190
	Ap	0.018	0.011	0.007	0.007	0.007	0.032	0.02	0.02	0.09	0.09	0.063	0.063	0.036	0.036	0.036	0.023	0.023	0.014	0.014	0.009	0.009	0.009
38.1 - 38.2	Vc	46	46	34	34	17	52	52	46	64	64	64	64	58	58	58	58	52	52	39	39	39	19
	fz	0.008	0.008	0.007	0.007	0.006	0.009	0.009	0.008	0.016	0.016	0.016	0.016	0.015	0.015	0.015	0.015	0.013	0.013	0.011	0.011	0.011	0.01
	RPM	18303	18303	13528	13528	6764	18391	18391	16269	20372	20372	20372	20372	18462	18462	18462	18462	16552	16552	12414	12414	12414	6048
	FEED	293	293	189	189	81	331	331	260	652	652	652	652	554	554	554	554	430	430	273	273	273	121
	Ap	0.01	0.006	0.004	0.004	0.004	0.018	0.011	0.011	0.05	0.05	0.035	0.035	0.02	0.02	0.02	0.013	0.013	0.008	0.008	0.005	0.005	0.005
40	Vc	52	52	39	39	19	59	59	53	73	73	73	73	66	66	66	66	59	59	44	44	44	22
	fz	0.009	0.009	0.008	0.008	0.007	0.01	0.01	0.009	0.019	0.019	0.019	0.019	0.017	0.017	0.017	0.017	0.015	0.015	0.013	0.013	0.013	0.011
	RPM	20690	20690	15518	15518	7560	20867	20867	18745	23237	23237	23237	23237	21008	21008	21008	21008	18780	18780	14006	14006	14006	7003
	FEED	372	372	248	248	106	417	417	337	883	883	883	883	714	714	714	714	563	563	364	364	364	154
	Ap	0.014	0.008	0.006	0.006	0.006	0.025	0.016	0.016	0.07	0.07	0.049	0.049	0.028	0.028	0.028	0.018	0.018	0.011	0.011	0.007	0.007	0.007
41	Vc	46	46	34	34	17	52	52	46	64	64	64	64	58	58	58	58	52	52	39	39	39	19
	fz	0.008	0.008	0.007	0.007	0.006	0.009	0.009	0.008	0.016	0.016	0.016	0.016	0.015	0.015	0.015	0.015	0.013	0.013	0.011	0.011	0.011	0.01
	RPM	18303	18303	13528	13528	6764	18391	18391	16269	20372	20372	20372	20372	18462	18462	18462	18462	16552	16552	12414	12414	12414	6048
	FEED	293	293	189	189	81	331	331	260	652	652	652	652	554	554	554	554	430	430	273	273	273	121
	Ap	0.01	0.006	0.004	0.004	0.004	0.018	0.011	0.011	0.05	0.05	0.035	0.035	0.02	0.02	0.02	0.013	0.013	0.008	0.008	0.005	0.005	0.005

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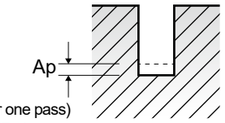

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEM845 SERIES — 2 FLUTE - SLOTTING / 2刃- 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

ISO	VDI 3323	Parameter 参数	Diameter (Ø) 直径																		
			1.0	1.0	1.0	1.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.4	1.4	1.4	1.4	1.4	1.4
		LBS	26	30	40	50	4	6	8	10	12	14	16	20	26	30	6	8	10	14	16	20
P	1-5	Vc	23	23	8	8	83	83	74	74	74	66	66	50	25	25	84	76	76	76	68	68
		fz	0.013	0.013	0.01	0.01	0.021	0.021	0.019	0.019	0.019	0.017	0.017	0.015	0.013	0.013	0.021	0.019	0.019	0.019	0.017	0.017
		RPM	7321	7321	2546	2546	22016	22016	19629	19629	19629	17507	17507	13263	6631	6631	19099	17280	17280	17280	15461	15461
		FEED	190	190	51	51	925	925	746	746	746	595	595	398	172	172	802	657	657	657	526	526
		Ap	0.009	0.009	0.009	0.006	0.076	0.076	0.043	0.027	0.027	0.027	0.016	0.011	0.011	0.011	0.088	0.05	0.05	0.032	0.032	0.019
	6-8	Vc	23	23	8	8	83	83	74	74	74	66	66	50	25	25	84	76	76	76	68	68
		fz	0.013	0.013	0.01	0.01	0.021	0.021	0.019	0.019	0.019	0.017	0.017	0.015	0.013	0.013	0.021	0.019	0.019	0.019	0.017	0.017
		RPM	7321	7321	2546	2546	22016	22016	19629	19629	19629	17507	17507	13263	6631	6631	19099	17280	17280	17280	15461	15461
		FEED	190	190	51	51	925	925	746	746	746	595	595	398	172	172	802	657	657	657	526	526
		Ap	0.009	0.009	0.009	0.006	0.076	0.076	0.043	0.027	0.027	0.027	0.016	0.011	0.011	0.011	0.088	0.05	0.05	0.032	0.032	0.019
	9	Vc	22	22	7	7	78	78	70	70	70	62	62	47	23	23	80	72	72	72	64	64
		fz	0.011	0.011	0.01	0.01	0.017	0.017	0.016	0.016	0.016	0.014	0.014	0.012	0.01	0.01	0.016	0.014	0.014	0.014	0.013	0.013
		RPM	7003	7003	2228	2228	20690	20690	18568	18568	18568	16446	16446	12467	6101	6101	18189	16370	16370	16370	14551	14551
		FEED	154	154	45	45	703	703	594	594	594	460	460	299	122	122	582	458	458	458	378	378
		Ap	0.007	0.007	0.007	0.005	0.059	0.059	0.034	0.021	0.021	0.021	0.013	0.008	0.008	0.008	0.069	0.039	0.039	0.025	0.025	0.015
	10-11.1	Vc	23	23	8	8	83	83	74	74	74	66	66	50	25	25	84	76	76	76	68	68
		fz	0.013	0.013	0.01	0.01	0.021	0.021	0.019	0.019	0.019	0.017	0.017	0.015	0.013	0.013	0.021	0.019	0.019	0.019	0.017	0.017
		RPM	7321	7321	2546	2546	22016	22016	19629	19629	19629	17507	17507	13263	6631	6631	19099	17280	17280	17280	15461	15461
		FEED	190	190	51	51	925	925	746	746	746	595	595	398	172	172	802	657	657	657	526	526
		Ap	0.009	0.009	0.009	0.006	0.076	0.076	0.043	0.027	0.027	0.027	0.016	0.011	0.011	0.011	0.088	0.05	0.05	0.032	0.032	0.019
	11.2	Vc	22	22	7	7	78	78	70	70	70	62	62	47	23	23	80	72	72	72	64	64
		fz	0.011	0.011	0.01	0.01	0.017	0.017	0.016	0.016	0.016	0.014	0.014	0.012	0.01	0.01	0.016	0.014	0.014	0.014	0.013	0.013
		RPM	7003	7003	2228	2228	20690	20690	18568	18568	18568	16446	16446	12467	6101	6101	18189	16370	16370	16370	14551	14551
		FEED	154	154	45	45	703	703	594	594	594	460	460	299	122	122	582	458	458	458	378	378
		Ap	0.007	0.007	0.007	0.005	0.059	0.059	0.034	0.021	0.021	0.021	0.013	0.008	0.008	0.008	0.069	0.039	0.039	0.025	0.025	0.015
K	15-20	Vc	23	23	8	8	83	83	74	74	74	66	66	50	25	25	84	76	76	76	68	68
		fz	0.013	0.013	0.01	0.01	0.021	0.021	0.019	0.019	0.019	0.017	0.017	0.015	0.013	0.013	0.021	0.019	0.019	0.019	0.017	0.017
		RPM	7321	7321	2546	2546	22016	22016	19629	19629	19629	17507	17507	13263	6631	6631	19099	17280	17280	17280	15461	15461
		FEED	190	190	51	51	925	925	746	746	746	595	595	398	172	172	802	657	657	657	526	526
		Ap	0.009	0.009	0.009	0.006	0.076	0.076	0.043	0.027	0.027	0.027	0.016	0.011	0.011	0.011	0.088	0.05	0.05	0.032	0.032	0.019
H	38.1 - 38.2	Vc	19	19	6	6	69	69	62	62	62	55	55	41	21	21	70	63	63	63	56	56
		fz	0.01	0.01	0.009	0.009	0.013	0.013	0.012	0.012	0.012	0.011	0.011	0.009	0.008	0.008	0.013	0.012	0.012	0.012	0.011	0.011
		RPM	6048	6048	1910	1910	18303	18303	16446	16446	16446	14589	14589	10876	5570	5570	15915	14324	14324	14324	12732	12732
		FEED	121	121	34	34	476	476	395	395	395	321	321	196	89	89	414	344	344	344	280	280
		Ap	0.005	0.005	0.005	0.003	0.042	0.042	0.024	0.015	0.015	0.015	0.009	0.006	0.006	0.006	0.049	0.028	0.028	0.018	0.018	0.011
	40	Vc	22	22	7	7	78	78	70	70	70	62	62	47	23	23	80	72	72	72	64	64
		fz	0.011	0.011	0.01	0.01	0.017	0.017	0.016	0.016	0.016	0.014	0.014	0.012	0.01	0.01	0.016	0.014	0.014	0.014	0.013	0.013
		RPM	7003	7003	2228	2228	20690	20690	18568	18568	18568	16446	16446	12467	6101	6101	18189	16370	16370	16370	14551	14551
		FEED	154	154	45	45	703	703	594	594	594	460	460	299	122	122	582	458	458	458	378	378
		Ap	0.007	0.007	0.007	0.005	0.059	0.059	0.034	0.021	0.021	0.021	0.013	0.008	0.008	0.008	0.069	0.039	0.039	0.025	0.025	0.015
	41	Vc	19	19	6	6	69	69	62	62	62	55	55	41	21	21	70	63	63	63	56	56
		fz	0.01	0.01	0.009	0.009	0.013	0.013	0.012	0.012	0.012	0.011	0.011	0.009	0.008	0.008	0.013	0.012	0.012	0.012	0.011	0.011
		RPM	6048	6048	1910	1910	18303	18303	16446	16446	16446	14589	14589	10876	5570	5570	15915	14324	14324	14324	12732	12732
		FEED	121	121	34	34	476	476	395	395	395	321	321	196	89	89	414	344	344	344	280	280
		Ap	0.005	0.005	0.005	0.003	0.042	0.042	0.024	0.015	0.015	0.015	0.009	0.006	0.006	0.006	0.049	0.028	0.028	0.018	0.018	0.011

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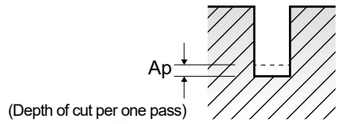

4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
SEM845 SERIES — 2 FLUTE - SLOTTING / 2刃- 槽铣削
Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

VDI 3323	Parameter 参数	Diameter (Ø) 直径																			
		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.8	1.8	1.8
	LBS	4	5	6	7	8	10	12	14	16	18	20	22	26	30	8	10	12	16	20	8	10	12
1-5	Vc	90	90	90	90	81	81	81	81	72	72	72	72	54	54	89	81	81	81	72	101	91	91
	fz	0.024	0.024	0.024	0.024	0.021	0.021	0.021	0.021	0.019	0.019	0.019	0.019	0.016	0.016	0.024	0.021	0.021	0.021	0.019	0.024	0.021	0.021
	RPM	19099	19099	19099	19099	17189	17189	17189	17189	15279	15279	15279	15279	11459	11459	17706	16114	16114	16114	14324	17861	16092	16092
	FEED	917	917	917	917	722	722	722	722	581	581	581	581	367	367	850	677	677	677	544	857	676	676
	Ap	0.135	0.095	0.095	0.095	0.054	0.054	0.054	0.034	0.034	0.034	0.02	0.02	0.014	0.014	0.101	0.058	0.058	0.036	0.036	0.113	0.065	0.065
6-8	Vc	90	90	90	90	81	81	81	81	72	72	72	72	54	54	89	81	81	81	72	101	91	91
	fz	0.024	0.024	0.024	0.024	0.021	0.021	0.021	0.021	0.019	0.019	0.019	0.019	0.016	0.016	0.024	0.021	0.021	0.021	0.019	0.024	0.021	0.021
	RPM	19099	19099	19099	19099	17189	17189	17189	17189	15279	15279	15279	15279	11459	11459	17706	16114	16114	16114	14324	17861	16092	16092
	FEED	917	917	917	917	722	722	722	722	581	581	581	581	367	367	850	677	677	677	544	857	676	676
	Ap	0.135	0.095	0.095	0.095	0.054	0.054	0.054	0.034	0.034	0.034	0.02	0.02	0.014	0.014	0.101	0.058	0.058	0.036	0.036	0.113	0.065	0.065
9	Vc	85	85	85	85	77	77	77	77	68	68	68	68	51	51	84	76	76	76	68	95	86	86
	fz	0.018	0.018	0.018	0.018	0.016	0.016	0.016	0.016	0.014	0.014	0.014	0.014	0.012	0.012	0.019	0.018	0.018	0.018	0.016	0.019	0.018	0.018
	RPM	18038	18038	18038	18038	16340	16340	16340	16340	14430	14430	14430	14430	10823	10823	16711	15120	15120	15120	13528	16800	15208	15208
	FEED	649	649	649	649	523	523	523	523	404	404	404	404	260	260	635	544	544	544	433	638	547	547
	Ap	0.105	0.074	0.074	0.074	0.042	0.042	0.042	0.026	0.026	0.026	0.016	0.016	0.011	0.011	0.078	0.045	0.045	0.028	0.028	0.088	0.05	0.05
10 - 11.1	Vc	90	90	90	90	81	81	81	81	72	72	72	72	54	54	89	81	81	81	72	101	91	91
	fz	0.024	0.024	0.024	0.024	0.021	0.021	0.021	0.021	0.019	0.019	0.019	0.019	0.016	0.016	0.024	0.021	0.021	0.021	0.019	0.024	0.021	0.021
	RPM	19099	19099	19099	19099	17189	17189	17189	17189	15279	15279	15279	15279	11459	11459	17706	16114	16114	16114	14324	17861	16092	16092
	FEED	917	917	917	917	722	722	722	722	581	581	581	581	367	367	850	677	677	677	544	857	676	676
	Ap	0.135	0.095	0.095	0.095	0.054	0.054	0.054	0.034	0.034	0.034	0.02	0.02	0.014	0.014	0.101	0.058	0.058	0.036	0.036	0.113	0.065	0.065
11.2	Vc	85	85	85	85	77	77	77	77	68	68	68	68	51	51	84	76	76	76	68	95	86	86
	fz	0.018	0.018	0.018	0.018	0.016	0.016	0.016	0.016	0.014	0.014	0.014	0.014	0.012	0.012	0.019	0.018	0.018	0.018	0.016	0.019	0.018	0.018
	RPM	18038	18038	18038	18038	16340	16340	16340	16340	14430	14430	14430	14430	10823	10823	16711	15120	15120	15120	13528	16800	15208	15208
	FEED	649	649	649	649	523	523	523	523	404	404	404	404	260	260	635	544	544	544	433	638	547	547
	Ap	0.105	0.074	0.074	0.074	0.042	0.042	0.042	0.026	0.026	0.026	0.016	0.016	0.011	0.011	0.078	0.045	0.045	0.028	0.028	0.088	0.05	0.05
15 - 20	Vc	90	90	90	90	81	81	81	81	72	72	72	72	54	54	89	81	81	81	72	101	91	91
	fz	0.024	0.024	0.024	0.024	0.021	0.021	0.021	0.021	0.019	0.019	0.019	0.019	0.016	0.016	0.024	0.021	0.021	0.021	0.019	0.024	0.021	0.021
	RPM	19099	19099	19099	19099	17189	17189	17189	17189	15279	15279	15279	15279	11459	11459	17706	16114	16114	16114	14324	17861	16092	16092
	FEED	917	917	917	917	722	722	722	722	581	581	581	581	367	367	850	677	677	677	544	857	676	676
	Ap	0.135	0.095	0.095	0.095	0.054	0.054	0.054	0.034	0.034	0.034	0.02	0.02	0.014	0.014	0.101	0.058	0.058	0.036	0.036	0.113	0.065	0.065
38.1 - 38.2	Vc	75	75	75	75	68	68	68	68	60	60	60	60	45	45	74	67	67	67	60	84	75	75
	fz	0.015	0.015	0.015	0.015	0.013	0.013	0.013	0.013	0.012	0.012	0.012	0.012	0.01	0.01	0.017	0.015	0.015	0.015	0.013	0.017	0.015	0.015
	RPM	15915	15915	15915	15915	14430	14430	14430	14430	12732	12732	12732	12732	9549	9549	14722	13329	13329	13329	11937	14854	13263	13263
	FEED	477	477	477	477	375	375	375	375	306	306	306	306	191	191	501	400	400	400	310	505	398	398
	Ap	0.075	0.053	0.053	0.053	0.03	0.03	0.03	0.019	0.019	0.019	0.011	0.011	0.008	0.008	0.056	0.032	0.032	0.02	0.02	0.063	0.036	0.036
40	Vc	85	85	85	85	77	77	77	77	68	68	68	68	51	51	84	76	76	76	68	95	86	86
	fz	0.018	0.018	0.018	0.018	0.016	0.016	0.016	0.016	0.014	0.014	0.014	0.014	0.012	0.012	0.019	0.018	0.018	0.018	0.016	0.019	0.018	0.018
	RPM	18038	18038	18038	18038	16340	16340	16340	16340	14430	14430	14430	14430	10823	10823	16711	15120	15120	15120	13528	16800	15208	15208
	FEED	649	649	649	649	523	523	523	523	404	404	404	404	260	260	635	544	544	544	433	638	547	547
	Ap	0.105	0.074	0.074	0.074	0.042	0.042	0.042	0.026	0.026	0.026	0.016	0.016	0.011	0.011	0.078	0.045	0.045	0.028	0.028	0.088	0.05	0.05
41	Vc	75	75	75	75	68	68	68	68	60	60	60	60	45	45	74	67	67	67	60	84	75	75
	fz	0.015	0.015	0.015	0.015	0.013	0.013	0.013	0.013	0.012	0.012	0.012	0.012	0.01	0.01	0.017	0.015	0.015	0.015	0.013	0.017	0.015	0.015
	RPM	15915	15915	15915	15915	14430	14430	14430	14430	12732	12732	12732	12732	9549	9549	14722	13329	13329	13329	11937	14854	13263	13263
	FEED	477	477	477	477	375	375	375	375	306	306	306	306	191	191	501	400	400	400	310	505	398	398
	Ap	0.075	0.053	0.053	0.053	0.03	0.03	0.03	0.019	0.019	0.019	0.011	0.011	0.008	0.008	0.056	0.032	0.032	0.02	0.02	0.063	0.036	0.036

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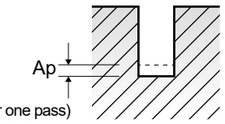

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEM845 SERIES — 2 FLUTE - SLOTTING / 2刃- 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

ISO	VDI 3323	Parameter 参数	Diameter (Ø) 直径																			
			1.8	1.8	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	
		LBS	16	20	6	8	10	12	14	16	18	20	22	26	30	35	40	45	50	60	8	10
P	1-5	Vc	91	81	90	90	90	81	81	81	81	81	72	72	72	54	54	27	27	27	97	97
		fz	0.021	0.019	0.028	0.028	0.028	0.026	0.026	0.026	0.026	0.026	0.023	0.023	0.023	0.02	0.02	0.017	0.017	0.017	0.039	0.039
		RPM	16092	14324	14324	14324	14324	12892	12892	12892	12892	12892	11459	11459	11459	8594	8594	4297	4297	4297	12350	12350
		FEED	676	544	802	802	802	670	670	670	670	670	527	527	527	344	344	146	146	146	963	963
		Ap	0.041	0.041	0.18	0.126	0.126	0.072	0.072	0.072	0.045	0.045	0.045	0.045	0.027	0.018	0.018	0.018	0.018	0.018	0.158	0.158
	6-8	Vc	91	81	90	90	90	81	81	81	81	81	72	72	72	54	54	27	27	27	97	97
		fz	0.021	0.019	0.028	0.028	0.028	0.026	0.026	0.026	0.026	0.026	0.023	0.023	0.023	0.02	0.02	0.017	0.017	0.017	0.039	0.039
		RPM	16092	14324	14324	14324	14324	12892	12892	12892	12892	12892	11459	11459	11459	8594	8594	4297	4297	4297	12350	12350
		FEED	676	544	802	802	802	670	670	670	670	670	527	527	527	344	344	146	146	146	963	963
		Ap	0.041	0.041	0.18	0.126	0.126	0.072	0.072	0.072	0.045	0.045	0.045	0.045	0.027	0.018	0.018	0.018	0.018	0.018	0.158	0.158
	9	Vc	86	76	85	85	85	77	77	77	77	77	68	68	68	51	51	26	26	26	91	91
		fz	0.018	0.016	0.023	0.023	0.023	0.02	0.02	0.02	0.02	0.02	0.018	0.018	0.018	0.016	0.016	0.013	0.013	0.013	0.029	0.029
		RPM	15208	13440	13528	13528	13528	12255	12255	12255	12255	12255	10823	10823	10823	8117	8117	4138	4138	4138	11586	11586
		FEED	547	430	622	622	622	490	490	490	490	490	390	390	390	260	260	108	108	108	672	672
		Ap	0.032	0.032	0.14	0.098	0.098	0.056	0.056	0.056	0.035	0.035	0.035	0.035	0.021	0.014	0.014	0.014	0.014	0.014	0.123	0.123
	10-11.1	Vc	91	81	90	90	90	81	81	81	81	81	72	72	72	54	54	27	27	27	97	97
		fz	0.021	0.019	0.028	0.028	0.028	0.026	0.026	0.026	0.026	0.026	0.023	0.023	0.023	0.02	0.02	0.017	0.017	0.017	0.039	0.039
		RPM	16092	14324	14324	14324	14324	12892	12892	12892	12892	12892	11459	11459	11459	8594	8594	4297	4297	4297	12350	12350
		FEED	676	544	802	802	802	670	670	670	670	670	527	527	527	344	344	146	146	146	963	963
		Ap	0.041	0.041	0.18	0.126	0.126	0.072	0.072	0.072	0.045	0.045	0.045	0.045	0.027	0.018	0.018	0.018	0.018	0.018	0.158	0.158
	11.2	Vc	86	76	85	85	85	77	77	77	77	77	68	68	68	51	51	26	26	26	91	91
		fz	0.018	0.016	0.023	0.023	0.023	0.02	0.02	0.02	0.02	0.02	0.018	0.018	0.018	0.016	0.016	0.013	0.013	0.013	0.029	0.029
		RPM	15208	13440	13528	13528	13528	12255	12255	12255	12255	12255	10823	10823	10823	8117	8117	4138	4138	4138	11586	11586
		FEED	547	430	622	622	622	490	490	490	490	490	390	390	390	260	260	108	108	108	672	672
		Ap	0.032	0.032	0.14	0.098	0.098	0.056	0.056	0.056	0.035	0.035	0.035	0.035	0.021	0.014	0.014	0.014	0.014	0.014	0.123	0.123
K	15-20	Vc	91	81	90	90	90	81	81	81	81	81	72	72	72	54	54	27	27	27	97	97
		fz	0.021	0.019	0.028	0.028	0.028	0.026	0.026	0.026	0.026	0.026	0.023	0.023	0.023	0.02	0.02	0.017	0.017	0.017	0.039	0.039
		RPM	16092	14324	14324	14324	14324	12892	12892	12892	12892	12892	11459	11459	11459	8594	8594	4297	4297	4297	12350	12350
		FEED	676	544	802	802	802	670	670	670	670	670	527	527	527	344	344	146	146	146	963	963
		Ap	0.041	0.041	0.18	0.126	0.126	0.072	0.072	0.072	0.045	0.045	0.045	0.045	0.027	0.018	0.018	0.018	0.018	0.018	0.158	0.158
H	38.1 - 38.2	Vc	75	67	75	75	75	68	68	68	68	68	60	60	60	45	45	23	23	23	81	81
		fz	0.015	0.013	0.02	0.02	0.02	0.018	0.018	0.018	0.018	0.018	0.016	0.016	0.016	0.014	0.014	0.012	0.012	0.012	0.025	0.025
		RPM	13263	11848	11937	11937	11937	10823	10823	10823	10823	10823	9549	9549	9549	7162	7162	3661	3661	3661	10313	10313
		FEED	398	308	477	477	477	390	390	390	390	390	306	306	306	201	201	88	88	88	516	516
		Ap	0.023	0.023	0.1	0.07	0.07	0.04	0.04	0.04	0.025	0.025	0.025	0.025	0.015	0.01	0.01	0.01	0.01	0.01	0.088	0.088
	40	Vc	86	76	85	85	85	77	77	77	77	77	68	68	68	51	51	26	26	26	91	91
		fz	0.018	0.016	0.023	0.023	0.023	0.02	0.02	0.02	0.02	0.02	0.018	0.018	0.018	0.016	0.016	0.013	0.013	0.013	0.029	0.029
		RPM	15208	13440	13528	13528	13528	12255	12255	12255	12255	12255	10823	10823	10823	8117	8117	4138	4138	4138	11586	11586
		FEED	547	430	622	622	622	490	490	490	490	490	390	390	390	260	260	108	108	108	672	672
		Ap	0.032	0.032	0.14	0.098	0.098	0.056	0.056	0.056	0.035	0.035	0.035	0.035	0.021	0.014	0.014	0.014	0.014	0.014	0.123	0.123
	41	Vc	75	67	75	75	75	68	68	68	68	68	60	60	60	45	45	23	23	23	81	81
		fz	0.015	0.013	0.02	0.02	0.02	0.018	0.018	0.018	0.018	0.018	0.016	0.016	0.016	0.014	0.014	0.012	0.012	0.012	0.025	0.025
		RPM	13263	11848	11937	11937	11937	10823	10823	10823	10823	10823	9549	9549	9549	7162	7162	3661	3661	3661	10313	10313
		FEED	398	308	477	477	477	390	390	390	390	390	306	306	306	201	201	88	88	88	516	516
		Ap	0.023	0.023	0.1	0.07	0.07	0.04	0.04	0.04	0.025	0.025	0.025	0.025	0.015	0.01	0.01	0.01	0.01	0.01	0.088	0.088

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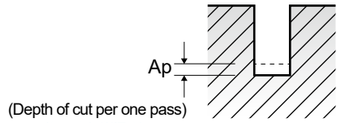

4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
SEM845 SERIES — 2 FLUTE - SLOTTING / 2刃- 槽铣削
Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

VDI 3323	Parameter 参数	Diameter (Ø) 直径																				
		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
	LBS	12	14	16	18	20	22	26	30	35	40	45	50	6	8	10	12	14	16	18	20	22	26
1-5	Vc	97	87	87	87	87	87	77	77	77	58	58	58	103	103	103	103	103	92	92	92	92	92
	fz	0.039	0.035	0.035	0.035	0.035	0.035	0.032	0.032	0.032	0.027	0.027	0.027	0.039	0.039	0.039	0.039	0.039	0.035	0.035	0.035	0.035	0.035
	RPM	12350	11077	11077	11077	11077	11077	9804	9804	9804	7385	7385	7385	10929	10929	10929	10929	10929	9762	9762	9762	9762	9762
	FEED	963	775	775	775	775	775	627	627	627	399	399	399	852	852	852	852	852	683	683	683	683	683
	Ap	0.158	0.09	0.09	0.09	0.09	0.056	0.056	0.056	0.034	0.034	0.023	0.023	0.27	0.27	0.189	0.189	0.189	0.108	0.108	0.108	0.108	0.068
6-8	Vc	97	87	87	87	87	87	77	77	77	58	58	58	103	103	103	103	103	92	92	92	92	92
	fz	0.039	0.035	0.035	0.035	0.035	0.035	0.032	0.032	0.032	0.027	0.027	0.027	0.039	0.039	0.039	0.039	0.039	0.035	0.035	0.035	0.035	0.035
	RPM	12350	11077	11077	11077	11077	11077	9804	9804	9804	7385	7385	7385	10929	10929	10929	10929	10929	9762	9762	9762	9762	9762
	FEED	963	775	775	775	775	775	627	627	627	399	399	399	852	852	852	852	852	683	683	683	683	683
	Ap	0.158	0.09	0.09	0.09	0.09	0.056	0.056	0.056	0.034	0.034	0.023	0.023	0.27	0.27	0.189	0.189	0.189	0.108	0.108	0.108	0.108	0.068
9	Vc	91	82	82	82	82	82	73	73	73	55	55	55	97	97	97	97	97	87	87	87	87	87
	fz	0.029	0.026	0.026	0.026	0.026	0.026	0.023	0.023	0.023	0.02	0.02	0.02	0.029	0.029	0.029	0.029	0.029	0.026	0.026	0.026	0.026	0.026
	RPM	11586	10441	10441	10441	10441	10441	9295	9295	9295	7003	7003	7003	10292	10292	10292	10292	10292	9231	9231	9231	9231	9231
	FEED	672	543	543	543	543	543	428	428	428	280	280	280	597	597	597	597	597	480	480	480	480	480
	Ap	0.123	0.07	0.07	0.07	0.07	0.044	0.044	0.044	0.026	0.026	0.018	0.018	0.21	0.21	0.147	0.147	0.147	0.084	0.084	0.084	0.084	0.053
10 - 11.1	Vc	97	87	87	87	87	87	77	77	77	58	58	58	103	103	103	103	103	92	92	92	92	92
	fz	0.039	0.035	0.035	0.035	0.035	0.035	0.032	0.032	0.032	0.027	0.027	0.027	0.039	0.039	0.039	0.039	0.039	0.035	0.035	0.035	0.035	0.035
	RPM	12350	11077	11077	11077	11077	11077	9804	9804	9804	7385	7385	7385	10929	10929	10929	10929	10929	9762	9762	9762	9762	9762
	FEED	963	775	775	775	775	775	627	627	627	399	399	399	852	852	852	852	852	683	683	683	683	683
	Ap	0.158	0.09	0.09	0.09	0.09	0.056	0.056	0.056	0.034	0.034	0.023	0.023	0.27	0.27	0.189	0.189	0.189	0.108	0.108	0.108	0.108	0.068
11.2	Vc	91	82	82	82	82	82	73	73	73	55	55	55	97	97	97	97	97	87	87	87	87	87
	fz	0.029	0.026	0.026	0.026	0.026	0.026	0.023	0.023	0.023	0.02	0.02	0.02	0.029	0.029	0.029	0.029	0.029	0.026	0.026	0.026	0.026	0.026
	RPM	11586	10441	10441	10441	10441	10441	9295	9295	9295	7003	7003	7003	10292	10292	10292	10292	10292	9231	9231	9231	9231	9231
	FEED	672	543	543	543	543	543	428	428	428	280	280	280	597	597	597	597	597	480	480	480	480	480
	Ap	0.123	0.07	0.07	0.07	0.07	0.044	0.044	0.044	0.026	0.026	0.018	0.018	0.21	0.21	0.147	0.147	0.147	0.084	0.084	0.084	0.084	0.053
15 - 20	Vc	97	87	87	87	87	87	77	77	77	58	58	58	103	103	103	103	103	92	92	92	92	92
	fz	0.039	0.035	0.035	0.035	0.035	0.035	0.032	0.032	0.032	0.027	0.027	0.027	0.039	0.039	0.039	0.039	0.039	0.035	0.035	0.035	0.035	0.035
	RPM	12350	11077	11077	11077	11077	11077	9804	9804	9804	7385	7385	7385	10929	10929	10929	10929	10929	9762	9762	9762	9762	9762
	FEED	963	775	775	775	775	775	627	627	627	399	399	399	852	852	852	852	852	683	683	683	683	683
	Ap	0.158	0.09	0.09	0.09	0.09	0.056	0.056	0.056	0.034	0.034	0.023	0.023	0.27	0.27	0.189	0.189	0.189	0.108	0.108	0.108	0.108	0.068
38.1 - 38.2	Vc	81	73	73	73	73	73	65	65	65	49	49	49	62	62	62	62	62	56	56	56	56	56
	fz	0.025	0.022	0.022	0.022	0.022	0.022	0.02	0.02	0.02	0.017	0.017	0.017	0.034	0.034	0.034	0.034	0.034	0.031	0.031	0.031	0.031	0.031
	RPM	10313	9295	9295	9295	9295	9295	8276	8276	8276	6239	6239	6239	6578	6578	6578	6578	6578	5942	5942	5942	5942	5942
	FEED	516	409	409	409	409	409	331	331	331	212	212	212	447	447	447	447	447	368	368	368	368	368
	Ap	0.088	0.05	0.05	0.05	0.05	0.031	0.031	0.031	0.019	0.019	0.013	0.013	0.15	0.15	0.105	0.105	0.105	0.06	0.06	0.06	0.06	0.038
40	Vc	91	82	82	82	82	82	73	73	73	55	55	55	97	97	97	97	97	87	87	87	87	87
	fz	0.029	0.026	0.026	0.026	0.026	0.026	0.023	0.023	0.023	0.02	0.02	0.02	0.029	0.029	0.029	0.029	0.029	0.026	0.026	0.026	0.026	0.026
	RPM	11586	10441	10441	10441	10441	10441	9295	9295	9295	7003	7003	7003	10292	10292	10292	10292	10292	9231	9231	9231	9231	9231
	FEED	672	543	543	543	543	543	428	428	428	280	280	280	597	597	597	597	597	480	480	480	480	480
	Ap	0.123	0.07	0.07	0.07	0.07	0.044	0.044	0.044	0.026	0.026	0.018	0.018	0.21	0.21	0.147	0.147	0.147	0.084	0.084	0.084	0.084	0.053
41	Vc	81	73	73	73	73	73	65	65	65	49	49	49	62	62	62	62	62	56	56	56	56	56
	fz	0.025	0.022	0.022	0.022	0.022	0.022	0.02	0.02	0.02	0.017	0.017	0.017	0.034	0.034	0.034	0.034	0.034	0.031	0.031	0.031	0.031	0.031
	RPM	10313	9295	9295	9295	9295	9295	8276	8276	8276	6239	6239	6239	6578	6578	6578	6578	6578	5942	5942	5942	5942	5942
	FEED	516	409	409	409	409	409	331	331	331	212	212	212	447	447	447	447	447	368	368	368	368	368
	Ap	0.088	0.05	0.05	0.05	0.05	0.031	0.031	0.031	0.019	0.019	0.013	0.013	0.15	0.15	0.105	0.105	0.105	0.06	0.06	0.06	0.06	0.038

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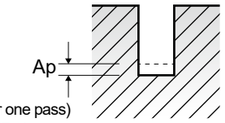

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEM845 SERIES — 2 FLUTE - SLOTTING / 2刃- 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

ISO	VDI 3323	Parameter 参数	Diameter (Ø) 直径																		
			3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
		LBS	30	35	40	45	50	60	8	10	12	14	16	18	20	22	26	30	35	40	45	50
P	1-5	Vc	92	82	82	82	62	62	101	101	101	101	101	101	101	90	90	90	90	90	80	80
		fz	0.035	0.032	0.032	0.032	0.028	0.028	0.081	0.081	0.081	0.081	0.081	0.081	0.081	0.073	0.073	0.073	0.073	0.073	0.065	0.065
		RPM	9762	8700	8700	8700	6578	6578	8037	8037	8037	8037	8037	8037	8037	7162	7162	7162	7162	7162	6366	6366
		FEED	683	557	557	557	368	368	1302	1302	1302	1302	1302	1302	1302	1046	1046	1046	1046	1046	828	828
		Ap	0.068	0.068	0.041	0.041	0.027	0.027	0.36	0.36	0.36	0.252	0.252	0.252	0.252	0.144	0.144	0.144	0.09	0.09	0.09	0.09
	6-8	Vc	92	82	82	82	62	62	101	101	101	101	101	101	101	90	90	90	90	90	80	80
		fz	0.035	0.032	0.032	0.032	0.028	0.028	0.081	0.081	0.081	0.081	0.081	0.081	0.081	0.073	0.073	0.073	0.073	0.073	0.065	0.065
		RPM	9762	8700	8700	8700	6578	6578	8037	8037	8037	8037	8037	8037	8037	7162	7162	7162	7162	7162	6366	6366
		FEED	683	557	557	557	368	368	1302	1302	1302	1302	1302	1302	1302	1046	1046	1046	1046	1046	828	828
		Ap	0.068	0.068	0.041	0.041	0.027	0.027	0.36	0.36	0.36	0.252	0.252	0.252	0.252	0.144	0.144	0.144	0.09	0.09	0.09	0.09
	9	Vc	87	78	78	78	58	58	96	96	96	96	96	96	96	86	86	86	86	86	76	76
		fz	0.026	0.023	0.023	0.023	0.021	0.021	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.069	0.069	0.069	0.069	0.069	0.061	0.061
		RPM	9231	8276	8276	8276	6154	6154	7639	7639	7639	7639	7639	7639	7639	6844	6844	6844	6844	6844	6048	6048
		FEED	480	381	381	381	258	258	1161	1161	1161	1161	1161	1161	1161	944	944	944	944	944	738	738
		Ap	0.053	0.053	0.032	0.032	0.021	0.021	0.28	0.28	0.28	0.196	0.196	0.196	0.196	0.112	0.112	0.112	0.07	0.07	0.07	0.07
	10-11.1	Vc	92	82	82	82	62	62	101	101	101	101	101	101	101	90	90	90	90	90	80	80
		fz	0.035	0.032	0.032	0.032	0.028	0.028	0.081	0.081	0.081	0.081	0.081	0.081	0.081	0.073	0.073	0.073	0.073	0.073	0.065	0.065
		RPM	9762	8700	8700	8700	6578	6578	8037	8037	8037	8037	8037	8037	8037	7162	7162	7162	7162	7162	6366	6366
		FEED	683	557	557	557	368	368	1302	1302	1302	1302	1302	1302	1302	1046	1046	1046	1046	1046	828	828
		Ap	0.068	0.068	0.041	0.041	0.027	0.027	0.36	0.36	0.36	0.252	0.252	0.252	0.252	0.144	0.144	0.144	0.09	0.09	0.09	0.09
	11.2	Vc	87	78	78	78	58	58	96	96	96	96	96	96	96	86	86	86	86	86	76	76
		fz	0.026	0.023	0.023	0.023	0.021	0.021	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.069	0.069	0.069	0.069	0.069	0.061	0.061
		RPM	9231	8276	8276	8276	6154	6154	7639	7639	7639	7639	7639	7639	7639	6844	6844	6844	6844	6844	6048	6048
		FEED	480	381	381	381	258	258	1161	1161	1161	1161	1161	1161	1161	944	944	944	944	944	738	738
		Ap	0.053	0.053	0.032	0.032	0.021	0.021	0.28	0.28	0.28	0.196	0.196	0.196	0.196	0.112	0.112	0.112	0.07	0.07	0.07	0.07
K	15-20	Vc	92	82	82	82	62	62	101	101	101	101	101	101	101	90	90	90	90	90	80	80
		fz	0.035	0.032	0.032	0.032	0.028	0.028	0.081	0.081	0.081	0.081	0.081	0.081	0.081	0.073	0.073	0.073	0.073	0.073	0.065	0.065
		RPM	9762	8700	8700	8700	6578	6578	8037	8037	8037	8037	8037	8037	8037	7162	7162	7162	7162	7162	6366	6366
		FEED	683	557	557	557	368	368	1302	1302	1302	1302	1302	1302	1302	1046	1046	1046	1046	1046	828	828
		Ap	0.068	0.068	0.041	0.041	0.027	0.027	0.36	0.36	0.36	0.252	0.252	0.252	0.252	0.144	0.144	0.144	0.09	0.09	0.09	0.09
H	38.1 - 38.2	Vc	56	50	50	50	37	37	84	84	84	84	84	84	84	76	76	76	76	76	67	67
		fz	0.031	0.027	0.027	0.027	0.024	0.024	0.057	0.057	0.057	0.057	0.057	0.057	0.057	0.052	0.052	0.052	0.052	0.052	0.046	0.046
		RPM	5942	5305	5305	5305	3926	3926	6685	6685	6685	6685	6685	6685	6685	6048	6048	6048	6048	6048	5332	5332
		FEED	368	286	286	286	188	188	762	762	762	762	762	762	762	629	629	629	629	629	491	491
		Ap	0.038	0.038	0.023	0.023	0.015	0.015	0.2	0.2	0.2	0.14	0.14	0.14	0.14	0.08	0.08	0.08	0.05	0.05	0.05	0.05
	40	Vc	87	78	78	78	58	58	96	96	96	96	96	96	96	86	86	86	86	86	76	76
		fz	0.026	0.023	0.023	0.023	0.021	0.021	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.069	0.069	0.069	0.069	0.069	0.061	0.061
		RPM	9231	8276	8276	8276	6154	6154	7639	7639	7639	7639	7639	7639	7639	6844	6844	6844	6844	6844	6048	6048
		FEED	480	381	381	381	258	258	1161	1161	1161	1161	1161	1161	1161	944	944	944	944	944	738	738
		Ap	0.053	0.053	0.032	0.032	0.021	0.021	0.28	0.28	0.28	0.196	0.196	0.196	0.196	0.112	0.112	0.112	0.07	0.07	0.07	0.07
	41	Vc	56	50	50	50	37	37	84	84	84	84	84	84	84	76	76	76	76	76	67	67
		fz	0.031	0.027	0.027	0.027	0.024	0.024	0.057	0.057	0.057	0.057	0.057	0.057	0.057	0.052	0.052	0.052	0.052	0.052	0.046	0.046
		RPM	5942	5305	5305	5305	3926	3926	6685	6685	6685	6685	6685	6685	6685	6048	6048	6048	6048	6048	5332	5332
		FEED	368	286	286	286	188	188	762	762	762	762	762	762	762	629	629	629	629	629	491	491
		Ap	0.038	0.038	0.023	0.023	0.015	0.015	0.2	0.2	0.2	0.14	0.14	0.14	0.14	0.08	0.08	0.08	0.05	0.05	0.05	0.05

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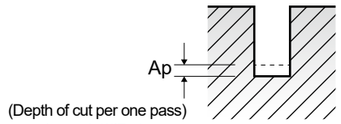
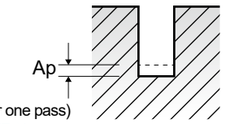


4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
SEM845 SERIES — 2 FLUTE - SLOTTING / 2刃- 槽铣削
Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

VDI 3323	Parameter 参数	Diameter (Ø) 直径																			
		4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	6.0	6.0	8.0	8.0	8.0	10.0	10.0	10.0	12.0	12.0	12.0
	LBS	60	16	20	26	30	35	40	50	60	15	20	30	32	25	30	42	30	35	45	35	40	50
1-5	Vc	80	101	101	90	90	90	90	90	80	100	100	100	90	101	101	90	101	101	101	100	100	100
	fz	0.065	0.09	0.09	0.081	0.081	0.081	0.081	0.081	0.072	0.1	0.1	0.1	0.09	0.119	0.119	0.107	0.141	0.141	0.141	0.151	0.151	0.151
	RPM	6366	6430	6430	5730	5730	5730	5730	5730	5093	5305	5305	5305	4775	4019	4019	3581	3215	3215	3215	2653	2653	2653
	FEED	828	1157	1157	928	928	928	928	928	733	1061	1061	1061	859	956	956	766	907	907	907	801	801	801
	Ap	0.054	0.315	0.315	0.18	0.18	0.18	0.18	0.113	0.113	0.54	0.378	0.378	0.216	0.504	0.504	0.288	0.9	0.63	0.63	1.08	0.756	0.756
6-8	Vc	80	101	101	90	90	90	90	90	80	100	100	100	90	101	101	90	101	101	101	100	100	100
	fz	0.065	0.09	0.09	0.081	0.081	0.081	0.081	0.081	0.072	0.1	0.1	0.1	0.09	0.119	0.119	0.107	0.141	0.141	0.141	0.151	0.151	0.151
	RPM	6366	6430	6430	5730	5730	5730	5730	5730	5093	5305	5305	5305	4775	4019	4019	3581	3215	3215	3215	2653	2653	2653
	FEED	828	1157	1157	928	928	928	928	928	733	1061	1061	1061	859	956	956	766	907	907	907	801	801	801
	Ap	0.054	0.315	0.315	0.18	0.18	0.18	0.18	0.113	0.113	0.54	0.378	0.378	0.216	0.504	0.504	0.288	0.9	0.63	0.63	1.08	0.756	0.756
9	Vc	76	96	96	86	86	86	86	86	77	94	94	94	85	96	96	85	96	96	96	95	95	95
	fz	0.061	0.074	0.074	0.066	0.066	0.066	0.066	0.066	0.059	0.082	0.082	0.082	0.074	0.099	0.099	0.089	0.111	0.111	0.111	0.119	0.119	0.119
	RPM	6048	6112	6112	5475	5475	5475	5475	5475	4902	4987	4987	4987	4509	3820	3820	3382	3056	3056	3056	2520	2520	2520
	FEED	738	905	905	723	723	723	723	723	578	818	818	818	667	756	756	602	678	678	678	600	600	600
	Ap	0.042	0.245	0.245	0.14	0.14	0.14	0.14	0.088	0.088	0.42	0.294	0.294	0.168	0.392	0.392	0.224	0.7	0.49	0.49	0.84	0.588	0.588
10 - 11.1	Vc	80	101	101	90	90	90	90	90	80	100	100	100	90	101	101	90	101	101	101	100	100	100
	fz	0.065	0.09	0.09	0.081	0.081	0.081	0.081	0.081	0.072	0.1	0.1	0.1	0.09	0.119	0.119	0.107	0.141	0.141	0.141	0.151	0.151	0.151
	RPM	6366	6430	6430	5730	5730	5730	5730	5730	5093	5305	5305	5305	4775	4019	4019	3581	3215	3215	3215	2653	2653	2653
	FEED	828	1157	1157	928	928	928	928	928	733	1061	1061	1061	859	956	956	766	907	907	907	801	801	801
	Ap	0.054	0.315	0.315	0.18	0.18	0.18	0.18	0.113	0.113	0.54	0.378	0.378	0.216	0.504	0.504	0.288	0.9	0.63	0.63	1.08	0.756	0.756
11.2	Vc	76	96	96	86	86	86	86	86	77	94	94	94	85	96	96	85	96	96	96	95	95	95
	fz	0.061	0.074	0.074	0.066	0.066	0.066	0.066	0.066	0.059	0.082	0.082	0.082	0.074	0.099	0.099	0.089	0.111	0.111	0.111	0.119	0.119	0.119
	RPM	6048	6112	6112	5475	5475	5475	5475	5475	4902	4987	4987	4987	4509	3820	3820	3382	3056	3056	3056	2520	2520	2520
	FEED	738	905	905	723	723	723	723	723	578	818	818	818	667	756	756	602	678	678	678	600	600	600
	Ap	0.042	0.245	0.245	0.14	0.14	0.14	0.14	0.088	0.088	0.42	0.294	0.294	0.168	0.392	0.392	0.224	0.7	0.49	0.49	0.84	0.588	0.588
15 - 20	Vc	80	101	101	90	90	90	90	90	80	100	100	100	90	101	101	90	101	101	101	100	100	100
	fz	0.065	0.09	0.09	0.081	0.081	0.081	0.081	0.081	0.072	0.1	0.1	0.1	0.09	0.119	0.119	0.107	0.141	0.141	0.141	0.151	0.151	0.151
	RPM	6366	6430	6430	5730	5730	5730	5730	5730	5093	5305	5305	5305	4775	4019	4019	3581	3215	3215	3215	2653	2653	2653
	FEED	828	1157	1157	928	928	928	928	928	733	1061	1061	1061	859	956	956	766	907	907	907	801	801	801
	Ap	0.054	0.315	0.315	0.18	0.18	0.18	0.18	0.113	0.113	0.54	0.378	0.378	0.216	0.504	0.504	0.288	0.9	0.63	0.63	1.08	0.756	0.756
38.1 - 38.2	Vc	67	85	85	76	76	76	76	76	68	83	83	83	75	83	83	74	83	83	83	82	82	82
	fz	0.046	0.056	0.056	0.05	0.05	0.05	0.05	0.05	0.045	0.063	0.063	0.063	0.056	0.076	0.076	0.069	0.076	0.076	0.076	0.08	0.08	0.08
	RPM	5332	5411	5411	4838	4838	4838	4838	4838	4329	4403	4403	4403	3979	3302	3302	2944	2642	2642	2642	2175	2175	2175
	FEED	491	606	606	484	484	484	484	484	390	555	555	555	446	502	502	406	402	402	402	348	348	348
	Ap	0.03	0.175	0.175	0.1	0.1	0.1	0.1	0.063	0.063	0.3	0.21	0.21	0.12	0.28	0.28	0.16	0.5	0.35	0.35	0.6	0.42	0.42
40	Vc	76	96	96	86	86	86	86	86	77	94	94	94	85	96	96	85	96	96	96	95	95	95
	fz	0.061	0.074	0.074	0.066	0.066	0.066	0.066	0.066	0.059	0.082	0.082	0.082	0.074	0.099	0.099	0.089	0.111	0.111	0.111	0.119	0.119	0.119
	RPM	6048	6112	6112	5475	5475	5475	5475	5475	4902	4987	4987	4987	4509	3820	3820	3382	3056	3056	3056	2520	2520	2520
	FEED	738	905	905	723	723	723	723	723	578	818	818	818	667	756	756	602	678	678	678	600	600	600
	Ap	0.042	0.245	0.245	0.14	0.14	0.14	0.14	0.088	0.088	0.42	0.294	0.294	0.168	0.392	0.392	0.224	0.7	0.49	0.49	0.84	0.588	0.588
41	Vc	67	85	85	76	76	76	76	76	68	83	83	83	75	83	83	74	83	83	83	82	82	82
	fz	0.046	0.056	0.056	0.05	0.05	0.05	0.05	0.05	0.045	0.063	0.063	0.063	0.056	0.076	0.076	0.069	0.076	0.076	0.076	0.08	0.08	0.08
	RPM	5332	5411	5411	4838	4838	4838	4838	4838	4329	4403	4403	4403	3979	3302	3302	2944	2642	2642	2642	2175	2175	2175
	FEED	491	606	606	484	484	484	484	484	390	555	555	555	446	502	502	406	402	402	402	348	348	348
	Ap	0.03	0.175	0.175	0.1	0.1	0.1	0.1	0.063	0.063	0.3	0.21	0.21	0.12	0.28	0.28	0.16	0.5	0.35	0.35	0.6	0.42	0.42



4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME36, SEME71 SERIES

4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 0.8	0.9	1.0	1.2	1.5	2.0	2.5	3.0
P	1-5	Non-alloy steel	0.05D	1.0D	Vc	79	83	84	85	88	91	101	105
					fz	0.002	0.002	0.002	0.003	0.004	0.005	0.006	0.008
					RPM	31433	29355	26738	22547	18674	14483	12860	11141
					FEED	251	235	214	271	299	290	309	357
	6-8	Low alloy steel	0.05D	1.0D	Vc	79	83	84	85	88	91	101	105
					fz	0.002	0.002	0.002	0.003	0.004	0.005	0.006	0.008
					RPM	31433	29355	26738	22547	18674	14483	12860	11141
					FEED	251	235	214	271	299	290	309	357
	9		0.05D	1.0D	Vc	47	50	51	51	53	59	64	66
					fz	0.002	0.002	0.002	0.003	0.004	0.005	0.006	0.008
					RPM	18701	17684	16234	13528	11247	9390	8149	7003
					FEED	150	141	130	162	180	188	196	224
	10-11.1	High alloyed steel, and tool steel	0.05D	1.0D	Vc	79	83	84	85	88	91	101	105
					fz	0.002	0.002	0.002	0.003	0.004	0.005	0.006	0.008
					RPM	31433	29355	26738	22547	18674	14483	12860	11141
					FEED	251	235	214	271	299	290	309	357
	11.2		0.05D	1.0D	Vc	47	50	51	51	53	59	64	66
					fz	0.002	0.002	0.002	0.003	0.004	0.005	0.006	0.008
					RPM	18701	17684	16234	13528	11247	9390	8149	7003
					FEED	150	141	130	162	180	188	196	224
M	14.1	Stainless steel	0.05D	1.0D	Vc	39	41	42	42	44	50	54	54
					fz	0.002	0.002	0.002	0.003	0.004	0.005	0.006	0.008
					RPM	15518	14501	13369	11141	9337	7958	6875	5730
					FEED	124	116	107	134	149	159	165	183
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.05D	1.0D	Vc	79	83	84	85	88	91	101	105
					fz	0.002	0.002	0.002	0.003	0.004	0.005	0.006	0.008
					RPM	31433	29355	26738	22547	18674	14483	12860	11141
					FEED	251	235	214	271	299	290	309	357
H	38.1 - 38.2	Hardened steel	0.05D	1.0D	Vc	31	33	34	34	35	40	41	40
					fz	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.004
					RPM	12335	11671	10823	9019	7427	6366	5220	4244
					FEED	49	47	43	36	59	51	63	68
	40	Chilled Cast Iron	0.05D	1.0D	Vc	47	50	51	51	53	59	64	66
					fz	0.002	0.002	0.002	0.003	0.004	0.005	0.006	0.008
					RPM	18701	17684	16234	13528	11247	9390	8149	7003
					FEED	150	141	130	162	180	188	196	224
	41	Hardened Cast Iron	0.05D	1.0D	Vc	31	33	34	34	35	40	41	40
					fz	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.004
					RPM	12335	11671	10823	9019	7427	6366	5220	4244
					FEED	49	47	43	36	59	51	63	68

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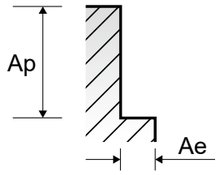

4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
SEME36, SEME71 SERIES
4 FLUTE - SIDE CUTTING
4刃 - 侧铣削
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

VDI 3323	Parameter 参数	Diameter (Ø) 直径 3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0
1-5	Vc	113	119	122	124	128	131	133	134	134	132	132	132
	fz	0.011	0.016	0.018	0.02	0.022	0.025	0.027	0.03	0.032	0.035	0.036	0.037
	RPM	10277	9470	8630	7894	7408	6950	6513	6093	5687	5252	4943	4669
	FEED	452	606	621	632	652	695	703	731	728	735	712	691
6-8	Vc	113	119	122	124	128	131	133	134	134	132	132	132
	fz	0.011	0.016	0.018	0.02	0.022	0.025	0.027	0.03	0.032	0.035	0.036	0.037
	RPM	10277	9470	8630	7894	7408	6950	6513	6093	5687	5252	4943	4669
	FEED	452	606	621	632	652	695	703	731	728	735	712	691
9	Vc	70	73	74	74	77	79	80	81	80	79	80	80
	fz	0.011	0.016	0.018	0.02	0.023	0.026	0.027	0.028	0.03	0.032	0.032	0.031
	RPM	6366	5809	5234	4711	4456	4191	3918	3683	3395	3143	2996	2829
	FEED	280	372	377	377	410	436	423	413	407	402	383	351
10 - 11.1	Vc	113	119	122	124	128	131	133	134	134	132	132	132
	fz	0.011	0.016	0.018	0.02	0.022	0.025	0.027	0.03	0.032	0.035	0.036	0.037
	RPM	10277	9470	8630	7894	7408	6950	6513	6093	5687	5252	4943	4669
	FEED	452	606	621	632	652	695	703	731	728	735	712	691
11.2	Vc	70	73	74	74	77	79	80	81	80	79	80	80
	fz	0.011	0.016	0.018	0.02	0.023	0.026	0.027	0.028	0.03	0.032	0.032	0.031
	RPM	6366	5809	5234	4711	4456	4191	3918	3683	3395	3143	2996	2829
	FEED	280	372	377	377	410	436	423	413	407	402	383	351
14.1	Vc	58	61	62	62	65	67	68	68	67	66	66	67
	fz	0.011	0.015	0.017	0.02	0.022	0.024	0.026	0.029	0.031	0.035	0.036	0.036
	RPM	5275	4854	4386	3947	3762	3554	3330	3092	2844	2626	2472	2370
	FEED	232	291	298	316	331	341	346	359	353	368	356	341
15 - 20	Vc	113	119	122	124	128	131	133	134	134	132	132	132
	fz	0.011	0.016	0.018	0.02	0.022	0.025	0.027	0.03	0.032	0.035	0.036	0.037
	RPM	10277	9470	8630	7894	7408	6950	6513	6093	5687	5252	4943	4669
	FEED	452	606	621	632	652	695	703	731	728	735	712	691
38.1 - 38.2	Vc	43	46	47	46	47	47	49	51	52	53	53	54
	fz	0.004	0.004	0.005	0.006	0.007	0.009	0.01	0.011	0.013	0.014	0.014	0.014
	RPM	3911	3661	3325	2928	2720	2493	2400	2319	2207	2109	1985	1910
	FEED	63	59	66	70	76	90	96	102	115	118	111	107
40	Vc	70	73	74	74	77	79	80	81	80	79	80	80
	fz	0.011	0.016	0.018	0.02	0.023	0.026	0.027	0.028	0.03	0.032	0.032	0.031
	RPM	6366	5809	5234	4711	4456	4191	3918	3683	3395	3143	2996	2829
	FEED	280	372	377	377	410	436	423	413	407	402	383	351
41	Vc	43	46	47	46	47	47	49	51	52	53	53	54
	fz	0.004	0.004	0.005	0.006	0.007	0.009	0.01	0.011	0.013	0.014	0.014	0.014
	RPM	3911	3661	3325	2928	2720	2493	2400	2319	2207	2109	1985	1910
	FEED	63	59	66	70	76	90	96	102	115	118	111	107

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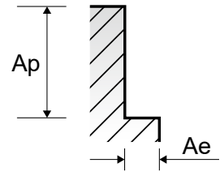

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME36, SEME71 SERIES

4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 9.5	10.0	10.5	11.0	11.5	12.0	13.0	14.0
P	1-5	0.05D	1.0D	Vc	130	128	129	130	130	129	133	136
				fz	0.038	0.039	0.04	0.04	0.04	0.04	0.04	0.04
				RPM	4356	4074	3911	3762	3598	3422	3257	3092
				FEED	662	636	626	602	576	547	521	495
	6-8	0.05D	1.0D	Vc	130	128	129	130	130	129	133	136
				fz	0.038	0.039	0.04	0.04	0.04	0.04	0.04	0.04
				RPM	4356	4074	3911	3762	3598	3422	3257	3092
				FEED	662	636	626	602	576	547	521	495
	9	0.05D	1.0D	Vc	79	79	79	79	79	79	82	84
				fz	0.031	0.032	0.032	0.032	0.032	0.032	0.031	0.031
				RPM	2647	2515	2395	2286	2187	2096	2008	1910
				FEED	328	322	307	293	280	268	249	237
	10-11.1	0.05D	1.0D	Vc	130	128	129	130	130	129	133	136
				fz	0.038	0.039	0.04	0.04	0.04	0.04	0.04	0.04
				RPM	4356	4074	3911	3762	3598	3422	3257	3092
				FEED	662	636	626	602	576	547	521	495
	11.2	0.05D	1.0D	Vc	79	79	79	79	79	79	82	84
				fz	0.031	0.032	0.032	0.032	0.032	0.032	0.031	0.031
				RPM	2647	2515	2395	2286	2187	2096	2008	1910
				FEED	328	322	307	293	280	268	249	237
M	14.1	0.05D	1.0D	Vc	67	66	66	66	65	64	66	68
				fz	0.037	0.038	0.038	0.038	0.038	0.037	0.037	0.037
				RPM	2245	2101	2001	1910	1799	1698	1616	1546
				FEED	332	319	304	290	273	251	239	229
K	15-20	0.05D	1.0D	Vc	130	128	129	130	130	129	133	136
				fz	0.038	0.039	0.04	0.04	0.04	0.04	0.04	0.04
				RPM	4356	4074	3911	3762	3598	3422	3257	3092
				FEED	662	636	626	602	576	547	521	495
H	38.1 - 38.2	0.05D	1.0D	Vc	54	53	54	55	55	55	56	57
				fz	0.014	0.014	0.014	0.014	0.015	0.015	0.015	0.015
				RPM	1809	1687	1637	1592	1522	1459	1371	1296
				FEED	101	94	92	89	91	88	82	78
	40	0.05D	1.0D	Vc	79	79	79	79	79	79	82	84
				fz	0.031	0.032	0.032	0.032	0.032	0.032	0.031	0.031
				RPM	2647	2515	2395	2286	2187	2096	2008	1910
				FEED	328	322	307	293	280	268	249	237
	41	0.05D	1.0D	Vc	54	53	54	55	55	55	56	57
				fz	0.014	0.014	0.014	0.014	0.015	0.015	0.015	0.015
				RPM	1809	1687	1637	1592	1522	1459	1371	1296
				FEED	101	94	92	89	91	88	82	78

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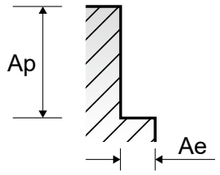
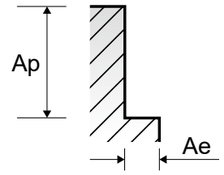


4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
SEME36, SEME71 SERIES
4 FLUTE - SIDE CUTTING
4刃 - 侧铣削
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

VDI 3323	Parameter 参数	Diameter (Ø) 直径 15.0	16.0	17.0	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0
1-5	Vc	138	138	138	137	135	132	133	134	134	134	134
	fz	0.039	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.039	0.039
	RPM	2928	2745	2584	2423	2262	2101	2016	1939	1855	1777	1706
	FEED	457	439	413	388	362	336	323	310	297	277	266
6-8	Vc	138	138	138	137	135	132	133	134	134	134	134
	fz	0.039	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.039	0.039
	RPM	2928	2745	2584	2423	2262	2101	2016	1939	1855	1777	1706
	FEED	457	439	413	388	362	336	323	310	297	277	266
9	Vc	85	85	86	85	85	84	84	84	84	84	82
	fz	0.031	0.032	0.031	0.031	0.032	0.032	0.032	0.033	0.031	0.032	0.032
	RPM	1804	1691	1610	1503	1424	1337	1273	1215	1163	1114	1044
	FEED	224	216	200	186	182	171	163	160	144	143	134
10 - 11.1	Vc	138	138	138	137	135	132	133	134	134	134	134
	fz	0.039	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.039	0.039
	RPM	2928	2745	2584	2423	2262	2101	2016	1939	1855	1777	1706
	FEED	457	439	413	388	362	336	323	310	297	277	266
11.2	Vc	85	85	86	85	85	84	84	84	84	84	82
	fz	0.031	0.032	0.031	0.031	0.032	0.032	0.032	0.033	0.031	0.032	0.032
	RPM	1804	1691	1610	1503	1424	1337	1273	1215	1163	1114	1044
	FEED	224	216	200	186	182	171	163	160	144	143	134
14.1	Vc	69	69	69	68	67	66	67	67	67	67	67
	fz	0.038	0.038	0.039	0.038	0.039	0.038	0.037	0.037	0.038	0.037	0.037
	RPM	1464	1373	1292	1203	1122	1050	1016	969	927	889	853
	FEED	223	209	202	183	175	160	150	143	141	132	126
15 - 20	Vc	138	138	138	137	135	132	133	134	134	134	134
	fz	0.039	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.039	0.039
	RPM	2928	2745	2584	2423	2262	2101	2016	1939	1855	1777	1706
	FEED	457	439	413	388	362	336	323	310	297	277	266
38.1 - 38.2	Vc	57	57	57	56	55	53	54	54	54	54	53
	fz	0.014	0.014	0.014	0.014	0.013	0.012	0.013	0.013	0.012	0.011	0.012
	RPM	1210	1134	1067	990	921	844	819	781	747	716	675
	FEED	68	64	60	55	48	40	43	41	36	32	32
40	Vc	85	85	86	85	85	84	84	84	84	84	82
	fz	0.031	0.032	0.031	0.031	0.032	0.032	0.032	0.033	0.031	0.032	0.032
	RPM	1804	1691	1610	1503	1424	1337	1273	1215	1163	1114	1044
	FEED	224	216	200	186	182	171	163	160	144	143	134
41	Vc	57	57	57	56	55	53	54	54	54	54	53
	fz	0.014	0.014	0.014	0.014	0.013	0.012	0.013	0.013	0.012	0.011	0.012
	RPM	1210	1134	1067	990	921	844	819	781	747	716	675
	FEED	68	64	60	55	48	40	43	41	36	32	32



CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME72 SERIES
4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)
LOC (刃长) = Length of Cut

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径											
						1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.2	1.2	1.2	1.2	
					LOC	3	4	5	6	7	8	10	12	4	6	8	10
P	1-5	Non-alloy steel	0.05D	2.5D	Vc	60	60	60	54	54	54	54	48	61	61	55	55
					fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002
					RPM	19099	19099	19099	17189	17189	17189	17189	15279	16181	16181	14589	14589
					FEED	153	153	153	138	138	138	138	122	194	194	175	117
	6-8	Low alloy steel	0.05D	2.5D	Vc	60	60	60	54	54	54	54	48	61	61	55	55
					fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002
					RPM	19099	19099	19099	17189	17189	17189	17189	15279	16181	16181	14589	14589
					FEED	153	153	153	138	138	138	138	122	194	194	175	117
	9		0.05D	2.5D	Vc	34	34	34	31	31	31	31	28	35	35	31	31
					fz	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.002	0.002	0.002	0.002
					RPM	10823	10823	10823	9868	9868	9868	9868	8913	9284	9284	8223	8223
					FEED	87	87	87	79	79	39	39	36	74	74	66	66
	10-11.1	High alloyed steel, and tool steel	0.05D	2.5D	Vc	60	60	60	54	54	54	54	48	61	61	55	55
					fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002
					RPM	19099	19099	19099	17189	17189	17189	17189	15279	16181	16181	14589	14589
					FEED	153	153	153	138	138	138	138	122	194	194	175	117
	11.2		0.05D	2.5D	Vc	34	34	34	31	31	31	31	28	35	35	31	31
					fz	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.002	0.002	0.002	0.002
					RPM	10823	10823	10823	9868	9868	9868	9868	8913	9284	9284	8223	8223
					FEED	87	87	87	79	79	39	39	36	74	74	66	66
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.05D	2.5D	Vc	60	60	60	54	54	54	54	48	61	61	55	55
					fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002
					RPM	19099	19099	19099	17189	17189	17189	17189	15279	16181	16181	14589	14589
					FEED	153	153	153	138	138	138	138	122	194	194	175	117
H	38.1 - 38.2	Hardened steel	0.02D	2.0D	Vc	21	21	21	19	19	19	19	17	21	21	19	19
					fz	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.001
					RPM	6685	6685	6685	6048	6048	6048	6048	5411	5570	5570	5040	5040
					FEED	27	27	27	24	24	24	24	22	45	45	40	20
	40	Chilled Cast Iron	0.05D	2.5D	Vc	34	34	34	31	31	31	31	28	35	35	31	31
					fz	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.002	0.002	0.002	0.002
					RPM	10823	10823	10823	9868	9868	9868	9868	8913	9284	9284	8223	8223
					FEED	87	87	87	79	79	39	39	36	74	74	66	66
	41	Hardened Cast Iron	0.02D	2.0D	Vc	21	21	21	19	19	19	19	17	21	21	19	19
					fz	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.001
					RPM	6685	6685	6685	6048	6048	6048	6048	5411	5570	5570	5040	5040
					FEED	27	27	27	24	24	24	24	22	45	45	40	20

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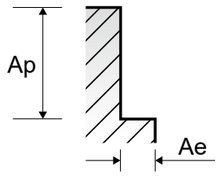

4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME72 SERIES
4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)
LOC (刃长) = Length of Cut

VDI 3323	Parameter 参数	Diameter (Ø) 直径																		
		1.2	1.5	1.5	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	3.0	3.0
	LOC	12	6	8	10	12	14	16	8	10	12	14	16	10	12	16	20	26	10	12
1-5	Vc	55	65	59	59	59	59	52	66	66	60	60	60	71	71	64	64	57	70	70
	fz	0.002	0.004	0.004	0.004	0.003	0.003	0.003	0.006	0.006	0.005	0.005	0.005	0.007	0.007	0.006	0.006	0.005	0.009	0.009
	RPM	14589	13793	12520	12520	12520	12520	11035	10504	10504	9549	9549	9549	9040	9040	8149	8149	7257	7427	7427
	FEED	117	221	200	200	150	150	132	252	252	191	191	191	253	253	196	196	145	267	267
6-8	Vc	55	65	59	59	59	59	52	66	66	60	60	60	71	71	64	64	57	70	70
	fz	0.002	0.004	0.004	0.004	0.003	0.003	0.003	0.006	0.006	0.005	0.005	0.005	0.007	0.007	0.006	0.006	0.005	0.009	0.009
	RPM	14589	13793	12520	12520	12520	12520	11035	10504	10504	9549	9549	9549	9040	9040	8149	8149	7257	7427	7427
	FEED	117	221	200	200	150	150	132	252	252	191	191	191	253	253	196	196	145	267	267
9	Vc	31	37	33	33	33	33	30	38	38	34	34	34	41	41	37	37	32	40	40
	fz	0.002	0.003	0.003	0.002	0.002	0.002	0.002	0.004	0.004	0.004	0.004	0.003	0.005	0.005	0.005	0.004	0.004	0.007	0.007
	RPM	8223	7852	7003	7003	7003	7003	6366	6048	6048	5411	5411	5411	5220	5220	4711	4711	4074	4244	4244
	FEED	66	94	84	56	56	56	51	97	97	87	87	65	104	104	94	75	65	119	119
10 - 11.1	Vc	55	65	59	59	59	59	52	66	66	60	60	60	71	71	64	64	57	70	70
	fz	0.002	0.004	0.004	0.004	0.003	0.003	0.003	0.006	0.006	0.005	0.005	0.005	0.007	0.007	0.006	0.006	0.005	0.009	0.009
	RPM	14589	13793	12520	12520	12520	12520	11035	10504	10504	9549	9549	9549	9040	9040	8149	8149	7257	7427	7427
	FEED	117	221	200	200	150	150	132	252	252	191	191	191	253	253	196	196	145	267	267
11.2	Vc	31	37	33	33	33	33	30	38	38	34	34	34	41	41	37	37	32	40	40
	fz	0.002	0.003	0.003	0.002	0.002	0.002	0.002	0.004	0.004	0.004	0.004	0.003	0.005	0.005	0.005	0.004	0.004	0.007	0.007
	RPM	8223	7852	7003	7003	7003	7003	6366	6048	6048	5411	5411	5411	5220	5220	4711	4711	4074	4244	4244
	FEED	66	94	84	56	56	56	51	97	97	87	87	65	104	104	94	75	65	119	119
15 - 20	Vc	55	65	59	59	59	59	52	66	66	60	60	60	71	71	64	64	57	70	70
	fz	0.002	0.004	0.004	0.004	0.003	0.003	0.003	0.006	0.006	0.005	0.005	0.005	0.007	0.007	0.006	0.006	0.005	0.009	0.009
	RPM	14589	13793	12520	12520	12520	12520	11035	10504	10504	9549	9549	9549	9040	9040	8149	8149	7257	7427	7427
	FEED	117	221	200	200	150	150	132	252	252	191	191	191	253	253	196	196	145	267	267
38.1 - 38.2	Vc	19	23	20	20	20	20	18	24	24	21	21	21	25	25	23	23	20	25	25
	fz	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0.004	0.003	0.003	0.003	0.005	0.005	0.004	0.004	0.003	0.006	0.006
	RPM	5040	4881	4244	4244	4244	4244	3820	3820	3820	3342	3342	3342	3183	3183	2928	2928	2546	2653	2653
	FEED	20	39	34	34	34	34	31	61	61	40	40	40	64	64	47	47	31	64	64
40	Vc	31	37	33	33	33	33	30	38	38	34	34	34	41	41	37	37	32	40	40
	fz	0.002	0.003	0.003	0.002	0.002	0.002	0.002	0.004	0.004	0.004	0.004	0.003	0.005	0.005	0.005	0.004	0.004	0.007	0.007
	RPM	8223	7852	7003	7003	7003	7003	6366	6048	6048	5411	5411	5411	5220	5220	4711	4711	4074	4244	4244
	FEED	66	94	84	56	56	56	51	97	97	87	87	65	104	104	94	75	65	119	119
41	Vc	19	23	20	20	20	20	18	24	24	21	21	21	25	25	23	23	20	25	25
	fz	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.004	0.004	0.003	0.003	0.003	0.005	0.005	0.004	0.004	0.003	0.006	0.006
	RPM	5040	4881	4244	4244	4244	4244	3820	3820	3820	3342	3342	3342	3183	3183	2928	2928	2546	2653	2653
	FEED	20	39	34	34	34	34	31	61	61	40	40	40	64	64	47	47	31	64	64

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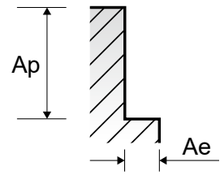

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME72 SERIES
4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)
LOC (刃长) = Length of Cut

ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径														
				LOC	3.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0
P	1-5	0.05D	2.5D	Vc	70	63	63	63	63	75	75	75	68	68	80	80	72	72	72
				fz	0.009	0.009	0.008	0.008	0.008	0.014	0.014	0.014	0.013	0.013	0.021	0.021	0.019	0.019	0.017
				RPM	7427	6685	6685	6685	6685	5968	5968	5968	5411	5411	5093	5093	4584	4584	4584
				FEED	267	241	214	214	214	334	334	334	281	281	428	428	348	348	312
	6-8	0.05D	2.5D	Vc	70	63	63	63	63	75	75	75	68	68	80	80	72	72	72
				fz	0.009	0.009	0.008	0.008	0.008	0.014	0.014	0.014	0.013	0.013	0.021	0.021	0.019	0.019	0.017
				RPM	7427	6685	6685	6685	6685	5968	5968	5968	5411	5411	5093	5093	4584	4584	4584
				FEED	267	241	214	214	214	334	334	334	281	281	428	428	348	348	312
	9	0.05D	2.5D	Vc	40	36	36	36	36	43	43	43	39	39	46	46	41	41	41
				fz	0.007	0.007	0.006	0.006	0.006	0.01	0.01	0.01	0.009	0.009	0.015	0.015	0.013	0.013	0.011
				RPM	4244	3820	3820	3820	3820	3422	3422	3422	3104	3104	2928	2928	2610	2610	2610
				FEED	119	107	92	92	92	137	137	137	112	112	176	176	136	136	115
	10-11.1	0.05D	2.5D	Vc	70	63	63	63	63	75	75	75	68	68	80	80	72	72	72
				fz	0.009	0.009	0.008	0.008	0.008	0.014	0.014	0.014	0.013	0.013	0.021	0.021	0.019	0.019	0.017
				RPM	7427	6685	6685	6685	6685	5968	5968	5968	5411	5411	5093	5093	4584	4584	4584
				FEED	267	241	214	214	214	334	334	334	281	281	428	428	348	348	312
	11.2	0.05D	2.5D	Vc	40	36	36	36	36	43	43	43	39	39	46	46	41	41	41
				fz	0.007	0.007	0.006	0.006	0.006	0.01	0.01	0.01	0.009	0.009	0.015	0.015	0.013	0.013	0.011
				RPM	4244	3820	3820	3820	3820	3422	3422	3422	3104	3104	2928	2928	2610	2610	2610
				FEED	119	107	92	92	92	137	137	137	112	112	176	176	136	136	115
K	15-20	0.05D	2.5D	Vc	70	63	63	63	63	75	75	75	68	68	80	80	72	72	72
				fz	0.009	0.009	0.008	0.008	0.008	0.014	0.014	0.014	0.013	0.013	0.021	0.021	0.019	0.019	0.017
				RPM	7427	6685	6685	6685	6685	5968	5968	5968	5411	5411	5093	5093	4584	4584	4584
				FEED	267	241	214	214	214	334	334	334	281	281	428	428	348	348	312
H	38.1 - 38.2	0.02D	2.0D	Vc	25	22	22	22	22	27	27	27	24	24	30	30	27	27	27
				fz	0.006	0.006	0.006	0.005	0.005	0.008	0.008	0.008	0.008	0.008	0.011	0.011	0.01	0.01	0.009
				RPM	2653	2334	2334	2334	2334	2149	2149	2149	1910	1910	1910	1910	1719	1719	1719
				FEED	64	56	56	47	47	69	69	69	61	61	84	84	69	69	62
	40	0.05D	2.5D	Vc	40	36	36	36	36	43	43	43	39	39	46	46	41	41	41
				fz	0.007	0.007	0.006	0.006	0.006	0.01	0.01	0.01	0.009	0.009	0.015	0.015	0.013	0.013	0.011
				RPM	4244	3820	3820	3820	3820	3422	3422	3422	3104	3104	2928	2928	2610	2610	2610
				FEED	119	107	92	92	92	137	137	137	112	112	176	176	136	136	115
	41	0.02D	2.0D	Vc	25	22	22	22	22	27	27	27	24	24	30	30	27	27	27
				fz	0.006	0.006	0.006	0.005	0.005	0.008	0.008	0.008	0.008	0.008	0.011	0.011	0.01	0.01	0.009
				RPM	2653	2334	2334	2334	2334	2149	2149	2149	1910	1910	1910	1910	1719	1719	1719
				FEED	64	56	56	47	47	69	69	69	61	61	84	84	69	69	62

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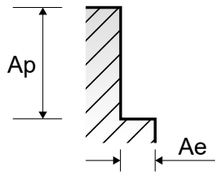

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TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME72 SERIES
4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)
LOC (刃长) = Length of Cut

VDI 3323	Parameter 参数	Diameter (Ø) 直径																	
	LOC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	8.0	8.0	8.0	8.0	8.0	8.0	10.0	10.0	10.0	10.0	10.0	10.0
		15	20	25	30	35	40	45	25	30	35	40	45	50	30	35	40	45	50	55
1-5	Vc	83	83	83	83	75	75	75	84	84	84	84	76	76	89	89	89	89	89	80
	fz	0.029	0.029	0.029	0.025	0.025	0.022	0.022	0.041	0.041	0.041	0.035	0.035	0.031	0.049	0.049	0.049	0.042	0.042	0.041
	RPM	4403	4403	4403	4403	3979	3979	3979	3342	3342	3342	3342	3024	3024	2833	2833	2833	2833	2833	2546
	FEED	511	511	511	440	398	350	350	548	548	548	468	423	375	555	555	555	476	476	418
6-8	Vc	83	83	83	83	75	75	75	84	84	84	84	76	76	89	89	89	89	89	80
	fz	0.029	0.029	0.029	0.025	0.025	0.022	0.022	0.041	0.041	0.041	0.035	0.035	0.031	0.049	0.049	0.049	0.042	0.042	0.041
	RPM	4403	4403	4403	4403	3979	3979	3979	3342	3342	3342	3342	3024	3024	2833	2833	2833	2833	2833	2546
	FEED	511	511	511	440	398	350	350	548	548	548	468	423	375	555	555	555	476	476	418
9	Vc	48	48	48	48	43	43	43	48	48	48	48	43	43	52	52	52	52	52	46
	fz	0.021	0.021	0.021	0.018	0.018	0.016	0.016	0.028	0.028	0.028	0.024	0.024	0.021	0.033	0.033	0.033	0.028	0.028	0.028
	RPM	2546	2546	2546	2546	2281	2281	2281	1910	1910	1910	1910	1711	1711	1655	1655	1655	1655	1655	1464
	FEED	214	214	214	183	164	146	146	214	214	214	183	164	144	218	218	218	185	185	164
10 - 11.1	Vc	83	83	83	83	75	75	75	84	84	84	84	76	76	89	89	89	89	89	80
	fz	0.029	0.029	0.029	0.025	0.025	0.022	0.022	0.041	0.041	0.041	0.035	0.035	0.031	0.049	0.049	0.049	0.042	0.042	0.041
	RPM	4403	4403	4403	4403	3979	3979	3979	3342	3342	3342	3342	3024	3024	2833	2833	2833	2833	2833	2546
	FEED	511	511	511	440	398	350	350	548	548	548	468	423	375	555	555	555	476	476	418
11.2	Vc	48	48	48	48	43	43	43	48	48	48	48	43	43	52	52	52	52	52	46
	fz	0.021	0.021	0.021	0.018	0.018	0.016	0.016	0.028	0.028	0.028	0.024	0.024	0.021	0.033	0.033	0.033	0.028	0.028	0.028
	RPM	2546	2546	2546	2546	2281	2281	2281	1910	1910	1910	1910	1711	1711	1655	1655	1655	1655	1655	1464
	FEED	214	214	214	183	164	146	146	214	214	214	183	164	144	218	218	218	185	185	164
15 - 20	Vc	83	83	83	83	75	75	75	84	84	84	84	76	76	89	89	89	89	89	80
	fz	0.029	0.029	0.029	0.025	0.025	0.022	0.022	0.041	0.041	0.041	0.035	0.035	0.031	0.049	0.049	0.049	0.042	0.042	0.041
	RPM	4403	4403	4403	4403	3979	3979	3979	3342	3342	3342	3342	3024	3024	2833	2833	2833	2833	2833	2546
	FEED	511	511	511	440	398	350	350	548	548	548	468	423	375	555	555	555	476	476	418
38.1 - 38.2	Vc	31	31	31	31	28	28	28	32	32	32	32	28	28	32	32	32	32	32	29
	fz	0.017	0.017	0.017	0.014	0.014	0.013	0.013	0.022	0.022	0.022	0.018	0.019	0.017	0.027	0.027	0.027	0.022	0.022	0.023
	RPM	1645	1645	1645	1645	1485	1485	1485	1273	1273	1273	1273	1114	1114	1019	1019	1019	1019	1019	923
	FEED	112	112	112	92	83	77	77	112	112	112	92	85	76	110	110	110	90	90	85
40	Vc	48	48	48	48	43	43	43	48	48	48	48	43	43	52	52	52	52	52	46
	fz	0.021	0.021	0.021	0.018	0.018	0.016	0.016	0.028	0.028	0.028	0.024	0.024	0.021	0.033	0.033	0.033	0.028	0.028	0.028
	RPM	2546	2546	2546	2546	2281	2281	2281	1910	1910	1910	1910	1711	1711	1655	1655	1655	1655	1655	1464
	FEED	214	214	214	183	164	146	146	214	214	214	183	164	144	218	218	218	185	185	164
41	Vc	31	31	31	31	28	28	28	32	32	32	32	28	28	32	32	32	32	32	29
	fz	0.017	0.017	0.017	0.014	0.014	0.013	0.013	0.022	0.022	0.022	0.018	0.019	0.017	0.027	0.027	0.027	0.022	0.022	0.023
	RPM	1645	1645	1645	1645	1485	1485	1485	1273	1273	1273	1273	1114	1114	1019	1019	1019	1019	1019	923
	FEED	112	112	112	92	83	77	77	112	112	112	92	85	76	110	110	110	90	90	85

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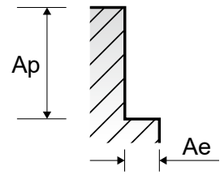

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME72 SERIES

4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED(进给) = (mm/min.)
LOC (刃长) = Length of Cut

ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径														
					10.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	14.0	14.0	16.0	16.0	16.0	16.0
				LOC	60	35	40	45	50	55	60	65	70	50	60	40	50	60	70
P	1-5	0.05D	2.5D	Vc	80	87	87	87	87	87	87	78	78	93	93	98	98	98	98
				fz	0.037	0.047	0.047	0.04	0.04	0.04	0.035	0.035	0.035	0.041	0.041	0.05	0.05	0.042	0.042
				RPM	2546	2308	2308	2308	2308	2308	2308	2069	2069	2114	2114	1950	1950	1950	1950
				FEED	377	434	434	369	369	369	323	290	290	347	347	390	390	328	328
	6-8	0.05D	2.5D	Vc	80	87	87	87	87	87	87	78	78	93	93	98	98	98	98
				fz	0.037	0.047	0.047	0.04	0.04	0.04	0.035	0.035	0.035	0.041	0.041	0.05	0.05	0.042	0.042
				RPM	2546	2308	2308	2308	2308	2308	2308	2069	2069	2114	2114	1950	1950	1950	1950
				FEED	377	434	434	369	369	369	323	290	290	347	347	390	390	328	328
	9	0.05D	2.5D	Vc	46	52	52	52	52	52	52	47	47	54	54	54	54	54	54
				fz	0.024	0.034	0.034	0.03	0.03	0.03	0.026	0.026	0.026	0.029	0.029	0.035	0.035	0.03	0.03
				RPM	1464	1379	1379	1379	1379	1379	1379	1247	1247	1228	1228	1074	1074	1074	1074
				FEED	141	188	188	166	166	166	143	130	130	142	142	150	150	129	129
	10-11.1	0.05D	2.5D	Vc	80	87	87	87	87	87	87	78	78	93	93	98	98	98	98
				fz	0.037	0.047	0.047	0.04	0.04	0.04	0.035	0.035	0.035	0.041	0.041	0.05	0.05	0.042	0.042
				RPM	2546	2308	2308	2308	2308	2308	2308	2069	2069	2114	2114	1950	1950	1950	1950
				FEED	377	434	434	369	369	369	323	290	290	347	347	390	390	328	328
	11.2	0.05D	2.5D	Vc	46	52	52	52	52	52	52	47	47	54	54	54	54	54	54
				fz	0.024	0.034	0.034	0.03	0.03	0.03	0.026	0.026	0.026	0.029	0.029	0.035	0.035	0.03	0.03
				RPM	1464	1379	1379	1379	1379	1379	1379	1247	1247	1228	1228	1074	1074	1074	1074
				FEED	141	188	188	166	166	166	143	130	130	142	142	150	150	129	129
K	15-20	0.05D	2.5D	Vc	80	87	87	87	87	87	87	78	78	93	93	98	98	98	98
				fz	0.037	0.047	0.047	0.04	0.04	0.04	0.035	0.035	0.035	0.041	0.041	0.05	0.05	0.042	0.042
				RPM	2546	2308	2308	2308	2308	2308	2308	2069	2069	2114	2114	1950	1950	1950	1950
				FEED	377	434	434	369	369	369	323	290	290	347	347	390	390	328	328
H	38.1 - 38.2	0.02D	2.0D	Vc	29	32	32	32	32	32	32	29	29	33	33	34	34	34	34
				fz	0.021	0.025	0.025	0.021	0.021	0.021	0.019	0.018	0.018	0.021	0.021	0.026	0.026	0.022	0.022
				RPM	923	849	849	849	849	849	849	769	769	750	750	676	676	676	676
				FEED	78	85	85	71	71	71	65	55	55	63	63	70	70	60	60
	40	0.05D	2.5D	Vc	46	52	52	52	52	52	52	47	47	54	54	54	54	54	54
				fz	0.024	0.034	0.034	0.03	0.03	0.03	0.026	0.026	0.026	0.029	0.029	0.035	0.035	0.03	0.03
				RPM	1464	1379	1379	1379	1379	1379	1379	1247	1247	1228	1228	1074	1074	1074	1074
				FEED	141	188	188	166	166	166	143	130	130	142	142	150	150	129	129
	41	0.02D	2.0D	Vc	29	32	32	32	32	32	32	29	29	33	33	34	34	34	34
				fz	0.021	0.025	0.025	0.021	0.021	0.021	0.019	0.018	0.018	0.021	0.021	0.026	0.026	0.022	0.022
				RPM	1464	1379	1379	1379	1379	1379	1379	1247	1247	1228	1228	1074	1074	1074	1074
				FEED	78	85	85	71	71	71	65	55	55	63	63	70	70	60	60

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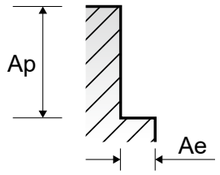


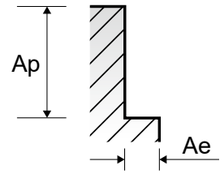
4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME72 SERIES

4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED(进给) = (mm/min.)
LOC (刃长) = Length of Cut

VDI 3323	Parameter 参数	Diameter (Ø) 直径																		
		16.0	16.0	16.0	16.0	18.0	18.0	18.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	22.0	22.0	25.0	25.0	25.0	25.0
	LOC	80	90	110	120	50	70	100	50	60	70	80	90	110	120	75	110	70	90	110	120
1-5	Vc	98	88	88	88	95	95	85	89	89	89	89	89	80	80	87	87	86	86	86	86
	fz	0.037	0.037	0.037	0.037	0.049	0.042	0.037	0.048	0.048	0.041	0.041	0.036	0.036	0.036	0.041	0.036	0.049	0.042	0.042	0.036
	RPM	1950	1751	1751	1751	1680	1680	1503	1416	1416	1416	1416	1416	1273	1273	1259	1259	1095	1095	1095	1095
	FEED	289	259	259	259	329	282	222	272	272	232	232	204	183	183	206	181	215	184	184	158
6-8	Vc	98	88	88	88	95	95	85	89	89	89	89	89	80	80	87	87	86	86	86	86
	fz	0.037	0.037	0.037	0.037	0.049	0.042	0.037	0.048	0.048	0.041	0.041	0.036	0.036	0.036	0.041	0.036	0.049	0.042	0.042	0.036
	RPM	1950	1751	1751	1751	1680	1680	1503	1416	1416	1416	1416	1416	1273	1273	1259	1259	1095	1095	1095	1095
	FEED	289	259	259	259	329	282	222	272	272	232	232	204	183	183	206	181	215	184	184	158
9	Vc	54	48	48	48	53	53	48	52	52	52	52	52	46	46	57	57	64	64	64	64
	fz	0.027	0.026	0.026	0.026	0.035	0.029	0.025	0.034	0.034	0.027	0.027	0.024	0.026	0.026	0.027	0.024	0.034	0.027	0.027	0.024
	RPM	1074	955	955	955	937	937	849	828	828	828	828	828	732	732	825	825	815	815	815	815
	FEED	116	99	99	99	131	109	85	113	113	89	89	79	76	76	89	79	111	88	88	78
10 - 11.1	Vc	98	88	88	88	95	95	85	89	89	89	89	89	80	80	87	87	86	86	86	86
	fz	0.037	0.037	0.037	0.037	0.049	0.042	0.037	0.048	0.048	0.041	0.041	0.036	0.036	0.036	0.041	0.036	0.049	0.042	0.042	0.036
	RPM	1950	1751	1751	1751	1680	1680	1503	1416	1416	1416	1416	1416	1273	1273	1259	1259	1095	1095	1095	1095
	FEED	289	259	259	259	329	282	222	272	272	232	232	204	183	183	206	181	215	184	184	158
11.2	Vc	54	48	48	48	53	53	48	52	52	52	52	52	46	46	57	57	64	64	64	64
	fz	0.027	0.026	0.026	0.026	0.035	0.029	0.025	0.034	0.034	0.027	0.027	0.024	0.026	0.026	0.027	0.024	0.034	0.027	0.027	0.024
	RPM	1074	955	955	955	937	937	849	828	828	828	828	828	732	732	825	825	815	815	815	815
	FEED	116	99	99	99	131	109	85	113	113	89	89	79	76	76	89	79	111	88	88	78
15 - 20	Vc	98	88	88	88	95	95	85	89	89	89	89	89	80	80	87	87	86	86	86	86
	fz	0.037	0.037	0.037	0.037	0.049	0.042	0.037	0.048	0.048	0.041	0.041	0.036	0.036	0.036	0.041	0.036	0.049	0.042	0.042	0.036
	RPM	1950	1751	1751	1751	1680	1680	1503	1416	1416	1416	1416	1416	1273	1273	1259	1259	1095	1095	1095	1095
	FEED	289	259	259	259	329	282	222	272	272	232	232	204	183	183	206	181	215	184	184	158
38.1 - 38.2	Vc	34	30	30	30	33	33	30	31	31	31	31	31	28	28	35	35	39	39	39	39
	fz	0.021	0.021	0.021	0.021	0.028	0.023	0.021	0.028	0.028	0.023	0.023	0.02	0.019	0.019	0.023	0.02	0.028	0.023	0.023	0.02
	RPM	676	597	597	597	584	584	531	493	493	493	493	493	446	446	506	506	497	497	497	497
	FEED	57	50	50	50	65	54	45	55	55	45	45	39	34	34	47	41	56	46	46	40
40	Vc	54	48	48	48	53	53	48	52	52	52	52	52	46	46	57	57	64	64	64	64
	fz	0.027	0.026	0.026	0.026	0.035	0.029	0.025	0.034	0.034	0.027	0.027	0.024	0.026	0.026	0.027	0.024	0.034	0.027	0.027	0.024
	RPM	1074	955	955	955	937	937	849	828	828	828	828	828	732	732	825	825	815	815	815	815
	FEED	116	99	99	99	131	109	85	113	113	89	89	79	76	76	89	79	111	88	88	78
41	Vc	34	30	30	30	33	33	30	31	31	31	31	31	28	28	35	35	39	39	39	39
	fz	0.021	0.021	0.021	0.021	0.028	0.023	0.021	0.028	0.028	0.023	0.023	0.02	0.019	0.019	0.023	0.02	0.028	0.023	0.023	0.02
	RPM	676	597	597	597	584	584	531	493	493	493	493	493	446	446	506	506	497	497	497	497
	FEED	57	50	50	50	65	54	45	55	55	45	45	39	34	34	47	41	56	46	46	40



CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME73 SERIES

4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)
Ae (切削宽度) = (mm)
LBS (颈长) = Length Below Shank

ISO	VDI 3323	Material Description 工件材料	Parameter 参数	Diameter (Ø) 直径																
				1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
			LBS	2	3	4	5	6	7	8	10	12	14	16	18	20	22	26	30	40
P	1-5	Non-alloy steel	Vc	69	69	69	69	62	62	62	62	55	55	41	41	41	21	21	21	7
			fz	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002
			RPM	21963	21963	21963	21963	19735	19735	19735	19735	17507	17507	13051	13051	13051	6685	6685	6685	2228
			FEED	351	351	351	351	237	237	237	237	210	210	104	104	104	53	53	53	18
			Ae	0.021	0.021	0.015	0.015	0.008	0.008	0.008	0.005	0.005	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002
	6-8	Low alloy steel	Vc	69	69	69	69	62	62	62	62	55	55	41	41	41	21	21	21	7
			fz	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002
			RPM	21963	21963	21963	21963	19735	19735	19735	19735	17507	17507	13051	13051	13051	6685	6685	6685	2228
			FEED	351	351	351	351	237	237	237	237	210	210	104	104	104	53	53	53	18
			Ae	0.021	0.021	0.015	0.015	0.008	0.008	0.008	0.005	0.005	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002
	9		Vc	42	42	42	42	38	38	38	38	34	34	25	25	25	13	13	13	4
			fz	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002
			RPM	13369	13369	13369	13369	12096	12096	12096	12096	10823	10823	7958	7958	7958	4138	4138	4138	1273
			FEED	160	160	160	160	145	145	145	145	130	130	64	64	64	33	33	33	10
			Ae	0.016	0.016	0.011	0.011	0.006	0.006	0.006	0.004	0.004	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
	10-11.1	High alloyed steel, and tool steel	Vc	69	69	69	69	62	62	62	62	55	55	41	41	41	21	21	21	7
			fz	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002
			RPM	21963	21963	21963	21963	19735	19735	19735	19735	17507	17507	13051	13051	13051	6685	6685	6685	2228
			FEED	351	351	351	351	237	237	237	237	210	210	104	104	104	53	53	53	18
			Ae	0.021	0.021	0.015	0.015	0.008	0.008	0.008	0.005	0.005	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002
	11.2		Vc	42	42	42	42	38	38	38	38	34	34	25	25	25	13	13	13	4
			fz	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002
			RPM	13369	13369	13369	13369	12096	12096	12096	12096	10823	10823	7958	7958	7958	4138	4138	4138	1273
			FEED	160	160	160	160	145	145	145	145	130	130	64	64	64	33	33	33	10
			Ae	0.016	0.016	0.011	0.011	0.006	0.006	0.006	0.004	0.004	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	Vc	69	69	69	69	62	62	62	62	55	55	41	41	41	21	21	21	7
			fz	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002
			RPM	21963	21963	21963	21963	19735	19735	19735	19735	17507	17507	13051	13051	13051	6685	6685	6685	2228
			FEED	351	351	351	351	237	237	237	237	210	210	104	104	104	53	53	53	18
			Ae	0.021	0.021	0.015	0.015	0.008	0.008	0.008	0.005	0.005	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002
H	38.1 - 38.2	Hardened steel	Vc	27	27	27	27	24	24	24	24	21	21	16	16	16	8	8	8	3
			fz	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
			RPM	8594	8594	8594	8594	7639	7639	7639	7639	6685	6685	5093	5093	5093	2546	2546	2546	955
			FEED	34	34	34	34	31	31	31	31	27	27	20	20	20	10	10	10	4
			Ae	0.013	0.013	0.009	0.009	0.005	0.005	0.005	0.003	0.003	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001
	40	Chilled Cast Iron	Vc	42	42	42	42	38	38	38	38	34	34	25	25	25	13	13	13	4
			fz	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002
			RPM	13369	13369	13369	13369	12096	12096	12096	12096	10823	10823	7958	7958	7958	4138	4138	4138	1273
			FEED	160	160	160	160	145	145	145	145	130	130	64	64	64	33	33	33	10
			Ae	0.016	0.016	0.011	0.011	0.006	0.006	0.006	0.004	0.004	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
	41	Hardened Cast Iron	Vc	27	27	27	27	24	24	24	24	21	21	16	16	16	8	8	8	3
			fz	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
			RPM	8594	8594	8594	8594	7639	7639	7639	7639	6685	6685	5093	5093	5093	2546	2546	2546	955
			FEED	34	34	34	34	31	31	31	31	27	27	20	20	20	10	10	10	4
			Ae	0.013	0.013	0.009	0.009	0.005	0.005	0.005	0.003	0.003	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001

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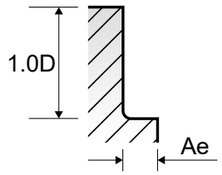

4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
SEME73 SERIES
4 FLUTE - SIDE CUTTING
4刃 - 侧铣削
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)
Ae (切削宽度) = (mm)
LBS (颈长) = Length Below Shank

VDI 3323	Parameter 参数	Diameter (Ø) 直径																		
		1.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	LBS	50	4	6	8	10	12	14	16	20	26	30	4	5	6	7	8	10	12	14	16	18	20
1-5	Vc	7	74	74	66	66	66	59	59	44	22	22	80	80	80	80	72	72	72	72	64	64	64
	fz	0.002	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.002	0.002	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	RPM	2228	19629	19629	17507	17507	17507	15650	15650	11671	5836	5836	16977	16977	16977	16977	15279	15279	15279	15279	13581	13581	13581
	FEED	18	314	314	280	280	280	188	188	140	47	47	340	340	340	340	244	244	244	244	217	217	217
	Ae	0.002	0.018	0.018	0.01	0.006	0.006	0.006	0.004	0.003	0.003	0.003	0.032	0.022	0.022	0.022	0.013	0.013	0.013	0.008	0.008	0.008	0.005
6-8	Vc	7	74	74	66	66	66	59	59	44	22	22	80	80	80	80	72	72	72	72	64	64	64
	fz	0.002	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.002	0.002	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	RPM	2228	19629	19629	17507	17507	17507	15650	15650	11671	5836	5836	16977	16977	16977	16977	15279	15279	15279	15279	13581	13581	13581
	FEED	18	314	314	280	280	280	188	188	140	47	47	340	340	340	340	244	244	244	244	217	217	217
	Ae	0.002	0.018	0.018	0.01	0.006	0.006	0.006	0.004	0.003	0.003	0.003	0.032	0.022	0.022	0.022	0.013	0.013	0.013	0.008	0.008	0.008	0.005
9	Vc	4	46	46	41	41	41	36	36	27	14	14	50	50	50	50	45	45	45	45	40	40	40
	fz	0.002	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	RPM	1273	12202	12202	10876	10876	10876	9549	9549	7162	3714	3714	10610	10610	10610	10610	9549	9549	9549	9549	8488	8488	8488
	FEED	10	195	195	131	131	131	115	115	86	30	30	170	170	170	170	153	153	153	153	136	136	136
	Ae	0.002	0.013	0.013	0.008	0.005	0.005	0.005	0.003	0.002	0.002	0.002	0.024	0.017	0.017	0.017	0.009	0.009	0.009	0.006	0.006	0.006	0.004
10 - 11.1	Vc	7	74	74	66	66	66	59	59	44	22	22	80	80	80	80	72	72	72	72	64	64	64
	fz	0.002	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.002	0.002	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	RPM	2228	19629	19629	17507	17507	17507	15650	15650	11671	5836	5836	16977	16977	16977	16977	15279	15279	15279	15279	13581	13581	13581
	FEED	18	314	314	280	280	280	188	188	140	47	47	340	340	340	340	244	244	244	244	217	217	217
	Ae	0.002	0.018	0.018	0.01	0.006	0.006	0.006	0.004	0.003	0.003	0.003	0.032	0.022	0.022	0.022	0.013	0.013	0.013	0.008	0.008	0.008	0.005
11.2	Vc	4	46	46	41	41	41	36	36	27	14	14	50	50	50	50	45	45	45	45	40	40	40
	fz	0.002	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	RPM	1273	12202	12202	10876	10876	10876	9549	9549	7162	3714	3714	10610	10610	10610	10610	9549	9549	9549	9549	8488	8488	8488
	FEED	10	195	195	131	131	131	115	115	86	30	30	170	170	170	170	153	153	153	153	136	136	136
	Ae	0.002	0.013	0.013	0.008	0.005	0.005	0.005	0.003	0.002	0.002	0.002	0.024	0.017	0.017	0.017	0.009	0.009	0.009	0.006	0.006	0.006	0.004
15 - 20	Vc	7	74	74	66	66	66	59	59	44	22	22	80	80	80	80	72	72	72	72	64	64	64
	fz	0.002	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.002	0.002	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	RPM	2228	19629	19629	17507	17507	17507	15650	15650	11671	5836	5836	16977	16977	16977	16977	15279	15279	15279	15279	13581	13581	13581
	FEED	18	314	314	280	280	280	188	188	140	47	47	340	340	340	340	244	244	244	244	217	217	217
	Ae	0.002	0.018	0.018	0.01	0.006	0.006	0.006	0.004	0.003	0.003	0.003	0.032	0.022	0.022	0.022	0.013	0.013	0.013	0.008	0.008	0.008	0.005
38.1 - 38.2	Vc	3	28	28	25	25	25	23	23	17	8	8	31	31	31	31	28	28	28	28	25	25	25
	fz	0.001	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001
	RPM	955	7427	7427	6631	6631	6631	6101	6101	4509	2122	2122	6578	6578	6578	6578	5942	5942	5942	5942	5305	5305	5305
	FEED	4	59	59	27	27	27	24	24	18	8	8	53	53	53	53	48	48	48	48	21	21	21
	Ae	0.001	0.011	0.011	0.006	0.004	0.004	0.004	0.002	0.002	0.002	0.002	0.019	0.013	0.013	0.013	0.008	0.008	0.008	0.005	0.005	0.005	0.003
40	Vc	4	46	46	41	41	41	36	36	27	14	14	50	50	50	50	45	45	45	45	40	40	40
	fz	0.002	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	RPM	1273	12202	12202	10876	10876	10876	9549	9549	7162	3714	3714	10610	10610	10610	10610	9549	9549	9549	9549	8488	8488	8488
	FEED	10	195	195	131	131	131	115	115	86	30	30	170	170	170	170	153	153	153	153	136	136	136
	Ae	0.002	0.013	0.013	0.008	0.005	0.005	0.005	0.003	0.002	0.002	0.002	0.024	0.017	0.017	0.017	0.009	0.009	0.009	0.006	0.006	0.006	0.004
41	Vc	3	28	28	25	25	25	23	23	17	8	8	31	31	31	31	28	28	28	28	25	25	25
	fz	0.001	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001
	RPM	955	7427	7427	6631	6631	6631	6101	6101	4509	2122	2122	6578	6578	6578	6578	5942	5942	5942	5942	5305	5305	5305
	FEED	4	59	59	27	27	27	24	24	18	8	8	53	53	53	53	48	48	48	48	21	21	21
	Ae	0.001	0.011	0.011	0.006	0.004	0.004	0.004	0.002	0.002	0.002	0.002	0.019	0.013	0.013	0.013	0.008	0.008	0.008	0.005	0.005	0.005	0.003

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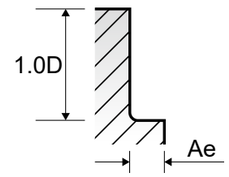

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME73 SERIES — 4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ae (切削宽度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

ISO	VDI 3323	Parameter 参数	Diameter (Ø) 直径																			
		LBS	1.5	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5
			22	26	30	6	8	10	12	16	18	20	22	26	30	35	40	45	50	60	8	10
P	1-5	Vc	64	48	48	87	87	87	79	79	79	79	70	70	70	52	52	26	26	26	94	94
		fz	0.004	0.003	0.003	0.006	0.006	0.006	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.007	0.007
		RPM	13581	10186	10186	13846	13846	13846	12573	12573	12573	12573	11141	11141	11141	8276	8276	4138	4138	4138	11968	11968
		FEED	217	122	122	332	332	332	251	251	251	251	223	223	223	132	132	66	66	66	335	335
		Ae	0.005	0.003	0.003	0.042	0.029	0.029	0.017	0.017	0.011	0.011	0.011	0.011	0.006	0.004	0.004	0.004	0.004	0.004	0.037	0.037
	6-8	Vc	64	48	48	87	87	87	79	79	79	79	70	70	70	52	52	26	26	26	94	94
		fz	0.004	0.003	0.003	0.006	0.006	0.006	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.007	0.007
		RPM	13581	10186	10186	13846	13846	13846	12573	12573	12573	12573	11141	11141	11141	8276	8276	4138	4138	4138	11968	11968
		FEED	217	122	122	332	332	332	251	251	251	251	223	223	223	132	132	66	66	66	335	335
		Ae	0.005	0.003	0.003	0.042	0.029	0.029	0.017	0.017	0.011	0.011	0.011	0.011	0.006	0.004	0.004	0.004	0.004	0.004	0.037	0.037
	9	Vc	40	30	30	57	57	57	51	51	51	51	46	46	46	34	34	17	17	17	60	60
		fz	0.004	0.003	0.003	0.006	0.006	0.006	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.007	0.007
		RPM	8488	6366	6366	9072	9072	9072	8117	8117	8117	8117	7321	7321	7321	5411	5411	2706	2706	2706	7639	7639
		FEED	136	76	76	218	218	218	162	162	162	162	117	117	117	87	87	32	32	32	214	214
		Ae	0.004	0.002	0.002	0.032	0.022	0.022	0.013	0.013	0.008	0.008	0.008	0.008	0.005	0.003	0.003	0.003	0.003	0.003	0.028	0.028
	10-11.1	Vc	64	48	48	87	87	87	79	79	79	79	70	70	70	52	52	26	26	26	94	94
		fz	0.004	0.003	0.003	0.006	0.006	0.006	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.007	0.007
		RPM	13581	10186	10186	13846	13846	13846	12573	12573	12573	12573	11141	11141	11141	8276	8276	4138	4138	4138	11968	11968
		FEED	217	122	122	332	332	332	251	251	251	251	223	223	223	132	132	66	66	66	335	335
		Ae	0.005	0.003	0.003	0.042	0.029	0.029	0.017	0.017	0.011	0.011	0.011	0.011	0.006	0.004	0.004	0.004	0.004	0.004	0.037	0.037
	11.2	Vc	40	30	30	57	57	57	51	51	51	51	46	46	46	34	34	17	17	17	60	60
		fz	0.004	0.003	0.003	0.006	0.006	0.006	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.007	0.007
		RPM	8488	6366	6366	9072	9072	9072	8117	8117	8117	8117	7321	7321	7321	5411	5411	2706	2706	2706	7639	7639
		FEED	136	76	76	218	218	218	162	162	162	162	117	117	117	87	87	32	32	32	214	214
		Ae	0.004	0.002	0.002	0.032	0.022	0.022	0.013	0.013	0.008	0.008	0.008	0.008	0.005	0.003	0.003	0.003	0.003	0.003	0.028	0.028
K	15-20	Vc	64	48	48	87	87	87	79	79	79	79	70	70	70	52	52	26	26	26	94	94
		fz	0.004	0.003	0.003	0.006	0.006	0.006	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.007	0.007
		RPM	13581	10186	10186	13846	13846	13846	12573	12573	12573	12573	11141	11141	11141	8276	8276	4138	4138	4138	11968	11968
		FEED	217	122	122	332	332	332	251	251	251	251	223	223	223	132	132	66	66	66	335	335
		Ae	0.005	0.003	0.003	0.042	0.029	0.029	0.017	0.017	0.011	0.011	0.011	0.011	0.006	0.004	0.004	0.004	0.004	0.004	0.037	0.037
H	38.1 - 38.2	Vc	25	18	18	38	38	38	34	34	34	34	30	30	30	23	23	11	11	11	35	35
		fz	0.001	0.001	0.001	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.003	0.003
		RPM	5305	3820	3820	6048	6048	6048	5411	5411	5411	5411	4775	4775	4775	3661	3661	1751	1751	1751	4456	4456
		FEED	21	15	15	73	73	73	43	43	43	43	38	38	38	29	29	7	7	7	53	53
		Ae	0.003	0.002	0.002	0.025	0.018	0.018	0.01	0.01	0.006	0.006	0.006	0.006	0.004	0.003	0.003	0.003	0.003	0.003	0.022	0.022
	40	Vc	40	30	30	57	57	57	51	51	51	51	46	46	46	34	34	17	17	17	60	60
		fz	0.004	0.003	0.003	0.006	0.006	0.006	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.007	0.007
		RPM	8488	6366	6366	9072	9072	9072	8117	8117	8117	8117	7321	7321	7321	5411	5411	2706	2706	2706	7639	7639
		FEED	136	76	76	218	218	218	162	162	162	162	117	117	117	87	87	32	32	32	214	214
		Ae	0.004	0.002	0.002	0.032	0.022	0.022	0.013	0.013	0.008	0.008	0.008	0.008	0.005	0.003	0.003	0.003	0.003	0.003	0.028	0.028
	41	Vc	25	18	18	38	38	38	34	34	34	34	30	30	30	23	23	11	11	11	35	35
		fz	0.001	0.001	0.001	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.003	0.003
		RPM	5305	3820	3820	6048	6048	6048	5411	5411	5411	5411	4775	4775	4775	3661	3661	1751	1751	1751	4456	4456
		FEED	21	15	15	73	73	73	43	43	43	43	38	38	38	29	29	7	7	7	53	53
		Ae	0.003	0.002	0.002	0.025	0.018	0.018	0.01	0.01	0.006	0.006	0.006	0.006	0.004	0.003	0.003	0.003	0.003	0.003	0.022	0.022

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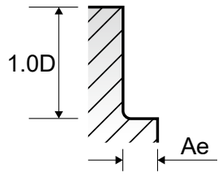

4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME73 SERIES — 4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ae (切削宽度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

VDI 3323	Parameter 参数	Diameter (Ø) 直径																				
	LBS	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
		12	14	16	18	20	22	26	30	35	40	45	50	6	8	10	12	14	16	18	20	22	26
1-5	Vc	94	85	85	85	85	85	75	75	75	57	57	57	101	101	101	101	101	91	91	91	91	91
	fz	0.007	0.007	0.007	0.007	0.007	0.007	0.006	0.006	0.006	0.005	0.005	0.005	0.009	0.009	0.009	0.009	0.009	0.008	0.008	0.008	0.008	0.008
	RPM	11968	10823	10823	10823	10823	10823	9549	9549	9549	7257	7257	7257	10716	10716	10716	10716	10716	9655	9655	9655	9655	9655
	FEED	335	303	303	303	303	303	229	229	229	145	145	145	386	386	386	386	386	309	309	309	309	309
	Ae	0.037	0.021	0.021	0.021	0.021	0.013	0.013	0.013	0.008	0.008	0.005	0.005	0.063	0.063	0.044	0.044	0.044	0.025	0.025	0.025	0.025	0.016
6-8	Vc	94	85	85	85	85	85	75	75	75	57	57	57	101	101	101	101	101	91	91	91	91	91
	fz	0.007	0.007	0.007	0.007	0.007	0.007	0.006	0.006	0.006	0.005	0.005	0.005	0.009	0.009	0.009	0.009	0.009	0.008	0.008	0.008	0.008	0.008
	RPM	11968	10823	10823	10823	10823	10823	9549	9549	9549	7257	7257	7257	10716	10716	10716	10716	10716	9655	9655	9655	9655	9655
	FEED	335	303	303	303	303	303	229	229	229	145	145	145	386	386	386	386	386	309	309	309	309	309
	Ae	0.037	0.021	0.021	0.021	0.021	0.013	0.013	0.013	0.008	0.008	0.005	0.005	0.063	0.063	0.044	0.044	0.044	0.025	0.025	0.025	0.025	0.016
9	Vc	60	54	54	54	54	54	48	48	48	36	36	36	63	63	63	63	63	57	57	57	57	57
	fz	0.007	0.007	0.007	0.007	0.007	0.007	0.006	0.006	0.006	0.005	0.005	0.005	0.009	0.009	0.009	0.009	0.009	0.008	0.008	0.008	0.008	0.008
	RPM	7639	6875	6875	6875	6875	6875	6112	6112	6112	4584	4584	4584	6685	6685	6685	6685	6685	6048	6048	6048	6048	6048
	FEED	214	193	193	193	193	193	147	147	147	92	92	92	241	241	241	241	241	194	194	194	194	194
	Ae	0.028	0.016	0.016	0.016	0.016	0.01	0.01	0.01	0.006	0.006	0.004	0.004	0.047	0.047	0.033	0.033	0.033	0.019	0.019	0.019	0.019	0.012
10 - 11.1	Vc	94	85	85	85	85	85	75	75	75	57	57	57	101	101	101	101	101	91	91	91	91	91
	fz	0.007	0.007	0.007	0.007	0.007	0.007	0.006	0.006	0.006	0.005	0.005	0.005	0.009	0.009	0.009	0.009	0.009	0.008	0.008	0.008	0.008	0.008
	RPM	11968	10823	10823	10823	10823	10823	9549	9549	9549	7257	7257	7257	10716	10716	10716	10716	10716	9655	9655	9655	9655	9655
	FEED	335	303	303	303	303	303	229	229	229	145	145	145	386	386	386	386	386	309	309	309	309	309
	Ae	0.037	0.021	0.021	0.021	0.021	0.013	0.013	0.013	0.008	0.008	0.005	0.005	0.063	0.063	0.044	0.044	0.044	0.025	0.025	0.025	0.025	0.016
11.2	Vc	60	54	54	54	54	54	48	48	48	36	36	36	63	63	63	63	63	57	57	57	57	57
	fz	0.007	0.007	0.007	0.007	0.007	0.007	0.006	0.006	0.006	0.005	0.005	0.005	0.009	0.009	0.009	0.009	0.009	0.008	0.008	0.008	0.008	0.008
	RPM	7639	6875	6875	6875	6875	6875	6112	6112	6112	4584	4584	4584	6685	6685	6685	6685	6685	6048	6048	6048	6048	6048
	FEED	214	193	193	193	193	193	147	147	147	92	92	92	241	241	241	241	241	194	194	194	194	194
	Ae	0.028	0.016	0.016	0.016	0.016	0.01	0.01	0.01	0.006	0.006	0.004	0.004	0.047	0.047	0.033	0.033	0.033	0.019	0.019	0.019	0.019	0.012
15 - 20	Vc	94	85	85	85	85	85	75	75	75	57	57	57	101	101	101	101	101	91	91	91	91	91
	fz	0.007	0.007	0.007	0.007	0.007	0.007	0.006	0.006	0.006	0.005	0.005	0.005	0.009	0.009	0.009	0.009	0.009	0.008	0.008	0.008	0.008	0.008
	RPM	11968	10823	10823	10823	10823	10823	9549	9549	9549	7257	7257	7257	10716	10716	10716	10716	10716	9655	9655	9655	9655	9655
	FEED	335	303	303	303	303	303	229	229	229	145	145	145	386	386	386	386	386	309	309	309	309	309
	Ae	0.037	0.021	0.021	0.021	0.021	0.013	0.013	0.013	0.008	0.008	0.005	0.005	0.063	0.063	0.044	0.044	0.044	0.025	0.025	0.025	0.025	0.016
38.1 - 38.2	Vc	35	32	32	32	32	32	28	28	28	21	21	21	38	38	38	38	38	34	34	34	34	34
	fz	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	RPM	4456	4074	4074	4074	4074	4074	3565	3565	3565	2674	2674	2674	4032	4032	4032	4032	4032	3608	3608	3608	3608	3608
	FEED	53	49	49	49	49	49	43	43	43	21	21	21	65	65	65	65	65	58	58	58	58	58
	Ae	0.022	0.013	0.013	0.013	0.013	0.008	0.008	0.008	0.005	0.005	0.003	0.003	0.038	0.038	0.026	0.026	0.026	0.015	0.015	0.015	0.015	0.009
40	Vc	60	54	54	54	54	54	48	48	48	36	36	36	63	63	63	63	63	57	57	57	57	57
	fz	0.007	0.007	0.007	0.007	0.007	0.007	0.006	0.006	0.006	0.005	0.005	0.005	0.009	0.009	0.009	0.009	0.009	0.008	0.008	0.008	0.008	0.008
	RPM	7639	6875	6875	6875	6875	6875	6112	6112	6112	4584	4584	4584	6685	6685	6685	6685	6685	6048	6048	6048	6048	6048
	FEED	214	193	193	193	193	193	147	147	147	92	92	92	241	241	241	241	241	194	194	194	194	194
	Ae	0.028	0.016	0.016	0.016	0.016	0.01	0.01	0.01	0.006	0.006	0.004	0.004	0.047	0.047	0.033	0.033	0.033	0.019	0.019	0.019	0.019	0.012
41	Vc	35	32	32	32	32	32	28	28	28	21	21	21	38	38	38	38	38	34	34	34	34	34
	fz	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	RPM	4456	4074	4074	4074	4074	4074	3565	3565	3565	2674	2674	2674	4032	4032	4032	4032	4032	3608	3608	3608	3608	3608
	FEED	53	49	49	49	49	49	43	43	43	21	21	21	65	65	65	65	65	58	58	58	58	58
	Ae	0.022	0.013	0.013	0.013	0.013	0.008	0.008	0.008	0.005	0.005	0.003	0.003	0.038	0.038	0.026	0.026	0.026	0.015	0.015	0.015	0.015	0.009

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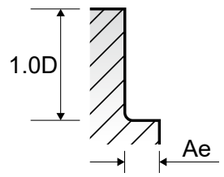

4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME73 SERIES — 4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ae (切削宽度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

ISO	VDI 3323	Parameter 参数	Diameter (Ø) 直径																			
			3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
		LBS	30	35	40	45	50	60	8	10	12	14	16	18	20	22	26	30	35	40	45	50
P	1-5	Vc	91	81	81	81	61	61	114	114	114	114	114	114	114	103	103	103	103	103	91	91
		fz	0.008	0.007	0.007	0.007	0.006	0.006	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.017	0.017	0.017	0.017	0.017	0.015	0.015
		RPM	9655	8594	8594	8594	6472	6472	9072	9072	9072	9072	9072	9072	9072	8196	8196	8196	8196	8196	7242	7242
		FEED	309	241	241	241	155	155	689	689	689	689	689	689	689	557	557	557	557	557	434	434
		Ae	0.016	0.016	0.009	0.009	0.006	0.006	0.084	0.084	0.084	0.059	0.059	0.059	0.059	0.034	0.034	0.034	0.021	0.021	0.021	0.021
	6-8	Vc	91	81	81	81	61	61	114	114	114	114	114	114	114	103	103	103	103	103	91	91
		fz	0.008	0.007	0.007	0.007	0.006	0.006	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.017	0.017	0.017	0.017	0.017	0.015	0.015
		RPM	9655	8594	8594	8594	6472	6472	9072	9072	9072	9072	9072	9072	9072	8196	8196	8196	8196	8196	7242	7242
		FEED	309	241	241	241	155	155	689	689	689	689	689	689	689	557	557	557	557	557	434	434
		Ae	0.016	0.016	0.009	0.009	0.006	0.006	0.084	0.084	0.084	0.059	0.059	0.059	0.059	0.034	0.034	0.034	0.021	0.021	0.021	0.021
	9	Vc	57	50	50	50	38	38	70	70	70	70	70	70	70	63	63	63	63	63	56	56
		fz	0.008	0.007	0.007	0.007	0.006	0.006	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.017	0.017	0.017	0.017	0.017	0.015	0.015
		RPM	6048	5305	5305	5305	4032	4032	5570	5570	5570	5570	5570	5570	5570	5013	5013	5013	5013	5013	4456	4456
		FEED	194	149	149	149	97	97	423	423	423	423	423	423	423	341	341	341	341	341	267	267
		Ae	0.012	0.012	0.007	0.007	0.005	0.005	0.063	0.063	0.063	0.044	0.044	0.044	0.044	0.025	0.025	0.025	0.016	0.016	0.016	0.016
	10-11.1	Vc	91	81	81	81	61	61	114	114	114	114	114	114	114	103	103	103	103	103	91	91
		fz	0.008	0.007	0.007	0.007	0.006	0.006	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.017	0.017	0.017	0.017	0.017	0.015	0.015
		RPM	9655	8594	8594	8594	6472	6472	9072	9072	9072	9072	9072	9072	9072	8196	8196	8196	8196	8196	7242	7242
		FEED	309	241	241	241	155	155	689	689	689	689	689	689	689	557	557	557	557	557	434	434
		Ae	0.016	0.016	0.009	0.009	0.006	0.006	0.084	0.084	0.084	0.059	0.059	0.059	0.059	0.034	0.034	0.034	0.021	0.021	0.021	0.021
	11.2	Vc	57	50	50	50	38	38	70	70	70	70	70	70	70	63	63	63	63	63	56	56
		fz	0.008	0.007	0.007	0.007	0.006	0.006	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.017	0.017	0.017	0.017	0.017	0.015	0.015
		RPM	6048	5305	5305	5305	4032	4032	5570	5570	5570	5570	5570	5570	5570	5013	5013	5013	5013	5013	4456	4456
		FEED	194	149	149	149	97	97	423	423	423	423	423	423	423	341	341	341	341	341	267	267
		Ae	0.012	0.012	0.007	0.007	0.005	0.005	0.063	0.063	0.063	0.044	0.044	0.044	0.044	0.025	0.025	0.025	0.016	0.016	0.016	0.016
K	15-20	Vc	91	81	81	81	61	61	114	114	114	114	114	114	114	103	103	103	103	103	91	91
		fz	0.008	0.007	0.007	0.007	0.006	0.006	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.017	0.017	0.017	0.017	0.017	0.015	0.015
		RPM	9655	8594	8594	8594	6472	6472	9072	9072	9072	9072	9072	9072	9072	8196	8196	8196	8196	8196	7242	7242
		FEED	309	241	241	241	155	155	689	689	689	689	689	689	689	557	557	557	557	557	434	434
		Ae	0.016	0.016	0.009	0.009	0.006	0.006	0.084	0.084	0.084	0.059	0.059	0.059	0.059	0.034	0.034	0.034	0.021	0.021	0.021	0.021
H	38.1 - 38.2	Vc	34	30	30	30	23	23	44	44	44	44	44	44	44	40	40	40	40	40	35	35
		fz	0.004	0.003	0.003	0.003	0.003	0.003	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.004	0.004
		RPM	3608	3183	3183	3183	2440	2440	3501	3501	3501	3501	3501	3501	3501	3183	3183	3183	3183	3183	2785	2785
		FEED	58	38	38	38	29	29	70	70	70	70	70	70	70	51	51	51	51	51	45	45
		Ae	0.009	0.009	0.006	0.006	0.004	0.004	0.05	0.05	0.05	0.035	0.035	0.035	0.035	0.02	0.02	0.02	0.013	0.013	0.013	0.013
	40	Vc	57	50	50	50	38	38	70	70	70	70	70	70	70	63	63	63	63	63	56	56
		fz	0.008	0.007	0.007	0.007	0.006	0.006	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.017	0.017	0.017	0.017	0.017	0.015	0.015
		RPM	6048	5305	5305	5305	4032	4032	5570	5570	5570	5570	5570	5570	5570	5013	5013	5013	5013	5013	4456	4456
		FEED	194	149	149	149	97	97	423	423	423	423	423	423	423	341	341	341	341	341	267	267
		Ae	0.012	0.012	0.007	0.007	0.005	0.005	0.063	0.063	0.063	0.044	0.044	0.044	0.044	0.025	0.025	0.025	0.016	0.016	0.016	0.016
	41	Vc	34	30	30	30	23	23	44	44	44	44	44	44	44	40	40	40	40	40	35	35
		fz	0.004	0.003	0.003	0.003	0.003	0.003	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.004	0.004
		RPM	3608	3183	3183	3183	2440	2440	3501	3501	3501	3501	3501	3501	3501	3183	3183	3183	3183	3183	2785	2785
		FEED	58	38	38	38	29	29	70	70	70	70	70	70	70	51	51	51	51	51	45	45
		Ae	0.009	0.009	0.006	0.006	0.004	0.004	0.05	0.05	0.05	0.035	0.035	0.035	0.035	0.02	0.02	0.02	0.013	0.013	0.013	0.013

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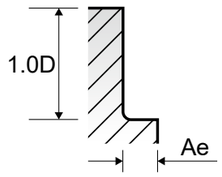
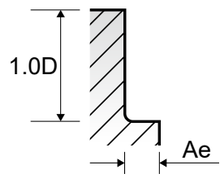


4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME73 SERIES — 4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ae (切削宽度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

VDI 3323	Parameter 参数	Diameter (Ø) 直径																				
		4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	6.0	6.0	8.0	8.0	8.0	10.0	10.0	10.0	12.0	12.0	12.0
	LBS	60	16	20	26	30	35	40	50	60	15	20	30	32	25	30	42	30	35	45	35	40	50
1-5	Vc	91	119	119	107	107	107	107	107	95	126	126	126	113	127	127	114	123	123	123	124	124	124
	fz	0.015	0.024	0.024	0.022	0.022	0.022	0.022	0.022	0.019	0.03	0.03	0.03	0.027	0.042	0.042	0.038	0.047	0.047	0.047	0.047	0.047	0.047
	RPM	7242	7576	7576	6812	6812	6812	6812	6812	6048	6685	6685	6685	5995	5053	5053	4536	3915	3915	3915	3289	3289	3289
	FEED	434	727	727	599	599	599	599	599	460	802	802	802	647	849	849	689	736	736	736	618	618	618
	Ae	0.013	0.074	0.074	0.042	0.042	0.042	0.042	0.026	0.026	0.126	0.088	0.088	0.05	0.118	0.118	0.067	0.21	0.147	0.147	0.252	0.176	0.176
6-8	Vc	91	119	119	107	107	107	107	107	95	126	126	126	113	127	127	114	123	123	123	124	124	124
	fz	0.015	0.024	0.024	0.022	0.022	0.022	0.022	0.022	0.019	0.03	0.03	0.03	0.027	0.042	0.042	0.038	0.047	0.047	0.047	0.047	0.047	0.047
	RPM	7242	7576	7576	6812	6812	6812	6812	6812	6048	6685	6685	6685	5995	5053	5053	4536	3915	3915	3915	3289	3289	3289
	FEED	434	727	727	599	599	599	599	599	460	802	802	802	647	849	849	689	736	736	736	618	618	618
	Ae	0.013	0.074	0.074	0.042	0.042	0.042	0.042	0.026	0.026	0.126	0.088	0.088	0.05	0.118	0.118	0.067	0.21	0.147	0.147	0.252	0.176	0.176
9	Vc	56	71	71	64	64	64	64	64	57	76	76	76	68	76	76	68	75	75	75	76	76	76
	fz	0.015	0.024	0.024	0.021	0.021	0.021	0.021	0.021	0.019	0.03	0.03	0.03	0.027	0.037	0.037	0.034	0.038	0.038	0.038	0.037	0.037	0.037
	RPM	4456	4520	4520	4074	4074	4074	4074	4074	3629	4032	4032	4032	3608	3024	3024	2706	2387	2387	2387	2016	2016	2016
	FEED	267	434	434	342	342	342	342	342	276	484	484	484	390	448	448	368	363	363	363	298	298	298
	Ae	0.009	0.055	0.055	0.032	0.032	0.032	0.032	0.02	0.02	0.095	0.066	0.066	0.038	0.088	0.088	0.05	0.158	0.11	0.11	0.189	0.132	0.132
10 - 11.1	Vc	91	119	119	107	107	107	107	107	95	126	126	126	113	127	127	114	123	123	123	124	124	124
	fz	0.015	0.024	0.024	0.022	0.022	0.022	0.022	0.022	0.019	0.03	0.03	0.03	0.027	0.042	0.042	0.038	0.047	0.047	0.047	0.047	0.047	0.047
	RPM	7242	7576	7576	6812	6812	6812	6812	6812	6048	6685	6685	6685	5995	5053	5053	4536	3915	3915	3915	3289	3289	3289
	FEED	434	727	727	599	599	599	599	599	460	802	802	802	647	849	849	689	736	736	736	618	618	618
	Ae	0.013	0.074	0.074	0.042	0.042	0.042	0.042	0.026	0.026	0.126	0.088	0.088	0.05	0.118	0.118	0.067	0.21	0.147	0.147	0.252	0.176	0.176
11.2	Vc	56	71	71	64	64	64	64	64	57	76	76	76	68	76	76	68	75	75	75	76	76	76
	fz	0.015	0.024	0.024	0.021	0.021	0.021	0.021	0.021	0.019	0.03	0.03	0.03	0.027	0.037	0.037	0.034	0.038	0.038	0.038	0.037	0.037	0.037
	RPM	4456	4520	4520	4074	4074	4074	4074	4074	3629	4032	4032	4032	3608	3024	3024	2706	2387	2387	2387	2016	2016	2016
	FEED	267	434	434	342	342	342	342	342	276	484	484	484	390	448	448	368	363	363	363	298	298	298
	Ae	0.009	0.055	0.055	0.032	0.032	0.032	0.032	0.02	0.02	0.095	0.066	0.066	0.038	0.088	0.088	0.05	0.158	0.11	0.11	0.189	0.132	0.132
15 - 20	Vc	91	119	119	107	107	107	107	107	95	126	126	126	113	127	127	114	123	123	123	124	124	124
	fz	0.015	0.024	0.024	0.022	0.022	0.022	0.022	0.022	0.019	0.03	0.03	0.03	0.027	0.042	0.042	0.038	0.047	0.047	0.047	0.047	0.047	0.047
	RPM	7242	7576	7576	6812	6812	6812	6812	6812	6048	6685	6685	6685	5995	5053	5053	4536	3915	3915	3915	3289	3289	3289
	FEED	434	727	727	599	599	599	599	599	460	802	802	802	647	849	849	689	736	736	736	618	618	618
	Ae	0.013	0.074	0.074	0.042	0.042	0.042	0.042	0.026	0.026	0.126	0.088	0.088	0.05	0.118	0.118	0.067	0.21	0.147	0.147	0.252	0.176	0.176
38.1 - 38.2	Vc	35	44	44	39	39	39	39	39	35	45	45	45	41	51	51	45	51	51	51	53	53	53
	fz	0.004	0.008	0.008	0.007	0.007	0.007	0.007	0.007	0.006	0.01	0.01	0.01	0.009	0.016	0.016	0.015	0.016	0.016	0.016	0.017	0.017	0.017
	RPM	2785	2801	2801	2483	2483	2483	2483	2483	2228	2387	2387	2387	2175	2029	2029	1790	1623	1623	1623	1406	1406	1406
	FEED	45	90	90	70	70	70	70	70	53	95	95	95	78	130	130	107	104	104	104	96	96	96
	Ae	0.008	0.044	0.044	0.025	0.025	0.025	0.025	0.016	0.016	0.076	0.053	0.053	0.03	0.071	0.071	0.04	0.126	0.088	0.088	0.151	0.106	0.106
40	Vc	56	71	71	64	64	64	64	64	57	76	76	76	68	76	76	68	75	75	75	76	76	76
	fz	0.015	0.024	0.024	0.021	0.021	0.021	0.021	0.021	0.019	0.03	0.03	0.03	0.027	0.037	0.037	0.034	0.038	0.038	0.038	0.037	0.037	0.037
	RPM	4456	4520	4520	4074	4074	4074	4074	4074	3629	4032	4032	4032	3608	3024	3024	2706	2387	2387	2387	2016	2016	2016
	FEED	267	434	434	342	342	342	342	342	276	484	484	484	390	448	448	368	363	363	363	298	298	298
	Ae	0.009	0.055	0.055	0.032	0.032	0.032	0.032	0.02	0.02	0.095	0.066	0.066	0.038	0.088	0.088	0.05	0.158	0.11	0.11	0.189	0.132	0.132
41	Vc	35	44	44	39	39	39	39	39	35	45	45	45	41	51	51	45	51	51	51	53	53	53
	fz	0.004	0.008	0.008	0.007	0.007	0.007	0.007	0.007	0.006	0.01	0.01	0.01	0.009	0.016	0.016	0.015	0.016	0.016	0.016	0.017	0.017	0.017
	RPM	2785	2801	2801	2483	2483	2483	2483	2483	2228	2387	2387	2387	2175	2029	2029	1790	1623	1623	1623	1406	1406	1406
	FEED	45	90	90	70	70	70	70	70	53	95	95	95	78	130	130	107	104	104	104	96	96	96
	Ae	0.008	0.044	0.044	0.025	0.025	0.025	0.025	0.016	0.016	0.076	0.053	0.053	0.03	0.071	0.071	0.04	0.126	0.088	0.088	0.151	0.106	0.106



4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME75 SERIES — 6 FLUTE - SIDE CUTTING / 6刃 - 侧铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) LOC (刃长) = Length of Cut
RPM (转速) = (rev./min.)

NORMAL SPEED 普通速度

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径									
					LOC	6.0	6.0	6.0	8.0	8.0	8.0	8.0	10.0	10.0	10.0
						15	20	30	20	30	35	40	25	30	40
P	1-5	Non-alloy steel	0.1D	1.5D	Vc	110	110	110	111	111	111	111	111	111	111
					fz	0.06	0.06	0.051	0.079	0.079	0.079	0.067	0.099	0.099	0.099
					RPM	5836	5836	5836	4417	4417	4417	4417	3533	3533	3533
					FEED	2101	2101	1786	2093	2093	2093	1775	2099	2099	2099
	6-8	Low alloy steel	0.1D	1.5D	Vc	110	110	110	111	111	111	111	111	111	111
					fz	0.06	0.06	0.051	0.079	0.079	0.079	0.067	0.099	0.099	0.099
					RPM	5836	5836	5836	4417	4417	4417	4417	3533	3533	3533
					FEED	2101	2101	1786	2093	2093	2093	1775	2099	2099	2099
	9		0.05D	1.5D	Vc	77	77	77	78	78	78	78	76	76	76
					fz	0.059	0.059	0.05	0.078	0.078	0.078	0.066	0.099	0.099	0.099
					RPM	4085	4085	4085	3104	3104	3104	3104	2419	2419	2419
					FEED	1446	1446	1225	1452	1452	1452	1229	1437	1437	1437
	10-11.1	High alloyed steel, and tool steel	0.1D	1.5D	Vc	110	110	110	111	111	111	111	111	111	111
					fz	0.06	0.06	0.051	0.079	0.079	0.079	0.067	0.099	0.099	0.099
					RPM	5836	5836	5836	4417	4417	4417	4417	3533	3533	3533
					FEED	2101	2101	1786	2093	2093	2093	1775	2099	2099	2099
	11.2		0.05D	1.5D	Vc	77	77	77	78	78	78	78	76	76	76
					fz	0.059	0.059	0.05	0.078	0.078	0.078	0.066	0.099	0.099	0.099
					RPM	4085	4085	4085	3104	3104	3104	3104	2419	2419	2419
					FEED	1446	1446	1225	1452	1452	1452	1229	1437	1437	1437
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	1.5D	Vc	110	110	110	111	111	111	111	111	111	111
					fz	0.06	0.06	0.051	0.079	0.079	0.079	0.067	0.099	0.099	0.099
					RPM	5836	5836	5836	4417	4417	4417	4417	3533	3533	3533
					FEED	2101	2101	1786	2093	2093	2093	1775	2099	2099	2099
H	38.1 - 38.2	Hardened steel	0.05D	1.0D	Vc	31	31	31	31	31	31	31	33	33	33
					fz	0.022	0.022	0.019	0.03	0.03	0.03	0.026	0.035	0.035	0.035
					RPM	1645	1645	1645	1233	1233	1233	1233	1050	1050	1050
					FEED	217	217	187	222	222	222	192	221	221	221
	40	Chilled Cast Iron	0.05D	1.5D	Vc	77	77	77	78	78	78	78	76	76	76
					fz	0.059	0.059	0.05	0.078	0.078	0.078	0.066	0.099	0.099	0.099
					RPM	4085	4085	4085	3104	3104	3104	3104	2419	2419	2419
					FEED	1446	1446	1225	1452	1452	1452	1229	1437	1437	1437
	41	Hardened Cast Iron	0.05D	1.0D	Vc	31	31	31	31	31	31	31	33	33	33
					fz	0.022	0.022	0.019	0.03	0.03	0.03	0.026	0.035	0.035	0.035
					RPM	1645	1645	1645	1233	1233	1233	1233	1050	1050	1050
					FEED	217	217	187	222	222	222	192	221	221	221

HIGH SPEED 高速度

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径									
					LOC	6.0	6.0	6.0	8.0	8.0	8.0	8.0	10.0	10.0	10.0
						15	20	30	20	30	35	40	25	30	40
P	11.2	High alloyed steel, and tool steel	0.05D	1.5D	Vc	333	333	333	333	333	333	333	329	329	329
					fz	0.06	0.06	0.051	0.081	0.081	0.081	0.068	0.1	0.1	0.1
					RPM	17666	17666	17666	13250	13250	13250	13250	10472	10472	10472
					FEED	6360	6360	5406	6439	6439	6439	5406	6283	6283	6283
H	38.1 - 38.2	Hardened steel	0.05D	1.0D	Vc	166	166	166	166	166	166	166	166	166	166
					fz	0.061	0.061	0.051	0.081	0.081	0.081	0.069	0.101	0.101	0.101
					RPM	8807	8807	8807	6605	6605	6605	6605	5284	5284	5284
					FEED	3223	3223	2695	3210	3210	3210	2734	3202	3202	3202
	40	Chilled Cast Iron	0.05D	1.5D	Vc	333	333	333	333	333	333	333	329	329	329
					fz	0.06	0.06	0.051	0.081	0.081	0.081	0.068	0.1	0.1	0.1
					RPM	17666	17666	17666	13250	13250	13250	13250	10472	10472	10472
					FEED	6360	6360	5406	6439	6439	6439	5406	6283	6283	6283
	41	Hardened Cast Iron	0.05D	1.0D	Vc	166	166	166	166	166	166	166	166	166	166
					fz	0.061	0.061	0.051	0.081	0.081	0.081	0.069	0.101	0.101	0.101
					RPM	8807	8807	8807	6605	6605	6605	6605	5284	5284	5284
					FEED	3223	3223	2695	3210	3210	3210	2734	3202	3202	3202

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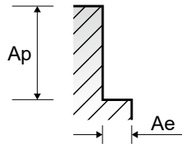


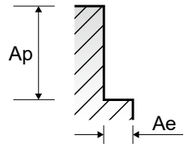
4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
SEME75 SERIES — 6 FLUTE - SIDE CUTTING / 6刃 - 侧铣削
Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) LOC (刃长) = Length of Cut
RPM (转速) = (rev./min.)

NORMAL SPEED 普通速度

VDI 3323	Parameter 参数	Diameter (Ø) 直径													
	LOC	10.0	12.0	12.0	12.0	12.0	16.0	16.0	16.0	16.0	16.0	20.0	20.0	20.0	20.0
		50	30	40	50	60	40	50	60	90	110	45	60	70	110
1-5	Vc	111	112	112	112	112	111	111	111	100	100	111	111	111	100
	fz	0.084	0.099	0.099	0.084	0.074	0.1	0.1	0.085	0.075	0.075	0.1	0.1	0.085	0.075
	RPM	3533	2971	2971	2971	2971	2208	2208	2208	1989	1989	1767	1767	1767	1592
	FEED	1781	1765	1765	1497	1319	1325	1325	1126	895	895	1060	1060	901	716
6-8	Vc	111	112	112	112	112	111	111	111	100	100	111	111	111	100
	fz	0.084	0.099	0.099	0.084	0.074	0.1	0.1	0.085	0.075	0.075	0.1	0.1	0.085	0.075
	RPM	3533	2971	2971	2971	2971	2208	2208	2208	1989	1989	1767	1767	1767	1592
	FEED	1781	1765	1765	1497	1319	1325	1325	1126	895	895	1060	1060	901	716
9	Vc	76	79	79	79	79	78	78	78	70	70	77	77	77	68
	fz	0.084	0.097	0.097	0.082	0.073	0.099	0.099	0.085	0.075	0.075	0.099	0.099	0.084	0.075
	RPM	2419	2096	2096	2096	2096	1552	1552	1552	1393	1393	1225	1225	1225	1082
	FEED	1219	1220	1220	1031	918	922	922	791	627	627	728	728	618	487
10 - 11.1	Vc	111	112	112	112	112	111	111	111	100	100	111	111	111	100
	fz	0.084	0.099	0.099	0.084	0.074	0.1	0.1	0.085	0.075	0.075	0.1	0.1	0.085	0.075
	RPM	3533	2971	2971	2971	2971	2208	2208	2208	1989	1989	1767	1767	1767	1592
	FEED	1781	1765	1765	1497	1319	1325	1325	1126	895	895	1060	1060	901	716
11.2	Vc	76	79	79	79	79	78	78	78	70	70	77	77	77	68
	fz	0.084	0.097	0.097	0.082	0.073	0.099	0.099	0.085	0.075	0.075	0.099	0.099	0.084	0.075
	RPM	2419	2096	2096	2096	2096	1552	1552	1552	1393	1393	1225	1225	1225	1082
	FEED	1219	1220	1220	1031	918	922	922	791	627	627	728	728	618	487
15 - 20	Vc	111	112	112	112	112	111	111	111	100	100	111	111	111	100
	fz	0.084	0.099	0.099	0.084	0.074	0.1	0.1	0.085	0.075	0.075	0.1	0.1	0.085	0.075
	RPM	3533	2971	2971	2971	2971	2208	2208	2208	1989	1989	1767	1767	1767	1592
	FEED	1781	1765	1765	1497	1319	1325	1325	1126	895	895	1060	1060	901	716
38.1 - 38.2	Vc	33	33	33	33	33	34	34	34	31	31	33	33	33	30
	fz	0.03	0.036	0.036	0.031	0.027	0.034	0.034	0.029	0.026	0.026	0.037	0.037	0.032	0.028
	RPM	1050	875	875	875	875	676	676	676	617	617	525	525	525	477
	FEED	189	189	189	163	142	138	138	118	96	96	117	117	101	80
40	Vc	76	79	79	79	79	78	78	78	70	70	77	77	77	68
	fz	0.084	0.097	0.097	0.082	0.073	0.099	0.099	0.085	0.075	0.075	0.099	0.099	0.084	0.075
	RPM	2419	2096	2096	2096	2096	1552	1552	1552	1393	1393	1225	1225	1225	1082
	FEED	1219	1220	1220	1031	918	922	922	791	627	627	728	728	618	487
41	Vc	33	33	33	33	33	34	34	34	31	31	33	33	33	30
	fz	0.03	0.036	0.036	0.031	0.027	0.034	0.034	0.029	0.026	0.026	0.037	0.037	0.032	0.028
	RPM	1050	875	875	875	875	676	676	676	617	617	525	525	525	477
	FEED	189	189	189	163	142	138	138	118	96	96	117	117	101	80

HIGH SPEED 高速度

VDI 3323	Parameter 参数	Diameter (Ø) 直径													
	LOC	10.0	12.0	12.0	12.0	12.0	16.0	16.0	16.0	16.0	16.0	20.0	20.0	20.0	20.0
		50	30	40	50	60	40	50	60	90	110	45	60	70	110
11.2	Vc	329	333	333	333	333	333	333	333	299	299	332	332	332	299
	fz	0.085	0.1	0.1	0.085	0.075	0.1	0.1	0.085	0.075	0.075	0.101	0.101	0.086	0.076
	RPM	10472	8833	8833	8833	8833	6625	6625	6625	5948	5948	5284	5284	5284	4759
	FEED	5341	5300	5300	4505	3975	3975	3975	3379	2677	2677	3202	3202	2727	2170
38.1 - 38.2	Vc	166	166	166	166	166	167	167	167	150	150	166	166	166	150
	fz	0.086	0.1	0.1	0.085	0.075	0.1	0.1	0.085	0.075	0.075	0.097	0.097	0.083	0.073
	RPM	5284	4403	4403	4403	4403	3322	3322	3322	2984	2984	2642	2642	2642	2387
	FEED	2727	2642	2642	2246	1981	1993	1993	1694	1343	1343	1538	1538	1316	1046
40	Vc	329	333	333	333	333	333	333	333	299	299	332	332	332	299
	fz	0.085	0.1	0.1	0.085	0.075	0.1	0.1	0.085	0.075	0.075	0.101	0.101	0.086	0.076
	RPM	10472	8833	8833	8833	8833	6625	6625	6625	5948	5948	5284	5284	5284	4759
	FEED	5341	5300	5300	4505	3975	3975	3975	3379	2677	2677	3202	3202	2727	2170
41	Vc	166	166	166	166	166	167	167	167	150	150	166	166	166	150
	fz	0.086	0.1	0.1	0.085	0.075	0.1	0.1	0.085	0.075	0.075	0.097	0.097	0.083	0.073
	RPM	5284	4403	4403	4403	4403	3322	3322	3322	2984	2984	2642	2642	2642	2387
	FEED	2727	2642	2642	2246	1981	1993	1993	1694	1343	1343	1538	1538	1316	1046



4G MILL END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

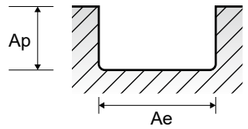
G9D75 G9D76 G9D77 G9D67 G9D68 G9D69

4&5 FLUTE CORNER RADIUS ROUGHING
4&5刃 圆鼻 粗加工

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

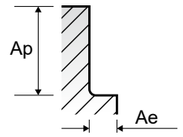
SLOTTING - 槽铣削

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 6.0	8.0	10.0	12.0	16.0	20.0
P	1-3	Non-alloy steel	1.0D	1.0D	Vc	225	225	225	225	225	225
					fz	0.032	0.046	0.057	0.064	0.067	0.074
					RPM	11937	8952	7162	5968	4476	3581
					FEED	1528	1647	1633	1528	1500	1325
	4-5		1.0D	0.8D	Vc	200	205	200	205	205	200
					fz	0.026	0.036	0.046	0.053	0.051	0.056
					RPM	10610	8157	6366	5438	4078	3183
					FEED	1103	1175	1171	1153	1040	891
	6	Low alloy steel	1.0D	1.0D	Vc	225	225	225	225	225	225
					fz	0.032	0.046	0.057	0.064	0.067	0.074
					RPM	11937	8952	7162	5968	4476	3581
					FEED	1528	1647	1633	1528	1500	1325
	7-9		1.0D	0.8D	Vc	200	205	200	205	205	200
					fz	0.026	0.036	0.046	0.053	0.051	0.056
					RPM	10610	8157	6366	5438	4078	3183
					FEED	1103	1175	1171	1153	1040	891
	10	High alloyed steel, and tool steel	1.0D	1.0D	Vc	225	225	225	225	225	225
					fz	0.032	0.046	0.057	0.064	0.067	0.074
					RPM	11937	8952	7162	5968	4476	3581
					FEED	1528	1647	1633	1528	1500	1325
	11.1		1.0D	0.8D	Vc	200	205	200	205	205	200
					fz	0.026	0.036	0.046	0.053	0.051	0.056
					RPM	10610	8157	6366	5438	4078	3183
					FEED	1103	1175	1171	1153	1040	891
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	1.0D	Vc	225	225	225	225	225	225
					fz	0.032	0.046	0.057	0.064	0.067	0.074
					RPM	11937	8952	7162	5968	4476	3581
					FEED	1528	1647	1633	1528	1500	1325



SIDE CUTTING - 侧铣削

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 6.0	8.0	10.0	12.0	16.0	20.0
P	1-3	Non-alloy steel	0.5D	1.0D	Vc	300	300	300	300	300	300
					fz	0.041	0.057	0.071	0.08	0.082	0.089
					RPM	15915	11937	9549	7958	5968	4775
					FEED	2610	2722	2712	2546	2447	2125
	4-5		0.35D	1.0D	Vc	270	270	265	270	270	270
					fz	0.032	0.046	0.057	0.065	0.065	0.07
					RPM	14324	10743	8435	7162	5371	4297
					FEED	1833	1977	1923	1862	1746	1504
	6	Low alloy steel	0.5D	1.0D	Vc	300	300	300	300	300	300
					fz	0.041	0.057	0.071	0.08	0.082	0.089
					RPM	15915	11937	9549	7958	5968	4775
					FEED	2610	2722	2712	2546	2447	2125
	7-9		0.35D	1.0D	Vc	270	270	265	270	270	270
					fz	0.032	0.046	0.057	0.065	0.065	0.07
					RPM	14324	10743	8435	7162	5371	4297
					FEED	1833	1977	1923	1862	1746	1504
	10	High alloyed steel, and tool steel	0.5D	1.0D	Vc	300	300	300	300	300	300
					fz	0.041	0.057	0.071	0.08	0.082	0.089
					RPM	15915	11937	9549	7958	5968	4775
					FEED	2610	2722	2712	2546	2447	2125
	11.1		0.35D	1.0D	Vc	270	270	265	270	270	270
					fz	0.032	0.046	0.057	0.065	0.065	0.07
					RPM	14324	10743	8435	7162	5371	4297
					FEED	1833	1977	1923	1862	1746	1504
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.5D	1.0D	Vc	300	300	300	300	300	300
					fz	0.041	0.057	0.071	0.08	0.082	0.089
					RPM	15915	11937	9549	7958	5968	4775
					FEED	2610	2722	2712	2546	2447	2125



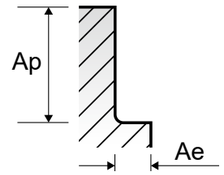
4G MILL END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GAE53 SERIES

4&5 FLUTE CORNER RADIUS ROUGHING(HSS-PM) - SIDE CUTTING
4&5刃 圆鼻 粗加工(粉末高速钢) - 侧铣削

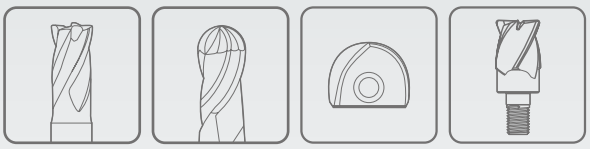
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	60	70	70	70	70	70	70	70
					fz	0.019	0.027	0.05	0.06	0.055	0.063	0.072	0.08
					RPM	3183	2785	2228	1857	1592	1393	1238	1114
					FEED	242	301	446	446	438	439	446	446
	2		0.5D	1.5D	Vc	48	54	54	54	54	54	54	54
					fz	0.018	0.028	0.049	0.063	0.073	0.081	0.085	0.101
					RPM	2546	2149	1719	1432	1228	1074	955	859
					FEED	183	241	337	361	448	435	406	434
	3-4		0.5D	1.5D	Vc	34	38	38	38	38	38	38	38
					fz	0.017	0.027	0.043	0.059	0.069	0.08	0.086	0.1
					RPM	1804	1512	1210	1008	864	756	672	605
					FEED	123	163	208	238	298	302	289	302
	5		0.5D	1.5D	Vc	28	32	32	32	32	32	32	32
					fz	0.018	0.028	0.041	0.055	0.065	0.075	0.082	0.092
					RPM	1485	1273	1019	849	728	637	566	509
					FEED	107	143	167	187	236	239	232	234
	6	Low alloy steel	0.5D	1.5D	Vc	48	54	54	54	54	54	54	54
					fz	0.018	0.028	0.049	0.063	0.073	0.081	0.085	0.101
					RPM	2546	2149	1719	1432	1228	1074	955	859
					FEED	183	241	337	361	448	435	406	434
	7		0.5D	1.5D	Vc	34	38	38	38	38	38	38	38
					fz	0.017	0.027	0.043	0.059	0.069	0.08	0.086	0.1
					RPM	1804	1512	1210	1008	864	756	672	605
					FEED	123	163	208	238	298	302	289	302
	8-9		0.5D	1.5D	Vc	28	32	32	32	32	32	32	32
					fz	0.018	0.028	0.041	0.055	0.065	0.075	0.082	0.092
					RPM	1485	1273	1019	849	728	637	566	509
					FEED	107	143	167	187	236	239	232	234
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	48	54	54	54	54	54	54	54
					fz	0.018	0.028	0.049	0.063	0.073	0.081	0.085	0.101
					RPM	2546	2149	1719	1432	1228	1074	955	859
					FEED	183	241	337	361	448	435	406	434
	11.1		0.5D	1.5D	Vc	28	32	32	32	32	32	32	32
					fz	0.018	0.028	0.041	0.055	0.065	0.075	0.082	0.092
					RPM	1485	1273	1019	849	728	637	566	509
					FEED	107	143	167	187	236	239	232	234
M	14.1	Stainless steel	0.5D	1.5D	Vc	33	36	36	36	36	36	36	36
					fz	0.019	0.029	0.045	0.064	0.074	0.085	0.093	0.107
					RPM	1751	1432	1146	955	819	716	637	573
					FEED	133	166	206	244	303	304	296	307
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.5D	1.5D	Vc	48	54	54	54	54	54	54	54
					fz	0.018	0.028	0.049	0.063	0.073	0.081	0.085	0.101
					RPM	2546	2149	1719	1432	1228	1074	955	859
					FEED	183	241	337	361	448	435	406	434



CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

Global Cutting Tool Leader **YG-1**



MILLING

Leading Through Innovation

SOLID CARBIDE

X-POWER PRO

END MILLS

- **For Pre-Hardened Steels up to HRc55**
- 适用于加工预硬钢(~HRc55)

SELECTION GUIDE
选用指南

YG MILLING TOOLS

SOLID CARBIDE
X-POWER PRO
END MILLS

for Pre-Hardened Steels up to HRc55,
Mold & Die, Dry & Wet Cutting
适用于加工预硬钢(~HRc55)，模具，干&湿切削

Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工参数) : p.C336

SERIES 系列	GMH31	GMH32
FLUTE 槽数	2	2
HELIX ANGLE 螺旋角度	30°	30°
CUTTING EDGE SHAPE 类型	BALL NOSE	BALL NOSE
SIZE MIN 最小尺寸	R0.1	R0.2
SIZE MAX 最大尺寸	R10.0	R3.0
PAGE 页数	C324	C325-326
	SHORT LENGTH	RIB PROCESSING
	Y-Coating	Y-Coating

ISO	VDI 3323	Material Description 工件材料	Composition / Structure / Heat Treatment 成分 / 结构 / 热处理		HB	HRc	GMH31	GMH32
P	1	Non-alloy steel	About 0.15% C	Annealed	125		○	○
	2		About 0.45% C	Annealed	190	13	○	○
	3		About 0.45% C	Quenched & Tempered	250	25	○	○
	4		About 0.75% C	Annealed	270	28	◎	◎
	5		About 0.75% C	Quenched & Tempered	300	32	◎	◎
	6	Low alloy steel		Annealed	180	10	○	○
	7			Quenched & Tempered	275	29	◎	◎
	8			Quenched & Tempered	300	32	◎	◎
	9			Quenched & Tempered	350	38	◎	◎
	10	High alloyed steel, and tool steel		Annealed	200	15	○	○
	11			Quenched & Tempered	325	35	◎	◎
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15		
	13		Martensitic	Quenched & Tempered	240	23		
	14		Austenitic		180	10		
K	15	Grey cast iron	Pearlitic / ferritic		180	10	○	○
	16		Pearlitic (Martensitic)		260	26	○	○
	17	Nodular cast iron	Ferritic		160	3	○	○
	18		Pearlitic		250	25	○	○
	19	Malleable cast iron	Ferritic		130		○	○
	20		Pearlitic		230	21	○	○
N	21	Aluminum-wrought alloy	Not Curable		60			
	22		Curable	Hardened	100			
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75			
	24		≤ 12% Si, Curable	Hardened	90			
	25		> 12% Si, Not Curable		130			
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110			
	27		CuZn, CuSnZn (Brass)		90			
	28		CuSn, lead-free copper and electrolytic copper		100			
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic					
	30		Rubber, Wood, etc.					
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15		
	32			Cured	280	30		
	33		Ni or Co Based	Annealed	250	25		
	34			Cured	350	38		
	35			Cast	320	34		
	36	Titanium Alloys	Pure Titanium		400 Rm			
	37		Alpha + Beta Alloys	Hardened	1050 Rm			
H	38	Hardened steel		Hardened	550	55	○	○
	39			Hardened	630	60	○	
	40	Chilled Cast Iron		Cast	400	42	◎	◎
	41	Hardened Cast Iron		Hardened	550	55	○	○

SERIES 系列	GMH37	GMH38	GMH33	GMH34	GMH35	GMH36	GMH39	GM814
FLUTE 槽数	2	4	2	2	4	4	6	3&4
HELIX ANGLE 螺旋角度	30°	30°	30°	30°	30°	30°	45°	20°
CUTTING EDGE SHAPE 类型	CORNER RADIUS	CORNER RADIUS	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	ROUGHING
SIZE MIN 最小尺寸	D3.0	D3.0	D1.0	D0.4	D1.0	D2.0	D6.0	D6.0
SIZE MAX 最大尺寸	D12.0	D12	D20.0	D4.0	D20.0	D20.0	D16.0	D20.0
PAGE 页数	C327	C328	C329	C330-331	C332	C333	C334	C335
	LONG LENGTH	LONG LENGTH	SHORT LENGTH	RIB PROCESSING	SHORT LENGTH	LONG LENGTH	LONG LENGTH	LONG LENGTH
	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating

GMH37	GMH38	GMH33	GMH34	GMH35	GMH36	GMH39	GM814	
○	○	○	○	○	○	○	○	1
○	○	○	○	○	○	○	○	2
○	○	○	○	○	○	○	○	3
◎	◎	◎	◎	◎	◎	◎	◎	4
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								39
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○	○	○	○	○	○	○	○	41

BALL NOSE = 球头　CORNER RADIUS = 圆鼻　SQUARE = 平头　ROUGHING = 粗加工
SHORT LENGTH = 短刃　LONG LENGTH = 长刃　RIB PROCESSING = 颈部加长

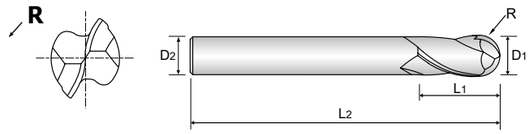
X-POWER PRO END MILLS

PLAIN SHANK **GMH31** SERIES

CARBIDE, 2 FLUTE SHORT LENGTH BALL NOSE
硬质合金，2刃 短刃 球头

▶ Economic type with short overall length.
▶ Radius tolerance ±0.02mm & short length of cut.

▶ 短全长的经济型系列
▶ 圆弧角 ±0.02mm，而短刃长



CARBIDE | 2 | 30° | R ±0.02 | PLAIN

p.C336-337

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK	D15 - 46
SHRINK FIT HOLDER	D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK	D73 - 115
SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R(±0.02)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
GMH31002	R0.1	0.2	4	0.4	50
GMH31003	R0.15	0.3	4	0.6	50
GMH31004	R0.2	0.4	4	0.8	50
GMH31005	R0.25	0.5	4	1	50
GMH31006	R0.3	0.6	4	1.2	50
GMH31008	R0.4	0.8	4	1.6	50
GMH31010	R0.5	1.0	4	2	50
GMH31015	R0.75	1.5	4	4	50
GMH31020	R1.0	2.0	4	5	50
GMH31030	R1.5	3.0	4	6	50
GMH31901	R1.5	3.0	6	6	50
GMH31040	R2.0	4.0	4	8	50
GMH31902	R2.0	4.0	6	9	50
GMH31060	R3.0	6.0	6	12	50
GMH31080	R4.0	8.0	8	14	60
GMH31100	R5.0	10.0	10	20	75
GMH31120	R6.0	12.0	12	24	75
GMH31160	R8.0	16.0	16	32	100
GMH31200	R10.0	20.0	20	40	100

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

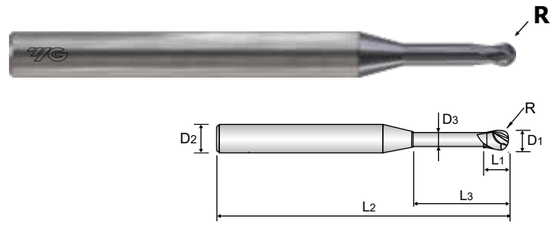
ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

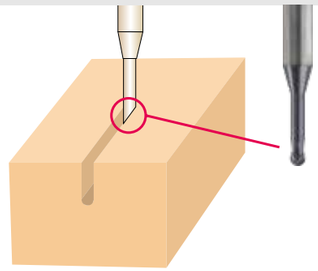
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	○	◎	○

X-POWER PRO END MILLS

PLAIN SHANK **GMH32** SERIES

CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING
硬质合金，2刃 球头 深腔加工





CARBIDE | 2 | 30° | R ±0.01 | PLAIN

p.C338-339

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK	D15 - 46
SHRINK FIT HOLDER	D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK	D73 - 115
SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R(±0.01)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
GMH32004	R0.2	0.4	4	0.3	2	45	0.37
GMH32901	R0.2	0.4	4	0.3	3	45	0.37
GMH32902	R0.2	0.4	4	0.3	4	45	0.37
GMH32005	R0.25	0.5	4	0.4	2	45	0.45
GMH32903	R0.25	0.5	4	0.4	3	45	0.45
GMH32904	R0.25	0.5	4	0.4	4	45	0.45
GMH32006	R0.3	0.6	4	0.5	2	45	0.55
GMH32905	R0.3	0.6	4	0.5	3	45	0.55
GMH32906	R0.3	0.6	4	0.5	4	45	0.55
GMH32907	R0.3	0.6	4	0.5	6	45	0.55
GMH32008	R0.4	0.8	4	0.6	4	45	0.75
GMH32908	R0.4	0.8	4	0.6	6	45	0.75
GMH32010	R0.5	1.0	4	0.8	4	45	0.95
GMH32909	R0.5	1.0	4	0.8	6	45	0.95
GMH32910	R0.5	1.0	4	0.8	8	45	0.95
GMH32911	R0.5	1.0	4	0.8	10	45	0.95
GMH32912	R0.5	1.0	4	0.8	12	45	0.95
GMH32913	R0.5	1.0	4	0.8	16	50	0.95
GMH32015	R0.75	1.5	4	1.2	6	45	1.45
GMH32914	R0.75	1.5	4	1.2	8	45	1.45
GMH32915	R0.75	1.5	4	1.2	10	45	1.45
GMH32916	R0.75	1.5	4	1.2	12	45	1.45
GMH32917	R0.75	1.5	4	1.2	16	50	1.45

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.02	h5

◎ : Excellent (优秀) ○ : Good (良好)

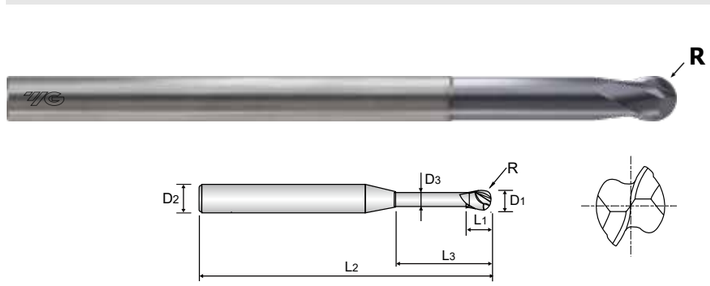
ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

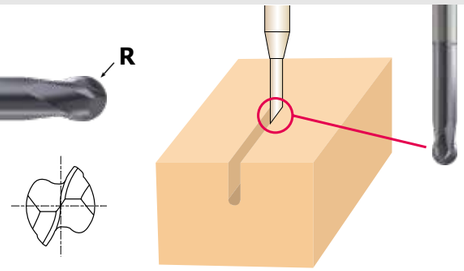
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

X-POWER PRO END MILLS

PLAIN SHANK **GMH32** SERIES

CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING
硬质合金，2刃 球头 深腔加工





CARBIDE | 2 | 30° | R ±0.01 | PLAIN

p.C338-339

Recommended ToolHolder

	Plain Shank	Page
◎	HYDRAULIC CHUCK	D15 - 46
◎	SHRINK FIT HOLDER	D47 - 72
	POWER MILLING CHUCK	D161 - 176
○	ER COLLET CHUCK	D73 - 115
	SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R(±0.01)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
GMH32020	R1.0	2.0	4	1.6	6	45	1.95
GMH32918	R1.0	2.0	4	1.6	8	45	1.95
GMH32919	R1.0	2.0	4	1.6	10	45	1.95
GMH32920	R1.0	2.0	4	1.6	12	50	1.95
GMH32921	R1.0	2.0	4	1.6	16	50	1.95
GMH32922	R1.0	2.0	4	1.6	20	55	1.95
GMH32923	R1.0	2.0	4	1.6	26	70	1.95
GMH32924	R1.0	2.0	4	1.6	30	70	1.95
GMH32030	R1.5	3.0	6	2.4	10	50	2.85
GMH32925	R1.5	3.0	6	2.4	12	50	2.85
GMH32926	R1.5	3.0	6	2.4	16	55	2.85
GMH32927	R1.5	3.0	6	2.4	20	60	2.85
GMH32928	R1.5	3.0	6	2.4	26	70	2.85
GMH32040	R2.0	4.0	6	3.2	16	60	3.85
GMH32929	R2.0	4.0	6	3.2	20	65	3.85
GMH32930	R2.0	4.0	6	3.2	26	70	3.85
GMH32060	R3.0	6.0	6	4.8	20	80	5.85
GMH32931	R3.0	6.0	6	4.8	30	90	5.85
GMH32932	R3.0	6.0	6	4.8	40	100	5.85

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.02	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

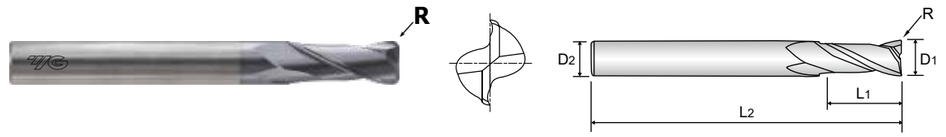
X-POWER PRO END MILLS

PLAIN SHANK **GMH37** SERIES

CARBIDE, 2 FLUTE LONG LENGTH CORNER RADIUS
硬质合金，2刃 长刃 圆鼻

- ▶ Designed to machine tool steels, alloy steels, mold steels and other hardened materials.
- ▶ Superior workpiece finishes.
- ▶ Increased feed rates.

- ▶ 使用于刀具钢,合金钢，模具钢和其他高硬材料
- ▶ 卓越工件表面粗糙度
- ▶ 可增加进给量



CARBIDE | 2 | 30° | PLAIN

p.C340

Recommended ToolHolder

	Plain Shank	Page
◎	HYDRAULIC CHUCK	D15 - 46
◎	SHRINK FIT HOLDER	D47 - 72
	POWER MILLING CHUCK	D161 - 176
○	ER COLLET CHUCK	D73 - 115
	SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
GMH37030	R0.5	3.0	6	10	70
GMH37040	R0.5	4.0	6	12	70
GMH37050	R0.5	5.0	6	15	80
GMH37060	R0.5	6.0	6	15	90
GMH37901	R1.0	6.0	6	15	90
GMH37080	R0.5	8.0	8	20	100
GMH37902	R1.0	8.0	8	20	100
GMH37100	R0.5	10.0	10	25	100
GMH37903	R1.0	10.0	10	25	100
GMH37120	R1.0	12.0	12	30	110

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

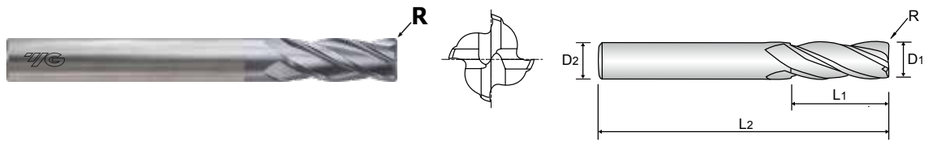
X-POWER PRO END MILLS

PLAIN SHANK **GMH38** SERIES

CARBIDE, 4 FLUTE LONG LENGTH CORNER RADIUS
硬质合金，4刃 长刃 圆鼻

- ▶ Designed to machine tool steels, alloy steels, mold steels and other hardened materials.
- ▶ 4 flute allows for better workpiece finishes.
- ▶ Increased production.

- ▶ 使用于刀具钢,合金钢，模具钢和其他高硬材料
- ▶ 4槽设计提高工件表面粗糙度
- ▶ 提高生产率



CARBIDE | 4 | 30° | PLAIN

p.C341

Recommended ToolHolder

	Plain Shank	Page
◎	HYDRAULIC CHUCK	D15 - 46
◎	SHRINK FIT HOLDER	D47 - 72
	POWER MILLING CHUCK	D161 - 176
○	ER COLLET CHUCK	D73 - 115
	SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Overall Length 全长 L_2
GMH38030	R0.2	**3.0**	6	10	70
GMH38901	R0.5	**3.0**	6	10	70
GMH38040	R0.3	**4.0**	6	12	70
GMH38902	R0.5	**4.0**	6	12	70
GMH38050	R0.5	**5.0**	6	15	80
GMH38060	R0.2	**6.0**	6	15	90
GMH38903	R0.5	**6.0**	6	15	90
GMH38904	R1.0	**6.0**	6	15	90
GMH38080	R0.5	**8.0**	8	20	100
GMH38905	R1.0	**8.0**	8	20	100
GMH38906	R2.0	**8.0**	8	20	100
GMH38100	R0.5	**10.0**	10	25	100
GMH38907	R1.0	**10.0**	10	25	100
GMH38908	R2.0	**10.0**	10	25	100
GMH38120	R0.5	**12.0**	12	30	110
GMH38909	R1.0	**12.0**	12	30	110
GMH38910	R2.0	**12.0**	12	30	110

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎	○	○	○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

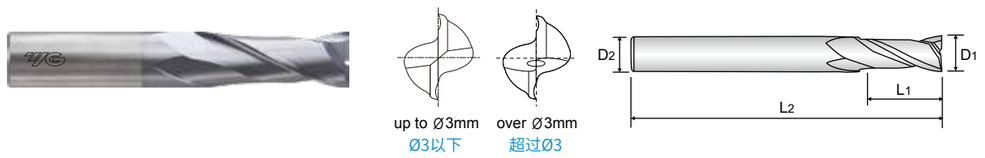
X-POWER PRO END MILLS

PLAIN SHANK **GMH33** SERIES

CARBIDE, 2 FLUTE SHORT LENGTH
硬质合金，2刃 短刃

- ▶ Designed to machine tool steels, alloy steels, mold steels and other hardened materials.
- ▶ Superior workpiece finishes.
- ▶ Increased feed rates.

- ▶ 使用于刀具钢,合金钢，模具钢和其他高硬材料
- ▶ 卓越工件表面粗糙度
- ▶ 可增加进给量



CARBIDE | 2 | 30° | PLAIN

p.C344

Recommended ToolHolder

	Plain Shank	Page
◎	HYDRAULIC CHUCK	D15 - 46
◎	SHRINK FIT HOLDER	D47 - 72
	POWER MILLING CHUCK	D161 - 176
○	ER COLLET CHUCK	D73 - 115
	SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Overall Length 全长 L_2
GMH33010	**1.0**	4	3	50
GMH33015	**1.5**	4	4	50
GMH33020	**2.0**	4	6	50
GMH33025	**2.5**	4	8	50
GMH33030	**3.0**	4	8	50
GMH33901	**3.0**	6	8	50
GMH33040	**4.0**	4	11	50
GMH33902	**4.0**	6	11	50
GMH33050	**5.0**	6	13	50
GMH33060	**6.0**	6	16	50
GMH33080	**8.0**	8	20	60
GMH33100	**10.0**	10	25	75
GMH33120	**12.0**	12	32	75
GMH33160	**16.0**	16	40	100
GMH33200	**20.0**	20	45	100

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

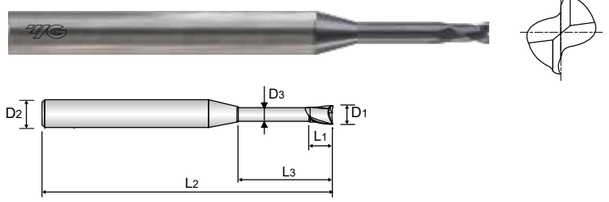
ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎	○	○	○	○	○	○	○	○	○

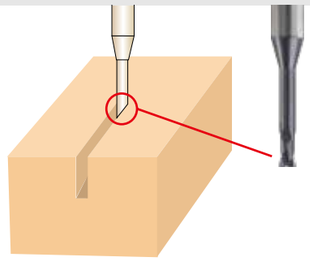
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

X-POWER PRO END MILLS

PLAIN SHANK **GMH34** SERIES

CARBIDE, 2 FLUTE for RIB PROCESSING
硬质合金，2刃 深腔加工





CARBIDE | 2 | 30° | PLAIN

p.C342-343

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK	D15 - 46
SHRINK FIT HOLDER	D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK	D73 - 115
SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
GMH34004	0.4	4	0.6	2	45	0.37
GMH34005	0.5	4	0.7	2	45	0.45
GMH34901	0.5	4	0.7	4	45	0.45
GMH34006	0.6	4	0.9	2	45	0.55
GMH34007	0.7	4	1	2	45	0.65
GMH34008	0.8	4	1.2	4	45	0.75
GMH34902	0.8	4	1.2	6	45	0.75
GMH34010	1.0	4	1.5	4	45	0.95
GMH34903	1.0	4	1.5	6	45	0.95
GMH34904	1.0	4	1.5	8	45	0.95
GMH34905	1.0	4	1.5	10	45	0.95
GMH34906	1.0	4	1.5	12	45	0.95
GMH34907	1.0	4	1.5	16	50	0.95
GMH34012	1.2	4	1.8	4	45	1.15
GMH34908	1.2	4	1.8	6	45	1.15
GMH34015	1.5	4	2.3	6	45	1.45
GMH34909	1.5	4	2.3	8	45	1.45
GMH34910	1.5	4	2.3	10	45	1.45
GMH34911	1.5	4	2.3	12	45	1.45
GMH34912	1.5	4	2.3	16	50	1.45
GMH34913	1.5	4	2.3	20	55	1.45

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.015	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

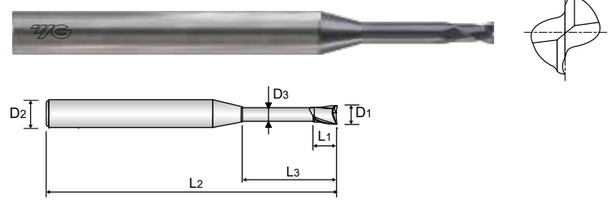
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

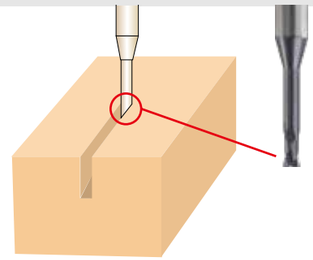
CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

X-POWER PRO END MILLS

PLAIN SHANK **GMH34** SERIES

CARBIDE, 2 FLUTE for RIB PROCESSING
硬质合金，2刃 深腔加工





CARBIDE | 2 | 30° | PLAIN

p.C342-343

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK	D15 - 46
SHRINK FIT HOLDER	D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK	D73 - 115
SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
GMH34020	2.0	4	3	6	45	1.95
GMH34914	2.0	4	3	8	45	1.95
GMH34915	2.0	4	3	10	45	1.95
GMH34916	2.0	4	3	12	45	1.95
GMH34917	2.0	4	3	14	50	1.95
GMH34918	2.0	4	3	16	50	1.95
GMH34919	2.0	4	3	20	55	1.95
GMH34920	2.0	4	3	26	60	1.95
GMH34921	2.0	4	3	30	70	1.95
GMH34030	3.0	6	4.5	12	50	2.85
GMH34922	3.0	6	4.5	16	55	2.85
GMH34923	3.0	6	4.5	26	70	2.85
GMH34040	4.0	6	6	16	60	3.85
GMH34924	4.0	6	6	26	70	3.85

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.015	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

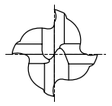
X-POWER PRO END MILLS

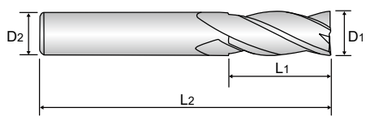
PLAIN SHANK **GMH35** SERIES

CARBIDE, 4 FLUTE SHORT LENGTH
硬质合金，4刃 短刃

- ▶ Designed to machine tool steels, alloy steels, mold steels and other hardened materials.
- ▶ 4 flute allows for better workpiece finishes.
- ▶ Increased production.

- ▶ 使用于刀具钢,合金钢，模具钢和其他高硬材料
- ▶ 4槽设计提高工件表面粗糙度
- ▶ 提高生产率





CARBIDE | 4 | 30° | PLAIN | p.C345

Recommended ToolHolder

	Plain Shank	Page
◎	HYDRAULIC CHUCK	D15 - 46
◎	SHRINK FIT HOLDER	D47 - 72
	POWER MILLING CHUCK	D161 - 176
○	ER COLLET CHUCK	D73 - 115
	SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
GMH35010	1.0	4	3	50
GMH35015	1.5	4	4	50
GMH35020	2.0	4	6	50
GMH35025	2.5	4	8	50
GMH35030	3.0	4	8	50
GMH35901	3.0	6	8	50
GMH35040	4.0	4	11	50
GMH35902	4.0	6	11	50
GMH35050	5.0	6	13	50
GMH35060	6.0	6	16	50
GMH35080	8.0	8	20	60
GMH35100	10.0	10	25	75
GMH35120	12.0	12	32	75
GMH35160	16.0	16	40	100
GMH35200	20.0	20	45	100

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎	○	○	○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

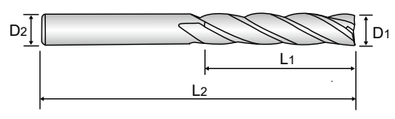
X-POWER PRO END MILLS

PLAIN SHANK **GMH36** SERIES

CARBIDE, 4 FLUTE LONG LENGTH
硬质合金，4刃 长刃

- ▶ Designed to machine tool steels, alloy steels, mold steels and other hardened materials.
- ▶ 4 flute allows for better workpiece finishes.
- ▶ Increased production.

- ▶ 使用于刀具钢,合金钢，模具钢和其他高硬材料
- ▶ 4槽设计提高工件表面粗糙度
- ▶ 提高生产率



CARBIDE | 4 | 30° | PLAIN | p.C346

Recommended ToolHolder

	Plain Shank	Page
◎	HYDRAULIC CHUCK	D15 - 46
◎	SHRINK FIT HOLDER	D47 - 72
	POWER MILLING CHUCK	D161 - 176
○	ER COLLET CHUCK	D73 - 115
	SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
GMH36020	2.0	4	10	50
GMH36030	3.0	4	15	60
GMH36901	3.0	6	15	60
GMH36040	4.0	4	20	60
GMH36902	4.0	6	20	60
GMH36050	5.0	6	25	75
GMH36060	6.0	6	30	75
GMH36080	8.0	8	35	100
GMH36100	10.0	10	45	100
GMH36120	12.0	12	45	100
GMH36160	16.0	16	70	150
GMH36200	20.0	20	75	150

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

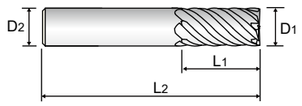
X-POWER PRO END MILLS

PLAIN SHANK **GMH39** SERIES

CARBIDE, 6 FLUTE 45° HELIX LONG LENGTH
硬质合金，6刃 45度螺旋 长刃

- ▶ Designed to machine hardened materials.
- ▶ High speed cutting and finish milling with high feed rates.
- ▶ Superior workpiece finishes.
- ▶ Superior wear resistant.
- ▶ Suitable for dry and wet milling.

- ▶ 用于加工高硬度材料
- ▶ 高速加工和精铣削
- ▶ 卓越工件表面粗糙度
- ▶ 卓越耐磨性
- ▶ 可用在干切削和湿切削



CARBIDE | 6 | 45° | PLAIN | p.C347

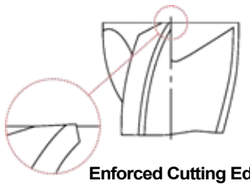
Recommended ToolHolder

	Plain Shank	Page
◎	HYDRAULIC CHUCK	D15 - 46
◎	SHRINK FIT HOLDER	D47 - 72
	POWER MILLING CHUCK	D161 - 176
○	ER COLLET CHUCK	D73 - 115
	SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
GMH39060	6.0	6	16	50
GMH39080	8.0	8	19	60
GMH39100	10.0	10	22	75
GMH39120	12.0	12	26	75
GMH39160	16.0	16	32	100

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.03	h5



Enforced Cutting Edge
刃线保护处理

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

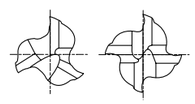
X-POWER PRO END MILLS

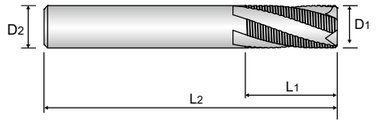
PLAIN SHANK **GM814** SERIES

CARBIDE, 3&4 FLUTE 20° HELIX LONG LENGTH ROUGHING - FINE
硬质合金，3&4刃 20度螺旋 长刃 粗加工 - 细牙

- ▶ Designed to machine tool steels, alloy steels, mold steels and other hardened materials.
- ▶ High velocity milling of hardened steels.
- ▶ For dry and wet milling.
- ▶ Fast chip ejection.

- ▶ 用于工具钢，合金钢，模具钢和其他高硬度材料
- ▶ 高硬钢上高进给铣削
- ▶ 可用在干切削和湿切削
- ▶ 快速排屑





CARBIDE | HR | 3&4 | 20° | PLAIN | C x 45° | p.C348

Recommended ToolHolder

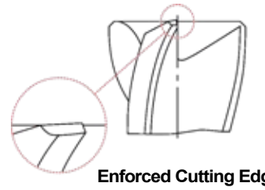
	Plain Shank	Page
◎	HYDRAULIC CHUCK	D15 - 46
◎	SHRINK FIT HOLDER	D47 - 72
	POWER MILLING CHUCK	D161 - 176
○	ER COLLET CHUCK	D73 - 115
	SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	No. of Flute 槽数	Chamfer 导向
GM814060	6.0	6	16	57	3	0.38
GM814080	8.0	8	16	63	3	0.38
GM814100	10.0	10	22	72	4	0.60
GM814120	12.0	12	26	83	4	0.60
GM814160	16.0	16	32	92	4	0.60
GM814200	20.0	20	38	104	4	0.60

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

Tolerance range in μm / 公差单位为			
Nominal-Diameter in mm / 直径单位为			
	over 6 to 10 6~10	over 10 to 18 10~18	over 18 to 30 18~30
h10	0	0	0
	- 58	- 70	- 84
h5	0	0	0
	- 6	- 8	- 9



Enforced Cutting Edge
刃线保护处理

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	○	◎	○	○	○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

X-POWER PRO END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GMH31 SERIES 2 FLUTE BALL NOSE 2刃 球头

NORMAL SPEED 普通速度

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)
Ap (切削深度) = (mm)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Parameter 参数	Diameter (Ø) 直径 1.0	1.5	2.0	2.5	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	1-4	Non-alloy steel	0.2D	Vc	55	85	100	125	140	150	160	180	200	225	245	270	290
				fz	0.008	0.011	0.026	0.026	0.026	0.035	0.045	0.06	0.09	0.12	0.15	0.18	0.2
				RPM	17507	18038	15915	15915	14854	11937	10186	9549	7958	7162	6499	5371	4615
				FEED	280	397	828	828	772	836	917	1146	1432	1719	1950	1934	1846
				Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
	5		0.2D	Vc	45	65	75	95	105	120	130	145	160	180	195	215	230
				fz	0.008	0.011	0.023	0.023	0.023	0.032	0.040	0.060	0.080	0.100	0.120	0.140	0.160
				RPM	14324	13793	11937	12096	11141	9549	8276	7692	6366	5730	5173	4277	3661
				FEED	229	303	549	556	512	611	662	923	1019	1146	1241	1198	1171
				Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
	6-7	Low alloy steel	0.2D	Vc	55	85	100	125	140	150	160	180	200	225	245	270	290
				fz	0.008	0.011	0.026	0.026	0.026	0.035	0.045	0.06	0.09	0.12	0.15	0.18	0.2
				RPM	17507	18038	15915	15915	14854	11937	10186	9549	7958	7162	6499	5371	4615
				FEED	280	397	828	828	772	836	917	1146	1432	1719	1950	1934	1846
				Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
	8-9		0.2D	Vc	45	65	75	95	105	120	130	145	160	180	195	215	230
				fz	0.008	0.011	0.023	0.023	0.023	0.032	0.040	0.060	0.080	0.100	0.120	0.140	0.160
				RPM	14324	13793	11937	12096	11141	9549	8276	7692	6366	5730	5173	4277	3661
				FEED	229	303	549	556	512	611	662	923	1019	1146	1241	1198	1171
				Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
	10	High alloyed steel, and tool steel	0.2D	Vc	55	85	100	125	140	150	160	180	200	225	245	270	290
				fz	0.008	0.011	0.026	0.026	0.026	0.035	0.045	0.06	0.09	0.12	0.15	0.18	0.2
				RPM	17507	18038	15915	15915	14854	11937	10186	9549	7958	7162	6499	5371	4615
				FEED	280	397	828	828	772	836	917	1146	1432	1719	1950	1934	1846
				Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
	11.1 - 11.2		0.2D	Vc	45	65	75	95	105	120	130	145	160	180	195	215	230
				fz	0.008	0.011	0.023	0.023	0.023	0.032	0.040	0.060	0.080	0.100	0.120	0.140	0.160
				RPM	14324	13793	11937	12096	11141	9549	8276	7692	6366	5730	5173	4277	3661
				FEED	229	303	549	556	512	611	662	923	1019	1146	1241	1198	1171
				Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.2D	Vc	55	80	100	125	135	145	160	180	200	220	245	265	290
				fz	0.008	0.011	0.026	0.026	0.026	0.035	0.045	0.06	0.09	0.12	0.15	0.181	0.201
				RPM	17507	16977	15915	15915	14324	11539	10186	9549	7958	7003	6499	5272	4615
				FEED	280	373	828	828	745	808	917	1146	1432	1681	1950	1908	1855
				Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
H	38.1 - 38.2	Hardened steel	0.1D	Vc	20	30	35	40	50	60	65	65	70	70	75	75	80
				fz	0.008	0.011	0.016	0.016	0.017	0.021	0.024	0.030	0.044	0.055	0.070	0.091	0.113
				RPM	6366	6366	5570	5093	5305	4775	4138	3448	2785	2228	1989	1492	1273
				FEED	102	140	178	163	180	201	199	207	245	245	279	272	288
				Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
	40	Chilled Cast Iron	0.2D	Vc	45	65	75	95	105	120	130	145	160	180	195	215	230
				fz	0.008	0.011	0.023	0.023	0.023	0.032	0.040	0.060	0.080	0.100	0.120	0.140	0.160
				RPM	14324	13793	11937	12096	11141	9549	8276	7692	6366	5730	5173	4277	3661
				FEED	229	303	549	556	512	611	662	923	1019	1146	1241	1198	1171
				Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
	41	Hardened Cast Iron	0.1D	Vc	20	30	35	40	50	60	65	65	70	70	75	75	80
				fz	0.008	0.011	0.016	0.016	0.017	0.021	0.024	0.030	0.044	0.055	0.070	0.091	0.113
				RPM	6366	6366	5570	5093	5305	4775	4138	3448	2785	2228	1989	1492	1273
				FEED	102	140	178	163	180	201	199	207	245	245	279	272	288
				Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3

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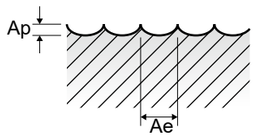


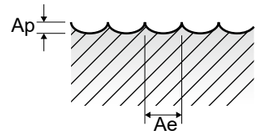
X-POWER PRO END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GMH31 SERIES 2 FLUTE BALL NOSE 2刃 球头

HIGH SPEED 高速度

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)
Ap (切削深度) = (mm)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Parameter 参数	Diameter (Ø) 直径 1.0	1.5	2.0	2.5	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	1-5	Non-alloy steel	0.05D	Vc	90	120	150	185	220	295	370	445	470	495	515	540	560
				fz	0.026	0.030	0.035	0.042	0.048	0.070	0.086	0.095	0.120	0.139	0.160	0.181	0.200
				RPM	28648	25465	23873	23555	23343	23475	23555	23608	18701	15756	13661	10743	8913
				FEED	1490	1528	1671	1979	2241	3287	4051	4486	4488	4380	4371	3889	3565
				Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
	6-9	Low alloy steel	0.05D	Vc	90	120	150	185	220	295	370	445	470	495	515	540	560
				fz	0.026	0.030	0.035	0.042	0.048	0.070	0.086	0.095	0.120	0.139	0.160	0.181	0.200
				RPM	28648	25465	23873	23555	23343	23475	23555	23608	18701	15756	13661	10743	8913
				FEED	1490	1528	1671	1979	2241	3287	4051	4486	4488	4380	4371	3889	3565
				Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
	10 - 11.2	High alloyed steel, and tool steel	0.05D	Vc	90	120	150	185	220	295	370	445	470	495	515	540	560
				fz	0.026	0.030	0.035	0.042	0.048	0.070	0.086	0.095	0.120	0.139	0.160	0.181	0.200
				RPM	28648	25465	23873	23555	23343	23475	23555	23608	18701	15756	13661	10743	8913
				FEED	1490	1528	1671	1979	2241	3287	4051	4486	4488	4380	4371	3889	3565
				Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.05D	Vc	90	120	150	185	220	295	370	445	470	495	515	540	560
				fz	0.026	0.030	0.035	0.042	0.048	0.070	0.086	0.095	0.120	0.139	0.160	0.181	0.200
				RPM	28648	25465	23873	23555	23343	23475	23555	23608	18701	15756	13661	10743	8913
				FEED	1490	1528	1671	1979	2241	3287	4051	4486	4488	4380	4371	3889	3565
				Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
H	38.1 - 38.2	Hardened steel	0.05D	Vc	90	120	150	165	180	190	210	220	235	245	255	270	280
				fz	0.016	0.019	0.022	0.026	0.031	0.042	0.050	0.060	0.075	0.086	0.095	0.105	0.115
				RPM	28648	25465	23873	21008	19099	15120	13369	11671	9350	7799	6764	5371	4456
				FEED	917	968	1050	1092	1184	1270	1337	1401	1403	1341	1285	1128	1025
				Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
	40	Chilled Cast Iron	0.05D	Vc	90	120	150	185	220	295	370	445	470	495	515	540	560
				fz	0.026	0.030	0.035	0.042	0.048	0.070	0.086	0.095	0.120	0.139	0.160	0.181	0.200
				RPM	28648	25465	23873	23555	23343	23475	23555	23608	18701	15756	13661	10743	8913
				FEED	1490	1528	1671	1979	2241	3287	4051	4486	4488	4380	4371	3889	3565
				Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
	41	Hardened Cast Iron	0.05D	Vc	90	120	150	165	180	190	210	220	235	245	255	270	280
				fz	0.016	0.019	0.022	0.026	0.031	0.042	0.050	0.060	0.075	0.086	0.095	0.105	0.115
				RPM	28648	25465	23873	21008	19099	15120	13369	11671	9350	7799	6764	5371	4456
				FEED	917	968	1050	1092	1184	1270	1337	1401	1403	1341	1285	1128	1025
				Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3



CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

X-POWER PRO END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GMH32 SERIES — 2 FLUTE BALL NOSE - RIB PROCESSING
2刃 球头 - 深腔加工

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)
Ap (切削深度) = (mm)

ISO	VDI 3323	Material Description 工件材料	Parameter 参数	Diameter (Ø) 直径 0.4	0.5	0.6	0.8
P	1-4	Non-alloy steel	Vc	41~53	49~63	58~75	78~101
			fz	0.003~0.006	0.003~0.006	0.004~0.008	0.004~0.008
			RPM	32550~42000	32550~42000	32550~42000	32550~42000
			FEED	185~515	185~515	235~660	235~660
			Ap	0.019~0.035	0.023~0.045	0.027~0.054	0.036~0.072
	5		Vc	30~38	35~45	42~54	57~72
			fz	0.002~0.005	0.002~0.005	0.002~0.006	0.002~0.006
			RPM	23630~29930	23630~29930	23630~29930	23630~29930
			FEED	90~285	90~285	115~370	115~370
			Ap	0.019~0.036	0.023~0.045	0.027~0.054	0.036~0.072
	6-7	Low alloy steel	Vc	41~53	49~63	58~75	78~101
			fz	0.003~0.006	0.003~0.006	0.004~0.008	0.004~0.008
			RPM	32550~42000	32550~42000	32550~42000	32550~42000
			FEED	185~515	185~515	235~660	235~660
			Ap	0.019~0.035	0.023~0.045	0.027~0.054	0.036~0.072
	8-9		Vc	30~38	35~45	42~54	57~72
			fz	0.002~0.005	0.002~0.005	0.002~0.006	0.002~0.006
			RPM	23630~29930	23630~29930	23630~29930	23630~29930
			FEED	90~285	90~285	115~370	115~370
			Ap	0.019~0.036	0.023~0.045	0.027~0.054	0.036~0.072
	10	High alloyed steel, and tool steel	Vc	41~53	49~63	58~75	78~101
			fz	0.003~0.006	0.003~0.006	0.004~0.008	0.004~0.008
			RPM	32550~42000	32550~42000	32550~42000	32550~42000
			FEED	185~515	185~515	235~660	235~660
			Ap	0.019~0.035	0.023~0.045	0.027~0.054	0.036~0.072
	11.1 - 11.2		Vc	30~38	35~45	42~54	57~72
			fz	0.002~0.005	0.002~0.005	0.002~0.006	0.002~0.006
			RPM	23630~29930	23630~29930	23630~29930	23630~29930
			FEED	90~285	90~285	115~370	115~370
			Ap	0.019~0.036	0.023~0.045	0.027~0.054	0.036~0.072
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	Vc	41~53	49~63	58~75	78~101
			fz	0.003~0.006	0.003~0.006	0.004~0.008	0.004~0.008
			RPM	32550~42000	32550~42000	32550~42000	32550~42000
			FEED	185~515	185~515	235~660	235~660
			Ap	0.019~0.035	0.023~0.045	0.027~0.054	0.036~0.072
H	38.1 - 38.2	Hardened steel	Vc	19~24	22~28	27~34	36~45
			fz	0.003~0.005	0.003~0.005	0.004~0.006	0.004~0.006
			RPM	15020~18900	15020~18900	15020~18900	15020~18900
			FEED	90~185	90~185	115~235	115~235
			Ap	0.005~0.009	0.005~0.009	0.005~0.011	0.007~0.014
	40	Chilled Cast Iron	Vc	30~38	35~45	42~54	57~72
			fz	0.002~0.005	0.002~0.005	0.002~0.006	0.002~0.006
			RPM	23630~29930	23630~29930	23630~29930	23630~29930
			FEED	90~285	90~285	115~370	115~370
			Ap	0.019~0.036	0.023~0.045	0.027~0.054	0.036~0.072
	41	Hardened Cast Iron	Vc	19~24	22~28	27~34	36~45
			fz	0.003~0.005	0.003~0.005	0.004~0.006	0.004~0.006
			RPM	15020~18900	15020~18900	15020~18900	15020~18900
			FEED	90~185	90~185	115~235	115~235
			Ap	0.005~0.009	0.005~0.009	0.005~0.011	0.007~0.014

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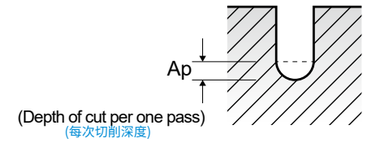
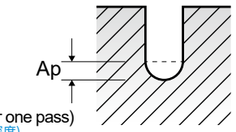


X-POWER PRO END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
GMH32 SERIES — 2 FLUTE BALL NOSE - RIB PROCESSING
2刃 球头 - 深腔加工
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)
Ap (切削深度) = (mm)

VDI 3323	Parameter 参数	Diameter (Ø) 直径 1.0	1.5	2.0	3.0	4.0	6.0
1-4	Vc	91~115	90~113	97~119	99~123	107~138	107~138
	fz	0.004~0.010	0.007~0.016	0.008~0.021	0.012~0.030	0.015~0.035	0.022~0.053
	RPM	30450~38330	19950~25200	16280~19950	11030~13650	8930~11550	5990~7670
	FEED	265~735	265~820	265~820	265~820	265~820	265~820
	Ap	0.045~0.090	0.070~0.135	0.090~0.180	0.135~0.270	0.180~0.360	0.270~0.540
5	Vc	64~82	64~82	69~85	66~85	73~98	74~98
	fz	0.003~0.008	0.005~0.011	0.006~0.014	0.009~0.022	0.011~0.025	0.016~0.038
	RPM	21530~27300	14180~18380	11550~14180	7350~9450	6090~8190	4100~5460
	FEED	130~410	130~410	130~410	130~410	130~410	130~410
	Ap	0.045~0.090	0.070~0.135	0.090~0.180	0.135~0.270	0.180~0.360	0.270~0.540
6-7	Vc	91~115	90~113	97~119	99~123	107~138	107~138
	fz	0.004~0.010	0.007~0.016	0.008~0.021	0.012~0.030	0.015~0.035	0.022~0.053
	RPM	30450~38330	19950~25200	16280~19950	11030~13650	8930~11550	5990~7670
	FEED	265~735	265~820	265~820	265~820	265~820	265~820
	Ap	0.045~0.090	0.070~0.135	0.090~0.180	0.135~0.270	0.180~0.360	0.270~0.540
8-9	Vc	64~82	64~82	69~85	66~85	73~98	74~98
	fz	0.003~0.008	0.005~0.011	0.006~0.014	0.009~0.022	0.011~0.025	0.016~0.038
	RPM	21530~27300	14180~18380	11550~14180	7350~9450	6090~8190	4100~5460
	FEED	130~410	130~410	130~410	130~410	130~410	130~410
	Ap	0.045~0.090	0.070~0.135	0.090~0.180	0.135~0.270	0.180~0.360	0.270~0.540
10	Vc	91~115	90~113	97~119	99~123	107~138	107~138
	fz	0.004~0.010	0.007~0.016	0.008~0.021	0.012~0.030	0.015~0.035	0.022~0.053
	RPM	30450~38330	19950~25200	16280~19950	11030~13650	8930~11550	5990~7670
	FEED	265~735	265~820	265~820	265~820	265~820	265~820
	Ap	0.045~0.090	0.070~0.135	0.090~0.180	0.135~0.270	0.180~0.360	0.270~0.540
11.1 - 11.2	Vc	64~82	64~82	69~85	66~85	73~98	74~98
	fz	0.003~0.008	0.005~0.011	0.006~0.014	0.009~0.022	0.011~0.025	0.016~0.038
	RPM	21530~27300	14180~18380	11550~14180	7350~9450	6090~8190	4100~5460
	FEED	130~410	130~410	130~410	130~410	130~410	130~410
	Ap	0.045~0.090	0.070~0.135	0.090~0.180	0.135~0.270	0.180~0.360	0.270~0.540
15 - 20	Vc	91~115	90~113	97~119	99~123	107~138	107~138
	fz	0.004~0.010	0.007~0.016	0.008~0.021	0.012~0.030	0.015~0.035	0.022~0.053
	RPM	30450~38330	19950~25200	16280~19950	11030~13650	8930~11550	5990~7670
	FEED	265~735	265~820	265~820	265~820	265~820	265~820
	Ap	0.045~0.090	0.070~0.135	0.090~0.180	0.135~0.270	0.180~0.360	0.270~0.540
38.1 - 38.2	Vc	41~51	41~50	43~54	43~54	49~62	49~62
	fz	0.005~0.008	0.007~0.012	0.009~0.015	0.014~0.022	0.016~0.026	0.024~0.038
	RPM	13650~17120	9140~11240	7250~9030	4830~5990	4100~5150	2730~3470
	FEED	130~265	130~265	130~265	130~265	130~265	130~265
	Ap	0.009~0.018	0.014~0.028	0.018~0.035	0.028~0.055	0.035~0.070	0.053~0.105
40	Vc	64~82	64~82	69~85	66~85	73~98	74~98
	fz	0.003~0.008	0.005~0.011	0.006~0.014	0.009~0.022	0.011~0.025	0.016~0.038
	RPM	21530~27300	14180~18380	11550~14180	7350~9450	6090~8190	4100~5460
	FEED	130~410	130~410	130~410	130~410	130~410	130~410
	Ap	0.045~0.090	0.070~0.135	0.090~0.180	0.135~0.270	0.180~0.360	0.270~0.540
41	Vc	41~51	41~50	43~54	43~54	49~62	49~62
	fz	0.005~0.008	0.007~0.012	0.009~0.015	0.014~0.022	0.016~0.026	0.024~0.038
	RPM	13650~17120	9140~11240	7250~9030	4830~5990	4100~5150	2730~3470
	FEED	130~265	130~265	130~265	130~265	130~265	130~265
	Ap	0.009~0.018	0.014~0.028	0.018~0.035	0.028~0.055	0.035~0.070	0.053~0.105



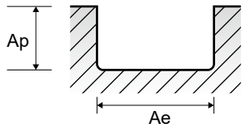
X-POWER PRO END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GMH37 SERIES — 2 FLUTE CORNER RADIUS - SLOTTING
2刃 圆鼻- 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 3.0	4.0	5.0	6.0	8.0	10.0	12.0
P	1-4	Non-alloy steel	1.0D	0.3D	Vc	75	75	80	80	85	85	85
					fz	0.010	0.016	0.023	0.032	0.045	0.053	0.051
					RPM	7955	5968	5093	4244	3382	2706	2255
					FEED	160	191	234	272	304	287	230
	5		1.0D	0.3D	Vc	45	45	50	50	55	55	60
					fz	0.008	0.013	0.017	0.025	0.033	0.039	0.041
					RPM	4775	3581	3183	2653	2188	1751	1592
					FEED	80	93	108	133	144	137	131
	6-7	Low alloy steel	1.0D	0.3D	Vc	75	75	80	80	85	85	85
					fz	0.010	0.016	0.023	0.032	0.045	0.053	0.051
					RPM	7955	5968	5093	4244	3382	2706	2255
					FEED	160	191	234	272	304	287	230
	8-9		1.0D	0.3D	Vc	45	45	50	50	55	55	60
					fz	0.008	0.013	0.017	0.025	0.033	0.039	0.041
					RPM	4775	3581	3183	2653	2188	1751	1592
					FEED	80	93	108	133	144	137	131
	10	High alloyed steel, and tool steel	1.0D	0.3D	Vc	75	75	80	80	85	85	85
					fz	0.010	0.016	0.023	0.032	0.045	0.053	0.051
					RPM	7955	5968	5093	4244	3382	2706	2255
					FEED	160	191	234	272	304	287	230
	11.1 - 11.2		1.0D	0.3D	Vc	45	45	50	50	55	55	60
					fz	0.008	0.013	0.017	0.025	0.033	0.039	0.041
					RPM	4775	3581	3183	2653	2188	1751	1592
					FEED	80	93	108	133	144	137	131
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	0.3D	Vc	75	75	80	80	85	85	85
					fz	0.011	0.016	0.023	0.032	0.045	0.053	0.051
					RPM	7430	5968	5093	4244	3382	2706	2255
					FEED	165	191	234	272	304	287	230
H	38.1 - 38.2	Hardened steel	1.0D	0.3D	Vc	30	30	35	35	35	35	35
					fz	0.005	0.006	0.008	0.010	0.013	0.016	0.019
					RPM	3180	2387	2228	1857	1393	1114	928
					FEED	30	29	36	37	36	36	35
	40	Chilled Cast Iron	1.0D	0.3D	Vc	45	45	50	50	55	55	60
					fz	0.008	0.013	0.017	0.025	0.033	0.039	0.041
					RPM	4775	3581	3183	2653	2188	1751	1592
					FEED	80	93	108	133	144	137	131
	41	Hardened Cast Iron	1.0D	0.3D	Vc	30	30	35	35	35	35	35
					fz	0.005	0.006	0.008	0.01	0.013	0.016	0.019
					RPM	3180	2387	2228	1857	1393	1114	928
					FEED	30	29	36	37	36	36	35

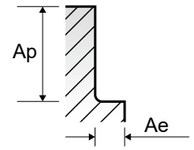


X-POWER PRO END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GMH38 SERIES — 4 FLUTE CORNER RADIUS - SIDE CUTTING
4刃 圆鼻- 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 3.0	4.0	6.0	8.0	10.0	12.0
P	1-4	Non-alloy steel	0.05D	1.0D	Vc	110	125	140	140	135	135
					fz	0.009	0.019	0.03	0.042	0.047	0.048
					RPM	11671	9947	7427	5570	4297	3581
					FEED	420	756	891	936	808	688
	5		0.05D	1.0D	Vc	70	75	85	85	85	85
					fz	0.009	0.019	0.030	0.038	0.037	0.037
					RPM	7427	5968	4509	3382	2706	2255
					FEED	267	454	541	514	400	334
	6-7	Low alloy steel	0.05D	1.0D	Vc	110	125	140	140	135	135
					fz	0.009	0.019	0.03	0.042	0.047	0.048
					RPM	11671	9947	7427	5570	4297	3581
					FEED	420	756	891	936	808	688
	8-9		0.05D	1.0D	Vc	70	75	85	85	85	85
					fz	0.009	0.019	0.030	0.038	0.037	0.037
					RPM	7427	5968	4509	3382	2706	2255
					FEED	267	454	541	514	400	334
	10	High alloyed steel, and tool steel	0.05D	1.0D	Vc	110	125	140	140	135	135
					fz	0.009	0.019	0.03	0.042	0.047	0.048
					RPM	11671	9947	7427	5570	4297	3581
					FEED	420	756	891	936	808	688
	11.1 - 11.2		0.05D	1.0D	Vc	70	75	85	85	85	85
					fz	0.009	0.019	0.030	0.038	0.037	0.037
					RPM	7427	5968	4509	3382	2706	2255
					FEED	267	454	541	514	400	334
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.05D	1.0D	Vc	110	125	140	140	135	135
					fz	0.009	0.019	0.03	0.042	0.047	0.048
					RPM	11671	9947	7427	5570	4297	3581
					FEED	420	756	891	936	808	688
H	38.1 - 38.2	Hardened steel	0.05D	1.0D	Vc	40	50	50	55	55	60
					fz	0.004	0.005	0.010	0.016	0.017	0.017
					RPM	4244	3979	2653	2188	1751	1592
					FEED	68	80	106	140	119	108
	40	Chilled Cast Iron	0.05D	1.0D	Vc	70	75	85	85	85	85
					fz	0.009	0.019	0.030	0.038	0.037	0.037
					RPM	7427	5968	4509	3382	2706	2255
					FEED	267	454	541	514	400	334
	41	Hardened Cast Iron	0.05D	1.0D	Vc	40	50	50	55	55	60
					fz	0.004	0.005	0.010	0.016	0.017	0.017
					RPM	4244	3979	2653	2188	1751	1592
					FEED	68	80	106	140	119	108



X-POWER PRO END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GMH34 SERIES — 2 FLUTE - RIB PROCESSING / 2刃 - 深腔加工

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)
Ap (切削深度) = (mm)

ISO	VDI 3323	Material Description 工件材料	Parameter 参数	Diameter (Ø) 直径 0.4	0.5	0.6	0.7	0.8	0.9	1.0
P	1-4	Non-alloy steel	Vc	39~50	49~63	58~75	68~88	68~88	71~89	71~88
			fz	0.003~0.006	0.003~0.006	0.004~0.007	0.004~0.007	0.005~0.009	0.006~0.011	0.006~0.014
			RPM	32550~42000	32550~42000	32550~42000	32550~42000	28350~36750	26250~33080	23630~29400
			FEED	210~460	210~460	265~600	265~600	295~660	295~755	295~850
			Ap	0.007~0.018	0.009~0.022	0.011~0.026	0.012~0.031	0.014~0.035	0.030~0.060	0.045~0.090
	5		Vc	28~35	35~44	42~53	49~62	49~62	49~64	49~63
			fz	0.002~0.006	0.002~0.006	0.002~0.008	0.002~0.008	0.003~0.010	0.005~0.012	0.006~0.015
			RPM	23630~29400	23630~29400	23630~29400	23630~29400	20480~25730	18380~23630	16490~21000
			FEED	90~355	90~355	115~450	115~450	125~505	170~565	200~630
			Ap	0.007~0.018	0.009~0.022	0.011~0.026	0.012~0.031	0.014~0.035	0.030~0.060	0.045~0.090
	6-7	Low alloy steel	Vc	39~50	49~63	58~75	68~88	68~88	71~89	71~88
			fz	0.003~0.006	0.003~0.006	0.004~0.007	0.004~0.007	0.005~0.009	0.006~0.011	0.006~0.014
			RPM	32550~42000	32550~42000	32550~42000	32550~42000	28350~36750	26250~33080	23630~29400
			FEED	210~460	210~460	265~600	265~600	295~660	295~755	295~850
			Ap	0.007~0.018	0.009~0.022	0.011~0.026	0.012~0.031	0.014~0.035	0.030~0.060	0.045~0.090
	8-9		Vc	28~35	35~44	42~53	49~62	49~62	49~64	49~63
			fz	0.002~0.006	0.002~0.006	0.002~0.008	0.002~0.008	0.003~0.010	0.005~0.012	0.006~0.015
			RPM	23630~29400	23630~29400	23630~29400	23630~29400	20480~25730	18380~23630	16490~21000
			FEED	90~355	90~355	115~450	115~450	125~505	170~565	200~630
			Ap	0.007~0.018	0.009~0.022	0.011~0.026	0.012~0.031	0.014~0.035	0.030~0.060	0.045~0.090
	10	High alloyed steel, and tool steel	Vc	39~50	49~63	58~75	68~88	68~88	71~89	71~88
			fz	0.003~0.006	0.003~0.006	0.004~0.007	0.004~0.007	0.005~0.009	0.006~0.011	0.006~0.014
			RPM	32550~42000	32550~42000	32550~42000	32550~42000	28350~36750	26250~33080	23630~29400
			FEED	210~460	210~460	265~600	265~600	295~660	295~755	295~850
			Ap	0.007~0.018	0.009~0.022	0.011~0.026	0.012~0.031	0.014~0.035	0.030~0.060	0.045~0.090
	11.1 - 11.2		Vc	28~35	35~44	42~53	49~62	49~62	49~64	49~63
			fz	0.002~0.006	0.002~0.006	0.002~0.008	0.002~0.008	0.003~0.010	0.005~0.012	0.006~0.015
			RPM	23630~29400	23630~29400	23630~29400	23630~29400	20480~25730	18380~23630	16490~21000
			FEED	90~355	90~355	115~450	115~450	125~505	170~565	200~630
			Ap	0.007~0.018	0.009~0.022	0.011~0.026	0.012~0.031	0.014~0.035	0.030~0.060	0.045~0.090
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	Vc	39~50	49~63	58~75	68~88	68~88	71~89	71~88
			fz	0.003~0.006	0.003~0.006	0.004~0.007	0.004~0.007	0.005~0.009	0.006~0.011	0.006~0.014
			RPM	32550~42000	32550~42000	32550~42000	32550~42000	28350~36750	26250~33080	23630~29400
			FEED	210~460	210~460	265~600	265~600	295~660	295~755	295~850
			Ap	0.007~0.018	0.009~0.022	0.011~0.026	0.012~0.031	0.014~0.035	0.030~0.060	0.045~0.090
H	38.1 - 38.2	Hardened steel	Vc	18~21	22~27	27~32	31~37	31~37	31~35	31~39
			fz	0.001~0.003	0.001~0.003	0.001~0.003	0.001~0.003	0.002~0.004	0.003~0.005	0.003~0.005
			RPM	15020~17850	15020~17850	15020~17850	15020~17850	13130~15540	11550~13130	10500~13130
			FEED	30~95	30~95	40~115	40~115	45~130	60~135	70~135
			Ap	0.004~0.008	0.004~0.009	0.005~0.011	0.006~0.013	0.007~0.015	0.008~0.016	0.009~0.018
	40	Chilled Cast Iron	Vc	28~35	35~44	42~53	49~62	49~62	49~64	49~63
			fz	0.002~0.006	0.002~0.006	0.002~0.008	0.002~0.008	0.003~0.010	0.005~0.012	0.006~0.015
			RPM	23630~29400	23630~29400	23630~29400	23630~29400	20480~25730	18380~23630	16490~21000
			FEED	90~355	90~355	115~450	115~450	125~505	170~565	200~630
			Ap	0.007~0.018	0.009~0.022	0.011~0.026	0.012~0.031	0.014~0.035	0.030~0.060	0.045~0.090
	41	Hardened Cast Iron	Vc	18~21	22~27	27~32	31~37	31~37	31~35	31~39
			fz	0.001~0.003	0.001~0.003	0.001~0.003	0.001~0.003	0.002~0.004	0.003~0.005	0.003~0.005
			RPM	15020~17850	15020~17850	15020~17850	15020~17850	13130~15540	11550~13130	10500~13130
			FEED	30~95	30~95	40~115	40~115	45~130	60~135	70~135
			Ap	0.004~0.008	0.004~0.009	0.005~0.011	0.006~0.013	0.007~0.015	0.008~0.016	0.009~0.018

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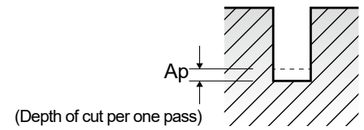
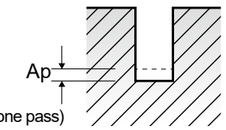


X-POWER PRO END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
GMH34 SERIES — 2 FLUTE - RIB PROCESSING / 2刃 - 深腔加工
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)
Ap (切削深度) = (mm)

VDI 3323	Parameter 参数	Diameter (Ø) 直径 1.2	1.4	1.5	1.6	1.8	2.0	2.5	3.0	4.0
1-4	Vc	70~85	70~88	68~87	70~90	74~93	75~91	75~94	75~94	75~94
	fz	0.008~0.020	0.009~0.023	0.010~0.024	0.010~0.025	0.011~0.027	0.012~0.031	0.015~0.038	0.018~0.045	0.023~0.060
	RPM	19430~23630	16800~21000	15230~19430	14700~18900	13650~17330	12600~15230	9980~12600	8400~10500	6300~7880
	FEED	295~945	295~945	295~945	295~945	295~945	295~945	295~945	295~945	295~945
	Ap	0.055~0.100	0.062~0.125	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.112~0.235	0.135~0.270	0.180~0.360
5	Vc	49~62	51~62	49~64	51~64	52~65	52~66	53~67	52~66	52~67
	fz	0.007~0.018	0.008~0.021	0.009~0.022	0.009~0.023	0.010~0.026	0.011~0.029	0.014~0.035	0.017~0.043	0.023~0.057
	RPM	13650~17330	12080~14700	11030~14180	10710~13440	9660~12080	8720~11030	7040~8930	5780~7350	4310~5570
	FEED	200~630	200~630	200~630	200~630	200~630	200~630	200~630	200~630	200~630
	Ap	0.055~0.100	0.062~0.125	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.112~0.235	0.135~0.270	0.180~0.360
6-7	Vc	70~85	70~88	68~87	70~90	74~93	75~91	75~94	75~94	75~94
	fz	0.008~0.020	0.009~0.023	0.010~0.024	0.010~0.025	0.011~0.027	0.012~0.031	0.015~0.038	0.018~0.045	0.023~0.060
	RPM	19430~23630	16800~21000	15230~19430	14700~18900	13650~17330	12600~15230	9980~12600	8400~10500	6300~7880
	FEED	295~945	295~945	295~945	295~945	295~945	295~945	295~945	295~945	295~945
	Ap	0.055~0.100	0.062~0.125	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.112~0.235	0.135~0.270	0.180~0.360
8-9	Vc	49~62	51~62	49~64	51~64	52~65	52~66	53~67	52~66	52~67
	fz	0.007~0.018	0.008~0.021	0.009~0.022	0.009~0.023	0.010~0.026	0.011~0.029	0.014~0.035	0.017~0.043	0.023~0.057
	RPM	13650~17330	12080~14700	11030~14180	10710~13440	9660~12080	8720~11030	7040~8930	5780~7350	4310~5570
	FEED	200~630	200~630	200~630	200~630	200~630	200~630	200~630	200~630	200~630
	Ap	0.055~0.100	0.062~0.125	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.112~0.235	0.135~0.270	0.180~0.360
10	Vc	70~85	70~88	68~87	70~90	74~93	75~91	75~94	75~94	75~94
	fz	0.008~0.020	0.009~0.023	0.010~0.024	0.010~0.025	0.011~0.027	0.012~0.031	0.015~0.038	0.018~0.045	0.023~0.060
	RPM	19430~23630	16800~21000	15230~19430	14700~18900	13650~17330	12600~15230	9980~12600	8400~10500	6300~7880
	FEED	295~945	295~945	295~945	295~945	295~945	295~945	295~945	295~945	295~945
	Ap	0.055~0.100	0.062~0.125	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.112~0.235	0.135~0.270	0.180~0.360
11.1 - 11.2	Vc	49~62	51~62	49~64	51~64	52~65	52~66	53~67	52~66	52~67
	fz	0.007~0.018	0.008~0.021	0.009~0.022	0.009~0.023	0.010~0.026	0.011~0.029	0.014~0.035	0.017~0.043	0.023~0.057
	RPM	13650~17330	12080~14700	11030~14180	10710~13440	9660~12080	8720~11030	7040~8930	5780~7350	4310~5570
	FEED	200~630	200~630	200~630	200~630	200~630	200~630	200~630	200~630	200~630
	Ap	0.055~0.100	0.062~0.125	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.112~0.235	0.135~0.270	0.180~0.360
15 - 20	Vc	70~85	70~88	68~87	70~90	74~93	75~91	75~94	75~94	75~94
	fz	0.008~0.020	0.009~0.023	0.010~0.024	0.010~0.025	0.011~0.027	0.012~0.031	0.015~0.038	0.018~0.045	0.023~0.060
	RPM	19430~23630	16800~21000	15230~19430	14700~18900	13650~17330	12600~15230	9980~12600	8400~10500	6300~7880
	FEED	295~945	295~945	295~945	295~945	295~945	295~945	295~945	295~945	295~945
	Ap	0.055~0.100	0.062~0.125	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.112~0.235	0.135~0.270	0.180~0.360
38.1 - 38.2	Vc	31~40	32~40	32~39	32~40	32~41	33~41	34~42	33~41	33~41
	fz	0.004~0.006	0.005~0.007	0.005~0.008	0.005~0.008	0.006~0.009	0.006~0.010	0.008~0.012	0.009~0.015	0.013~0.020
	RPM	8720~11030	7560~9450	7040~8610	6720~8400	5990~7560	5570~6930	4520~5570	3680~4620	2730~3470
	FEED	70~135	70~135	70~135	70~135	70~135	70~135	70~135	70~135	70~135
	Ap	0.010~0.022	0.012~0.025	0.014~0.028	0.015~0.030	0.016~0.032	0.018~0.035	0.022~0.045	0.028~0.055	0.036~0.072
40	Vc	49~62	51~62	49~64	51~64	52~65	52~66	53~67	52~66	52~67
	fz	0.007~0.018	0.008~0.021	0.009~0.022	0.009~0.023	0.010~0.026	0.011~0.029	0.014~0.035	0.017~0.043	0.023~0.057
	RPM	13650~17330	12080~14700	11030~14180	10710~13440	9660~12080	8720~11030	7040~8930	5780~7350	4310~5570
	FEED	200~630	200~630	200~630	200~630	200~630	200~630	200~630	200~630	200~630
	Ap	0.055~0.100	0.062~0.125	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.112~0.235	0.135~0.270	0.180~0.360
41	Vc	31~40	32~40	32~39	32~40	32~41	33~41	34~42	33~41	33~41
	fz	0.004~0.006	0.005~0.007	0.005~0.008	0.005~0.008	0.006~0.009	0.006~0.010	0.008~0.012	0.009~0.015	0.013~0.020
	RPM	8720~11030	7560~9450	7040~8610	6720~8400	5990~7560	5570~6930	4520~5570	3680~4620	2730~3470
	FEED	70~135	70~135	70~135	70~135	70~135	70~135	70~135	70~135	70~135
	Ap	0.010~0.022	0.012~0.025	0.014~0.028	0.015~0.030	0.016~0.032	0.018~0.035	0.022~0.045	0.028~0.055	0.036~0.072

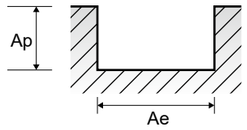


X-POWER PRO END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GMH33 SERIES — 2 FLUTE - SLOTTING / 2刃 - 槽铣削

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 1.0	1.5
P	5	Non-alloy steel	1.0D	D<1:0.15D D≥1:0.25D	Vc	70	60
					fz	0.004	0.006
					RPM	22282	12732
					FEED	178	153
	8-9	Low alloy steel	1.0D	D<1:0.15D D≥1:0.25D	Vc	70	60
					fz	0.004	0.006
					RPM	22282	12732
					FEED	178	153
	11.1 - 11.2	High alloyed steel, and tool steel	1.0D	D<1:0.15D D≥1:0.25D	Vc	70	60
					fz	0.004	0.006
					RPM	22282	12732
					FEED	178	153
H	38.1 - 38.2	Hardened steel	1.0D	D<1:0.02D D≥1:0.05D	Vc	50	45
					fz	0.003	0.004
					RPM	15915	9549
					FEED	95	76
	40	Chilled Cast Iron	1.0D	D<1:0.15D D≥1:0.25D	Vc	70	60
					fz	0.004	0.006
					RPM	22282	12732
					FEED	178	153
	41	Hardened Cast Iron	1.0D	D<1:0.02D D≥1:0.05D	Vc	50	45
					fz	0.003	0.004
					RPM	15915	9549
					FEED	95	76



Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

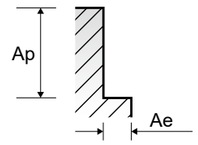
ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	1-4	Non-alloy steel	1.0D	D≤3:0.2D D>3:0.5D	Vc	65	75	85	90	95	95	90	95	100	95
					fz	0.010	0.015	0.025	0.032	0.039	0.057	0.064	0.064	0.062	0.063
					RPM	10345	7958	6764	5730	5040	3780	2865	2520	1989	1512
					FEED	207	239	338	367	393	431	367	323	247	191
	5		1.0D	D≤3:0.2D D>3:0.5D	Vc	45	45	50	55	55	55	55	55	60	60
					fz	0.010	0.016	0.024	0.032	0.041	0.050	0.050	0.048	0.051	0.047
					RPM	7162	4775	3979	3501	2918	2188	1751	1459	1194	955
					FEED	143	153	191	224	239	219	175	140	122	90
	6-7	Low alloy steel	1.0D	D≤3:0.2D D>3:0.5D	Vc	65	75	85	90	95	95	90	95	100	95
					fz	0.010	0.015	0.025	0.032	0.039	0.057	0.064	0.064	0.062	0.063
					RPM	10345	7958	6764	5730	5040	3780	2865	2520	1989	1512
					FEED	207	239	338	367	393	431	367	323	247	191
	8-9		1.0D	D≤3:0.2D D>3:0.5D	Vc	45	45	50	55	55	55	55	55	60	60
					fz	0.010	0.016	0.024	0.032	0.041	0.050	0.050	0.048	0.051	0.047
					RPM	7162	4775	3979	3501	2918	2188	1751	1459	1194	955
					FEED	143	153	191	224	239	219	175	140	122	90
	10	High alloyed steel, and tool steel	1.0D	D≤3:0.2D D>3:0.5D	Vc	65	75	85	90	95	95	90	95	100	95
					fz	0.010	0.015	0.025	0.032	0.039	0.057	0.064	0.064	0.062	0.063
					RPM	10345	7958	6764	5730	5040	3780	2865	2520	1989	1512
					FEED	207	239	338	367	393	431	367	323	247	191
	11.1 - 11.2		1.0D	D≤3:0.2D D>3:0.5D	Vc	45	45	50	55	55	55	55	55	60	60
					fz	0.010	0.016	0.024	0.032	0.041	0.050	0.050	0.048	0.051	0.047
					RPM	7162	4775	3979	3501	2918	2188	1751	1459	1194	955
					FEED	143	153	191	224	239	219	175	140	122	90
M	14.1	Stainless steel	1.0D	D≤3:0.2D D>3:0.5D	Vc	35	40	45	45	50	45	45	45	50	45
					fz	0.009	0.016	0.024	0.032	0.039	0.053	0.06	0.059	0.066	0.060
					RPM	5570	4244	3581	2865	2653	1790	1432	1194	995	716
					FEED	100	136	172	183	207	190	172	141	131	86
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	D≤3:0.2D D>3:0.5D	Vc	65	75	85	90	95	95	90	95	100	95
					fz	0.01	0.015	0.025	0.032	0.039	0.057	0.064	0.064	0.062	0.063
					RPM	10345	7958	6764	5730	5040	3780	2865	2520	1989	1512
					FEED	207	239	338	367	393	431	367	323	247	191
H	38.1 - 38.2	Hardened steel	1.0D	0.05D	Vc	30	30	35	35	35	40	40	40	40	40
					fz	0.004	0.007	0.009	0.013	0.017	0.028	0.027	0.029	0.028	0.028
					RPM	4775	3183	2785	2228	1857	1592	1273	1061	796	637
					FEED	38	45	50	58	63	89	69	62	45	36
	40	Chilled Cast Iron	1.0D	D≤3:0.2D D>3:0.5D	Vc	45	45	50	55	55	55	55	55	60	60
					fz	0.010	0.016	0.024	0.032	0.041	0.05	0.05	0.048	0.051	0.047
					RPM	7162	4775	3979	3501	2918	2188	1751	1459	1194	955
					FEED	143	153	191	224	239	219	175	140	122	90
	41	Hardened Cast Iron	1.0D	0.05D	Vc	30	30	35	35	35	40	40	40	40	40
					fz	0.004	0.007	0.009	0.013	0.017	0.028	0.027	0.029	0.028	0.028
					RPM	4775	3183	2785	2228	1857	1592	1273	1061	796	637
					FEED	38	45	50	58	63	89	69	62	45	36

X-POWER PRO END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GMH35 SERIES — 4 FLUTE - SIDE CUTTING / 4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	1-4	Non-alloy steel	0.05D	1.0D	Vc	70	75	80	95	105	110	115	120	115	115	125	120
					fz	0.003	0.004	0.006	0.009	0.019	0.024	0.03	0.042	0.047	0.047	0.047	0.048
					RPM	22280	15950	12732	10080	8356	7003	6101	4775	3661	3050	2487	1910
					FEED	240	280	306	363	635	672	732	802	688	573	468	367
	5		0.05D	1.0D	Vc	50	55	55	60	65	65	70	70	70	70	75	75
					fz	0.003	0.004	0.006	0.009	0.019	0.024	0.031	0.038	0.037	0.037	0.037	0.038
					RPM	15920	10610	8754	6366	5173	4138	3714	2785	2228	1857	1492	1194
					FEED	160	175	210	229	393	397	460	423	330	275	221	181
	6-7	Low alloy steel	0.05D	1.0D	Vc	70	75	80	95	105	110	115	120	115	115	125	120
					fz	0.003	0.004	0.006	0.009	0.019	0.024	0.03	0.042	0.047	0.047	0.047	0.048
					RPM	22280	15950	12732	10080	8356	7003	6101	4775	3661	3050	2487	1910
					FEED	240	280	306	363	635	672	732	802	688	573	468	367
	8-9		0.05D	1.0D	Vc	50	55	55	60	65	65	70	70	70	70	75	75
					fz	0.003	0.004	0.006	0.009	0.019	0.024	0.031	0.038	0.037	0.037	0.037	0.038
					RPM	15920	10610	8754	6366	5173	4138	3714	2785	2228	1857	1492	1194
					FEED	160	175	210	229	393	397	460	423	330	275	221	181
	10	High alloyed steel, and tool steel	0.05D	1.0D	Vc	70	75	80	95	105	110	115	120	115	115	125	120
					fz	0.003	0.004	0.006	0.009	0.019	0.024	0.03	0.042	0.047	0.047	0.047	0.048
					RPM	22280	15950	12732	10080	8356	7003	6101	4775	3661	3050	2487	1910
					FEED	240	280	306	363	635	672	732	802	688	573	468	367
	11.1 - 11.2		0.05D	1.0D	Vc	50	55	55	60	65	65	70	70	70	70	75	75
					fz	0.003	0.004	0.006	0.009	0.019	0.024	0.031	0.038	0.037	0.037	0.037	0.038
					RPM	15920	10610	8754	6366	5173	4138	3714	2785	2228	1857	1492	1194
					FEED	160	175	210	229	393	397	460	423	330	275	221	181
M	14.1	Stainless steel	0.05D	1.0D	Vc	40	40	45	50	55	55	60	60	60	55	60	60
					fz	0.003	0.004	0.005	0.009	0.018	0.024	0.029	0.041	0.045	0.044	0.046	0.045
					RPM	12740	8485	7162	5305	4377	3501	3183	2387	1910	1459	1194	955
					FEED	130	140	143	191	315	336	369	392	344	257	220	172
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.05D	1.0D	Vc	70	75	80	95	105	110	115	120	115	115	125	120
					fz	0.003	0.005	0.006	0.009	0.019	0.024	0.03	0.042	0.047	0.047	0.047	0.048
					RPM	22290	15920	12732	10080	8356	7003	6101	4775	3661	3050	2487	1910
					FEED	270	295	306	363	635	672	732	802	688	573	468	367
H	38.1 - 38.2	Hardened steel	0.05D	1.0D	Vc	30	30	35	35	40	40	40	45	50	50	50	50
					fz	0.002	0.002	0.002	0.004	0.005	0.008	0.010	0.017	0.016	0.017	0.016	0.015
					RPM	9550	6370	5570	3714	3183	2546	2122	1790	1592	1326	995	796
					FEED	55	55	45	59	64	81	85	122	102	90	64	48
	40	Chilled Cast Iron	0.05D	1.0D	Vc	50	55	55	60	65	65	70	70	70	70	75	75
					fz	0.003	0.004	0.006	0.009	0.019	0.024	0.031	0.038	0.037	0.037	0.037	0.038
					RPM	15920	10610	8754	6366	5173	4138	3714	2785	2228	1857	1492	1194
					FEED	160	175	210	229	393	397	460	423	330	275	221	181
	41	Hardened Cast Iron	0.05D	1.0D	Vc	30	30	35	35	40	40	40	45	50	50	50	50
					fz	0.002	0.002	0.002	0.004	0.005	0.008	0.010	0.017	0.016	0.017	0.016	0.015
					RPM	9550	6370	5570	3714	3183	2546	2122	1790	1592	1326	995	796
					FEED	55	55	45	59	64	81	85	122	102	90	64	48



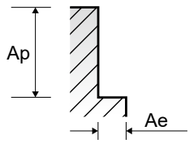
X-POWER PRO END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GMH36 SERIES — 4 FLUTE - SIDE CUTTING / 4刃 - 侧铣削

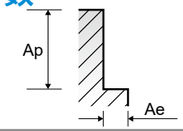
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	1-4	Non-alloy steel	0.05D	2.5D	Vc	60	65	70	75	80	80	85	80	90	85
					fz	0.006	0.009	0.014	0.021	0.029	0.041	0.049	0.047	0.05	0.049
					RPM	9549	6897	5570	4775	4244	3183	2706	2122	1790	1353
					FEED	229	248	312	401	492	522	530	399	358	265
	5		0.05D	2.5D	Vc	35	40	40	45	45	45	50	50	50	50
					fz	0.004	0.007	0.010	0.014	0.021	0.028	0.033	0.035	0.035	0.033
					RPM	5570	4244	3183	2865	2387	1790	1592	1326	995	796
					FEED	89	119	127	160	201	201	210	186	139	105
	6-7	Low alloy steel	0.05D	2.5D	Vc	60	65	70	75	80	80	85	80	90	85
					fz	0.006	0.009	0.014	0.021	0.029	0.041	0.049	0.047	0.05	0.049
					RPM	9549	6897	5570	4775	4244	3183	2706	2122	1790	1353
					FEED	229	248	312	401	492	522	530	399	358	265
	8-9		0.05D	2.5D	Vc	35	40	40	45	45	45	50	50	50	50
					fz	0.004	0.007	0.010	0.014	0.021	0.028	0.033	0.035	0.035	0.033
					RPM	5570	4244	3183	2865	2387	1790	1592	1326	995	796
					FEED	89	119	127	160	201	201	210	186	139	105
	10	High alloyed steel, and tool steel	0.05D	2.5D	Vc	60	65	70	75	80	80	85	80	90	85
					fz	0.006	0.009	0.014	0.021	0.029	0.041	0.049	0.047	0.05	0.049
					RPM	9549	6897	5570	4775	4244	3183	2706	2122	1790	1353
					FEED	229	248	312	401	492	522	530	399	358	265
	11.1 - 11.2		0.05D	2.5D	Vc	35	40	40	45	45	45	50	50	50	50
					fz	0.004	0.007	0.010	0.014	0.021	0.028	0.033	0.035	0.035	0.033
					RPM	5570	4244	3183	2865	2387	1790	1592	1326	995	796
					FEED	89	119	127	160	201	201	210	186	139	105
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.05D	2.5D	Vc	60	65	70	75	80	80	85	80	90	85
					fz	0.006	0.009	0.014	0.021	0.029	0.041	0.049	0.047	0.05	0.049
					RPM	9549	6897	5570	4775	4244	3183	2706	2122	1790	1353
					FEED	229	248	312	401	492	522	530	399	358	265
H	38.1 - 38.2	Hardened steel	0.02D	2.0D	Vc	20	25	25	30	30	30	30	30	30	30
					fz	0.004	0.006	0.008	0.011	0.016	0.021	0.027	0.026	0.026	0.027
					RPM	3183	2653	1989	1910	1592	1194	955	796	597	477
					FEED	51	64	64	84	102	100	103	83	62	52
	40	Chilled Cast Iron	0.05D	2.5D	Vc	35	40	40	45	45	45	50	50	50	50
					fz	0.004	0.007	0.010	0.014	0.021	0.028	0.033	0.035	0.035	0.033
					RPM	5570	4244	3183	2865	2387	1790	1592	1326	995	796
					FEED	89	119	127	160	201	201	210	186	139	105
	41	Hardened Cast Iron	0.02D	2.0D	Vc	20	25	25	30	30	30	30	30	30	30
					fz	0.004	0.006	0.008	0.011	0.016	0.021	0.027	0.026	0.026	0.027
					RPM	3183	2653	1989	1910	1592	1194	955	796	597	477
					FEED	51	64	64	84	102	100	103	83	62	52



X-POWER PRO END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GMH39 SERIES — 6 FLUTE 45° HELIX - SIDE CUTTING / 6刃 45度螺旋 - 侧铣削



Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

NORMAL SPEED 普通速度

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 6.0	8.0	10.0	12.0	16.0
P	1-4	Non-alloy steel	0.1D	1.5D	Vc	105	110	110	110	110
					fz	0.06	0.079	0.099	0.099	0.1
					RPM	5570	4377	3501	2918	2188
					FEED	2005	2075	2080	1733	1313
	5		0.05D	1.5D	Vc	75	75	75	75	75
					fz	0.059	0.078	0.098	0.097	0.099
					RPM	3979	2984	2387	1989	1492
					FEED	1409	1397	1404	1158	886
	6-7	Low alloy steel	0.1D	1.5D	Vc	105	110	110	110	110
					fz	0.06	0.079	0.099	0.099	0.1
					RPM	5570	4377	3501	2918	2188
					FEED	2005	2075	2080	1733	1313
	8-9		0.05D	1.5D	Vc	75	75	75	75	75
					fz	0.059	0.078	0.098	0.097	0.099
					RPM	3979	2984	2387	1989	1492
					FEED	1409	1397	1404	1158	886
	10	High alloyed steel, and tool steel	0.1D	1.5D	Vc	105	110	110	110	110
					fz	0.06	0.079	0.099	0.099	0.1
					RPM	5570	4377	3501	2918	2188
					FEED	2005	2075	2080	1733	1313
	11.1 - 11.2		0.05D	1.5D	Vc	75	75	75	75	75
					fz	0.059	0.078	0.098	0.097	0.099
					RPM	3979	2984	2387	1989	1492
					FEED	1409	1397	1404	1158	886
H	38.1	Hardened steel	0.05D	1.5D	Vc	75	75	75	75	75
					fz	0.059	0.078	0.098	0.097	0.099
					RPM	3979	2984	2387	1989	1492
					FEED	1409	1397	1404	1158	886
	38.2		0.05D	1.0D	Vc	30	30	30	30	35
					fz	0.022	0.030	0.035	0.036	0.035
					RPM	1592	1194	955	796	696
					FEED	210	215	201	172	146
	40	Chilled Cast Iron	0.05D	1.5D	Vc	75	75	75	75	75
					fz	0.059	0.078	0.098	0.097	0.099
					RPM	3979	2984	2387	1989	1492
					FEED	1409	1397	1404	1158	886
	41	Hardened Cast Iron	0.05D	1.0D	Vc	30	30	30	30	35
					fz	0.022	0.030	0.035	0.036	0.035
					RPM	1592	1194	955	796	696
					FEED	210	215	201	172	146

HIGH SPEED 高速度

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 6.0	8.0	10.0	12.0	16.0
P	1-5	Non-alloy steel	0.05D	1.5D	Vc	325	325	320	325	325
					fz	0.06	0.081	0.1	0.1	0.1
					RPM	17242	12931	10186	8621	6466
					FEED	6207	6285	6112	5173	3879
	6-9	Low alloy steel	0.05D	1.5D	Vc	325	325	320	325	325
					fz	0.06	0.081	0.1	0.1	0.1
					RPM	17242	12931	10186	8621	6466
					FEED	6207	6285	6112	5173	3879
	10 - 11.2	High alloyed steel, and tool steel	0.05D	1.5D	Vc	325	325	320	325	325
					fz	0.06	0.081	0.1	0.1	0.1
					RPM	17242	12931	10186	8621	6466
					FEED	6207	6285	6112	5173	3879
H	38.1	Hardened steel	0.05D	1.5D	Vc	325	325	320	325	325
					fz	0.060	0.081	0.100	0.100	0.100
					RPM	17242	12931	10186	8621	6466
					FEED	6207	6285	6112	5173	3879
	38.2		0.05D	1.0D	Vc	160	160	160	160	160
					fz	0.060	0.081	0.101	0.100	0.100
					RPM	8488	6366	5093	4244	3183
					FEED	3056	3094	3086	2546	1910
	40	Chilled Cast Iron	0.05D	1.5D	Vc	325	325	320	325	325
					fz	0.060	0.081	0.100	0.100	0.100
					RPM	17242	12931	10186	8621	6466
					FEED	6207	6285	6112	5173	3879
	41	Hardened Cast Iron	0.05D	1.0D	Vc	160	160	160	160	160
					fz	0.060	0.081	0.101	0.100	0.100
					RPM	8488	6366	5093	4244	3183
					FEED	3056	3094	3086	2546	1910

X-POWER PRO END MILLS

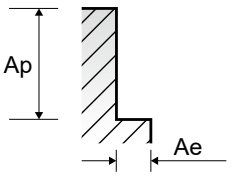
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GM814 SERIES

3&4 FLUTE ROUGHING - SIDE CUTTING
3&4刃 粗加工 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 6.0	8.0	10.0	12.0	16.0	20.0
P	1-4	Non-alloy steel	0.3D	1.5D	Vc	310	305	305	315	315	315
					fz	0.05	0.067	0.063	0.075	0.1	0.113
					RPM	16446	12136	9708	8356	6267	5013
					FEED	2467	2439	2447	2507	2507	2266
	5		0.3D	1.5D	Vc	245	245	250	240	255	240
					fz	0.023	0.030	0.028	0.033	0.040	0.039
					RPM	12998	9748	7958	6366	5073	3820
					FEED	897	877	891	840	812	596
	6-7	Low alloy steel	0.3D	1.5D	Vc	310	305	305	315	315	315
					fz	0.05	0.067	0.063	0.075	0.1	0.113
					RPM	16446	12136	9708	8356	6267	5013
					FEED	2467	2439	2447	2507	2507	2266
	8-9		0.3D	1.5D	Vc	245	245	250	240	255	240
					fz	0.023	0.030	0.028	0.033	0.040	0.039
					RPM	12998	9748	7958	6366	5073	3820
					FEED	897	877	891	840	812	596
	10	High alloyed steel, and tool steel	0.3D	1.5D	Vc	310	305	305	315	315	315
					fz	0.05	0.067	0.063	0.075	0.1	0.113
					RPM	16446	12136	9708	8356	6267	5013
					FEED	2467	2439	2447	2507	2507	2266
	11.1 - 11.2		0.3D	1.5D	Vc	245	245	250	240	255	240
					fz	0.023	0.030	0.028	0.033	0.040	0.039
					RPM	12998	9748	7958	6366	5073	3820
					FEED	897	877	891	840	812	596
M	14.1	Stainless steel	0.3D	1.5D	Vc	165	165	170	165	175	160
					fz	0.023	0.03	0.028	0.034	0.039	0.038
					RPM	8754	6565	5411	4377	3482	2546
					FEED	604	591	606	595	543	387
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.3D	1.5D	Vc	310	305	305	315	315	315
					fz	0.05	0.067	0.063	0.075	0.1	0.113
					RPM	16446	12136	9708	8356	6267	5013
					FEED	2467	2439	2447	2507	2507	2266
H	38.1 - 38.2	Hardened steel	0.05D	1.0D	Vc	65	65	65	65	65	65
					fz	0.026	0.033	0.036	0.039	0.034	0.038
					RPM	3448	2586	2069	1724	1293	1035
					FEED	269	256	298	269	176	157
	40	Chilled Cast Iron	0.3D	1.5D	Vc	245	245	250	240	255	240
					fz	0.023	0.030	0.028	0.033	0.040	0.039
					RPM	12998	9748	7958	6366	5073	3820
					FEED	897	877	891	840	812	596
	41	Hardened Cast Iron	0.05D	1.0D	Vc	65	65	65	65	65	65
					fz	0.026	0.033	0.036	0.039	0.034	0.038
					RPM	3448	2586	2069	1724	1293	1035
					FEED	269	256	298	269	176	157



YG

Leading Through Innovation

SOLID CARBIDE

TitaNox-POWER END MILLS

- High Speed Machining for Exotic Materials: Titanium, Inconel and Stainless Steels

- 适用于高速加工耐高温材料：钛合金，铬镍铁合金和不锈钢

SELECTION GUIDE
选用指南

YG MILLING TOOLS

SOLID CARBIDE
TitaNox-POWER END MILLS

High Speed Machining for Exotic Materials:
Titanium, Inconel and Stainless Steels
实现难切材料的高速加工 钛, 铬镍铁合金和不锈钢

Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工参数) : p.C360

	SERIES 系列	GMG40 GMG41	GMG28 GMG29	GMG30 GMG31	GMG24 GMG25	GMG26 GMG27	EHE54 EHE55
	FLUTE 槽数	4	5	5	5	5	5
	HELIX ANGLE 螺旋角度	43°/45°	43°/44°/45°	43°/44°/45°	43°/44°/45°	43°/44°/45°	40°
	CUTTING EDGE SHAPE 类型	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	SQUARE	SQUARE	ROUGHING CORNER RADIUS
	SIZE MIN 最小尺寸	D6.0	D6.0	D6.0	D6.0	D6.0	D6.0
	SIZE MAX 最大尺寸	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0
	PAGE 页数	C352-353	C354	C355-356	C357	C358	C359
		LONG LENGTH DOUBLE CORE	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	LONG LENGTH	-
		Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	TiAlN

ISO	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB	HRc					
P	1	Non-alloy steel	About 0.15% C	Annealed	125		○	○	○	○	○
	2		About 0.45% C	Annealed	190	13	○	○	○	○	○
	3		About 0.45% C	Quenched & Tempered	250	25	○	○	○	○	○
	4		About 0.75% C	Annealed	270	28	○	○	○	○	○
	5		About 0.75% C	Quenched & Tempered	300	32	○	○	○	○	○
	6	Low alloy steel		Annealed	180	10	○	○	○	○	○
	7			Quenched & Tempered	275	29	○	○	○	○	○
	8			Quenched & Tempered	300	32	○	○	○	○	○
	9			Quenched & Tempered	350	38	○	○	○	○	○
	10	High alloyed steel, and tool steel		Annealed	200	15	○	○	○	○	○
	11			Quenched & Tempered	325	35	○	○	○	○	○
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15	◎	◎	◎	◎	◎	○
	13		Martensitic	Quenched & Tempered	240	23	◎	◎	◎	◎	◎	○
	14		Austenitic		180	10	◎	◎	◎	◎	◎	○
K	15	Grey cast iron	Pearlitic / ferritic		180	10	○	○	○	○	○	
	16		Pearlitic (Martensitic)		260	26	○	○	○	○	○	
	17	Nodular cast iron	Ferritic		160	3	○	○	○	○	○	
	18		Pearlitic		250	25	○	○	○	○	○	
	19	Malleable cast iron	Ferritic		130		○	○	○	○	○	
	20		Pearlitic		230	21	○	○	○	○	○	
N	21	Aluminum-wrought alloy	Not Curable		60							
	22		Curable	Hardened	100							
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75							
	24		≤ 12% Si, Curable	Hardened	90							
	25		> 12% Si, Not Curable		130							
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110							
	27		CuZn, CuSnZn (Brass)		90							
	28		CuSn, lead-free copper and electrolytic copper		100							
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic									
	30		Rubber, Wood, etc.									
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15	○	○	○	○	○	○
	32			Cured	280	30	○	○	○	○	○	○
	33		Ni or Co Based	Annealed	250	25	○	○	○	○	○	○
	34			Cured	350	38	○	○	○	○	○	○
	35			Cast	320	34	○	○	○	○	○	○
	36	Titanium Alloys	Pure Titanium		400 Rm		◎	◎	◎	◎	◎	◎
	37		Alpha + Beta Alloys	Hardened	1050 Rm		◎	◎	◎	◎	◎	◎
H	38	Hardened steel		Hardened	550	55						
	39			Hardened	630	60						
	40	Chilled Cast Iron		Cast	400	42						
	41	Hardened Cast Iron		Hardened	550	55						

BALL NOSE = 球头 CORNER RADIUS = 圆鼻 SQUARE = 平头 ROUGHING = 粗加工
SHORT LENGTH = 短刃 LONG LENGTH = 长刃 DOUBLE CORE = 双芯厚

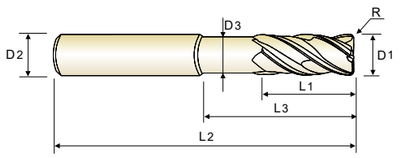
TitaNox-POWER END MILLS

PLAIN SHANK **GMG40** SERIES
FLAT SHANK **GMG41** SERIES

CARBIDE, 4 FLUTE CORNER RADIUS with DOUBLE CORE
硬质合金，4刃 圆鼻 双芯厚

▶Double core end mill has a unique flute design for excellent chip evacuation and higher rigidity.
▶The double core adds stability and aids chip flow, reducing tool deflection, improving dimensional stability and workpiece accuracy.

▶双芯厚铣刀具有独特沟槽设计，实现出色排屑性能与优秀刚性
▶双芯厚实现稳定性和排屑性能，减少刀具偏斜，提高尺寸稳定性和工件精度



CARBIDE | 4 | 43°/45° | PLAIN | FLAT | p.C360-361

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	HYDRAULIC CHUCK	D15 - 46
-	-	SHRINK FIT HOLDER	D47 - 72
-	-	ER COLLET CHUCK	D73 - 115

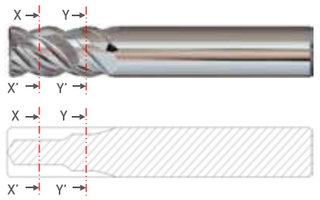
Unit(单位) : mm

EDP No. PLAIN	EDP No. FLAT	Corner Radius 圆弧角 R	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Length Below Shank 颈长 L_3	Overall Length 全长 L_2	Neck Diameter 颈径 D_3
GMG40060	GMG41060	R0.5	6.0	6	13	20	57	5.5
GMG40901	GMG41901	R1.0	6.0	6	13	20	57	5.5
GMG40080	GMG41080	R0.5	8.0	8	19	25	63	7.5
GMG40902	GMG41902	R1.0	8.0	8	19	25	63	7.5
GMG40903	GMG41903	R1.5	8.0	8	19	25	63	7.5
GMG40904	GMG41904	R2.0	8.0	8	19	25	63	7.5
GMG40100	GMG41100	R0.5	10.0	10	22	30	72	9.2
GMG40905	GMG41905	R1.0	10.0	10	22	30	72	9.2
GMG40906	GMG41906	R1.5	10.0	10	22	30	72	9.2
GMG40907	GMG41907	R2.0	10.0	10	22	30	72	9.2
GMG40120	GMG41120	R0.5	12.0	12	26	35	83	11.0
GMG40908	GMG41908	R1.0	12.0	12	26	35	83	11.0
GMG40909	GMG41909	R1.5	12.0	12	26	35	83	11.0
GMG40910	GMG41910	R2.0	12.0	12	26	35	83	11.0
GMG40911	GMG41911	R3.0	12.0	12	26	35	83	11.0
GMG40140	GMG41140	R1.0	14.0	14	26	35	83	13.0
GMG40912	GMG41912	R2.0	14.0	14	26	35	83	13.0
GMG40160	GMG41160	R1.0	16.0	16	35	43	92	15.0

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5 * Shank Dia.≥Ø12 : h6

▶ NEXT PAGE 下页

◆ 2 STEP CORE
双芯厚



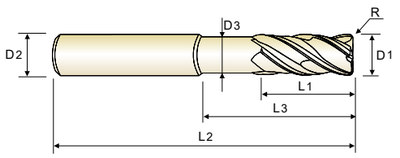
<SECTION X-X'>
EXCELLENT CHIP EVACUATION
<X-X' 区间>
卓越排屑性能

<SECTION Y-Y'>
HIGHER RIGIDITY
<Y-Y' 区间>
高刚性

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			M					K						
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron												
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20												
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21												
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230												
Recommend	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	○	○	○	○	○	○												
ISO	N										S										H											
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys					Hardened steel		Chilled Cast Iron	Hardened Cast Iron									
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41											
HRc											15	30	25	38	34			55	60	42	55											
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550											
Recommend											○	○	○	○	○	◎	◎															

TitaNox-POWER END MILLS
PLAIN SHANK GMG40 SERIES
FLAT SHANK GMG41 SERIES
CARBIDE, 4 FLUTE CORNER RADIUS with DOUBLE CORE
硬质合金，4刃 圆鼻 双芯厚
▶Double core end mill has a unique flute design for excellent chip evacuation and higher rigidity.
▶The double core adds stability and aids chip flow, reducing tool deflection, improving dimensional stability and workpiece accuracy.
▶双芯厚铣刀具有独特沟槽设计，实现出色排屑性能与优秀刚性
▶双芯厚实现稳定性和排屑性能，减少刀具偏斜，提高尺寸稳定性和工件精度



CARBIDE | 4 | 43°/45° | PLAIN | FLAT | p.C360-361
Recommended ToolHolder

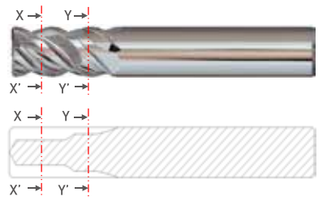
Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	HYDRAULIC CHUCK	D15 - 46
-	-	SHRINK FIT HOLDER	D47 - 72
-	-	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No. PLAIN	EDP No. FLAT	Corner Radius 圆弧角 R	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Length Below Shank 颈长 L_3	Overall Length 全长 L_2	Neck Diameter 颈径 D_3
GMG40913	GMG41913	R1.5	16.0	16	35	43	92	15.0
GMG40914	GMG41914	R2.0	16.0	16	35	43	92	15.0
GMG40915	GMG41915	R3.0	16.0	16	35	43	92	15.0
GMG40916	GMG41916	R4.0	16.0	16	35	43	92	15.0
GMG40200	GMG41200	R1.0	20.0	20	44	56	110	19.0
GMG40917	GMG41917	R1.5	20.0	20	44	56	110	19.0
GMG40918	GMG41918	R2.0	20.0	20	44	56	110	19.0
GMG40919	GMG41919	R3.0	20.0	20	44	56	110	19.0
GMG40920	GMG41920	R3.5	20.0	20	44	56	110	19.0
GMG40921	GMG41921	R4.0	20.0	20	44	56	110	19.0
GMG40250	GMG41250	R1.0	25.0	25	55	70	130	24.0
GMG40922	GMG41922	R1.5	25.0	25	55	70	130	24.0
GMG40923	GMG41923	R2.0	25.0	25	55	70	130	24.0
GMG40924	GMG41924	R3.0	25.0	25	55	70	130	24.0
GMG40925	GMG41925	R4.0	25.0	25	55	70	130	24.0

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5 * Shank Dia.≥Ø12 : h6

◆ 2 STEP CORE
双芯厚



<SECTION X-X'>
EXCELLENT CHIP EVACUATION
<X-X' 区间>
卓越排屑性能

<SECTION Y-Y'>
HIGHER RIGIDITY
<Y-Y' 区间>
高刚性

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			M					K						
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron												
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20												
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21												
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230												
Recommend	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	○	○	○	○	○	○												
ISO	N										S										H											
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys					Hardened steel		Chilled Cast Iron	Hardened Cast Iron									
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41											
HRc											15	30	25	38	34			55	60	42	55											
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550											
Recommend											○	○	○	○	○	◎	◎															

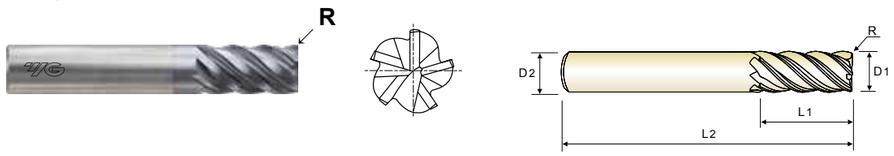
TitaNox-POWER END MILLS

PLAIN SHANK **GMG28** SERIES
FLAT SHANK **GMG29** SERIES

CARBIDE, 5 FLUTE CORNER RADIUS SHORT LENGTH
硬质合金，5刃 圆鼻 短刃

- ▶ Excellent performance results and long tool life when machining Titanium and other tough materials.
- ▶ This tool has high rigidity of flute so that is possible to use for heavy profile and high speed milling.
- ▶ For protecting corner chipping of end teeth, corner radius & chamfer are adopted.

- ▶加工钛或难切材料实现出色的性能，优秀的寿命
- ▶高刚性的沟槽可适用于重型仿形铣削及高速铣削
- ▶为了防止崩刃，可提供圆鼻和倒角铣刀



CARBIDE | 5 | 43°/44°/45° | PLAIN | FLAT | p.C362

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
◎ END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
◎ - -		HYDRAULIC CHUCK	D15 - 46
		SHRINK FIT HOLDER	D47 - 72
○ - -		ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.		Corner Radius 圆弧角	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
PLAIN	FLAT	R	D_1	D_2	L_1	L_2
GMG28060	**GMG29060**	R0.5	**6.0**	6	10	54
GMG28080	**GMG29080**	R0.5	**8.0**	8	12	58
GMG28100	**GMG29100**	R0.5	**10.0**	10	14	66
GMG28120	**GMG29120**	R0.5	**12.0**	12	16	73
GMG28160	**GMG29160**	R1.0	**16.0**	16	22	82
GMG28200	**GMG29200**	R1.0	**20.0**	20	26	92
GMG28250	**GMG29250**	R1.0	**25.0**	25	29	100

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5 * Shank Dia.≥Ø12 : h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	◎	◎				

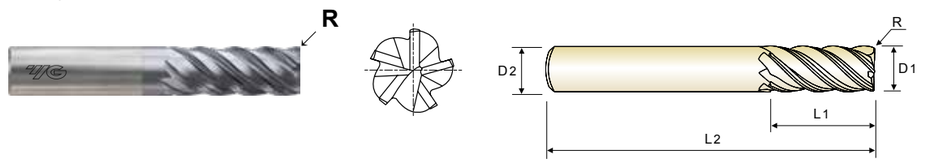
TitaNox-POWER END MILLS

PLAIN SHANK **GMG30** SERIES
FLAT SHANK **GMG31** SERIES

CARBIDE, 5 FLUTE CORNER RADIUS LONG LENGTH
硬质合金，5刃 圆鼻 长刃

- ▶ Excellent performance results and long tool life when machining Titanium and other tough materials.
- ▶ This tool has high rigidity of flute so that is possible to use for heavy profile and high speed milling.
- ▶ For protecting corner chipping of end teeth, corner radius & chamfer are adopted.

- ▶加工钛或难切材料实现出色的性能，优秀的寿命
- ▶高刚性的沟槽可适用于重型仿形铣削及高速铣削
- ▶为了防止崩刃，可提供圆鼻和倒角铣刀



CARBIDE | 5 | 43°/44°/45° | PLAIN | FLAT | p.C362

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
◎ END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
◎ - -		HYDRAULIC CHUCK	D15 - 46
		SHRINK FIT HOLDER	D47 - 72
○ - -		ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.		Corner Radius 圆弧角	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
PLAIN	FLAT	R	D_1	D_2	L_1	L_2
GMG30060	**GMG31060**	R0.3	**6.0**	6	13	57
GMG30901	**GMG31901**	R0.5	**6.0**	6	13	57
GMG30902	**GMG31902**	R1.0	**6.0**	6	13	57
GMG30080	**GMG31080**	R0.5	**8.0**	8	19	63
GMG30903	**GMG31903**	R1.0	**8.0**	8	19	63
GMG30904	**GMG31904**	R1.5	**8.0**	8	19	63
GMG30905	**GMG31905**	R2.0	**8.0**	8	19	63
GMG30100	**GMG31100**	R0.5	**10.0**	10	22	72
GMG30906	**GMG31906**	R1.0	**10.0**	10	22	72
GMG30907	**GMG31907**	R1.5	**10.0**	10	22	72
GMG30908	**GMG31908**	R2.0	**10.0**	10	22	72
GMG30120	**GMG31120**	R0.5	**12.0**	12	26	83
GMG30909	**GMG31909**	R1.0	**12.0**	12	26	83
GMG30910	**GMG31910**	R1.5	**12.0**	12	26	83
GMG30911	**GMG31911**	R2.0	**12.0**	12	26	83
GMG30912	**GMG31912**	R2.5	**12.0**	12	26	83
GMG30913	**GMG31913**	R3.0	**12.0**	12	26	83
GMG30160	**GMG31160**	R1.0	**16.0**	16	36	92
GMG30914	**GMG31914**	R1.5	**16.0**	16	36	92
GMG30915	**GMG31915**	R2.0	**16.0**	16	36	92
GMG30916	**GMG31916**	R2.5	**16.0**	16	36	92
GMG30917	**GMG31917**	R3.0	**16.0**	16	36	92

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5 * Shank Dia.≥Ø12 : h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	◎	◎				

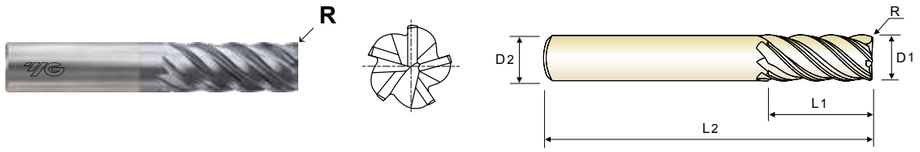
TitaNox-POWER END MILLS

PLAIN SHANK **GMG30** SERIES
FLAT SHANK **GMG31** SERIES

CARBIDE, 5 FLUTE CORNER RADIUS LONG LENGTH
硬质合金，5刃 圆鼻 长刃

- ▶ Excellent performance results and long tool life when machining Titanium and other tough materials.
- ▶ This tool has high rigidity of flute so that is possible to use for heavy profile and high speed milling.
- ▶ For protecting corner chipping of end teeth, corner radius & chamfer are adopted.

- ▶加工钛或难切材料实现出色的性能，优秀的寿命
- ▶高刚性的沟槽可适用于重型仿形铣削及高速铣削
- ▶为了防止崩刃，可提供圆鼻和倒角铣刀



CARBIDE | 5 | 43°/44°/45° | PLAIN | FLAT

p.C362

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
◎	-	-	HYDRAULIC CHUCK	D15 - 46
			SHRINK FIT HOLDER	D47 - 72
○	-	-	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.		Corner Radius 圆弧角	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
PLAIN	FLAT	R	D_1	D_2	L_1	L_2
GMG30918	**GMG31918**	R4.0	**16.0**	16	36	92
GMG30200	**GMG31200**	R1.0	**20.0**	20	44	104
GMG30919	**GMG31919**	R1.5	**20.0**	20	44	104
GMG30920	**GMG31920**	R2.0	**20.0**	20	44	104
GMG30921	**GMG31921**	R2.5	**20.0**	20	44	104
GMG30922	**GMG31922**	R3.0	**20.0**	20	44	104
GMG30923	**GMG31923**	R4.0	**20.0**	20	44	104
GMG30924	**GMG31924**	R5.0	**20.0**	20	44	104
GMG30250	**GMG31250**	R1.0	**25.0**	25	54	121
GMG30925	**GMG31925**	R1.5	**25.0**	25	54	121
GMG30926	**GMG31926**	R2.0	**25.0**	25	54	121
GMG30927	**GMG31927**	R2.5	**25.0**	25	54	121
GMG30928	**GMG31928**	R3.0	**25.0**	25	54	121
GMG30929	**GMG31929**	R4.0	**25.0**	25	54	121
GMG30930	**GMG31930**	R5.0	**25.0**	25	54	121

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5 * Shank Dia.≥Ø12 : h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	◎	◎				

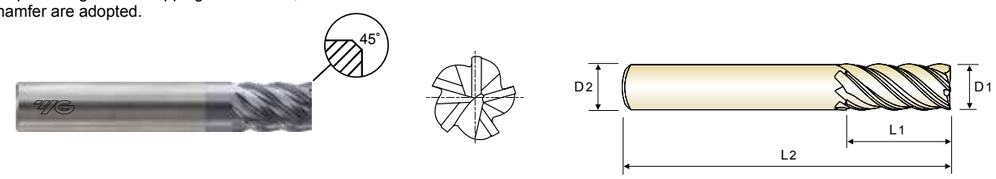
TitaNox-POWER END MILLS

PLAIN SHANK **GMG24** SERIES
FLAT SHANK **GMG25** SERIES

CARBIDE, 5 FLUTE SHORT LENGTH
硬质合金，5刃 短刃

- ▶ Excellent performance results and long tool life when machining Titanium and other tough materials.
- ▶ This tool has high rigidity of flute so that is possible to use for heavy profile and high speed milling.
- ▶ For protecting corner chipping of end teeth, corner radius & chamfer are adopted.

- ▶加工钛或难切材料实现出色的性能，优秀的寿命
- ▶高刚性的沟槽可适用于重型仿形铣削及高速铣削
- ▶为了防止崩刃，可提供圆鼻和倒角铣刀



CARBIDE | 5 | 43°/44°/45° | PLAIN | FLAT | C x 45°

p.C363

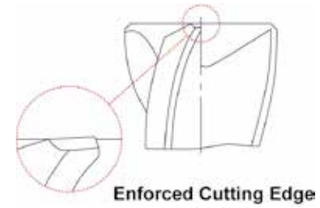
Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
◎	-	-	HYDRAULIC CHUCK	D15 - 46
			SHRINK FIT HOLDER	D47 - 72
○	-	-	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.		Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长	Chamfer 导向
PLAIN	FLAT	D_1	D_2	L_1	L_2	
GMG24060	**GMG25060**	**6.0**	6	10	54	0.20
GMG24080	**GMG25080**	**8.0**	8	12	58	0.20
GMG24100	**GMG25100**	**10.0**	10	14	66	0.30
GMG24120	**GMG25120**	**12.0**	12	16	73	0.35
GMG24160	**GMG25160**	**16.0**	16	22	82	0.40
GMG24200	**GMG25200**	**20.0**	20	26	92	0.50
GMG24250	**GMG25250**	**25.0**	25	29	100	0.50

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5 * Shank Dia.≥Ø12 : h6



Enforced Cutting Edge
刃线保护处理

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	◎	◎				

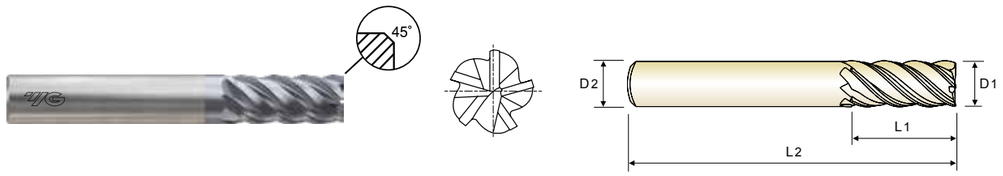
TitaNox-POWER END MILLS

PLAIN SHANK **GMG26** SERIES
FLAT SHANK **GMG27** SERIES

CARBIDE, 5 FLUTE LONG LENGTH
硬质合金，5刃 长刃

▶ Suitable for Titanium, Titanium Alloys, Inconel and Stainless Steels.
▶ Optimized flute design for chip evacuation and rigidity when machining difficult-to-cut materials.
▶ Special roughing profile for machining Titanium and Titanium Alloys.
▶Longer tool life with special coating.

▶适用于加工钛，钛合金及不锈钢
▶最佳沟槽设计在加工难切材料时实现优秀排屑及高刚性
▶粗加工用特殊设计为加工钛和钛合金
▶独特涂层实现高寿命



CARBIDE | 5 | 43°/44°/45° | PLAIN | FLAT | C x 45° | p.C363

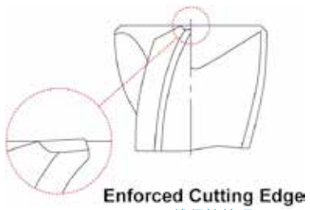
Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
◎ END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
◎ -	-	HYDRAULIC CHUCK	D15 - 46
		SHRINK FIT HOLDER	D47 - 72
○ -	-	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No. PLAIN	EDP No. FLAT	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Chamfer 导向
GMG26060	GMG27060	6.0	6	13	57	0.20
GMG26080	GMG27080	8.0	8	19	63	0.20
GMG26100	GMG27100	10.0	10	22	72	0.30
GMG26120	GMG27120	12.0	12	26	83	0.35
GMG26160	GMG27160	16.0	16	36	92	0.40
GMG26200	GMG27200	20.0	20	44	104	0.50
GMG26250	GMG27250	25.0	25	54	121	0.50

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5 * Shank Dia.≥Ø12 : h6



◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			M			K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron									
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20									
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21									
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230									
Recommend	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	○	○	○	○	○	○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	◎	◎				

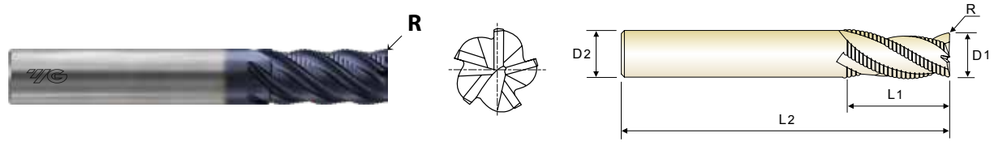
TitaNox-POWER END MILLS

PLAIN SHANK **EHE54** SERIES
FLAT SHANK **EHE55** SERIES

CARBIDE, 5 FLUTE 40° HELIX CORNER RADIUS ROUGHING - FINE
硬质合金，5刃 40度螺旋 圆鼻 粗加工-细牙

▶ Excellent performance results and long tool life when machining Titanium and other tough materials.
▶ This tool has high rigidity of flute so that is possible to use for heavy profile and high speed milling.
▶ For protecting corner chipping of end teeth, corner radius & chamfer are adopted.

▶加工钛或难切材料实现出色的性能，优秀的寿命
▶高刚性的沟槽可适用于重型仿形铣削及高速铣削
▶为了防止崩刃，可提供圆鼻和倒角铣刀



CARBIDE | 5 | 40° | HR | PLAIN | FLAT | p.C363

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
◎ END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
◎ -	-	HYDRAULIC CHUCK	D15 - 46
		SHRINK FIT HOLDER	D47 - 72
○ -	-	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No. PLAIN	EDP No. FLAT	Corner Radius 圆弧角 R	Mill Diameter 直径 D1 (h10)	Shank Diameter 柄径 D2 (h5)	Length of Cut 刃长 L1	Overall Length 全长 L2
EHE54060	EHE55060	R0.2	6.0	6	16	57
EHE54080	EHE55080	R0.2	8.0	8	16	63
EHE54100	EHE55100	R0.3	10.0	10	22	72
EHE54120	EHE55120	R0.3	12.0	12	26	83
EHE54140	EHE55140	R0.3	14.0	14	26	83
EHE54160	EHE55160	R0.3	16.0	16	32	92
EHE54200	EHE55200	R0.3	20.0	20	38	104
EHE54250	EHE55250	R0.3	25.0	25	45	121

Tolerances according to (精度依照) DIN 7160 & 7161
按DIN7160&7161的标准公差

Tolerance range in μm / 公差单位为 Nominal-Diameter in mm / 直径单位为	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30
h10	0 - 40	0 - 48	0 - 58	0 - 70	0 - 84
h5	0 - 4	0 - 5	0 - 6	0 - 8	0 - 9

* Shank Dia.≥Ø12 : h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			M			K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron									
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20									
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21									
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230									
Recommend														○	○	○													

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	◎	◎				

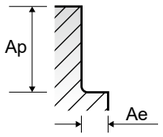
TitaNox-POWER END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GMG40, GMG41 SERIES — 4 FLUTES CORNER RADIUS - SIDE CUTTING
4刃 圆鼻- 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 6.0	8.0	10.0	12.0	14.0	16.0	20.0	25.0
P	1-4	Non-alloy steel	0.4D	1.0D	Vc	160	160	160	160	160	160	160	160
					fz	0.027	0.035	0.042	0.053	0.058	0.063	0.077	0.084
					RPM	8488	6366	5093	4244	3638	3183	2546	2037
					FEED	917	891	856	900	844	802	784	684
	5		0.4D	1.0D	Vc	150	150	150	150	150	150	150	150
					fz	0.025	0.035	0.042	0.049	0.056	0.063	0.070	0.084
					RPM	7958	5968	4775	3979	3410	2984	2387	1910
					FEED	796	836	802	780	764	752	668	642
	6-7	Low alloy steel	0.4D	1.0D	Vc	160	160	160	160	160	160	160	160
					fz	0.027	0.035	0.042	0.053	0.058	0.063	0.077	0.084
					RPM	8488	6366	5093	4244	3638	3183	2546	2037
					FEED	917	891	856	900	844	802	784	684
	8		0.4D	1.0D	Vc	150	150	150	150	150	150	150	150
					fz	0.025	0.035	0.042	0.049	0.056	0.063	0.070	0.084
					RPM	7958	5968	4775	3979	3410	2984	2387	1910
					FEED	796	836	802	780	764	752	668	642
	9		0.4D	1.0D	Vc	150	150	150	150	150	150	150	150
					fz	0.027	0.035	0.046	0.053	0.060	0.067	0.077	0.084
					RPM	7958	5968	4775	3979	3410	2984	2387	1910
					FEED	859	836	879	844	819	800	735	642
	10-11.1	High alloyed steel, and tool steel	0.4D	1.0D	Vc	150	150	150	150	150	150	150	150
					fz	0.027	0.035	0.046	0.053	0.060	0.067	0.077	0.084
					RPM	7958	5968	4775	3979	3410	2984	2387	1910
					FEED	859	836	879	844	819	800	735	642
M	12-13	Stainless steel	0.4D	1.0D	Vc	155	155	155	155	155	155	155	155
					fz	0.034	0.046	0.057	0.067	0.076	0.086	0.095	0.114
					RPM	8223	6167	4934	4112	3524	3084	2467	1974
					FEED	1118	1135	1125	1102	1071	1061	937	900
	14.1		0.4D	1.0D	Vc	105	105	105	105	105	105	105	105
					fz	0.025	0.034	0.042	0.048	0.055	0.062	0.071	0.081
					RPM	5570	4178	3342	2785	2387	2089	1671	1337
					FEED	557	568	561	535	525	518	475	433
	14.2		0.4D	0.6D	Vc	44	44	44	44	44	44	44	44
					fz	0.016	0.021	0.027	0.032	0.036	0.040	0.046	0.052
					RPM	2334	1751	1401	1167	1000	875	700	560
					FEED	149	147	151	149	144	140	129	117
K	15-20	Grey cast iron	0.4D	1.0D	Vc	175	175	175	175	175	175	175	175
					fz	0.021	0.028	0.035	0.042	0.048	0.053	0.060	0.070
					RPM	9284	6963	5570	4642	3979	3482	2785	2228
					FEED	780	780	780	780	764	738	668	624
S	31-35	Heat Resistant Super Alloys	0.3D	0.6D	Vc	32	32	32	32	32	32	32	32
					fz	0.020	0.026	0.032	0.038	0.044	0.048	0.055	0.065
					RPM	1698	1273	1019	849	728	637	509	407
					FEED	136	132	130	129	128	122	112	106
	36-37	Titanium Alloys	0.4D	1.0D	Vc	70	70	70	70	70	70	70	70
					fz	0.034	0.048	0.057	0.067	0.076	0.086	0.095	0.114
					RPM	3714	2785	2228	1857	1592	1393	1114	891
					FEED	505	535	508	498	484	479	423	406



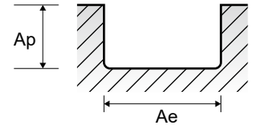
TitaNox-POWER END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GMG40, GMG41 SERIES — 4 FLUTES CORNER RADIUS - SLOTTING
4刃 圆鼻- 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 6.0	8.0	10.0	12.0	14.0	16.0	20.0	25.0
P	1-4	Non-alloy steel	1.0D	1.0D	Vc	125	125	125	125	125	125	125	125
					fz	0.025	0.034	0.042	0.049	0.056	0.063	0.070	0.084
					RPM	6631	4974	3979	3316	2842	2487	1989	1592
					FEED	663	676	668	650	637	627	557	535
	5		1.0D	1.0D	Vc	120	120	120	120	120	120	120	120
					fz	0.025	0.034	0.042	0.049	0.056	0.063	0.070	0.077
					RPM	6366	4775	3820	3183	2728	2387	1910	1528
					FEED	637	649	642	624	611	602	535	471
	6-7	Low alloy steel	1.0D	1.0D	Vc	125	125	125	125	125	125	125	125
					fz	0.025	0.034	0.042	0.049	0.056	0.063	0.070	0.084
					RPM	6631	4974	3979	3316	2842	2487	1989	1592
					FEED	663	676	668	650	637	627	557	535
	8-9		1.0D	1.0D	Vc	120	120	120	120	120	120	120	120
					fz	0.025	0.034	0.042	0.049	0.056	0.063	0.070	0.077
					RPM	6366	4775	3820	3183	2728	2387	1910	1528
					FEED	637	649	642	624	611	602	535	471
	10-11.1	High alloyed steel, and tool steel	1.0D	1.0D	Vc	120	120	120	120	120	120	120	120
					fz	0.027	0.035	0.042	0.053	0.058	0.063	0.077	0.084
					RPM	6366	4775	3820	3183	2728	2387	1910	1528
					FEED	688	668	642	675	633	602	588	513
M	12-13	Stainless steel	1.0D	1.0D	Vc	125	125	125	125	125	125	125	125
					fz	0.034	0.046	0.057	0.067	0.074	0.081	0.095	0.105
					RPM	6631	4974	3979	3316	2842	2487	1989	1592
					FEED	902	915	907	889	841	806	756	668
	14.1		1.0D	1.0D	Vc	85	85	85	85	85	85	85	85
					fz	0.025	0.034	0.042	0.048	0.055	0.062	0.071	0.081
					RPM	4509	3382	2706	2255	1933	1691	1353	1082
					FEED	451	460	455	433	425	419	384	351
	14.2		1.0D	0.5D	Vc	36	36	36	36	36	36	36	36
					fz	0.016	0.021	0.027	0.032	0.036	0.040	0.046	0.052
					RPM	1910	1432	1146	955	819	716	573	458
					FEED	122	120	124	122	118	115	105	95
K	15-20	Grey cast iron	1.0D	1.0D	Vc	140	140	140	140	140	140	140	140
					fz	0.021	0.028	0.035	0.042	0.048	0.053	0.060	0.067
					RPM	7427	5570	4456	3714	3183	2785	2228	1783
					FEED	624	624	624	624	611	590	535	478
S	31-35	Heat Resistant Super Alloys	1.0D	0.4D	Vc	25	25	25	25	25	25	25	25
					fz	0.018	0.024	0.030	0.036	0.040	0.044	0.050	0.055
					RPM	1326	995	796	663	568	497	398	318
					FEED	95	95	95	95	91	88	80	70
	36-37	Titanium Alloys	1.0D	1.0D	Vc	55	55	55	55	55	55	55	55
					fz	0.034	0.046	0.057	0.067	0.076	0.086	0.095	0.105
					RPM	2918	2188	1751	1459	1251	1094	875	700
					FEED	397	403	399	391	380	376	333	294



TitaNox-POWER END MILLS

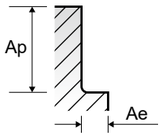
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GMG28 GMG29 GMG30 GMG31 — **5 FLUTES CORNER RADIUS - SIDE CUTTING**
5刃 圆鼻- 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 (Ø) 6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	25.0
P	1-4	Non-alloy steel	0.3D	1.5D(*)	Vc	144	144	144	144	144	144	144	144	144
					fz	0.034	0.038	0.050	0.063	0.069	0.076	0.083	0.089	0.101
					RPM	7639	5730	4584	3820	3274	2865	2546	2292	1833
					FEED	1299	1089	1146	1203	1130	1089	1057	1020	926
	5		0.3D	1.5D(*)	Vc	101	101	101	101	101	101	101	101	101
					fz	0.034	0.038	0.050	0.063	0.069	0.076	0.083	0.089	0.101
					RPM	5358	4019	3215	2679	2296	2009	1786	1607	1286
					FEED	911	764	804	844	792	764	741	715	649
	6-7	Low alloy steel	0.3D	1.5D(*)	Vc	144	144	144	144	144	144	144	144	144
					fz	0.034	0.038	0.050	0.063	0.069	0.076	0.083	0.089	0.101
					RPM	7639	5730	4584	3820	3274	2865	2546	2292	1833
					FEED	1299	1089	1146	1203	1130	1089	1057	1020	926
	8-9		0.3D	1.5D(*)	Vc	101	101	101	101	101	101	101	101	101
					fz	0.034	0.038	0.050	0.063	0.069	0.076	0.083	0.089	0.101
					RPM	5358	4019	3215	2679	2296	2009	1786	1607	1286
					FEED	911	764	804	844	792	764	741	715	649
	10-11.1	High alloyed steel, and tool steel	0.3D	1.5D(*)	Vc	60	60	60	60	60	60	60	60	60
					fz	0.024	0.027	0.035	0.044	0.049	0.054	0.058	0.062	0.071
					RPM	3183	2387	1910	1592	1364	1194	1061	955	764
					FEED	382	322	334	350	334	322	308	296	271
M	12-13	Stainless steel	0.3D	1.5D(*)	Vc	117	117	117	117	117	117	117	117	117
					fz	0.024	0.025	0.030	0.046	0.051	0.054	0.057	0.061	0.071
					RPM	6207	4655	3724	3104	2660	2328	2069	1862	1490
					FEED	745	582	559	714	678	628	590	568	529
	14.1		0.3D	1.5D(*)	Vc	82	82	82	82	82	82	82	82	82
					fz	0.030	0.032	0.038	0.063	0.065	0.069	0.070	0.076	0.088
					RPM	4350	3263	2610	2175	1864	1631	1450	1305	1044
					FEED	653	522	496	685	606	563	508	496	459
	14.2		0.3D	1.5D(*)	Vc	59	59	59	59	59	59	59	59	59
					fz	0.030	0.032	0.038	0.063	0.065	0.069	0.070	0.076	0.088
					RPM	3130	2348	1878	1565	1341	1174	1043	939	751
					FEED	470	376	357	493	436	405	365	357	331
K	15-20	Grey cast iron	0.3D	1.5D(*)	Vc	106	106	106	106	106	106	106	106	106
					fz	0.043	0.048	0.063	0.079	0.087	0.096	0.103	0.111	0.126
					RPM	5623	4218	3374	2812	2410	2109	1874	1687	1350
					FEED	1209	1012	1063	1111	1048	1012	965	936	850
S	31-35	Heat Resistant Super Alloys	0.1D	1.5D	Vc	31	31	31	31	31	31	31	31	31
					fz	0.021	0.022	0.027	0.044	0.046	0.048	0.049	0.053	0.062
					RPM	1645	1233	987	822	705	617	548	493	395
					FEED	173	136	133	181	162	148	134	131	122
	36-37	Titanium Alloys	0.3D	1.5D(*)	Vc	69	69	69	69	69	69	69	69	69
					fz	0.027	0.029	0.034	0.057	0.059	0.062	0.063	0.069	0.079
					RPM	3661	2745	2196	1830	1569	1373	1220	1098	879
					FEED	494	398	373	522	463	426	384	379	347

* Maximum recommended depth shown.
* Finish cuts typically require reduced feed rates and/or higher spindle speed, with radial width of 2% x D1 or less.
* Reduce speed and feed recommendations for materials harder than listed.
* Above recommendations are based on ideal conditions.
  Adjust parameters accordingly for smaller taper machining centers or less rigid conditions.



* 显示最大建议深度
* 精加工通常需要降低进给和/或提高转速，径向切深为2%x D1或更小
* 加工比目录上的工件硬度更高时,降低切削速度和进给
* 以上推荐参数是基于理想的工况 相应地调整参数以适应更小的加工中心或更少的刚性条件
* 具有加工铬镍铁合金工况的特殊形状设计

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

TitaNox-POWER END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GMG24 GMG25 GMG26 GMG27 — **5 FLUTES - SIDE CUTTING**
5刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	25.0
P	1-4	Non-alloy steel	0.3D	1.5D(*)	Vc	144	144	144	144	144	144	144	144	144
					fz	0.034	0.038	0.050	0.063	0.069	0.076	0.083	0.089	0.101
					RPM	7639	5730	4584	3820	3274	2865	2546	2292	1833
					FEED	1299	1089	1146	1203	1130	1089	1057	1020	926
	5		0.3D	1.5D(*)	Vc	101	101	101	101	101	101	101	101	101
					fz	0.034	0.038	0.050	0.063	0.069	0.076	0.083	0.089	0.101
					RPM	5358	4019	3215	2679	2296	2009	1786	1607	1286
					FEED	911	764	804	844	792	764	741	715	649
	6-7	Low alloy steel	0.3D	1.5D(*)	Vc	144	144	144	144	144	144	144	144	144
					fz	0.034	0.038	0.050	0.063	0.069	0.076	0.083	0.089	0.101
					RPM	7639	5730	4584	3820	3274	2865	2546	2292	1833
					FEED	1299	1089	1146	1203	1130	1089	1057	1020	926
	8-9		0.3D	1.5D(*)	Vc	101	101	101	101	101	101	101	101	101
					fz	0.034	0.038	0.050	0.063	0.069	0.076	0.083	0.089	0.101
					RPM	5358	4019	3215	2679	2296	2009	1786	1607	1286
					FEED	911	764	804	844	792	764	741	715	649
	10-11.1	High alloyed steel, and tool steel	0.3D	1.5D(*)	Vc	60	60	60	60	60	60	60	60	60
					fz	0.024	0.027	0.035	0.044	0.049	0.054	0.058	0.062	0.071
					RPM	3183	2387	1910	1592	1364	1194	1061	955	764
					FEED	382	322	334	350	334	322	308	296	271
M	12-13	Stainless steel	0.3D	1.5D(*)	Vc	117	117	117	117	117	117	117	117	117
					fz	0.024	0.025	0.030	0.046	0.051	0.054	0.057	0.061	0.071
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					fz	0.030	0.032	0.038	0.063	0.065	0.069	0.070	0.076	0.088
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					fz	0.030	0.032	0.038	0.063	0.065	0.069	0.070	0.076	0.088
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K	15-20	Grey cast iron	0.3D	1.5D(*)	Vc	106	106	106	106	106	106	106	106	106
					fz	0.043	0.048	0.063	0.079	0.087	0.096	0.103	0.111	0.126
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					FEED	1209	1012	1063	1111	1048	1012	965	936	850
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					fz	0.021	0.022	0.027	0.044	0.046	0.048	0.049	0.053	0.062
					RPM	1645	1233	987	822	705	617	548	493	395
					FEED	173	136	133	181	162	148	134	131	122
	36-37	Titanium Alloys	0.3D	1.5D(*)	Vc	69	69	69	69	69	69	69	69	69
					fz	0.027	0.029	0.034	0.057	0.059	0.062	0.063	0.069	0.079
					RPM	3661	2745	2196	1830	1569	1373	1220	1098	879
					FEED	494	398	373	522	463	426	384	379	347

* Maximum recommended depth shown.
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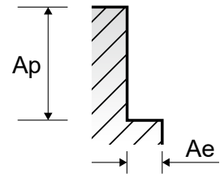

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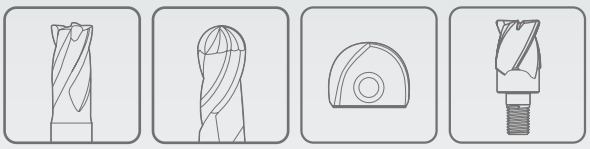
* 以上推荐参数是基于理想的工况 相应地调整参数以适应更小的加工中心或更少的刚性条件
* 具有加工铬镍铁合金工况的特殊形状设计

EHE54, EHE55 SERIES — 5 FLUTES ROUGHING - SIDE CUTTING
5刃 粗加工 - 侧铣削

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 6.0	8.0	10.0	12.0	14.0	16.0	20.0	25.0
M	12-13	Stainless steel	~Ø10/0.15D ~Ø16/0.10D ~Ø25/0.05D	1.5D	Vc	80	80	80	80	80	80	80	80
					fz	0.025	0.034	0.041	0.051	0.057	0.063	0.081	0.091
					RPM	4244	3183	2546	2122	1819	1592	1273	1019
					FEED	531	541	522	541	518	501	516	463
S	31-35	Heat Resistant Super Alloys	0.05D	1.0D	Vc	40	40	40	40	40	40	40	40
					fz	0.020	0.025	0.037	0.040	0.046	0.052	0.061	0.068
					RPM	2122	1592	1273	1061	909	796	637	509
					FEED	212	199	236	212	209	207	194	173
	36-37	Titanium Alloys	~Ø10/0.15D ~Ø16/0.10D ~Ø25/0.05D	1.5D	Vc	65	65	65	65	65	65	65	65
					fz	0.022	0.031	0.038	0.046	0.052	0.058	0.074	0.084
					RPM	3448	2586	2069	1724	1478	1293	1035	828
					FEED	379	401	393	397	384	375	383	348

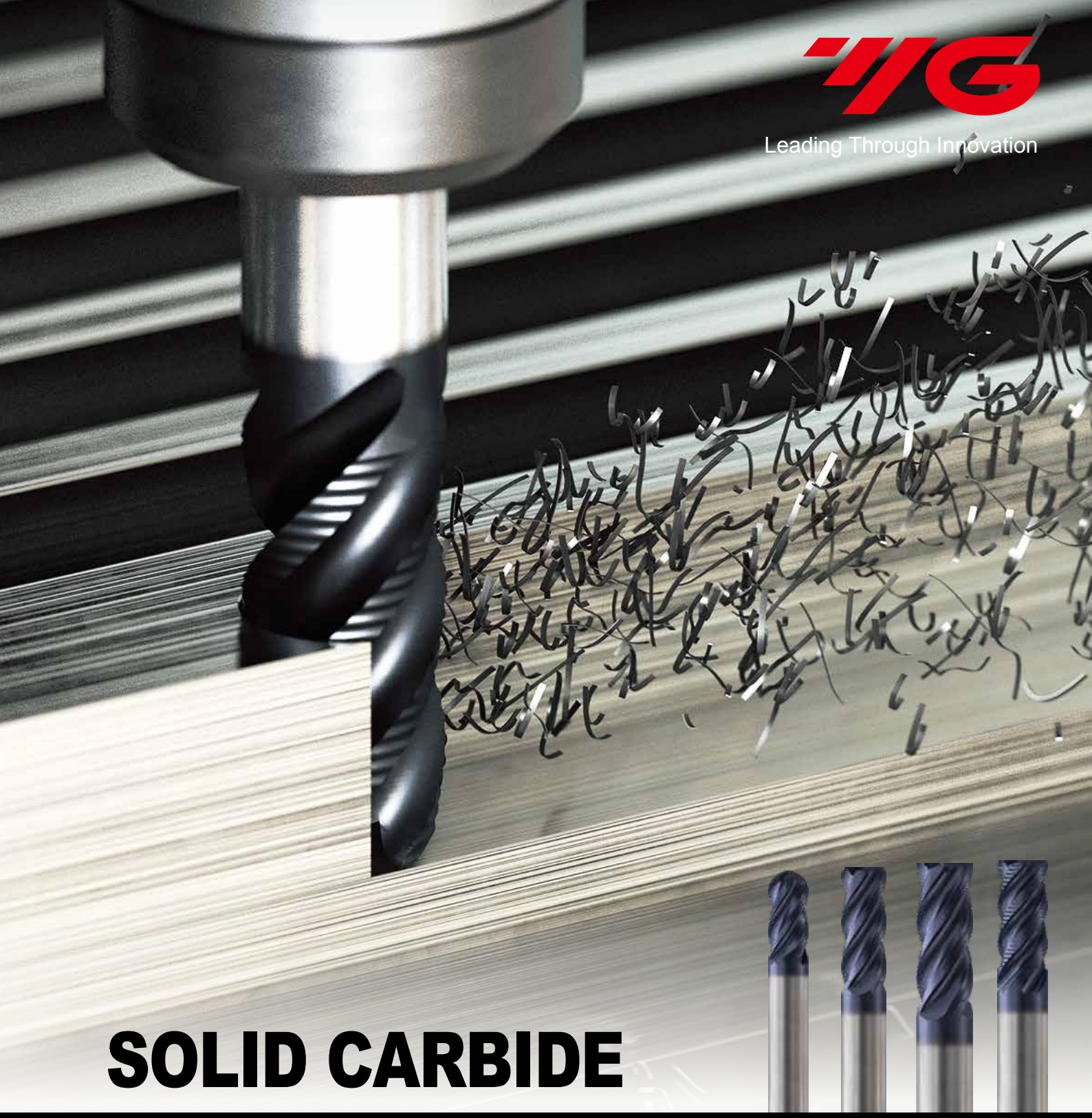
Global Cutting Tool Leader **YG-1**



MILLING

YG

Leading Through Innovation



SOLID CARBIDE

SUS-CUT END MILLS

- High Speed Machining for Exotic Materials: Titanium, Inconel and Stainless Steels
- 适用于高速加工耐高温材料：钛合金，铬镍铁合金和不锈钢

SELECTION GUIDE
选用指南

MILLING TOOLS

SERIES 系列	EMD88	EMD83	EHD84	EMD82	EMD92
FLUTE 槽数	4	4	3	4	3-5
HELIX ANGLE 螺旋角度	36°~39.75° (SINUSOIDAL)	36°~39.75° (SINUSOIDAL)	45°	36°~39.75° (SINUSOIDAL)	45° (MULTIPLE HELIX)
CUTTING EDGE SHAPE 类型	BALL NOSE	CORNER RADIUS	SQUARE	SQUARE	ROUGHING CORNER RADIUS
SIZE MIN 最小尺寸	R1.5	D1.0	D1.0	D1.0	D3.0
SIZE MAX 最大尺寸	R10.0	D20.0	D20.0	D20.0	D20.0
PAGE 页数	C367	C368-369	C370	C371-372	C373-374
	-	-	-	-	Type A/B
	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating

SOLID CARBIDE
SUS-CUT END MILLS

Exotic materials like Stainless Steels
Nickel alloys and Titanium
加工不锈钢，镍合金和钛合金

Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工参数) : p.C375

ISO	VDI 3323	Material Description 工件材料	Composition / Structure / Heat Treatment 成分 / 结构 / 热处理		HB	HRc	EMD88	EMD83	EHD84	EMD82	EMD92
P	1	Non-alloy steel	About 0.15% C	Annealed	125		◎	◎	◎	◎	○
	2		About 0.45% C	Annealed	190	13	◎	◎	◎	◎	○
	3		About 0.45% C	Quenched & Tempered	250	25	◎	◎	◎	◎	○
	4		About 0.75% C	Annealed	270	28	◎	◎	◎	◎	○
	5		About 0.75% C	Quenched & Tempered	300	32	○	○	○	○	○
	6	Low alloy steel		Annealed	180	10	◎	◎	◎	◎	○
	7			Quenched & Tempered	275	29	◎	◎	◎	◎	○
	8			Quenched & Tempered	300	32	○	○	○	○	○
	9			Quenched & Tempered	350	38	○	○	○	○	○
	10	High alloyed steel, and tool steel		Annealed	200	15	◎	◎	◎	◎	○
	11			Quenched & Tempered	325	35	○	○	○	○	○
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15	◎	◎	◎	◎	◎
	13		Martensitic	Quenched & Tempered	240	23	◎	◎	◎	◎	◎
	14		Austenitic		180	10	◎	◎	◎	◎	◎
K	15	Grey cast iron	Pearlitic / ferritic		180	10	○	○	○	○	○
	16		Pearlitic (Martensitic)		260	26	○	○	○	○	○
	17	Nodular cast iron	Ferritic		160	3	○	○	○	○	○
	18		Pearlitic		250	25	○	○	○	○	○
	19	Malleable cast iron	Ferritic		130		○	○	○	○	○
	20		Pearlitic		230	21	○	○	○	○	○
N	21	Aluminum-wrought alloy	Not Curable		60						
	22		Curable	Hardened	100						
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75						
	24		≤ 12% Si, Curable	Hardened	90						
	25		> 12% Si, Not Curable		130						
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110				○		
	27		CuZn, CuSnZn (Brass)		90				○		
	28		CuSn, lead-free copper and electrolytic copper		100				○		
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic								
	30		Rubber, Wood, etc.								
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15	○	○	○	○	○
	32			Cured	280	30	○	○	○	○	○
	33		Ni or Co Based	Annealed	250	25	○	○	○	○	○
	34			Cured	350	38	○	○	○	○	○
	35			Cast	320	34	○	○	○	○	○
	36	Titanium Alloys	Pure Titanium		400 Rm		○	○	○	○	○
	37		Alpha + Beta Alloys	Hardened	1050 Rm		○	○	○	○	○
H	38	Hardened steel		Hardened	550	55					
	39			Hardened	630	60					
	40	Chilled Cast Iron		Cast	400	42					
	41	Hardened Cast Iron		Hardened	550	55					

BALL NOSE = 球头　CORNER RADIUS = 圆鼻　SQUARE = 平头
ROUGHING = 粗加工　MULTIPLE HELIX = 不等螺旋

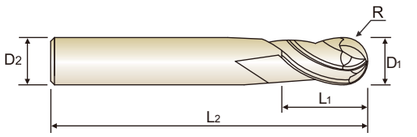
SUS-CUT END MILLS

PLAIN SHANK **EMD88 SERIES**

CARBIDE, 4 FLUTE BALL NOSE
硬质合金，4刃 球头

- ▶ Suitable for heavy cutting and good wear resistance due to new coating and new configuration of tool
- ▶ Suitable for cutting stainless steels and sticky materials up to HRc40
- ▶ Reduction of vibration at cutting and suitable for rough and semifinish cutting due to special flute design and wave helix flutes

- ▶ 采用新涂层及新形状，强力切削及耐磨性优秀。
- ▶ 不锈钢和粘着材料 专用加工工具，可以到HRc 40以下使用。
- ▶ 适用于非标 Flute 设计及可变螺旋设计，加工时可减少震动，实现中/粗加工。



CARBIDE | 4 | Sinusoidal | R ±0.010 | PLAIN | p.C375

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
◎ END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
◎ -	-	HYDRAULIC CHUCK	D15 - 46
		SHRINK FIT HOLDER	D47 - 72
○ -	-	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R(±0.010)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
EMD88030	R1.5	3.0	6	8	60
EMD88040	R2.0	4.0	6	8	70
EMD88050	R2.5	5.0	6	12	80
EMD88060	R3.0	6.0	6	12	90
EMD88080	R4.0	8.0	8	16	100
EMD88100	R5.0	10.0	10	20	100
EMD88120	R6.0	12.0	12	25	100
EMD88160	R8.0	16.0	16	30	100
EMD88200	R10.0	20.0	20	38	100

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	○	◎	◎	○	○	◎	○	◎	◎	◎	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○				

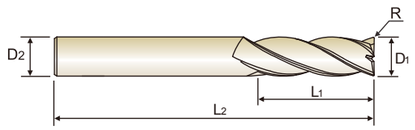
SUS-CUT END MILLS

PLAIN SHANK **EMD83** SERIES

CARBIDE, 4 FLUTE CORNER RADIUS
硬质合金，4刃 圆鼻

- ▶ Suitable for heavy cutting and good wear resistance due to new coating and new configuration of tool
- ▶ Suitable for cutting difficult to cut materials like alloy steels, stainless steels, Titanium, Inconel etc.
- ▶ Available heavy cut, high speed cut and high feed cut due to wave helix flute design
- ▶ Applying corner radius for protecting chipping when heavy cutting

- ▶ 采用新涂层及新形状，强力切削及耐磨性优秀。
- ▶ 适用于合金钢，不锈钢系列，钛 镍，合金工具钢等工件加工。
- ▶ 侧面采用签名派，可强力切削高速，高移送加工。
- ▶ 强力切削时为最大程度地减少崩刃，采用角部保护



CARBIDE | 4 | Sinusoidal | 35° | PLAIN | p.C376

D ≥ Ø3 D < Ø3

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
◎	-	-	HYDRAULIC CHUCK	D15 - 46
			SHRINK FIT HOLDER	D47 - 72
○	-	-	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Overall Length 全长 L_2
EMD83010	R0.1	**1.0**	6	2.5	50
EMD8301002	R0.2	**1.0**	6	2.5	50
EMD83012	R0.1	**1.2**	6	3	50
EMD83015	R0.1	**1.5**	6	4	50
EMD8301502	R0.2	**1.5**	6	4	50
EMD83020	R0.1	**2.0**	6	6	50
EMD8302002	R0.2	**2.0**	6	6	50
EMD83025	R0.2	**2.5**	6	7	50
EMD83030	R0.2	**3.0**	6	8	55
EMD8303003	R0.3	**3.0**	6	8	55
EMD8303005	R0.5	**3.0**	6	8	55
EMD83040	R0.2	**4.0**	6	10	55
EMD8304003	R0.3	**4.0**	6	10	55
EMD8304005	R0.5	**4.0**	6	10	55
EMD83050	R0.2	**5.0**	6	15	55
EMD8305003	R0.3	**5.0**	6	15	55
EMD8305005	R0.5	**5.0**	6	15	55
EMD83060	R0.3	**6.0**	6	15	60
EMD8306005	R0.5	**6.0**	6	15	60
EMD8306010	R1.0	**6.0**	6	15	60

▶ NEXT PAGE 下页

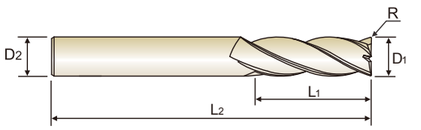
Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	○	◎	◎	○	○	◎	○	◎	◎	◎	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○				

SUS-CUT END MILLS
PLAIN SHANK EMD83 SERIES
CARBIDE, 4 FLUTE CORNER RADIUS
硬质合金，4刃 圆鼻
▶ Suitable for heavy cutting and good wear resistance due to new coating and new configuration of tool
▶ Suitable for cutting difficult to cut materials like alloy steels, stainless steels, Titanium, Inconel etc.
▶ Available heavy cut, high speed cut and high feed cut due to wave helix flute design
▶ Applying corner radius for protecting chipping when heavy cutting
▶ 采用新涂层及新形状，强力切削及耐磨性优秀。
▶ 适用于合金钢，不锈钢系列，钛 镍，合金工具钢等工件加工。
▶ 侧面采用签名派，可强力切削高速，高移送加工。
▶ 强力切削时为最大程度地减少崩刃，采用角部保护



CARBIDE | 4 | Sinusoidal | 35° | PLAIN | p.C376
D ≥ Ø3 D < Ø3
Recommended ToolHolder | Flat Shank | Page | Plain Shank | Page
END MILL HOLDER | D118 - 137 | POWER MILLING CHUCK | D161 - 176
HYDRAULIC CHUCK | D15 - 46
SHRINK FIT HOLDER | D47 - 72
ER COLLET CHUCK | D73 - 115
Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Overall Length 全长 L_2
EMD83080	R0.3	**8.0**	8	20	70
EMD8308005	R0.5	**8.0**	8	20	70
EMD8308010	R1.0	**8.0**	8	20	70
EMD83100	R0.3	**10.0**	10	25	75
EMD8310005	R0.5	**10.0**	10	25	75
EMD8310010	R1.0	**10.0**	10	25	75
EMD8310015	R1.5	**10.0**	10	25	75
EMD8310020	R2.0	**10.0**	10	25	75
EMD8310030	R3.0	**10.0**	10	25	75
EMD83120	R0.5	**12.0**	12	30	80
EMD8312010	R1.0	**12.0**	12	30	80
EMD8312015	R1.5	**12.0**	12	30	80
EMD8312020	R2.0	**12.0**	12	30	80
EMD8312030	R3.0	**12.0**	12	30	80
EMD8312040	R4.0	**12.0**	12	30	80
EMD83140	R0.5	**14.0**	16	35	90
EMD8314010	R1.0	**14.0**	16	35	90
EMD83160	R0.5	**16.0**	16	42	100
EMD8316010	R1.0	**16.0**	16	42	100
EMD83180	R0.5	**18.0**	16	45	100
EMD83200	R0.5	**20.0**	20	48	100
EMD8320010	R1.0	**20.0**	20	48	100

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	○	◎	◎	○	○	◎	○	◎	◎	◎	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○				

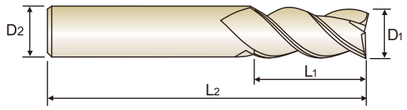
SUS-CUT END MILLS

PLAIN SHANK **EHD84** SERIES

CARBIDE, 3 FLUTE 45° HELIX
硬质合金，3刃 45度螺旋

- ▶ Suitable for heavy cutting and good wear resistance due to new coating and new configuration of tool
- ▶ Suitable for cutting difficult to cut materials like alloy steels, stainless steels, Titanium, Inconel etc.
- ▶ Excellent chip evacuation and outstanding surface roughness of workpieces due to 3 flutes
- ▶ Applying corner radius for protecting chipping when heavy cutting

- ▶ 采用新涂层及新形状，强力切削及耐磨性优秀。
- ▶ 适用于合金钢，不锈钢系列，钛 镍，合金工具钢等工件加工。
- ▶ 使用3刃，容易排除屑，优秀工件和表面图。
- ▶ 强力切削时为最大程度地减少崩刃，采用角部保护



CARBIDE | 3 | 45° | PLAIN

p.C377-378

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
◎ END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
◎ -	-	HYDRAULIC CHUCK	D15 - 46
		SHRINK FIT HOLDER	D47 - 72
○ -	-	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Overall Length 全长 L_2
EHD84010	1.0	6	2.5	50
EHD84012	1.2	6	3	50
EHD84015	1.5	6	4	50
EHD84020	2.0	6	6	50
EHD84025	2.5	6	7	50
EHD84030	3.0	6	8	55
EHD8403010	3.0	6	10	60
EHD84040	4.0	6	10	55
EHD8404012	4.0	6	12	60
EHD84050	5.0	6	13	55
EHD84060	6.0	6	15	60
EHD8406020	6.0	6	20	65
EHD84080	8.0	8	20	70
EHD8408030	8.0	8	30	80
EHD84100	10.0	10	25	75
EHD8410035	10.0	10	35	85
EHD84120	12.0	12	30	80
EHD8412040	12.0	12	40	90
EHD84140	14.0	16	35	90
EHD84160	16.0	16	42	100
EHD84180	18.0	16	45	100
EHD84200	20.0	20	48	100

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.02	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	○	◎	◎	○	○	◎	○	◎	◎	◎	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○			○	○	○	○	○	○	○				

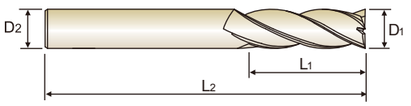
SUS-CUT END MILLS

PLAIN SHANK **EMD82** SERIES

CARBIDE, 4 FLUTE
硬质合金，4刃

- ▶ Suitable for heavy cutting and good wear resistance due to new coating and new configuration of tool
- ▶ Suitable for cutting difficult to cut materials like alloy steels, stainless steels, Titanium, Inconel etc.
- ▶ Available heavy cut, high speed cut and high feed cut due to wave helix flute design
- ▶ Applying corner radius for protecting chipping when heavy cutting

- ▶ 采用新涂层及新形状，强力切削及耐磨性优秀。
- ▶ 适用于合金钢，不锈钢系列，钛 镍，合金工具钢等工件加工。
- ▶ 侧面采用签名派，可强力切削高速，高移送加工。
- ▶ 强力切削时为最大程度地减少崩刃，采用角部保护



CARBIDE | 4 | Sinusoidal | 35° | PLAIN

D ≥ Ø3 D < Ø3

p.C379

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
◎ END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
◎ -	-	HYDRAULIC CHUCK	D15 - 46
		SHRINK FIT HOLDER	D47 - 72
○ -	-	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Overall Length 全长 L_2
EMD82010	1.0	6	2.5	50
EMD82012	1.2	6	3	50
EMD82015	1.5	6	4	50
EMD82020	2.0	6	6	50
EMD82025	2.5	6	7	50
EMD82030	3.0	6	8	55
EMD8203010	3.0	6	10	60
EMD82035	3.5	6	10	55
EMD82040	4.0	6	10	55
EMD8204012	4.0	6	12	60
EMD82045	4.5	6	12	55
EMD82050	5.0	6	15	55
EMD82055	5.5	6	15	60
EMD82060	6.0	6	15	60
EMD8206020	6.0	6	20	65
EMD82065	6.5	8	15	60
EMD82070	7.0	8	20	80
EMD82080	8.0	8	20	70
EMD8208025	8.0	8	25	70
EMD8208030	8.0	8	30	80
EMD82085	8.5	10	20	70
EMD82090	9.0	10	25	80

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	○	◎	◎	○	○	◎	○	◎	◎	◎	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○				

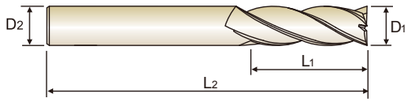
SUS-CUT END MILLS

PLAIN SHANK **EMD82** SERIES

CARBIDE, 4 FLUTE
硬质合金，4刃

- ▶ Suitable for heavy cutting and good wear resistance due to new coating and new configuration of tool
- ▶ Suitable for cutting difficult to cut materials like alloy steels, stainless steels, Titanium, Inconel etc.
- ▶ Available heavy cut, high speed cut and high feed cut due to wave helix flute design
- ▶ Applying corner radius for protecting chipping when heavy cutting

- ▶ 采用新涂层及新形状，强力切削及耐磨性优秀。
- ▶ 适用于合金钢，不锈钢系列，钛 镍，合金工具钢等工件加工。
- ▶ 侧面采用签名派，可强力切削高速，高移送加工。
- ▶ 强力切削时为最大程度地减少崩刃，采用角部保护



CARBIDE | 4 | Sinusoidal | 35° | PLAIN | p.C379

D ≥ Ø3 D < Ø3

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
◎ END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
◎ - -		HYDRAULIC CHUCK	D15 - 46
		SHRINK FIT HOLDER	D47 - 72
○ - -		ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Overall Length 全长 L_2
EMD82100	10.0	10	25	75
EMD8210035	10.0	10	35	85
EMD82120	12.0	12	30	80
EMD8212040	12.0	12	40	90
EMD82140	14.0	16	35	90
EMD82160	16.0	16	42	100
EMD82180	18.0	16	45	100
EMD82200	20.0	20	48	100

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	○	◎	◎	○	○	◎	○	◎	◎	◎	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○				

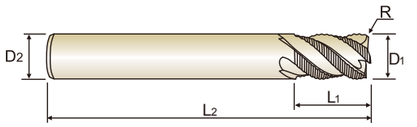
SUS-CUT END MILLS

PLAIN SHANK **EMD92** SERIES

CARBIDE, 3-5 FLUTE MULTIPLE HELIX CORNER RADIUS ROUGHING (A Type)
硬质合金，3-5刃 不等螺旋 圆鼻 粗加工 (A型)

- ▶ Suitable for heavy cutting and good wear resistance due to new coating and new configuration of tool
- ▶ Suitable for cutting alloy steels, stainless steels, difficult to cut materials etc,
- ▶ Available high speed cutting and high feed cutting due to special flute design minimizing vibration
- ▶ Applying corner radius for protecting chipping when heavy cutting

- ▶ 采用新涂层及新形状，强力切削及耐磨性优秀。
- ▶ 适用于合金钢，不锈钢系列，钛 镍，合金工具钢等工件加工。
- ▶ 侧面采用签名派，可强力切削高速，高移送加工。
- ▶ 采用减少震动的 Flute设计，可实现高速高移送加工。
- ▶ 强力切削时为最大程度地减少崩刃，采用角部保护



CARBIDE | 3-5 | 45° | MULTIPLE HELIX | PLAIN | p.C380

D<6 D≥6

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
◎ END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
◎ - -		HYDRAULIC CHUCK	D15 - 46
		SHRINK FIT HOLDER	D47 - 72
○ - -		ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Overall Length 全长 L_2	No. of Flute 刃数
EMD92030	R0.2	3.0	6	8	50	3
EMD92040	R0.2	4.0	6	10	50	3
EMD92050	R0.2	5.0	6	13	50	4
EMD92060	R0.2	6.0	6	13	60	4
EMD9206005	R0.5	6.0	6	13	60	4
EMD92070	R0.2	7.0	8	18	70	4
EMD92080	R0.2	8.0	8	19	70	4
EMD9208010	R1.0	8.0	8	19	70	4
EMD92090	R0.3	9.0	10	20	70	4
EMD92100	R0.3	10.0	10	22	75	4
EMD9210010	R1.0	10.0	10	22	75	4
EMD92110	R0.3	11.0	12	25	80	4
EMD92120	R0.3	12.0	12	26	80	4
EMD9212010	R1.0	12.0	12	26	80	4
EMD92140	R0.5	14.0	16	28	90	5
EMD92160	R0.5	16.0	16	32	100	5
EMD92160C	R0.5	16.0	16	42	100	5
EMD9216015	R1.5	16.0	16	32	100	5
EMD9216015C	R1.5	16.0	16	42	100	5
EMD92200	R0.5	20.0	20	38	100	5
EMD92200C	R0.5	20.0	20	45	100	5
EMD9220020	R2.0	20.0	20	38	100	5
EMD9220020C	R2.0	20.0	20	45	100	5

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.05	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○				

SUS-CUT END MILLS

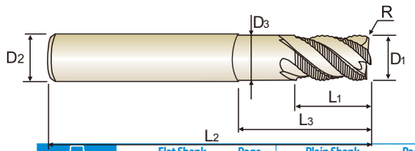
PLAIN SHANK **EMD92** SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS ROUGHING (B Type)

硬质合金，4刃 不等螺旋 圆鼻 粗加工 (B型)

- ▶ Suitable for heavy cutting and good wear resistance due to new coating and new configuration of tool
- ▶ Suitable for cutting alloy steels, stainless steels, difficult to cut materials etc,
- ▶ Available high speed cutting and high feed cutting due to special flute design minimizing vibration
- ▶ Applying corner radius for protecting chipping when heavy cutting

- ▶ 采用新涂层及新形状，强力切削及耐磨性优秀。
- ▶ 适用于合金钢，不锈钢系列，钛 镍，合金工具钢等工件加工。
- ▶ 侧面采用签名派，可强力切削高速，高移送加工。
- ▶ 采用减少震动的 Flute设计，可实现高速高移送加工。
- ▶ 强力切削时为最大程度地减少崩刃，采用角部保护



CARBIDE | 4 | MULTIPLE HELIX | PLAIN | p.C380

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
		HYDRAULIC CHUCK	D15 - 46
-	-	SHRINK FIT HOLDER	D47 - 72
-	-	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	No. of Flute 刃数
EMD9206020	R0.2	**6.0**	6	10	20	60	5.5	4
EMD9208025	R0.2	**8.0**	8	12	25	70	7.5	4
EMD9210030	R0.3	**10.0**	10	15	30	75	9.5	4
EMD9212035	R0.3	**12.0**	12	20	35	80	11.5	4

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.05	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend														○						

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																					

SUS-CUT END MILLS

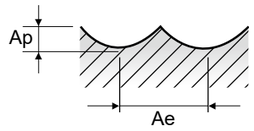
RECOMMENDED CUTTING CONDITIONS

推荐加工参数

EMD88 SERIES — 4 FLUTE BALL NOSE / 4刃 球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	1-2	Non-alloy steel	0.5D	1.0D	Vc	127	127	127	127	127	127	127	127	128
					fz	0.005	0.009	0.013	0.018	0.031	0.048	0.056	0.069	0.084
					RPM	13500	10100	8090	6750	5050	4050	3370	2530	2030
					FEED	275	370	410	480	620	780	750	700	680
	6	Low alloy steel	0.5D	1.0D	Vc	127	127	127	127	127	127	127	127	128
					fz	0.005	0.009	0.013	0.018	0.031	0.048	0.056	0.069	0.084
					RPM	13500	10100	8090	6750	5050	4050	3370	2530	2030
					FEED	275	370	410	480	620	780	750	700	680
	10	High alloyed steel, and tool steel	0.5D	1.0D	Vc	127	127	127	127	127	127	127	127	128
					fz	0.005	0.009	0.013	0.018	0.031	0.048	0.056	0.069	0.084
					RPM	13500	10100	8090	6750	5050	4050	3370	2530	2030
					FEED	275	370	410	480	620	780	750	700	680
M	12-13	Stainless steel	0.5D	1.0D	Vc	88	88	88	89	88	88	89	88	88
					fz	0.004	0.007	0.010	0.014	0.024	0.038	0.046	0.056	0.066
					RPM	9350	7000	5600	4700	3500	2800	2350	1750	1400
					FEED	145	185	230	265	340	430	435	395	370
	14.1		0.5D	1.0D	Vc	63	63	64	63	63	64	63	63	63
					fz	0.004	0.007	0.010	0.014	0.025	0.039	0.046	0.060	0.073
					RPM	6690	5050	4050	3350	2500	2050	1680	1250	1000
					FEED	105	135	165	190	250	320	310	300	290
K	15	Grey cast iron	0.5D	1.0D	Vc	127	127	127	127	127	127	127	127	128
					fz	0.005	0.009	0.013	0.018	0.031	0.048	0.056	0.069	0.084
					RPM	13500	10100	8090	6750	5050	4050	3370	2530	2030
					FEED	275	370	410	480	620	780	750	700	680
	17	Nodular cast iron	0.5D	1.0D	Vc	127	127	127	127	127	127	127	127	128
					fz	0.005	0.009	0.013	0.018	0.031	0.048	0.056	0.069	0.084
					RPM	13500	10100	8090	6750	5050	4050	3370	2530	2030
					FEED	275	370	410	480	620	780	750	700	680
	19-20	Malleable cast iron	0.5D	1.0D	Vc	127	127	127	127	127	127	127	127	128
					fz	0.005	0.009	0.013	0.018	0.031	0.048	0.056	0.069	0.084
					RPM	13500	10100	8090	6750	5050	4050	3370	2530	2030
					FEED	275	370	410	480	620	780	750	700	680
S	36	Titanium Alloys	0.5D	1.0D	Vc	63	63	64	63	63	64	63	63	63
					fz	0.004	0.007	0.010	0.014	0.025	0.039	0.046	0.060	0.073
					RPM	6690	5050	4050	3350	2500	2050	1680	1250	1000
					FEED	105	135	165	190	250	320	310	300	290



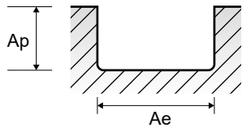
SUS-CUT END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

EMD83 SERIES — 4 FLUTE CORNER RADIUS - SLOTTING
4刃 圆鼻 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 1.0	1.5	2.0	2.5	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
P	1-2	Non-alloy steel	1.0D	1.0D	Vc	127	127	128	127	127	127	127	127	127	127	127	127	126	127	126
					fz	0.002	0.003	0.004	0.005	0.005	0.009	0.013	0.018	0.031	0.048	0.056	0.058	0.063	0.070	0.078
					RPM	40500	27000	20300	16200	13500	10100	8090	6750	5050	4050	3370	2890	2500	2250	2000
					FEED	300	300	300	300	275	370	410	480	620	780	750	670	630	630	620
	6	Low alloy steel	1.0D	1.0D	Vc	127	127	128	127	127	127	127	127	127	127	127	127	126	127	126
					fz	0.002	0.003	0.004	0.005	0.005	0.009	0.013	0.018	0.031	0.048	0.056	0.058	0.063	0.070	0.078
					RPM	40500	27000	20300	16200	13500	10100	8090	6750	5050	4050	3370	2890	2500	2250	2000
					FEED	300	300	300	300	275	370	410	480	620	780	750	670	630	630	620
	10	High alloyed steel, and tool steel	1.0D	1.0D	Vc	127	127	128	127	127	127	127	127	127	127	127	127	126	127	126
					fz	0.002	0.003	0.004	0.005	0.005	0.009	0.013	0.018	0.031	0.048	0.056	0.058	0.063	0.070	0.078
					RPM	40500	27000	20300	16200	13500	10100	8090	6750	5050	4050	3370	2890	2500	2250	2000
					FEED	300	300	300	300	275	370	410	480	620	780	750	670	630	630	620
M	12-13	Stainless steel	1.0D	1.0D	Vc	88	87	88	86	88	88	88	89	88	88	89	88	88	88	88
					fz	0.001	0.002	0.003	0.004	0.004	0.007	0.010	0.014	0.024	0.038	0.046	0.051	0.053	0.059	0.065
					RPM	28000	18500	14000	11000	9350	7000	5600	4700	3500	2800	2350	2000	1750	1550	1400
					FEED	160	160	160	165	145	185	230	265	340	430	435	405	370	365	365
	14.1		1.0D	1.0D	Vc	63	61	63	63	63	63	64	63	63	64	63	62	63	62	63
					fz	0.003	0.003	0.004	0.004	0.004	0.007	0.010	0.014	0.025	0.039	0.046	0.050	0.053	0.059	0.065
					RPM	20000	13000	10000	8000	6690	5050	4050	3350	2500	2050	1680	1400	1250	1100	1000
					FEED	250	180	150	120	105	135	165	190	250	320	310	280	265	260	260
K	15	Grey cast iron	1.0D	1.0D	Vc	127	127	128	127	127	127	127	127	127	127	127	127	126	127	126
					fz	0.002	0.003	0.004	0.005	0.005	0.009	0.013	0.018	0.031	0.048	0.056	0.058	0.063	0.070	0.078
					RPM	40500	27000	20300	16200	13500	10100	8090	6750	5050	4050	3370	2890	2500	2250	2000
					FEED	300	300	300	300	275	370	410	480	620	780	750	670	630	630	620
	17	Nodular cast iron	1.0D	1.0D	Vc	127	127	128	127	127	127	127	127	127	127	127	127	126	127	126
					fz	0.002	0.003	0.004	0.005	0.005	0.009	0.013	0.018	0.031	0.048	0.056	0.058	0.063	0.070	0.078
					RPM	40500	27000	20300	16200	13500	10100	8090	6750	5050	4050	3370	2890	2500	2250	2000
					FEED	300	300	300	300	275	370	410	480	620	780	750	670	630	630	620
	19-20	Malleable cast iron	1.0D	1.0D	Vc	127	127	128	127	127	127	127	127	127	127	127	127	126	127	126
					fz	0.002	0.003	0.004	0.005	0.005	0.009	0.013	0.018	0.031	0.048	0.056	0.058	0.063	0.070	0.078
					RPM	40500	27000	20300	16200	13500	10100	8090	6750	5050	4050	3370	2890	2500	2250	2000
					FEED	300	300	300	300	275	370	410	480	620	780	750	670	630	630	620
S	37	Titanium Alloys	1.0D	1.0D	Vc	63	61	63	63	63	63	64	63	63	64	63	62	63	62	63
					fz	0.003	0.003	0.004	0.004	0.004	0.007	0.010	0.014	0.025	0.039	0.046	0.050	0.053	0.059	0.065
					RPM	20000	13000	10000	8000	6690	5050	4050	3350	2500	2050	1680	1400	1250	1100	1000
					FEED	250	180	150	120	105	135	165	190	250	320	310	280	265	260	260



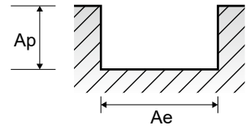
SUS-CUT END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

EHD84 SERIES — 3 FLUTE - SLOTTING
3刃 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 1.0	1.5	2.0	2.5	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
P	1-2	Non-alloy steel	1.0D	0.5D	Vc	94	94	94	94	95	95	94	95	94	96	94	95	93	93	94
					fz	0.011	0.017	0.022	0.028	0.031	0.062	0.083	0.109	0.151	0.180	0.200	0.240	0.288	0.333	0.378
					RPM	30000	20000	15000	12000	10080	7550	6000	5050	3750	3050	2500	2150	1850	1650	1500
					FEED	1000	1000	1000	1000	950	1400	1500	1650	1700	1650	1500	1550	1600	1650	1700
	3-4		1.0D	0.5D	Vc	72	73	72	74	73	74	74	73	74	72	75	75	73	74	72
					fz	0.012	0.017	0.023	0.028	0.032	0.063	0.085	0.108	0.150	0.181	0.200	0.235	0.287	0.333	0.391
					RPM	23000	15500	11500	9400	7750	5850	4700	3850	2950	2300	2000	1700	1450	1300	1150
					FEED	800	800	800	800	740	1100	1200	1250	1330	1250	1200	1200	1250	1300	1350
	5		1.0D	0.5D	Vc	52	52	52	59	52	53	52	53	53	52	51	53	50	52	53
					fz	0.009	0.014	0.018	0.020	0.024	0.047	0.066	0.083	0.113	0.134	0.149	0.168	0.217	0.254	0.298
					RPM	16500	11000	8200	7500	5550	4200	3300	2800	2100	1650	1350	1200	1000	920	840
					FEED	450	450	450	450	395	595	650	700	710	665	605	605	650	700	750
	6	Low alloy steel	1.0D	0.5D	Vc	94	94	94	94	95	95	94	95	94	96	94	95	93	93	94
					fz	0.011	0.017	0.022	0.028	0.031	0.062	0.083	0.109	0.151	0.180	0.200	0.240	0.288	0.333	0.378
					RPM	30000	20000	15000	12000	10080	7550	6000	5050	3750	3050	2500	2150	1850	1650	1500
					FEED	1000	1000	1000	1000	950	1400	1500	1650	1700	1650	1500	1550	1600	1650	1700
	7		1.0D	0.5D	Vc	72	73	72	74	73	74	74	73	74	72	75	75	73	74	72
					fz	0.012	0.017	0.023	0.028	0.032	0.063	0.085	0.108	0.150	0.181	0.200	0.235	0.287	0.333	0.391
					RPM	23000	15500	11500	9400	7750	5850	4700	3850	2950	2300	2000	1700	1450	1300	1150
					FEED	800	800	800	800	740	1100	1200	1250	1330	1250	1200	1200	1250	1300	1350
	8-9		1.0D	0.5D	Vc	52	52	52	59	52	53	52	53	53	52	51	53	50	52	53
					fz	0.009	0.014	0.018	0.020	0.024	0.047	0.066	0.083	0.113	0.134	0.149	0.168	0.217	0.254	0.298
					RPM	16500	11000	8200	7500	5550	4200	3300	2800	2100	1650	1350	1200	1000	920	840
					FEED	450	450	450	450	395	595	650	700	710	665	605	605	650	700	750
	10	High alloyed steel, and tool steel	1.0D	0.5D	Vc	94	94	94	94	95	95	94	95	94	96	94	95	93	93	94
					fz	0.011	0.017	0.022	0.028	0.031	0.062	0.083	0.109	0.151	0.180	0.200	0.240	0.288	0.333	0.378
					RPM	30000	20000	15000	12000	10080	7550	6000	5050	3750	3050	2500	2150	1850	1650	1500
					FEED	1000	1000	1000	1000	950	1400	1500	1650	1700	1650	1500	1550	1600	1650	1700
	11.1 - 112		1.0D	0.5D	Vc	52	52	52	59	52	53	52	53	53	52	51	53	50	52	53
					fz	0.009	0.014	0.018	0.020	0.024	0.047	0.066	0.083	0.113	0.134	0.149	0.168	0.217	0.254	0.298
					RPM	16500	11000	8200	7500	5550	4200	3300	2800	2100	1650	1350	1200	1000	920	840
					FEED	450	450	450	450	395	595	650	700	710	665	605	605	650	700	750
M	14.1	Stainless steel	1.0D	0.5D	Vc	52	52	53	51	52	53	52	53	53	52	51	53	50	51	50
					fz	0.007	0.011	0.014	0.018	0.021	0.025	0.035	0.044	0.060	0.072	0.079	0.069	0.067	0.056	0.042
					RPM	16500	11000	8400	6500	5550	4200	3300	2800	2100	1650	1350	1200	1000	900	800
					FEED	350	350	350	350	350	320	350	370	375	355	320	250	200	150	100
K	15-20	Grey cast iron	1.0D	0.5D	Vc	63	61	63	63	63	63	63	63	62	64	63	62	63	62	63
					fz	0.008	0.013	0.017	0.021	0.026	0.036	0.050	0.066	0.089	0.105	0.115	0.133	0.160	0.188	0.213
					RPM	20000	13000	10000	8000	6700	5050	4000	3350	2500	2000	1650	1450	1250	1100	1000
					FEED	500	500	500	500	520	550	600	660	665	630	570	580	600	620	640
N	21~25	Copper and Copper Alloys (Bronze / Brass)	1.0D	0.5D	Vc	79	78	79	79	78	78	79	77	78	79	75	75	75	74	75
					fz	0.005	0.007	0.010	0.012	0.014	0.022	0.028	0.036	0.054	0.071	0.092	0.118	0.144	0.179	0.208
					RPM	25000	16500	12500	10000	8300	6200	5000	4100	3100	2500	2000	1700	1500	1300	1200
					FEED	360	360	360	360	360	400	420	440	500	530	550	600	650	700	750
S	33	Heat Resistant Super Alloys	1.0D	0.2D	Vc	20	21	22	20	21	21	22	22	21	20	21	22	20	20	20
					fz	0.005	0.007	0.010	0.013	0.015	0.021	0.029	0.038	0.047	0.062	0.066	0.073	0.096	0.114	0.130
					RPM	6500	4500	3500	2600	2200	1650	1400	1150	850	650	555	500	400	350	320
					FEED	100	100	100	100	100	105	120	130	120	120	110	110	115	120	125
	37	Titanium Alloys	1.0D	0.2D	Vc	52	52	52	51	52	53	52	53	53	52	51	53	50	51	50
					fz	0.008	0.012	0.015	0.019	0.024	0.047	0.061	0.083	0.113	0.134	0.149	0.168	0.203	0.228	0.258
					RPM	16500	11000	8200	6500	5550	4200	3300	2800	2100	1650	1350	1200	1000	900	800
					FEED	380	380	380	380	395	595	600	700	710	665	605	605	610	615	620



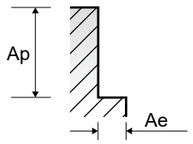
SUS-CUT END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

EHD84 SERIES — 3 FLUTE - SIDE CUTTING / 3刃 - 侧铣削

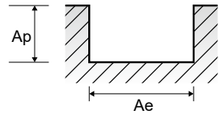
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 1.0	1.5	2.0	2.5	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
P	1-2	Non-alloy steel	0.1D	1.5D	Vc	94	94	94	94	95	95	94	95	94	96	94	95	93	93	94
					fz	0.013	0.019	0.025	0.031	0.036	0.072	0.094	0.126	0.173	0.207	0.227	0.271	0.325	0.377	0.427
					RPM	30000	20000	15000	12000	10080	7550	6000	5050	3750	3050	2500	2150	1850	1650	1500
					FEED	1130	1130	1130	1130	1080	1630	1695	1910	1950	1890	1700	1750	1805	1865	1920
	3-4		0.1D	1.5D	Vc	72	73	72	74	73	74	74	73	74	72	75	75	73	74	72
					fz	0.013	0.019	0.026	0.032	0.037	0.072	0.096	0.127	0.169	0.203	0.223	0.266	0.324	0.377	0.442
					RPM	23000	15500	11500	9400	7750	5850	4700	3850	2950	2300	2000	1700	1450	1300	1150
					FEED	904	904	904	904	850	1260	1355	1470	1500	1400	1340	1355	1410	1470	1525
	5		0.1D	1.5D	Vc	52	52	52	59	52	53	52	53	53	52	51	53	50	52	53
					fz	0.010	0.015	0.021	0.023	0.027	0.054	0.074	0.096	0.129	0.157	0.173	0.190	0.245	0.286	0.335
					RPM	16500	11000	8200	7500	5550	4200	3300	2800	2100	1650	1350	1200	1000	920	840
					FEED	510	510	510	510	450	680	735	810	810	775	700	685	735	790	845
	6	Low alloy steel	0.1D	1.5D	Vc	94	94	94	94	95	95	94	95	94	96	94	95	93	93	94
					fz	0.013	0.019	0.025	0.031	0.036	0.072	0.094	0.126	0.173	0.207	0.227	0.271	0.325	0.377	0.427
					RPM	30000	20000	15000	12000	10080	7550	6000	5050	3750	3050	2500	2150	1850	1650	1500
					FEED	1130	1130	1130	1130	1080	1630	1695	1910	1950	1890	1700	1750	1805	1865	1920
	7		0.1D	1.5D	Vc	72	73	72	74	73	74	74	73	74	72	75	75	73	74	72
					fz	0.013	0.019	0.026	0.032	0.037	0.072	0.096	0.127	0.169	0.203	0.223	0.266	0.324	0.377	0.442
					RPM	23000	15500	11500	9400	7750	5850	4700	3850	2950	2300	2000	1700	1450	1300	1150
					FEED	904	904	904	904	850	1260	1355	1470	1500	1400	1340	1355	1410	1470	1525
	8-9		0.1D	1.5D	Vc	52	52	52	59	52	53	52	53	53	52	51	53	50	52	53
					fz	0.010	0.015	0.021	0.023	0.027	0.054	0.074	0.096	0.129	0.157	0.173	0.190	0.245	0.286	0.335
					RPM	16500	11000	8200	7500	5550	4200	3300	2800	2100	1650	1350	1200	1000	920	840
					FEED	510	510	510	510	450	680	735	810	810	775	700	685	735	790	845
	10	High alloyed steel, and tool steel	0.1D	1.5D	Vc	94	94	94	94	95	95	94	95	94	96	94	95	93	93	94
					fz	0.013	0.019	0.025	0.031	0.036	0.072	0.094	0.126	0.173	0.207	0.227	0.271	0.325	0.377	0.427
					RPM	30000	20000	15000	12000	10080	7550	6000	5050	3750	3050	2500	2150	1850	1650	1500
					FEED	1130	1130	1130	1130	1080	1630	1695	1910	1950	1890	1700	1750	1805	1865	1920
	11.1 - 11.2		0.1D	1.5D	Vc	52	52	52	59	52	53	52	53	53	52	51	53	50	52	53
					fz	0.010	0.015	0.021	0.023	0.027	0.054	0.074	0.096	0.129	0.157	0.173	0.190	0.245	0.286	0.335
					RPM	16500	11000	8200	7500	5550	4200	3300	2800	2100	1650	1350	1200	1000	920	840
					FEED	510	510	510	510	450	680	735	810	810	775	700	685	735	790	845
M	14.1	Stainless steel	0.1D	1.5D	Vc	52	52	53	51	52	53	52	53	53	52	51	53	50	51	50
					fz	0.008	0.012	0.016	0.020	0.022	0.029	0.040	0.051	0.068	0.084	0.090	0.078	0.075	0.063	0.048
					RPM	16500	11000	8400	6500	5550	4200	3300	2800	2100	1650	1350	1200	1000	900	800
					FEED	395	395	395	395	365	365	395	430	430	415	365	280	225	170	115
K	15-20	Grey cast iron	0.1D	1.5D	Vc	63	61	63	63	63	63	63	63	63	63	62	64	63	62	63
					fz	0.009	0.014	0.019	0.024	0.030	0.042	0.057	0.075	0.103	0.120	0.134	0.151	0.181	0.212	0.242
					RPM	20000	13000	10000	8000	6700	5050	4000	3350	2500	2000	1650	1450	1250	1100	1000
					FEED	565	565	565	565	605	630	680	755	770	720	665	655	680	700	725
N	21~25	Copper and Copper Alloys (Bronze / Brass)	0.1D	1.5D	Vc	79	78	79	79	78	78	79	77	78	79	75	75	75	74	75
					fz	0.005	0.008	0.011	0.014	0.016	0.024	0.032	0.040	0.059	0.076	0.103	0.133	0.163	0.203	0.236
					RPM	25000	16500	12500	10000	8300	6200	5000	4100	3100	2500	2000	1700	1500	1300	1200
					FEED	405	405	405	405	390	440	475	490	550	570	620	680	735	790	850
S	33	Heat Resistant Super Alloys	0.05D	1.5D	Vc	20	21	22	20	21	21	22	22	21	20	21	22	20	20	20
					fz	0.006	0.009	0.011	0.015	0.017	0.025	0.032	0.043	0.055	0.072	0.075	0.083	0.108	0.129	0.146
					RPM	6500	4500	3500	2600	2200	1650	1400	1150	850	650	555	500	400	350	320
					FEED	115	115	115	115	110	125	135	150	140	140	125	125	130	135	140
	37	Titanium Alloys	0.05D	1.5D	Vc	52	52	52	51	52	53	52	53	53	52	51	53	50	51	50
					fz	0.009	0.013	0.017	0.022	0.027	0.054	0.069	0.096	0.129	0.157	0.173	0.190	0.230	0.257	0.292
					RPM	16500	11000	8200	6500	5550	4200	3300	2800	2100	1650	1350	1200	1000	900	800
					FEED	430	430	430	430	450	680	680	810	810	775	700	685	690	695	700



SUS-CUT END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

EMD82 SERIES — 4 FLUTE - SLOTTING / 4刃 - 槽铣削



Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
P	1-2	Non-alloy steel	1.0D	1.0D	Vc	127	127	128	127	127	126	127	127	127	128	127
					fz	0.002	0.003	0.004	0.005	0.005	0.007	0.009	0.011	0.013	0.015	0.018
					RPM	40500	27000	20300	16200	13500	11500	10100	9000	8090	7400	6750
					FEED	300	300	300	300	275	300	370	400	410	450	480
	6	Low alloy steel	1.0D	1.0D	Vc	127	127	128	127	127	126	127	127	127	128	127
					fz	0.002	0.003	0.004	0.005	0.005	0.007	0.009	0.011	0.013	0.015	0.018
					RPM	40500	27000	20300	16200	13500	11500	10100	9000	8090	7400	6750
					FEED	300	300	300	300	275	300	370	400	410	450	480
	10	High alloyed steel, and tool steel	1.0D	1.0D	Vc	127	127	128	127	127	126	127	127	127	128	127
					fz	0.002	0.003	0.004	0.005	0.005	0.007	0.009	0.011	0.013	0.015	0.018
					RPM	40500	27000	20300	16200	13500	11500	10100	9000	8090	7400	6750
					FEED	300	300	300	300	275	300	370	400	410	450	480
M	12-13	Stainless steel	1.0D	1.0D	Vc	88	87	88	86	88	88	88	88	88	86	89
					fz	0.001	0.002	0.003	0.004	0.004	0.005	0.007	0.008	0.010	0.011	0.014
					RPM	28000	18500	14000	11000	9350	8000	7000	6200	5600	5000	4700
					FEED	160	160	160	165	145	170	185	200	230	220	265
	14.1		1.0D	1.0D	Vc	63	61	63	63	63	63	63	64	64	62	63
					fz	0.003	0.003	0.004	0.004	0.004	0.004	0.007	0.008	0.010	0.012	0.014
					RPM	20000	13000	10000	8000	6690	5700	5050	4500	4050	3600	3350
					FEED	250	180	150	120	105	100	135	135	165	170	190
K	15	Grey cast iron	1.0D	1.0D	Vc	127	127	128	127	127	126	127	127	127	128	127
					fz	0.002	0.003	0.004	0.005	0.005	0.007	0.009	0.011	0.013	0.015	0.018
					RPM	40500	27000	20300	16200	13500	11500	10100	9000	8090	7400	6750
					FEED	300	300	300	300	275	300	370	400	410	450	480
	17	Nodular cast iron	1.0D	1.0D	Vc	127	127	128	127	127	126	127	127	127	128	127
					fz	0.002	0.003	0.004	0.005	0.005	0.007	0.009	0.011	0.013	0.015	0.018
					RPM	40500	27000	20300	16200	13500	11500	10100	9000	8090	7400	6750
					FEED	300	300	300	300	275	300	370	400	410	450	480
	19-20	Malleable cast iron	1.0D	1.0D	Vc	127	127	128	127	127	126	127	127	127	128	127
					fz	0.002	0.003	0.004	0.005	0.005	0.007	0.009	0.011	0.013	0.015	0.018
					RPM	40500	27000	20300	16200	13500	11500	10100	9000	8090	7400	6750
					FEED	300	300	300	300	275	300	370	400	410	450	480
S	37	Titanium Alloys	1.0D	1.0D	Vc	63	61	63	63	63	63	63	64	64	62	63
					fz	0.003	0.003	0.004	0.004	0.004	0.004	0.007	0.008	0.010	0.012	0.014
					RPM	20000	13000	10000	8000	6690	5700	5050	4500	4050	3600	3350
					FEED	250	180	150	120	105	100	135	135	165	170	190

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 6.5	7.0	8.0	8.5	9.0	10.0	12.0	14.0	16.0	18.0	20.0
P	1-2	Non-alloy steel	1.0D	1.0D	Vc	127	128	127	128	127	127	127	127	126	127	126
					fz	0.020	0.024	0.031	0.034	0.039	0.048	0.056	0.058	0.063	0.070	0.078
					RPM	6200	5800	5050	4800	4500	4050	3370	2890	2500	2250	2000
					FEED	500	550	620	660	700	780	750	670	630	630	620
	6	Low alloy steel	1.0D	1.0D	Vc	127	128	127	128	127	127	127	127	126	127	126
					fz	0.020	0.024	0.031	0.034	0.039	0.048	0.056	0.058	0.063	0.070	0.078
					RPM	6200	5800	5050	4800	4500	4050	3370	2890	2500	2250	2000
					FEED	500	550	620	660	700	780	750	670	630	630	620
	10	High alloyed steel, and tool steel	1.0D	1.0D	Vc	127	128	127	128	127	127	127	127	126	127	126
					fz	0.020	0.024	0.031	0.034	0.039	0.048	0.056	0.058	0.063	0.070	0.078
					RPM	6200	5800	5050	4800	4500	4050	3370	2890	2500	2250	2000
					FEED	500	550	620	660	700	780	750	670	630	630	620
M	12-13	Stainless steel	1.0D	1.0D	Vc	88	88	88	88	88	88	89	88	88	88	88
					fz	0.016	0.018	0.024	0.026	0.031	0.038	0.046	0.051	0.053	0.059	0.065
					RPM	4300	4000	3500	3300	3100	2800	2350	2000	1750	1550	1400
					FEED	275	280	340	340	390	430	435	405	370	365	365
	14.1		1.0D	1.0D	Vc	61	62	63	61	62	64	63	62	63	62	63
					fz	0.017	0.018	0.025	0.028	0.032	0.039	0.046	0.050	0.053	0.059	0.065
					RPM	3000	2800	2500	2300	2200	2050	1680	1400	1250	1100	1000
					FEED	200	200	250	260	280	320	310	280	265	260	260
K	15	Grey cast iron	1.0D	1.0D	Vc	127	128	127	128	127	127	127	127	126	127	126
					fz	0.020	0.024	0.031	0.034	0.039	0.048	0.056	0.058	0.063	0.070	0.078
					RPM	6200	5800	5050	4800	4500	4050	3370	2890	2500	2250	2000
					FEED	500	550	620	660	700	780	750	670	630	630	620
	17	Nodular cast iron	1.0D	1.0D	Vc	127	128	127	128	127	127	127	127	126	127	126
					fz	0.020	0.024	0.031	0.034	0.039	0.048	0.056	0.058	0.063	0.070	0.078
					RPM	6200	5800	5050	4800	4500	4050	3370	2890	2500	2250	2000
					FEED	500	550	620	660	700	780	750	670	630	630	620
	19-20	Malleable cast iron	1.0D	1.0D	Vc	127	128	127	128	127	127	127	127	126	127	126
					fz	0.020	0.024	0.031	0.034	0.039	0.048	0.056	0.058	0.063	0.070	0.078
					RPM	6200	5800	5050	4800	4500	4050	3370	2890	2500	2250	2000
					FEED	500	550	620	660	700	780	750	670	630	630	620
S	37	Titanium Alloys	1.0D	1.0D	Vc	61	62	63	61	62	64	63	62	63	62	63
					fz	0.017	0.018	0.025	0.028	0.032	0.039	0.046	0.050	0.053	0.059	0.065
					RPM	3000	2800	2500	2300	2200	2050	1680	1400	1250	1100	1000
					FEED	200	200	250	260	280	320	310	280	265	260	260

SUS-CUT END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

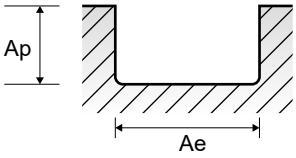
EMD92 SERIES

3-5 FLUTE ROUGHING - SLOTTING
3-5刃 粗加工 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度
M	14.1	Stainless steel	1.0D	Ø6~Ø10=0.25xD Ø12~Ø16=0.15xD Ø18~Ø20=0.10xD

Parameter 参数	Diameter (Ø) 直径								
	6.0	7.0	8.0	9.0	10.0	12.0	14.0	16.0	20.0
Vc	83	83	83	83	84	83	86	87	79
fz	0.019	0.022	0.025	0.028	0.031	0.037	0.032	0.034	0.033
RPM	4410	3780	3310	2950	2680	2205	1950	1730	1260
FEED	335	335	335	335	330	330	315	295	210



Leading Through Innovation

SOLID CARBIDE

V7 PLUS END MILLS

- High Performance Carbide End Mills for Steels, Cast Iron and Stainless Steels

- 高性能 硬质合金 立铣刀 适用于钢件,铸铁和不锈钢

SELECTION GUIDE
选用指南

YG MILLING TOOLS

SOLID CARBIDE
V7 PLUS END MILLS

High performance carbide end mills
for Steels, Cast Iron and Stainless Steels

高性能 硬质合金 立铣刀
适用于钢件,铸铁和不锈钢

Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工参数) : p.C394

SERIES 系列	GMH66	GMH65
FLUTE 槽数	4	4
HELIX ANGLE 螺旋角度	35°/37° (MULTIPLE HELIX)	35°/37° (MULTIPLE HELIX)
CUTTING EDGE SHAPE 类型	BALL NOSE	CORNER RADIUS
SIZE MIN 最小尺寸	R1.5	D1.0
SIZE MAX 最大尺寸	R12.5	D25.0
PAGE 页数	C384	C385-386
	LONG LENGTH	LONG LENGTH
	Y-Coating	Y-Coating

ISO	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB	HRc	GMH66	GMH65
P	1	Non-alloy steel	About 0.15% C	Annealed	125		◎	◎
	2		About 0.45% C	Annealed	190	13	◎	◎
	3		About 0.45% C	Quenched & Tempered	250	25	◎	◎
	4		About 0.75% C	Annealed	270	28	◎	◎
	5		About 0.75% C	Quenched & Tempered	300	32	◎	◎
	6	Low alloy steel		Annealed	180	10	◎	◎
	7			Quenched & Tempered	275	29	◎	◎
	8			Quenched & Tempered	300	32	◎	◎
	9			Quenched & Tempered	350	38	◎	◎
	10	High alloyed steel, and tool steel		Annealed	200	15	◎	◎
	11			Quenched & Tempered	325	35	◎	◎
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15	◎	◎
	13		Martensitic	Quenched & Tempered	240	23	◎	◎
	14		Austenitic		180	10	◎	◎
K	15	Grey cast iron	Pearlitic / ferritic		180	10	◎	◎
	16		Pearlitic (Martensitic)		260	26	◎	◎
	17	Nodular cast iron	Ferritic		160	3	◎	◎
	18		Pearlitic		250	25	◎	◎
	19	Malleable cast iron	Ferritic		130		◎	◎
	20		Pearlitic		230	21	◎	◎
N	21	Aluminum-wrought alloy	Not Curable		60			
	22		Curable	Hardened	100			
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75			
	24		≤ 12% Si, Curable	Hardened	90			
	25		> 12% Si, Not Curable		130			
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110			
	27		CuZn, CuSnZn (Brass)		90			
	28		CuSn, lead-free copper and electrolytic copper		100			
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic					
	30		Rubber, Wood, etc.					
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15	○	○
	32			Cured	280	30	○	○
	33		Ni or Co Based	Annealed	250	25	○	○
	34			Cured	350	38	○	○
	35			Cast	320	34	○	○
	36	Titanium Alloys	Pure Titanium		400 Rm		○	○
	37		Alpha + Beta Alloys	Hardened	1050 Rm		○	○
H	38	Hardened steel		Hardened	550	55		
	39			Hardened	630	60		
	40	Chilled Cast Iron		Cast	400	42		
	41	Hardened Cast Iron		Hardened	550	55		

GMF66	GMH67	GMH68	GMH69	GMH71	GMH70	EMB72 EMB73
4	4	4	6	6	6	5
35°/37° (MULTIPLE HELIX)	35°/37° (MULTIPLE HELIX)	35°/37° (MULTIPLE HELIX)	45°	45°	45°	41°~45°
SQUARE	SQUARE	SQUARE	CORNER RADIUS	SQUARE	SQUARE	SQUARE
D3.0	D1.0	D1.0	D6.0	D6.0	D6.0	D6.0
D20.0	D20.0	D20.0	D25.0	D25.0	D25.0	D25.0
C387	C388	C389	C390	C391	C392	C393
SHORT LENGTH	LONG LENGTH	LONG LENGTH	-	-	LONG LENGTH	LONG LENGTH
Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	AlTiN

GMF66	GMH67	GMH68	GMH69	GMH71	GMH70	EMB72 EMB73		
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							41	

BALL NOSE = 球头 CORNER RADIUS = 圆鼻 SQUARE = 平头 ROUGHING = 粗加工
MULTIPLE HELIX = 不等螺旋 SHORT LENGTH = 短刃 LONG LENGTH = 长刃

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

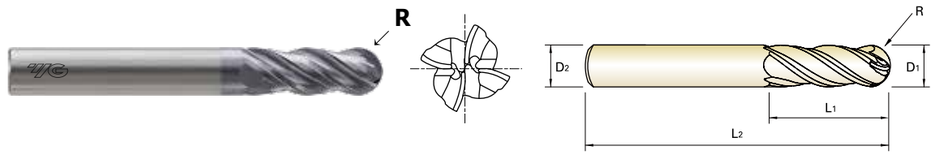
V7 PLUS END MILLS

PLAIN SHANK **GMH66** SERIES

CARBIDE, 4 FLUTE BALL NOSE LONG LENGTH
硬质合金，4刃 球头 长刃

▶Special flute geometry and multiple helix eliminate vibrations
▶Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40

▶ 特殊沟槽设计和不等螺旋减少振动
▶ 卓越性能在不锈钢，软钢，铸铁，低/中硬度材料(~HRc 40)



CARBIDE | 4 | 35°/37° | R ±0.02 | PLAIN | p.C394

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	SHRINK FIT HOLDER	D47 - 72
-	-	HYDRAULIC CHUCK	D15 - 46
		ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
GMH66030	R1.5	**3.0**	6	8	50
GMH66040	R2.0	**4.0**	6	10	50
GMH66050	R2.5	**5.0**	6	15	60
GMH66060	R3.0	**6.0**	6	15	60
GMH66080	R4.0	**8.0**	8	20	70
GMH66100	R5.0	**10.0**	10	25	75
GMH66120	R6.0	**12.0**	12	30	80
GMH66160	R8.0	**16.0**	16	40	100
GMH66200	R10.0	**20.0**	20	45	100
GMH66250	R12.5	**25.0**	25	50	120

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø12 Ø12以下	0 ~ - 0.02	h5
over Ø12 超过Ø12	0 ~ - 0.03	* Shank Dia.≥Ø12 : h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○				

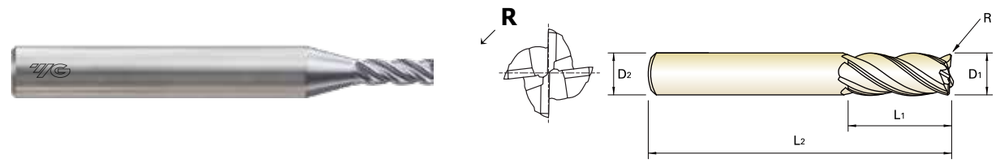
V7 PLUS END MILLS

PLAIN SHANK **GMH65** SERIES

CARBIDE, 4 FLUTE CORNER RADIUS LONG LENGTH
硬质合金，4刃 圆鼻 长刃

▶Special flute geometry and multiple helix eliminate vibrations
▶Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40

▶ 特殊沟槽设计和不等螺旋减少振动
▶ 卓越性能在不锈钢，软钢，铸铁，低/中硬度材料(~HRc 40)



CARBIDE | 4 | 37° (D < Ø3) | 35°/37° (D ≥ Ø3) | PLAIN | p.C395

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	SHRINK FIT HOLDER	D47 - 72
-	-	HYDRAULIC CHUCK	D15 - 46
		ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
GMH65010	R0.1	**1.0**	6	2.5	50
GMH65015	R0.1	**1.5**	6	4	50
GMH65020	R0.1	**2.0**	6	6	50
GMH65030	R0.2	**3.0**	6	8	50
GMH6503003	R0.3	**3.0**	6	8	50
GMH6503005	R0.5	**3.0**	6	8	50
GMH65040	R0.2	**4.0**	6	10	50
GMH6504003	R0.3	**4.0**	6	10	50
GMH6504005	R0.5	**4.0**	6	10	50
GMH65050	R0.2	**5.0**	6	15	60
GMH6505003	R0.3	**5.0**	6	15	60
GMH6505005	R0.5	**5.0**	6	15	60
GMH65060	R0.3	**6.0**	6	15	60
GMH6506005	R0.5	**6.0**	6	15	60
GMH6506010	R1.0	**6.0**	6	15	60
GMH65080	R0.3	**8.0**	8	20	70
GMH6508005	R0.5	**8.0**	8	20	70
GMH6508010	R1.0	**8.0**	8	20	70
GMH65100	R0.3	**10.0**	10	25	75
GMH6510005	R0.5	**10.0**	10	25	75
GMH6510010	R1.0	**10.0**	10	25	75
GMH65120	R0.5	**12.0**	12	30	80
GMH6512010	R1.0	**12.0**	12	30	80
GMH6512020	R2.0	**12.0**	12	30	80

▶ NEXT PAGE 下页

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø12 Ø12以下	0 ~ - 0.02	h5
over Ø12 超过Ø12	0 ~ - 0.03	* Shank Dia.≥Ø12 : h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○				

V7 PLUS END MILLS

PLAIN SHANK **GMH65** SERIES

CARBIDE, 4 FLUTE CORNER RADIUS LONG LENGTH
硬质合金，4刃 圆鼻 长刃

▶Special flute geometry and multiple helix eliminate vibrations
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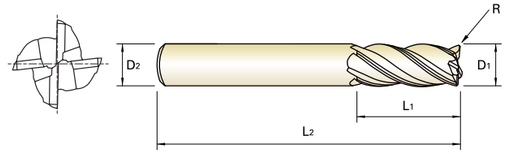
▶ 特殊沟槽设计和不等螺旋减少振动
▶ 卓越性能在不锈钢，软钢，铸铁，低/中硬度材料(~HRc 40)



CARBIDE | 4 | 37° (D < Ø3) | 35°/37° (D ≥ Ø3) | PLAIN | p.C395

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	SHRINK FIT HOLDER	D47 - 72
-	-	HYDRAULIC CHUCK	D15 - 46
		ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
GMH65160	R0.5	**16.0**	16	40	100
GMH6516010	R1.0	**16.0**	16	40	100
GMH6516020	R2.0	**16.0**	16	40	100
GMH6516030	R3.0	**16.0**	16	40	100
GMH65200	R0.5	**20.0**	20	45	100
GMH6520010	R1.0	**20.0**	20	45	100
GMH6520020	R2.0	**20.0**	20	45	100
GMH6520030	R3.0	**20.0**	20	45	100
GMH6525010	R1.0	**25.0**	20	50	120

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø12 Ø12以下	0 ~ - 0.02	h5
over Ø12 超过Ø12	0 ~ - 0.03	* Shank Dia.≥Ø12 : h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○				

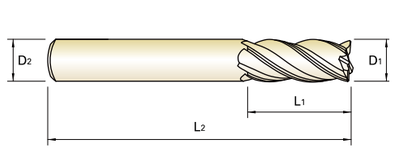
V7 PLUS END MILLS

PLAIN SHANK **GMF66** SERIES

CARBIDE, 4 FLUTE SHORT LENGTH
硬质合金，4刃 短刃

▶Special flute geometry and multiple helix eliminate vibrations
▶Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40

▶ 特殊沟槽设计和不等螺旋减少振动
▶ 卓越性能在不锈钢，软钢，铸铁，低/中硬度材料(~HRc 40)



CARBIDE | 4 | 35°/37° | PLAIN | C x 45° | p.C395

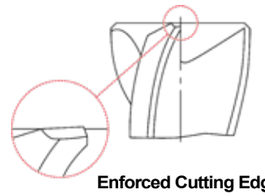
Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	SHRINK FIT HOLDER	D47 - 72
-	-	HYDRAULIC CHUCK	D15 - 46
		ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Chamfer 导向
GMF66030	**3.0**	6	6	50	0.10
GMF66901	**3.0**	4	6	50	0.10
GMF66040	**4.0**	6	8	50	0.15
GMF66902	**4.0**	4	8	50	0.15
GMF66050	**5.0**	6	10	50	0.15
GMF66060	**6.0**	6	12	50	0.20
GMF66080	**8.0**	8	16	60	0.20
GMF66100	**10.0**	10	20	75	0.30
GMF66120	**12.0**	12	24	75	0.35
GMF66160	**16.0**	16	32	100	0.40
GMF66200	**20.0**	20	40	100	0.50

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø12 Ø12以下	0 ~ - 0.02	h5
over Ø12 超过Ø12	0 ~ - 0.03	* Shank Dia.≥Ø12 : h6



Enforced Cutting Edge

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○				

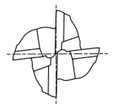
V7 PLUS END MILLS

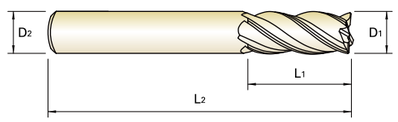
PLAIN SHANK **GMH67** SERIES

CARBIDE, 4 FLUTE LONG LENGTH
硬质合金，4刃 长刃

▶Special flute geometry and multiple helix eliminate vibrations
▶Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40

▶特殊沟槽设计和不等螺旋减少振动
▶卓越性能在不锈钢，软钢，铸铁，低/中硬度材料(~HRc 40)





CARBIDE | 4 | 37° | 35°/37° | PLAIN | p.C395

D < Ø3 D ≥ Ø3

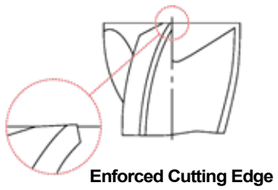
Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	SHRINK FIT HOLDER	D47 - 72
-	-	HYDRAULIC CHUCK	D15 - 46
		ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
GMH67010	1.0	6	2.5	50
GMH67015	1.5	6	4	50
GMH67020	2.0	6	6	50
GMH67030	3.0	6	8	50
GMH67040	4.0	6	10	50
GMH67050	5.0	6	15	60
GMH67060	6.0	6	15	60
GMH67080	8.0	8	20	70
GMH67100	10.0	10	25	75
GMH67120	12.0	12	30	80
GMH67160	16.0	16	40	100
GMH67200	20.0	20	45	100

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø12 Ø12以下	0 ~ - 0.02	h5
over Ø12 超过Ø12	0 ~ - 0.03	* Shank Dia.≥Ø12 : h6



Enforced Cutting Edge

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○				

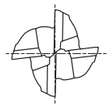
V7 PLUS END MILLS

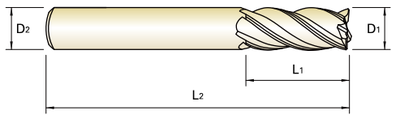
PLAIN SHANK **GMH68** SERIES

CARBIDE, 4 FLUTE LONG LENGTH
硬质合金，4刃 长刃

▶Special flute geometry and multiple helix eliminate vibrations
▶Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40

▶特殊沟槽设计和不等螺旋减少振动
▶卓越性能在不锈钢，软钢，铸铁，低/中硬度材料(~HRc 40)





CARBIDE | 4 | 37° | 35°/37° | PLAIN | C x 45° | p.C395

D < Ø3 D ≥ Ø3

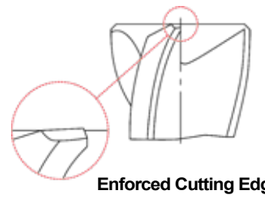
Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	SHRINK FIT HOLDER	D47 - 72
-	-	HYDRAULIC CHUCK	D15 - 46
		ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Chamfer 导向
GMH68010	1.0	6	2.5	50	0.03
GMH68015	1.5	6	4	50	0.05
GMH68020	2.0	6	6	50	0.075
GMH68030	3.0	6	8	50	0.1
GMH68040	4.0	6	10	50	0.15
GMH68050	5.0	6	15	60	0.15
GMH68060	6.0	6	15	60	0.2
GMH68080	8.0	8	20	70	0.2
GMH68100	10.0	10	25	75	0.3
GMH68120	12.0	12	30	80	0.35
GMH68140	14.0	16	35	100	0.4
GMH68160	16.0	16	40	100	0.4
GMH68180	18.0	16	45	100	0.5
GMH68200	20.0	20	45	100	0.5

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø12 Ø12以下	0 ~ - 0.02	h5
over Ø12 超过Ø12	0 ~ - 0.03	* Shank Dia.≥Ø12 : h6



Enforced Cutting Edge

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○				

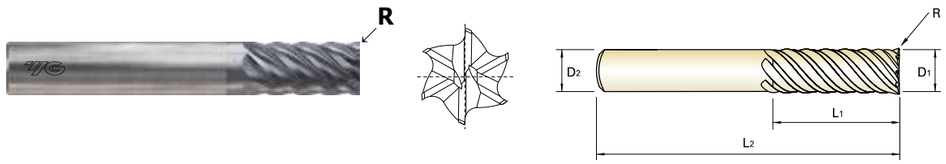
V7 PLUS END MILLS

PLAIN SHANK **GMH69** SERIES

CARBIDE, 6 FLUTE CORNER RADIUS
硬质合金，6刃 圆鼻

▶The unique geometry of the variable pitch provides the best chatter free tool for high speed and trochoidal milling
▶Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40

▶特的可变间距设计在高速和摆线铣削工况上，提供最好无振动刀具
▶卓越性能在不锈钢，软钢，铸铁，低/中硬度材料(~HRc 40)



CARBIDE | 6 | 45° | PLAIN | p.C396

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	SHRINK FIT HOLDER	D47 - 72
-	-	HYDRAULIC CHUCK	D15 - 46
		ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
GMH6906005	R0.5	**6.0**	6	15	60
GMH6906010	R1.0	**6.0**	6	15	60
GMH6908005	R0.5	**8.0**	8	20	70
GMH6908010	R1.0	**8.0**	8	20	70
GMH6910005	R0.5	**10.0**	10	25	75
GMH6910010	R1.0	**10.0**	10	25	75
GMH6910015	R1.5	**10.0**	10	25	75
GMH6910020	R2.0	**10.0**	10	25	75
GMH6912005	R0.5	**12.0**	12	25	75
GMH6912010	R1.0	**12.0**	12	30	80
GMH6912015	R1.5	**12.0**	12	30	80
GMH6912020	R2.0	**12.0**	12	30	80
GMH6912030	R3.0	**12.0**	12	30	80
GMH6916010	R1.0	**16.0**	16	40	100
GMH6916015	R1.5	**16.0**	16	40	100
GMH6916020	R2.0	**16.0**	16	40	100
GMH6916030	R3.0	**16.0**	16	40	100
GMH6920010	R1.0	**20.0**	20	45	100
GMH6920015	R1.5	**20.0**	20	45	100
GMH6920020	R2.0	**20.0**	20	45	100
GMH6920030	R3.0	**20.0**	20	45	100
GMH6925010	R1.0	**25.0**	25	50	120
GMH6925015	R1.5	**25.0**	25	50	120
GMH6925020	R2.0	**25.0**	25	50	120
GMH6925030	R3.0	**25.0**	25	50	120

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø12 Ø12以下	0 ~ - 0.02	h5
over Ø12 超过Ø12	0 ~ - 0.03	* Shank Dia.≥Ø12 : h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○				

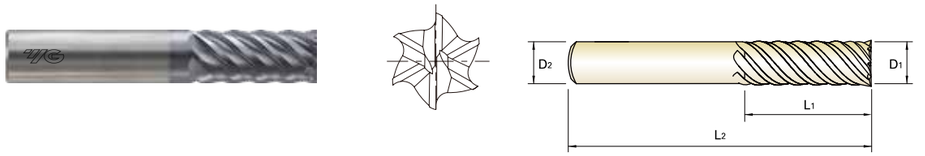
V7 PLUS END MILLS

PLAIN SHANK **GMH71** SERIES

CARBIDE, 6 FLUTE
硬质合金，6刃

▶The unique geometry of the variable pitch provides the best chatter free tool for high speed and trochoidal milling
▶Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40

▶特的可变间距设计在高速和摆线铣削工况上，提供最好无振动刀具
▶卓越性能在不锈钢，软钢，铸铁，低/中硬度材料(~HRc 40)



CARBIDE | 6 | 45° | PLAIN | p.C396

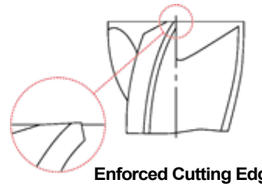
Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	SHRINK FIT HOLDER	D47 - 72
-	-	HYDRAULIC CHUCK	D15 - 46
		ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
GMH71060	**6.0**	6	15	60
GMH71080	**8.0**	8	20	70
GMH71100	**10.0**	10	25	75
GMH71120	**12.0**	12	30	80
GMH71160	**16.0**	16	40	100
GMH71200	**20.0**	20	45	100
GMH71250	**25.0**	25	50	120

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø12 Ø12以下	0 ~ - 0.02	h5
over Ø12 超过Ø12	0 ~ - 0.03	* Shank Dia.≥Ø12 : h6



Enforced Cutting Edge

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M		K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○				

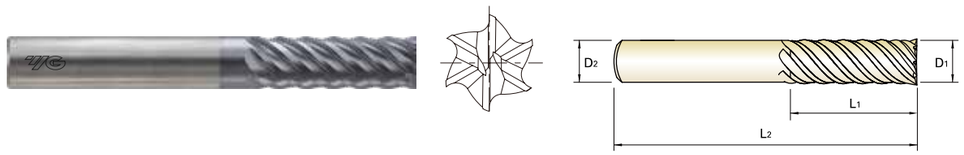
V7 PLUS END MILLS

PLAIN SHANK **GMH70 SERIES**

CARBIDE, 6 FLUTE LONG LENGTH
硬质合金，6刃 长刃

▶The unique geometry of the variable pitch provides the best chatter free tool for high speed and trochoidal milling
▶Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40

▶特的可变间距设计在高速和摆线铣削工况上，提供最好无振动刀具
▶卓越性能在不锈钢，软钢，铸铁，低/中硬度材料(~HRc 40)



CARBIDE | 6 | 45° | PLAIN | p.C396

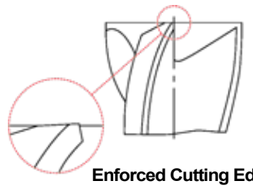
Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	SHRINK FIT HOLDER	D47 - 72
-	-	HYDRAULIC CHUCK	D15 - 46
		ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
GMH70060	6.0	6	24	75
GMH70080	8.0	8	32	75
GMH70100	10.0	10	40	100
GMH70120	12.0	12	48	120
GMH70160	16.0	16	64	140
GMH70200	20.0	20	80	150
GMH70250	25.0	25	100	170

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5 * Shank Dia.≥Ø12 : h6



Enforced Cutting Edge

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○				

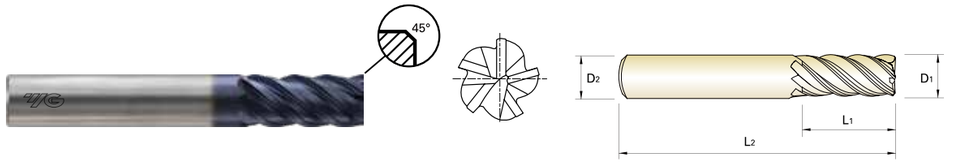
V7 INOX END MILLS

PLAIN SHANK **EMB72 SERIES**
FLAT SHANK **EMB73 SERIES**

CARBIDE, 5 FLUTE LONG LENGTH
硬质合金，5刃 长刃

▶Special flute geometry eliminates vibrations
▶Designed for mild steels, stainless steels, cast iron, tool steels, titanium alloys, prehardened steels and low hardness materials under HRc40
▶Excellent finished work piece
▶Higher speeds, deeper cuts and excellent metal removal rates

▶独特沟槽设计减少振动
▶设计于软钢,不锈钢,铸铁,刀具钢,钛合金,预硬钢和低硬度工件材料(~HRc40)
▶卓越工件表面粗糙度
▶更高切速，更深切深和优秀切削率



CARBIDE | 5 | Sinusoidal | PLAIN | FLAT | C x 45° | p.C397

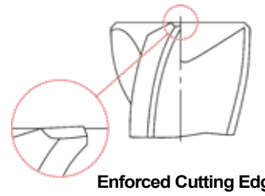
Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	SHRINK FIT HOLDER	D47 - 72
-	-	HYDRAULIC CHUCK	D15 - 46
		ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No. PLAIN	EDP No. FLAT	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Chamfer 导向
EMB72060	EMB73060	6.0	6	13	57	0.1
EMB72080	EMB73080	8.0	8	19	63	0.1
EMB72100	EMB73100	10.0	10	22	72	0.1
EMB72120	EMB73120	12.0	12	26	83	0.1
EMB72140	EMB73140	14.0	14	26	83	0.2
EMB72160	EMB73160	16.0	16	32	92	0.2
EMB72180	EMB73180	18.0	18	32	92	0.2
EMB72200	EMB73200	20.0	20	38	104	0.2
EMB72250	EMB73250	25.0	25	38	104	0.2

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5 * Shank Dia.≥Ø12 : h6



Enforced Cutting Edge

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	○	○	○	◎	○	○	○	◎	○	◎	◎	◎	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	◎	◎				

V7 PLUS END MILLS

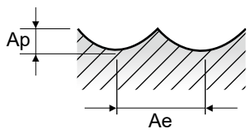
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GMH66 SERIES

4 FLUTE BALL NOSE
4刃 球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	18.0	20.0	25.0
P	1-4	Non-alloy steel	0.5D	1.0D	Vc	162	162	162	162	162	162	162	162	162	162	162
					fz	0.025	0.027	0.03	0.04	0.06	0.065	0.07	0.075	0.08	0.09	0.099
					RPM	17189	12892	10313	8594	6446	5157	4297	3223	2865	2578	2063
					FEED	1719	1392	1238	1375	1547	1341	1203	967	917	928	817
	5		0.5D	1.0D	Vc	113	113	113	113	113	113	113	113	113	113	113
					fz	0.025	0.027	0.03	0.04	0.06	0.065	0.07	0.074	0.079	0.09	0.099
					RPM	11990	8992	7194	5995	4496	3597	2997	2248	1998	1798	1439
					FEED	1199	971	863	959	1079	935	839	665	631	647	570
	6-7	Low alloy steel	0.5D	1.0D	Vc	162	162	162	162	162	162	162	162	162	162	162
					fz	0.025	0.027	0.03	0.04	0.06	0.065	0.07	0.075	0.08	0.09	0.099
					RPM	17189	12892	10313	8594	6446	5157	4297	3223	2865	2578	2063
					FEED	1719	1392	1238	1375	1547	1341	1203	967	917	928	817
	8-9		0.5D	1.0D	Vc	113	113	113	113	113	113	113	113	113	113	113
					fz	0.025	0.027	0.03	0.04	0.06	0.065	0.07	0.074	0.079	0.09	0.099
					RPM	11990	8992	7194	5995	4496	3597	2997	2248	1998	1798	1439
					FEED	1199	971	863	959	1079	935	839	665	631	647	570
	10-11.1	High alloyed steel, and tool steel	0.5D	1.0D	Vc	68	68	68	68	68	68	68	68	68	68	68
					fz	0.017	0.019	0.021	0.028	0.042	0.045	0.049	0.052	0.056	0.063	0.07
					RPM	7215	5411	4329	3608	2706	2165	1804	1353	1203	1082	866
					FEED	491	411	364	404	455	390	354	281	269	273	242
M	12-13	Stainless steel	0.5D	1.0D	Vc	77	77	77	77	77	77	77	77	77	77	77
					fz	0.015	0.015	0.025	0.03	0.04	0.045	0.05	0.054	0.059	0.058	0.059
					RPM	8170	6127	4902	4085	3064	2451	2042	1532	1362	1225	980
					FEED	490	368	490	490	490	441	408	331	321	284	231
	14.1		0.5D	1.0D	Vc	85	85	85	85	85	85	85	85	85	85	85
					fz	0.02	0.02	0.025	0.041	0.045	0.05	0.055	0.06	0.064	0.065	0.068
					RPM	9019	6764	5411	4509	3382	2706	2255	1691	1503	1353	1082
					FEED	722	541	541	740	609	541	496	406	385	352	294
	14.2		0.5D	1.0D	Vc	77	77	77	77	77	77	77	77	77	77	77
					fz	0.02	0.02	0.025	0.041	0.045	0.05	0.055	0.06	0.064	0.065	0.068
					RPM	8170	6127	4902	4085	3064	2451	2042	1532	1362	1225	980
					FEED	654	490	490	670	551	490	449	368	349	319	267
K	15-20	Grey cast iron	0.5D	1.0D	Vc	119	119	119	119	119	119	119	119	119	119	119
					fz	0.031	0.033	0.037	0.05	0.074	0.081	0.087	0.093	0.099	0.112	0.124
					RPM	12626	9470	7576	6313	4735	3788	3157	2367	2104	1894	1515
					FEED	1566	1250	1121	1263	1402	1227	1098	881	833	848	752
S	31-35	Heat Resistant Super Alloys	0.2D	0.3D	Vc	21	21	21	21	21	21	21	21	21	21	21
					fz	0.014	0.014	0.017	0.028	0.031	0.035	0.038	0.042	0.045	0.045	0.048
					RPM	2228	1671	1337	1114	836	668	557	418	371	334	267
					FEED	125	94	91	125	104	94	85	70	67	60	51
	36-37	Titanium Alloys	0.5D	0.3D	Vc	47	47	47	47	47	47	47	47	47	47	47
					fz	0.018	0.018	0.022	0.037	0.04	0.045	0.049	0.054	0.058	0.058	0.061
					RPM	4987	3740	2992	2493	1870	1496	1247	935	831	748	598
					FEED	359	269	263	369	299	269	244	202	193	174	146



V7 PLUS END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

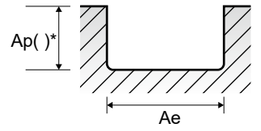
GMH65, GMF66, GMH67, GMH68

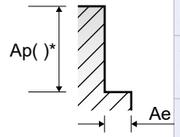
4 FLUTE - SIDE CUTTING / SLOTTING
4刃 - 侧铣削 / 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(切削宽度) Side 侧铣	Ae(切削宽度) Slotting 槽铣	Ap(切削深度) Side 侧铣	Ap(切削深度) Slotting 槽铣	Parameter 参数	Diameter (Ø) 直径 3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	25.0
P	1-4	Non-alloy steel	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	Vc	152	152	152	152	152	168	168	168	168	168	168	168
							fz	0.005	0.008	0.011	0.016	0.027	0.038	0.047	0.049	0.053	0.059	0.065	0.064
							RPM	16128	12096	9677	8064	6048	5348	4456	3820	3342	2971	2674	2139
							FEED	323	387	426	516	653	813	838	749	709	701	695	548
	5		0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	Vc	107	107	107	107	107	117	117	117	117	117	117	117
							fz	0.005	0.008	0.011	0.016	0.027	0.038	0.047	0.049	0.053	0.059	0.065	0.064
							RPM	11353	8515	6812	5677	4257	3724	3104	2660	2328	2069	1862	1490
							FEED	227	272	300	363	460	566	583	521	493	488	484	381
	6-7	Low alloy steel	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	Vc	152	152	152	152	152	168	168	168	168	168	168	168
							fz	0.005	0.008	0.011	0.016	0.027	0.038	0.047	0.049	0.053	0.059	0.065	0.064
							RPM	16128	12096	9677	8064	6048	5348	4456	3820	3342	2971	2674	2139
							FEED	323	387	426	516	653	813	838	749	709	701	695	548
	8-9		0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	Vc	107	107	107	107	107	117	117	117	117	117	117	117
							fz	0.005	0.008	0.011	0.016	0.027	0.038	0.047	0.049	0.053	0.059	0.065	0.064
							RPM	11353	8515	6812	5677	4257	3724	3104	2660	2328	2069	1862	1490
							FEED	227	272	300	363	460	566	583	521	493	488	484	381
	10-11.1	High alloyed steel, and tool steel	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	Vc	64	64	64	64	64	70	70	70	70	70	70	70
							fz	0.003	0.006	0.008	0.011	0.019	0.027	0.032	0.034	0.037	0.041	0.045	0.045
							RPM	6791	5093	4074	3395	2546	2228	1857	1592	1393	1238	1114	891
							FEED	81	122	130	149	194	241	238	216	206	203	201	160
M	12-13	Stainless steel	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	Vc	148	148	148	148	148	148	148	148	148	148	148	148
							fz	0.004	0.006	0.009	0.013	0.022	0.034	0.039	0.042	0.045	0.05	0.055	0.055
							RPM	15703	11777	9422	7852	5889	4711	3926	3365	2944	2617	2355	1884
							FEED	251	283	339	408	518	641	612	565	530	523	518	415
	14.1		0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	Vc	106	106	106	106	106	106	106	106	106	106	106	106
							fz	0.005	0.008	0.013	0.018	0.028	0.048	0.055	0.059	0.062	0.07	0.077	0.077
							RPM	11247	8435	6748	5623	4218	3374	2812	2410	2109	1874	1687	1350
							FEED	225	270	351	405	472	648	619	569	523	525	520	416
	14.2		0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	Vc	95	95	95	95	95	95	95	95	95	95	95	95
							fz	0.005	0.008	0.013	0.018	0.028	0.048	0.055	0.059	0.062	0.069	0.076	0.076
							RPM	10080	7560	6048	5040	3780	3024	2520	2160	1890	1680	1512	1210
							FEED	202	242	314	363	423	581	554	510	469	464	460	368
K	15-20	Grey cast iron	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	Vc	112	112	112	112	112	123	123	123	123	123	123	123
							fz	0.006	0.01	0.014	0.02	0.034	0.048	0.058	0.061	0.065	0.073	0.081	0.079
							RPM	11884	8913	7130	5942	4456	3915	3263	2797	2447	2175	1958	1566
							FEED	285	357	399	475	606	752	757	682	636	635	634	495
S	31-35	Heat Resistant Super Alloys	0.25D	1.0D	1.0D	0.5D	Vc	26	26	26	26	26	26	26	26	26	26	26	26
							fz	0.005	0.007	0.008	0.012	0.019	0.033	0.038	0.04	0.043	0.048	0.054	0.052
							RPM	2759	2069	1655	1379	1035	828	690	591	517	460	414	331
							FEED	55	58	53	66	79	109	105	95	89	88	89	69
	36-37	Titanium Alloys	0.4D	1.0D	1.0D	0.5D	Vc	58	58	58	58	58	58	58	58	58	58	58	58
							fz	0.004	0.007	0.011	0.016	0.025	0.042	0.05	0.053	0.055	0.062	0.068	0.069
							RPM	6154	4615	3692	3077	2308	1846	1538	1319	1154	1026	923	738
							FEED	98	129	162	197	231	310	308	280	254	254	251	204

*( ) : Short length
*( ) : 短刃





V7 PLUS END MILLS

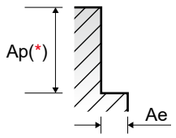
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GMH69, GMH71, GMH70 SERIES

6 FLUTE - SIDE CUTTING
6刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 6.0	8.0	10.0	12.0	16.0	20.0	25.0
P	1-4	Non-alloy steel	0.05D	2.0D	Vc	300	300	300	300	300	300	300
					fz	0.068	0.116	0.144	0.173	0.202	0.225	0.232
					RPM	15915	11937	9549	7958	5968	4775	3820
					FEED	6494	8308	8251	8260	7234	6446	5317
	5		0.05D	2.0D	Vc	203	203	203	203	203	203	203
					fz	0.05	0.085	0.106	0.128	0.149	0.167	0.174
					RPM	10769	8077	6462	5385	4039	3231	2585
					FEED	3231	4119	4110	4135	3610	3237	2698
	6-7	Low alloy steel	0.05D	2.0D	Vc	300	300	300	300	300	300	300
					fz	0.068	0.116	0.144	0.173	0.202	0.225	0.232
					RPM	15915	11937	9549	7958	5968	4775	3820
					FEED	6494	8308	8251	8260	7234	6446	5317
	8-9		0.05D	2.0D	Vc	203	203	203	203	203	203	203
					fz	0.05	0.085	0.106	0.128	0.149	0.167	0.174
					RPM	10769	8077	6462	5385	4039	3231	2585
					FEED	3231	4119	4110	4135	3610	3237	2698
	10-11.1	High alloyed steel, and tool steel	0.05D	2.0D	Vc	100	100	100	100	100	100	100
					fz	0.041	0.071	0.088	0.105	0.123	0.137	0.144
					RPM	5305	3979	3183	2653	1989	1592	1273
					FEED	1305	1695	1681	1671	1468	1308	1100
M	12-13	Stainless steel	0.05D	2.0D	Vc	213	213	213	213	213	213	213
					fz	0.049	0.084	0.104	0.125	0.146	0.162	0.168
					RPM	11300	8475	6780	5650	4238	3390	2712
					FEED	3322	4271	4231	4238	3712	3295	2734
	14.1		0.05D	2.0D	Vc	147	147	147	147	147	147	147
					fz	0.041	0.071	0.088	0.105	0.123	0.137	0.143
					RPM	7799	5849	4679	3899	2924	2340	1872
					FEED	1918	2492	2471	2457	2158	1923	1606
	14.2		0.05D	2.0D	Vc	134	134	134	134	134	134	134
					fz	0.041	0.071	0.088	0.105	0.123	0.137	0.142
					RPM	7109	5332	4265	3554	2666	2133	1706
					FEED	1749	2271	2252	2239	1967	1753	1454
K	15-20	Grey cast iron	0.05D	2.0D	Vc	225	225	225	225	225	225	225
					fz	0.082	0.139	0.173	0.208	0.242	0.270	0.278
					RPM	11937	8952	7162	5968	4476	3581	2865
					FEED	5844	7477	7426	7434	6510	5801	4786
S	31-35	Heat Resistant Super Alloys	0.05D	2.0D	Vc	33	33	33	33	33	33	33
					fz	0.033	0.055	0.07	0.082	0.097	0.112	0.115
					RPM	1751	1313	1050	875	657	525	420
					FEED	347	433	441	431	382	353	290
	36-37	Titanium Alloys	0.05D	2.0D	Vc	116	116	116	116	116	116	116
					fz	0.033	0.055	0.07	0.083	0.097	0.113	0.117
					RPM	6154	4615	3692	3077	2308	1846	1477
					FEED	1218	1523	1551	1532	1343	1252	1037



(*) : If product's Length of Cut(L.O.C) is below 2D, it must be applied L.O.C x 90%
(*) : 如果工件切深(L.O.C)是2D一下，AP应该做L.O.C X 90%

V7 INOX END MILLS

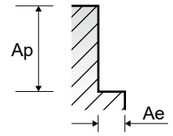
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

EMB72, EMB73 SERIES

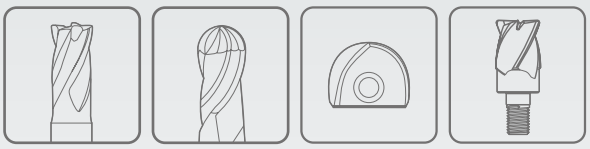
5 FLUTE - SIDE CUTTING
5刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 6.0	8.0	10.0	12.0	14.0	16.0	20.0
P	1-2	Non-alloy steel	0.25D	1.25D	Vc	135	135	135	135	135	135	135
					fz	0.034	0.038	0.050	0.063	0.069	0.076	0.089
					RPM	7162	5371	4297	3581	3069	2686	2149
					FEED	1218	1021	1074	1128	1059	1021	956
	6	Low alloy steel	0.25D	1.25D	Vc	135	135	135	135	135	135	135
					fz	0.034	0.038	0.050	0.063	0.069	0.076	0.089
					RPM	7162	5371	4297	3581	3069	2686	2149
					FEED	1218	1021	1074	1128	1059	1021	956
	10	High alloyed steel, and tool steel	0.25D	1.25D	Vc	135	135	135	135	135	135	135
					fz	0.034	0.038	0.050	0.063	0.069	0.076	0.089
					RPM	7162	5371	4297	3581	3069	2686	2149
					FEED	1218	1021	1074	1128	1059	1021	956
M	12-13	Stainless steel	0.25D	1.25D	Vc	105	105	105	145	105	105	105
					fz	0.030	0.032	0.038	0.043	0.064	0.068	0.076
					RPM	5570	4178	3342	3846	2387	2089	1671
					FEED	836	668	635	827	764	710	635
	14.1		0.25D	1.25D	Vc	115	115	115	115	115	115	115
					fz	0.030	0.032	0.038	0.063	0.065	0.069	0.076
					RPM	6101	4576	3661	3050	2615	2288	1830
					FEED	915	732	696	961	850	789	696
K	15-20	Grey cast iron	0.25D	1.25D	Vc	135	135	135	135	135	135	135
					fz	0.034	0.038	0.050	0.063	0.069	0.076	0.089
					RPM	7162	5371	4297	3581	3069	2686	2149
					FEED	1218	1021	1074	1128	1059	1021	956
S	31-35	Heat Resistant Super Alloys	0.25D	1.0D	Vc	25	25	25	25	25	25	25
					fz	0.017	0.020	0.025	0.036	0.045	0.048	0.060
					RPM	1326	995	796	663	568	497	398
					FEED	113	99	99	119	128	119	119
	36-37	Titanium Alloys	0.25D	1.25D	Vc	85	85	85	85	85	85	85
					fz	0.030	0.031	0.038	0.050	0.057	0.063	0.075
					RPM	4509	3382	2706	2255	1933	1691	1353
					FEED	676	524	514	564	551	533	507

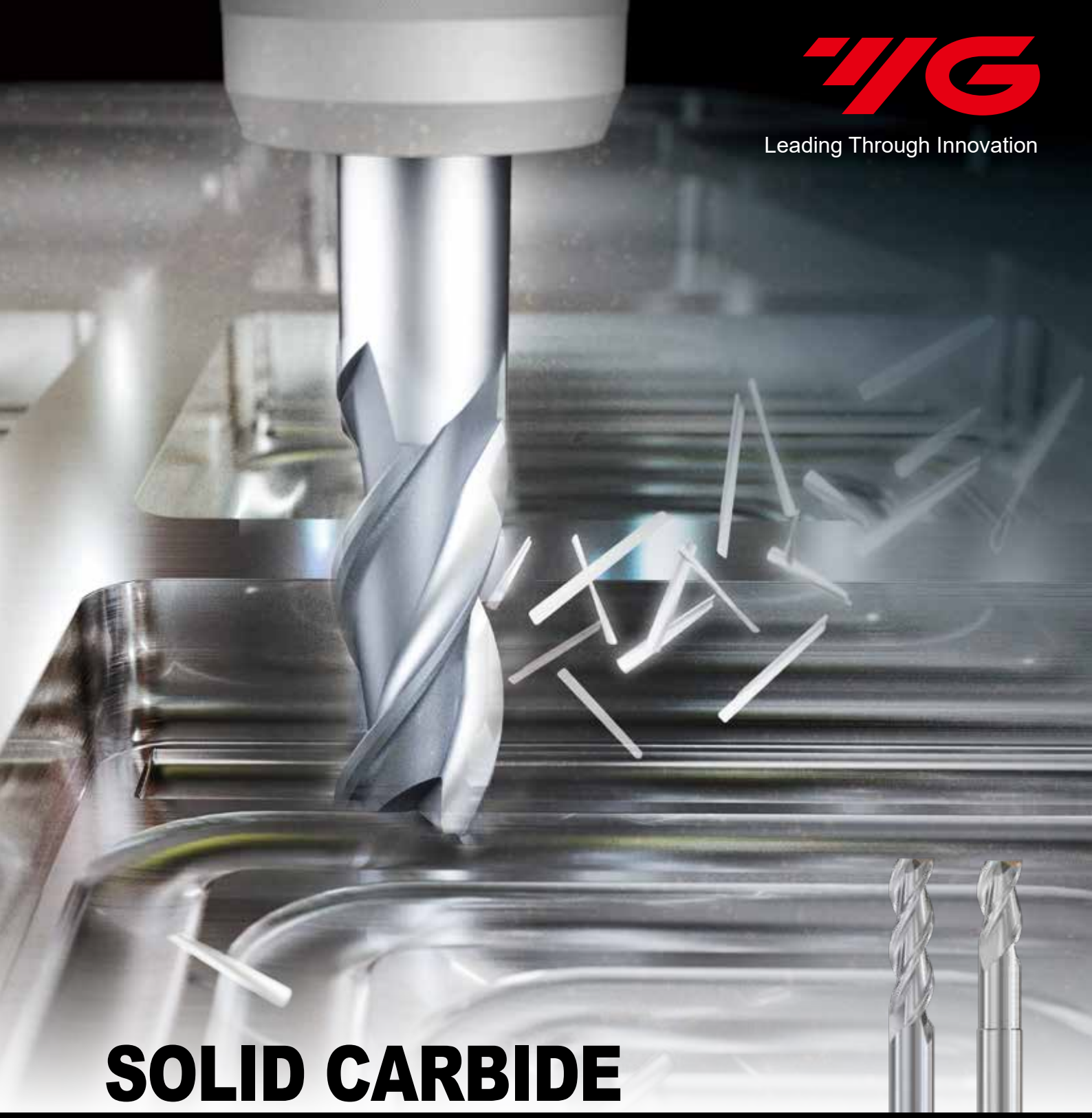


Global Cutting Tool Leader **YG-1**



MILLING

Leading Through Innovation



SOLID CARBIDE

ALU-POWER HPC

END MILLS

- For Aluminium, Aluminum Die Cast, Non-ferrous Alloys and Plastics

- 适用于加工铝，铝合金，非铁金属和塑料

SELECTION GUIDE
选用指南

MILLING TOOLS

SERIES 系列	E5H24 JAH24	E5H25 JAH25	E5H22 JAH22	E5H23 JAH23
FLUTE 槽数	3	3	3	3
HELIX ANGLE 螺旋角度	37°	37°	37°	37°
CUTTING EDGE SHAPE 类型	CORNER RADIUS	CORNER RADIUS	SQUARE	SQUARE
SIZE MIN 最小尺寸	D6.0	D6.0	D3.0	D6.0
SIZE MAX 最大尺寸	D20.0	D20.0	D25.0	D20.0
PAGE 页数	C402-404	C405-407	C408	C409
	-	EXTENDED NECK	-	EXTENDED NECK
	Uncoated	Uncoated	Uncoated	Uncoated
	DLC	DLC	DLC	DLC

SOLID CARBIDE
ALU-POWER HPC END MILLS

3-Flute, High-Performance,
For Aluminum, Aluminum Die Cast,
Non-Ferrous Alloys And Plastics
3刃，高性能，加工铝，铝合金，非铁金属和塑料

Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工参数) : p.C410

ISO	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB	HRc				
P	1	Non-alloy steel	About 0.15% C	Annealed	125					
	2		About 0.45% C	Annealed	190	13				
	3		About 0.45% C	Quenched & Tempered	250	25				
	4		About 0.75% C	Annealed	270	28				
	5		About 0.75% C	Quenched & Tempered	300	32				
	6	Low alloy steel		Annealed	180	10				
	7			Quenched & Tempered	275	29				
	8			Quenched & Tempered	300	32				
	9			Quenched & Tempered	350	38				
	10	High alloyed steel, and tool steel		Annealed	200	15				
	11			Quenched & Tempered	325	35				
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15				
	13		Martensitic	Quenched & Tempered	240	23				
	14		Austenitic		180	10				
K	15	Grey cast iron	Pearlitic / ferritic		180	10				
	16		Pearlitic (Martensitic)		260	26				
	17	Nodular cast iron	Ferritic		160	3				
	18		Pearlitic		250	25				
	19	Malleable cast iron	Ferritic		130					
	20		Pearlitic		230	21				
N	21	Aluminum-wrought alloy	Not Curable		60		◎	◎	◎	◎
	22		Curable	Hardened	100		◎	◎	◎	◎
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75		◎	◎	◎	◎
	24		≤ 12% Si, Curable	Hardened	90		◎	◎	◎	◎
	25		> 12% Si, Not Curable		130		○	○	○	○
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110		○	○	○	○
	27		CuZn, CuSnZn (Brass)		90		○	○	○	○
	28		CuSn, lead-free copper and electrolytic copper		100		○	○	○	○
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic				○	○	○	○
	30		Rubber, Wood, etc.							
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15				
	32			Cured	280	30				
	33		Ni or Co Based	Annealed	250	25				
	34			Cured	350	38				
	35			Cast	320	34				
	36	Titanium Alloys	Pure Titanium		400 Rm					
	37		Alpha + Beta Alloys	Hardened	1050 Rm					
H	38	Hardened steel		Hardened	550	55				
	39			Hardened	630	60				
	40	Chilled Cast Iron		Cast	400	42				
	41	Hardened Cast Iron		Hardened	550	55				

CORNER RADIUS = 圆鼻　SQUARE = 平头　EXTENDED NECK = 颈部加长　Uncoated = 非涂层

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AEROSPACE SOLUTIONS & COMPOSITE METERIALS

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

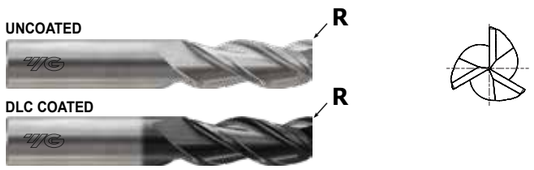
ALU-POWER HPC END MILLS

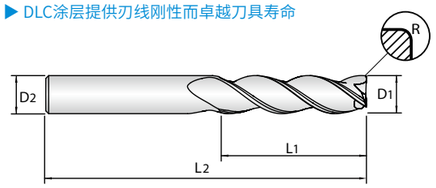
UNCOATED **E5H24** SERIES
DLC COATED **JAH24** SERIES
PLAIN SHANK

CARBIDE, 3 FLUTE 37° HELIX CORNER RADIUS
硬质合金，3刃 37度螺旋 圆鼻

- Balanced cutting with less vibration
- Ability to run at higher speeds with less heat in aluminum
- More efficient chip evacuation
- Ability to counteract extreme radial forces
- DLC Coating provides edge strength and unsurpassed tool life

- 减少振动及稳定加工
- 可用高速加工减少加工铝时发热
- 提高排屑性能
- 减少切削阻力
- DLC涂层提供刃线刚性而卓越刀具寿命





CARBIDE 3 37° PLAIN p.C410

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK	D15 - 46
SHRINK FIT HOLDER	D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK	D73 - 115
SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
		圆弧角	直径	柄径	刃长	全长
Uncoated	DLC	R	D1	D2	L1	L2
E5H24060	**JAH24060**	R0.5	**6.0**	6	13	57
E5H24901	**JAH24901**	R1.0	**6.0**	6	13	57
E5H24902	**JAH24902**	R1.5	**6.0**	6	13	57
E5H24903	**JAH24903**	R0.8	**6.0**	6	13	72
E5H24904	**JAH24904**	R1.2	**6.0**	6	13	72
E5H24905	**JAH24905**	R0.5	**6.0**	6	24	75
E5H24906	**JAH24906**	R1.0	**6.0**	6	24	75
E5H24080	**JAH24080**	R0.3	**8.0**	8	19	63
E5H24907	**JAH24907**	R0.5	**8.0**	8	19	63
E5H24908	**JAH24908**	R1.0	**8.0**	8	19	63
E5H24909	**JAH24909**	R1.5	**8.0**	8	19	63
E5H24910	**JAH24910**	R0.5	**8.0**	8	32	75
E5H24911	**JAH24911**	R1.0	**8.0**	8	32	75
E5H24912	**JAH24912**	R1.5	**8.0**	8	32	75
E5H24913	**JAH24913**	R2.0	**8.0**	8	32	75
E5H24100	**JAH24100**	R0.3	**10.0**	10	22	72
E5H24914	**JAH24914**	R0.5	**10.0**	10	22	72
E5H24915	**JAH24915**	R1.0	**10.0**	10	22	72
E5H24916	**JAH24916**	R1.5	**10.0**	10	22	72
E5H24917	**JAH24917**	R0.5	**10.0**	10	40	100

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Mill Diameter Tolerences (mm) 直径公差		Shank Diameter Tolerance 柄径公差
Diameter (直径)	Tolerance (公差)	
Up to 3	+0/-0.006	h5
Over 3 ~ up to 6	+0/-0.008	
Over 6 ~ up to 10	+0/-0.009	
Over 10 ~ up to 18	+0/-0.011	
Over 18 ~ up to 25	+0/-0.013	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	○	○	○	○	○												

ALU-POWER HPC END MILLS

UNCOATED E5H24 SERIES
DLC COATED JAH24 SERIES
PLAIN SHANK

CARBIDE, 3 FLUTE 37° HELIX CORNER RADIUS
硬质合金，3刃 37度螺旋 圆鼻

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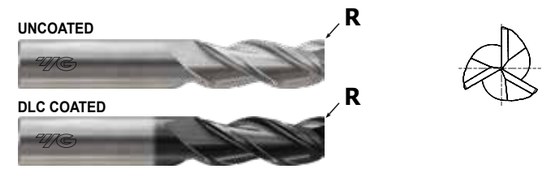

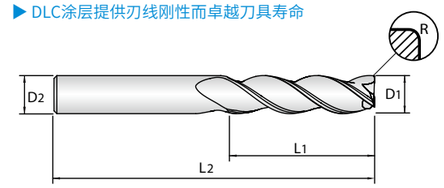

CARBIDE 3 37° PLAIN p.C410

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK	D15 - 46
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Unit(单位) : mm

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
		圆弧角	直径	柄径	刃长	全长
Uncoated	DLC	R	D1	D2	L1	L2
E5H24918	**JAH24918**	R1.0	**10.0**	10	40	100
E5H24919	**JAH24919**	R1.5	**10.0**	10	40	100
E5H24920	**JAH24920**	R2.0	**10.0**	10	40	100
E5H24120	**JAH24120**	R1.5	**12.0**	12	26	83
E5H24921	**JAH24921**	R2.0	**12.0**	12	26	83
E5H24922	**JAH24922**	R2.5	**12.0**	12	26	83
E5H24923	**JAH24923**	R3.0	**12.0**	12	26	83
E5H24924	**JAH24924**	R0.5	**12.0**	12	48	100
E5H24925	**JAH24925**	R1.0	**12.0**	12	48	100
E5H24926	**JAH24926**	R1.5	**12.0**	12	48	100
E5H24927	**JAH24927**	R2.0	**12.0**	12	48	100
E5H24928	**JAH24928**	R2.5	**12.0**	12	48	100
E5H24929	**JAH24929**	R3.0	**12.0**	12	48	100
E5H24140	**JAH24140**	R1.0	**14.0**	14	30	89
E5H24930	**JAH24930**	R2.0	**14.0**	14	30	89
E5H24931	**JAH24931**	R3.0	**14.0**	14	30	89
E5H24160	**JAH24160**	R1.5	**16.0**	16	32	92
E5H24932	**JAH24932**	R2.0	**16.0**	16	32	92
E5H24933	**JAH24933**	R2.5	**16.0**	16	32	92
E5H24934	**JAH24934**	R3.0	**16.0**	16	32	92

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Mill Diameter Tolerences (mm) 直径公差		Shank Diameter Tolerance 柄径公差
Diameter (直径)	Tolerance (公差)	
Up to 3	+0/-0.006	h5
Over 3 ~ up to 6	+0/-0.008	
Over 6 ~ up to 10	+0/-0.009	
Over 10 ~ up to 18	+0/-0.011	
Over 18 ~ up to 25	+0/-0.013	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	○	○	○	○	○												

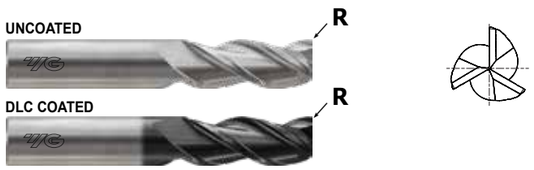
ALU-POWER HPC END MILLS

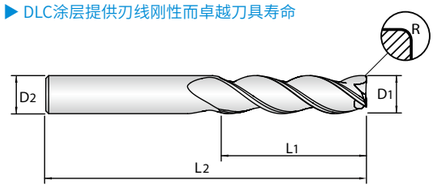
UNCOATED **E5H24** SERIES
DLC COATED **JAH24** SERIES
PLAIN SHANK

CARBIDE, 3 FLUTE 37° HELIX CORNER RADIUS
硬质合金，3刃 37度螺旋 圆鼻

- Balanced cutting with less vibration
- Ability to run at higher speeds with less heat in aluminum
- More efficient chip evacuation
- Ability to counteract extreme radial forces
- DLC Coating provides edge strength and unsurpassed tool life

- 减少振动及稳定加工
- 可用高速加工减少加工铝时发热
- 提高排屑性能
- 减少切削阻力
- DLC涂层提供刃线刚性而卓越刀具寿命





CARBIDE | 3 | 37° | PLAIN

p.C410

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK	D15 - 46
SHRINK FIT HOLDER	D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK	D73 - 115
SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
		圆弧角	直径	柄径	刃长	全长
Uncoated	DLC	R	D1	D2	L1	L2
E5H24935	**JAH24935**	R4.0	**16.0**	16	32	92
E5H24936	**JAH24936**	R0.5	**16.0**	16	64	125
E5H24937	**JAH24937**	R1.0	**16.0**	16	64	125
E5H24938	**JAH24938**	R1.5	**16.0**	16	64	125
E5H24939	**JAH24939**	R2.0	**16.0**	16	64	125
E5H24940	**JAH24940**	R2.5	**16.0**	16	64	125
E5H24941	**JAH24941**	R3.0	**16.0**	16	64	125
E5H24942	**JAH24942**	R4.0	**16.0**	16	64	125
E5H24200	**JAH24200**	R2.0	**20.0**	20	38	104
E5H24943	**JAH24943**	R2.5	**20.0**	20	38	104
E5H24944	**JAH24944**	R3.0	**20.0**	20	38	104
E5H24945	**JAH24945**	R4.0	**20.0**	20	38	104
E5H24946	**JAH24946**	R0.5	**20.0**	20	80	150
E5H24947	**JAH24947**	R1.0	**20.0**	20	80	150
E5H24948	**JAH24948**	R1.5	**20.0**	20	80	150
E5H24949	**JAH24949**	R2.0	**20.0**	20	80	150
E5H24950	**JAH24950**	R2.5	**20.0**	20	80	150
E5H24951	**JAH24951**	R3.0	**20.0**	20	80	150
E5H24952	**JAH24952**	R4.0	**20.0**	20	80	150

Mill Diameter Tolerences (mm) 直径公差		Shank Diameter Tolerance 柄径公差
Diameter (直径)	Tolerance (公差)	
Up to 3	+0/-0.006	h5
Over 3 ~ up to 6	+0/-0.008	
Over 6 ~ up to 10	+0/-0.009	
Over 10 ~ up to 18	+0/-0.011	
Over 18 ~ up to 25	+0/-0.013	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	○	○	○	○	○												

ALU-POWER HPC END MILLS

UNCOATED **E5H25** SERIES
DLC COATED **JAH25** SERIES
PLAIN SHANK

CARBIDE, 3 FLUTE 37° HELIX CORNER RADIUS with EXTENDED NECK
硬质合金，3刃 37度螺旋 圆鼻 颈部加长

- Balanced cutting with less vibration
- Ability to run at higher speeds with less heat in aluminum
- More efficient chip evacuation
- Ability to counteract extreme radial forces
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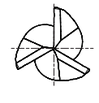
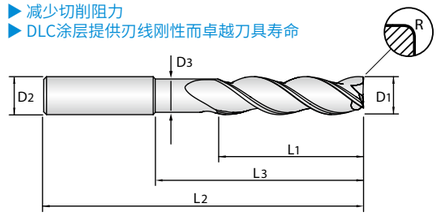
- 可用高速加工减少加工铝时发热
- 提高排屑性能
- 减少切削阻力
- DLC涂层提供刃线刚性而卓越刀具寿命





CARBIDE | 3 | 37° | PLAIN

p.C410

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK	D15 - 46
SHRINK FIT HOLDER	D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK	D73 - 115
SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
		圆弧角	直径	柄径	刃长	颈长	全长	颈径
Uncoated	DLC	R	D1	D2	L1	L3	L2	D3
E5H25060	**JAH25060**	R0.5	**6.0**	6	10	20	63	5.7
E5H25901	**JAH25901**	R1.0	**6.0**	6	10	20	63	5.7
E5H25902	**JAH25902**	R0.5	**6.0**	6	13	30	72	5.7
E5H25903	**JAH25903**	R1.0	**6.0**	6	13	30	72	5.7
E5H25080	**JAH25080**	R0.3	**8.0**	8	12	25	75	7.4
E5H25904	**JAH25904**	R0.5	**8.0**	8	12	25	75	7.4
E5H25905	**JAH25905**	R0.8	**8.0**	8	12	25	75	7.4
E5H25906	**JAH25906**	R1.0	**8.0**	8	12	25	75	7.4
E5H25907	**JAH25907**	R1.2	**8.0**	8	12	25	75	7.4
E5H25908	**JAH25908**	R1.5	**8.0**	8	12	25	75	7.4
E5H25909	**JAH25909**	R1.6	**8.0**	8	12	25	75	7.4
E5H25100	**JAH25100**	R0.3	**10.0**	10	14	35	100	9.2
E5H25910	**JAH25910**	R0.5	**10.0**	10	14	35	100	9.2
E5H25911	**JAH25911**	R0.8	**10.0**	10	14	35	100	9.2
E5H25912	**JAH25912**	R1.0	**10.0**	10	14	35	100	9.2
E5H25913	**JAH25913**	R1.2	**10.0**	10	14	35	100	9.2
E5H25914	**JAH25914**	R1.5	**10.0**	10	14	35	100	9.2
E5H25915	**JAH25915**	R1.6	**10.0**	10	14	35	100	9.2

▶ NEXT PAGE 下页

Mill Diameter Tolerences (mm) 直径公差		Shank Diameter Tolerance 柄径公差
Diameter (直径)	Tolerance (公差)	
Up to 3	+0/-0.006	h5
Over 3 ~ up to 6	+0/-0.008	
Over 6 ~ up to 10	+0/-0.009	
Over 10 ~ up to 18	+0/-0.011	
Over 18 ~ up to 25	+0/-0.013	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	○	○	○	○	○												

ALU-POWER HPC END MILLS

UNCOATED **E5H25** SERIES
DLC COATED **JAH25** SERIES
PLAIN SHANK

CARBIDE, 3 FLUTE 37° HELIX CORNER RADIUS with EXTENDED NECK
硬质合金，3刃 37度螺旋 圆鼻 颈部加长

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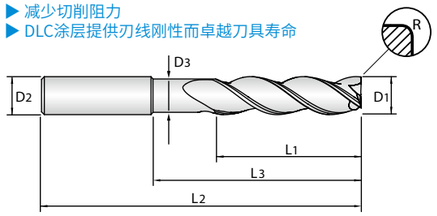
- 减少切削阻力
- DLC涂层提供刃线刚性而卓越刀具寿命

UNCOATED

DLC COATED



CARBIDE | 3 | 37° | PLAIN

p.C410

Recommended ToolHolder

	Plain Shank	Page
◎	HYDRAULIC CHUCK	D15 - 46
◎	SHRINK FIT HOLDER	D47 - 72
	POWER MILLING CHUCK	D161 - 176
○	ER COLLET CHUCK	D73 - 115
	SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
		圆弧角	直径	柄径	刃长	颈长	全长	颈径
Uncoated	DLC	R	D_1	D_2	L_1	L_3	L2	D_3
E5H25916	**JAH25916**	R2.4	**10.0**	10	14	35	100	9.2
E5H25120	**JAH25120**	R0.5	**12.0**	12	16	40	100	11.0
E5H25917	**JAH25917**	R0.8	**12.0**	12	16	40	100	11.0
E5H25918	**JAH25918**	R1.0	**12.0**	12	16	40	100	11.0
E5H25919	**JAH25919**	R1.2	**12.0**	12	16	40	100	11.0
E5H25920	**JAH25920**	R1.5	**12.0**	12	16	40	100	11.0
E5H25921	**JAH25921**	R1.6	**12.0**	12	16	40	100	11.0
E5H25922	**JAH25922**	R2.0	**12.0**	12	16	40	100	11.0
E5H25923	**JAH25923**	R2.4	**12.0**	12	16	40	100	11.0
E5H25924	**JAH25924**	R2.5	**12.0**	12	16	40	100	11.0
E5H25925	**JAH25925**	R3.0	**12.0**	12	16	40	100	11.0
E5H25926	**JAH25926**	R4.0	**12.0**	12	16	40	100	11.0
E5H25140	**JAH25140**	R1.0	**14.0**	14	18	45	125	13.0
E5H25927	**JAH25927**	R2.0	**14.0**	14	18	45	125	13.0
E5H25928	**JAH25928**	R3.0	**14.0**	14	18	45	125	13.0
E5H25929	**JAH25929**	R4.0	**14.0**	14	18	45	125	13.0
E5H25160	**JAH25160**	R0.8	**16.0**	16	20	50	125	15.0
E5H25930	**JAH25930**	R1.2	**16.0**	16	20	50	125	15.0

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Mill Diameter Tolerences (mm) 直径公差		Shank Diameter Tolerance 柄径公差
Diameter (直径)	Tolerance (公差)	
Up to 3	+0/-0.006	h5
Over 3 ~ up to 6	+0/-0.008	
Over 6 ~ up to 10	+0/-0.009	
Over 10 ~ up to 18	+0/-0.011	
Over 18 ~ up to 25	+0/-0.013	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	○	○	○	○	○												

ALU-POWER HPC END MILLS

UNCOATED **E5H25** SERIES
DLC COATED **JAH25** SERIES
PLAIN SHANK

CARBIDE, 3 FLUTE 37° HELIX CORNER RADIUS with EXTENDED NECK
硬质合金，3刃 37度螺旋 圆鼻 颈部加长

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UNCOATED

DLC COATED

CARBIDE | 3 | 37° | PLAIN

p.C410

Recommended ToolHolder

	Plain Shank	Page
◎	HYDRAULIC CHUCK	D15 - 46
◎	SHRINK FIT HOLDER	D47 - 72
	POWER MILLING CHUCK	D161 - 176
○	ER COLLET CHUCK	D73 - 115
	SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
		圆弧角	直径	柄径	刃长	颈长	全长	颈径
Uncoated	DLC	R	D_1	D_2	L_1	L_3	L2	D_3
E5H25931	**JAH25931**	R1.6	**16.0**	16	20	50	125	15.0
E5H25932	**JAH25932**	R2.0	**16.0**	16	20	50	125	15.0
E5H25933	**JAH25933**	R2.4	**16.0**	16	20	50	125	15.0
E5H25934	**JAH25934**	R2.5	**16.0**	16	20	50	125	15.0
E5H25935	**JAH25935**	R3.0	**16.0**	16	20	50	125	15.0
E5H25936	**JAH25936**	R3.2	**16.0**	16	20	50	125	15.0
E5H25937	**JAH25937**	R4.0	**16.0**	16	20	50	125	15.0
E5H25200	**JAH25200**	R0.8	**20.0**	20	25	65	150	19.0
E5H25938	**JAH25938**	R1.2	**20.0**	20	25	65	150	19.0
E5H25939	**JAH25939**	R1.6	**20.0**	20	25	65	150	19.0
E5H25940	**JAH25940**	R2.0	**20.0**	20	25	65	150	19.0
E5H25941	**JAH25941**	R2.4	**20.0**	20	25	65	150	19.0
E5H25942	**JAH25942**	R2.5	**20.0**	20	25	65	150	19.0
E5H25943	**JAH25943**	R3.0	**20.0**	20	25	65	150	19.0
E5H25944	**JAH25944**	R3.2	**20.0**	20	25	65	150	19.0
E5H25945	**JAH25945**	R4.0	**20.0**	20	25	65	150	19.0

Mill Diameter Tolerences (mm) 直径公差		Shank Diameter Tolerance 柄径公差
Diameter (直径)	Tolerance (公差)	
Up to 3	+0/-0.006	h5
Over 3 ~ up to 6	+0/-0.008	
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ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	○	○	○	○	○												

ALU-POWER HPC END MILLS

UNCOATED **E5H22** SERIES
DLC COATED **JAH22** SERIES
PLAIN SHANK

CARBIDE, 3 FLUTE 37° HELIX
硬质合金，3刃 37度螺旋

- Balanced cutting with less vibration
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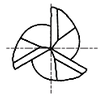
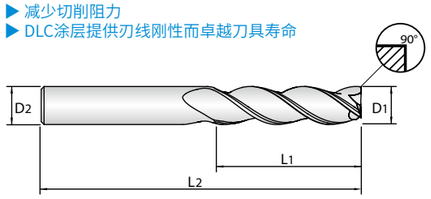
- More efficient chip evacuation
- Ability to counteract extreme radial forces
- DLC Coating provides edge strength and unsurpassed tool life

- 减少振动及稳定加工
- 可用高速加工减少加工铝时发热
- 提高排屑性能
- 减少切削阻力
- DLC涂层提供刃线刚性而卓越刀具寿命

UNCOATED

DLC COATED





CARBIDE | 3 | 37° | PLAIN

p.C411

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK	D15 - 46
SHRINK FIT HOLDER	D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK	D73 - 115
SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.		Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
Uncoated	DLC	D_1	D_2	L_1	L_2
E5H22030	JAH22030	3.0	6	8	52
E5H22040	JAH22040	4.0	6	11	55
E5H22050	JAH22050	5.0	6	13	57
E5H22060	JAH22060	6.0	6	13	57
E5H22901	JAH22901	6.0	6	13	72
E5H22902	JAH22902	6.0	6	24	75
E5H22080	JAH22080	8.0	8	19	63
E5H22903	JAH22903	8.0	8	32	75
E5H22100	JAH22100	10.0	10	22	72
E5H22904	JAH22904	10.0	10	40	100
E5H22120	JAH22120	12.0	12	26	83
E5H22905	JAH22905	12.0	12	48	100
E5H22140	JAH22140	14.0	14	30	89
E5H22160	JAH22160	16.0	16	32	92
E5H22906	JAH22906	16.0	16	64	125
E5H22200	JAH22200	20.0	20	38	104
E5H22907	JAH22907	20.0	20	80	150
E5H22250	JAH22250	25.0	25	50	125

Mill Diameter Tolerences (mm) 直径公差		Shank Diameter Tolerance 柄径公差
Diameter (直径)	Tolerance (公差)	
Up to 3	+0/-0.006	h5
Over 3 ~ up to 6	+0/-0.008	
Over 6 ~ up to 10	+0/-0.009	
Over 10 ~ up to 18	+0/-0.011	
Over 18 ~ up to 25	+0/-0.013	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	○	○	○	○	○												

ALU-POWER HPC END MILLS

UNCOATED **E5H23** SERIES
DLC COATED **JAH23** SERIES
PLAIN SHANK

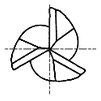
CARBIDE, 3 FLUTE 37° HELIX with EXTENDED NECK
硬质合金，3刃 37度螺旋 颈部加长

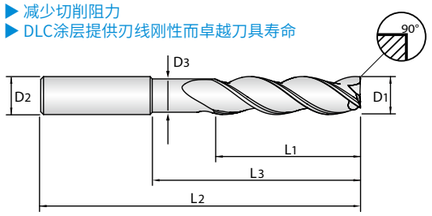
- Balanced cutting with less vibration
- Ability to run at higher speeds with less heat in aluminum
- More efficient chip evacuation
- Ability to counteract extreme radial forces
- DLC Coating provides edge strength and unsurpassed tool life

- 减少振动及稳定加工
- 可用高速加工减少加工铝时发热
- 提高排屑性能
- 减少切削阻力
- DLC涂层提供刃线刚性而卓越刀具寿命

UNCOATED

DLC COATED





CARBIDE | 3 | 37° | PLAIN

p.C411

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK	D15 - 46
SHRINK FIT HOLDER	D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK	D73 - 115
SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.		Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Length Below Shank 颈长	Overall Length 全长	Neck Diameter 颈径
Uncoated	DLC	D_1	D_2	L_1	L_3	L2	D3
E5H23060	JAH23060	6.0	6	10	20	75	5.7
E5H23080	JAH23080	8.0	8	12	25	75	7.4
E5H23100	JAH23100	10.0	10	14	35	100	9.2
E5H23120	JAH23120	12.0	12	16	40	100	11.0
E5H23140	JAH23140	14.0	14	18	45	125	13.0
E5H23160	JAH23160	16.0	16	20	50	125	15.0
E5H23200	JAH23200	20.0	20	25	65	150	19.0

Mill Diameter Tolerences (mm) 直径公差		Shank Diameter Tolerance 柄径公差
Diameter (直径)	Tolerance (公差)	
Up to 3	+0/-0.006	h5
Over 3 ~ up to 6	+0/-0.008	
Over 6 ~ up to 10	+0/-0.009	
Over 10 ~ up to 18	+0/-0.011	
Over 18 ~ up to 25	+0/-0.013	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	○	○	○	○	○												

ALU-POWER HPC END MILLS

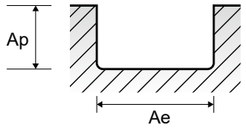
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

E5H24, JAH24, E5H25, JAH25 SERIES

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

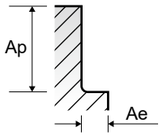
3 FLUTE CORNER RADIUS - SLOTTING (3刃 圆鼻- 槽铣削)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	6.0	10.0	12.0	16.0	20.0
N	21~22	Aluminum-wrought alloy	1.0D	1.0D	Vc	488	488	488	488	488
					fz	0.076	0.114	0.152	0.168	0.191
					RPM	25889	15533	12945	9708	7767
					FEED	5918	5326	5918	4883	4439
	23~25	Aluminum-cast, alloyed	1.0D	1.0D	Vc	183	183	183	183	183
					fz	0.076	0.114	0.152	0.168	0.191
					RPM	9708	5825	4854	3641	2913
					FEED	2219	1997	2219	1831	1665
	26-28	Copper and Copper Alloys (Bronze / Brass)	1.0D	1.0D	Vc	268	268	268	268	268
					fz	0.051	0.102	0.127	0.140	0.152
					RPM	14218	8531	7109	5332	4265
					FEED	2167	2600	2708	2235	1950
	29.1	Non Metallic Materials	1.0D	1.0D	Vc	503	503	503	503	503
					fz	0.102	0.191	0.254	0.279	0.305
					RPM	26685	16011	13342	10007	8005
					FEED	8134	9150	10167	8388	7320



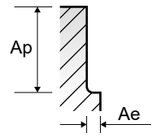
3 FLUTE CORNER RADIUS - SIDE CUTTING (3刃 圆鼻- 侧铣削)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	6.0	10.0	12.0	16.0	20.0
N	21~22	Aluminum-wrought alloy	0.5D	1.5D	Vc	610	610	610	610	610
					fz	0.076	0.114	0.152	0.168	0.191
					RPM	32361	19417	16181	12136	9708
					FEED	7398	6658	7398	6103	5548
	23~25	Aluminum-cast, alloyed	0.5D	1.5D	Vc	244	244	244	244	244
					fz	0.076	0.114	0.152	0.168	0.191
					RPM	12945	7767	6472	4854	3883
					FEED	2959	2663	2959	2441	2219
	26-28	Copper and Copper Alloys (Bronze / Brass)	0.5D	1.5D	Vc	351	351	351	351	351
					fz	0.051	0.102	0.127	0.140	0.152
					RPM	18621	11173	9311	6983	5586
					FEED	2838	3405	3547	2927	2554
	29.1	Non Metallic Materials	0.5D	1.5D	Vc	625	625	625	625	625
					fz	0.102	0.191	0.254	0.279	0.305
					RPM	33157	19894	16579	12434	9947
					FEED	10106	11370	12633	10422	9096



3 FLUTE CORNER RADIUS - SIDE CUTTING HSM (Light) (3刃 圆鼻- 侧铣削 HSM (Light))

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	6.0	10.0	12.0	16.0	20.0
N	21~22	Aluminum-wrought alloy	0.05D	2.0D	Vc	1006	1006	1006	1006	1006
					fz	0.140	0.267	0.356	0.381	0.419
					RPM	53370	32022	26685	20014	16011
					FEED	22367	25621	28467	22876	20131
	23~25	Aluminum-cast, alloyed	0.05D	2.0D	Vc	366	366	366	366	366
					fz	0.140	0.267	0.356	0.381	0.419
					RPM	19417	11650	9708	7281	5825
					FEED	8138	9321	10357	8323	7324
	26-28	Copper and Copper Alloys (Bronze / Brass)	0.05D	2.0D	Vc	564	564	564	564	564
					fz	0.114	0.216	0.292	0.330	0.356
					RPM	29921	17953	14961	11220	8976
					FEED	10260	11628	13110	11115	9576
	29.1	Non Metallic Materials	0.05D	2.0D	Vc	1021	1021	1021	1021	1021
					fz	0.229	0.432	0.584	0.635	0.699
					RPM	54166	32499	27083	20312	16250
					FEED	37147	42100	47465	38695	34051

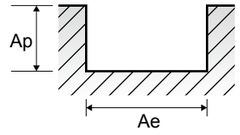


E5H22, JAH22, E5H23, JAH23 SERIES

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

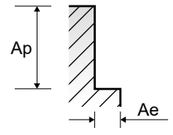
3 FLUTE - SLOTTING (3刃 - 槽铣削)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Mill Diameter (Ø) 3.0	6.0	10.0	12.0	16.0	20.0	25.0
N	21~22	Aluminum-wrought alloy	1.0D	1.0D	Vc	488	488	488	488	488	488	488
					fz	0.025	0.076	0.114	0.152	0.168	0.191	0.254
					RPM	51778	25889	15533	12945	9708	7767	6213
					FEED	3946	5918	5326	5918	4883	4439	4735
	23~25	Aluminum-cast, alloyed	1.0D	1.0D	Vc	183	183	183	183	183	183	183
					fz	0.025	0.076	0.114	0.152	0.168	0.191	0.254
					RPM	19417	9708	5825	4854	3641	2913	2330
					FEED	1480	2219	1997	2219	1831	1665	1775
	26-28	Copper and Copper Alloys (Bronze / Brass)	1.0D	1.0D	Vc	268	268	268	268	268	268	268
					fz	0.020	0.051	0.102	0.127	0.140	0.152	0.178
					RPM	28436	14218	8531	7109	5332	4265	3412
					FEED	1733	2167	2600	2708	2235	1950	1820
	29.1	Non Metallic Materials	1.0D	1.0D	Vc	503	503	503	503	503	503	503
					fz	0.038	0.102	0.191	0.254	0.279	0.305	0.356
					RPM	53370	26685	16011	13342	10007	8005	6404
					FEED	6100	8134	9150	10167	8388	7320	6832



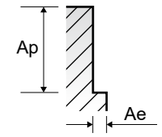
3 FLUTE - SIDE CUTTING (3刃 - 侧铣削)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Mill Diameter (Ø) 3.0	6.0	10.0	12.0	16.0	20.0	25.0
N	21~22	Aluminum-wrought alloy	0.5D	1.5D	Vc	610	610	610	610	610	610	610
					fz	0.025	0.076	0.114	0.152	0.168	0.191	0.254
					RPM	64723	32361	19417	16181	12136	9708	7767
					FEED	4932	7398	6658	7398	6103	5548	5918
	23~25	Aluminum-cast, alloyed	0.5D	1.5D	Vc	244	244	244	244	244	244	244
					fz	0.025	0.076	0.114	0.152	0.168	0.191	0.254
					RPM	25889	12945	7767	6472	4854	3883	3107
					FEED	1973	2959	2663	2959	2441	2219	2367
	26-28	Copper and Copper Alloys (Bronze / Brass)	0.5D	1.5D	Vc	351	351	351	351	351	351	351
					fz	0.020	0.051	0.102	0.127	0.140	0.152	0.178
					RPM	37242	18621	11173	9311	6983	5586	4469
					FEED	2270	2838	3405	3547	2927	2554	2384
	29.1	Non Metallic Materials	0.5D	1.5D	Vc	625	625	625	625	625	625	625
					fz	0.038	0.102	0.191	0.254	0.279	0.305	0.356
					RPM	66314	33157	19894	16579	12434	9947	7958
					FEED	7580	10106	11370	12633	10422	9096	8489

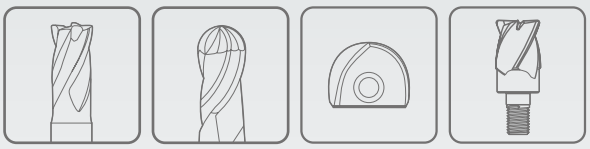


3 FLUTE - SIDE CUTTING HSM (Light) (3刃 - 侧铣削 HSM (Light))

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Mill Diameter (Ø) 3.0	6.0	10.0	12.0	16.0	20.0	25.0
N	21~22	Aluminum-wrought alloy	0.05D	2.0D	Vc	1006	1006	1006	1006	1006	1006	1006
					fz	0.053	0.140	0.267	0.356	0.381	0.419	0.495
					RPM	106740	53370	32022	26685	20014	16011	12809
					FEED	17080	22367	25621	28467	22876	20131	19033
	23~25	Aluminum-cast, alloyed	0.05D	2.0D	Vc	366	366	366	366	366	366	366
					fz	0.053	0.140	0.267	0.356	0.381	0.419	0.495
					RPM	38834	19417	11650	9708	7281	5825	4660
					FEED	6214	8138	9321	10357	8323	7324	6924
	26-28	Copper and Copper Alloys (Bronze / Brass)	0.05D	2.0D	Vc	564	564	564	564	564	564	564
					fz	0.043	0.114	0.216	0.292	0.330	0.356	0.406
					RPM	59842	29921	17953	14961	11220	8976	7181
					FEED	7752	10260	11628	13110	11115	9576	8755
	29.1	Non Metallic Materials	0.05D	2.0D	Vc	1021	1021	1021	1021	1021	1021	1021
					fz	0.086	0.229	0.432	0.584	0.635	0.699	0.813
					RPM	108331	54166	32499	27083	20312	16250	13000
					FEED	28066	37147	42100	47465	38695	34051	31699



Global Cutting Tool Leader **YG-1**



MILLING

YG

Leading Through Innovation

SOLID CARBIDE

ALU-CUT END MILLS

- Aluminium Alloys and Silent Cutting

- 适用于加工铝合金而无声切削

SELECTION GUIDE
选用指南

MILLING TOOLS

SERIES 系列	E5D71	E5C72	E5D70	E5D73
FLUTE 槽数	2	3	3	3
HELIX ANGLE 螺旋角度	45°	45°	45°	45°
CUTTING EDGE SHAPE 类型	SQUARE	SQUARE	SQUARE	ROUGHING
SIZE MIN 最小尺寸	D1.0	D1.0	D1.0	D4.0
SIZE MAX 最大尺寸	D20.0	D20.0	D20.0	D20.0
PAGE 页数	C415-416	C417	C418-423	C424-425
	-	SHORT LENGTH	-	Type A/B
	Uncoated	Uncoated	Uncoated	Uncoated

SOLID CARBIDE

ALU-CUT END MILLS

Aluminium Alloys and Silent Cutting
加工铝合金而无声切削

Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工参数) : p.C426

ISO	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB	HRc					
P	1	Non-alloy steel	About 0.15% C	Annealed	125						
	2		About 0.45% C	Annealed	190	13					
	3		About 0.45% C	Quenched & Tempered	250	25					
	4		About 0.75% C	Annealed	270	28					
	5		About 0.75% C	Quenched & Tempered	300	32					
	6	Low alloy steel		Annealed	180	10					
	7			Quenched & Tempered	275	29					
	8			Quenched & Tempered	300	32					
	9			Quenched & Tempered	350	38					
	10	High alloyed steel, and tool steel		Annealed	200	15					
	11			Quenched & Tempered	325	35					
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15					
	13		Martensitic	Quenched & Tempered	240	23					
	14		Austenitic		180	10					
K	15	Grey cast iron	Pearlitic / ferritic		180	10					
	16		Pearlitic (Martensitic)		260	26					
	17	Nodular cast iron	Ferritic		160	3					
	18		Pearlitic		250	25					
	19	Malleable cast iron	Ferritic		130						
	20		Pearlitic		230	21					
N	21	Aluminum-wrought alloy	Not Curable		60		◎	◎	◎	◎	
	22		Curable	Hardened	100		◎	◎	◎	◎	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75		◎	◎	◎	◎	
	24		≤ 12% Si, Curable	Hardened	90		◎	◎	◎	◎	
	25		> 12% Si, Not Curable		130		◎		◎	◎	
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110						
	27		CuZn, CuSnZn (Brass)		90						
	28		CuSn, lead-free copper and electrolytic copper		100						
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic								
	30		Rubber, Wood, etc.								
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15					
	32			Cured	280	30					
	33		Ni or Co Based	Annealed	250	25					
	34			Cured	350	38					
	35			Cast	320	34					
	36	Titanium Alloys	Pure Titanium		400 Rm						
	37		Alpha + Beta Alloys	Hardened	1050 Rm						
H	38	Hardened steel		Hardened	550	55					
	39			Hardened	630	60					
	40	Chilled Cast Iron		Cast	400	42					
	41	Hardened Cast Iron		Hardened	550	55					

SQUARE = 平头　ROUGHING = 粗加工　SHORT LENGTH = 短刀　Uncoated = 非涂层

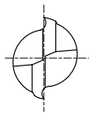
ALU-CUT END MILLS

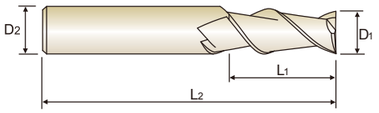
PLAIN SHANK **E5D71 SERIES**

CARBIDE, 2 FLUTE 45° HELIX
硬质合金，2刃 45度螺旋

- ▶ Suitable for workpieces of nonferrous metals including Aluminum and Aluminum Alloys
- ▶ Improvement of surface roughness of workpieces and wearresistance due to Mirror grinding of cutting edges
- ▶ Special cutting edges for minimization of vibration
- ▶ Very small toelrance of cutting diameters
- ▶ Available regular and long cutting lengths

- ▶ 卓越性能在铝件，铝合金，非铁金属
- ▶ 镜面处理提高耐磨性，加工时表面粗糙度
- ▶ 特殊刃线设计减小震动
- ▶ 高精度直径公差
- ▶ 可选标准刃，长刃





CARBIDE | 2 | 45° | PLAIN

p.C427

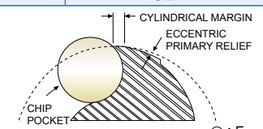
Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK	D15 - 46
			SHRINK FIT HOLDER	D47 - 72
			POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
E5D71010	1.0	6	3	50
E5D7101005	1.0	6	5	50
E5D7101006	1.0	6	6	60
E5D71012	1.2	6	4	50
E5D71015	1.5	6	5	50
E5D7101508	1.5	6	8	60
E5D71020	2.0	6	6	50
E5D7102008	2.0	6	8	50
E5D7102010	2.0	6	10	60
E5D71025	2.5	6	8	55
E5D71030	3.0	6	11	55
E5D7103015	3.0	6	15	65
E5D71040	4.0	6	13	55
E5D7104016	4.0	6	16	65
E5D71050	5.0	6	17	55
E5D7105022	5.0	6	22	60
E5D71060	6.0	6	17	60
E5D7106025	6.0	6	25	70
E5D71070	7.0	8	22	65
E5D71080	8.0	8	22	70
E5D7108030	8.0	8	30	80
E5D71100	10.0	10	27	75
E5D7110035	10.0	10	35	90
E5D71120	12.0	12	32	80

Mill Dia.Tolerance (mm) 刃部公差	Shank Dia.Tolerance 柄部公差
0 ~ - 0.015	h5



▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎																

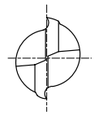
YG ALU-CUT END MILLS

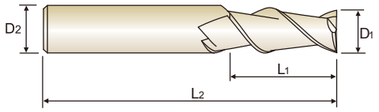
PLAIN SHANK **E5D71 SERIES**

CARBIDE, 2 FLUTE 45° HELIX
硬质合金，2刃 45度螺旋

- ▶ Suitable for workpieces of nonferrous metals including Aluminum and Aluminum Alloys
- ▶ Improvement of surface roughness of workpieces and wearresistance due to Mirror grinding of cutting edges
- ▶ Special cutting edges for minimization of vibration
- ▶ Very small toelrance of cutting diameters
- ▶ Available regular and long cutting lengths

- ▶双芯厚铣刀具有独特沟槽设计，实现出色排屑性能与优秀刚性
- ▶双芯厚实现稳定性和排屑性能，减少刀具偏斜，提高尺寸稳定性和工件精度





CARBIDE | 2 | 45° | PLAIN | p.C427

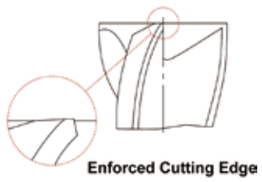
Recommended ToolHolder

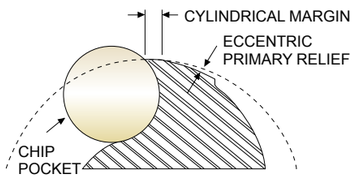
Flat Shank		Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK	D15 - 46
			SHRINK FIT HOLDER	D47 - 72
			POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
E5D7112040	12.0	12	40	95
E5D71140	14.0	14	37	90
E5D7114016S	14.0	16	37	90
E5D71160	16.0	16	42	100
E5D7116052	16.0	16	52	110
E5D71180	18.0	16	48	100
E5D71200	20.0	20	48	100
E5D7120055	20.0	20	55	110

Mill Dia.Tolerance (mm) 刃部公差	Shank Dia.Tolerance 柄部公差
0 ~ - 0.015	h5





◎ : Excellent (优秀) ○ : Good (良好)

ISO	P													M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel				Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommend																						

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎																

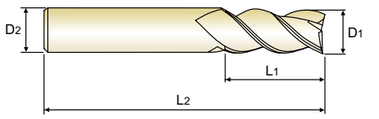
YG K-2 Plus ALU END MILLS

PLAIN SHANK **E5C72 SERIES**

CARBIDE, 3 FLUTE 45° HELIX SHORT LENGTH
硬质合金，3刃 45度螺旋 短刃

- ▶ Applied for aluminum and aluminum alloys.
- ▶ Designed to minimize vibration.
- ▶ Excellent surface roughness caused by Mirror Face of cutting edges.
- ▶ Precise tolerance of cutting diameters.

- ▶使用铝及铝合金材质加工
- ▶其设计使振动最小化
- ▶镜面处理的切削刃可保证加工面的粗糙度
- ▶刃部直径公差高精密化



CARBIDE | 3 | 45° | PLAIN | C x 45° | p.C606-607

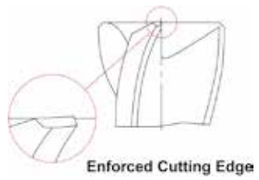
Recommended ToolHolder

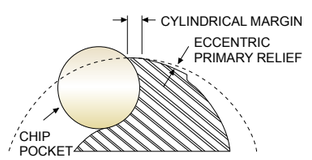
Flat Shank		Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK	D15 - 46
			SHRINK FIT HOLDER	D47 - 72
			POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
E5C72010	1.0	6	3	50
E5C72015	1.5	6	5	50
E5C72020	2.0	6	6	50
E5C72025	2.5	6	8	50
E5C72030	3.0	6	11	50
E5C72040	4.0	6	13	50
E5C72050	5.0	6	17	55
E5C72060	6.0	6	17	55
E5C72070	7.0	8	22	65
E5C72080	8.0	8	22	65
E5C72090	9.0	10	27	70
E5C72100	10.0	10	27	70
E5C72120	12.0	12	32	80
E5C72140	14.0	14	37	85
E5C72160	16.0	16	42	100
E5C72180	18.0	16	48	110
E5C72200	20.0	20	48	110

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.02	h5





◎ : Excellent (优秀) ○ : Good (良好)

ISO	P													M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel				Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommend																						

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎																	

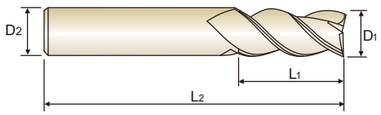
ALU-CUT END MILLS

PLAIN SHANK **E5D70 SERIES**

CARBIDE, 3 FLUTE 45° HELIX
硬质合金，3刃 45度螺旋

- ▶ Suitable for workpieces of nonferrous metals including Aluminum and Aluminum Alloys
- ▶ Improvement of surface roughness of workpieces and wearresistance due to Mirror grinding of cutting edges
- ▶ Special cutting edges for minimization of vibration
- ▶ Very small toelrance of cutting diameters
- ▶ Available various cutting length tools

- ▶ 卓越性能在铝件，铝合金，非铁金属
- ▶ 镜面处理提高耐磨性，加工时表面粗糙度
- ▶ 特殊刃线设计减小震动
- ▶ 高精度直径公差
- ▶ 多种刃长设计



CARBIDE | 3 | 45° | PLAIN

p.C427

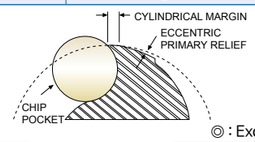
Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK	D15 - 46
			SHRINK FIT HOLDER	D47 - 72
			POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Overall Length 全长 L_2
E5D7001002	1.0	6	2	40
E5D70010025	1.0	6	2.5	40
E5D70010	1.0	6	3	50
E5D7001004	1.0	6	4	60
E5D7001005	1.0	6	5	60
E5D7001006	1.0	6	6	60
E5D70012	1.2	6	4	50
E5D7001503	1.5	6	3	40
E5D7001504	1.5	6	4	40
E5D70015	1.5	6	5	50
E5D7001506	1.5	6	6	60
E5D7001508	1.5	6	8	60
E5D7001510	1.5	6	10	60
E5D7001512	1.5	6	12	60
E5D7002003	2.0	6	3	40
E5D7002005	2.0	6	5	50
E5D7002007	2.0	6	7	50
E5D70020	2.0	6	6	50
E5D7002008	2.0	6	8	60
E5D7002010	2.0	6	10	60
E5D7002012	2.0	6	12	60
E5D7002014	2.0	6	14	60
E5D7002016	2.0	6	16	60
E5D7002508	2.5	6	8	40

Mill Dia.Tolerance (mm) 刃部公差	Shank Dia.Tolerance 柄部公差
0 ~ - 0.015	h5



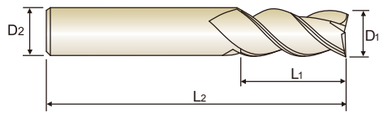
▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials				Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎																

ALU-CUT END MILLS
PLAIN SHANK E5D70 SERIES
CARBIDE, 3 FLUTE 45° HELIX
硬质合金，3刃 45度螺旋
▶ Suitable for workpieces of nonferrous metals including Aluminum and Aluminum Alloys
▶ Improvement of surface roughness of workpieces and wearresistance due to Mirror grinding of cutting edges
▶ Special cutting edges for minimization of vibration
▶ Very small toelrance of cutting diameters
▶ Available various cutting length tools
▶ 卓越性能在铝件，铝合金，非铁金属
▶ 镜面处理提高耐磨性，加工时表面粗糙度
▶ 特殊刃线设计减小震动
▶ 高精度直径公差
▶ 多种刃长设计



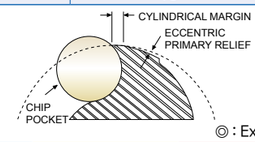
CARBIDE | 3 | 45° | PLAIN
p.C427
Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK	D15 - 46
			SHRINK FIT HOLDER	D47 - 72
			POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Overall Length 全长 L_2
E5D70025	2.5	6	10	55
E5D7002504	2.5	6	4	40
E5D7002512	2.5	6	12	60
E5D7002515	2.5	6	15	60
E5D7003004	3.0	6	4	45
E5D7003008	3.0	6	8	45
E5D7003012	3.0	6	12	60
E5D70030	3.0	6	11	55
E5D7003015	3.0	6	15	65
E5D7003020	3.0	6	20	70
E5D7003025	3.0	6	25	75
E5D7003030	3.0	6	30	80
E5D70035	3.5	6	12	55
E5D7003506	3.5	6	6	50
E5D7004005	4.0	6	5	45
E5D7004006	4.0	6	6	45
E5D7004008	4.0	6	8	45
E5D7004011	4.0	6	11	45
E5D70040	4.0	6	13	55
E5D7004016	4.0	6	16	65
E5D7004020	4.0	6	20	70
E5D7004026	4.0	6	26	75
E5D7004030	4.0	6	30	80
E5D70045	4.5	6	15	55

Mill Dia.Tolerance (mm) 刃部公差	Shank Dia.Tolerance 柄部公差
0 ~ - 0.015	h5



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◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials				Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎																

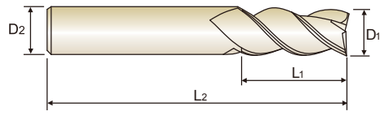
ALU-CUT END MILLS

PLAIN SHANK **E5D70 SERIES**

CARBIDE, 3 FLUTE 45° HELIX
硬质合金，3刃 45度螺旋

- ▶ Suitable for workpieces of nonferrous metals including Aluminum and Aluminum Alloys
- ▶ Improvement of surface roughness of workpieces and wearresistance due to Mirror grinding of cutting edges
- ▶ Special cutting edges for minimization of vibration
- ▶ Very small toelrance of cutting diameters
- ▶ Available various cutting length tools

- ▶ 卓越性能在铝件，铝合金，非铁金属
- ▶ 镜面处理提高耐磨性，加工时表面粗糙度
- ▶ 特殊刃线设计减小震动
- ▶ 高精度直径公差
- ▶ 多种刃长设计



CARBIDE | 3 | 45° | PLAIN

p.C427

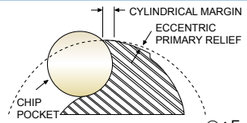
Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK	D15 - 46
			SHRINK FIT HOLDER	D47 - 72
			POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Overall Length 全长 L_2
E5D7004512	4.5	6	12	50
E5D7004518	4.5	6	18	55
E5D7005006	5.0	6	6	45
E5D7005013	5.0	6	13	50
E5D7005020	5.0	6	17	55
E5D70050	5.0	6	17	55
E5D7005022	5.0	6	22	60
E5D7005025	5.0	6	25	70
E5D7005030	5.0	6	30	75
E5D7005035	5.0	6	35	80
E5D7005040	5.0	6	40	85
E5D7005045	5.0	6	45	90
E5D70055	5.5	6	17	55
E5D7006007	6.0	6	7	50
E5D7006013	6.0	6	13	50
E5D70060	6.0	6	17	60
E5D7006022	6.0	6	22	60
E5D7006025	6.0	6	25	70
E5D7006030	6.0	6	30	75
E5D7006035	6.0	6	35	80
E5D7006042	6.0	6	42	90
E5D7006050	6.0	6	50	100
E5D70070	7.0	8	22	65
E5D7008009	8.0	8	9	60

Mill Dia.Tolerance (mm) 刃部公差	Shank Dia.Tolerance 柄部公差
0 ~ - 0.015	h5



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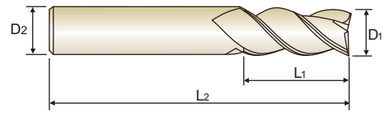
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎																

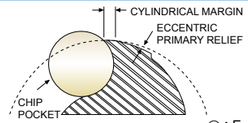
ALU-CUT END MILLS
PLAIN SHANK E5D70 SERIES
CARBIDE, 3 FLUTE 45° HELIX
硬质合金，3刃 45度螺旋
▶ Suitable for workpieces of nonferrous metals including Aluminum and Aluminum Alloys
▶ Improvement of surface roughness of workpieces and wearresistance due to Mirror grinding of cutting edges
▶ Special cutting edges for minimization of vibration
▶ Very small toelrance of cutting diameters
▶ Available various cutting length tools
▶ 卓越性能在铝件，铝合金，非铁金属
▶ 镜面处理提高耐磨性，加工时表面粗糙度
▶ 特殊刃线设计减小震动
▶ 高精度直径公差
▶ 多种刃长设计



CARBIDE | 3 | 45° | PLAIN
p.C427
Recommended ToolHolder
Unit(单位) : mm

EDP No.	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Overall Length 全长 L_2
E5D7008012	8.0	8	12	60
E5D7008019	8.0	8	19	60
E5D70080	8.0	8	22	70
E5D7008028	8.0	8	28	80
E5D7008030	8.0	8	30	80
E5D7008035	8.0	8	35	85
E5D7008040	8.0	8	40	90
E5D7008045	8.0	8	45	95
E5D7008050	8.0	8	50	100
E5D7008055	8.0	8	55	105
E5D7008060	8.0	8	60	110
E5D7008065	8.0	8	65	110
E5D70090	9.0	10	27	70
E5D7010011	10.0	10	11	65
E5D7010015	10.0	10	15	65
E5D7010022	10.0	10	22	65
E5D70100	10.0	10	27	75
E5D7010032	10.0	10	32	90
E5D7010035	10.0	10	35	90
E5D7010040	10.0	10	40	90
E5D7010045	10.0	10	45	100
E5D7010050	10.0	10	50	100
E5D7010055	10.0	10	55	110
E5D7010060	10.0	10	60	110

Mill Dia.Tolerance (mm) 刃部公差: 0 ~ - 0.015
Shank Dia.Tolerance 柄部公差: h5



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◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎																

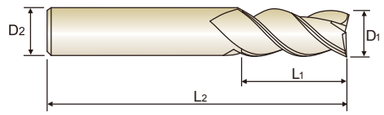
YG ALU-CUT END MILLS

PLAIN SHANK **E5D70 SERIES**

CARBIDE, 3 FLUTE 45° HELIX
硬质合金，3刃 45度螺旋

- ▶ Suitable for workpieces of nonferrous metals including Aluminum and Aluminum Alloys
- ▶ Improvement of surface roughness of workpieces and wearresistance due to Mirror grinding of cutting edges
- ▶ Special cutting edges for minimization of vibration
- ▶ Very small toelrance of cutting diameters
- ▶ Available various cutting length tools

- ▶ 卓越性能在铝件，铝合金，非铁金属
- ▶ 镜面处理提高耐磨性，加工时表面粗糙度
- ▶ 特殊刃线设计减小震动
- ▶ 高精度直径公差
- ▶ 多种刃长设计



CARBIDE | 3 | 45° | PLAIN

p.C427

Recommended ToolHolder

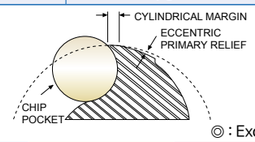
Flat Shank		Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK	D15 - 46
			SHRINK FIT HOLDER	D47 - 72
			POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
E5D7010065	10.0	10	65	120
E5D7012013	12.0	12	13	70
E5D7012026	12.0	12	26	70
E5D7012035	12.0	12	35	80
E5D70120	12.0	12	32	80
E5D7012040	12.0	12	40	95
E5D7012045	12.0	12	45	100
E5D7012050	12.0	12	50	100
E5D7012055	12.0	12	55	110
E5D7012060	12.0	12	60	110
E5D7012065	12.0	12	65	120
E5D7012070	12.0	12	70	120
E5D7012075	12.0	12	75	135
E5D7012080	12.0	12	80	140
E5D70140	14.0	14	37	90
E5D7014016S	14.0	16	37	90
E5D7014045	14.0	14	45	110
E5D7016018	16.0	16	18	90
E5D7016032	16.0	16	32	90
E5D70160	16.0	16	42	100
E5D7016052	16.0	16	52	105
E5D7016055	16.0	16	55	110
E5D7016065	16.0	16	65	130
E5D7016075	16.0	16	75	150

Mill Dia.Tolerance (mm) 刃部公差	Shank Dia.Tolerance 柄部公差
0 ~ - 0.015	h5

Enforced Cutting Edge



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◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials				Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎																

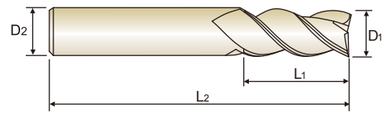
YG ALU-CUT END MILLS

PLAIN SHANK **E5D70 SERIES**

CARBIDE, 3 FLUTE 45° HELIX
硬质合金，3刃 45度螺旋

- ▶ Suitable for workpieces of nonferrous metals including Aluminum and Aluminum Alloys
- ▶ Improvement of surface roughness of workpieces and wearresistance due to Mirror grinding of cutting edges
- ▶ Special cutting edges for minimization of vibration
- ▶ Very small toelrance of cutting diameters
- ▶ Available various cutting length tools

- ▶ 卓越性能在铝件，铝合金，非铁金属
- ▶ 镜面处理提高耐磨性，加工时表面粗糙度
- ▶ 特殊刃线设计减小震动
- ▶ 高精度直径公差
- ▶ 多种刃长设计



CARBIDE | 3 | 45° | PLAIN

p.C427

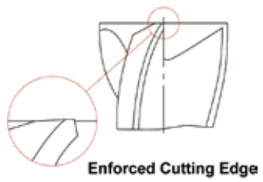
Recommended ToolHolder

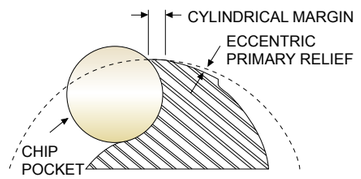
Flat Shank		Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK	D15 - 46
			SHRINK FIT HOLDER	D47 - 72
			POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
E5D7016085	16.0	16	85	160
E5D7016095	16.0	16	95	180
E5D70160105	16.0	16	105	190
E5D70160115	16.0	16	115	200
E5D70180	18.0	16	48	100
E5D7020022	20.0	20	22	90
E5D7020038	20.0	20	38	90
E5D70200	20.0	20	48	100
E5D7020055	20.0	20	55	110
E5D7020065	20.0	20	65	130
E5D7020075	20.0	20	75	150
E5D7020085	20.0	20	85	160
E5D7020095	20.0	20	95	180
E5D70200105	20.0	20	105	190
E5D70200115	20.0	20	115	200
E5D70200125	20.0	20	125	220

Mill Dia.Tolerance (mm) 刃部公差	Shank Dia.Tolerance 柄部公差
0 ~ - 0.015	h5


Enforced Cutting Edge



◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials				Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎																

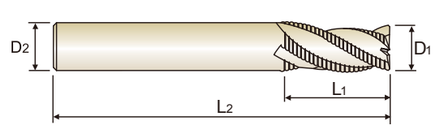
ALU-CUT END MILLS

PLAIN SHANK **E5D73 SERIES**

CARBIDE, 3 FLUTE 45° HELIX ROUGHING (Type A)
硬质合金，3刃 45度螺旋 粗加工 (A型)

- ▶ Suitable for heavy cutting and good wear resistance due to new coating and new configuration of tool
- ▶ Suitable for cutting difficult to cut materials like alloy steels, stainless steels, Titanium, Inconel etc.
- ▶ Excellent surface roughness when side cutting due to high helix and 6 flutes

- ▶ 卓越性能在铝件，铝合金，非铁材质
- ▶ 镜面处理提高加工时表面粗糙度
- ▶ 最佳刃线设计提高排屑性能



CARBIDE | WR | 3 | 45° | PLAIN | C x 45° | p.C427

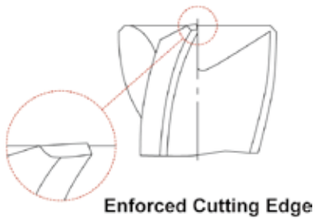
Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK	D15 - 46
			SHRINK FIT HOLDER	D47 - 72
			POWER MILLING CHUCK	D161 - 176
-	-		ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Chamfer 导向
E5D73040	4.0	6	10	55	0.15
E5D73050	5.0	6	15	55	0.2
E5D73060	6.0	6	15	60	0.2
E5D73060C	6.0	6	25	80	0.2
E5D73080	8.0	8	20	65	0.2
E5D73080C	8.0	8	30	90	0.2
E5D73100	10.0	10	25	70	0.2
E5D73100C	10.0	10	40	100	0.2
E5D73120	12.0	12	30	80	0.3
E5D73120C	12.0	12	50	110	0.3
E5D73140	14.0	16	35	90	0.41
E5D73160	16.0	16	42	100	0.41
E5D73160C	16.0	16	52	150	0.41
E5D73180	18.0	20	45	100	0.41
E5D73200	20.0	20	48	100	0.41
E5D73200C	20.0	20	55	160	0.41

Mill Dia.Tolerance (mm) 刃部公差				Shank Dia.Tolerance 柄部公差
up to Ø6	over 6 to 10	over 10 to 18	over 18 to 30	h5
0 ~ - 0.048	0 ~ - 0.058	0 ~ - 0.070	0 ~ - 0.084	



Enforced Cutting Edge

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎																

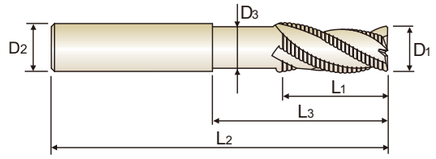
ALU-CUT END MILLS

PLAIN SHANK **E5D73 SERIES**

CARBIDE, 3 FLUTE 45° HELIX ROUGHING (Type B)
硬质合金，3刃 45度螺旋 粗加工 (B型)

- ▶ Suitable for heavy cutting and good wear resistance due to new coating and new configuration of tool
- ▶ Suitable for cutting difficult to cut materials like alloy steels, stainless steels, Titanium, Inconel etc.
- ▶ Excellent surface roughness when side cutting due to high helix and 6 flutes

- ▶ 卓越性能在铝件，铝合金，非铁材质
- ▶ 镜面处理提高加工时表面粗糙度
- ▶ 最佳刃线设计提高排屑性能



CARBIDE | WR | 3 | 45° | PLAIN | C x 45° | p.C427

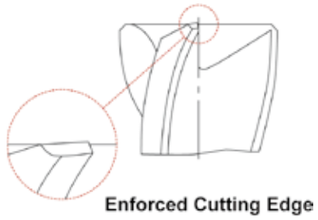
Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK	D15 - 46
			SHRINK FIT HOLDER	D47 - 72
			POWER MILLING CHUCK	D161 - 176
-	-		ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Chamfer 导向
E5D73040B	4.0	6	6	12	60	3.4	0.15
E5D73050B	5.0	6	7	20	60	4.4	0.2
E5D73060B	6.0	6	8	20	70	5.4	0.2
E5D73080B	8.0	8	10	26	80	7.4	0.2
E5D73100B	10.0	10	12	32	90	9.4	0.2
E5D73120B	12.0	12	14	36	100	11.2	0.3
E5D73160B	16.0	16	18	46	120	15.0	0.41
E5D73200B	20.0	20	22	52	120	19.0	0.41

Mill Dia.Tolerance (mm) 刃部公差				Shank Dia.Tolerance 柄部公差
up to Ø6	over 6 to 10	over 10 to 18	over 18 to 30	h5
0 ~ - 0.048	0 ~ - 0.058	0 ~ - 0.070	0 ~ - 0.084	



Enforced Cutting Edge

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎																

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

ALU-CUT END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

E5D70 SERIES — 3 FLUTE 3刃

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

SLOTTING (槽铣削)

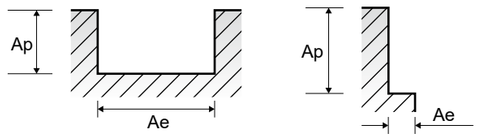
ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 1.0	1.2	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
N	21-22	Aluminum-wrought alloy	0.15D	2.5D	Vc	53	60	61	63	63	66	77	88	99	110
					fz	0.011	0.011	0.013	0.013	0.016	0.017	0.017	0.021	0.024	0.024
					RPM	17000	16000	13000	10000	8000	7000	7000	7000	7000	7000
					FEED	550	550	500	400	380	350	350	441	500	504
	23-25	Aluminum-cast, alloyed	0.15D	2.5D	Vc	53	60	61	63	63	66	77	88	99	110
					fz	0.011	0.011	0.013	0.013	0.016	0.017	0.017	0.021	0.024	0.024
					RPM	17000	16000	13000	10000	8000	7000	7000	7000	7000	7000
					FEED	550	550	500	400	380	350	350	441	500	504

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 5.5	6.0	7.0	8.0	9.0	10.0	12.0	14.0	16.0	18.0	20.0
N	21-22	Aluminum-wrought alloy	0.15D	2.5D	Vc	121	132	132	141	158	176	211	185	211	158	176
					fz	0.029	0.029	0.039	0.042	0.048	0.051	0.063	0.072	0.075	0.083	0.096
					RPM	7000	7000	6000	5600	5600	5600	5600	4200	4200	2800	2800
					FEED	605	606	700	700	800	854	1050	903	945	700	805
	23-25	Aluminum-cast, alloyed	0.15D	2.5D	Vc	121	132	132	141	158	176	211	185	211	158	176
					fz	0.029	0.029	0.039	0.042	0.048	0.051	0.063	0.072	0.075	0.083	0.096
					RPM	7000	7000	6000	5600	5600	5600	5600	4200	4200	2800	2800
					FEED	605	606	700	700	800	854	1050	903	945	700	805

SIDE CUTTING (侧铣削)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 1.0	1.2	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
N	21-22	Aluminum-wrought alloy	0.15D	2.5D	Vc	53	60	61	63	63	66	77	88	99	110
					fz	0.018	0.018	0.022	0.021	0.022	0.022	0.026	0.026	0.029	0.031
					RPM	17000	16000	13000	10000	8000	7000	7000	7000	7000	7000
					FEED	900	850	850	640	520	455	550	546	600	651
	23-25	Aluminum-cast, alloyed	0.15D	2.5D	Vc	53	60	61	63	63	66	77	88	99	110
					fz	0.018	0.018	0.022	0.021	0.022	0.022	0.026	0.026	0.029	0.031
					RPM	17000	16000	13000	10000	8000	7000	7000	7000	7000	7000
					FEED	900	850	850	640	520	455	550	546	600	651

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 5.5	6.0	7.0	8.0	9.0	10.0	12.0	14.0	16.0	18.0	20.0
N	21-22	Aluminum-wrought alloy	0.15D	2.5D	Vc	121	132	132	141	158	176	211	185	211	158	176
					fz	0.033	0.036	0.046	0.051	0.054	0.063	0.053	0.088	0.096	0.108	0.114
					RPM	7000	7000	6000	5600	5600	5600	5600	4200	4200	2800	2800
					FEED	700	756	820	861	900	1050	882	1106	1211	910	956
	23-25	Aluminum-cast, alloyed	0.15D	2.5D	Vc	121	132	132	141	158	176	211	185	211	158	176
					fz	0.033	0.036	0.046	0.051	0.054	0.063	0.053	0.088	0.096	0.108	0.114
					RPM	7000	7000	6000	5600	5600	5600	5600	4200	4200	2800	2800
					FEED	700	756	820	861	900	1050	882	1106	1211	910	956



ALU-CUT END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

E5D71 SERIES — 2 FLUTE 2刃

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

SLOTTING (槽铣削)

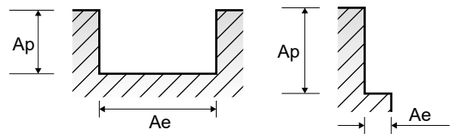
ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 1.0	1.2	1.5	2.0	2.5	3.0	4.0	5.0	6.0
N	21-22	Aluminum-wrought alloy	1.0D	0.5D	Vc	53	62	62	71	83	94	126	157	188
					fz	0.015	0.016	0.02	0.025	0.03	0.035	0.045	0.05	0.06
					RPM	16870	16450	13150	11300	10565	10000	10000	10000	10000
					FEED	505	510	525	565	635	700	900	1000	1200
	23-25	Aluminum-cast, alloyed	1.0D	0.5D	Vc	53	62	62	71	83	94	126	157	188
					fz	0.015	0.016	0.02	0.025	0.03	0.035	0.045	0.05	0.06
					RPM	16870	16450	13150	11300	10565	10000	10000	10000	10000
					FEED	505	510	525	565	635	700	900	1000	1200

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 7.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
N	21-22	Aluminum-wrought alloy	1.0D	0.5D	Vc	195	201	251	302	264	302	226	251
					fz	0.07	0.088	0.106	0.131	0.15	0.158	0.175	0.2
					RPM	8850	8000	8000	8000	6000	6000	4000	4000
					FEED	1240	1400	1700	2100	1800	1900	1400	1600
	23-25	Aluminum-cast, alloyed	1.0D	0.5D	Vc	195	201	251	302	264	302	226	251
					fz	0.07	0.088	0.106	0.131	0.15	0.158	0.175	0.2
					RPM	8850	8000	8000	8000	6000	6000	4000	4000
					FEED	1240	1400	1700	2100	1800	1900	1400	1600

SIDE CUTTING (侧铣削)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 1.0	1.2	1.5	2.0	2.5	3.0	4.0	5.0	6.0
N	21-22	Aluminum-wrought alloy	Ø1~Ø10=0.25D Ø12~Ø20=0.5D	1.0D	Vc	53	62	62	71	83	94	126	157	188
					fz	0.025	0.026	0.03	0.035	0.04	0.045	0.055	0.065	0.075
					RPM	16870	16450	13150	11300	10565	10000	10000	10000	10000
					FEED	845	850	790	790	845	900	1100	1300	1500
	23-25	Aluminum-cast, alloyed	Ø1~Ø10=0.25D Ø12~Ø20=0.5D	1.0D	Vc	53	62	62	71	83	94	126	157	188
					fz	0.025	0.026	0.03	0.035	0.04	0.045	0.055	0.065	0.075
					RPM	16870	16450	13150	11300	10565	10000	10000	10000	10000
					FEED	845	850	790	790	845	900	1100	1300	1500

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 7.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
N	21-22	Aluminum-wrought alloy	Ø1~Ø10=0.25D Ø12~Ø20=0.5D	1.0D	Vc	195	201	251	302	264	302	226	251
					fz	0.085	0.113	0.131	0.163	0.183	0.2	0.225	0.238
					RPM	8850	8000	8000	8000	6000	6000	4000	4000
					FEED	1505	1800	2100	2600	2200	2400	1800	1900
	23-25	Aluminum-cast, alloyed	Ø1~Ø10=0.25D Ø12~Ø20=0.5D	1.0D	Vc	195	201	251	302	264	302	226	251
					fz	0.085	0.113	0.131	0.163	0.183	0.2	0.225	0.238
					RPM	8850	8000	8000	8000	6000	6000	4000	4000
					FEED	1505	1800	2100	2600	2200	2400	1800	1900



ALU-CUT END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

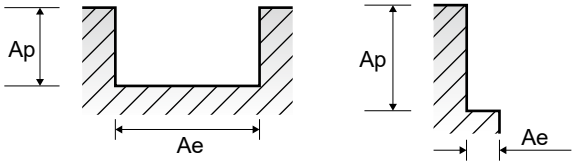
E5C72 SERIES — 3 FLUTE - SLOTTING / 3刃 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
N	21~22	Aluminum-wrought alloy	1.0D	0.2D	Vc	85	113	141	170	181	226	271	238	271	204	226
					fz	0.017	0.021	0.024	0.029	0.042	0.051	0.063	0.072	0.075	0.083	0.096
					RPM	9000	9000	9000	9000	7200	7200	7200	5400	5400	3600	3600
					FEED	450	570	650	780	900	1100	1350	1160	1215	900	1035
	23~24	Aluminum-cast, alloyed	1.0D	0.2D	Vc	85	113	141	170	181	226	271	238	271	204	226
					fz	0.017	0.021	0.024	0.029	0.042	0.051	0.063	0.072	0.075	0.083	0.096
					RPM	9000	9000	9000	9000	7200	7200	7200	5400	5400	3600	3600
					FEED	450	570	650	780	900	1100	1350	1160	1215	900	1035

SIDE CUTTING (侧铣削)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
N	21~22	Aluminum-wrought alloy	0.15D	2.5D	Vc	85	113	141	170	181	226	271	238	271	204	226
					fz	0.022	0.026	0.031	0.036	0.051	0.063	0.052	0.088	0.096	0.108	0.114
					RPM	9000	9000	9000	9000	7200	7200	7200	5400	5400	3600	3600
					FEED	585	700	840	970	1110	1350	1130	1420	1560	1170	1230
	23~24	Aluminum-cast, alloyed	0.15D	2.5D	Vc	85	113	141	170	181	226	271	238	271	204	226
					fz	0.022	0.026	0.031	0.036	0.051	0.063	0.052	0.088	0.096	0.108	0.114
					RPM	9000	9000	9000	9000	7200	7200	7200	5400	5400	3600	3600
					FEED	585	700	840	970	1110	1350	1130	1420	1560	1170	1230



E5D73 SERIES — 3 FLUTE / 3刃

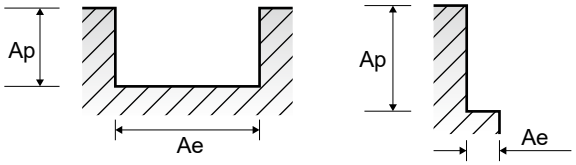
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

SLOTTING (槽铣削)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
N	21-22	Aluminum-wrought alloy	1.0D	1.5D	Vc	188	188	198	201	204	198	198	201	201	201
					fz	0.156	0.167	0.168	0.167	0.179	0.159	0.163	0.167	0.166	0.167
					RPM	15000	12000	10500	8000	6500	5250	4500	4000	3550	3200
					FEED	7000	6000	5300	4000	3500	2500	2200	2000	1770	1600
	23-25	Aluminum-cast, alloyed	1.0D	1.5D	Vc	188	188	198	201	204	198	198	201	201	201
					fz	0.156	0.167	0.168	0.167	0.179	0.159	0.163	0.167	0.166	0.167
					RPM	15000	12000	10500	8000	6500	5250	4500	4000	3550	3200
					FEED	7000	6000	5300	4000	3500	2500	2200	2000	1770	1600

SIDE CUTTING (侧铣削)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
N	21-22	Aluminum-wrought alloy	0.5D	1.5D	Vc	251	251	254	264	267	256	255	261	266	264
					fz	0.15	0.167	0.168	0.168	0.169	0.167	0.167	0.167	0.167	0.167
					RPM	20000	16000	13500	10500	8500	6800	5800	5200	4700	4200
					FEED	9000	8000	6800	5300	4300	3400	2900	2600	2350	2100
	23-25	Aluminum-cast, alloyed	0.5D	1.5D	Vc	251	251	254	264	267	256	255	261	266	264
					fz	0.15	0.167	0.168	0.168	0.169	0.167	0.167	0.167	0.167	0.167
					RPM	20000	16000	13500	10500	8500	6800	5800	5200	4700	4200
					FEED	9000	8000	6800	5300	4300	3400	2900	2600	2350	2100



YG

Leading Through Innovation

SOLID CARBIDE

G-CUT END MILLS

- High performance on graphite
- 高性能加工石墨

SELECTION GUIDE
选用指南

MILLING TOOLS

SERIES 系列	EIE21	EIE23	EIE22	EIE25	EIE26
FLUTE 槽数	2	2	4	2	4
HELIX ANGLE 螺旋角度	30°	30°	30°	30°	30°
CUTTING EDGE SHAPE 类型	BALL NOSE	BALL NOSE	BALL NOSE	SQUARE	SQUARE
SIZE MIN 最小尺寸	R0.05	R0.5	R0.5	D0.1	D2.0
SIZE MAX 最大尺寸	R10.0	R6.0	R10.0	D12.0	D20.0
PAGE 页数	C431-435	C436-437	C438-440	C441-442	C443-444
	-	LONG NECK	-	-	-
	Diamond	Diamond	Diamond	Diamond	Diamond

SOLID CARBIDE
G-CUT END MILLS
High performance on graphite
高性能加工石墨

Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工参数) : p.C445

ISO	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB	HRc					
P	1	Non-alloy steel	About 0.15% C	Annealed	125						
	2		About 0.45% C	Annealed	190	13					
	3		About 0.45% C	Quenched & Tempered	250	25					
	4		About 0.75% C	Annealed	270	28					
	5		About 0.75% C	Quenched & Tempered	300	32					
	6	Low alloy steel		Annealed	180	10					
	7			Quenched & Tempered	275	29					
	8			Quenched & Tempered	300	32					
	9			Quenched & Tempered	350	38					
	10	High alloyed steel, and tool steel		Annealed	200	15					
	11			Quenched & Tempered	325	35					
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15					
	13		Martensitic	Quenched & Tempered	240	23					
	14		Austenitic		180	10					
K	15	Grey cast iron	Pearlitic / ferritic		180	10					
	16		Pearlitic (Martensitic)		260	26					
	17	Nodular cast iron	Ferritic		160	3					
	18		Pearlitic		250	25					
	19	Malleable cast iron	Ferritic		130						
	20		Pearlitic		230	21					
N	21	Aluminum-wrought alloy	Not Curable		60						
	22		Curable	Hardened	100						
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75						
	24		≤ 12% Si, Curable	Hardened	90						
	25		> 12% Si, Not Curable		130						
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110						
	27		CuZn, CuSnZn (Brass)		90						
	28		CuSn, lead-free copper and electrolytic copper		100						
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic				◎	◎	◎	◎	◎
	30		Rubber, Wood, etc.								
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15					
	32			Cured	280	30					
	33		Ni or Co Based	Annealed	250	25					
	34			Cured	350	38					
	35			Cast	320	34					
	36	Titanium Alloys	Pure Titanium		400 Rm						
	37		Alpha + Beta Alloys	Hardened	1050 Rm						
H	38	Hardened steel		Hardened	550	55					
	39			Hardened	630	60					
	40	Chilled Cast Iron		Cast	400	42					
	41	Hardened Cast Iron		Hardened	550	55					

BALL NOSE = 球头　　SQUARE = 平头　　LONG NECK= 长颈

YG G-CUT END MILLS

PLAIN SHANK **EIE21** SERIES

CARBIDE, 2 FLUTE BALL NOSE
硬质合金，2刃 球头

- ▶ High quality coating due to YG-1 tailored diamond coating
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- ▶ 适应高质量的纯金刚石涂层提高涂层的稳定性
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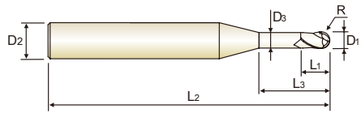

CARBIDE | 2 | 30° | R ±0.01 | PLAIN

p.C445

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R(±0.01)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
EIE21001	R0.05	**0.1**	4	0.2	-	45	-
EIE21001003	R0.05	**0.1**	4	0.2	0.3	45	0.07
EIE21001005	R0.05	**0.1**	4	0.2	0.5	45	0.07
EIE21002	R0.1	**0.2**	4	0.6	-	45	-
EIE2100201	R0.1	**0.2**	4	0.6	1.0	45	0.17
EIE21002015	R0.1	**0.2**	4	0.6	1.5	45	0.17
EIE21003	R0.15	**0.3**	4	1	-	45	-
EIE21003015	R0.15	**0.3**	4	1	1.5	45	0.27
EIE2100302	R0.15	**0.3**	4	1	2.0	45	0.27
EIE21004	R0.2	**0.4**	4	1.2	-	45	-
EIE2100402	R0.2	**0.4**	4	1.2	2.0	45	0.37
EIE2100403	R0.2	**0.4**	4	1.2	3.0	45	0.37
EIE2100404	R0.2	**0.4**	4	1.2	4.0	45	0.37
EIE21005	R0.25	**0.5**	4	1.5	-	45	-
EIE2100503	R0.25	**0.5**	4	1.5	3.0	45	0.45
EIE2100504	R0.25	**0.5**	4	1.5	4.0	45	0.45
EIE2100505	R0.25	**0.5**	4	1.5	5.0	45	0.45
EIE2100506	R0.25	**0.5**	4	1.5	6.0	45	0.45
EIE2100508	R0.25	**0.5**	4	1.5	8.0	45	0.45
EIE21006	R0.3	**0.6**	4	2	-	45	-
EIE2100604	R0.3	**0.6**	4	2	4.0	45	0.55
EIE2100605	R0.3	**0.6**	4	2	5.0	45	0.55
EIE2100606	R0.3	**0.6**	4	2	6.0	45	0.55
EIE2100608	R0.3	**0.6**	4	2	8.0	45	0.55

▶ NEXT PAGE 下页

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø12 Ø12以下	0 ~ - 0.02	h5
over Ø12 超过Ø12	0 ~ - 0.03	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend									◎												

G-CUT END MILLS

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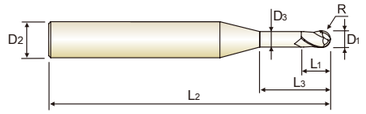

CARBIDE | 2 | 30° | R ±0.01 | PLAIN

p.C445

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Length Below Shank 颈长	Overall Length 全长	Neck Diameter 颈径
	R(±0.01)	D1	D2	L1	L3	L2	D3
EIE2100610	R0.3	0.6	4	2	10.0	45	0.55
EIE21008	R0.4	0.8	4	2.5	-	45	-
EIE2100804	R0.4	0.8	4	2.5	4.0	45	0.75
EIE2100805	R0.4	0.8	4	2.5	5.0	45	0.75
EIE2100806	R0.4	0.8	4	2.5	6.0	45	0.75
EIE2100808	R0.4	0.8	4	2.5	8.0	45	0.75
EIE2100810	R0.4	0.8	4	2.5	10.0	45	0.75
EIE21010	R0.5	1.0	4	3	-	60	-
EIE2101010	R0.5	1.0	4	3	10.0	60	0.95
EIE2101012	R0.5	1.0	4	3	12.0	60	0.95
EIE2101015	R0.5	1.0	4	3	15.0	60	0.95
EIE2101020	R0.5	1.0	4	3	20.0	60	0.95
EIE2101025	R0.5	1.0	4	3	25.0	80	0.95
EIE2101030	R0.5	1.0	4	3	30.0	80	0.95
EIE2101035	R0.5	1.0	4	3	35.0	80	0.95
EIE2101040	R0.5	1.0	4	3	40.0	100	0.95
EIE2101050	R0.5	1.0	4	3	50.0	100	0.95
EIE21015	R0.75	1.5	4	4	-	60	-
EIE2101510	R0.75	1.5	4	4	10.0	80	1.45
EIE2101515	R0.75	1.5	4	4	15.0	80	1.45
EIE2101520	R0.75	1.5	4	4	20.0	80	1.45
EIE2101525	R0.75	1.5	4	4	25.0	80	1.45
EIE2101530	R0.75	1.5	4	4	30.0	80	1.45
EIE2101535	R0.75	1.5	4	4	35.0	80	1.45

▶ NEXT PAGE 下页

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø12 Ø12以下	0 ~ - 0.02	h5
over Ø12 超过Ø12	0 ~ - 0.03	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend									◎												

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

G-CUT END MILLS

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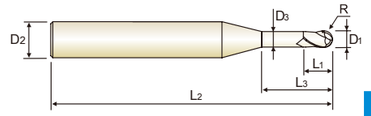

CARBIDE | 2 | 30° | R ±0.01 | PLAIN

p.C445

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Length Below Shank 颈长	Overall Length 全长	Neck Diameter 颈径
	R(±0.01)	D1	D2	L1	L3	L2	D3
EIE2101540	R0.75	1.5	4	4	40.0	100	1.45
EIE2101550	R0.75	1.5	4	4	50.0	100	1.45
EIE2101560	R0.75	1.5	4	4	60.0	110	1.45
EIE21020	R1.0	2.0	4	6	-	60	-
EIE2102010	R1.0	2.0	4	6	10.0	80	1.95
EIE2102015	R1.0	2.0	4	6	15.0	80	1.95
EIE2102020	R1.0	2.0	4	6	20.0	80	1.95
EIE2102025	R1.0	2.0	4	6	25.0	80	1.95
EIE2102030	R1.0	2.0	4	6	30.0	80	1.95
EIE2102035	R1.0	2.0	4	6	35.0	80	1.95
EIE2102040	R1.0	2.0	4	6	40.0	100	1.95
EIE2102050	R1.0	2.0	4	6	50.0	100	1.95
EIE2102060	R1.0	2.0	4	6	60.0	110	1.95
EIE210303S	R1.5	3.0	3	15	-	100	-
EIE21030	R1.5	3.0	4	9	-	60	-
EIE2103015	R1.5	3.0	4	9	15.0	100	2.89
EIE2103020	R1.5	3.0	4	9	20.0	100	2.89
EIE2103025	R1.5	3.0	4	9	25.0	100	2.89
EIE2103030	R1.5	3.0	4	9	30.0	100	2.89
EIE2103035	R1.5	3.0	4	9	35.0	100	2.89
EIE2103040	R1.5	3.0	4	9	40.0	100	2.89
EIE2103050	R1.5	3.0	4	9	50.0	100	2.89
EIE2103060	R1.5	3.0	4	9	60.0	110	2.89
EIE21040060	R2.0	4.0	4	12	-	60	-

▶ NEXT PAGE 下页

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
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ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend									◎												

G-CUT END MILLS

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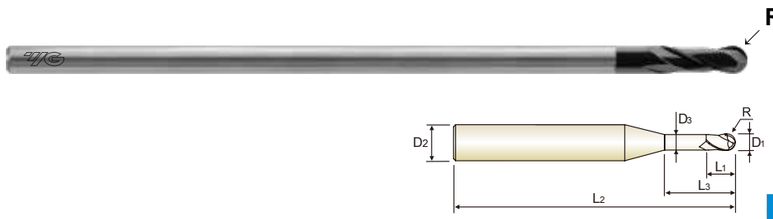

CARBIDE | 2 | 30° | R ±0.01 | PLAIN

p.C445

Recommended ToolHolder

Plain Shank	Page
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ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R(±0.01)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
EIE21040080	R2.0	**4.0**	4	12	-	80	-
EIE21040110	R2.0	**4.0**	4	12	-	110	-
EIE21040130	R2.0	**4.0**	4	12	-	130	-
EIE21040150	R2.0	**4.0**	4	12	-	150	-
EIE21050080	R2.5	**5.0**	6	15	30.0	80	4.90
EIE21050100	R2.5	**5.0**	6	15	30.0	100	4.90
EIE21060090	R3.0	**6.0**	6	20	-	90	-
EIE21060110	R3.0	**6.0**	6	20	-	110	-
EIE21060130	R3.0	**6.0**	6	20	-	130	-
EIE21060150	R3.0	**6.0**	6	20	-	150	-
EIE21060180	R3.0	**6.0**	6	20	-	180	-
EIE21080080	R4.0	**8.0**	8	25	-	80	-
EIE21080110	R4.0	**8.0**	8	25	-	110	-
EIE21080130	R4.0	**8.0**	8	25	-	130	-
EIE21080150	R4.0	**8.0**	8	25	-	150	-
EIE21080200	R4.0	**8.0**	8	25	-	200	-
EIE21100080	R5.0	**10.0**	10	30	-	80	-
EIE21100110	R5.0	**10.0**	10	30	-	110	-
EIE21100130	R5.0	**10.0**	10	30	-	130	-
EIE21100150	R5.0	**10.0**	10	30	-	150	-
EIE21100180	R5.0	**10.0**	10	30	-	180	-
EIE21100200	R5.0	**10.0**	10	30	-	200	-
EIE21120110	R6.0	**12.0**	12	35	-	110	-
EIE21120130	R6.0	**12.0**	12	35	-	130	-

▶ NEXT PAGE 下页

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø12 Ø12以下	0 ~ - 0.02	h5
over Ø12 超过Ø12	0 ~ - 0.03	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend									◎												

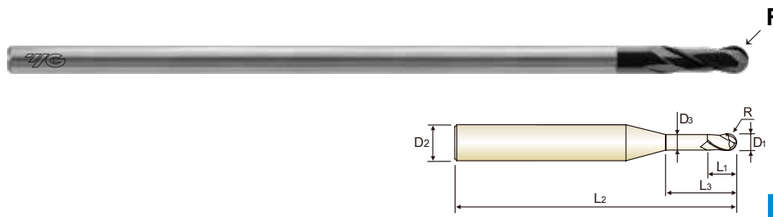
G-CUT END MILLS

PLAIN SHANK EIE21 SERIES

CARBIDE, 2 FLUTE BALL NOSE
硬质合金，2刃 球头

▶ High quality coating due to YG-1 tailored diamond coating
▶ Suitable for Graphite, Reinforced plastics, nonferrous metal etc.
▶ Maximized thickness of coating for improvement of wearresistance
▶ Available various length below shank and overall lengths for various application

▶ 适应高质量的纯金刚石涂层提高涂层的稳定性
▶ 可以加工石墨，增强塑料，有色金属等
▶ 适应最厚的涂层，以提高耐磨性
▶ 各种有效长度和全长会适用于各种尺寸的工件



CARBIDE | 2 | 30° | R ±0.01 | PLAIN

p.C445

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R(±0.01)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
EIE21120150	R6.0	**12.0**	12	35	-	150	-
EIE21120180	R6.0	**12.0**	12	35	-	180	-
EIE21120200	R6.0	**12.0**	12	35	-	200	-
EIE21160150	R8.0	**16.0**	16	50	-	150	-
EIE21160200	R8.0	**16.0**	16	50	-	200	-
EIE21200150	R10.0	**20.0**	20	60	-	150	-
EIE21200200	R10.0	**20.0**	20	60	-	200	-

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø12 Ø12以下	0 ~ - 0.02	h5
over Ø12 超过Ø12	0 ~ - 0.03	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend									◎												

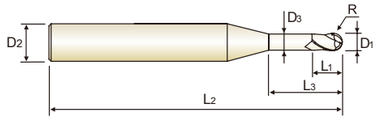
G-CUT END MILLS

PLAIN SHANK **EIE23 SERIES**

CARBIDE, 2F BALL NOSE LONG NECK
硬质合金，2刃 球头 长颈

- ▶ High quality coating due to YG-1 tailored diamond coating
- ▶ Suitable for Graphite, Reinforced plastics, nonferrous metal etc.
- ▶ Maximized thickness of coating for improvement of wearresistance
- ▶ Available various length below shank and overall lengths for various application

- ▶ 适应高质量的纯金刚石涂层提高涂层的稳定性
- ▶ 可以加工石墨，增强塑料，有色金属等
- ▶ 适应最厚的涂层，以提高耐磨性
- ▶ 各种有效长度和全长会适用于各种尺寸的工件



CARBIDE | 2 | 30° | R ±0.01 | PLAIN

p.C445

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Length Below Shank 颈长	Overall Length 全长	Neck Diameter 颈径
	R(±0.01)	D1	D2	L1	L3	L2	D3
EIE2301004	R0.5	1.0	4	2	4	50	0.95
EIE2301005	R0.5	1.0	4	2	5	50	0.95
EIE2301006	R0.5	1.0	4	2	6	50	0.95
EIE2301008	R0.5	1.0	4	2	8	50	0.95
EIE2301010	R0.5	1.0	4	2	10	50	0.95
EIE2301012	R0.5	1.0	4	2	12	50	0.95
EIE2301016	R0.5	1.0	4	2	16	50	0.95
EIE2301018	R0.5	1.0	4	2	18	50	0.95
EIE2301020	R0.5	1.0	4	2	20	50	0.95
EIE2301504	R0.75	1.5	4	3	4	50	1.40
EIE2301506	R0.75	1.5	4	3	6	50	1.40
EIE2301508	R0.75	1.5	4	3	8	50	1.40
EIE2301510	R0.75	1.5	4	3	10	50	1.40
EIE2301512	R0.75	1.5	4	3	12	50	1.40
EIE2301516	R0.75	1.5	4	3	16	50	1.40
EIE2301520	R0.75	1.5	4	3	20	50	1.40
EIE2301525	R0.75	1.5	4	3	25	60	1.40
EIE2302006	R1.0	2.0	4	4	6	50	1.90
EIE2302008	R1.0	2.0	4	4	8	50	1.90
EIE2302010	R1.0	2.0	4	4	10	50	1.90
EIE2302012	R1.0	2.0	4	4	12	50	1.90
EIE2302016	R1.0	2.0	4	4	16	50	1.90
EIE2302018	R1.0	2.0	4	4	18	50	1.90
EIE2302020	R1.0	2.0	4	4	20	50	1.90

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Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø12 Ø12以下	0 ~ - 0.02	h5
over Ø12 超过Ø12	0 ~ - 0.03	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend									◎												

G-CUT END MILLS

PLAIN SHANK EIE23 SERIES

CARBIDE, 2F BALL NOSE LONG NECK
硬质合金，2刃 球头 长颈

▶ High quality coating due to YG-1 tailored diamond coating
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▶ Maximized thickness of coating for improvement of wearresistance
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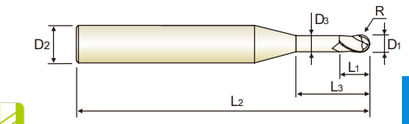
▶ 适应高质量的纯金刚石涂层提高涂层的稳定性
▶ 可以加工石墨，增强塑料，有色金属等
▶ 适应最厚的涂层，以提高耐磨性
▶ 各种有效长度和全长会适用于各种尺寸的工件



CARBIDE | 2 | 30° | R ±0.01 | PLAIN

p.C445

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Length Below Shank 颈长	Overall Length 全长	Neck Diameter 颈径
	R(±0.01)	D1	D2	L1	L3	L2	D3
EIE2302025	R1.0	2.0	4	4	25	60	1.90
EIE2302030	R1.0	2.0	4	4	30	70	1.90
EIE2303008	R1.5	3.0	6	6	8	50	2.90
EIE2303010	R1.5	3.0	6	6	10	50	2.90
EIE2303012	R1.5	3.0	6	6	12	50	2.90
EIE2303016	R1.5	3.0	6	6	16	60	2.90
EIE2303020	R1.5	3.0	6	6	20	60	2.90
EIE2303025	R1.5	3.0	6	6	25	65	2.90
EIE2303030	R1.5	3.0	6	6	30	70	2.90
EIE2303040	R1.5	3.0	6	6	40	80	2.90
EIE2304010	R2.0	4.0	6	8	10	50	3.90
EIE2304012	R2.0	4.0	6	8	12	50	3.90
EIE2304016	R2.0	4.0	6	8	16	60	3.90
EIE2304020	R2.0	4.0	6	8	20	60	3.90
EIE2304025	R2.0	4.0	6	8	25	65	3.90
EIE2304030	R2.0	4.0	6	8	30	70	3.90
EIE2304040	R2.0	4.0	6	8	40	80	3.90
EIE2304050	R2.0	4.0	6	8	50	100	3.90
EIE2306030	R3.0	6.0	6	12	30	90	5.60
EIE2306050	R3.0	6.0	6	12	50	90	5.60
EIE2308040	R4.0	8.0	8	16	40	100	7.40
EIE2308055	R4.0	8.0	8	16	55	100	7.40
EIE2310050	R5.0	10.0	10	20	50	110	9.40
EIE2312060	R6.0	12.0	12	24	60	110	11.40

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø12 Ø12以下	0 ~ - 0.02	h5
over Ø12 超过Ø12	0 ~ - 0.03	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend									◎												

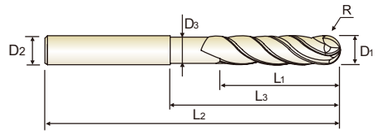
G-CUT END MILLS

PLAIN SHANK **EIE22 SERIES**

CARBIDE, 4 FLUTE BALL NOSE
硬质合金，4刃 球头

- ▶ High quality coating due to YG-1 tailored diamond coating
- ▶ Suitable for Graphite, Reinforced plastics, nonferrous metal etc.
- ▶ Available high feed cutting and improvement of productivity due to 4 flute ball end mills
- ▶ Center match type to improve surface roughness

- ▶ 适应高质量的纯金刚石涂层提高涂层的稳定性
- ▶ 可以加工石墨，增强塑料，有色金属等
- ▶ 适应4刃球头可实现高进给切削并提高生产率
- ▶ 适应中心匹配类型可改善表面糙度



CARBIDE | 4 | 30° | R ±0.01 | PLAIN | p.C445

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R(±0.01)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
EIE22010	R0.5	1.0	4	3	-	60	-
EIE2201010	R0.5	1.0	4	3	10	60	0.95
EIE2201015	R0.5	1.0	4	3	15	60	0.95
EIE2201020	R0.5	1.0	4	3	20	60	0.95
EIE2201025	R0.5	1.0	4	3	25	80	0.95
EIE2201030	R0.5	1.0	4	3	30	80	0.95
EIE22015	R0.75	1.5	4	4	-	60	-
EIE2201510	R0.75	1.5	4	4	10	80	1.45
EIE2201515	R0.75	1.5	4	4	15	80	1.45
EIE2201520	R0.75	1.5	4	4	20	80	1.45
EIE2201525	R0.75	1.5	4	4	25	80	1.45
EIE2201530	R0.75	1.5	4	4	30	80	1.45
EIE22020	R1.0	2.0	4	6	-	60	-
EIE2202010	R1.0	2.0	4	6	10	80	1.95
EIE2202015	R1.0	2.0	4	6	15	80	1.95
EIE2202020	R1.0	2.0	4	6	20	80	1.95
EIE2202025	R1.0	2.0	4	6	25	80	1.95
EIE2202030	R1.0	2.0	4	6	30	80	1.95
EIE2202040	R1.0	2.0	4	6	40	100	1.95
EIE22030	R1.5	3.0	4	9	-	60	-
EIE2203015	R1.5	3.0	4	9	15	100	2.85
EIE2203020	R1.5	3.0	4	9	20	100	2.85
EIE2203025	R1.5	3.0	4	9	25	100	2.85
EIE2203030	R1.5	3.0	4	9	30	100	2.85

▶ NEXT PAGE 下页

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø12 Ø12以下	0 ~ - 0.02	h5
over Ø12 超过Ø12	0 ~ - 0.03	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend									◎												

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

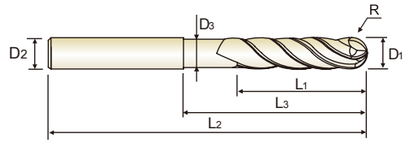
G-CUT END MILLS

PLAIN SHANK EIE22 SERIES

CARBIDE, 4 FLUTE BALL NOSE
硬质合金，4刃 球头

▶ High quality coating due to YG-1 tailored diamond coating
▶ Suitable for Graphite, Reinforced plastics, nonferrous metal etc.
▶ Available high feed cutting and improvement of productivity due to 4 flute ball end mills
▶ Center match type to improve surface roughness

▶ 适应高质量的纯金刚石涂层提高涂层的稳定性
▶ 可以加工石墨，增强塑料，有色金属等
▶ 适应4刃球头可实现高进给切削并提高生产率
▶ 适应中心匹配类型可改善表面糙度



CARBIDE | 4 | 30° | R ±0.01 | PLAIN | p.C445

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R(±0.01)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
EIE2203040	R1.5	3.0	4	9	40	100	2.85
EIE2203050	R1.5	3.0	4	9	50	100	2.85
EIE22040060	R2.0	4.0	4	12	-	60	-
EIE22040080	R2.0	4.0	4	12	-	80	-
EIE22040110	R2.0	4.0	4	12	-	110	-
EIE22040130	R2.0	4.0	4	12	-	130	-
EIE22040150	R2.0	4.0	4	12	-	150	-
EIE22050080	R2.5	5.0	6	15	-	80	-
EIE22050110	R2.5	5.0	6	15	-	110	-
EIE22050130	R2.5	5.0	6	15	-	130	-
EIE22050150	R2.5	5.0	6	15	-	150	-
EIE22060090	R3.0	6.0	6	20	-	90	-
EIE22060110	R3.0	6.0	6	20	-	110	-
EIE22060130	R3.0	6.0	6	20	-	130	-
EIE22060150	R3.0	6.0	6	20	-	150	-
EIE22060180	R3.0	6.0	6	20	-	180	-
EIE22080110	R4.0	8.0	8	25	-	110	-
EIE22080130	R4.0	8.0	8	25	-	130	-
EIE22080150	R4.0	8.0	8	25	-	150	-
EIE22080200	R4.0	8.0	8	25	-	200	-
EIE22100110	R5.0	10.0	10	30	-	110	-
EIE22100130	R5.0	10.0	10	30	-	130	-
EIE22100150	R5.0	10.0	10	30	-	150	-
EIE22100180	R5.0	10.0	10	30	-	180	-

▶ NEXT PAGE 下页

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø12 Ø12以下	0 ~ - 0.02	h5
over Ø12 超过Ø12	0 ~ - 0.03	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend									◎												

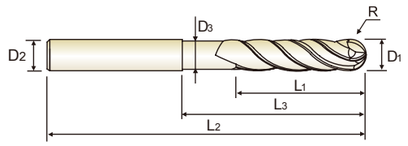
G-CUT END MILLS

PLAIN SHANK **EIE22 SERIES**

CARBIDE, 4 FLUTE BALL NOSE
硬质合金，4刃 球头

- ▶ High quality coating due to YG-1 tailored diamond coating
- ▶ Suitable for Graphite, Reinforced plastics, nonferrous metal etc.
- ▶ Available high feed cutting and improvement of productivity due to 4 flute ball end mills
- ▶ Center match type to improve surface roughness

- ▶ 适应高质量的纯金刚石涂层提高涂层的稳定性
- ▶ 可以加工石墨，增强塑料，有色金属等
- ▶ 适应4刃球头可实现高进给切削并提高生产率
- ▶ 适应中心匹配类型可改善表面糙度



CARBIDE | 4 | 30° | R ±0.01 | PLAIN | p.C445

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Length Below Shank 颈长	Overall Length 全长	Neck Diameter 颈径
	R(±0.01)	D1	D2	L1	L3	L2	D3
EIE22100200	R5.0	**10.0**	10	30	-	200	-
EIE22120110	R6.0	**12.0**	12	35	-	110	-
EIE22120130	R6.0	**12.0**	12	35	-	130	-
EIE22120150	R6.0	**12.0**	12	35	-	150	-
EIE22120180	R6.0	**12.0**	12	35	-	180	-
EIE22120200	R6.0	**12.0**	12	35	-	200	-
EIE22160150	R8.0	**16.0**	16	50	-	150	-
EIE22160200	R8.0	**16.0**	16	50	-	200	-
EIE22200150	R10.0	**20.0**	20	60	-	150	-
EIE22200200	R10.0	**20.0**	20	60	-	200	-

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø12 Ø12以下	0 ~ - 0.02	h5
over Ø12 超过Ø12	0 ~ - 0.03	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend									◎												

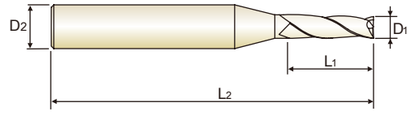
G-CUT END MILLS

PLAIN SHANK **EIE25 SERIES**

CARBIDE, 2 FLUTE
硬质合金，2刃

- ▶ High quality coating due to YG-1 tailored diamond coating
- ▶ Suitable for Graphite, Reinforced plastics, nonferrous metal etc.
- ▶ Available various cutting lengths and overall lengths

- ▶ 适应高质量的纯金刚石涂层提高涂层的稳定性
- ▶ 可以加工石墨，增强塑料，有色金属等
- ▶ 采用各种刃长度和总长



CARBIDE | 2 | 30° | PLAIN | p.C445

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
	D1	D2	L1	L2
EIE25001	**0.1**	4	0.2	40
EIE25002	**0.2**	4	0.4	40
EIE25003	**0.3**	4	0.6	40
EIE25004	**0.4**	4	0.8	40
EIE25005	**0.5**	4	1	40
EIE25006	**0.6**	4	1.2	40
EIE25007	**0.7**	4	1.4	40
EIE25008	**0.8**	4	1.6	40
EIE25009	**0.9**	4	1.8	40
EIE25010	**1.0**	4	2.5	50
EIE2501004	**1.0**	4	4	50
EIE2501006	**1.0**	4	6	50
EIE25012	**1.2**	4	3	50
EIE2501206	**1.2**	4	6	50
EIE25015	**1.5**	4	4	50
EIE2501506	**1.5**	4	6	50
EIE2501508	**1.5**	4	8	50
EIE25020	**2.0**	4	6	50
EIE2502008	**2.0**	4	8	50
EIE2502010	**2.0**	4	10	50
EIE25025	**2.5**	4	8	50
EIE25030	**3.0**	6	8	50
EIE2503010	**3.0**	6	10	50
EIE2503012	**3.0**	6	12	50

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend									◎												

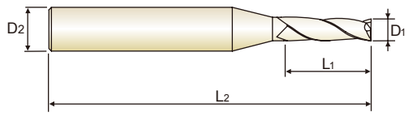
G-CUT END MILLS

PLAIN SHANK **EIE25 SERIES**

CARBIDE, 2 FLUTE
硬质合金，2刃

▶ High quality coating due to YG-1 tailored diamond coating
▶ Suitable for Graphite, Reinforced plastics, nonferrous metal etc.
▶ Available various cutting lengths and overall lengths

▶ 适应高质量的纯金刚石涂层提高涂层的稳定性
▶ 可以加工石墨，增强塑料，有色金属等
▶ 采用各种刃长度和总长



CARBIDE | 2 | 30° | PLAIN | p.C445

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
EIE2503016	3.0	6	16	60
EIE2503020	3.0	6	20	60
EIE250404S	4.0	4	10	80
EIE25040	4.0	6	10	50
EIE2504012	4.0	6	12	50
EIE2504016	4.0	6	16	60
EIE2504020	4.0	6	20	60
EIE2504025	4.0	6	25	60
EIE25050	5.0	6	15	60
EIE25060	6.0	6	15	60
EIE2506020	6.0	6	20	60
EIE2506025	6.0	6	25	65
EIE25080	8.0	8	20	70
EIE2508025	8.0	8	25	75
EIE2508030	8.0	8	30	80
EIE25100	10.0	10	25	75
EIE2510030	10.0	10	30	80
EIE2510035	10.0	10	35	85
EIE25120	12.0	12	30	80
EIE2512035	12.0	12	35	85
EIE2512040	12.0	12	40	90
EIE2512045	12.0	12	45	100

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend									◎												

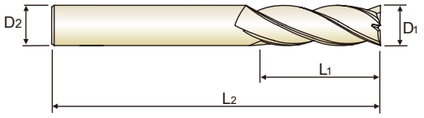
G-CUT END MILLS

PLAIN SHANK **EIE26 SERIES**

CARBIDE, 4 FLUTE
硬质合金，4刃

▶ High quality coating due to YG-1 tailored diamond coating
▶ Suitable for Graphite, Reinforced plastics, nonferrous metal etc.
▶ The biggest length of cut and overall elngth for setting a datum

▶适应高质量的纯金刚石涂层提高涂层的稳定性
▶可以加工石墨，增强塑料，有色金属等
▶采用各种刃长度和总长加工阶段



CARBIDE | 4 | 30° | PLAIN | p.C445

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
EIE26020	2.0	4	6	50
EIE2602008	2.0	4	8	50
EIE2602010	2.0	4	10	50
EIE26025	2.5	4	8	50
EIE26030	3.0	6	8	50
EIE2603010	3.0	6	10	50
EIE2603012	3.0	6	12	50
EIE2603016	3.0	6	16	60
EIE2603020	3.0	6	20	60
EIE26040	4.0	6	10	50
EIE2604012	4.0	6	12	50
EIE2604016	4.0	6	16	60
EIE2604020	4.0	6	20	60
EIE2604025	4.0	6	25	60
EIE26050	5.0	6	15	60
EIE26060	6.0	6	15	60
EIE2606020	6.0	6	20	110
EIE2606030	6.0	6	30	150
EIE26080	8.0	8	20	70
EIE2608030	8.0	8	30	110
EIE2608040	8.0	8	40	150
EIE26100	10.0	10	25	75
EIE2610040	10.0	10	40	110
EIE2610050	10.0	10	50	150

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend									◎												

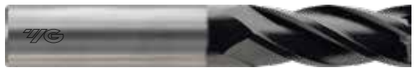
G-CUT END MILLS

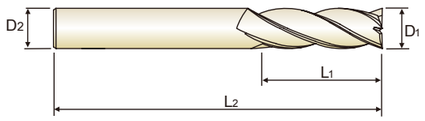
PLAIN SHANK **EIE26 SERIES**

CARBIDE, 4 FLUTE
硬质合金，4刃

▶ High quality coating due to YG-1 tailored diamond coating
▶ Suitable for Graphite, Reinforced plastics, nonferrous metal etc.
▶ The biggest length of cut and overall elngth for setting a datum

▶适应高质量的纯金刚石涂层提高涂层的稳定性
▶可以加工石墨，增强塑料，有色金属等
▶采用各种刃长度和总长加工阶段





CARBIDE | 4 | 30° | PLAIN | p.C445

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK / SHRINK FIT HOLDER	D15 - 46 / D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK / SK SLIM CHUCK	D73 - 115 / D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
EIE26120	12.0	12	30	80
EIE2612050	12.0	12	50	120
EIE2612060	12.0	12	60	160
EIE26160	16.0	16	50	110
EIE2616070	16.0	16	70	160
EIE2616090	16.0	16	90	160
EIE26160100	16.0	16	100	200
EIE26160120	16.0	16	120	250
EIE26200	20.0	20	70	160
EIE2620090	20.0	20	90	160
EIE26200100	20.0	20	100	200
EIE26200120	20.0	20	120	250

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend									◎												

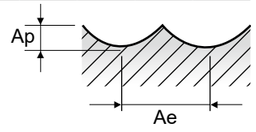
G-CUT END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

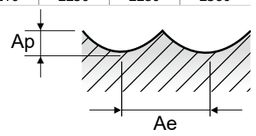
EIE21 SERIES — 2 FLUTE BALL NOSE / 2刃 球头

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
N	29.2	GRAPHITE	0.2D	0.2D	Vc	50	101	151	201	243	283	327	361	396	402	408
					fz	0.013	0.025	0.045	0.066	0.082	0.098	0.115	0.133	0.150	0.156	0.154
					RPM	16000	16000	16000	16000	15500	15000	13000	11500	10500	8000	6500
					FEED	400	800	1450	2100	2550	2950	3000	3050	3150	2500	2000



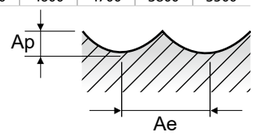
EIE23 SERIES — 2 FLUTE BALL NOSE LONG NECK / 2刃 球头 长颈

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
N	29.2	GRAPHITE	0.2D	0.2D	Vc	38	75	113	151	183	212	245	271	297
					fz	0.013	0.025	0.045	0.065	0.082	0.098	0.115	0.132	0.150
					RPM	12000	12000	12000	12000	11630	11250	9750	8630	7880
					FEED	300	600	1080	1570	1910	2210	2250	2280	2360



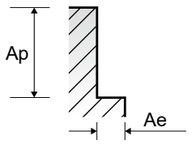
EIE22 SERIES — 4 FLUTE BALL NOSE / 4刃 球头

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
N	29.2	GRAPHITE	0.2D	0.2D	Vc	63	101	151	201	236	283	327	377	377	377	377
					fz	0.009	0.019	0.031	0.048	0.063	0.073	0.087	0.096	0.118	0.127	0.146
					RPM	20000	16000	16000	16000	15000	15000	13000	12000	10000	7500	6000
					FEED	700	1200	2000	3100	3800	4400	4500	4600	4700	3800	3500



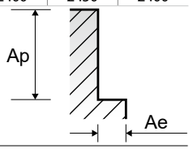
EIE25 SERIES — 2 FLUTE - SIDE CUTTING / 2刃 - 侧铣削

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 0.1	0.2	0.4	0.6	0.8	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
N	29.2	GRAPHITE	0.1D	1.5D	Vc	13	25	50	75	101	126	157	188	226	220	207	201	204	207
					fz	0.001	0.001	0.003	0.004	0.007	0.009	0.016	0.020	0.026	0.043	0.064	0.081	0.092	0.109
					RPM	40000	40000	40000	40000	40000	40000	25000	20000	18000	14000	11000	8000	6500	5500
					FEED	50	100	200	350	550	700	800	800	950	1200	1400	1300	1200	1200

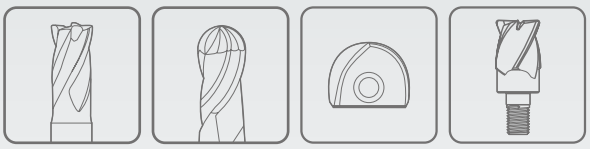


EIE26 SERIES — 4 FLUTE - SIDE CUTTING / 4刃 - 侧铣削

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
N	29.2	GRAPHITE	0.1D	1.5D	Vc	188	226	220	207	201	204	207	211	207
					fz	0.020	0.026	0.043	0.064	0.081	0.092	0.109	0.146	0.182
					RPM	20000	18000	14000	11000	8000	6500	5500	4200	3300
					FEED	1600	1900	2400	2800	2600	2400	2400	2450	2400



Global Cutting Tool Leader **YG-1**



MILLING

Leading Through Innovation

SOLID CARBIDE

CRX S END MILLS

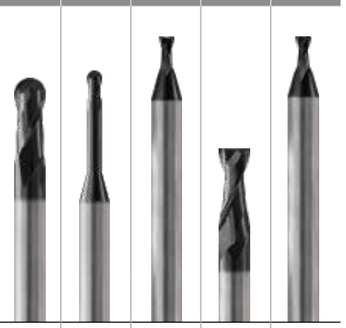
- DLC Coated Carbide End Mills for Copper

- 适用于加工铜的DLC涂层铣刀

SELECTION GUIDE
选用指南

MILLING TOOLS

SERIES 系列	SGED28	SGED27	SGED29	SGED31	SGED30
FLUTE 槽数	2	2	2	2	2
HELIX ANGLE 螺旋角度	30°	30°	30°	30°	30°
CUTTING EDGE SHAPE 类型	BALL NOSE	BALL NOSE	CORNER RADIUS	SQUARE	SQUARE
SIZE MIN 最小尺寸	R0.5	R0.25	D1.0	D1.0	D0.5
SIZE MAX 最大尺寸	R6.0	R6.0	D12.0	D12.0	D12.0
PAGE 页数	C449	C450-451	C452-453	C454	C455-456
	-	EXTENDED NECK	EXTENDED NECK	-	EXTENDED NECK
	DLC	DLC	DLC	DLC	DLC



SOLID CARBIDE
CRX S
END MILLS

DLC Coated Carbide End Mills for Copper
加工铜的DLC涂层铣刀

Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工参数) : p.C457

ISO	VDI 3323	Material Description 工件材料	Composition / Structure / Heat Treatment 成分 / 结构 / 热处理		HB	HRc					
P	1	Non-alloy steel	About 0.15% C	Annealed	125						
	2		About 0.45% C	Annealed	190	13					
	3		About 0.45% C	Quenched & Tempered	250	25					
	4		About 0.75% C	Annealed	270	28					
	5		About 0.75% C	Quenched & Tempered	300	32					
	6	Low alloy steel		Annealed	180	10					
	7			Quenched & Tempered	275	29					
	8			Quenched & Tempered	300	32					
	9			Quenched & Tempered	350	38					
	10	High alloyed steel, and tool steel		Annealed	200	15					
	11			Quenched & Tempered	325	35					
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15					
	13		Martensitic	Quenched & Tempered	240	23					
	14		Austenitic		180	10					
K	15	Grey cast iron	Pearlitic / ferritic		180	10					
	16		Pearlitic (Martensitic)		260	26					
	17	Nodular cast iron	Ferritic		160	3					
	18		Pearlitic		250	25					
	19	Malleable cast iron	Ferritic		130						
	20		Pearlitic		230	21					
N	21	Aluminum-wrought alloy	Not Curable		60		○	○	○	○	○
	22		Curable	Hardened	100		○	○	○	○	○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75						
	24		≤ 12% Si, Curable	Hardened	90						
	25		> 12% Si, Not Curable		130						
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110		◎	◎	◎	◎	◎
	27		CuZn, CuSnZn (Brass)		90		◎	◎	◎	◎	◎
	28		CuSn, lead-free copper and electrolytic copper		100		◎	◎	◎	◎	◎
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic				○	○	○	○	○
	30		Rubber, Wood, etc.								
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15					
	32			Cured	280	30					
	33		Ni or Co Based	Annealed	250	25					
	34			Cured	350	38					
	35			Cast	320	34					
	36	Titanium Alloys	Pure Titanium		400 Rm						
	37		Alpha + Beta Alloys	Hardened	1050 Rm						
H	38	Hardened steel		Hardened	550	55					
	39			Hardened	630	60					
	40	Chilled Cast Iron		Cast	400	42					
	41	Hardened Cast Iron		Hardened	550	55					

BALL NOSE = 球头　CORNER RADIUS = 圆鼻　SQUARE = 平头　EXTENDED NECK= 颈部加长

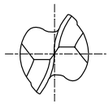
CRX S END MILLS

PLAIN SHANK **SGED28** SERIES

CARBIDE, 2 FLUTE BALL NOSE DLC COATING
硬质合金，2刃 球头 DLC涂层

- ▶ Designed for copper, copper alloys, soft graphite, reinforced plastics and materials affiliated with non-ferrous metals.
- ▶ Tight radius tolerance is applied (±0.005mm tolerance under R3).
- ▶ Excellent surface roughness from Mirror Face of cutting edges

- ▶ 加工铜，铜合金，软石墨，强化塑料等非铁金属用设计
- ▶ 紧密的圆弧角公差 (R3以下的公差是 +/-0.005mm)
- ▶ 刃线采用镜面处理实现卓越工件表面粗糙度



CARBIDE | 2 | 30° | R ±0.005 | PLAIN

p.C457

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK	D15 - 46
SHRINK FIT HOLDER	D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK	D73 - 115
SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
SGED28010	R0.5	1.0	6	2.5	50
SGED28015	R0.75	1.5	6	4	50
SGED28020	R1.0	2.0	6	5	50
SGED28030	R1.5	3.0	6	8	60
SGED28040	R2.0	4.0	6	8	70
SGED28050	R2.5	5.0	6	12	90
SGED28060	R3.0	6.0	6	12	90
SGED28080	R4.0	8.0	8	16	100
SGED28100	R5.0	10.0	10	20	100
SGED28120	R6.0	12.0	12	25	110

Size 尺寸	Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M				K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend																					

ISO	N										S						H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○				◎	◎	◎	○												

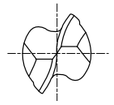
CRX S END MILLS

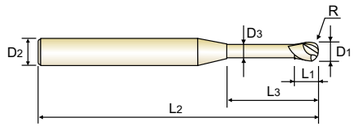
PLAIN SHANK **SGED27** SERIES

CARBIDE, 2 FLUTE BALL NOSE DLC COATING with EXTENDED NECK
硬质合金，2刃 球头 DLC涂层 颈部加长

- ▶ Designed for copper, copper alloys soft graphite, reinforced plastics and the materials affiliated with non-ferrous metals.
- ▶ Tight radius tolerance is applied (± 0.005mm tolerance under R3).
- ▶ Excellent surface roughness thanks to Mirror Face of cutting edges
- ▶ High strength and minimized vibration are available due to two step taper neck(under R0.5).

- ▶ 加工铜，铜合金，软石墨，强化塑料等非铁金属用设计
- ▶ 紧密的圆弧角公差 (R3以下的公差是 +/-0.005mm)
- ▶ 刃线采用镜面处理实现卓越工件表面粗糙度
- ▶ R0.5以下产品采用双颈设计，提高刚性和减少振动





CARBIDE | 2 | 30° | R ±0.005 | R ±0.010 | PLAIN

R0.25~R3 R4~R6

p.C458

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK	D15 - 46
SHRINK FIT HOLDER	D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK	D73 - 115
SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Length Below Shank 颈长 L_3	Overall Length 全长 L_2	Neck Diameter 颈径 D_3
SGED2700502	R0.25	**0.5**	4	0.5	2	45	0.45
SGED2700504	R0.25	**0.5**	4	0.5	4	45	0.45
SGED2700506	R0.25	**0.5**	4	0.5	6	45	0.45
SGED2700508	R0.25	**0.5**	4	0.5	8	45	0.45
SGED2700510	R0.25	**0.5**	4	0.5	10	45	0.45
SGED2700602	R0.3	**0.6**	4	0.6	2	45	0.55
SGED2700604	R0.3	**0.6**	4	0.6	4	45	0.55
SGED2700606	R0.3	**0.6**	4	0.6	6	45	0.55
SGED2700608	R0.3	**0.6**	4	0.6	8	45	0.55
SGED2700610	R0.3	**0.6**	4	0.6	10	45	0.55
SGED2700804	R0.4	**0.8**	4	0.8	4	45	0.75
SGED2700806	R0.4	**0.8**	4	0.8	6	45	0.75
SGED2700808	R0.4	**0.8**	4	0.8	8	45	0.75
SGED2700810	R0.4	**0.8**	4	0.8	10	45	0.75
SGED2700812	R0.4	**0.8**	4	0.8	12	45	0.75
SGED2701004	R0.5	**1.0**	4	1	4	45	0.95
SGED2701006	R0.5	**1.0**	4	1	6	45	0.95
SGED2701008	R0.5	**1.0**	4	1	8	45	0.95
SGED2701010	R0.5	**1.0**	4	1	10	45	0.95
SGED2701012	R0.5	**1.0**	4	1	12	45	0.95
SGED2701506	R0.75	**1.5**	4	1.5	6	45	1.45
SGED2701508	R0.75	**1.5**	4	1.5	8	45	1.45
SGED2701510	R0.75	**1.5**	4	1.5	10	45	1.45
SGED2701512	R0.75	**1.5**	4	1.5	12	45	1.45

▶ NEXT PAGE 下页

Size 尺寸	Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○				◎	◎	◎	○												

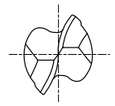
CRX S END MILLS

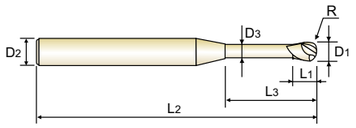
PLAIN SHANK SGED27 SERIES

CARBIDE, 2 FLUTE BALL NOSE DLC COATING with EXTENDED NECK
硬质合金，2刃 球头 DLC涂层

- ▶ Designed to copper, copper alloys soft graphite, reinforced plastics and the materials affiliated with non-ferrous metals.
- ▶ Tight radius tolerance is applied (± 0.005mm tolerance under R3).
- ▶ Excellent surface roughness thanks to Mirror Face of cutting edges
- ▶ High strength and minimized vibration are available due to two step taper neck(under R0.5).

- ▶ 加工铜，铜合金，软石墨，强化塑料等非铁金属用设计
- ▶ 紧密的圆弧角公差 (R3以下的公差是 +/-0.005mm)
- ▶ 刃线采用镜面处理实现卓越工件表面粗糙度
- ▶ R0.5以下产品采用双颈设计，提高刚性和减少振动





CARBIDE | 2 | 30° | R ±0.005 | R ±0.010 | PLAIN

R0.25~R3 R4~R6

p.C458

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK	D15 - 46
SHRINK FIT HOLDER	D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK	D73 - 115
SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Length Below Shank 颈长 L_3	Overall Length 全长 L_2	Neck Diameter 颈径 D_3
SGED2701516	R0.75	**1.5**	4	1.5	16	50	1.45
SGED2702006	R1.0	**2.0**	4	3	6	45	1.95
SGED2702008	R1.0	**2.0**	4	3	8	45	1.95
SGED2702010	R1.0	**2.0**	4	3	10	45	1.95
SGED2702012	R1.0	**2.0**	4	3	12	45	1.95
SGED2702016	R1.0	**2.0**	4	3	16	50	1.95
SGED2703010	R1.5	**3.0**	6	4	10	50	2.85
SGED2703012	R1.5	**3.0**	6	4	12	50	2.85
SGED2703016	R1.5	**3.0**	6	4	16	60	2.85
SGED2703020	R1.5	**3.0**	6	4	20	60	2.85
SGED2704010	R2.0	**4.0**	6	5	10	50	3.85
SGED2704012	R2.0	**4.0**	6	5	12	50	3.85
SGED2704016	R2.0	**4.0**	6	5	16	60	3.85
SGED2704020	R2.0	**4.0**	6	5	20	60	3.85
SGED2704025	R2.0	**4.0**	6	5	25	60	3.85
SGED2706020	R3.0	**6.0**	6	8	20	60	5.85
SGED2706030	R3.0	**6.0**	6	8	30	90	5.85
SGED2708020	R4.0	**8.0**	8	10	20	70	7.70
SGED2710025	R5.0	**10.0**	10	12	25	80	9.70
SGED2712025	R6.0	**12.0**	12	14	25	80	11.70

Size 尺寸	Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○				◎	◎	◎	○												

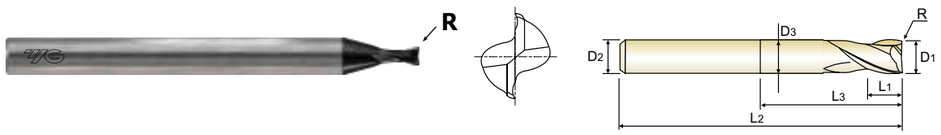
CRX S END MILLS

PLAIN SHANK **SGED29** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS DLC COATING with EXTENDED NECK
硬质合金，2刃 圆鼻 DLC涂层 颈部加长

- ▶ Designed for copper, copper alloys, soft graphite, reinforced plastics and materials affiliated with non-ferrous metals.
- ▶ Excellent surface roughness from Mirror Face of cutting edges

- ▶加工铜，铜合金，软石墨，强化塑料等非铁金属用设计
- ▶刃线采用镜面处理实现卓越工件表面粗糙度



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN | p.C457

Ø1~Ø6 Ø8~Ø12

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK	D15 - 46
SHRINK FIT HOLDER	D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK	D73 - 115
SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Length Below Shank 颈长 L_3	Overall Length 全长 L_2	Neck Diameter 颈径 D_3
SGED290100104	R0.1	**1.0**	4	1.5	4	45	0.95
SGED290100106	R0.1	**1.0**	4	1.5	6	45	0.95
SGED290100108	R0.1	**1.0**	4	1.5	8	45	0.95
SGED290100204	R0.2	**1.0**	4	1.5	4	45	0.95
SGED290100206	R0.2	**1.0**	4	1.5	6	45	0.95
SGED290100208	R0.2	**1.0**	4	1.5	8	45	0.95
SGED290150106	R0.1	**1.5**	4	2.3	6	45	1.45
SGED290150108	R0.1	**1.5**	4	2.3	8	45	1.45
SGED290150110	R0.1	**1.5**	4	2.3	10	45	1.45
SGED290150206	R0.2	**1.5**	4	2.3	6	45	1.45
SGED290150208	R0.2	**1.5**	4	2.3	8	45	1.45
SGED290150210	R0.2	**1.5**	4	2.3	10	45	1.45
SGED290200208	R0.2	**2.0**	4	3	8	45	1.95
SGED290200210	R0.2	**2.0**	4	3	10	45	1.95
SGED290200212	R0.2	**2.0**	4	3	12	45	1.95
SGED290200508	R0.5	**2.0**	4	3	8	45	1.95
SGED290200510	R0.5	**2.0**	4	3	10	45	1.95
SGED290200512	R0.5	**2.0**	4	3	12	45	1.95
SGED290300210	R0.2	**3.0**	6	4.5	10	50	2.85
SGED290300212	R0.2	**3.0**	6	4.5	12	50	2.85
SGED290300216	R0.2	**3.0**	6	4.5	16	60	2.85
SGED290300310	R0.3	**3.0**	6	4.5	10	50	2.85
SGED290300312	R0.3	**3.0**	6	4.5	12	50	2.85
SGED290300316	R0.3	**3.0**	6	4.5	16	60	2.85

▶ NEXT PAGE 下页

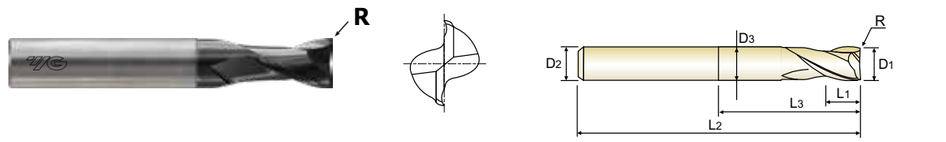
Size 尺寸	Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R6 R6以下	±0.010	0 ~ - 0.012	h5
over R6 超过R6	±0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○				◎	◎	◎	○												

CRX S END MILLS
PLAIN SHANK SGED29 SERIES
CARBIDE, 2 FLUTE CORNER RADIUS DLC COATING with EXTENDED NECK
硬质合金，2刃 圆鼻 DLC涂层 颈部加长
▶ Designed for copper, copper alloys, soft graphite, reinforced plastics and materials affiliated with non-ferrous metals.
▶ Excellent surface roughness from Mirror Face of cutting edges
▶加工铜，铜合金，软石墨，强化塑料等非铁金属用设计
▶刃线采用镜面处理实现卓越工件表面粗糙度



CARBIDE | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN | p.C457
Ø1~Ø6 Ø8~Ø12
Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK	D15 - 46
SHRINK FIT HOLDER	D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK	D73 - 115
SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D_1	Shank Diameter 柄径 D_2	Length of Cut 刃长 L_1	Length Below Shank 颈长 L_3	Overall Length 全长 L_2	Neck Diameter 颈径 D_3
SGED290400212	R0.2	**4.0**	6	6	12	50	3.85
SGED290400216	R0.2	**4.0**	6	6	16	60	3.85
SGED290400220	R0.2	**4.0**	6	6	20	60	3.85
SGED290400512	R0.5	**4.0**	6	6	12	50	3.85
SGED290400516	R0.5	**4.0**	6	6	16	60	3.85
SGED290400520	R0.5	**4.0**	6	6	20	60	3.85
SGED290600320	R0.3	**6.0**	6	9	20	60	5.85
SGED290600520	R0.5	**6.0**	6	9	20	60	5.85
SGED290601020	R1.0	**6.0**	6	9	20	60	5.85
SGED290800325	R0.3	**8.0**	8	12	25	65	7.70
SGED290800525	R0.5	**8.0**	8	12	25	65	7.70
SGED290801025	R1.0	**8.0**	8	12	25	65	7.70
SGED291000530	R0.5	**10.0**	10	15	30	70	9.70
SGED291001030	R1.0	**10.0**	10	15	30	70	9.70
SGED291200532	R0.5	**12.0**	12	18	32	80	11.70
SGED291201032	R1.0	**12.0**	12	18	32	80	11.70

Size 尺寸	Radius Tolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R6 R6以下	±0.010	0 ~ - 0.012	h5
over R6 超过R6	±0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○				◎	◎	◎	○												

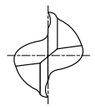
CRX S END MILLS

PLAIN SHANK **SGED31** SERIES

CARBIDE, 2 FLUTE DLC COATING
硬质合金，2刃 DLC涂层

- ▶ Designed for copper, copper alloys, soft graphite, reinforced plastics and materials affiliated with non-ferrous metals.
- ▶ Excellent surface roughness from special flute geometry for removing burrs

- ▶ 加工铜，铜合金，软石墨，强化塑料等非铁金属用设计
- ▶ 采用提高排屑性能的特殊设计实现卓越工件表面粗糙度



CARBIDE | 2 | 30° | PLAIN | p.C458

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK	D15 - 46
SHRINK FIT HOLDER	D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK	D73 - 115
SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
SGED31010	1.0	6	2.5	50
SGED31015	1.5	6	4	50
SGED31020	2.0	6	6	50
SGED31025	2.5	6	8	50
SGED31030	3.0	6	10	50
SGED31040	4.0	6	12	50
SGED31050	5.0	6	15	60
SGED31060	6.0	6	15	60
SGED31080	8.0	8	20	65
SGED31100	10.0	10	25	70
SGED31120	12.0	12	30	80

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R6 R6以下	0 ~ - 0.012	h5
over R6 超过R6	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○				◎	◎	◎	○												

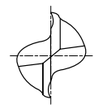
CRX S END MILLS

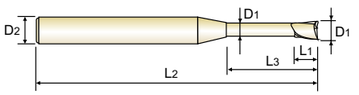
PLAIN SHANK **SGED30** SERIES

CARBIDE, 2 FLUTE DLC COATING with EXTENDED NECK
硬质合金，2刃 DLC涂层 颈部加长

- ▶ Designed for copper, copper alloys, soft graphite, reinforced plastics and materials affiliated with non-ferrous metals.
- ▶ High toughness and minimized vibration applied from two step taper neck (under dia. 1.0mm)
- ▶ Excellent surface roughness from special flute geometry for removing burrs

- ▶ 加工铜，铜合金，软石墨，强化塑料等非铁金属用设计
- ▶ 1.0mm直径以下产品采用双颈设计，提高韧性和减少振动
- ▶ 采用提高排屑性能的特殊设计实现卓越工件表面粗糙度





CARBIDE | 2 | 30° | PLAIN | p.C458

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK	D15 - 46
SHRINK FIT HOLDER	D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK	D73 - 115
SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SGED3000502	0.5	4	0.7	2	45	0.45
SGED3000504	0.5	4	0.7	4	45	0.45
SGED3000506	0.5	4	0.7	6	45	0.45
SGED3000508	0.5	4	0.7	8	45	0.45
SGED3000510	0.5	4	0.7	10	45	0.45
SGED3000602	0.6	4	0.9	2	45	0.55
SGED3000604	0.6	4	0.9	4	45	0.55
SGED3000606	0.6	4	0.9	6	45	0.55
SGED3000608	0.6	4	0.9	8	45	0.55
SGED3000610	0.6	4	0.9	10	45	0.55
SGED3000804	0.8	4	1.2	4	45	0.75
SGED3000806	0.8	4	1.2	6	45	0.75
SGED3000808	0.8	4	1.2	8	45	0.75
SGED3000810	0.8	4	1.2	10	45	0.75
SGED3000812	0.8	4	1.2	12	45	0.75
SGED3001004	1.0	4	1.5	4	45	0.95
SGED3001006	1.0	4	1.5	6	45	0.95
SGED3001008	1.0	4	1.5	8	45	0.95
SGED3001010	1.0	4	1.5	10	45	0.95
SGED3001012	1.0	4	1.5	12	45	0.95
SGED3001506	1.5	4	2.3	6	45	1.45
SGED3001508	1.5	4	2.3	8	45	1.45
SGED3001510	1.5	4	2.3	10	45	1.45
SGED3001512	1.5	4	2.3	12	45	1.45

▶ NEXT PAGE 下页

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R6 R6以下	0 ~ - 0.012	h5
over R6 超过R6	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○				◎	◎	◎	○												

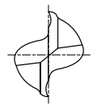
CRX S END MILLS

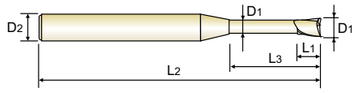
PLAIN SHANK **SGED30** SERIES

CARBIDE, 2 FLUTE DLC COATING with EXTENDED NECK
硬质合金，2刃 DLC涂层 颈部加长

- ▶ Designed for copper, copper alloys, soft graphite, reinforced plastics and materials affiliated with non-ferrous metals.
- ▶ High toughness and minimized vibration applied from two step taper neck (under dia. 1.0mm)
- ▶ Excellent surface roughness from special flute geometry for removing burrs

- ▶ 加工铜，铜合金，软石墨，强化塑料等非铁金属用设计
- ▶ 1.0mm直径以下产品采用双颈设计，提高韧性和减少振动
- ▶ 采用提高排屑性能的特殊设计实现卓越工件表面粗糙度





CARBIDE | 2 | 30° | PLAIN p.C458

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK	D15 - 46
SHRINK FIT HOLDER	D47 - 72
POWER MILLING CHUCK	D161 - 176
ER COLLET CHUCK	D73 - 115
SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SGED3001516	1.5	4	2.3	16	50	1.45
SGED3002008	2.0	4	3	8	45	1.95
SGED3002010	2.0	4	3	10	45	1.95
SGED3002012	2.0	4	3	12	45	1.95
SGED3002016	2.0	4	3	16	50	1.95
SGED3003008	3.0	6	4.5	8	50	2.85
SGED3003010	3.0	6	4.5	10	50	2.85
SGED3003012	3.0	6	4.5	12	50	2.85
SGED3003016	3.0	6	4.5	16	60	2.85
SGED3003020	3.0	6	4.5	20	60	2.85
SGED3004010	4.0	6	6	10	50	3.85
SGED3004012	4.0	6	6	12	50	3.85
SGED3004016	4.0	6	6	16	60	3.85
SGED3004020	4.0	6	6	20	60	3.85
SGED3004025	4.0	6	6	25	60	3.85
SGED3006020	6.0	6	8	20	60	5.85
SGED3006030	6.0	6	8	30	90	5.85
SGED3008020	8.0	8	12	20	70	7.70
SGED3010025	10.0	10	15	25	80	9.70
SGED3012025	12.0	12	18	25	80	11.70

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R6 R6以下	0 ~ - 0.012	h5
over R6 超过R6	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N									S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○				◎	◎	◎	○												

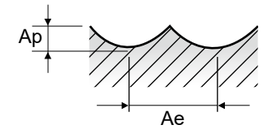
CRX S END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

SGED28 SERIES
2 FLUTE BALL NOSE
2刃 球头

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter	Diameter (Ø) 直径 1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
N	21-22	Aluminum-wrought alloy	0.05D	0.02D	Vc	155	300	295	285	290	295	300	300	300
					fz	0.01	0.022	0.031	0.042	0.052	0.061	0.079	0.101	0.12
					RPM	49338	47746	31300	22680	18462	15650	11937	9549	7958
					FEED	987	2101	1941	1905	1920	1909	1886	1929	1910
	26-28	Copper and Copper Alloys (Bronze / Brass)	0.05D	0.02D	Vc	130	150	150	145	145	145	150	150	150
					fz	0.011	0.02	0.028	0.038	0.047	0.055	0.072	0.092	0.109
					RPM	41380	23873	15915	11539	9231	7692	5968	4775	3979
					FEED	910	955	891	877	868	846	859	879	867
	29.1	Duroplastic	0.05D	0.02D	Vc	155	315	445	435	440	445	450	455	450
					fz	0.008	0.015	0.019	0.026	0.033	0.038	0.05	0.063	0.076
					RPM	49338	50134	47216	34616	28011	23608	17905	14483	11937
					FEED	789	1504	1794	1800	1849	1794	1790	1825	1814

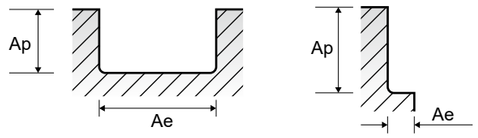


SGED29 SERIES
2 FLUTE CORNER RADIUS - SLOTTING
2刃 圆鼻- 槽铣削

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
N	21-22	Aluminum-wrought alloy	1.0D	0.5D	Vc	155	315	470	630	785	840	840	840	835
					fz	0.01	0.018	0.026	0.037	0.043	0.052	0.068	0.089	0.105
					RPM	49338	50134	49869	50134	49975	44563	33423	26738	22149
					FEED	987	1805	2593	3710	4298	4635	4545	4759	4651
	26-28	Copper and Copper Alloys (Bronze / Brass)	1.0D	0.5D	Vc	155	315	420	420	425	420	420	420	420
					fz	0.01	0.017	0.026	0.031	0.039	0.047	0.063	0.079	0.095
					RPM	49338	50134	44563	33423	27056	22282	16711	13369	11141
					FEED	987	1705	2317	2072	2110	2094	2106	2112	2117
	29.1	Duroplastic	1.0D	0.5D	Vc	155	315	470	630	785	940	1255	1255	1265
					fz	0.007	0.014	0.021	0.026	0.034	0.042	0.057	0.069	0.084
					RPM	49338	50134	49869	50134	49975	49869	49935	39948	33555
					FEED	691	1404	2094	2607	3398	4189	5693	5513	5637

2 FLUTE CORNER RADIUS - SIDE CUTTING
2刃 圆鼻- 侧铣削

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
N	21-22	Aluminum-wrought alloy	0.5D	1.0D	Vc	155	315	470	630	785	940	940	940	940
					fz	0.014	0.028	0.042	0.053	0.065	0.079	0.105	0.131	0.157
					RPM	49338	50134	49869	50134	49975	49869	37401	29921	24934
					FEED	1381	2807	4189	5314	6497	7879	7854	7839	7829
	26-28	Copper and Copper Alloys (Bronze / Brass)	0.5D	1.0D	Vc	155	315	470	630	630	630	630	630	630
					fz	0.012	0.025	0.037	0.047	0.06	0.073	0.094	0.12	0.141
					RPM	49338	50134	49869	50134	40107	33423	25067	20054	16711
					FEED	1184	2507	3690	4713	4813	4880	4713	4813	4713
	29.1	Duroplastic	0.5D	1.0D	Vc	155	315	470	630	785	940	1255	1255	1265
					fz	0.012	0.025	0.037	0.05	0.065	0.075	0.084	0.105	0.125
					RPM	49338	50134	49869	50134	49975	49869	49935	39948	33555
					FEED	1184	2507	3690	5013	6497	7480	8389	8389	8389



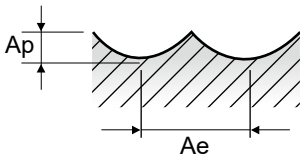
CRX S END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

SGED27 SERIES — 2 FLUTE BALL NOSE / 2刃 球头

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 0.5	0.6	0.8	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
N	21	Aluminum-wrought alloy	0.05D	0.02D	Vc	80	95	125	155	250	245	240	240	245	250	250	250
					fz	0.005	0.007	0.009	0.01	0.022	0.03	0.042	0.052	0.061	0.079	0.1	0.122
					RPM	50930	50399	49736	49338	39789	25995	19099	15279	12998	9947	7958	6631
					FEED	509	706	895	987	1751	1560	1604	1589	1586	1572	1592	1618
	26-28	Copper and Copper Alloys (Bronze / Brass)	0.05D	0.02D	Vc	80	95	110	110	125	125	120	120	125	125	125	125
					fz	0.005	0.007	0.009	0.011	0.02	0.028	0.038	0.047	0.055	0.072	0.091	0.111
					RPM	50930	50399	43768	35014	19894	13263	9549	7639	6631	4974	3979	3316
					FEED	509	706	788	770	796	743	726	718	729	716	724	736
	29.1	Duroplastic	0.05D	0.02D	Vc	80	95	125	155	315	370	360	365	370	375	375	375
					fz	0.004	0.005	0.006	0.006	0.013	0.019	0.027	0.033	0.039	0.05	0.064	0.077
					RPM	50930	50399	49736	49338	50134	39258	28648	23237	19629	14921	11937	9947
					FEED	407	504	597	592	1303	1492	1547	1534	1531	1492	1528	1532



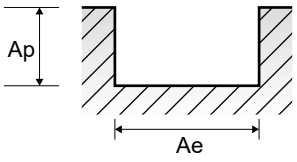
SGED30, SGED31 SERIES

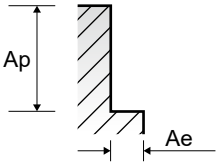
2 FLUTE - SLOTTING
2刃 - 槽铣削

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 0.5	0.6	0.8	1.0	2.0	3.0	4.0	6.0	8.0	10.0	12.0
N	21-22	Aluminum-wrought alloy	1.0D	0.5D	Vc	80	95	125	155	315	330	325	325	330	325	330
					fz	0.005	0.006	0.008	0.01	0.01	0.023	0.032	0.048	0.064	0.081	0.097
					RPM	50930	50399	49736	49338	50134	35014	25863	17242	13130	10345	8754
					FEED	509	605	796	987	1003	1611	1655	1655	1681	1676	1698
	26-28	Copper and Copper Alloys (Bronze / Brass)	1.0D	0.5D	Vc	80	95	105	110	160	165	160	165	165	160	165
					fz	0.005	0.006	0.008	0.01	0.01	0.023	0.032	0.048	0.064	0.081	0.097
					RPM	50930	50399	41778	35014	25465	17507	12732	8754	6565	5093	4377
					FEED	509	605	668	700	509	805	815	840	840	825	849
	29.1	Duroplastic	1.0D	0.5D	Vc	80	95	125	155	315	470	490	490	500	490	495
					fz	0.001	0.002	0.002	0.003	0.004	0.007	0.009	0.014	0.018	0.023	0.028
					RPM	50930	50399	49736	49338	50134	49869	38993	25995	19894	15597	13130
					FEED	102	202	199	296	401	698	702	728	716	717	735

2 FLUTE - SIDE CUTTING
2刃 - 侧铣削

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 0.5	0.6	0.8	1.0	2.0	3.0	4.0	6.0	8.0	10.0	12.0
N	21-22	Aluminum-wrought alloy	0.5D	1.0D	Vc	80	95	125	130	260	260	265	270	265	265	270
					fz	0.005	0.006	0.008	0.01	0.011	0.025	0.034	0.053	0.069	0.086	0.107
					RPM	50930	50399	49736	41380	41380	27587	21088	14324	10544	8435	7162
					FEED	509	605	796	828	910	1379	1434	1518	1455	1451	1533
	26-28	Copper and Copper Alloys (Bronze / Brass)	0.5D	1.0D	Vc	80	85	85	85	170	175	175	180	175	175	180
					fz	0.005	0.006	0.008	0.01	0.01	0.023	0.032	0.05	0.064	0.08	0.1
					RPM	50930	45094	33820	27056	27056	18568	13926	9549	6963	5570	4775
					FEED	509	541	541	541	541	854	891	955	891	891	955
	29.1	Duroplastic	0.5D	1.0D	Vc	80	95	125	155	315	350	350	360	350	350	360
					fz	0.004	0.005	0.006	0.008	0.009	0.018	0.026	0.04	0.051	0.064	0.08
					RPM	50930	50399	49736	49338	50134	37136	27852	19099	13926	11141	9549
					FEED	407	504	597	789	902	1337	1448	1528	1420	1426	1528





Leading Through Innovation

SOLID CARBIDE

K-2 END MILLS

- General Purpose / Conventional or High Speed Milling / Wet & Dry Cutting
- 适用于普通加工 / 普通或高速铣削 / 湿切&干切削

SELECTION GUIDE
选用指南

YG MILLING TOOLS

SOLID CARBIDE
K-2
END MILLS

General Purpose
Conventional or High Speed Milling, Wet & Dry Cutting
普通用途
普通或高速铣削 / 湿切&干切削

Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工参数) : p.C491

						K-2 Plus			
					SERIES 系列	EMC56	EMC60	EMC61	EMC62
					FLUTE 槽数	4	2	2	4
					HELIX ANGLE 螺旋角度	30°	30°	30°	30°
					CUTTING EDGE SHAPE 类型	BALL NOSE	BALL NOSE	CORNER RADIUS	CORNER RADIUS
					SIZE MIN 最小尺寸	R0.1	R0.2	D3.0	D3.0
					SIZE MAX 最大尺寸	R10.0	R3.0	D12.0	D12.0
					PAGE 页数	C463	C464-468	C469-470	C471-472
						SHORT LENGTH	LONG NECK	-	-
						TiAlN	TiAlN	TiAlN	TiAlN
ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment		HB	HRc				
P	1	Non-alloy steel	About 0.15% C	Annealed	125		◎	◎	◎	◎
	2		About 0.45% C	Annealed	190	13	◎	◎	◎	◎
	3		About 0.45% C	Quenched & Tempered	250	25	◎	◎	◎	◎
	4		About 0.75% C	Annealed	270	28	◎	◎	◎	◎
	5		About 0.75% C	Quenched & Tempered	300	32	◎	◎	◎	◎
	6	Low alloy steel		Annealed	180	10	◎	◎	◎	◎
	7			Quenched & Tempered	275	29	◎	◎	◎	◎
	8			Quenched & Tempered	300	32	◎	◎	◎	◎
	9			Quenched & Tempered	350	38	◎	◎	◎	◎
	10	High alloyed steel, and tool steel		Annealed	200	15	◎	◎	◎	◎
	11			Quenched & Tempered	325	35	◎	◎	◎	◎
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15	○			
	13		Martensitic	Quenched & Tempered	240	23	○			
	14		Austenitic		180	10	○		○	○
K	15	Grey cast iron	Pearlitic / ferritic		180	10	○	○	○	○
	16		Pearlitic (Martensitic)		260	26	○	○	○	○
	17	Nodular cast iron	Ferritic		160	3	○	○	○	○
	18		Pearlitic		250	25	○	○	○	○
	19	Malleable cast iron	Ferritic		130		○	○	○	○
	20		Pearlitic		230	21	○	○	○	○
N	21	Aluminum-wrought alloy	Not Curable		60		○			
	22		Curable	Hardened	100		○			
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75		○			
	24		≤ 12% Si, Curable	Hardened	90		○			
	25		> 12% Si, Not Curable		130		○			
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110		○			
	27		CuZn, CuSnZn (Brass)		90		○			
	28		CuSn, lead-free copper and electrolytic copper		100		○			
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic							
	30		Rubber, Wood, etc.							
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15				
	32			Cured	280	30				
	33		Ni or Co Based	Annealed	250	25				
	34			Cured	350	38				
	35			Cast	320	34				
	36	Titanium Alloys	Pure Titanium		400 Rm					
	37		Alpha + Beta Alloys	Hardened	1050 Rm					
H	38	Hardened steel		Hardened	550	55	○	○	○	○
	39			Hardened	630	60				
	40	Chilled Cast Iron		Cast	400	42	○	○	○	○
	41	Hardened Cast Iron		Hardened	550	55				

K-2 Plus								K-2	
EMC59	EMC52	EMC53	EMC54	EMC55	EMC57	EMC58	EMC69	G9A25	G9B52
2	2	2	4	4	4&6	6	4-6	2	2
30°	35°	35°	35°	35°	45°	45°	45°	30°	30°
SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	ROUGHING	BALL NOSE	BALL NOSE
D0.4	D1.0	D2.0	D1.0	D2.0	D1.0	D6.0	D6.0	R0.5	R0.5
D6.0	D20.0	D20.0	D20.0	D20.0	D20.0	D20.0	D20.0	R10.0	R10.0
C473-478	C479	C480	C481	C482	C483		C484	C485	C486
LONG NECK	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	LONG LENGTH	FINE	REGULAR LENGTH	LONG LENGTH
TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	X-Coating	TiAlN	TiAlN
◎	◎	◎	◎	◎	○	○	○	◎	◎
◎	◎	◎	◎	◎	○	○	○	◎	◎
◎	◎	◎	◎	◎	○	○	◎	◎	◎
◎	◎	◎	◎	◎	○	○	◎	◎	◎
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◎	◎	◎	◎	◎	○	○	○	◎	◎
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	○	○	○	○				○	○
	○	○	○	○				○	○
	○	○	○	○			◎	○	○
○	○	○	○	○	○	○		○	○
○	○	○	○	○	○	○		○	○
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○	○	○	○	○	○	○		○	○
	○	○	○	○				○	○
	○	○	○	○				○	○
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							○	○	○
○	○	○	○	○	○	○			
○	○	○	○	○	◎	◎	◎	○	○
					○	○			

BALL NOSE = 球头 CORNER RADIUS = 圆鼻 SQUARE = 平头 ROUGHING = 粗加工
SHORT LENGTH= 短刃 REGULAR LENGTH = 普通刃长 LONG LENGTH = 长刃 LONG NECK = 颈部加长 FINE= 细牙

SELECTION GUIDE
选用指南

MILLING TOOLS

SOLID CARBIDE K-2 END MILLS

General Purpose with Coating
Conventional or High Speed Milling, Wet or Dry Cutting
普通用途
普通或高速铣削 / 湿切&干切削

Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工参数) : p.491

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment		HB	HRc	K-2 G9A23	K-2 G9B50	K-2 G9A24	K-2 G9B51
		SERIES 系列					G9A23	G9B50	G9A24	G9B51
		FLUTE 槽数					2	2	4	4
		HELIX ANGLE 螺旋角度					30°	30°	30°	30°
		CUTTING EDGE SHAPE 类型					SQUARE	SQUARE	SQUARE	SQUARE
		SIZE MIN 最小尺寸					D1.0	D1.0	D1.0	D1.0
		SIZE MAX 最大尺寸					D20.0	D20.0	D20.0	D20.0
		PAGE 页数					C487	C488	C489	C490
							REGULAR LENGTH	LONG LENGTH	REGULAR LENGTH	LONG LENGTH
							TiAlN	TiAlN	TiAlN	TiAlN
P	1	Non-alloy steel	About 0.15% C	Annealed	125		◎	◎	◎	◎
	2		About 0.45% C	Annealed	190	13	◎	◎	◎	◎
	3		About 0.45% C	Quenched & Tempered	250	25	◎	◎	◎	◎
	4		About 0.75% C	Annealed	270	28	◎	◎	◎	◎
	5		About 0.75% C	Quenched & Tempered	300	32	◎	◎	◎	◎
	6	Low alloy steel		Annealed	180	10	◎	◎	◎	◎
	7			Quenched & Tempered	275	29	◎	◎	◎	◎
	8			Quenched & Tempered	300	32	◎	◎	◎	◎
	9			Quenched & Tempered	350	38	◎	◎	◎	◎
	10	High alloyed steel, and tool steel		Annealed	200	15	◎	◎	◎	◎
	11			Quenched & Tempered	325	35	◎	◎	◎	◎
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15	○	○	○	○
	13		Martensitic	Quenched & Tempered	240	23	○	○	○	○
	14		Austenitic		180	10	○	○	○	○
K	15	Grey cast iron	Pearlitic / ferritic		180	10	○	○	○	○
	16		Pearlitic (Martensitic)		260	26	○	○	○	○
	17	Nodular cast iron	Ferritic		160	3	○	○	○	○
	18		Pearlitic		250	25	○	○	○	○
	19	Malleable cast iron	Ferritic		130		○	○	○	○
	20		Pearlitic		230	21	○	○	○	○
N	21	Aluminum-wrought alloy	Not Curable		60		○	○	○	○
	22		Curable	Hardened	100		○	○	○	○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75		○	○	○	○
	24		≤ 12% Si, Curable	Hardened	90		○	○	○	○
	25		> 12% Si, Not Curable		130		○	○	○	○
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110		○	○	○	○
	27		CuZn, CuSnZn (Brass)		90		○	○	○	○
	28		CuSn, lead-free copper and electrolytic copper		100		○	○	○	○
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic							
	30		Rubber, Wood, etc.							
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15				
	32			Cured	280	30				
	33		Ni or Co Based	Annealed	250	25				
	34			Cured	350	38				
	35			Cast	320	34				
	36	Titanium Alloys	Pure Titanium		400 Rm					
	37		Alpha + Beta Alloys	Hardened	1050 Rm					
H	38	Hardened steel		Hardened	550	55				
	39			Hardened	630	60				
	40	Chilled Cast Iron		Cast	400	42	○	○	○	○
	41	Hardened Cast Iron		Hardened	550	55				

BALL NOSE = 球头　CORNER RADIUS = 圆鼻　SQUARE = 平头　ROUGHING = 粗加工
SHORT LENGTH= 短刃　REGULAR LENGTH = 普通刃长　LONG LENGTH = 长刃　LONG NECK = 颈部加长　FINE= 细牙

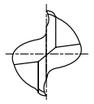
K-2 Plus END MILLS

PLAIN SHANK **EMC56 SERIES**

CARBIDE, 2 FLUTE SHORT LENGTH BALL NOSE
硬质合金，2刃 短刃 球头

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Suitable for high speed machining in wet or dry condition.
- ▶ Designed for milling of radius bottom slots, fillets and special contours.
- ▶ Application in high speed machining, wet and dry cutting conditions.

- ▶ 设计用于加工碳钢，工具钢，合金钢，不锈钢等多种用途的钢
- ▶ 高耐磨性
- ▶ 设计用于铣削圆型底部的槽，带和特殊轮廓
- ▶ 适应于高速加工，湿式和干式切削条件



CARBIDE | 2 | 30° | R ±0.01 | R ±0.02 | PLAIN

p.C491

R1.0 - R3　R3.5 - R10

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
-	-	SHRINK FIT HOLDER	D47 - 72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
EMC56002	R0.1	0.2	4	0.4	50
EMC56003	R0.15	0.3	4	0.6	50
EMC56004	R0.2	0.4	4	0.8	50
EMC56005	R0.25	0.5	4	1.0	50
EMC56006	R0.3	0.6	4	1.2	50
EMC56008	R0.4	0.8	4	1.6	50
EMC56010	R0.5	1.0	4	2.0	50
EMC56015	R0.75	1.5	4	4.0	50
EMC56020	R1.0	2.0	4	5.0	50
EMC56025	R1.25	2.5	4	6.0	50
EMC56030	R1.5	3.0	4	6.0	50
EMC56901	R1.5	3.0	6	6.0	50
EMC56040	R2.0	4.0	4	8.0	50
EMC56902	R2.0	4.0	6	8.0	50
EMC56050	R2.5	5.0	6	10.0	50
EMC56060	R3.0	6.0	6	12.0	50
EMC56070	R3.5	7.0	8	14.0	60
EMC56080	R4.0	8.0	8	14.0	60
EMC56090	R4.5	9.0	10	18.0	75
EMC56100	R5.0	10.0	10	20.0	75
EMC56120	R6.0	12.0	12	24.0	75
EMC56160	R8.0	16.0	16	32.0	100
EMC56200	R10.0	20.0	20	40.0	100

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○											○	

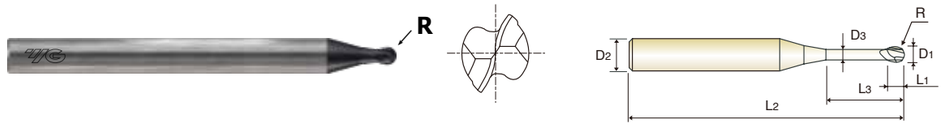
K-2 Plus END MILLS

PLAIN SHANK **EMC60 SERIES**

CARBIDE, 2 FLUTE BALL NOSE LONG NECK
硬质合金，2刃 球头 颈部加长

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Suitable for high speed machining in wet or dry condition.

- ▶ 设计用于加工碳钢，工具钢，合金钢，不锈钢等多种用途的钢
- ▶ 由于颈部稍细能够加工深槽
- ▶ 高耐磨性



CARBIDE | 2 | 30° | R ±0.01 | PLAIN

p.C497-498

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
-	-	SHRINK FIT HOLDER	D47 - 72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R (±0.01)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
EMC60004005	R0.2	**0.4**	4	0.4	0.5	45	0.37
EMC60004010	R0.2	**0.4**	4	0.4	1	45	0.37
EMC60004015	R0.2	**0.4**	4	0.4	1.5	45	0.37
EMC60004020	R0.2	**0.4**	4	0.4	2	45	0.37
EMC60004030	R0.2	**0.4**	4	0.4	3	45	0.37
EMC60004040	R0.2	**0.4**	4	0.4	4	45	0.37
EMC60004050	R0.2	**0.4**	4	0.4	5	45	0.37
EMC60005010	R0.25	**0.5**	4	0.5	1	45	0.45
EMC60005020	R0.25	**0.5**	4	0.5	2	45	0.45
EMC60005030	R0.25	**0.5**	4	0.5	3	45	0.45
EMC60005040	R0.25	**0.5**	4	0.5	4	45	0.45
EMC60005050	R0.25	**0.5**	4	0.5	5	45	0.45
EMC60005060	R0.25	**0.5**	4	0.5	6	45	0.45
EMC60005080	R0.25	**0.5**	4	0.5	8	45	0.45
EMC60006010	R0.3	**0.6**	4	0.6	1	45	0.55
EMC60006020	R0.3	**0.6**	4	0.6	2	45	0.55
EMC60006030	R0.3	**0.6**	4	0.6	3	45	0.55
EMC60006040	R0.3	**0.6**	4	0.6	4	45	0.55
EMC60006050	R0.3	**0.6**	4	0.6	5	45	0.55
EMC60006060	R0.3	**0.6**	4	0.6	6	45	0.55
EMC60006080	R0.3	**0.6**	4	0.6	8	45	0.55
EMC60006100	R0.3	**0.6**	4	0.6	10	45	0.55
EMC60008020	R0.4	**0.8**	4	0.8	2	45	0.75
EMC60008040	R0.4	**0.8**	4	0.8	4	45	0.75

▶ NEXT PAGE 下页

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø3 Ø3以下	0 ~ - 0.015	h5
over Ø3 超过Ø3	0 ~ - 0.020	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																				○	

K-2 Plus END MILLS
PLAIN SHANK EMC60 SERIES
CARBIDE, 2 FLUTE BALL NOSE LONG NECK
硬质合金，2刃 球头 颈部加长
▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
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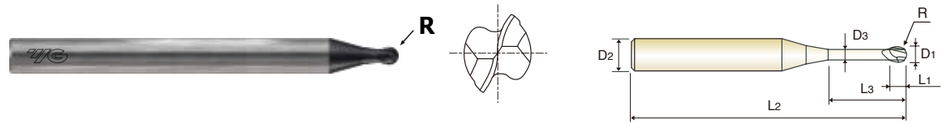
▶ 设计用于加工碳钢，工具钢，合金钢，不锈钢等多种用途的钢
▶ 由于颈部稍细能够加工深槽
▶ 高耐磨性



CARBIDE | 2 | 30° | R ±0.01 | PLAIN
p.C497-498
Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
-	-	SHRINK FIT HOLDER	D47 - 72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R (±0.01)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
EMC60008060	R0.4	**0.8**	4	0.8	6	45	0.75
EMC60008080	R0.4	**0.8**	4	0.8	8	45	0.75
EMC60008100	R0.4	**0.8**	4	0.8	10	45	0.75
EMC60010030	R0.5	**1.0**	4	1.0	3	45	0.95
EMC60010040	R0.5	**1.0**	4	1.0	4	45	0.95
EMC60010050	R0.5	**1.0**	4	1.0	5	45	0.95
EMC60010060	R0.5	**1.0**	4	1.0	6	45	0.95
EMC60010070	R0.5	**1.0**	4	1.0	7	45	0.95
EMC60010080	R0.5	**1.0**	4	1.0	8	45	0.95
EMC60010100	R0.5	**1.0**	4	1.0	10	45	0.95
EMC60010120	R0.5	**1.0**	4	1.0	12	45	0.95
EMC60010140	R0.5	**1.0**	4	1.0	14	50	0.95
EMC60010160	R0.5	**1.0**	4	1.0	16	50	0.95
EMC60010200	R0.5	**1.0**	4	1.0	20	55	0.95
EMC60012040	R0.6	**1.2**	4	1.2	4	45	1.15
EMC60012060	R0.6	**1.2**	4	1.2	6	45	1.15
EMC60012080	R0.6	**1.2**	4	1.2	8	45	1.15
EMC60012100	R0.6	**1.2**	4	1.2	10	45	1.15
EMC60012120	R0.6	**1.2**	4	1.2	12	45	1.15
EMC60014080	R0.7	**1.4**	4	1.4	8	45	1.35
EMC60014120	R0.7	**1.4**	4	1.4	12	45	1.35
EMC60014160	R0.7	**1.4**	4	1.4	16	50	1.35
EMC60015040	R0.75	**1.5**	4	1.5	4	45	1.45
EMC60015060	R0.75	**1.5**	4	1.5	6	45	1.45

▶ NEXT PAGE 下页

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø3 Ø3以下	0 ~ - 0.015	h5
over Ø3 超过Ø3	0 ~ - 0.020	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																				○	

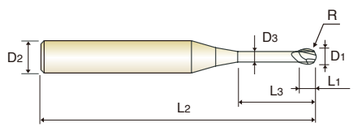
K-2 Plus END MILLS

PLAIN SHANK **EMC60 SERIES**

CARBIDE, 2 FLUTE BALL NOSE LONG NECK
硬质合金，2刃 球头 颈部加长

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Suitable for high speed machining in wet or dry condition.

- ▶ 设计用于加工碳钢，工具钢，合金钢，不锈钢等多种用途的钢
- ▶ 由于颈部稍细能够加工深槽
- ▶ 高耐磨性



CARBIDE | 2 | 30° | R ±0.01 | PLAIN

p.C497-498

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
-	-		SHRINK FIT HOLDER	D47 - 72
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R (±0.01)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
EMC60015080	R0.75	1.5	4	1.5	8	45	1.45
EMC60015100	R0.75	1.5	4	1.5	10	45	1.45
EMC60015120	R0.75	1.5	4	1.5	12	45	1.45
EMC60015140	R0.75	1.5	4	1.5	14	50	1.45
EMC60015160	R0.75	1.5	4	1.5	16	50	1.45
EMC60015200	R0.75	1.5	4	1.5	20	55	1.45
EMC60016080	R0.8	1.6	4	1.6	8	45	1.55
EMC60016120	R0.8	1.6	4	1.6	12	45	1.55
EMC60016160	R0.8	1.6	4	1.6	16	50	1.55
EMC60016200	R0.8	1.6	4	1.6	20	55	1.55
EMC60018080	R0.9	1.8	4	1.8	8	45	1.75
EMC60018120	R0.9	1.8	4	1.8	12	45	1.75
EMC60018160	R0.9	1.8	4	1.8	16	50	1.75
EMC60018200	R0.9	1.8	4	1.8	20	55	1.75
EMC60020040	R1.0	2.0	4	2.0	4	45	1.95
EMC60020060	R1.0	2.0	4	2.0	6	45	1.95
EMC60020080	R1.0	2.0	4	2.0	8	45	1.95
EMC60020100	R1.0	2.0	4	2.0	10	45	1.95
EMC60020120	R1.0	2.0	4	2.0	12	50	1.95
EMC60020140	R1.0	2.0	4	2.0	14	50	1.95
EMC60020160	R1.0	2.0	4	2.0	16	50	1.95
EMC60020180	R1.0	2.0	4	2.0	18	55	1.95
EMC60020200	R1.0	2.0	4	2.0	20	55	1.95
EMC60020220	R1.0	2.0	4	2.0	22	60	1.95

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Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø3 Ø3以下	0 ~ - 0.015	h5
over Ø3 超过Ø3	0 ~ - 0.020	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		○	

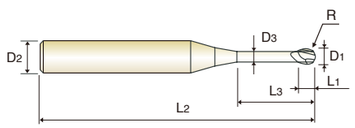
K-2 Plus END MILLS

PLAIN SHANK EMC60 SERIES

CARBIDE, 2 FLUTE BALL NOSE LONG NECK
硬质合金，2刃 球头 颈部加长

▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
▶ Deep slotting is possible by reduced neck.
▶ Suitable for high speed machining in wet or dry condition.

▶ 设计用于加工碳钢，工具钢，合金钢，不锈钢等多种用途的钢
▶ 由于颈部稍细能够加工深槽
▶ 高耐磨性



CARBIDE | 2 | 30° | R ±0.01 | PLAIN

p.C497-498

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
-	-		SHRINK FIT HOLDER	D47 - 72
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R (±0.01)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
EMC60020260	R1.0	2.0	4	2.0	26	70	1.95
EMC60020300	R1.0	2.0	4	2.0	30	70	1.95
EMC60025080	R1.25	2.5	6	2.5	8	50	2.4
EMC60025100	R1.25	2.5	6	2.5	10	50	2.4
EMC60025160	R1.25	2.5	6	2.5	16	55	2.4
EMC60025200	R1.25	2.5	6	2.5	20	60	2.4
EMC60030080	R1.5	3.0	6	3.0	8	50	2.85
EMC60030100	R1.5	3.0	6	3.0	10	50	2.85
EMC60030120	R1.5	3.0	6	3.0	12	50	2.85
EMC60030140	R1.5	3.0	6	3.0	14	55	2.85
EMC60030160	R1.5	3.0	6	3.0	16	55	2.85
EMC60030180	R1.5	3.0	6	3.0	18	60	2.85
EMC60030200	R1.5	3.0	6	3.0	20	60	2.85
EMC60030260	R1.5	3.0	6	3.0	26	70	2.85
EMC60030300	R1.5	3.0	6	3.0	30	70	2.85
EMC60030360	R1.5	3.0	6	3.0	36	80	2.85
EMC60040100	R2.0	4.0	6	4.0	10	60	3.85
EMC60040120	R2.0	4.0	6	4.0	12	60	3.85
EMC60040160	R2.0	4.0	6	4.0	16	60	3.85
EMC60040200	R2.0	4.0	6	4.0	20	65	3.85
EMC60040260	R2.0	4.0	6	4.0	26	70	3.85
EMC60040300	R2.0	4.0	6	4.0	30	70	3.85
EMC60040360	R2.0	4.0	6	4.0	36	80	3.85
EMC60040400	R2.0	4.0	6	4.0	40	90	3.85

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Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø3 Ø3以下	0 ~ - 0.015	h5
over Ø3 超过Ø3	0 ~ - 0.020	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	160	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				○	○	○	○	○	○

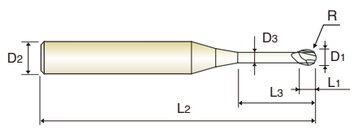
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		○	

K-2 Plus END MILLS

PLAIN SHANK **EMC60** SERIES

CARBIDE, 2 FLUTE BALL NOSE LONG NECK
硬质合金，2刃 球头 颈部加长

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Suitable for high speed machining in wet or dry condition.
- ▶ 设计用于加工碳钢，工具钢，合金钢，不锈钢等多种用途的钢
- ▶ 由于颈部稍细能够加工深槽
- ▶ 高耐磨性



CARBIDE | 2 | 30° | R ±0.01 | PLAIN

p.C497-498

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
-	-		SHRINK FIT HOLDER	D47 - 72
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R (±0.01)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
EMC60040460	R2.0	4.0	6	4.0	46	90	3.85
EMC60040500	R2.0	4.0	6	4.0	50	100	3.85
EMC60050160	R2.5	5.0	6	5.0	16	60	4.85
EMC60050200	R2.5	5.0	6	5.0	20	60	4.85
EMC60050260	R2.5	5.0	6	5.0	26	70	4.85
EMC60050300	R2.5	5.0	6	5.0	30	80	4.85
EMC60050360	R2.5	5.0	6	5.0	36	80	4.85
EMC60060200	R3.0	6.0	6	6.0	20	80	5.85
EMC60060300	R3.0	6.0	6	6.0	30	90	5.85
EMC60060400	R3.0	6.0	6	6.0	40	100	5.85
EMC60060500	R3.0	6.0	6	6.0	50	110	5.85

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø3 Ø3以下	0 ~ - 0.015	h5
over Ø3 超过Ø3	0 ~ - 0.020	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				○	○	○	○	○	○

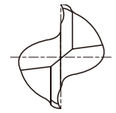
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		○	

K-2 Plus END MILLS

PLAIN SHANK **EMC61** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS
硬质合金，2刃 圆鼻

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Suitable for high speed machining in wet or dry condition.
- ▶ Corner radius against chipping in high speed machining.
- ▶ Application in high speed machining, wet and dry cutting conditions.
- ▶ 设计用于加工碳钢，工具钢，合金钢，不锈钢等多种用途的钢.
- ▶ 高耐磨性
- ▶ 弧形角可防止高速切削的崩刃
- ▶ 适应于高速加工，湿式和干式切削条件



CARBIDE | 2 | 30° | R ±0.02 | PLAIN

p.C602

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
-	-		SHRINK FIT HOLDER	D47 - 72
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
EMC6103002	R0.2	3.0	6	10	70
EMC6103003	R0.3	3.0	6	10	70
EMC6103005	R0.5	3.0	6	10	70
EMC6104002	R0.2	4.0	6	12	70
EMC6104003	R0.3	4.0	6	12	70
EMC6104005	R0.5	4.0	6	12	70
EMC6104010	R1.0	4.0	6	12	70
EMC6105002	R0.2	5.0	6	15	80
EMC6105003	R0.3	5.0	6	15	80
EMC6105005	R0.5	5.0	6	15	80
EMC6105010	R1.0	5.0	6	15	80
EMC6106002	R0.2	6.0	6	15	90
EMC6106003	R0.3	6.0	6	15	90
EMC6106005	R0.5	6.0	6	15	90
EMC6106010	R1.0	6.0	6	15	90
EMC6108003	R0.3	8.0	8	20	100
EMC6108005	R0.5	8.0	8	20	100
EMC6108010	R1.0	8.0	8	20	100
EMC6108015	R1.5	8.0	8	20	100
EMC6108020	R2.0	8.0	8	20	100

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Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎			○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		○	

K-2 Plus END MILLS

PLAIN SHANK **EMC61** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS
硬质合金，2刃 圆鼻

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
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- ▶ Corner radius against chipping in high speed machining.
- ▶ Application in high speed machining, wet and dry cutting conditions.

- ▶ 设计用于加工碳钢，工具钢，合金钢，不锈钢等多种用途的钢.
- ▶ 高耐磨性
- ▶ 弧形角可防止高速切削的崩刃
- ▶ 适应于高速加工，湿式和干式切削条件

CARBIDE | 2 | 30° | R ±0.02 | PLAIN

p.C494-495

Recommended ToolHolder	Flat Shank		Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
	-	-		SHRINK FIT HOLDER	D47 - 72
	-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
EMC6110003	R0.3	**10.0**	10	25	100
EMC6110005	R0.5	**10.0**	10	25	100
EMC6110010	R1.0	**10.0**	10	25	100
EMC6110015	R1.5	**10.0**	10	25	100
EMC6110020	R2.0	**10.0**	10	25	100
EMC6110025	R2.5	**10.0**	10	25	100
EMC6112003	R0.3	**12.0**	12	30	110
EMC6112005	R0.5	**12.0**	12	30	110
EMC6112010	R1.0	**12.0**	12	30	110
EMC6112015	R1.5	**12.0**	12	30	110
EMC6112020	R2.0	**12.0**	12	30	110
EMC6112025	R2.5	**12.0**	12	30	110
EMC6112030	R3.0	**12.0**	12	30	110

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎			○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		○	

K-2 Plus END MILLS

PLAIN SHANK **EMC62** SERIES

CARBIDE, 4 FLUTE CORNER RADIUS
硬质合金，4刃 圆鼻

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Suitable for high speed machining in wet or dry condition.
- ▶ 4 flute allows for better work piece finishes.
- ▶ Corner radius against chipping in high speed machining.
- ▶ Application in high speed machining, wet and dry cutting conditions.

- ▶ 设计用于加工碳钢，工具钢，合金钢，不锈钢等多种用途的钢.
- ▶ 高耐磨性
- ▶ 4刃可得到较好的表面粗糙度
- ▶ 弧形角可防止高速切削的崩刃
- ▶ 适应于高速加工，湿式和干式切削条件

CARBIDE | 4 | 30° | R ±0.02 | PLAIN

p.C496

Recommended ToolHolder	Flat Shank		Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
	-	-		SHRINK FIT HOLDER	D47 - 72
	-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
EMC6203002	R0.2	**3.0**	6	10	70
EMC6203003	R0.3	**3.0**	6	10	70
EMC6203005	R0.5	**3.0**	6	10	70
EMC6204002	R0.2	**4.0**	6	12	70
EMC6204003	R0.3	**4.0**	6	12	70
EMC6204005	R0.5	**4.0**	6	12	70
EMC6204010	R1.0	**4.0**	6	12	70
EMC6205002	R0.2	**5.0**	6	15	80
EMC6205003	R0.3	**5.0**	6	15	80
EMC6205005	R0.5	**5.0**	6	15	80
EMC6205010	R1.0	**5.0**	6	15	80
EMC6206002	R0.2	**6.0**	6	15	90
EMC6206003	R0.3	**6.0**	6	15	90
EMC6206005	R0.5	**6.0**	6	15	90
EMC6206010	R1.0	**6.0**	6	15	90
EMC6208003	R0.3	**8.0**	8	20	100
EMC6208005	R0.5	**8.0**	8	20	100
EMC6208010	R1.0	**8.0**	8	20	100
EMC6208015	R1.5	**8.0**	8	20	100
EMC6208020	R2.0	**8.0**	8	20	100

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Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎			○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		○	

K-2 Plus END MILLS

PLAIN SHANK **EMC62** SERIES

CARBIDE, 4 FLUTE CORNER RADIUS
硬质合金，4刃 圆鼻

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Suitable for high speed machining in wet or dry condition.
- ▶ 4 flute allows for better work piece finishes.
- ▶ Corner radius against chipping in high speed machining.
- ▶ Application in high speed machining, wet and dry cutting conditions.

- ▶ 设计用于加工碳钢，工具钢，合金钢，不锈钢等多种用途的钢.
- ▶ 高耐磨性
- ▶ 4刃可得到较好的表面粗糙度
- ▶ 弧形角可防止高速切削的崩刃
- ▶ 适应于高速加工，湿式和干式切削条件

CARBIDE | 4 | 30° | R ±0.02 | PLAIN

p.C602

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
◎	-	-	SHRINK FIT HOLDER	D47 - 72
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
EMC6210003	R0.3	10.0	10	25	100
EMC6210005	R0.5	10.0	10	25	100
EMC6210010	R1.0	10.0	10	25	100
EMC6210015	R1.5	10.0	10	25	100
EMC6210020	R2.0	10.0	10	25	100
EMC6210025	R2.5	10.0	10	25	100
EMC6212005	R0.5	12.0	12	30	110
EMC6212010	R1.0	12.0	12	30	110
EMC6212015	R1.5	12.0	12	30	110
EMC6212020	R2.0	12.0	12	30	110
EMC6212025	R2.5	12.0	12	30	110
EMC6212030	R3.0	12.0	12	30	110

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎			○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		○	

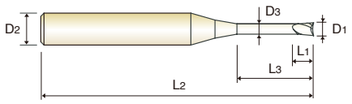
K-2 Plus END MILLS

PLAIN SHANK **EMC59** SERIES

CARBIDE, 2 FLUTE LONG NECK
硬质合金，2刃 颈部加长

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Suitable for high speed machining in wet or dry condition.

- ▶ 设计用于加工碳钢，工具钢，合金钢，不锈钢等多种用途的钢
- ▶ 由于颈部稍细能够加工深槽
- ▶ 高耐磨性



CARBIDE | 2 | 30° | PLAIN

p.C499-500

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
◎	-	-	SHRINK FIT HOLDER	D47 - 72
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
EMC59004010	0.4	4	0.6	1	45	0.37
EMC59004020	0.4	4	0.6	2	45	0.37
EMC59004030	0.4	4	0.6	3	45	0.37
EMC59004040	0.4	4	0.6	4	45	0.37
EMC59004050	0.4	4	0.6	5	45	0.37
EMC59005020	0.5	4	0.7	2	45	0.45
EMC59005030	0.5	4	0.7	3	45	0.45
EMC59005040	0.5	4	0.7	4	45	0.45
EMC59005060	0.5	4	0.7	6	45	0.45
EMC59005080	0.5	4	0.7	8	45	0.45
EMC59006020	0.6	4	0.9	2	45	0.55
EMC59006030	0.6	4	0.9	3	45	0.55
EMC59006040	0.6	4	0.9	4	45	0.55
EMC59006060	0.6	4	0.9	6	45	0.55
EMC59006080	0.6	4	0.9	8	45	0.55
EMC59006100	0.6	4	0.9	10	45	0.55
EMC59007020	0.7	4	1.0	2	45	0.65
EMC59007040	0.7	4	1.0	4	45	0.65
EMC59007060	0.7	4	1.0	6	45	0.65
EMC59007080	0.7	4	1.0	8	45	0.65
EMC59007100	0.7	4	1.0	10	45	0.65
EMC59008020	0.8	4	1.2	2	45	0.75
EMC59008040	0.8	4	1.2	4	45	0.75
EMC59008060	0.8	4	1.2	6	45	0.75

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Size	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø3	0 ~ - 0.015	h5
over to Ø3	0 ~ - 0.020	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		○	

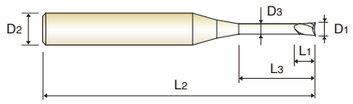
K-2 Plus END MILLS

PLAIN SHANK **EMC59 SERIES**

CARBIDE, 2 FLUTE LONG NECK
硬质合金，2刃 颈部加长

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Suitable for high speed machining in wet or dry condition.

- ▶ 设计用于加工碳钢，工具钢，合金钢，不锈钢等多种用途的钢
- ▶ 由于颈部稍细能够加工深槽
- ▶ 高耐磨性



CARBIDE | 2 | 30° | PLAIN

p.C499-500

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
◎	-	-	SHRINK FIT HOLDER	D47 - 72
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
EMC59008080	0.8	4	1.2	8	45	0.75
EMC59008100	0.8	4	1.2	10	45	0.75
EMC59008120	0.8	4	1.2	12	45	0.75
EMC59009060	0.9	4	1.4	6	45	0.85
EMC59009080	0.9	4	1.4	8	45	0.85
EMC59009100	0.9	4	1.4	10	45	0.85
EMC59009150	0.9	4	1.4	15	50	0.85
EMC59010040	1.0	4	1.5	4	45	0.95
EMC59010050	1.0	4	1.5	5	45	0.95
EMC59010060	1.0	4	1.5	6	45	0.95
EMC59010080	1.0	4	1.5	8	45	0.95
EMC59010100	1.0	4	1.5	10	45	0.95
EMC59010120	1.0	4	1.5	12	45	0.95
EMC59010140	1.0	4	1.5	14	50	0.95
EMC59010160	1.0	4	1.5	16	50	0.95
EMC59010200	1.0	4	1.5	20	55	0.95
EMC59012040	1.2	4	1.8	4	45	1.15
EMC59012060	1.2	4	1.8	6	45	1.15
EMC59012080	1.2	4	1.8	8	45	1.15
EMC59012100	1.2	4	1.8	10	45	1.15
EMC59012120	1.2	4	1.8	12	45	1.15
EMC59012160	1.2	4	1.8	16	50	1.15
EMC59014060	1.4	4	2.1	6	45	1.35
EMC59014080	1.4	4	2.1	8	45	1.35

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Size	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø3	0 ~ - 0.015	h5
over to Ø3	0 ~ - 0.020	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○										○		○	

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

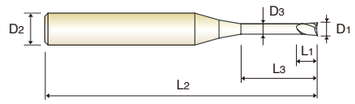
K-2 Plus END MILLS

PLAIN SHANK EMC59 SERIES

CARBIDE, 2 FLUTE LONG NECK
硬质合金，2刃 颈部加长

▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
▶ Deep slotting is possible by reduced neck.
▶ Suitable for high speed machining in wet or dry condition.

▶ 设计用于加工碳钢，工具钢，合金钢，不锈钢等多种用途的钢
▶ 由于颈部稍细能够加工深槽
▶ 高耐磨性



CARBIDE | 2 | 30° | PLAIN

p.C499-500

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
◎	-	-	SHRINK FIT HOLDER	D47 - 72
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
EMC59014100	1.4	4	2.1	10	45	1.35
EMC59014120	1.4	4	2.1	12	45	1.35
EMC59014140	1.4	4	2.1	14	50	1.35
EMC59014160	1.4	4	2.1	16	50	1.35
EMC59014220	1.4	4	2.1	22	55	1.35
EMC59015060	1.5	4	2.3	6	45	1.45
EMC59015080	1.5	4	2.3	8	45	1.45
EMC59015100	1.5	4	2.3	10	45	1.45
EMC59015120	1.5	4	2.3	12	45	1.45
EMC59015140	1.5	4	2.3	14	50	1.45
EMC59015160	1.5	4	2.3	16	50	1.45
EMC59015180	1.5	4	2.3	18	55	1.45
EMC59015200	1.5	4	2.3	20	55	1.45
EMC59016060	1.6	4	2.4	6	45	1.55
EMC59016080	1.6	4	2.4	8	45	1.55
EMC59016100	1.6	4	2.4	10	45	1.55
EMC59016120	1.6	4	2.4	12	45	1.55
EMC59016140	1.6	4	2.4	14	50	1.55
EMC59016160	1.6	4	2.4	16	50	1.55
EMC59016180	1.6	4	2.4	18	55	1.55
EMC59016200	1.6	4	2.4	20	55	1.55
EMC59016260	1.6	4	2.4	26	60	1.55
EMC59018060	1.8	4	2.7	6	45	1.75
EMC59018080	1.8	4	2.7	8	45	1.75

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Size	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø3	0 ~ - 0.015	h5
over to Ø3	0 ~ - 0.020	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○										○		○	

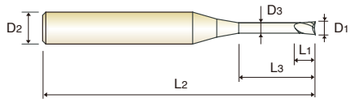
K-2 Plus END MILLS

PLAIN SHANK **EMC59 SERIES**

CARBIDE, 2 FLUTE LONG NECK
硬质合金，2刃 颈部加长

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Suitable for high speed machining in wet or dry condition.

- ▶ 设计用于加工碳钢，工具钢，合金钢，不锈钢等多种用途的钢
- ▶ 由于颈部稍细能够加工深槽
- ▶ 高耐磨性



CARBIDE 2 30° PLAIN

p.C499-500

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
◎	-	-	SHRINK FIT HOLDER	D47 - 72
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 D3	Neck Diameter 颈径 D3
EMC59018100	1.8	4	2.7	10	45	1.75
EMC59018120	1.8	4	2.7	12	45	1.75
EMC59018140	1.8	4	2.7	14	50	1.75
EMC59018160	1.8	4	2.7	16	50	1.75
EMC59018180	1.8	4	2.7	18	55	1.75
EMC59018200	1.8	4	2.7	20	55	1.75
EMC59018260	1.8	4	2.7	26	65	1.75
EMC59020060	2.0	4	3.0	6	45	1.95
EMC59020080	2.0	4	3.0	8	45	1.95
EMC59020100	2.0	4	3.0	10	45	1.95
EMC59020120	2.0	4	3.0	12	45	1.95
EMC59020140	2.0	4	3.0	14	50	1.95
EMC59020160	2.0	4	3.0	16	50	1.95
EMC59020180	2.0	4	3.0	18	55	1.95
EMC59020200	2.0	4	3.0	20	55	1.95
EMC59020220	2.0	4	3.0	22	60	1.95
EMC59020260	2.0	4	3.0	26	60	1.95
EMC59020300	2.0	4	3.0	30	70	1.95
EMC59025080	2.5	4	3.7	8	45	2.4
EMC59025100	2.5	4	3.7	10	45	2.4
EMC59025120	2.5	4	3.7	12	45	2.4
EMC59025140	2.5	4	3.7	14	50	2.4
EMC59025160	2.5	4	3.7	16	55	2.4
EMC59025180	2.5	4	3.7	18	55	2.4

▶ NEXT PAGE 下页

Size	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø3	0 ~ - 0.015	h5
over to Ø3	0 ~ - 0.020	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		○	

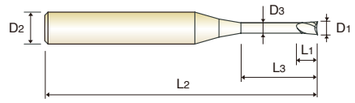
K-2 Plus END MILLS

PLAIN SHANK **EMC59 SERIES**

CARBIDE, 2 FLUTE LONG NECK
硬质合金，2刃 颈部加长

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Suitable for high speed machining in wet or dry condition.

- ▶ 设计用于加工碳钢，工具钢，合金钢，不锈钢等多种用途的钢
- ▶ 由于颈部稍细能够加工深槽
- ▶ 高耐磨性



CARBIDE 2 30° PLAIN

p.C499-500

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
◎	-	-	SHRINK FIT HOLDER	D47 - 72
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 D3	Neck Diameter 颈径 D3
EMC59025200	2.5	4	3.7	20	60	2.4
EMC59025260	2.5	4	3.7	26	70	2.4
EMC59025300	2.5	4	3.7	30	80	2.4
EMC59030080	3.0	6	4.5	8	45	2.85
EMC59030100	3.0	6	4.5	10	45	2.85
EMC59030120	3.0	6	4.5	12	50	2.85
EMC59030140	3.0	6	4.5	14	50	2.85
EMC59030160	3.0	6	4.5	16	55	2.85
EMC59030180	3.0	6	4.5	18	55	2.85
EMC59030200	3.0	6	4.5	20	60	2.85
EMC59030260	3.0	6	4.5	26	70	2.85
EMC59030300	3.0	6	4.5	30	70	2.85
EMC59030360	3.0	6	4.5	36	80	2.85
EMC59030400	3.0	6	4.5	40	90	2.85
EMC59040100	4.0	6	6.0	10	50	3.85
EMC59040120	4.0	6	6.0	12	50	3.85
EMC59040160	4.0	6	6.0	16	60	3.85
EMC59040200	4.0	6	6.0	20	60	3.85
EMC59040260	4.0	6	6.0	26	70	3.85
EMC59040300	4.0	6	6.0	30	70	3.85
EMC59040360	4.0	6	6.0	36	80	3.85
EMC59040400	4.0	6	6.0	40	90	3.85
EMC59040460	4.0	6	6.0	46	90	3.85
EMC59040500	4.0	6	6.0	50	100	3.85

▶ NEXT PAGE 下页

Size	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø3	0 ~ - 0.015	h5
over to Ø3	0 ~ - 0.020	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		○	

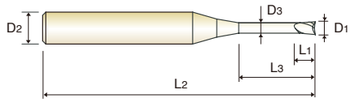
K-2 Plus END MILLS

PLAIN SHANK **EMC59** SERIES

CARBIDE, 2 FLUTE LONG NECK
硬质合金，2刃 颈部加长

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Suitable for high speed machining in wet or dry condition.

- ▶设计用于加工碳钢，工具钢，合金钢，不锈钢等多种用途的钢
- ▶由于颈部稍细能够加工深槽
- ▶高耐磨性



CARBIDE | 2 | 30° | PLAIN

p.C499-500

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
◎	-	-	SHRINK FIT HOLDER	D47 - 72
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 D3	Neck Diameter 颈径 D3
EMC59050160	5.0	6	7.5	16	60	4.85
EMC59050200	5.0	6	7.5	20	60	4.85
EMC59050260	5.0	6	7.5	26	70	4.85
EMC59050300	5.0	6	7.5	30	80	4.85
EMC59050360	5.0	6	7.5	36	80	4.85
EMC59050400	5.0	6	7.5	40	80	4.85
EMC59050500	5.0	6	7.5	50	110	4.85
EMC59060200	6.0	6	9.0	20	80	5.85
EMC59060300	6.0	6	9.0	30	90	5.85
EMC59060400	6.0	6	9.0	40	100	5.85
EMC59060500	6.0	6	9.0	50	110	5.85

Size	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø3	0 ~ - 0.015	h5
over to Ø3	0 ~ - 0.020	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P															M				K					
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		○	

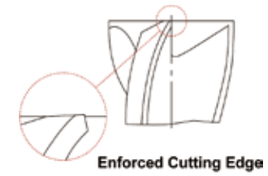
K-2 Plus END MILLS

PLAIN SHANK **EMC52** SERIES

CARBIDE, 2 FLUTE 35° HELIX SHORT LENGTH
硬质合金，2刃 35度螺旋 短刃

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Suitable for high speed machining in wet or dry condition.
- ▶ Application in high speed machining, wet and dry cutting conditions.

- ▶设计用于加工碳钢，工具钢，合金钢，不锈钢等多种用途的钢
- ▶高耐磨性
- ▶适应于高速加工，湿式和于式切削条件



CARBIDE | 2 | 35° | PLAIN

p.C501

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
◎	-	-	SHRINK FIT HOLDER	D47 - 72
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
EMC52010	1.0	4	3	50
EMC52015	1.5	4	4	50
EMC52020	2.0	4	6	50
EMC52025	2.5	4	8	50
EMC52030	3.0	4	8	50
EMC52901	3.0	6	8	50
EMC52035	3.5	4	10	50
EMC52902	3.5	6	10	50
EMC52040	4.0	4	11	50
EMC52903	4.0	6	11	50
EMC52045	4.5	6	11	50
EMC52050	5.0	6	13	50
EMC52055	5.5	6	13	50
EMC52060	6.0	6	16	50
EMC52065	6.5	8	16	60
EMC52070	7.0	8	20	60
EMC52075	7.5	8	20	60
EMC52080	8.0	8	20	60
EMC52085	8.5	10	20	75
EMC52090	9.0	10	20	75
EMC52095	9.5	10	22	75
EMC52100	10.0	10	25	75
EMC52110	11.0	12	30	75
EMC52120	12.0	12	32	75
EMC52140	14.0	16	40	100
EMC52160	16.0	16	40	100
EMC52180	18.0	20	40	100
EMC52200	20.0	20	45	100

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P												M						K						
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○		

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○													○		○	

K-2 Plus END MILLS

PLAIN SHANK **EMC53** SERIES

CARBIDE, 2 FLUTE 35° HELIX LONG LENGTH
硬质合金，2刃 35度螺旋 长刃

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Suitable for high speed machining in wet or dry condition.
- ▶ Application in high speed machining, wet and dry cutting conditions.
- ▶ 设计用于加工碳钢，工具钢，合金钢，不锈钢等多种用途的钢
- ▶ 高耐磨性
- ▶ 适应于高速加工，湿式和于式切削条件

CARBIDE | 2 | 35° | PLAIN

p.C501

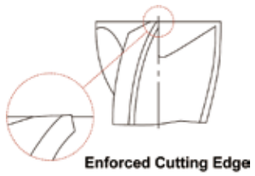
Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
◎	-	-	SHRINK FIT HOLDER	D47 - 72
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
EMC53020	2.0	4	10	50
EMC53030	3.0	4	15	60
EMC53901	3.0	6	15	60
EMC53040	4.0	4	20	60
EMC53902	4.0	6	20	60
EMC53050	5.0	6	25	75
EMC53060	6.0	6	30	75
EMC53080	8.0	8	35	100
EMC53100	10.0	10	45	100
EMC53120	12.0	12	45	100
EMC53140	14.0	14	70	150
EMC53903	14.0	16	70	150
EMC53160	16.0	16	70	150
EMC53180	18.0	20	75	150
EMC53200	20.0	20	75	150

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5



Enforced Cutting Edge

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

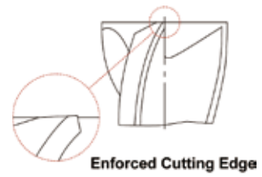
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○													○		○	

K-2 Plus END MILLS

PLAIN SHANK **EMC54** SERIES

CARBIDE, 4 FLUTE 35° HELIX SHORT LENGTH
硬质合金，4刃 35度螺旋 短刃

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Suitable for high speed machining in wet or dry condition.
- ▶ 4 flute allows for better work piece finishes.
- ▶ Application in high speed machining, wet and dry cutting conditions.
- ▶ 设计用于加工碳钢，工具钢，合金钢，不锈钢等多种用途的钢
- ▶ 高耐磨性
- ▶ 4刃可得到较好的表面粗糙度
- ▶ 适应于高速加工，湿式和干式切削条件



Enforced Cutting Edge

CARBIDE | 4 | 35° | PLAIN

p.C502

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
◎	-	-	SHRINK FIT HOLDER	D47 - 72
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
EMC54010	1.0	4	3	50
EMC54015	1.5	4	4	50
EMC54020	2.0	4	6	50
EMC54025	2.5	4	8	50
EMC54030	3.0	4	8	50
EMC54901	3.0	6	8	50
EMC54035	3.5	4	10	50
EMC54902	3.5	6	10	50
EMC54040	4.0	4	11	50
EMC54903	4.0	6	11	50
EMC54045	4.5	6	11	50
EMC54050	5.0	6	13	50
EMC54055	5.5	6	13	50
EMC54060	6.0	6	16	50
EMC54065	6.5	8	16	60
EMC54070	7.0	8	20	60
EMC54075	7.5	8	20	60
EMC54080	8.0	8	20	60
EMC54085	8.5	10	20	75
EMC54090	9.0	10	20	75
EMC54095	9.5	10	22	75
EMC54100	10.0	10	25	75
EMC54110	11.0	12	30	75
EMC54120	12.0	12	32	75
EMC54140	14.0	16	40	100
EMC54160	16.0	16	40	100
EMC54180	18.0	20	40	100
EMC54200	20.0	20	45	100

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○													○		○	

K-2 Plus END MILLS

PLAIN SHANK **EMC55** SERIES

CARBIDE, 4 FLUTE 35° HELIX LONG LENGTH
硬质合金，4刃 35度螺旋 长刃

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Suitable for high speed machining in wet or dry condition.
- ▶ 4 flute allows for better work piece finishes.
- ▶ Application in high speed machining, wet and dry cutting conditions.

- ▶ 设计用于加工碳钢，工具钢，合金钢，不锈钢等多种用途的钢
- ▶ 高耐磨性
- ▶ 4刃可得到较好的表面粗糙度
- ▶ 适应于高速加工，湿式和干式切削条件

CARBIDE | 4 | 35° | PLAIN

p.C502

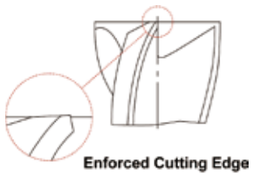
Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
◎	-	-	SHRINK FIT HOLDER	D47 - 72
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
EMC55020	2.0	4	10	50
EMC55030	3.0	4	15	60
EMC55901	3.0	6	15	60
EMC55040	4.0	4	20	60
EMC55902	4.0	6	20	60
EMC55050	5.0	6	25	75
EMC55060	6.0	6	30	75
EMC55080	8.0	8	35	100
EMC55100	10.0	10	45	100
EMC55120	12.0	12	45	100
EMC55140	14.0	14	70	150
EMC55903	14.0	16	70	150
EMC55160	16.0	16	70	150
EMC55180	18.0	20	75	150
EMC55200	20.0	20	75	150

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5



Enforced Cutting Edge

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																				
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○													○		○	

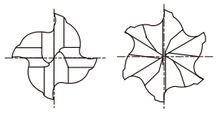
K-2 Plus END MILLS

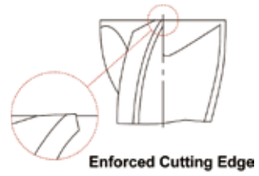
PLAIN SHANK SHORT LENGTH **EMC57** SERIES
PLAIN SHANK LONG LENGTH **EMC58** SERIES

CARBIDE, 4&6 FLUTE 45° HELIX SHORT / LONG LENGTH
硬质合金，4&6刃 45度螺旋 短刃/长刃

- ▶ High speed cutting and finish milling with high feed rate.
- ▶ Excellent surface finishes.
- ▶ Application in high speed machining, wet and dry cutting condition.

- ▶ 高速切削和高进给量的精切削
- ▶ 卓越的工件表面粗糙度
- ▶ 适应于高速加工，湿式和干式切削条件





Enforced Cutting Edge

CARBIDE | 4&6 | 45° | PLAIN

p.C503

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
◎	-	-	SHRINK FIT HOLDER	D47 - 72
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 118 D183 - 201

■ SHORT 短刃

Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长	No. of Flute 槽数
EMC57010	1.0	4	3	45	4
EMC57015	1.5	4	4	45	4
EMC57020	2.0	4	6	45	4
EMC57025	2.5	4	8	45	4
EMC57030	3.0	4	8	50	4
EMC57040	4.0	4	11	50	4
EMC57050	5.0	6	13	50	6
EMC57060	6.0	6	16	50	6
EMC57080	8.0	8	19	60	6
EMC57100	10.0	10	22	75	6
EMC57120	12.0	12	26	75	6
EMC57140	14.0	14	30	90	6
EMC57160	16.0	16	32	100	6
EMC57180	18.0	18	38	100	6
EMC57200	20.0	20	38	100	6

■ LONG 长刃

Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长	No. of Flute 槽数
EMC58060	6.0	6	25	80	6
EMC58080	8.0	8	35	90	6
EMC58100	10.0	10	45	100	6
EMC58120	12.0	12	50	100	6
EMC58160	16.0	16	65	150	6
EMC58200	20.0	20	70	150	6

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	○	◎	○	○	◎	◎	○	◎				○	○	○	○	○	○

ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○		◎	○

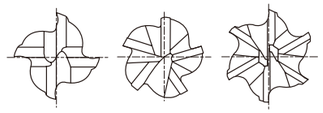
K-2 Plus END MILLS

PLAIN SHANK **EMC69** SERIES

CARBIDE, MULTI FLUTE 45° HELIX ROUGHING-FINE
硬质合金，多刃 45度螺旋 - 细牙

▶ Suitable for rough machining of stainless steels, Ti, Ni, Inconel etc.
▶ Fine pitch wave for high speed machining..

▶ 适用于不锈钢系列， Ti/Ni，INCONEL(铬镍铁合金）等的粗加工
▶ 采用细螺纹，适合高速加工



CARBIDE | HR | 4-6 | 45° | PLAIN | C x 45° p.C504

Recommended ToolHolder

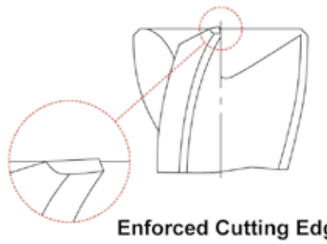
Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
-	-		SHRINK FIT HOLDER	D47 - 72
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 h10	Shank Diameter 柄径 h5	Length of Cut 刃长	Overall Length 全长	No. of Flute 槽数	Chamfer 导向
EMC69060	6.0	6	13	60	4	0.15
EMC69080	8.0	8	19	65	4	0.18
EMC69090	9.0	10	20	70	4	0.18
EMC69100	10.0	10	22	70	4	0.20
EMC69120	12.0	12	26	80	4	0.20
EMC69160	16.0	16	42	110	5	0.20
EMC69200	20.0	20	48	110	6	0.20

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

Tolerance range in μm / 公差单位为 Nominal-Diameter in mm / 直径单位为	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30
h10	0 - 40	0 - 48	0 - 58	0 - 70	0 - 84
h5	0 - 4	0 - 5	0 - 6	0 - 8	0 - 9



Enforced Cutting Edge

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎			○						

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○			◎	

K-2 END MILLS

PLAIN SHANK **G9A25** SERIES

CARBIDE, 2 FLUTE REGULAR LENGTH BALL NOSE
硬质合金，2刃 普通刃长 球头

▶ Suitable for dry milling applications at high temperatures.
▶ Excellent high-performance end mills.
▶ Designed for milling of radius bottom slots, fillets and special contours.

▶ 适于高温干切削
▶ 卓越的高性能铣刀
▶ 设计用于加工圆底沟槽带和特殊轮廓

CARBIDE | 2 | 30° | R ±0.02 | PLAIN p.C491

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
-	-		SHRINK FIT HOLDER	D47 - 72
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R (±0.02)	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
▲ G9A25010	R0.5	1.0	4	2	50
▲ G9A25015	R0.75	1.5	4	3	50
▲ G9A25020	R1.0	2.0	4	4	50
▲ G9A25025	R1.25	2.5	4	6	50
▲ G9A25030	R1.5	3.0	4	6	50
▲ G9A25040	R2.0	4.0	4	8	50
▲ G9A25050	R2.5	5.0	6	10	50
▲ G9A25060	R3.0	6.0	6	12	50
▲ G9A25080	R4.0	8.0	8	14	60
▲ G9A25100	R5.0	10.0	10	18	75
▲ G9A25120	R6.0	12.0	12	22	75
▲ G9A25910	R6.0	12.0	12	25	75
▲ G9A25911	R7.0	14.0	16	25	100
▲ G9A25160	R8.0	16.0	16	32	100
▲ G9A25912	R8.0	16.0	16	30	100
▲ G9A25200	R10.0	20.0	20	38	100

▲ : Only available till stock runs out 只提供到消耗现库存

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○			○	○	○	○	○	○	○			○	

K-2 END MILLS

FLAT SHANK **G9B52 SERIES**

CARBIDE, 2 FLUTE LONG LENGTH BALL NOSE
硬质合金，2刃 长刃 球头

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ Designed for milling of radius bottom slots, fillets and special contours.

- ▶适于高温干切削
- ▶卓越的高性能铣刀
- ▶设计用于加工圆底沟槽带和特殊轮廓

Only available till stock runs out

CARBIDE | 2 | 30° | R ±0.02 | PLAIN

p.C491

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
-	-		SHRINK FIT HOLDER	D47 - 72
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R (±0.02)	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
▲ G9B52010	R0.5	**1.0**	4	2	75
▲ G9B52901	R0.5	**1.0**	6	2	75
▲ G9B52015	R0.75	**1.5**	4	3	75
▲ G9B52902	R0.75	**1.5**	6	3	75
▲ G9B52020	R1.0	**2.0**	4	4	75
▲ G9B52903	R1.0	**2.0**	6	4	75
▲ G9B52030	R1.5	**3.0**	4	8	75
▲ G9B52904	R1.5	**3.0**	6	8	75
▲ G9B52040	R2.0	**4.0**	4	11	100
▲ G9B52905	R2.0	**4.0**	6	11	100
▲ G9B52050	R2.5	**5.0**	6	13	100
▲ G9B52060	R3.0	**6.0**	6	13	150
▲ G9B52080	R4.0	**8.0**	8	16	150
▲ G9B52100	R5.0	**10.0**	10	16	75
▲ G9B52120	R6.0	**12.0**	12	25	75
▲ G9B52160	R8.0	**16.0**	16	30	75
▲ G9B52200	R10.0	**20.0**	20	30	75

▲ : Only available till stock runs out 只提供到消耗现库存

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○			○	○	○	○	○	○	○			○	

K-2 END MILLS

PLAIN SHANK **G9A23 SERIES**

CARBIDE, 2 FLUTE REGULAR LENGTH
硬质合金，2刃 普通刃长

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 2 flute design for slotting.

- ▶适于高温干切削
- ▶卓越的高性能铣刀
- ▶2刃为槽铣设计

Only available till stock runs out

CARBIDE | 2 | 30° | PLAIN

p.C492

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
-	-		SHRINK FIT HOLDER	D47 - 72
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
▲ G9A23010	**1.0**	4	3	50
▲ G9A23015	**1.5**	4	4	100
▲ G9A23020	**2.0**	4	6	50
▲ G9A23030	**3.0**	4	9	50
▲ G9A23040	**4.0**	4	11	50
▲ G9A23050	**5.0**	6	13	50
▲ G9A23060	**6.0**	6	16	50
▲ G9A23070	**7.0**	8	16	50
▲ G9A23080	**8.0**	8	19	60
▲ G9A23090	**9.0**	10	19	60
▲ G9A23905	**9.0**	10	25	60
▲ G9A23100	**10.0**	10	25	75
▲ G9A23120	**12.0**	12	30	75
▲ G9A23140	**14.0**	14	32	75
▲ G9A23906	**14.0**	16	45	100
▲ G9A23160	**16.0**	16	32	100
▲ G9A23907	**16.0**	16	45	100
▲ G9A23180	**18.0**	18	32	75
▲ G9A23908	**18.0**	20	45	100
▲ G9A23200	**20.0**	20	38	100

▲ : Only available till stock runs out 只提供到消耗现库存

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○			○	○	○	○	○	○	○			○	

K-2 END MILLS

PLAIN SHANK **G9B50** SERIES

CARBIDE, 2 FLUTE LONG LENGTH
硬质合金，2刃 普通刃长

▶ Suitable for dry milling applications at high temperatures.
▶ Excellent high-performance end mills.
▶ 2 flute design for slotting.

▶适于高温干切削
▶卓越的高性能铣刀
▶2刃为槽铣设计

CARBIDE | 2 | 30° | PLAIN

p.C492

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
◎	-	-	SHRINK FIT HOLDER	D47 - 72
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
▲ G9B50010	1.0	4	5	75
▲ G9B50901	1.0	6	5	75
▲ G9B50015	1.5	4	6	75
▲ G9B50902	1.5	6	6	75
▲ G9B50020	2.0	4	9	75
▲ G9B50903	2.0	6	9	75
▲ G9B50025	2.5	4	12	75
▲ G9B50904	2.5	6	12	75
▲ G9B50030	3.0	4	12	75
▲ G9B50905	3.0	6	12	75
▲ G9B50040	4.0	4	16	75
▲ G9B50906	4.0	6	16	75
▲ G9B50060	6.0	6	20	75
▲ G9B50080	8.0	8	20	100
▲ G9B50100	10.0	10	25	100
▲ G9B50120	12.0	12	30	100
▲ G9B50140	14.0	16	75	150
▲ G9B50200	20.0	20	75	150

▲ : Only available till stock runs out 只提供到消耗现库存

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○												○	

K-2 END MILLS

PLAIN SHANK **G9A24** SERIES

CARBIDE, 4 FLUTE REGULAR LENGTH
硬质合金，4刃 普通刃长

▶ Suitable for dry milling applications at high temperatures.
▶ Excellent high-performance end mills.
▶ 4 flute allows for better work piece finishes.

▶适于高温干切削
▶卓越的高性能铣刀
▶4刃可得到好的表面质量

CARBIDE | 4 | 30° | PLAIN

p.C493

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
◎	-	-	SHRINK FIT HOLDER	D47 - 72
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
▲ G9A24010	1.0	4	3	50
▲ G9A24015	1.5	4	4	50
▲ G9A24020	2.0	4	6	50
▲ G9A24025	2.5	4	8	50
▲ G9A24030	3.0	4	9	50
▲ G9A24040	4.0	4	11	50
▲ G9A24050	5.0	6	13	50
▲ G9A24060	6.0	6	16	50
▲ G9A24080	8.0	8	19	60
▲ G9A24905	9.0	10	25	75
▲ G9A24100	10.0	10	25	75
▲ G9A24120	12.0	12	30	75
▲ G9A24140	14.0	14	32	75
▲ G9A24160	16.0	16	32	100
▲ G9A24907	16.0	16	45	100
▲ G9A24908	18.0	20	45	100
▲ G9A24200	20.0	20	38	100

▲ : Only available till stock runs out 只提供到消耗现库存

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○												○	

K-2 END MILLS

PLAIN SHANK **G9B51 SERIES**

CARBIDE, 4 FLUTE LONG LENGTH
硬质合金，4刃 长刃

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 4 flute allows for better work piece finishes.

- ▶适于高温干切削
- ▶卓越的高性能铣刀
- ▶4刃可得到好的表面质量

CARBIDE | 4 | 30° | PLAIN

p.C493

Recommended Tool Holder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
-	-		SHRINK FIT HOLDER	D47 - 72
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
▲ G9B51010	1.0	4	5	75
▲ G9B51015	1.5	4	6	75
▲ G9B51902	1.5	6	6	75
▲ G9B51020	2.0	4	9	75
▲ G9B51903	2.0	6	9	75
▲ G9B51025	2.5	4	12	75
▲ G9B51904	2.5	6	12	75
▲ G9B51030	3.0	4	12	75
▲ G9B51905	3.0	6	12	75
▲ G9B51040	4.0	4	16	75
▲ G9B51906	4.0	6	16	75
▲ G9B51050	5.0	6	20	75
▲ G9B51060	6.0	6	20	75
▲ G9B51080	8.0	8	20	100
▲ G9B51100	10.0	10	25	100
▲ G9B51120	12.0	12	30	100
▲ G9B51140	14.0	16	75	150
▲ G9B51160	16.0	16	75	150
▲ G9B51200	20.0	20	75	150

▲ : Only available till stock runs out 只提供到消耗现库存

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO	N										S						H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○												○	

K-2 plus & K-2 END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

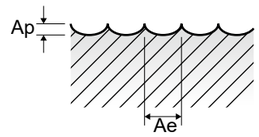
G9A25, G9B52, EMC56 SERIES

2 FLUTE BALL NOSE
2刃 球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
P	1-4	Non-alloy steel	-	0.2D	Vc	78	107	112	123	137	153	171	188	199	205	215	223
					fz	0.026	0.025	0.035	0.045	0.060	0.089	0.122	0.150	0.165	0.180	0.188	0.201
					RPM	12350	11400	8950	7800	7250	6100	5450	4990	4530	4085	3800	3550
					FEED	640	575	630	700	870	1090	1330	1500	1495	1470	1425	1425
					Ae	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	5		-	0.2D	Vc	57	83	90	97	111	123	137	149	158	161	170	176
					fz	0.023	0.022	0.031	0.040	0.060	0.080	0.100	0.120	0.128	0.141	0.148	0.158
					RPM	9150	8850	7150	6200	5900	4900	4350	3950	3600	3200	3000	2800
					FEED	415	390	450	490	705	785	870	950	925	905	890	885
					Ae	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	6-7	Low alloy steel	-	0.2D	Vc	78	107	112	123	137	153	171	188	199	205	215	223
					fz	0.026	0.025	0.035	0.045	0.060	0.089	0.122	0.150	0.165	0.180	0.188	0.201
					RPM	12350	11400	8950	7800	7250	6100	5450	4990	4530	4085	3800	3550
					FEED	640	575	630	700	870	1090	1330	1500	1495	1470	1425	1425
					Ae	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	8-9		-	0.2D	Vc	57	83	90	97	111	123	137	149	158	161	170	176
					fz	0.023	0.022	0.031	0.040	0.060	0.080	0.100	0.120	0.128	0.141	0.148	0.158
					RPM	9150	8850	7150	6200	5900	4900	4350	3950	3600	3200	3000	2800
					FEED	415	390	450	490	705	785	870	950	925	905	890	885
					Ae	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	10	High alloyed steel, and tool steel	-	0.2D	Vc	78	107	112	123	137	153	171	188	199	205	215	223
					fz	0.026	0.025	0.035	0.045	0.060	0.089	0.122	0.150	0.165	0.180	0.188	0.201
					RPM	12350	11400	8950	7800	7250	6100	5450	4990	4530	4085	3800	3550
					FEED	640	575	630	700	870	1090	1330	1500	1495	1470	1425	1425
					Ae	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	11.1 - 11.2		-	0.2D	Vc	57	83	90	97	111	123	137	149	158	161	170	176
					fz	0.023	0.022	0.031	0.040	0.060	0.080	0.100	0.120	0.128	0.141	0.148	0.158
					RPM	9150	8850	7150	6200	5900	4900	4350	3950	3600	3200	3000	2800
					FEED	415	390	450	490	705	785	870	950	925	905	890	885
					Ae	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.7D	0.3D	Vc	66	66	65	65	64	63	64	66	62	65	62	66
					fz	0.010	0.016	0.028	0.040	0.053	0.092	0.112	0.131	0.164	0.177	0.209	0.200
					RPM	10500	7050	5150	4150	3400	2500	2050	1750	1400	1300	1100	1050
					FEED	220	230	285	330	360	460	460	460	460	460	460	420
					Ae	-	-	-	-	-	-	-	-	-	-	-	-
N	21~22	Aluminum-wrought alloy	0.7D	0.3D	Vc	194	193	194	190	194	199	193	194	189	194	192	185
					fz	0.006	0.010	0.013	0.019	0.023	0.034	0.044	0.061	0.073	0.070	0.079	0.092
					RPM	30800	20500	15400	12100	10300	7900	6150	5150	4300	3850	3400	2950
					FEED	395	395	395	470	470	540	540	630	630	540	540	540
					Ae	-	-	-	-	-	-	-	-	-	-	-	-
	23~25	Aluminum-cast, alloyed	0.7D	0.3D	Vc	194	193	194	190	194	199	193	194	189	194	192	185
					fz	0.006	0.010	0.013	0.019	0.023	0.034	0.044	0.061	0.073	0.070	0.079	0.092
					RPM	30800	20500	15400	12100	10300	7900	6150	5150	4300	3850	3400	2950
					FEED	395	395	395	470	470	540	540	630	630	540	540	540
					Ae												
H	38.1	Hardened steel	-	0.2D	Vc	25	36	45	49	51	52	55	57	57	58	59	60
					fz	0.016	0.016	0.021	0.024	0.030	0.046	0.054	0.070	0.081	0.091	0.100	0.111
					RPM	4000	3800	3600	3100	2700	2050	1750	1500	1300	1150	1050	950
					FEED	125	125	150	150	160	190	190	210	210	210	210	210
					Ae	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	40	Chilled Cast Iron	-	0.2D	Vc	57	83	90	97	111	123	137	149	158	161	170	176
					fz	0.023	0.022	0.031	0.040	0.060	0.080	0.100	0.120	0.128	0.141	0.148	0.158
					RPM	9150	8850	7150	6200	5900	4900	4350	3950	3600	3200	3000	2800
					FEED	415	390	450	490	705	785	870	950	925	905	890	885
					Ae	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3

※ The FEED, in long & extra long types, should be reduced by around 50%
对于长型合超长型进给量应该减少约50%



K-2 plus & K-2 END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

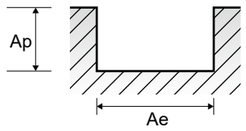
G9A23, G9B50 SERIES

2 FLUTE - SLOTTING
2刃 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
P	1-4	Non-alloy steel	1.0D	0.5D (Up to Ø3 : 0.2D)	Vc	45	44	49	57	65	68	72	72	69	70	75	75	72
					fz	0.004	0.008	0.010	0.015	0.025	0.031	0.039	0.057	0.064	0.065	0.063	0.062	0.063
					RPM	14300	9350	7850	6100	5150	4300	3800	2850	2200	1850	1700	1500	1150
					FEED	105	150	160	180	255	270	300	325	280	240	215	185	145
	5		1.0D	0.5D (Up to Ø3 : 0.2D)	Vc	27	26	32	36	40	40	43	43	42	43	46	48	44
					fz	0.004	0.008	0.010	0.016	0.025	0.031	0.041	0.050	0.050	0.048	0.048	0.050	0.050
					RPM	8500	5550	5150	3800	3150	2550	2300	1700	1350	1150	1050	950	700
					FEED	65	85	100	120	155	160	190	170	135	110	100	95	70
	6-7	Low alloy steel	1.0D	0.5D (Up to Ø3 : 0.2D)	Vc	45	44	49	57	65	68	72	72	69	70	75	75	72
					fz	0.004	0.008	0.010	0.015	0.025	0.031	0.039	0.057	0.064	0.065	0.063	0.062	0.063
					RPM	14300	9350	7850	6100	5150	4300	3800	2850	2200	1850	1700	1500	1150
					FEED	105	150	160	180	255	270	300	325	280	240	215	185	145
	8-9		1.0D	0.5D (Up to Ø3 : 0.2D)	Vc	27	26	32	36	40	40	43	43	42	43	46	48	44
					fz	0.004	0.008	0.010	0.016	0.025	0.031	0.041	0.050	0.050	0.048	0.048	0.050	0.050
					RPM	8500	5550	5150	3800	3150	2550	2300	1700	1350	1150	1050	950	700
					FEED	65	85	100	120	155	160	190	170	135	110	100	95	70
	10	High alloyed steel, and tool steel	1.0D	0.5D (Up to Ø3 : 0.2D)	Vc	45	44	49	57	65	68	72	72	69	70	75	75	72
					fz	0.004	0.008	0.010	0.015	0.025	0.031	0.039	0.057	0.064	0.065	0.063	0.062	0.063
					RPM	14300	9350	7850	6100	5150	4300	3800	2850	2200	1850	1700	1500	1150
					FEED	105	150	160	180	255	270	300	325	280	240	215	185	145
	11.1 ~ 11.2		1.0D	0.5D (Up to Ø3 : 0.2D)	Vc	27	26	32	36	40	40	43	43	42	43	46	48	44
					fz	0.004	0.008	0.010	0.016	0.025	0.031	0.041	0.050	0.050	0.048	0.048	0.050	0.050
					RPM	8500	5550	5150	3800	3150	2550	2300	1700	1350	1150	1050	950	700
					FEED	65	85	100	120	155	160	190	170	135	110	100	95	70
M	14.1	Stainless steel	1.0D	0.5D (Up to Ø3 : 0.2D)	Vc	22	26	27	30	33	34	37	36	36	36	37	35	35
					fz	0.003	0.007	0.009	0.016	0.025	0.031	0.04	0.053	0.059	0.058	0.059	0.068	0.064
					RPM	7150	5600	4300	3150	2650	2150	1950	1450	1150	950	850	700	550
					FEED	50	80	80	100	130	135	155	155	135	110	100	95	70
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	1.0D	Vc	59	57	59	57	58	57	56	55	58	55	57	55	57
					fz	0.005	0.008	0.012	0.018	0.024	0.030	0.043	0.063	0.077	0.102	0.119	0.145	0.189
					RPM	18700	12100	9350	6050	4600	3650	2950	2200	1850	1450	1300	1100	900
					FEED	205	205	220	220	220	220	255	275	285	295	310	320	340
N	21~22	Aluminum-wrought alloy	1.0D	1.0D	Vc	138	130	138	145	138	144	143	143	145	141	145	143	138
					fz	0.004	0.007	0.010	0.015	0.021	0.025	0.032	0.043	0.053	0.065	0.073	0.085	0.110
					RPM	44000	27500	22000	15400	11000	9150	7600	5700	4600	3750	3300	2850	2200
					FEED	330	385	460	460	460	460	485	485	485	485	485	485	485
	23~25	Aluminum-cast, alloyed	1.0D	1.0D	Vc	138	130	138	145	138	144	143	143	145	141	145	143	138
					fz	0.004	0.007	0.010	0.015	0.021	0.025	0.032	0.043	0.053	0.065	0.073	0.085	0.110
					RPM	44000	27500	22000	15400	11000	9150	7600	5700	4600	3750	3300	2850	2200
					FEED	330	385	460	460	460	460	485	485	485	485	485	485	485
	26~28	Copper and Copper Alloys (Bronze / Brass)	1.0D	1.0D	Vc	78	96	104	104	111	107	107	111	107	107	106	111	107
					fz	0.004	0.007	0.010	0.015	0.019	0.025	0.033	0.043	0.055	0.066	0.078	0.085	0.110
					RPM	24700	20300	16500	11000	8800	6800	5700	4400	3400	2850	2400	2200	1700
					FEED	200	300	340	340	340	340	375	375	375	375	375	375	375
H	40	Chilled Cast Iron	1.0D	0.5D (Up to Ø3 : 0.2D)	Vc	27	26	32	36	40	40	43	43	42	43	46	48	44
					fz	0.004	0.008	0.010	0.016	0.025	0.031	0.041	0.050	0.050	0.048	0.048	0.050	0.050
					RPM	8500	5550	5150	3800	3150	2550	2300	1700	1350	1150	1050	950	700
					FEED	65	85	100	120	155	160	190	170	135	110	100	95	70

※ The FEED, in long & extra long types, should be reduced by around 50%
对于长型合超长型进给量应该减少约50%



K-2 plus & K-2 END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

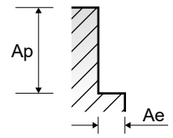
G9A24, G9B51 SERIES

4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
P	1-4	Non-alloy steel	0.1D	1.0D	Vc	55	56	62	72	81	84	90	89	86	89	92	93	91
					fz	0.004	0.009	0.012	0.018	0.038	0.048	0.059	0.085	0.095	0.094	0.094	0.095	0.093
					RPM	17600	11800	9850	7600	6450	5350	4750	3550	2750	2350	2100	1850	1450
					FEED	150	215	240	270	485	510	560	605	520	440	395	350	270
	5		0.1D	1.0D	Vc	32	33	41	45	50	50	54	54	53	55	57	58	57
					fz	0.004	0.008	0.011	0.018	0.038	0.048	0.061	0.076	0.075	0.074	0.075	0.074	0.075
					RPM	10250	7050	6450	4750	3950	3200	2850	2150	1700	1450	1300	1150	900
					FEED	85	115	145	170	300	305	350	325	255	215	195	170	135
	6-7	Low alloy steel	0.1D	1.0D	Vc	55	56	62	72	81	84	90	89	86	89	92	93	91
					fz	0.004	0.009	0.012	0.018	0.038	0.048	0.059	0.085	0.095	0.094	0.094	0.095	0.093
					RPM	17600	11800	9850	7600	6450	5350	4750	3550	2750	2350	2100	1850	1450
					FEED	150	215	240	270	485	510	560	605	520	440	395	350	270
	8-9		0.1D	1.0D	Vc	32	33	41	45	50	50	54	54	53	55	57	58	57
					fz	0.004	0.008	0.011	0.018	0.038	0.048	0.061	0.076	0.075	0.074	0.075	0.074	0.075
					RPM	10250	7050	6450	4750	3950	3200	2850	2150	1700	1450	1300	1150	900
					FEED	85	115	145	170	300	305	350	325	255	215	195	170	135
	10	High alloyed steel, and tool steel	0.1D	1.0D	Vc	55	56	62	72	81	84	90	89	86	89	92	93	91
					fz	0.004	0.009	0.012	0.018	0.038	0.048	0.059	0.085	0.095	0.094	0.094	0.095	0.093
					RPM	17600	11800	9850	7600	6450	5350	4750	3550	2750	2350	2100	1850	1450
					FEED	150	215	240	270	485	510	560	605	520	440	395	350	270
	11.1 ~ 11.2		0.1D	1.0D	Vc	32	33	41	45	50	50	54	54	53	55	57	58	57
					fz	0.004	0.008	0.011	0.018	0.038	0.048	0.061	0.076	0.075	0.074	0.075	0.074	0.075
					RPM	10250	7050	6450	4750	3950	3200	2850	2150	1700	1450	1300	1150	900
					FEED	85	115	145	170	300	305	350	325	255	215	195	170	135
M	14.1	Stainless steel	0.1D	1.0D	Vc	27	33	34	37	41	42	45	45	46	43	46	48	44
					fz	0.004	0.009	0.011	0.018	0.036	0.047	0.058	0.083	0.088	0.089	0.090	0.089	0.093
					RPM	8650	7050	5350	3950	3300	2700	2400	1800	1450	1150	1050	950	700
					FEED	75	120	120	145	240	255	280	300	255	205	190	170	130
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	1.5D	Vc	59	57	59	57	58	57	56	55	58	55	57	55	57
					fz	0.017	0.026	0.034	0.053	0.070	0.088	0.131	0.185	0.232	0.310	0.363	0.441	0.575
					RPM	18700	12100	9350	6050	4600	3650	2950	2200	1850	1450	1300	1100	900
					FEED	620	620	640	640	640	640	770	815	860	900	945	970	1035
N	21~22	Aluminum-wrought alloy	0.1D	1.5D	Vc	138	130	138	145	138	144	143	143	145	141	145	143	138
					fz	0.012	0.021	0.030	0.043	0.060	0.072	0.094	0.125	0.155	0.191	0.217	0.251	0.325
					RPM	44000	27500	22000	15400	11000	9150	7600	5700	4600	3750	3300	2850	2200
					FEED	1050	1160	1320	1320	1320	1320	1430	1430	1430	1430	1430	1430	1430
	23~25	Aluminum-cast, alloyed	0.1D	1.5D	Vc	138	130	138	145	138	144	143	143	145	141	145	143	138
					fz	0.012	0.021	0.030	0.043	0.060	0.072	0.094	0.125	0.155	0.191	0.217	0.251	0.325
					RPM	44000	27500	22000	15400	11000	9150	7600	5700	4600	3750	3300	2850	2200
					FEED	1050	1160	1320	1320	1320	1320	1430	1430	1430	1430	1430	1430	1430
	26~28	Copper and Copper Alloys (Bronze / Brass)	0.1D	1.5D	Vc	78	96	104	104	111	107	107	111	107	107	106	111	107
					fz	0.012	0.022	0.031	0.047	0.059	0.076	0.096	0.125	0.162	0.193	0.229	0.250	0.324
					RPM	24700	20300	16500	11000	8800	6800	5700	4400	3400	2850	2400	2200	1700
					FEED	605	910	1035	1035	1035	1035	1100	1100	1100	1100	1100	1100	1100
H	40	Chilled Cast Iron	0.1D	1.0D	Vc	32	33	41	45	50	50	54	54	53	55	57	58	57
					fz	0.004	0.008	0.011	0.018	0.038	0.048	0.061	0.076	0.075	0.074	0.075	0.074	0.075
					RPM	10250	7050	6450	4750	3950	3200	2850	2150	1700	1450	1300	1150	900
					FEED	85	115	145	170	300	305	350	325	255	215	195	170	135

※ The FEED, in long & extra long types, should be reduced by around 50%
对于长型合超长型进给量应该减少约50%



K-2 plus & K-2 END MILLS

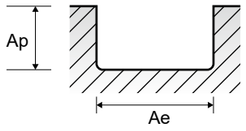
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

EMC61 SERIES — 2 FLUTE CORNER- SLOTTING
2刃 圆鼻 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	1-4	Non-alloy steel	1.0D	0.3D	Vc	59	63	68	70	71	61	61	81	74
					fz	0.011	0.018	0.025	0.035	0.034	0.058	0.056	0.059	0.060
					RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170
					FEED	140	180	220	260	190	225	180	190	140
	5		1.0D	0.3D	Vc	38	41	43	45	45	48	51	50	48
					fz	0.009	0.014	0.018	0.027	0.036	0.042	0.044	0.045	0.039
					RPM	4050	3240	2745	2385	1800	1530	1350	990	770
					FEED	70	90	100	130	130	130	120	90	60
	6-7	Low alloy steel	1.0D	0.3D	Vc	59	63	68	70	71	61	61	81	74
					fz	0.011	0.018	0.025	0.035	0.034	0.058	0.056	0.059	0.060
					RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170
					FEED	140	180	220	260	190	225	180	190	140
	8-9		1.0D	0.3D	Vc	38	41	43	45	45	48	51	50	48
					fz	0.009	0.014	0.018	0.027	0.036	0.042	0.044	0.045	0.039
					RPM	4050	3240	2745	2385	1800	1530	1350	990	770
					FEED	70	90	100	130	130	130	120	90	60
	10	High alloyed steel, and tool steel	1.0D	0.3D	Vc	59	63	68	70	71	61	61	81	74
					fz	0.011	0.018	0.025	0.035	0.034	0.058	0.056	0.059	0.060
					RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170
					FEED	140	180	220	260	190	225	180	190	140
	11.1 ~ 11.2		1.0D	0.3D	Vc	38	41	43	45	45	48	51	50	48
					fz	0.009	0.014	0.018	0.027	0.036	0.042	0.044	0.045	0.039
					RPM	4050	3240	2745	2385	1800	1530	1350	990	770
					FEED	70	90	100	130	130	130	120	90	60
H	38.1 ~ 38.2	Hardened steel	1.0D	0.3D	Vc	28	31	33	35	36	35	36	34	35
					fz	0.008	0.010	0.017	0.022	0.028	0.036	0.037	0.037	0.036
					RPM	2970	2430	2115	1845	1440	1125	945	670	560
					FEED	50	50	70	80	80	80	70	50	40
	40	Chilled Cast Iron	1.0D	0.3D	Vc	38	41	43	45	45	48	51	50	48
					fz	0.009	0.014	0.018	0.027	0.036	0.042	0.044	0.045	0.039
					RPM	4050	3240	2745	2385	1800	1530	1350	990	770
					FEED	70	90	100	130	130	130	120	90	60
	41	Hardened Cast Iron	1.0D	0.3D	Vc	28	31	33	35	36	35	36	34	35
					fz	0.008	0.010	0.017	0.022	0.028	0.036	0.037	0.037	0.036
					RPM	2970	2430	2115	1845	1440	1125	945	670	560
					FEED	50	50	70	80	80	80	70	50	40

※ The FEED, in long & extra long types, should be reduced by around 50%
对于长型合超长型进给量应该减少约50%



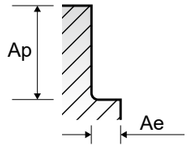
K-2 plus & K-2 END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

EMC61 SERIES — 2 FLUTE CORNER- SIDE CUTTING
2刃 圆鼻 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	1-4	Non-alloy steel	0.05D	2.0D	Vc	59	63	68	70	71	61	61	81	74
					fz	0.014	0.022	0.026	0.030	0.042	0.062	0.059	0.052	0.051
					RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170
					FEED	180	220	225	225	240	240	190	170	120
	5		0.05D	2.0D	Vc	38	41	43	45	45	48	51	50	48
					fz	0.017	0.023	0.035	0.040	0.053	0.062	0.063	0.063	0.062
					RPM	4050	3240	2745	2385	1800	1530	1350	990	770
					FEED	135	150	190	190	190	190	170	125	95
	6-7	Low alloy steel	0.05D	2.0D	Vc	59	63	68	70	71	61	61	81	74
					fz	0.014	0.022	0.026	0.030	0.042	0.062	0.059	0.052	0.051
					RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170
					FEED	180	220	225	225	240	240	190	170	120
	8-9		0.05D	2.0D	Vc	38	41	43	45	45	48	51	50	48
					fz	0.017	0.023	0.035	0.040	0.053	0.062	0.063	0.063	0.062
					RPM	4050	3240	2745	2385	1800	1530	1350	990	770
					FEED	135	150	190	190	190	190	170	125	95
	10	High alloyed steel, and tool steel	0.05D	2.0D	Vc	59	63	68	70	71	61	61	81	74
					fz	0.014	0.022	0.026	0.030	0.042	0.062	0.059	0.052	0.051
					RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170
					FEED	180	220	225	225	240	240	190	170	120
	11.1 ~ 11.2		0.05D	2.0D	Vc	38	41	43	45	45	48	51	50	48
					fz	0.017	0.023	0.035	0.040	0.053	0.062	0.063	0.063	0.062
					RPM	4050	3240	2745	2385	1800	1530	1350	990	770
					FEED	135	150	190	190	190	190	170	125	95
H	38.1 ~ 38.2	Hardened steel	0.02D	2.0D	Vc	28	31	33	35	36	35	36	38	35
					fz	0.015	0.020	0.026	0.030	0.038	0.049	0.050	0.053	0.054
					RPM	2970	2430	2115	1845	1440	1125	945	760	560
					FEED	90	95	110	110	110	110	95	80	60
	40	Chilled Cast Iron	0.05D	2.0D	Vc	38	41	43	45	45	48	51	50	48
					fz	0.017	0.023	0.035	0.040	0.053	0.062	0.063	0.063	0.062
					RPM	4050	3240	2745	2385	1800	1530	1350	990	770
					FEED	135	150	190	190	190	190	170	125	95
	41	Hardened Cast Iron	0.02D	2.0D	Vc	28	31	33	35	36	35	36	38	35
					fz	0.015	0.020	0.026	0.030	0.038	0.049	0.050	0.053	0.054
					RPM	2970	2430	2115	1845	1440	1125	945	760	560
					FEED	90	95	110	110	110	110	95	80	60

※ The FEED, in long & extra long types, should be reduced by around 50%
对于长型合超长型进给量应该减少约50%



CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

K-2 plus & K-2 END MILLS

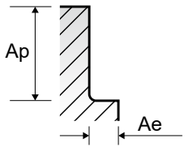
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

EMC62 SERIES
4 FLUTE CORNER- SIDE CUTTING
4刃 圆鼻 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	1-4	Non-alloy steel	0.05D	2.0D	Vc	59	63	68	70	71	61	61	81	74
					fz	0.007	0.011	0.013	0.015	0.021	0.031	0.029	0.026	0.026
					RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170
					FEED	180	220	225	225	240	240	190	170	120
	5		0.05D	2.0D	Vc	38	41	43	45	45	48	51	50	48
					fz	0.008	0.012	0.017	0.020	0.026	0.031	0.031	0.033	0.031
					RPM	4050	3240	2745	2385	1800	1530	1350	990	770
					FEED	135	150	190	190	190	190	170	130	95
	6-7	Low alloy steel	0.05D	2.0D	Vc	59	63	68	70	71	61	61	81	74
					fz	0.007	0.011	0.013	0.015	0.021	0.031	0.029	0.026	0.026
					RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170
					FEED	180	220	225	225	240	240	190	170	120
	8-9		0.05D	2.0D	Vc	38	41	43	45	45	48	51	50	48
					fz	0.008	0.012	0.017	0.020	0.026	0.031	0.031	0.033	0.031
					RPM	4050	3240	2745	2385	1800	1530	1350	990	770
					FEED	135	150	190	190	190	190	170	130	95
	10	High alloyed steel, and tool steel	0.05D	2.0D	Vc	59	63	68	70	71	61	61	81	74
					fz	0.007	0.011	0.013	0.015	0.021	0.031	0.029	0.026	0.026
					RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170
					FEED	180	220	225	225	240	240	190	170	120
	11.1 - 11.2		0.05D	2.0D	Vc	38	41	43	45	45	48	51	50	48
					fz	0.008	0.012	0.017	0.020	0.026	0.031	0.031	0.033	0.031
					RPM	4050	3240	2745	2385	1800	1530	1350	990	770
					FEED	135	150	190	190	190	190	170	130	95
H	38.1 - 38.2	Hardened steel	0.02D	2.0D	Vc	28	31	33	35	36	35	36	38	35
					fz	0.008	0.010	0.013	0.015	0.019	0.024	0.025	0.026	0.027
					RPM	2970	2430	2115	1845	1440	1125	945	760	560
					FEED	90	95	110	110	110	110	95	80	60
	40	Chilled Cast Iron	0.05D	2.0D	Vc	38	41	43	45	45	48	51	50	48
					fz	0.008	0.012	0.017	0.020	0.026	0.031	0.031	0.033	0.031
					RPM	4050	3240	2745	2385	1800	1530	1350	990	770
					FEED	135	150	190	190	190	190	170	130	95
	41	Hardened Cast Iron	0.02D	2.0D	Vc	28	31	33	35	36	35	36	38	35
					fz	0.008	0.010	0.013	0.015	0.019	0.024	0.025	0.026	0.027
					RPM	2970	2430	2115	1845	1440	1125	945	760	560
					FEED	90	95	110	110	110	110	95	80	60

※ The FEED, in long & extra long types, should be reduced by around 50%
对于长型合超长型进给量应该减少约50%



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MILLING CUTTERS
TECHNICAL DATA

K-2 plus & K-2 END MILLS

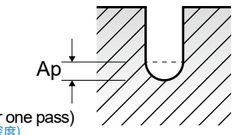
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

EMC60 SERIES
2 FLUTE BALL NOSE - RIB PROCESSING
2刃 球头 - 深腔加工

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)
Ap (切削深度) = (mm)

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径 0.4	0.5	0.6	0.8	1.0	1.2	1.4
P	1-4	Non-alloy steel	Vc	37~48	47~59	56~71	75~95	85~107	85~109	87~107
			fz	0.003~0.006	0.003~0.006	0.004~0.008	0.004~0.008	0.005~0.01	0.006~0.013	0.006~0.016
			RPM	29700~37800	29700~37800	29700~37800	29700~37800	27000~34200	22500~28800	19800~24300
			FEED	180~490	180~490	225~630	225~630	250~690	250~770	250~770
			Ap	0.018~0.036	0.023~0.045	0.027~0.054	0.036~0.072	0.045~0.09	0.055~0.100	0.062~0.125
	5		Vc	27~34	34~42	41~51	54~68	62~76	61~78	63~75
			fz	0.002~0.005	0.002~0.005	0.003~0.006	0.003~0.006	0.003~0.008	0.004~0.009	0.005~0.011
			RPM	21600~27000	21600~27000	21600~27000	21600~27000	19800~24300	16200~20700	14400~17100
			FEED	90~270	90~270	110~350	110~350	130~390	130~390	130~390
			Ap	0.018~0.036	0.023~0.045	0.027~0.054	0.036~0.072	0.045~0.090	0.055~0.100	0.062~0.125
	6-7	Low alloy steel	Vc	37~48	47~59	56~71	75~95	85~107	85~109	87~107
			fz	0.003~0.006	0.003~0.006	0.004~0.008	0.004~0.008	0.005~0.01	0.006~0.013	0.006~0.016
			RPM	29700~37800	29700~37800	29700~37800	29700~37800	27000~34200	22500~28800	19800~24300
			FEED	180~490	180~490	225~630	225~630	250~690	250~770	250~770
			Ap	0.018~0.036	0.023~0.045	0.027~0.054	0.036~0.072	0.045~0.09	0.055~0.100	0.062~0.125
	8-9		Vc	27~34	34~42	41~51	54~68	62~76	61~78	63~75
			fz	0.002~0.005	0.002~0.005	0.003~0.006	0.003~0.006	0.003~0.008	0.004~0.009	0.005~0.011
			RPM	21600~27000	21600~27000	21600~27000	21600~27000	19800~24300	16200~20700	14400~17100
			FEED	90~270	90~270	110~350	110~350	130~390	130~390	130~390
			Ap	0.018~0.036	0.023~0.045	0.027~0.054	0.036~0.072	0.045~0.090	0.055~0.100	0.062~0.125
	10	High alloyed steel, and tool steel	Vc	37~48	47~59	56~71	75~95	85~107	85~109	87~107
			fz	0.003~0.006	0.003~0.006	0.004~0.008	0.004~0.008	0.005~0.01	0.006~0.013	0.006~0.016
			RPM	29700~37800	29700~37800	29700~37800	29700~37800	27000~34200	22500~28800	19800~24300
			FEED	180~490	180~490	225~630	225~630	250~690	250~770	250~770
			Ap	0.018~0.036	0.023~0.045	0.027~0.054	0.036~0.072	0.045~0.09	0.055~0.100	0.062~0.125
	11.1 - 11.2		Vc	27~34	34~42	41~51	54~68	62~76	61~78	63~75
			fz	0.002~0.005	0.002~0.005	0.003~0.006	0.003~0.006	0.003~0.008	0.004~0.009	0.005~0.011
			RPM	21600~27000	21600~27000	21600~27000	21600~27000	19800~24300	16200~20700	14400~17100
			FEED	90~270	90~270	110~350	110~350	130~390	130~390	130~390
			Ap	0.018~0.036	0.023~0.045	0.027~0.054	0.036~0.072	0.045~0.090	0.055~0.100	0.062~0.125
H	38.1 - 38.2	Hardened steel	Vc	17~21	21~27	25~32	34~43	38~49	39~49	40~49
			fz	0.003~0.005	0.003~0.005	0.004~0.007	0.004~0.007	0.005~0.008	0.006~0.010	0.007~0.011
			RPM	13500~17100	13500~17100	13500~17100	13500~17100	12150~15750	10350~13050	9000~11250
			FEED	90~180	90~180	110~225	110~225	130~250	130~250	130~250
			Ap	0.004~0.007	0.005~0.009	0.005~0.011	0.007~0.014	0.009~0.018	0.010~0.022	0.012~0.025
	40	Chilled Cast Iron	Vc	27~34	34~42	41~51	54~68	62~76	61~78	63~75
			fz	0.002~0.005	0.002~0.005	0.003~0.006	0.003~0.006	0.003~0.008	0.004~0.009	0.005~0.011
			RPM	21600~27000	21600~27000	21600~27000	21600~27000	19800~24300	16200~20700	14400~17100
			FEED	90~270	90~270	110~350	110~350	130~390	130~390	130~390
			Ap	0.018~0.036	0.023~0.045	0.027~0.054	0.036~0.072	0.045~0.090	0.055~0.100	0.062~0.125
	41	Hardened Cast Iron	Vc	17~21	21~27	25~32	34~43	38~49	39~49	40~49
			fz	0.003~0.005	0.003~0.005	0.004~0.007	0.004~0.007	0.005~0.008	0.006~0.010	0.007~0.011
			RPM	13500~17100	13500~17100	13500~17100	13500~17100	12150~15750	10350~13050	9000~11250
			FEED	90~180	90~180	110~225	110~225	130~250	130~250	130~250
			Ap	0.004~0.007	0.005~0.009	0.005~0.011	0.007~0.014	0.009~0.018	0.010~0.022	0.012~0.025

※ The FEED, in long & extra long types, should be reduced by around 50%
对于长型合超长型进给量应该减少约50%



K-2 plus & K-2 END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

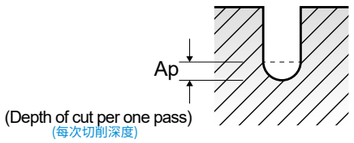
EMC60 SERIES

2 FLUTE BALL NOSE - RIB PROCESSING
2刃 球头 - 深腔加工

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)
Ap (切削深度) = (mm)

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径							
				1.5	1.6	1.8	2.0	3.0	4.0	5.0	6.0
P	1-4	Non-alloy steel	Vc	85~106	86~113	92~117	90~113	93~119	102~136	99~127	102~136
			fz	0.007~0.017	0.007~0.017	0.008~0.019	0.009~0.021	0.013~0.031	0.015~0.036	0.020~0.048	0.023~0.053
			RPM	18000~22500	17100~22500	16200~20700	14400~18000	9900~12600	8100~10800	6300~8100	5400~7200
			FEED	250~770	250~770	250~770	250~770	250~770	250~770	250~770	250~770
			Ap	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
	5		Vc	61~78	63~79	64~81	65~82	64~81	69~93	71~92	68~93
			fz	0.005~0.012	0.005~0.012	0.006~0.014	0.006~0.015	0.010~0.023	0.012~0.026	0.014~0.033	0.018~0.039
			RPM	13050~16650	12600~15750	11250~14400	10350~13050	6750~8550	5490~7380	4500~5850	3600~4950
			FEED	130~390	130~390	130~390	130~390	130~390	130~390	130~390	130~390
			Ap	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
	6-7	Low alloy steel	Vc	85~106	86~113	92~117	90~113	93~119	102~136	99~127	102~136
			fz	0.007~0.017	0.007~0.017	0.008~0.019	0.009~0.021	0.013~0.031	0.015~0.036	0.020~0.048	0.023~0.053
			RPM	18000~22500	17100~22500	16200~20700	14400~18000	9900~12600	8100~10800	6300~8100	5400~7200
			FEED	250~770	250~770	250~770	250~770	250~770	250~770	250~770	250~770
			Ap	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
	8-9		Vc	61~78	63~79	64~81	65~82	64~81	69~93	71~92	68~93
			fz	0.005~0.012	0.005~0.012	0.006~0.014	0.006~0.015	0.010~0.023	0.012~0.026	0.014~0.033	0.018~0.039
			RPM	13050~16650	12600~15750	11250~14400	10350~13050	6750~8550	5490~7380	4500~5850	3600~4950
			FEED	130~390	130~390	130~390	130~390	130~390	130~390	130~390	130~390
			Ap	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
	10	High alloyed steel, and tool steel	Vc	85~106	86~113	92~117	90~113	93~119	102~136	99~127	102~136
			fz	0.007~0.017	0.007~0.017	0.008~0.019	0.009~0.021	0.013~0.031	0.015~0.036	0.020~0.048	0.023~0.053
			RPM	18000~22500	17100~22500	16200~20700	14400~18000	9900~12600	8100~10800	6300~8100	5400~7200
			FEED	250~770	250~770	250~770	250~770	250~770	250~770	250~770	250~770
			Ap	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
	11.1 11.2		Vc	61~78	63~79	64~81	65~82	64~81	69~93	71~92	68~93
			fz	0.005~0.012	0.005~0.012	0.006~0.014	0.006~0.015	0.010~0.023	0.012~0.026	0.014~0.033	0.018~0.039
			RPM	13050~16650	12600~15750	11250~14400	10350~13050	6750~8550	5490~7380	4500~5850	3600~4950
			FEED	130~390	130~390	130~390	130~390	130~390	130~390	130~390	130~390
			Ap	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
H	38.1 - 38.2	Hardened steel	Vc	40~49	41~50	41~51	42~51	42~51	45~57	46~58	42~59
			fz	0.008~0.012	0.008~0.013	0.009~0.014	0.010~0.015	0.014~0.023	0.018~0.028	0.022~0.034	0.029~0.040
			RPM	8550~10350	8100~9900	7200~9000	6750~8100	4500~5400	3600~4500	2930~3690	2250~3150
			FEED	130~250	130~250	130~250	130~250	130~250	130~250	130~250	130~250
			Ap	0.014~0.028	0.015~0.030	0.016~0.032	0.018~0.035	0.028~0.055	0.035~0.070	0.044~0.088	0.053~0.105
	40	Chilled Cast Iron	Vc	61~78	63~79	64~81	65~82	64~81	69~93	71~92	68~93
			fz	0.005~0.012	0.005~0.012	0.006~0.014	0.006~0.015	0.010~0.023	0.012~0.026	0.014~0.033	0.018~0.039
			RPM	13050~16650	12600~15750	11250~14400	10350~13050	6750~8550	5490~7380	4500~5850	3600~4950
			FEED	130~390	130~390	130~390	130~390	130~390	130~390	130~390	130~390
			Ap	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
	41	Hardened Cast Iron	Vc	40~49	41~50	41~51	42~51	42~51	45~57	46~58	42~59
			fz	0.008~0.012	0.008~0.013	0.009~0.014	0.010~0.015	0.014~0.023	0.018~0.028	0.022~0.034	0.029~0.040
			RPM	8550~10350	8100~9900	7200~9000	6750~8100	4500~5400	3600~4500	2930~3690	2250~3150
			FEED	130~250	130~250	130~250	130~250	130~250	130~250	130~250	130~250
			Ap	0.014~0.028	0.015~0.030	0.016~0.032	0.018~0.035	0.028~0.055	0.035~0.070	0.044~0.088	0.053~0.105

※ The FEED, in long & extra long types, should be reduced by around 50%
对于长型合超长型进给量应该减少约50%



K-2 plus & K-2 END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

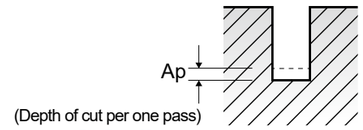
EMC59 SERIES

2 FLUTE - RIB PROCESSING
2刃 - 深腔加工

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)
Ap (切削深度) = (mm)

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径							
				0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.2	1.4
P	1-4	Non-alloy steel	Vc	37~48	47~59	56~71	65~83	64~84	66~84	68~85	66~81	67~83
			fz	0.003~0.006	0.003~0.006	0.004~0.008	0.004~0.008	0.005~0.009	0.006~0.012	0.006~0.015	0.008~0.021	0.009~0.024
			RPM	29700~37800	29700~37800	29700~37800	29700~37800	25650~33300	23400~29700	21600~27000	17550~21600	15300~18900
			FEED	200~440	200~440	250~570	250~570	280~630	280~720	280~810	280~890	280~890
			Ap	0.007~0.018	0.009~0.022	0.011~0.026	0.012~0.031	0.014~0.035	0.030~0.060	0.045~0.090	0.055~0.100	0.062~0.125
	5		Vc	27~34	34~42	41~51	48~59	46~59	48~61	47~59	48~58	48~59
			fz	0.002~0.006	0.002~0.006	0.003~0.008	0.003~0.008	0.003~0.01	0.005~0.013	0.006~0.016	0.008~0.019	0.009~0.022
			RPM	21600~27000	21600~27000	21600~27000	21600~27000	18450~23400	17100~21600	14850~18900	12600~15300	10800~13500
			FEED	90~340	90~340	110~440	110~440	120~480	160~540	190~590	190~590	190~590
			Ap	0.007~0.018	0.009~0.022	0.011~0.026	0.012~0.031	0.014~0.035	0.030~0.060	0.045~0.090	0.055~0.100	0.062~0.125
	6-7	Low alloy steel	Vc	37~48	47~59	56~71	65~83	64~84	66~84	68~85	66~81	67~83
			fz	0.003~0.006	0.003~0.006	0.004~0.008	0.004~0.008	0.005~0.009	0.006~0.012	0.006~0.015	0.008~0.021	0.009~0.024
			RPM	29700~37800	29700~37800	29700~37800	29700~37800	25650~33300	23400~29700	21600~27000	17550~21600	15300~18900
			FEED	200~440	200~440	250~570	250~570	280~630	280~720	280~810	280~890	280~890
			Ap	0.007~0.018	0.009~0.022	0.011~0.026	0.012~0.031	0.014~0.035	0.030~0.060	0.045~0.090	0.055~0.100	0.062~0.125
	8-9		Vc	27~34	34~42	41~51	48~59	46~59	48~61	47~59	48~58	48~59
			fz	0.002~0.006	0.002~0.006	0.003~0.008	0.003~0.008	0.003~0.010	0.005~0.013	0.006~0.016	0.008~0.019	0.009~0.022
			RPM	21600~27000	21600~27000	21600~27000	21600~27000	18450~23400	17100~21600	14850~18900	12600~15300	10800~13500
			FEED	90~340	90~340	110~440	110~440	120~480	160~540	190~590	190~590	190~590
			Ap	0.007~0.018	0.009~0.022	0.011~0.026	0.012~0.031	0.014~0.035	0.030~0.060	0.045~0.090	0.055~0.100	0.062~0.125
	10	High alloyed steel, and tool steel	Vc	37~48	47~59	56~71	65~83	64~84	66~84	68~85	66~81	67~83
			fz	0.003~0.006	0.003~0.006	0.004~0.008	0.004~0.008	0.005~0.009	0.006~0.012	0.006~0.015	0.008~0.021	0.009~0.024
			RPM	29700~37800	29700~37800	29700~37800	29700~37800	25650~33300	23400~29700	21600~27000	17550~21600	15300~18900
			FEED	200~440	200~440	250~570	250~570	280~630	280~720	280~810	280~890	280~890
			Ap	0.007~0.018	0.009~0.022	0.011~0.026	0.012~0.031	0.014~0.035	0.030~0.060	0.045~0.090	0.055~0.100	0.062~0.125
	11.1 11.2		Vc	27~34	34~42	41~51	48~59	46~59	48~61	47~59	48~58	48~59
			fz	0.002~0.006	0.002~0.006	0.003~0.008	0.003~0.008	0.003~0.010	0.005~0.013	0.006~0.016	0.008~0.019	0.009~0.022
			RPM	21600~27000	21600~27000	21600~27000	21600~27000	18450~23400	17100~21600	14850~18900	12600~15300	10800~13500
			FEED	90~340	90~340	110~440	110~440	120~480	160~540	190~590	190~590	190~590
			Ap	0.007~0.018	0.009~0.022	0.011~0.026	0.012~0.031	0.014~0.035	0.030~0.060	0.045~0.090	0.055~0.100	0.062~0.125
H	38.1 - 38.2	Hardened steel	Vc	17~20	21~25	25~31	30~36	29~35	29~34	30~38	31~37	30~38
			fz	0.001~0.003	0.001~0.003	0.001~0.003	0.001~0.003	0.002~0.005	0.002~0.005	0.004~0.005	0.004~0.007	0.005~0.008
			RPM	13500~16200	13500~16200	13500~16200	13500~16200	11700~13950	10350~12150	9450~12150	8100~9900	6750~8550
			FEED	30~90	30~90	40~110	40~110	45~130	50~130	70~130	70~130	70~130
			Ap	0.004~0.008	0.004~0.009	0.005~0.011	0.006~0.013	0.007~0.015	0.008~0.016	0.009~0.018	0.010~0.022	0.012~0.025
	40	Chilled Cast Iron	Vc	27~34	34~42	41~51	48~59	46~59	48~61	47~59	48~58	48~59
			fz	0.002~0.006	0.002~0.006	0.003~0.008	0.003~0.008	0.003~0.010	0.005~0.013	0.006~0.016	0.008~0.019	0.009~0.022
			RPM	21600~27000	21600~27000	21600~27000	21600~27000	18450~23400	17100~21600	14850~18900	12600~15300	10800~13500
			FEED	90~340	90~340	110~440	110~440	120~480	160~540	190~590	190~590	190~590
			Ap	0.007~0.018	0.009~0.022	0.011~0.026	0.012~0.031	0.014~0.035	0.030~0.060	0.045~0.090	0.055~0.100	0.062~0.125
	41	Hardened Cast Iron	Vc	17~20	21~25	25~31	30~36	29~35	29~34	30~38	31~37	30~38
			fz	0.001~0.003	0.001~0.003	0.001~0.003	0.001~0.003	0.002~0.005	0.002~0.005	0.004~0.005	0.004~0.007	0.005~0.008
			RPM	13500~16200	13500~16200	13500~16200	13500~16200	11700~13950	10350~12150	9450~12150	8100~9900	6750~8550
			FEED	30~90	30~90	40~110	40~110	45~130	50~130	70~130	70~130	70~130
			Ap	0.004~0.008	0.004~0.009	0.005~0.011	0.006~0.013	0.007~0.015	0.008~0.016	0.009~0.018	0.010~0.022	0.012~0.025

※ The FEED, in long & extra long types, should be reduced by around 50%
对于长型合超长型进给量应该减少约50%



K-2 plus & K-2 END MILLS

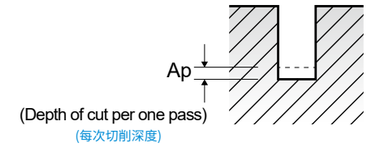
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

EMC59 SERIES
2 FLUTE - RIB PROCESSING
2刃 - 深腔加工

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)
Ap (切削深度) = (mm)

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径							
				1.5	1.6	1.8	2.0	2.5	3.0	4.0	5.0	6.0
P	1-4	Non-alloy steel	Vc	66~85	68~86	71~92	71~88	71~92	72~89	74~90	71~92	85~93
			fz	0.010~0.025	0.010~0.026	0.011~0.027	0.012~0.032	0.016~0.038	0.018~0.047	0.024~0.062	0.031~0.076	0.031~0.090
			RPM	13950~18000	13500~17100	12600~16200	11250~13950	9000~11700	7650~9450	5850~7200	4500~5850	4500~4950
			FEED	280~890	280~890	280~890	280~890	280~890	280~890	280~890	280~890	280~890
			Ap	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.112~0.235	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
	5		Vc	47~61	50~61	51~61	51~62	49~64	51~64	51~62	49~64	51~68
			fz	0.010~0.023	0.010~0.024	0.011~0.027	0.012~0.030	0.015~0.036	0.018~0.044	0.023~0.060	0.030~0.073	0.035~0.082
			RPM	9900~13050	9900~12150	9000~10800	8100~9900	6300~8100	5400~6750	4050~4950	3150~4050	2700~3600
			FEED	190~590	190~590	190~590	190~590	190~590	190~590	190~590	190~590	190~590
			Ap	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.112~0.235	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
	6-7	Low alloy steel	Vc	66~85	68~86	71~92	71~88	71~92	72~89	74~90	71~92	85~93
			fz	0.010~0.025	0.010~0.026	0.011~0.027	0.012~0.032	0.016~0.038	0.018~0.047	0.024~0.062	0.031~0.076	0.031~0.090
			RPM	13950~18000	13500~17100	12600~16200	11250~13950	9000~11700	7650~9450	5850~7200	4500~5850	4500~4950
			FEED	280~890	280~890	280~890	280~890	280~890	280~890	280~890	280~890	280~890
			Ap	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.112~0.235	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
	8-9		Vc	47~61	50~61	51~61	51~62	49~64	51~64	51~62	49~64	51~68
			fz	0.010~0.023	0.010~0.024	0.011~0.027	0.012~0.030	0.015~0.036	0.018~0.044	0.023~0.060	0.030~0.073	0.035~0.082
			RPM	9900~13050	9900~12150	9000~10800	8100~9900	6300~8100	5400~6750	4050~4950	3150~4050	2700~3600
			FEED	190~590	190~590	190~590	190~590	190~590	190~590	190~590	190~590	190~590
			Ap	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.112~0.235	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
	10	High alloyed steel, and tool steel	Vc	66~85	68~86	71~92	71~88	71~92	72~89	74~90	71~92	85~93
			fz	0.010~0.025	0.010~0.026	0.011~0.027	0.012~0.032	0.016~0.038	0.018~0.047	0.024~0.062	0.031~0.076	0.031~0.090
			RPM	13950~18000	13500~17100	12600~16200	11250~13950	9000~11700	7650~9450	5850~7200	4500~5850	4500~4950
			FEED	280~890	280~890	280~890	280~890	280~890	280~890	280~890	280~890	280~890
			Ap	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.112~0.235	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
	11.1 - 11.2		Vc	47~61	50~61	51~61	51~62	49~64	51~64	51~62	49~64	51~68
			fz	0.010~0.023	0.010~0.024	0.011~0.027	0.012~0.030	0.015~0.036	0.018~0.044	0.023~0.060	0.030~0.073	0.035~0.082
			RPM	9900~13050	9900~12150	9000~10800	8100~9900	6300~8100	5400~6750	4050~4950	3150~4050	2700~3600
			FEED	190~590	190~590	190~590	190~590	190~590	190~590	190~590	190~590	190~590
			Ap	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.112~0.235	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
H	38.1 - 38.2	Hardened steel	Vc	30~36	29~38	31~38	31~40	32~39	30~38	31~40	31~40	34~51
			fz	0.006~0.008	0.006~0.008	0.006~0.010	0.007~0.010	0.009~0.013	0.011~0.016	0.014~0.021	0.018~0.026	0.019~0.024
			RPM	6300~7650	5850~7650	5400~6750	4950~6300	4050~4950	3150~4050	2430~3150	1980~2520	1800~2700
			FEED	70~130	70~130	70~130	70~130	70~130	70~130	70~130	70~130	70~130
			Ap	0.014~0.028	0.015~0.030	0.016~0.032	0.018~0.035	0.022~0.045	0.028~0.055	0.036~0.072	0.045~0.090	0.054~0.108
	40	Chilled Cast Iron	Vc	47~61	50~61	51~61	51~62	49~64	51~64	51~62	49~64	51~68
			fz	0.010~0.023	0.010~0.024	0.011~0.027	0.012~0.030	0.015~0.036	0.018~0.044	0.023~0.060	0.030~0.073	0.035~0.082
			RPM	9900~13050	9900~12150	9000~10800	8100~9900	6300~8100	5400~6750	4050~4950	3150~4050	2700~3600
			FEED	190~590	190~590	190~590	190~590	190~590	190~590	190~590	190~590	190~590
			Ap	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.112~0.235	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
	41	Hardened Cast Iron	Vc	30~36	29~38	31~38	31~40	32~39	30~38	31~40	31~40	34~51
			fz	0.006~0.008	0.006~0.008	0.006~0.010	0.007~0.010	0.009~0.013	0.011~0.016	0.014~0.021	0.018~0.026	0.019~0.024
			RPM	6300~7650	5850~7650	5400~6750	4950~6300	4050~4950	3150~4050	2430~3150	1980~2520	1800~2700
			FEED	70~130	70~130	70~130	70~130	70~130	70~130	70~130	70~130	70~130
			Ap	0.014~0.028	0.015~0.030	0.016~0.032	0.018~0.035	0.022~0.045	0.028~0.055	0.036~0.072	0.045~0.090	0.054~0.108

※ The FEED, in long & extra long types, should be reduced by around 50%
对于长型合超长型进给量应该减少约50%



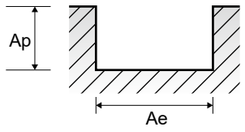
K-2 plus & K-2 END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

EMC52, EMC53 SERIES
2 FLUTE - SLOTTING
2刃 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径											
						1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
P	1-4	Non-alloy steel	1.0D	Up to D3 : 0.2D D3~D20 : 0.5D	Vc	45	44	49	57	65	68	72	72	69	70	75	75	72
					fz	0.004	0.008	0.010	0.015	0.025	0.031	0.039	0.057	0.064	0.065	0.063	0.062	0.063
					RPM	14300	9350	7850	6100	5150	4300	3800	2850	2200	1850	1700	1500	1150
					FEED	105	150	160	180	255	270	300	325	280	240	215	185	145
	5		1.0D	Up to D3 : 0.2D D3~D20 : 0.5D	Vc	27	26	32	36	40	40	43	43	42	43	46	48	44
					fz	0.004	0.008	0.010	0.016	0.025	0.031	0.041	0.050	0.050	0.048	0.048	0.050	0.050
					RPM	8500	5550	5150	3800	3150	2550	2300	1700	1350	1150	1050	950	700
					FEED	65	85	100	120	155	160	190	170	135	110	100	95	70
	6-7	Low alloy steel	1.0D	Up to D3 : 0.2D D3~D20 : 0.5D	Vc	45	44	49	57	65	68	72	72	69	70	75	75	72
					fz	0.004	0.008	0.010	0.015	0.025	0.031	0.039	0.057	0.064	0.065	0.063	0.062	0.063
					RPM	14300	9350	7850	6100	5150	4300	3800	2850	2200	1850	1700	1500	1150
					FEED	105	150	160	180	255	270	300	325	280	240	215	185	145
	8-9		1.0D	Up to D3 : 0.2D D3~D20 : 0.5D	Vc	27	26	32	36	40	40	43	43	42	43	46	48	44
					fz	0.004	0.008	0.010	0.016	0.025	0.031	0.041	0.050	0.050	0.048	0.048	0.050	0.050
					RPM	8500	5550	5150	3800	3150	2550	2300	1700	1350	1150	1050	950	700
					FEED	65	85	100	120	155	160	190	170	135	110	100	95	70
	10	High alloyed steel, and tool steel	1.0D	Up to D3 : 0.2D D3~D20 : 0.5D	Vc	45	44	49	57	65	68	72	72	69	70	75	75	72
					fz	0.004	0.008	0.010	0.015	0.025	0.031	0.039	0.057	0.064	0.065	0.063	0.062	0.063
					RPM	14300	9350	7850	6100	5150	4300	3800	2850	2200	1850	1700	1500	1150
					FEED	105	150	160	180	255	270	300	325	280	240	215	185	145
	11.1 - 11.2		1.0D	Up to D3 : 0.2D D3~D20 : 0.5D	Vc	27	26	32	36	40	40	43	43	42	43	46	48	44
					fz	0.004	0.008	0.010	0.016	0.025	0.031	0.041	0.050	0.050	0.048	0.048	0.050	0.050
					RPM	8500	5550	5150	3800	3150	2550	2300	1700	1350	1150	1050	950	700
					FEED	65	85	100	120	155	160	190	170	135	110	100	95	70
M	14.1	Stainless steel	1.0D	Up to D3 : 0.2D D3~D20 : 0.5D	Vc	22	26	27	30	33	34	37	36	36	36	37	35	35
					fz	0.003	0.007	0.009	0.016	0.025	0.031	0.040	0.053	0.059	0.058	0.059	0.068	0.064
					RPM	7150	5600	4300	3150	2650	2150	1950	1450	1150	950	850	700	550
					FEED	50	80	80	100	130	135	155	155	135	110	100	95	70
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	1.0D	Vc	59	57	59	57	58	57	56	55	58	55	57	55	57
					fz	0.005	0.008	0.012	0.018	0.024	0.030	0.043	0.063	0.077	0.102	0.119	0.145	0.189
					RPM	18700	12100	9350	6050	4600	3650	2950	2200	1850	1450	1300	1100	900
					FEED	205	205	220	220	220	220	255	275	285	295	310	320	340
N	21~22	Aluminum-wrought alloy	1.0D	1.0D	Vc	138	130	138	145	138	144	143	143	145	141	145	143	138
					fz	0.004	0.007	0.010	0.015	0.021	0.025	0.032	0.043	0.053	0.065	0.073	0.085	0.110
					RPM	44000	27500	22000	15400	11000	9150	7600	5700	4600	3750	3300	2850	2200
					FEED	330	385	460	460	460	460	485	485	485	485	485	485	485
	23~25	Aluminum-cast, alloyed	1.0D	1.0D	Vc	138	130	138	145	138	144	143	143	145	141	145	143	138
					fz	0.004	0.007	0.010	0.015	0.021	0.025	0.032	0.043	0.053	0.065	0.073	0.085	0.110
					RPM	44000	27500	22000	15400	11000	9150	7600	5700	4600	3750	3300	2850	2200
					FEED	330	385	460	460	460	460	485	485	485	485	485	485	485
H	38.1	Hardened steel	1.0D	Up to D3 : 0.2D D3~D20 : 0.5D	Vc	27	26	32	36	40	40	43	43	42	43	46	48	44
					fz	0.004	0.008	0.010	0.016	0.025	0.031	0.041	0.050	0.050	0.048	0.048	0.050	0.050
					RPM	8500	5550	5150	3800	3150	2550	2300	1700	1350	1150	1050	950	700
					FEED	65	85	100	120	155	160	190	170	135	110	100	95	70
	40	Chilled Cast Iron	1.0D	Up to D3 : 0.2D D3~D20 : 0.5D	Vc	27	26	32	36	40	40	43	43	42	43	46	48	44
					fz	0.004	0.008	0.010	0.016	0.025	0.031	0.041	0.050	0.050	0.048	0.048	0.050	0.050
					RPM	8500	5550	5150	3800	3150	2550	2300	1700	1350	1150	1050	950	700
					FEED	65	85	100	120	155	160	190	170	135	110	100	95	70

※ The FEED, in long & extra long types, should be reduced by around 50%
对于长型合超长型进给量应该减少约50%



CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

K-2 plus & K-2 END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

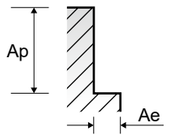
EMC54, EMC55 SERIES

4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
P	1-4	Non-alloy steel	0.1D	1.0D	Vc	55	56	62	72	81	84	90	89	86	89	92	93	91
					fz	0.002	0.005	0.006	0.009	0.019	0.024	0.029	0.043	0.047	0.047	0.047	0.047	0.047
					RPM	17600	11800	9850	7600	6450	5350	4750	3550	2750	2350	2100	1850	1450
					FEED	150	215	240	270	485	510	560	605	520	440	395	350	270
	5		0.1D	1.0D	Vc	32	33	41	45	50	50	54	54	53	55	57	58	57
					fz	0.002	0.004	0.006	0.009	0.019	0.024	0.031	0.038	0.038	0.037	0.038	0.037	0.038
					RPM	10250	7050	6450	4750	3950	3200	2850	2150	1700	1450	1300	1150	900
					FEED	85	115	145	170	300	305	350	325	255	215	195	170	135
	6-7	Low alloy steel	0.1D	1.0D	Vc	55	56	62	72	81	84	90	89	86	89	92	93	91
					fz	0.002	0.005	0.006	0.009	0.019	0.024	0.029	0.043	0.047	0.047	0.047	0.047	0.047
					RPM	17600	11800	9850	7600	6450	5350	4750	3550	2750	2350	2100	1850	1450
					FEED	150	215	240	270	485	510	560	605	520	440	395	350	270
	8-9		0.1D	1.0D	Vc	32	33	41	45	50	50	54	54	53	55	57	58	57
					fz	0.002	0.004	0.006	0.009	0.019	0.024	0.031	0.038	0.038	0.037	0.038	0.037	0.038
					RPM	10250	7050	6450	4750	3950	3200	2850	2150	1700	1450	1300	1150	900
					FEED	85	115	145	170	300	305	350	325	255	215	195	170	135
	10	High alloyed steel, and tool steel	0.1D	1.0D	Vc	55	56	62	72	81	84	90	89	86	89	92	93	91
					fz	0.002	0.005	0.006	0.009	0.019	0.024	0.029	0.043	0.047	0.047	0.047	0.047	0.047
					RPM	17600	11800	9850	7600	6450	5350	4750	3550	2750	2350	2100	1850	1450
					FEED	150	215	240	270	485	510	560	605	520	440	395	350	270
	11.1 ~ 11.2		0.1D	1.0D	Vc	32	33	41	45	50	50	54	54	53	55	57	58	57
					fz	0.002	0.004	0.006	0.009	0.019	0.024	0.031	0.038	0.038	0.037	0.038	0.037	0.038
					RPM	10250	7050	6450	4750	3950	3200	2850	2150	1700	1450	1300	1150	900
					FEED	85	115	145	170	300	305	350	325	255	215	195	170	135
M	14.1	Stainless steel	0.1D	1.0D	Vc	27	33	34	37	41	42	45	45	46	43	46	48	44
					fz	0.002	0.004	0.006	0.009	0.018	0.024	0.029	0.042	0.044	0.045	0.045	0.045	0.046
					RPM	8650	7050	5350	3950	3300	2700	2400	1800	1450	1150	1050	950	700
					FEED	75	120	120	145	240	255	280	300	255	205	190	170	130
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	1.5D	Vc	59	57	59	57	58	57	56	55	58	55	57	55	57
					fz	0.008	0.013	0.017	0.026	0.035	0.044	0.065	0.093	0.116	0.155	0.182	0.220	0.288
					RPM	18700	12100	9350	6050	4600	3650	2950	2200	1850	1450	1300	1100	900
					FEED	620	620	640	640	640	640	770	815	860	900	945	970	1035
N	21~22	Aluminum-wrought alloy	0.1D	1.5D	Vc	138	130	138	145	138	144	143	143	145	141	145	143	138
					fz	0.006	0.011	0.015	0.021	0.030	0.036	0.047	0.063	0.078	0.095	0.108	0.125	0.163
					RPM	44000	27500	22000	15400	11000	9150	7600	5700	4600	3750	3300	2850	2200
					FEED	1050	1160	1320	1320	1320	1320	1430	1430	1430	1430	1430	1430	1430
	23~25	Aluminum-cast, alloyed	0.1D	1.5D	Vc	138	130	138	145	138	144	143	143	145	141	145	143	138
					fz	0.006	0.011	0.015	0.021	0.030	0.036	0.047	0.063	0.078	0.095	0.108	0.125	0.163
					RPM	44000	27500	22000	15400	11000	9150	7600	5700	4600	3750	3300	2850	2200
					FEED	1050	1160	1320	1320	1320	1320	1430	1430	1430	1430	1430	1430	1430
H	38.1	Hardened steel	0.1D	1.0D	Vc	32	33	41	45	50	50	54	54	53	55	57	58	57
					fz	0.002	0.004	0.006	0.009	0.019	0.024	0.031	0.038	0.038	0.037	0.038	0.037	0.038
					RPM	10250	7050	6450	4750	3950	3200	2850	2150	1700	1450	1300	1150	900
					FEED	85	115	145	170	300	305	350	325	255	215	195	170	135
	40	Chilled Cast Iron	0.1D	1.0D	Vc	32	33	41	45	50	50	54	54	53	55	57	58	57
					fz	0.002	0.004	0.006	0.009	0.019	0.024	0.031	0.038	0.038	0.037	0.038	0.037	0.038
					RPM	10250	7050	6450	4750	3950	3200	2850	2150	1700	1450	1300	1150	900
					FEED	85	115	145	170	300	305	350	325	255	215	195	170	135

※ The FEED, in long & extra long types, should be reduced by around 50%
对于长型合超长型进给量应该减少约50%



K-2 plus & K-2 END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

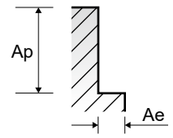
EMC57, EMC58 SERIES

4&6 FLUTE - SIDE CUTTING
4&6刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	1-4	Non-alloy steel	0.05D	1.5D	Vc	60	82	82	83	98	98	98	97	99	98	97
					fz	0.009	0.016	0.024	0.033	0.026	0.030	0.038	0.045	0.053	0.062	0.069
					RPM	19000	13000	8650	6600	6250	5175	3900	3075	2625	1950	1550
					FEED	693	825	825	858	990	924	891	831	831	726	641
	5		0.05D	1.5D	Vc	40	55	54	55	65	65	65	64	66	65	64
					fz	0.009	0.016	0.024	0.033	0.027	0.030	0.038	0.045	0.053	0.062	0.070
					RPM	12750	8750	5750	4400	4150	3450	2600	2050	1750	1300	1025
					FEED	468	555	555	581	660	627	594	555	555	482	429
	6-7	Low alloy steel	0.05D	1.5D	Vc	60	82	82	83	98	98	98	97	99	98	97
					fz	0.009	0.016	0.024	0.033	0.026	0.030	0.038	0.045	0.053	0.062	0.069
					RPM	19000	13000	8650	6600	6250	5175	3900	3075	2625	1950	1550
					FEED	693	825	825	858	990	924	891	831	831	726	641
	8-9		0.05D	1.5D	Vc	40	55	54	55	65	65	65	64	66	65	64
					fz	0.009	0.016	0.024	0.033	0.027	0.030	0.038	0.045	0.053	0.062	0.070
					RPM	12750	8750	5750	4400	4150	3450	2600	2050	1750	1300	1025
					FEED	468	555	555	581	660	627	594	555	555	482	429
	10	High alloyed steel, and tool steel	0.05D	1.5D	Vc	60	82	82	83	98	98	98	97	99	98	97
					fz	0.009	0.016	0.024	0.033	0.026	0.030	0.038	0.045	0.053	0.062	0.069
					RPM	19000	13000	8650	6600	6250	5175	3900	3075	2625	1950	1550
					FEED	693	825	825	858	990	924	891	831	831	726	641
	11.1 ~ 11.2		0.03D	1.5D	Vc	40	55	54	55	65	65	65	64	66	65	64
					fz	0.009	0.016	0.024	0.033	0.027	0.030	0.038	0.045	0.053	0.062	0.070
					RPM	12750	8750	5750	4400	4150	3450	2600	2050	1750	1300	1025
					FEED	468	555	555	581	660	627	594	555	555	482	429
H	38.1	Hardened steel	0.03D	1.5D	Vc	40	55	54	55	65	65	65	64	66	65	64
					fz	0.009	0.016	0.024	0.033	0.027	0.030	0.038	0.045	0.053	0.062	0.070
					RPM	12750	8750	5750	4400	4150	3450	2600	2050	1750	1300	1025
					FEED	468	555	555	581	660	627	594	555	555	482	429
	38.2		0.03D	1.5D	Vc	32	46	45	45	50	50	50	50	69	50	50
					fz	0.007	0.012	0.018	0.025	0.020	0.023	0.029	0.033	0.029	0.046	0.052
					RPM	10250	7250	4750	3600	3200	2650	2000	1600	1825	1000	800
					FEED	284	344	344	357	383	369	344	317	317	278	251
	40	Chilled Cast Iron	0.03D	1.5D	Vc	40	55	54	55	65	65	65	64	66	65	64
					fz	0.009	0.016	0.024	0.033	0.027	0.030	0.038	0.045	0.053	0.062	0.070
					RPM	12750	8750	5750	4400	4150	3450	2600	2050	1750	1300	1025
					FEED	468	555	555	581	660	627	594	555	555	482	429
	41	Hardened Cast Iron	0.03D	1.5D	Vc	32	46	45	45	50	50	50	50	69	50	50
					fz	0.007	0.012	0.018	0.025	0.020	0.023	0.029	0.033	0.029	0.046	0.052
					RPM	10250	7250	4750	3600	3200	2650	2000	1600	1825	1000	800
					FEED	284	344	344	357	383	369	344	317	317	278	251

※ The FEED, in long & extra long types, should be reduced by around 50%
对于长型合超长型进给量应该减少约50%



K-2 plus & K-2 END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

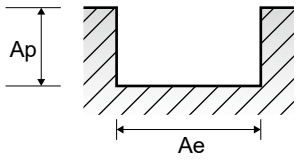
EMC69 SERIES

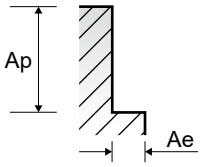
Multi Flute Roughing - SLOTTING / SIDE CUTTING
多刃 粗加工 - 槽铣削 / 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	SLOTTING 槽铣削 - Diameter (Ø) 直径 6.0	8.0	10.0	12.0	16.0	20.0	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	SIDE CUTTING 侧铣削 - Diameter (Ø) 直径 6.0	8.0	10.0	12.0	16.0	20.0
P	1-4	1.0D	0.5D	Vc	278	275	273	285	285	285	0.3D	1.5D	Vc	278	275	273	285	285	285
				fz	0.041	0.055	0.069	0.082	0.088	0.083			fz	0.041	0.055	0.069	0.082	0.088	0.083
				RPM	14740	10960	8690	7560	5670	4540			RPM	14740	10960	8690	7560	5670	4540
				FEED	2410	2410	2410	2490	2490	2250			FEED	2410	2410	2410	2490	2490	2250
	5	1.0D	0.5D	Vc	221	218	226	214	228	214	0.3D	1.5D	Vc	221	218	226	214	228	214
				fz	0.019	0.025	0.030	0.037	0.035	0.029			fz	0.019	0.025	0.030	0.037	0.035	0.029
				RPM	11720	8690	7180	5670	4540	3400			RPM	11720	8690	7180	5670	4540	3400
				FEED	870	870	870	830	790	585			FEED	870	870	870	830	790	590
	6-7	1.0D	0.5D	Vc	278	275	273	285	285	285	0.3D	1.5D	Vc	278	275	273	285	285	285
				fz	0.041	0.055	0.069	0.082	0.088	0.083			fz	0.041	0.055	0.069	0.082	0.088	0.083
				RPM	14740	10960	8690	7560	5670	4540			RPM	14740	10960	8690	7560	5670	4540
				FEED	2410	2410	2410	2490	2490	2250			FEED	2410	2410	2410	2490	2490	2250
	8-9	1.0D	0.5D	Vc	221	218	226	214	228	214	0.3D	1.5D	Vc	221	218	226	214	228	214
				fz	0.019	0.025	0.030	0.037	0.035	0.029			fz	0.019	0.025	0.030	0.037	0.035	0.029
				RPM	11720	8690	7180	5670	4540	3400			RPM	11720	8690	7180	5670	4540	3400
				FEED	870	870	870	830	790	585			FEED	870	870	870	830	790	590
	10	1.0D	0.5D	Vc	278	275	273	285	285	285	0.3D	1.5D	Vc	278	275	273	285	285	285
				fz	0.041	0.055	0.069	0.082	0.088	0.083			fz	0.041	0.055	0.069	0.082	0.088	0.083
				RPM	14740	10960	8690	7560	5670	4540			RPM	14740	10960	8690	7560	5670	4540
				FEED	2410	2410	2410	2490	2490	2250			FEED	2410	2410	2410	2490	2490	2250
	11.1 - 11.2	1.0D	0.5D	Vc	221	218	226	214	228	214	0.3D	1.5D	Vc	221	218	226	214	228	214
				fz	0.019	0.025	0.030	0.037	0.035	0.029			fz	0.019	0.025	0.030	0.037	0.035	0.029
				RPM	11720	8690	7180	5670	4540	3400			RPM	11720	8690	7180	5670	4540	3400
				FEED	870	870	870	830	790	585			FEED	870	870	870	830	790	590
M	14.1	1.0D	-	Vc	150	150	151	150	157	143	-	1.5D	Vc	150	150	151	150	157	143
				fz	0.019	0.025	0.031	0.037	0.034	0.027			fz	0.019	0.025	0.031	0.037	0.034	0.027
				RPM	7940	5950	4820	3970	3120	2270			RPM	7940	5950	4820	3970	3120	2270
				FEED	600	600	590	590	530	370			FEED	600	600	590	590	530	370
				Ap	0.25D	0.25D	0.25D	0.15D	0.15D	0.10D			Ae	0.25D	0.25D	0.25D	0.15D	0.15D	0.10D
S	31-35	1.0D	0.5D	Vc	51	51	46	51	45	46	0.05D	1.0D	Vc	51	51	46	51	45	46
				fz	0.024	0.030	0.045	0.048	0.033	0.030			fz	0.024	0.030	0.045	0.048	0.033	0.030
				RPM	2700	2025	1460	1350	900	740			RPM	2700	2025	1460	1350	900	740
				FEED	260	240	260	260	150	135			FEED	260	240	260	260	150	135
H	40	1.0D	0.3D	Vc	221	218	226	214	228	214	0.3D	1.0D	Vc	221	218	226	214	228	214
				fz	0.019	0.025	0.030	0.037	0.035	0.029			fz	0.019	0.025	0.030	0.037	0.035	0.029
				RPM	11720	8690	7180	5670	4540	3400			RPM	11720	8690	7180	5670	4540	3400
				FEED	870	870	870	830	790	585			FEED	870	870	870	830	790	590

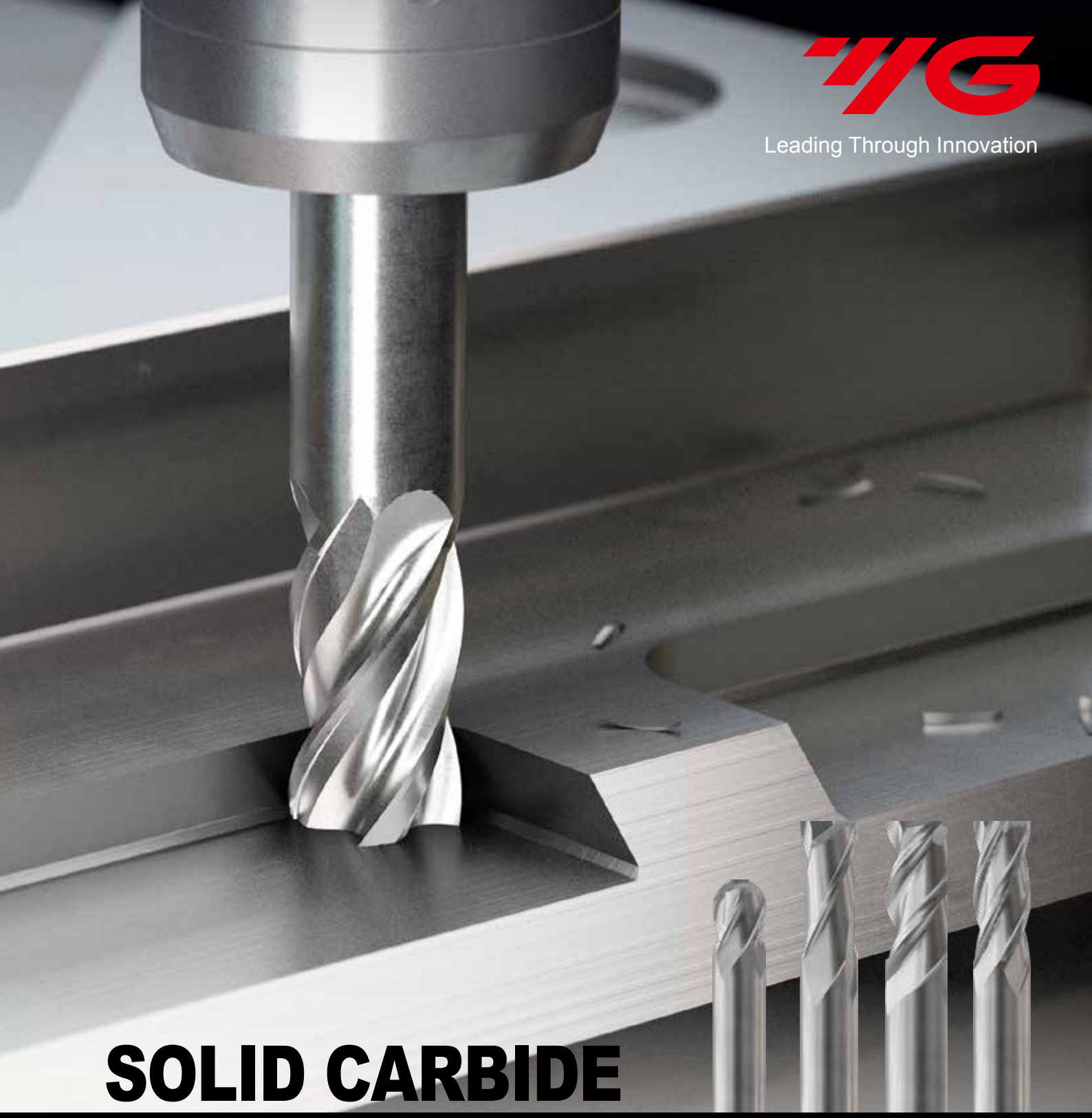
※ The FEED, in long & extra long types, should be reduced by around 50%
对于长型合超长型进给量应该减少约50%





YG

Leading Through Innovation



SOLID CARBIDE
GENERAL CARBIDE
END MILLS

- General Purposes, Non-coated, Any Coating Available
- 适用于普通加工，非涂层及任何涂层都可以提供

SELECTION GUIDE
选用指南

MILLING TOOLS

SOLID CARBIDE
GENERAL CARBIDE END MILLS

General Purposes, Non-coated, Any Coating Available

适用于普通加工，非涂层及任何涂层都可以提供

Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工参数) : p.C512

ISO	VDI 3323	Material Description 工件材料	Composition / Structure / Heat Treatment 成分 / 结构 / 热处理		HB	HRc	E5414	E5524	E5401	E5423	E5402
							SERIES 系列				
							FLUTE 槽数	2	4	2	3	4
							HELIX ANGLE 螺旋角度	30°	30°	30°	45°	30°
							CUTTING EDGE SHAPE 类型	BALL NOSE	BALL NOSE	SQUARE	SQUARE	SQUARE
							SIZE MIN 最小尺寸	R0.2	R1.0	D0.4	D3.0	D1.5
							SIZE MAX 最大尺寸	R10.0	R10.0	D20.0	D20.0	D20.0
							PAGE 页数	C507	C508	C509	C510	C511
								-	SHORT LENGTH	STANDARD	SHORT LENGTH	STANDARD
								Uncoated	Uncoated	Uncoated	Uncoated	Uncoated
P	1	Non-alloy steel	About 0.15% C	Annealed	125			◎	◎	◎	◎	◎
	2		About 0.45% C	Annealed	190	13		◎	◎	◎	◎	◎
	3		About 0.45% C	Quenched & Tempered	250	25		◎	◎	◎	◎	◎
	4		About 0.75% C	Annealed	270	28		◎	◎	◎	◎	◎
	5		About 0.75% C	Quenched & Tempered	300	32		◎	◎	◎	◎	◎
	6	Low alloy steel		Annealed	180	10		◎	◎	◎	◎	◎
	7			Quenched & Tempered	275	29		◎	◎	◎	◎	◎
	8			Quenched & Tempered	300	32		◎	◎	◎	◎	◎
	9			Quenched & Tempered	350	38		◎	◎	◎	◎	◎
	10	High alloyed steel, and tool steel		Annealed	200	15		◎	◎	◎	◎	◎
	11			Quenched & Tempered	325	35		◎	◎	◎	◎	◎
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15				○	○	○
	13		Martensitic	Quenched & Tempered	240	23				○	○	○
	14		Austenitic		180	10				○	○	○
K	15	Grey cast iron	Pearlitic / ferritic		180	10	○	○	○	○	○
	16		Pearlitic (Martensitic)		260	26	○	○	○	○	○
	17	Nodular cast iron	Ferritic		160	3	○	○	○	○	○
	18		Pearlitic		250	25	○	○	○	○	○
	19	Malleable cast iron	Ferritic		130		○	○	○	○	○
	20		Pearlitic		230	21	○	○	○	○	○
N	21	Aluminum-wrought alloy	Not Curable		60		○	○	○	○	○
	22		Curable	Hardened	100		○	○	○	○	○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75		○	○	○	○	○
	24		≤ 12% Si, Curable	Hardened	90		○	○	○	○	○
	25		> 12% Si, Not Curable		130		○	○	○	○	○
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110				○	○	○
	27		CuZn, CuSnZn (Brass)		90				○	○	○
	28		CuSn, lead-free copper and electrolytic copper		100				○	○	○
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic								
	30		Rubber, Wood, etc.								
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15					
	32			Cured	280	30					
	33		Ni or Co Based	Annealed	250	25					
	34			Cured	350	38					
	35			Cast	320	34					
	36	Titanium Alloys	Pure Titanium		400 Rm				○		○
	37		Alpha + Beta Alloys	Hardened	1050 Rm				○		○
H	38	Hardened steel		Hardened	550	55					
	39			Hardened	630	60					
	40	Chilled Cast Iron		Cast	400	42					
	41	Hardened Cast Iron		Hardened	550	55					

BALL NOSE = 球头　SQUARE = 平头　SHORT LENGTH= 短刃　STANDARD = 标准　Uncoated = 非涂层

GENERAL CARBIDE END MILLS

PLAIN SHANK **E5414 SERIES**

CARBIDE, 2 FLUTE BALL NOSE
硬质合金，2刃 球头

▶ The raw materials in micro grain grade has excellent wear resistance as well as great toughness and rigidity which is the same as normal carbide. Designed for cutting hardened & high alloy steels, steel casting, chill casting, malleable cast iron, CrNi-steels, brass, copper, aluminum with a high percentage of silicon and abrasive plastics.

▶ 这种微粒硬质合金具有很好的耐磨性，同时也具有普通硬质合金一样的韧性和刚性，适于切削高硬质合金钢，铸铁，冷铸件，可锻铸铁，铬镍合金，青铜，黄铜，硅含量大的铝和耐磨塑料。

CARBIDE | 2 | 30° | R ±0.02 | PLAIN

p.C512~513

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
◎	-	-	SHRINK FIT HOLDER	D47 - 72
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R (±0.02)	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
▲ E5414004	R0.2	0.4	3	0.8	50
▲ E5414006	R0.3	0.6	3	1.2	50
▲ E5414008	R0.4	0.8	3	1.6	50
▲ E5414901	R0.5	1.0	6	3	50
▲ E5414902	R1.0	2.0	6	6	50
▲ E5414030	R1.5	3.0	6	8	60
▲ E5414040	R2.0	4.0	6	11	70
▲ E5414050	R2.5	5.0	6	13	80
▲ E5414060	R3.0	6.0	6	13	80
▲ E5414070	R3.5	7.0	8	16	90
▲ E5414080	R4.0	8.0	8	19	90
▲ E5414090	R4.5	9.0	10	19	100
▲ E5414100	R5.0	10.0	10	22	100
▲ E5414120	R6.0	12.0	12	26	110
▲ E5414140	R7.0	14.0	14	26	120
▲ E5414160	R8.0	16.0	16	30	120
▲ E5414200	R10.0	20.0	20	38	130

▲ : Only available till stock runs out 只提供到消耗现库存

▶ TiCN-COATING & TiAlN-COATING are available on your request.
按客户需求，可以提供TiCN涂层&TiAlN涂层

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○																

GENERAL CARBIDE END MILLS

FLAT SHANK **E5524** SERIES

CARBIDE, 4 FLUTE SHORT LENGTH BALL NOSE
硬质合金，2刃 短刃 球头

CARBIDE | YG STD | N | 4 | 30° | R ±0.02 | DIN 6535HB | p.C514 ~515

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
◎	-	-	SHRINK FIT HOLDER	D47 - 72
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	ITEM No. 系列号	Radius of Ball Nose 圆弧角 R (±0.02)	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
▲ E5524020	T4GRB-020AF	R1.0	**2.0**	6	4	48
▲ E5524030	T4GRB-030AF	R1.5	**3.0**	6	4	48
▲ E5524040	T4GRB-040AF	R2.0	**4.0**	6	6	50
▲ E5524050	T4GRB-050AF	R2.5	**5.0**	6	7	51
▲ E5524080	T4GRB-080AF	R4.0	**8.0**	8	9	59
▲ E5524100	T4GRB-100AF	R5.0	**10.0**	10	10	60
▲ E5524120	T4GRB-120AF	R6.0	**12.0**	12	14	71
▲ E5524160	T4GRB-160AF	R8.0	**16.0**	16	16	76
▲ E5524180	T4GRB-180AF	R9.0	**18.0**	18	18	76
▲ E5524200	T4GRB-200AF	R10.0	**20.0**	20	20	82

▲ : Only available till stock runs out 只提供到消耗现库存

▶ TiCN-COATING & TiAlN-COATING are available on your request.
按客户需求，可以提供TiCN涂层&TiAlN涂层

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

Tolerance range in μm / 公差单位为 Nominal-Diameter in mm / 直径单位为					
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30
h10	0 - 40	0 - 48	0 - 58	0 - 70	0 - 84
h5	0 - 4	0 - 5	0 - 6	0 - 8	0 - 9

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				○	○	○	○	○	○

ISO	N										S								H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○																

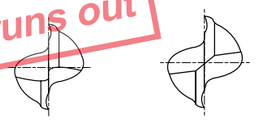
GENERAL CARBIDE END MILLS

PLAIN SHANK **E5401** SERIES

CARBIDE, 2 FLUTE STANDARD
硬质合金，2刃 标准

▶ The raw materials in micro grain grade has excellent wear resistance as well as great toughness and rigidity which is the same as normal carbide. Designed for cutting hardened & high alloy steels, steel casting, chill casting, malleable cast iron, CrNi-steels, brass, copper, aluminum with a high percentage of silicon and abrasive plastics.

▶ 这种微粒硬质合金具有很好的耐磨性，同时也具有普通硬质合金一样的韧性和刚性，适于切削高硬质合金钢，铸铁，冷铸件，可锻铸铁，铬镍合金，青铜，黄铜，硅含量大的铝和耐磨塑料。



CARBIDE | 2 | 30° | PLAIN | p.C516~517

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
◎	-	-	SHRINK FIT HOLDER	D47 - 72
○	-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
▲ E5401004	**0.4**	3	1	38
▲ E5401005	**0.5**	3	1.5	38
▲ E5401006	**0.6**	3	1.5	38
▲ E5401008	**0.8**	3	2	38
▲ E5401010	**1.0**	4	3	40
▲ E5401915	**1.5**	6	5	40
▲ E5401015	**1.5**	4	5	40
▲ E5401020	**2.0**	4	6	40
▲ E5401920	**2.0**	6	6	40
▲ E5401030	**3.0**	6	8	45
▲ E5401040	**4.0**	6	11	45
▲ E5401050	**5.0**	6	13	50
▲ E5401060	**6.0**	6	13	50
▲ E5401080	**8.0**	8	19	60
▲ E5401090	**9.0**	10	19	70
▲ E5401100	**10.0**	10	22	70
▲ E5401110	**11.0**	12	22	75
▲ E5401120	**12.0**	12	26	75
▲ E5401160	**16.0**	16	25	75
▲ E5401180	**18.0**	18	32	100
▲ E5401200	**20.0**	20	32	100

▲ : Only available till stock runs out 只提供到消耗现库存

▶ TiCN-COATING & TiAlN-COATING are available on your request.
按客户需求，可以提供TiCN涂层&TiAlN涂层

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO	N										S								H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○																

GENERAL CARBIDE END MILLS

PLAIN SHANK **E5423** SERIES

CARBIDE, 3 FLUTE 45°HELIX SHORT LENGTH
硬质合金，3刃 45度螺旋 短刃

CARBIDE | YG STD | N | 3 | 45° | DIN 6535HA

p.C518-519

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
-	-		SHRINK FIT HOLDER	D47 - 72
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	ITEM No. 系列号	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
▲ E5423030	T3ERS-030A	3.0	6	8	45
▲ E5423040	T3ERS-040A	4.0	6	11	45
▲ E5423050	T3ERS-050A	5.0	6	13	50
▲ E5423060	T3ERS-060Z	6.0	6	13	50
▲ E5423080	T3ERS-080Z	8.0	8	19	60
▲ E5423100	T3ERS-100Z	10.0	10	22	70
▲ E5423120	T3ERS-120Z	12.0	12	26	75
▲ E5423140	T3ERS-140Z	14.0	14	26	75
▲ E5423160	T3ERS-160Z	16.0	16	25	75
▲ E5423200	T3ERS-200Z	20.0	20	32	100

▲ : Only available till stock runs out 只提供到消耗现库存

▶ TiCN-COATING & TiAlN-COATING are available on your request.
按客户需求，可以提供TiCN涂层&TiAlN涂层

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

Tolerance range in ㎛ / 公差单位为 Nominal-Diameter in mm / 直径单位为					
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30
h10	0 - 40	0 - 48	0 - 58	0 - 70	0 - 84
h5	0 - 4	0 - 5	0 - 6	0 - 8	0 - 9

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○													

GENERAL CARBIDE END MILLS

PLAIN SHANK **E5402** SERIES

CARBIDE, 4 FLUTE STANDARD
硬质合金，4刃 标准

▶ The raw materials in micro grain grade has excellent wear resistance as well as great toughness and rigidity which is the same as normal carbide. Designed for cutting hardened & high alloy steels, steel casting, chill casting, malleable cast iron, CrNi-steels, brass, copper, aluminum with a high percentage of silicon and abrasive plastics.

▶ 这种微粒硬质合金具有很好的耐磨性，同时也具有普通硬质合金一样的韧性和刚性，适于切削高硬质合金钢，铸铁，冷铸件，可锻铸铁，铬镍合金，青铜，黄铜，硅含量大的铝和耐磨塑料。

CARBIDE | 4 | 30° | PLAIN

p.C520~521

Recommended ToolHolder

Flat Shank		Page	Plain Shank	Page
END MILL HOLDER	D118 - 137		HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
-	-		SHRINK FIT HOLDER	D47 - 72
-	-		ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
▲ E5402015	1.5	4	5	40
▲ E5402020	2.0	4	6	40
▲ E5402025	2.5	4	8	40
▲ E5402030	3.0	6	8	45
▲ E5402035	3.5	6	10	45
▲ E5402040	4.0	6	11	45
▲ E5402045	4.5	6	11	45
▲ E5402050	5.0	6	13	50
▲ E5402055	5.5	6	13	50
▲ E5402060	6.0	6	13	50
▲ E5402080	8.0	8	19	60
▲ E5402090	9.0	10	19	70
▲ E5402100	10.0	10	22	70
▲ E5402110	11.0	12	22	75
▲ E5402120	12.0	12	26	75
▲ E5402140	14.0	14	26	75
▲ E5402160	16.0	16	25	75
▲ E5402180	18.0	18	32	100
▲ E5402200	20.0	20	32	100

▲ : Only available till stock runs out 只提供到消耗现库存

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○													

GENERAL CARBIDE END MILLS

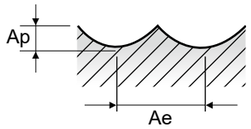
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

E5414 SERIES — 2 FLUTE BALL NOSE / 2刃 球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
P	1-4	Non-alloy steel	0.7D	0.3D	Vc	33	33	33	33	32	32	31	33	33	33	33	31
					fz	0.009	0.014	0.019	0.025	0.029	0.037	0.048	0.049	0.057	0.065	0.073	0.085
					RPM	5200	3500	2600	2100	1700	1270	1000	870	750	650	580	500
					FEED	90	100	100	105	100	95	95	85	85	85	85	85
	5		0.7D	0.3D	Vc	28	27	26	27	27	28	27	28	27	27	27	27
					fz	0.005	0.008	0.011	0.013	0.016	0.020	0.026	0.031	0.036	0.042	0.047	0.052
					RPM	4400	2900	2100	1700	1430	1100	870	730	620	540	480	430
					FEED	45	45	45	45	45	45	45	45	45	45	45	45
	6-7	Low alloy steel	0.7D	0.3D	Vc	33	33	33	33	32	32	31	33	33	33	33	31
					fz	0.009	0.014	0.019	0.025	0.029	0.037	0.048	0.049	0.057	0.065	0.073	0.085
					RPM	5200	3500	2600	2100	1700	1270	1000	870	750	650	580	500
					FEED	90	100	100	105	100	95	95	85	85	85	85	85
	8-9		0.7D	0.3D	Vc	28	27	26	27	27	28	27	28	27	27	27	27
					fz	0.005	0.008	0.011	0.013	0.016	0.020	0.026	0.031	0.036	0.042	0.047	0.052
					RPM	4400	2900	2100	1700	1430	1100	870	730	620	540	480	430
					FEED	45	45	45	45	45	45	45	45	45	45	45	45
	10	High alloyed steel, and tool steel	0.7D	0.3D	Vc	33	33	33	33	32	32	31	33	33	33	33	31
					fz	0.009	0.014	0.019	0.025	0.029	0.037	0.048	0.049	0.057	0.065	0.073	0.085
					RPM	5200	3500	2600	2100	1700	1270	1000	870	750	650	580	500
					FEED	90	100	100	105	100	95	95	85	85	85	85	85
	11.1		0.7D	0.3D	Vc	28	27	26	27	27	28	27	28	27	27	27	27
					fz	0.005	0.008	0.011	0.013	0.016	0.020	0.026	0.031	0.036	0.042	0.047	0.052
					RPM	4400	2900	2100	1700	1430	1100	870	730	620	540	480	430
					FEED	45	45	45	45	45	45	45	45	45	45	45	45
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.7D	0.3D	Vc	46	46	45	46	45	45	45	45	44	46	46	46
					fz	0.010	0.016	0.028	0.040	0.052	0.089	0.112	0.133	0.163	0.177	0.201	0.199
					RPM	7300	4900	3600	2900	2400	1800	1430	1200	1000	920	810	730
					FEED	150	160	200	230	250	320	320	320	325	325	325	290
N	21~22	Aluminum-wrought alloy	0.7D	0.3D	Vc	135	135	137	138	137	138	135	136	132	136	136	132
					fz	0.007	0.010	0.013	0.019	0.023	0.035	0.044	0.061	0.073	0.070	0.079	0.090
					RPM	21500	14300	10900	8800	7260	5500	4300	3600	3000	2700	2400	2100
					FEED	280	280	280	330	330	380	380	440	440	380	380	380
	23~25	Aluminum-cast, alloyed	0.7D	0.3D	Vc	135	135	137	138	137	138	135	136	132	136	136	132
					fz	0.007	0.010	0.013	0.019	0.023	0.035	0.044	0.061	0.073	0.070	0.079	0.090
					RPM	21500	14300	10900	8800	7260	5500	4300	3600	3000	2700	2400	2100
					FEED	280	280	280	330	330	380	380	440	440	380	380	380

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给



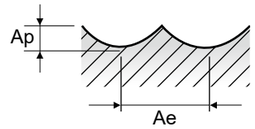
GENERAL CARBIDE END MILLS

E5414 SERIES — 2 FLUTE BALL NOSE (TiAlN-COATED) / 2刃 球头 (TiAlN 涂层)

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
P	1-4	Non-alloy steel	0.7D	0.3D	Vc	46	46	46	46	45	45	44	46	46	46	46	44
					fz	0.009	0.014	0.019	0.025	0.029	0.038	0.048	0.049	0.057	0.066	0.074	0.086
					RPM	7280	4900	3640	2940	2380	1780	1400	1220	1050	910	810	700
					FEED	125	140	140	145	140	135	135	120	120	120	120	120
	5		0.7D	0.3D	Vc	39	38	37	37	38	39	38	38	38	38	38	38
					fz	0.005	0.008	0.011	0.014	0.016	0.021	0.027	0.032	0.037	0.043	0.049	0.054
					RPM	6160	4060	2940	2380	2000	1540	1220	1020	870	755	670	600
					FEED	65	65	65	65	65	65	65	65	65	65	65	65
	6-7	Low alloy steel	0.7D	0.3D	Vc	46	46	46	46	45	45	44	46	46	46	46	44
					fz	0.009	0.014	0.019	0.025	0.029	0.038	0.048	0.049	0.057	0.066	0.074	0.086
					RPM	7280	4900	3640	2940	2380	1780	1400	1220	1050	910	810	700
					FEED	125	140	140	145	140	135	135	120	120	120	120	120
	8-9		0.7D	0.3D	Vc	39	38	37	37	38	39	38	38	38	38	38	38
					fz	0.005	0.008	0.011	0.014	0.016	0.021	0.027	0.032	0.037	0.043	0.049	0.054
					RPM	6160	4060	2940	2380	2000	1540	1220	1020	870	755	670	600
					FEED	65	65	65	65	65	65	65	65	65	65	65	65
	10	High alloyed steel, and tool steel	0.7D	0.3D	Vc	46	46	46	46	45	45	44	46	46	46	46	44
					fz	0.009	0.014	0.019	0.025	0.029	0.038	0.048	0.049	0.057	0.066	0.074	0.086
					RPM	7280	4900	3640	2940	2380	1780	1400	1220	1050	910	810	700
					FEED	125	140	140	145	140	135	135	120	120	120	120	120
	11.1		0.7D	0.3D	Vc	39	38	37	37	38	39	38	38	38	38	38	38
					fz	0.005	0.008	0.011	0.014	0.016	0.021	0.027	0.032	0.037	0.043	0.049	0.054
					RPM	6160	4060	2940	2380	2000	1540	1220	1020	870	755	670	600
					FEED	65	65	65	65	65	65	65	65	65	65	65	65
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.7D	0.3D	Vc	64	65	63	64	63	63	63	63	62	65	64	64
					fz	0.010	0.016	0.028	0.039	0.052	0.089	0.113	0.134	0.163	0.176	0.200	0.199
					RPM	10220	6860	5040	4060	3360	2520	2000	1680	1400	1290	1135	1020
					FEED	210	225	280	320	350	450	450	450	455	455	455	405
N	21~22	Aluminum-wrought alloy	0.7D	0.3D	Vc	189	189	192	194	192	194	189	190	185	190	190	185
					fz	0.006	0.010	0.013	0.019	0.023	0.034	0.044	0.061	0.073	0.070	0.079	0.090
					RPM	30100	20020	15260	12320	10165	7700	6020	5040	4200	3780	3360	2940
					FEED	390	390	390	460	460	530	530	615	615	530	530	530
	23~25	Aluminum-cast, alloyed	0.7D	0.3D	Vc	189	189	192	194	192	194	189	190	185	190	190	185
					fz	0.006	0.010	0.013	0.019	0.023	0.034	0.044	0.061	0.073	0.070	0.079	0.090
					RPM	30100	20020	15260	12320	10165	7700	6020	5040	4200	3780	3360	2940
					FEED	390	390	390	460	460	530	530	615	615	530	530	530

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给



GENERAL CARBIDE END MILLS

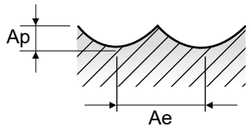
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

E5524 SERIES — 4 FLUTE BALL NOSE / 4刃 球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
P	1-4	Non-alloy steel	0.7D	0.3D	Vc	33	33	33	33	32	32	31	33	33	33	33	31
					fz	0.007	0.011	0.014	0.019	0.022	0.028	0.035	0.037	0.043	0.05	0.056	0.065
					RPM	5200	3500	2600	2100	1700	1270	1000	870	750	650	580	500
					FEED	140	150	150	160	150	140	140	130	130	130	130	130
	5		0.7D	0.3D	Vc	28	27	26	27	27	28	27	28	27	27	27	27
					fz	0.004	0.006	0.008	0.01	0.012	0.016	0.02	0.024	0.028	0.032	0.036	0.041
					RPM	4400	2900	2100	1700	1430	1100	870	730	620	540	480	430
					FEED	70	70	70	70	70	70	70	70	70	70	70	70
	6-7	Low alloy steel	0.7D	0.3D	Vc	33	33	33	33	32	32	31	33	33	33	33	31
					fz	0.007	0.011	0.014	0.019	0.022	0.028	0.035	0.037	0.043	0.05	0.056	0.065
					RPM	5200	3500	2600	2100	1700	1270	1000	870	750	650	580	500
					FEED	140	150	150	160	150	140	140	130	130	130	130	130
	8-9		0.7D	0.3D	Vc	28	27	26	27	27	28	27	28	27	27	27	27
					fz	0.004	0.006	0.008	0.01	0.012	0.016	0.02	0.024	0.028	0.032	0.036	0.041
					RPM	4400	2900	2100	1700	1430	1100	870	730	620	540	480	430
					FEED	70	70	70	70	70	70	70	70	70	70	70	70
	10	High alloyed steel, and tool steel	0.7D	0.3D	Vc	33	33	33	33	32	32	31	33	33	33	33	31
					fz	0.007	0.011	0.014	0.019	0.022	0.028	0.035	0.037	0.043	0.05	0.056	0.065
					RPM	5200	3500	2600	2100	1700	1270	1000	870	750	650	580	500
					FEED	140	150	150	160	150	140	140	130	130	130	130	130
	11.1		0.7D	0.3D	Vc	28	27	26	27	27	28	27	28	27	27	27	27
					fz	0.004	0.006	0.008	0.01	0.012	0.016	0.02	0.024	0.028	0.032	0.036	0.041
					RPM	4400	2900	2100	1700	1430	1100	870	730	620	540	480	430
					FEED	70	70	70	70	70	70	70	70	70	70	70	70
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.7D	0.3D	Vc	46	46	45	46	45	45	45	45	44	46	46	46
					fz	0.008	0.012	0.021	0.03	0.04	0.067	0.084	0.1	0.123	0.133	0.151	0.151
					RPM	7300	4900	3600	2900	2400	1800	1430	1200	1000	920	810	730
					FEED	230	240	300	350	380	480	480	480	490	490	490	440
N	21~22	Aluminum-wrought alloy	0.7D	0.3D	Vc	135	135	137	138	137	138	135	136	132	136	136	132
					fz	0.005	0.007	0.01	0.014	0.017	0.026	0.033	0.046	0.055	0.053	0.059	0.068
					RPM	21500	14300	10900	8800	7260	5500	4300	3600	3000	2700	2400	2100
					FEED	420	420	420	500	500	570	570	660	660	570	570	570
	23~25	Aluminum-cast, alloyed	0.7D	0.3D	Vc	135	135	137	138	137	138	135	136	132	136	136	132
					fz	0.005	0.007	0.01	0.014	0.017	0.026	0.033	0.046	0.055	0.053	0.059	0.068
					RPM	21500	14300	10900	8800	7260	5500	4300	3600	3000	2700	2400	2100
					FEED	420	420	420	500	500	570	570	660	660	570	570	570

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给



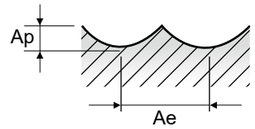
GENERAL CARBIDE END MILLS

E5524 SERIES — 4 FLUTE BALL NOSE (TiAlN-COATED) / 4刃 球头 (TiAlN 涂层)

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
P	1-4	Non-alloy steel	0.7D	0.3D	Vc	46	46	46	46	45	45	44	46	46	46	46	44
					fz	0.007	0.011	0.014	0.019	0.022	0.027	0.035	0.037	0.043	0.049	0.056	0.064
					RPM	7280	4900	3640	2940	2380	1780	1400	1220	1050	910	810	700
					FEED	195	210	210	225	210	195	195	180	180	180	180	180
	5		0.7D	0.3D	Vc	39	38	37	37	38	39	38	38	38	38	38	38
					fz	0.004	0.006	0.009	0.011	0.013	0.016	0.02	0.025	0.029	0.033	0.037	0.042
					RPM	6160	4060	2940	2380	2000	1540	1220	1020	870	755	670	600
					FEED	100	100	100	100	100	100	100	100	100	100	100	100
	6-7	Low alloy steel	0.7D	0.3D	Vc	46	46	46	46	45	45	44	46	46	46	46	44
					fz	0.007	0.011	0.014	0.019	0.022	0.027	0.035	0.037	0.043	0.049	0.056	0.064
					RPM	7280	4900	3640	2940	2380	1780	1400	1220	1050	910	810	700
					FEED	195	210	210	225	210	195	195	180	180	180	180	180
	8-9		0.7D	0.3D	Vc	39	38	37	37	38	39	38	38	38	38	38	38
					fz	0.004	0.006	0.009	0.011	0.013	0.016	0.02	0.025	0.029	0.033	0.037	0.042
					RPM	6160	4060	2940	2380	2000	1540	1220	1020	870	755	670	600
					FEED	100	100	100	100	100	100	100	100	100	100	100	100
	10	High alloyed steel, and tool steel	0.7D	0.3D	Vc	46	46	46	46	45	45	44	46	46	46	46	44
					fz	0.007	0.011	0.014	0.019	0.022	0.027	0.035	0.037	0.043	0.049	0.056	0.064
					RPM	7280	4900	3640	2940	2380	1780	1400	1220	1050	910	810	700
					FEED	195	210	210	225	210	195	195	180	180	180	180	180
	11.1		0.7D	0.3D	Vc	39	38	37	37	38	39	38	38	38	38	38	38
					fz	0.004	0.006	0.009	0.011	0.013	0.016	0.02	0.025	0.029	0.033	0.037	0.042
					RPM	6160	4060	2940	2380	2000	1540	1220	1020	870	755	670	600
					FEED	100	100	100	100	100	100	100	100	100	100	100	100
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.7D	0.3D	Vc	64	65	63	64	63	63	63	63	62	65	64	64
					fz	0.008	0.012	0.021	0.03	0.039	0.066	0.084	0.1	0.122	0.133	0.151	0.151
					RPM	10220	6860	5040	4060	3360	2520	2000	1680	1400	1290	1135	1020
					FEED	320	335	420	490	530	670	670	670	685	685	685	615
N	21~22	Aluminum-wrought alloy	0.7D	0.3D	Vc	189	189	192	194	192	194	189	190	185	190	190	185
					fz	0.005	0.007	0.01	0.014	0.017	0.026	0.033	0.046	0.055	0.053	0.06	0.068
					RPM	30100	20020	15260	12320	10165	7700	6020	5040	4200	3780	3360	2940
					FEED	590	590	590	700	700	800	800	925	925	800	800	800
	23~25	Aluminum-cast, alloyed	0.7D	0.3D	Vc	189	189	192	194	192	194	189	190	185	190	190	185
					fz	0.005	0.007	0.01	0.014	0.017	0.026	0.033	0.046	0.055	0.053	0.06	0.068
					RPM	30100	20020	15260	12320	10165	7700	6020	5040	4200	3780	3360	2940
					FEED	590	590	590	700	700	800	800	925	925	800	800	800

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给



GENERAL CARBIDE END MILLS

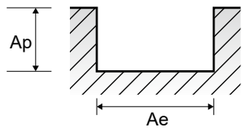
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

E5401 SERIES — **2 FLUTE - SLOTTING**
2刃 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
P	1-2	Non-alloy steel	1.0D	1.0D	Vc	35	35	35	35	34	35	35	34	35	35	35
					fz	0.007	0.012	0.016	0.020	0.025	0.032	0.041	0.050	0.056	0.071	0.091
					RPM	5500	3700	2800	2200	1800	1400	1100	900	800	700	550
					FEED	80	90	90	90	90	90	90	90	90	100	100
	3-4		1.0D	1.0D	Vc	30	30	30	30	30	30	30	30	31	30	30
					fz	0.007	0.013	0.017	0.021	0.025	0.033	0.042	0.050	0.057	0.071	0.089
					RPM	4800	3200	2400	1900	1600	1200	950	800	700	600	480
					FEED	70	80	80	80	80	80	80	80	80	85	85
	5		1.0D	1.0D	Vc	25	25	25	25	25	25	25	25	25	25	25
					fz	0.007	0.012	0.015	0.019	0.023	0.030	0.038	0.045	0.053	0.075	0.094
					RPM	4000	2600	2000	1600	1300	1000	800	660	570	500	400
					FEED	55	60	60	60	60	60	60	60	60	75	75
	6	Low alloy steel	1.0D	1.0D	Vc	35	35	35	35	34	35	35	34	35	35	35
					fz	0.007	0.012	0.016	0.020	0.025	0.032	0.041	0.050	0.056	0.071	0.091
					RPM	5500	3700	2800	2200	1800	1400	1100	900	800	700	550
					FEED	80	90	90	90	90	90	90	90	90	100	100
	7		1.0D	1.0D	Vc	30	30	30	30	30	30	30	30	31	30	30
					fz	0.007	0.013	0.017	0.021	0.025	0.033	0.042	0.050	0.057	0.071	0.089
					RPM	4800	3200	2400	1900	1600	1200	950	800	700	600	480
					FEED	70	80	80	80	80	80	80	80	80	85	85
	8-9		1.0D	1.0D	Vc	25	25	25	25	25	25	25	25	25	25	25
					fz	0.007	0.012	0.015	0.019	0.023	0.030	0.038	0.045	0.053	0.075	0.094
					RPM	4000	2600	2000	1600	1300	1000	800	660	570	500	400
					FEED	55	60	60	60	60	60	60	60	60	75	75
	10	High alloyed steel, and tool steel	1.0D	1.0D	Vc	35	35	35	35	34	35	35	34	35	35	35
					fz	0.007	0.012	0.016	0.020	0.025	0.032	0.041	0.050	0.056	0.071	0.091
					RPM	5500	3700	2800	2200	1800	1400	1100	900	800	700	550
					FEED	80	90	90	90	90	90	90	90	90	100	100
	11.1		1.0D	1.0D	Vc	25	25	25	25	25	25	25	25	25	25	25
					fz	0.007	0.012	0.015	0.019	0.023	0.030	0.038	0.045	0.053	0.075	0.094
					RPM	4000	2600	2000	1600	1300	1000	800	660	570	500	400
					FEED	55	60	60	60	60	60	60	60	60	75	75
M	14.1	Stainless steel	1.0D	1.0D	Vc	50	50	50	50	49	50	50	49	48	50	50
					fz	0.004	0.006	0.008	0.010	0.013	0.016	0.020	0.025	0.030	0.038	0.050
					RPM	8000	5300	4000	3200	2600	2000	1600	1300	1100	1000	800
					FEED	65	65	65	65	65	65	65	65	65	75	80
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	1.0D	Vc	41	40	40	39	40	40	41	38	40	40	40
					fz	0.012	0.018	0.023	0.03	0.043	0.059	0.077	0.105	0.122	0.141	0.188
					RPM	6500	4200	3200	2500	2100	1600	1300	1000	900	800	640
					FEED	150	150	150	150	180	190	200	210	220	225	240
N	21~22	Aluminum-wrought alloy	1.0D	1.0D	Vc	101	104	101	101	100	101	101	98	101	101	101
					fz	0.010	0.015	0.020	0.025	0.032	0.043	0.053	0.065	0.074	0.085	0.106
					RPM	16000	11000	8000	6400	5300	4000	3200	2600	2300	2000	1600
					FEED	320	320	320	320	340	340	340	340	340	340	340
	23~25	Aluminum-cast, alloyed	1.0D	1.0D	Vc	101	104	101	101	100	101	101	98	101	101	101
					fz	0.010	0.015	0.020	0.025	0.032	0.043	0.053	0.065	0.074	0.085	0.106
					RPM	16000	11000	8000	6400	5300	4000	3200	2600	2300	2000	1600
					FEED	320	320	320	320	340	340	340	340	340	340	340
	26~28	Copper and Copper Alloys (Bronze / Brass)	1.0D	1.0D	Vc	75	75	75	75	75	75	75	75	75	75	75
					fz	0.010	0.015	0.020	0.025	0.0325	0.0433	0.0542	0.065	0.0765	0.0867	0.1083
					RPM	12000	8000	6000	4800	4000	3000	2400	2000	1700	1500	1200
					FEED	240	240	240	240	260	260	260	260	260	260	260
S	36-37	Titanium Alloys	1.0D	1.0D	Vc	50	50	50	50	49	50	50	49	48	50	50
					fz	0.004	0.006	0.008	0.01	0.013	0.016	0.02	0.025	0.03	0.038	0.05
					RPM	8000	5300	4000	3200	2600	2000	1600	1300	1100	1000	800
					FEED	65	65	65	65	65	65	65	65	65	75	80

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给



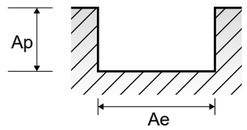
GENERAL CARBIDE END MILLS

E5401 SERIES — **2 FLUTE (TiAlN-COATED) - SLOTTING**
2刃 (TiAlN 涂层) - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
P	1-2	Non-alloy steel	1.0D	1.0D	Vc	48	49	49	48	48	49	48	48	49	49	48
					fz	0.007	0.012	0.016	0.02	0.025	0.032	0.041	0.05	0.056	0.071	0.091
					RPM	7700	5180	3920	3080	2520	1960	1540	1260	1120	980	770
					FEED	110	125	125	125	125	125	125	125	125	140	140
	3-4		1.0D	1.0D	Vc	42	42	42	42	42	42	42	42	43	42	42
					fz	0.007	0.012	0.016	0.021	0.025	0.033	0.041	0.049	0.056	0.071	0.089
					RPM	6720	4480	3360	2660	2240	1680	1330	1120	980	840	672
					FEED	100	110	110	110	110	110	110	110	110	120	120
	5		1.0D	1.0D	Vc	35	34	35	35	34	35	35	35	35	35	35
					fz	0.007	0.012	0.015	0.019	0.023	0.03	0.038	0.046	0.053	0.075	0.094
					RPM	5600	3640	2800	2240	1820	1400	1120	924	798	700	560
					FEED	75	85	85	85	85	85	85	85	85	105	105
	6	Low alloy steel	1.0D	1.0D	Vc	48	49	49	48	48	49	48	48	49	49	48
					fz	0.007	0.012	0.016	0.02	0.025	0.032	0.041	0.05	0.056	0.071	0.091
					RPM	7700	5180	3920	3080	2520	1960	1540	1260	1120	980	770
					FEED	110	125	125	125	125	125	125	125	125	140	140
	7		1.0D	1.0D	Vc	42	42	42	42	42	42	42	42	43	42	42
					fz	0.007	0.012	0.016	0.021	0.025	0.033	0.041	0.049	0.056	0.071	0.089
					RPM	6720	4480	3360	2660	2240	1680	1330	1120	980	840	672
					FEED	100	110	110	110	110	110	110	110	110	120	120
	8-9		1.0D	1.0D	Vc	35	34	35	35	34	35	35	35	35	35	35
					fz	0.007	0.012	0.015	0.019	0.023	0.03	0.038	0.046	0.053	0.075	0.094
					RPM	5600	3640	2800	2240	1820	1400	1120	924	798	700	560
					FEED	75	85	85	85	85	85	85	85	85	105	105
	10	High alloyed steel, and tool steel	1.0D	1.0D	Vc	48	49	49	48	48	49	48	48	49	49	48
					fz	0.007	0.012	0.016	0.02	0.025	0.032	0.041	0.05	0.056	0.071	0.091
					RPM	7700	5180	3920	3080	2520	1960	1540	1260	1120	980	770
					FEED	110	125	125	125	125	125	125	125	125	140	140
	11.1		1.0D	1.0D	Vc	35	34	35	35	34	35	35	35	35	35	35
					fz	0.007	0.012	0.015	0.019	0.023	0.03	0.038	0.046	0.053	0.075	0.094
					RPM	5600	3640	2800	2240	1820	1400	1120	924	798	700	560
					FEED	75	85	85	85	85	85	85	85	85	105	105
M	14.1	Stainless steel	1.0D	1.0D	Vc	70	70	70	70	69	70	70	69	68	70	70
					fz	0.004	0.006	0.008	0.01	0.012	0.016	0.02	0.025	0.029	0.038	0.049
					RPM	11200	7420	5600	4480	3640	2800	2240	1820	1540	1400	1120
					FEED	90	90	90	90	90	90	90	90	90	105	110
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	1.0D	Vc	57	55	56	55	55	56	57	53	55	56	57
					fz	0.012	0.018	0.023	0.03	0.043	0.059	0.077	0.105	0.123	0.141	0.186
					RPM	9100	5880	4480	3500	2940	2240	1820	1400	1260	1120	900
					FEED	210	210	210	210	250	265	280	295	310	315	335
N	21~22	Aluminum-wrought alloy	1.0D	1.0D	Vc	141	145	141	141	140	141	141	137	142	141	141
					fz	0.01	0.015	0.02	0.025	0.032	0.042	0.053	0.065	0.074	0.085	0.106
					RPM	22400	15400	11200	8960	7420	5600	4480	3640	3220	2800	2240
					FEED	450	450	450	450	475	475	475	475	475	475	475
	23~25	Aluminum-cast, alloyed	1.0D	1.0D	Vc	141	145	141	141	140	141	141	137	142	141	141
					fz	0.010	0.015	0.020	0.025	0.032	0.042	0.053	0.065	0.074	0.085	0.106
					RPM	22400	15400	11200	8960	7420	5600	4480	3640	3220	2800	2240
					FEED	450	450	450	450	475	475	475	475	475	475	475
	26~28	Copper and Copper Alloys (Bronze / Brass)	1.0D	1.0D	Vc	106	106	106	106	106	106	106	106	105	106	106
					fz	0.010	0.015	0.020	0.025	0.033	0.043	0.054	0.065	0.077	0.087	0.109
					RPM	16800	11200	8400	6720	5600	4200	3360	2800	2380	2100	1680
					FEED	335	335	335	335	365	365	365	365	365	365	365
S	36-37	Titanium Alloys	1.0D	1.0D	Vc	70	70	70	70	69	70	70	69	68	70	70
					fz	0.004	0.006	0.008	0.01	0.012	0.016	0.02	0.025	0.029	0.038	0.049
					RPM	11200	7420	5600	4480	3640	2800	2240	1820	1540	1400	1120
					FEED	90	90	90	90	90	90	90	90	90	105	110

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给



GENERAL CARBIDE END MILLS

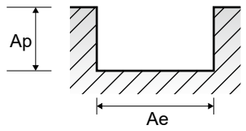
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

E5423 SERIES — 3 FLUTE - SLOTTING
3刃 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Uncoated / Diameter (Ø) 直径							TiAlN-COATED (TiAlN 涂层) / Diameter (Ø) 直径						
						6.0	8.0	10.0	12.0	14.0	16.0	20.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
P	1-4	Non-alloy steel	1.0D	1.0D	Vc	30	30	30	30	30	30	30	42	42	42	42	42	42	42
					fz	0.020	0.026	0.033	0.040	0.047	0.056	0.069	0.020	0.027	0.034	0.040	0.047	0.056	0.070
					RPM	1600	1200	950	800	680	600	480	2240	1680	1330	1120	960	840	670
					FEED	95	95	95	95	95	100	100	135	135	135	135	135	140	140
	5		1.0D	1.0D	Vc	25	25	25	25	25	25	25	35	35	35	35	35	35	35
					fz	0.017	0.022	0.027	0.033	0.038	0.053	0.067	0.016	0.021	0.027	0.032	0.038	0.052	0.065
					RPM	1300	1000	800	660	570	500	400	1850	1400	1120	925	800	700	560
					FEED	65	65	65	65	65	80	80	90	90	90	90	90	110	110
	6-7	Low alloy steel	1.0D	1.0D	Vc	30	30	30	30	30	30	30	42	42	42	42	42	42	42
					fz	0.020	0.026	0.033	0.040	0.047	0.056	0.069	0.020	0.027	0.034	0.040	0.047	0.056	0.070
					RPM	1600	1200	950	800	680	600	480	2240	1680	1330	1120	960	840	670
					FEED	95	95	95	95	95	100	100	135	135	135	135	135	140	140
	8-9		1.0D	1.0D	Vc	25	25	25	25	25	25	25	35	35	35	35	35	35	35
					fz	0.017	0.022	0.027	0.033	0.038	0.053	0.067	0.016	0.021	0.027	0.032	0.038	0.052	0.065
					RPM	1300	1000	800	660	570	500	400	1850	1400	1120	925	800	700	560
					FEED	65	65	65	65	65	80	80	90	90	90	90	90	110	110
	10	High alloyed steel, and tool steel	1.0D	1.0D	Vc	30	30	30	30	30	30	30	42	42	42	42	42	42	42
					fz	0.020	0.026	0.033	0.040	0.047	0.056	0.069	0.020	0.027	0.034	0.040	0.047	0.056	0.070
					RPM	1600	1200	950	800	680	600	480	2240	1680	1330	1120	960	840	670
					FEED	95	95	95	95	95	100	100	135	135	135	135	135	140	140
	11.1		1.0D	1.0D	Vc	25	25	25	25	25	25	25	35	35	35	35	35	35	35
					fz	0.017	0.022	0.027	0.033	0.038	0.053	0.067	0.016	0.021	0.027	0.032	0.038	0.052	0.065
					RPM	1300	1000	800	660	570	500	400	1850	1400	1120	925	800	700	560
					FEED	65	65	65	65	65	80	80	90	90	90	90	90	110	110
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	1.0D	Vc	40	40	41	38	40	40	40	55	56	57	53	55	56	56
					fz	0.035	0.048	0.062	0.083	0.096	0.113	0.151	0.035	0.048	0.061	0.083	0.097	0.113	0.151
					RPM	2100	1600	1300	1000	900	800	640	2940	2240	1820	1400	1260	1120	895
					FEED	220	230	240	250	260	270	290	310	320	335	350	365	380	405
N	21~22	Aluminum-wrought alloy	1.0D	1.0D	Vc	100	101	101	98	101	101	101	140	141	141	137	142	141	141
					fz	0.026	0.034	0.043	0.053	0.059	0.068	0.085	0.026	0.034	0.043	0.053	0.060	0.068	0.086
					RPM	5300	4000	3200	2600	2300	2000	1600	7420	5600	4480	3640	3220	2800	2240
					FEED	410	410	410	410	410	410	410	575	575	575	575	575	575	575
	23~25	Aluminum-cast, alloyed	1.0D	1.0D	Vc	100	101	101	98	101	101	101	140	141	141	137	142	141	141
					fz	0.026	0.034	0.043	0.053	0.059	0.068	0.085	0.026	0.034	0.043	0.053	0.060	0.068	0.086
					RPM	5300	4000	3200	2600	2300	2000	1600	7420	5600	4480	3640	3220	2800	2240
					FEED	410	410	410	410	410	410	410	575	575	575	575	575	575	575
	26~28	Copper and Copper Alloys (Bronze / Brass)	1.0D	1.0D	Vc	75	75	75	75	75	75	75	106	106	106	106	105	106	106
					fz	0.026	0.034	0.043	0.052	0.061	0.069	0.086	0.026	0.035	0.043	0.052	0.061	0.069	0.086
					RPM	4000	3000	2400	2000	1700	1500	1200	5600	4200	3360	2800	2380	2100	1680
					FEED	310	310	310	310	310	310	310	435	435	435	435	435	435	435

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给



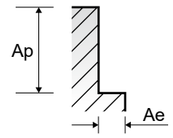
GENERAL CARBIDE END MILLS

E5423 SERIES — 3 FLUTE - SIDE CUTTING
3刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Uncoated / Diameter (Ø) 直径							TiAlN-COATED (TiAlN 涂层) / Diameter (Ø) 直径						
						6.0	8.0	10.0	12.0	14.0	16.0	20.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
P	1-4	Non-alloy steel	0.1D	1.5D	Vc	30	30	30	30	30	30	30	40	40	40	40	45	40	40
					fz	0.04	0.053	0.067	0.079	0.09	0.111	0.139	0.039	0.053	0.066	0.079	0.09	0.111	0.139
					RPM	1592	1194	955	796	682	597	477	2122	1592	1273	1061	1023	796	637
					FEED	191	190	192	189	184	199	199	248	253	252	251	276	265	265
	5		0.1D	1.5D	Vc	25	25	25	25	25	25	25	35	35	35	35	35	35	35
					fz	0.033	0.043	0.054	0.066	0.076	0.107	0.133	0.033	0.043	0.054	0.065	0.075	0.107	0.134
					RPM	1326	995	796	663	568	497	398	1857	1393	1114	928	796	696	557
					FEED	131	128	129	131	130	160	159	184	180	180	181	179	224	224
	6-7	Low alloy steel	0.1D	1.5D	Vc	30	30	30	30	30	30	30	40	40	40	40	45	40	40
					fz	0.04	0.053	0.067	0.079	0.09	0.111	0.139	0.039	0.053	0.066	0.079	0.09	0.111	0.139
					RPM	1592	1194	955	796	682	597	477	2122	1592	1273	1061	1023	796	637
					FEED	191	190	192	189	184	199	199	248	253	252	251	276	265	265
	8-9		0.1D	1.5D	Vc	25	25	25	25	25	25	25	35	35	35	35	35	35	35
					fz	0.033	0.043	0.054	0.066	0.076	0.107	0.133	0.033	0.043	0.054	0.065	0.075	0.107	0.134
					RPM	1326	995	796	663	568	497	398	1857	1393	1114	928	796	696	557
					FEED	131	128	129	131	130	160	159	184	180	180	181	179	224	224
	10	High alloyed steel, and tool steel	0.1D	1.5D	Vc	30	30	30	30	30	30	30	40	40	40	40	45	40	40
					fz	0.04	0.053	0.067	0.079	0.09	0.111	0.139	0.039	0.053	0.066	0.079	0.09	0.111	0.139
					RPM	1592	1194	955	796	682	597	477	2122	1592	1273	1061	1023	796	637
					FEED	191	190	192	189	184	199	199	248	253	252	251	276	265	265
	11.1		0.1D	1.5D	Vc	25	25	25	25	25	25	25	35	35	35	35	35	35	35
					fz	0.033	0.043	0.054	0.066	0.076	0.107	0.133	0.033	0.043	0.054	0.065	0.075	0.107	0.134
					RPM	1326	995	796	663	568	497	398	1857	1393	1114	928	796	696	557
					FEED	131	128	129	131	130	160	159	184	180	180	181	179	224	224
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	1.5D	Vc	40	40	40	40	40	40	40	55	55	55	55	55	55	55
					fz	0.07	0.096	0.123	0.167	0.193	0.225	0.302	0.07	0.096	0.123	0.167	0.193	0.225	0.302
					RPM	2122	1592	1273	1061	909	796	637	2918	2188	1751	1459	1251	1094	875
					FEED	446	458	470	532	527	537	577	613	630	646	731	724	739	793
N	21~22	Aluminum-wrought alloy	0.1D	1.5D	Vc	100	100	100	100	100	100	100	140	140	140	135	140	140	140
					fz	0.052	0.068	0.085	0.105	0.119	0.137	0.171	0.052	0.068	0.086	0.105	0.119	0.137	0.171
					RPM	5305	3979	3183	2653	2274	1989	1592	7427	5570	4456	3581	3183	2785	2228
					FEED	828	812	812	836	812	818	816	1159	1136	1150	1128	1136	1145	1143
	23~25	Aluminum-cast, alloyed	0.1D	1.5D	Vc	100	100	100	100	100	100	100	140	140	140	135	140	140	140
					fz	0.052	0.068	0.085	0.105	0.119	0.137	0.171	0.052	0.068	0.086	0.105	0.119	0.137	0.171
					RPM	5305	3979	3183	2653	2274	1989	1592	7427	5570	4456	3581	3183	2785	2228
					FEED	828	812	812	836	812	818	816	1159	1136	1150	1128	1136	1145	1143
	26~28	Copper and Copper Alloys (Bronze / Brass)	0.1D	1.5D	Vc	75	75	75	75	75	75	75	105	105	105	105	105	105	105
					fz	0.052	0.069	0.086	0.103	0.122	0.138	0.172	0.052	0.069	0.086	0.104	0.122	0.138	0.173
					RPM	3979	2984	2387	1989	1705	1492	1194	5570	4178	3342	2785	2387	2089	1671
					FEED	621	618	616	615	624	618	616	869	865	862	869	874	865	867

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给



GENERAL CARBIDE END MILLS

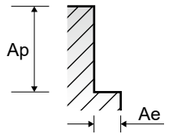
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

E5402 SERIES — **4 FLUTE - SIDE CUTTING**
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
P	1-2	Non-alloy steel	0.1D	1.5D	Vc	35	35	35	35	34	35	35	34	35	35	35
					fz	0.011	0.018	0.024	0.031	0.038	0.048	0.061	0.075	0.084	0.107	0.136
					RPM	5500	3700	2800	2200	1800	1400	1100	900	800	700	550
					FEED	240	270	270	270	270	270	270	270	270	300	300
	3-4		0.1D	1.5D	Vc	30	30	30	30	30	30	30	30	31	30	30
					fz	0.011	0.019	0.025	0.032	0.038	0.05	0.063	0.075	0.086	0.108	0.135
					RPM	4800	3200	2400	1900	1600	1200	950	800	700	600	480
					FEED	210	240	240	240	240	240	240	240	240	260	260
	5		0.1D	1.5D	Vc	25	25	25	25	25	25	25	25	25	25	25
					fz	0.01	0.017	0.023	0.028	0.035	0.045	0.056	0.068	0.079	0.11	0.138
					RPM	4000	2600	2000	1600	1300	1000	800	660	570	500	400
					FEED	160	180	180	180	180	180	180	180	180	220	220
	6	Low alloy steel	0.1D	1.5D	Vc	35	35	35	35	34	35	35	34	35	35	35
					fz	0.011	0.018	0.024	0.031	0.038	0.048	0.061	0.075	0.084	0.107	0.136
					RPM	5500	3700	2800	2200	1800	1400	1100	900	800	700	550
					FEED	240	270	270	270	270	270	270	270	270	300	300
	7		0.1D	1.5D	Vc	30	30	30	30	30	30	30	30	31	30	30
					fz	0.011	0.019	0.025	0.032	0.038	0.05	0.063	0.075	0.086	0.108	0.135
					RPM	4800	3200	2400	1900	1600	1200	950	800	700	600	480
					FEED	210	240	240	240	240	240	240	240	240	260	260
	8-9		0.1D	1.5D	Vc	25	25	25	25	25	25	25	25	25	25	25
					fz	0.01	0.017	0.023	0.028	0.035	0.045	0.056	0.068	0.079	0.11	0.138
					RPM	4000	2600	2000	1600	1300	1000	800	660	570	500	400
					FEED	160	180	180	180	180	180	180	180	180	220	220
	10	High alloyed steel, and tool steel	0.1D	1.5D	Vc	35	35	35	35	34	35	35	34	35	35	35
					fz	0.011	0.018	0.024	0.031	0.038	0.048	0.061	0.075	0.084	0.107	0.136
					RPM	5500	3700	2800	2200	1800	1400	1100	900	800	700	550
					FEED	240	270	270	270	270	270	270	270	270	300	300
	11.1		0.1D	1.5D	Vc	25	25	25	25	25	25	25	25	25	25	25
					fz	0.01	0.017	0.023	0.028	0.035	0.045	0.056	0.068	0.079	0.11	0.138
					RPM	4000	2600	2000	1600	1300	1000	800	660	570	500	400
					FEED	160	180	180	180	180	180	180	180	180	220	220
M	14.1	Stainless steel	0.1D	1.5D	Vc	50	50	50	50	49	50	50	49	48	50	50
					fz	0.006	0.009	0.013	0.016	0.019	0.025	0.031	0.038	0.045	0.056	0.075
					RPM	8000	5300	4000	3200	2600	2000	1600	1300	1100	1000	800
					FEED	200	200	200	200	200	200	200	200	200	225	240
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	1.5D	Vc	41	40	40	39	40	40	41	38	40	40	40
					fz	0.017	0.027	0.035	0.045	0.064	0.089	0.115	0.158	0.183	0.213	0.281
					RPM	6500	4200	3200	2500	2100	1600	1300	1000	900	800	640
					FEED	450	450	450	450	540	570	600	630	660	680	720
N	21~22	Aluminum-wrought alloy	0.1D	1.5D	Vc	101	104	101	101	100	101	101	98	101	101	101
					fz	0.015	0.022	0.03	0.038	0.048	0.064	0.08	0.098	0.111	0.128	0.159
					RPM	16000	11000	8000	6400	5300	4000	3200	2600	2300	2000	1600
					FEED	960	960	960	960	1020	1020	1020	1020	1020	1020	1020
	23~25	Aluminum-cast, alloyed	0.1D	1.5D	Vc	101	104	101	101	100	101	101	98	101	101	101
					fz	0.015	0.022	0.03	0.038	0.048	0.064	0.08	0.098	0.111	0.128	0.159
					RPM	16000	11000	8000	6400	5300	4000	3200	2600	2300	2000	1600
					FEED	960	960	960	960	1020	1020	1020	1020	1020	1020	1020
	26~28	Copper and Copper Alloys (Bronze / Brass)	0.1D	1.5D	Vc	75	75	75	75	75	75	75	75	75	75	75
					fz	0.015	0.023	0.03	0.038	0.049	0.065	0.081	0.098	0.115	0.13	0.163
					RPM	12000	8000	6000	4800	4000	3000	2400	2000	1700	1500	1200
					FEED	720	720	720	720	780	780	780	780	780	780	780
S	36-37	Titanium Alloys	0.1D	1.5D	Vc	50	50	50	50	49	50	50	49	48	50	50
					fz	0.006	0.009	0.013	0.016	0.019	0.025	0.031	0.038	0.045	0.056	0.075
					RPM	8000	5300	4000	3200	2600	2000	1600	1300	1100	1000	800
					FEED	200	200	200	200	200	200	200	200	200	225	240

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给



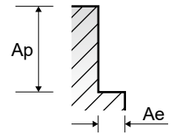
GENERAL CARBIDE END MILLS

E5402 SERIES — **4 FLUTE (TiAlN-COATED) - SIDE CUTTING**
4刃 (TiAlN 涂层) - 侧铣削

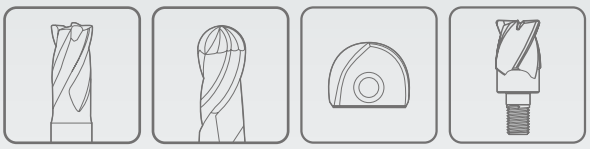
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
P	1-2	Non-alloy steel	0.1D	1.5D	Vc	48	49	49	48	48	49	48	48	49	49	48
					fz	0.011	0.018	0.024	0.031	0.038	0.048	0.062	0.075	0.085	0.107	0.136
					RPM	7700	5180	3920	3080	2520	1960	1540	1260	1120	980	770
					FEED	335	380	380	380	380	380	380	380	380	420	420
	3-4		0.1D	1.5D	Vc	42	42	42	42	42	42	42	42	43	42	42
					fz	0.011	0.019	0.025	0.031	0.037	0.05	0.063	0.075	0.085	0.109	0.136
					RPM	6720	4480	3360	2660	2240	1680	1330	1120	980	840	670
					FEED	295	335	335	335	335	335	335	335	335	365	365
	5		0.1D	1.5D	Vc	35	34	35	35	34	35	35	35	35	35	35
					fz	0.01	0.017	0.022	0.028	0.034	0.045	0.056	0.068	0.078	0.111	0.138
					RPM	5600	3640	2800	2240	1820	1400	1120	920	800	700	560
					FEED	225	250	250	250	250	250	250	250	250	310	310
	6	Low alloy steel	0.1D	1.5D	Vc	48	49	49	48	48	49	48	48	49	49	48
					fz	0.011	0.018	0.024	0.031	0.038	0.048	0.062	0.075	0.085	0.107	0.136
					RPM	7700	5180	3920	3080	2520	1960	1540	1260	1120	980	770
					FEED	335	380	380	380	380	380	380	380	380	420	420
	7		0.1D	1.5D	Vc	42	42	42	42	42	42	42	42	43	42	42
					fz	0.011	0.019	0.025	0.031	0.037	0.05	0.063	0.075	0.085	0.109	0.136
					RPM	6720	4480	3360	2660	2240	1680	1330	1120	980	840	670
					FEED	295	335	335	335	335	335	335	335	335	365	365
	8-9		0.1D	1.5D	Vc	35	34	35	35	34	35	35	35	35	35	35
					fz	0.01	0.017	0.022	0.028	0.034	0.045	0.056	0.068	0.078	0.111	0.138
					RPM	5600	3640	2800	2240	1820	1400	1120	920	800	700	560
					FEED	225	250	250	250	250	250	250	250	250	310	310
	10	High alloyed steel, and tool steel	0.1D	1.5D	Vc	48	49	49	48	48	49	48	48	49	49	48
					fz	0.011	0.018	0.024	0.031	0.038	0.048	0.062	0.075	0.085	0.107	0.136
					RPM	7700	5180	3920	3080	2520	1960	1540	1260	1120	980	770
					FEED	335	380	380	380	380	380	380	380	380	420	420
	11.1		0.1D	1.5D	Vc	35	34	35	35	34	35	35	35	35	35	35
					fz	0.01	0.017	0.022	0.028	0.034	0.045	0.056	0.068	0.078	0.111	0.138
					RPM	5600	3640	2800	2240	1820	1400	1120	920	800	700	560
					FEED	225	250	250	250	250	250	250	250	250	310	310
M	14.1	Stainless steel	0.1D	1.5D	Vc	70	70	70	70	69	70	70	69	68	70	70
					fz	0.006	0.009	0.013	0.016	0.019	0.025	0.031	0.038	0.045	0.056	0.075
					RPM	11200	7420	5600	4480	3640	2800	2240	1820	1540	1400	1120
					FEED	280	280	280	280	280	280	280	280	280	315	335
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	1.5D	Vc	57	55	56	55	55	56	57	53	55	56	57
					fz	0.017	0.027	0.035	0.045	0.064	0.089	0.115	0.157	0.184	0.212	0.281
					RPM	9100	5880	4480	3500	2940	2240	1820	1400	1260	1120	900
					FEED	630	630	630	630	755	800	840	880	925	950	1010
N	21~22	Aluminum-wrought alloy	0.1D	1.5D	Vc	141	145	141	141	140	141	141	137	142	141	141
					fz	0.015	0.022	0.03	0.038	0.048	0.064	0.08	0.098	0.111	0.128	0.16
					RPM	22400	15400	11200	8960	7420	5600	4480	3640	3220	2800	2240
					FEED	1345	1345	1345	1345	1430	1430	1430	1430	1430	1430	1430
	23~25	Aluminum-cast, alloyed	0.1D	1.5D	Vc	141	145	141	141	140	141	141	137	142	141	141
					fz	0.015	0.022	0.03	0.038	0.048	0.064	0.08	0.098	0.111	0.128	0.16
					RPM	22400	15400	11200	8960	7420	5600	4480	3640	3220	2800	2240
					FEED	1345	1345	1345	1345	1430	1430	1430	1430	1430	1430	1430
	26~28	Copper and Copper Alloys (Bronze / Brass)	0.1D	1.5D	Vc	106	106	106	106	106	106	106	106	105	106	106
					fz	0.015	0.023	0.03	0.038	0.049	0.065	0.081	0.097	0.114	0.13	0.162
					RPM	16800	11200	8400	6720	5600	4200	3360	2800	2380	2100	1680
					FEED	1010	1010	1010	1010	1090	1090	1090	1090	1090	1090	1090
S	36-37	Titanium Alloys	0.1D	1.5D	Vc	70	70	70	70	69	70	70	69	68	70	70
					fz	0.006	0.009	0.013	0.016	0.019	0.025	0.031	0.038	0.045	0.056	0.075
					RPM	11200	7420	5600	4480	3640	2800	2240	1820	1540	1400	1120
					FEED	280	280	280	280	280	280	280	280	280	315	335

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给



Global Cutting Tool Leader **YG-1**



MILLING

YG

Leading Through Innovation

HSS PM60

ONLY ONE

COATED PM60 END MILLS

- Perfect Solution of Carbide Chipping under Vibrations

- 在振动工况硬质合金崩刃的完美解决方案

SELECTION GUIDE
选用指南

YG MILLING TOOLS

COATED PM60
ONLY ONE
END MILLS

Perfect solution to protect Carbide chipping problems under vibrations
在振动工况硬质合金崩刃的完美解决方案

Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工参数) : p.C536

SERIES 系列	GYG77 GYF97	GYG72 GYF99	GYG01
FLUTE 槽数	2	2	3
HELIX ANGLE 螺旋角度	30°	30°	30°
CUTTING EDGE SHAPE 类型	BALL NOSE	SQUARE	SQUARE
SIZE MIN 最小尺寸	R0.5	D1.0	D1.0
SIZE MAX 最大尺寸	R12.5	D25.0	D25.0
PAGE 页数	C526	C527	C528
	SHORT LENGTH	SHORT LENGTH	SHORT LENGTH (Center Cut)
	Y-Coating	Y-Coating	Y-Coating

ISO	VDI 3323	Material Description 工件材料	Composition / Structure / Heat Treatment 成分 / 结构 / 热处理		HB	HRc			
P	1	Non-alloy steel	About 0.15% C	Annealed	125		◎	◎	◎
	2		About 0.45% C	Annealed	190	13	◎	◎	◎
	3		About 0.45% C	Quenched & Tempered	250	25	◎	◎	◎
	4		About 0.75% C	Annealed	270	28	◎	◎	◎
	5		About 0.75% C	Quenched & Tempered	300	32	◎	◎	◎
	6	Low alloy steel		Annealed	180	10	◎	◎	◎
	7			Quenched & Tempered	275	29	◎	◎	◎
	8			Quenched & Tempered	300	32	◎	◎	◎
	9			Quenched & Tempered	350	38	○	○	○
	10	High alloyed steel, and tool steel		Annealed	200	15	◎	◎	◎
	11			Quenched & Tempered	325	35	○	○	○
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15	◎	◎	◎
	13		Martensitic	Quenched & Tempered	240	23	◎	◎	◎
	14		Austenitic		180	10	◎	◎	◎
K	15	Grey cast iron	Pearlitic / ferritic		180	10	◎	◎	◎
	16		Pearlitic (Martensitic)		260	26	◎	◎	◎
	17	Nodular cast iron	Ferritic		160	3	◎	◎	◎
	18		Pearlitic		250	25	◎	◎	◎
	19	Malleable cast iron	Ferritic		130		◎	◎	◎
	20		Pearlitic		230	21	◎	◎	◎
N	21	Aluminum-wrought alloy	Not Curable		60				
	22		Curable	Hardened	100				
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75				
	24		≤ 12% Si, Curable	Hardened	90				
	25		> 12% Si, Not Curable		130				
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110		○	○	○
	27		CuZn, CuSnZn (Brass)		90		○	○	○
	28		CuSn, lead-free copper and electrolytic copper		100		○	○	○
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic						
	30		Rubber, Wood, etc.						
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15			
	32			Cured	280	30			
	33		Ni or Co Based	Annealed	250	25			
	34			Cured	350	38			
	35			Cast	320	34			
	36	Titanium Alloys	Pure Titanium		400 Rm				
	37		Alpha + Beta Alloys	Hardened	1050 Rm				
H	38	Hardened steel		Hardened	550	55			
	39			Hardened	630	60			
	40	Chilled Cast Iron		Cast	400	42	○	○	○
	41	Hardened Cast Iron		Hardened	550	55			

GYG74 GYF96	GYG52	GYG76 GYG02	GYF95	GYF94	GYF98	GYG03
4	4	4	Multi Flute	Multi Flute	Multi Flute	Multi Flute
30°	35°/37°	30°	4F : 44°/45° 5F : 44°/44.5°/45°	30°	30°	30°
SQUARE	SQUARE	SQUARE	CORNER RADIUS ROUGHING	ROUGHING	ROUGHING	ROUGHING
D1.0	D3.0	D2.0	D6.0	D6.0	D6.0	D6.0
D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0
C529	C530	C531	C532	C533	C534	C535
SHORT LENGTH (Center Cut)	SHORT LENGTH (Center Cut)	LONG LENGTH (Center Cut)	SHORT LENGTH (Center Cut)	SHORT LENGTH (Center Cut)	LONG LENGTH (Center Cut)	SHORT LENGTH (Center Cut)
Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating

◎	◎	◎	◎	◎	◎	◎	1	
◎	◎	◎	◎	◎	◎	◎	2	
◎	◎	◎	◎	◎	◎	◎	3	
◎	◎	◎	◎	◎	◎	◎	4	
◎	◎	◎	◎	◎	◎	◎	5	
◎	◎	◎	◎	◎	◎	◎	6	P
◎	◎	◎	◎	◎	◎	◎	7	
◎	◎	◎	◎	◎	◎	◎	8	
○	○	○	○	○	○	○	9	
◎	◎	◎	◎	◎	◎	◎	10	
○	○	○	○	○	○	○	11	
◎	◎	◎	◎	◎	◎	◎	12	
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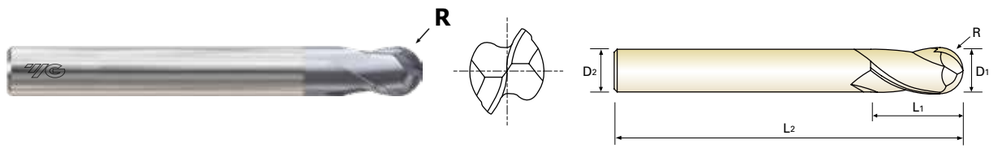
○	○	○	○	○	○	○	40	H
							41	

BALL NOSE = 球头 SHORT LENGTH= 短刃 CORNER RADIUS = 圆鼻 LONG LENGTH = 长刃 SQUARE = 平头 Center Cut = 过中心 ROUGHING = 粗加工 MULTIPLE HELIX = 不等螺旋

ONLY ONE COATED PM60 END MILLS

PLAIN SHANK **GYG77** SERIES
FLAT SHANK **GYF97** SERIES

PM60, 2 FLUTE BALL NOSE SHORT LENGTH
PM60，2刃 球头 短刃



PM60 | 2 | 30° | R ±0.02 | PLAIN | FLAT | p.C536

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.		Radius of Ball Nose 圆弧角	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
PLAIN	FLAT	R(±0.02)	D_1	D_2	L_1	L_2
GYG77010	GYF97010	R0.5	**1.0**	6	2.5	47
GYG77020	GYF97020	R1.0	**2.0**	6	4	48
GYG77030	GYF97030	R1.5	**3.0**	6	5	49
GYG77040	GYF97040	R2.0	**4.0**	6	7	51
GYG77050	GYF97050	R2.5	**5.0**	6	8	52
GYG77060	GYF97060	R3.0	**6.0**	6	8	52
GYG77070	GYF97070	R3.5	**7.0**	8	10	60
GYG77080	GYF97080	R4.0	**8.0**	8	11	61
GYG77090	GYF97090	R4.5	**9.0**	10	11	61
GYG77100	GYF97100	R5.0	**10.0**	10	13	63
GYG77120	GYF97120	R6.0	**12.0**	12	16	73
GYG77140	GYF97140	R7.0	**14.0**	12	16	73
GYG77160	GYF97160	R8.0	**16.0**	16	19	79
GYG77180	GYF97180	R9.0	**18.0**	16	19	79
GYG77200	GYF97200	R10.0	**20.0**	20	22	88
GYG77250	GYF97250	R12.5	**25.0**	25	26	102

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h6

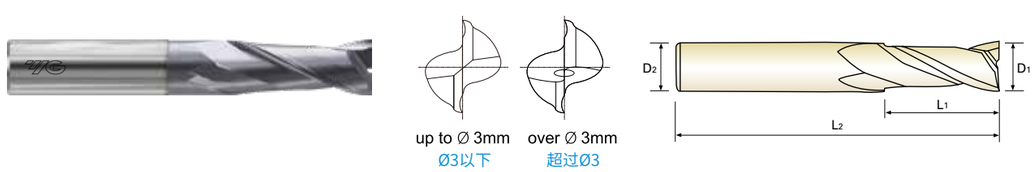
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			M				K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron										
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20										
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21										
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230										
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎										
ISO	N										S							H												
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron									
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41									
HRc											15	30	25	38	34			55	60	42	55									
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550									
Recommend						○	○	○												○										

ONLY ONE COATED PM60 END MILLS

PLAIN SHANK **GYG72** SERIES
FLAT SHANK **GYF99** SERIES

PM60, 2 FLUTE SHORT LENGTH
PM60，2刃 短刃



PM60 | 2 | 30° | PLAIN | FLAT | p.C537

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.		Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
PLAIN	FLAT	D_1	D_2	L_1	L_2
GYG72010	GYF99010	**1.0**	6	2.5	47
GYG72020	GYF99020	**2.0**	6	4	48
GYG72030	GYF99030	**3.0**	6	5	49
GYG72040	GYF99040	**4.0**	6	7	51
GYG72050	GYF99050	**5.0**	6	8	52
GYG72060	GYF99060	**6.0**	6	8	52
GYG72070	GYF99070	**7.0**	8	10	60
GYG72080	GYF99080	**8.0**	8	11	61
GYG72090	GYF99090	**9.0**	10	11	61
GYG72100	GYF99100	**10.0**	10	13	63
GYG72120	GYF99120	**12.0**	12	16	73
GYG72140	GYF99140	**14.0**	12	16	73
GYG72160	GYF99160	**16.0**	16	19	79
GYG72180	GYF99180	**18.0**	16	19	79
GYG72200	GYF99200	**20.0**	20	22	88
GYG72220	GYF99220	**22.0**	20	22	88
GYG72250	GYF99250	**25.0**	25	26	102

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h6

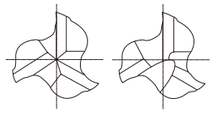
◎ : Excellent (优秀) ○ : Good (良好)

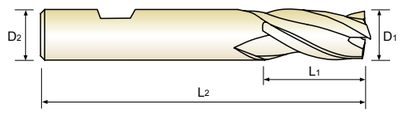
ISO	P																			M				K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron										
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20										
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21										
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230										
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎										
ISO	N										S							H												
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron									
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41									
HRc											15	30	25	38	34			55	60	42	55									
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550									
Recommend						○	○	○												○										

ONLY ONE COATED PM60 END MILLS

FLAT SHANK **GYG01 SERIES**

PM60, 3 FLUTE SHORT LENGTH (Center Cut)
PM60，3刃 短刃（中心切断）





PM60 | 3 | 30° | FLAT | p.C538-539

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
	D_1	D_2	L_1	L_2
GYG01010	1.0	6	3	47
GYG01020	2.0	6	7	51
GYG01030	3.0	6	8	52
GYG01040	4.0	6	11	55
GYG01050	5.0	6	13	57
GYG01060	6.0	6	13	57
GYG01070	7.0	8	16	66
GYG01080	8.0	8	19	69
GYG01090	9.0	10	19	69
GYG01100	10.0	10	22	72
GYG01120	12.0	12	26	83
GYG01140	14.0	12	26	83
GYG01160	16.0	16	32	92
GYG01180	18.0	16	32	92
GYG01200	20.0	20	38	104
GYG01220	22.0	20	38	104
GYG01250	25.0	25	45	121

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎

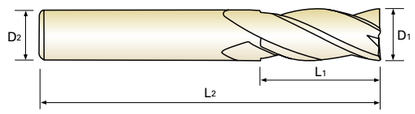
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○												○	

ONLY ONE COATED PM60 END MILLS

PLAIN SHANK **GYG74 SERIES**

FLAT SHANK **GYF96 SERIES**

PM60, 4 FLUTE SHORT LENGTH (Center Cut)
PM60，4刃 短刃（中心切断）



PM60 | 4 | 30° | PLAIN | FLAT | p.C540

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.		Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
PLAIN	FLAT	D_1	D_2	L_1	L_2
GYG74010	GYF96010	1.0	6	3	49
GYG74020	GYF96020	2.0	6	7	51
GYG74030	GYF96030	3.0	6	8	52
GYG74040	GYF96040	4.0	6	11	55
GYG74050	GYF96050	5.0	6	13	57
GYG74060	GYF96060	6.0	6	13	57
GYG74070	GYF96070	7.0	8	16	66
GYG74080	GYF96080	8.0	8	19	69
GYG74090	GYF96090	9.0	10	19	69
GYG74100	GYF96100	10.0	10	22	72
GYG74120	GYF96120	12.0	12	26	83
GYG74140	GYF96140	14.0	12	26	83
GYG74160	GYF96160	16.0	16	32	92
GYG74180	GYF96180	18.0	16	32	92
GYG74200	GYF96200	20.0	20	38	104
GYG74220	GYF96220	22.0	20	38	104
GYG74250	GYF96250	25.0	25	45	121

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎

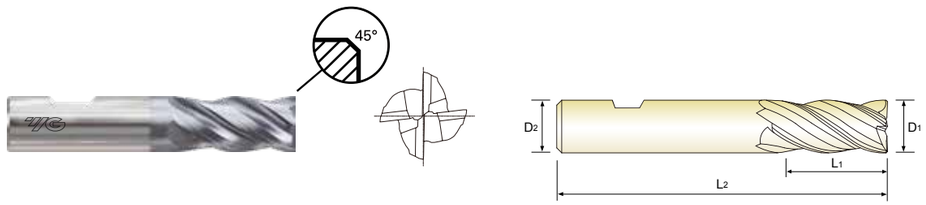
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○												○	

ONLY ONE COATED PM60 END MILLS

FLAT SHANK **GYG52 SERIES**

PM60, 4 FLUTE MULTIPLE HELIX SHORT LENGTH (Center Cut)

PM60，4刃 不等螺旋 短刃（中心切断）



PM60 | 4 | 35°/37° | FLAT | C x 45° | p.C541

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Chamfer 导向
GYG52030	3.0	6	8	52	0.1
GYG52040	4.0	6	11	55	0.1
GYG52050	5.0	6	13	57	0.1
GYG52060	6.0	6	13	57	0.1
GYG52070	7.0	8	16	66	0.1
GYG52080	8.0	8	19	69	0.1
GYG52090	9.0	10	19	69	0.1
GYG52100	10.0	10	22	72	0.1
GYG52120	12.0	12	26	83	0.1
GYG52140	14.0	12	26	83	0.2
GYG52160	16.0	16	32	92	0.2
GYG52180	18.0	16	32	92	0.2
GYG52200	20.0	20	38	104	0.2
GYG52220	22.0	20	38	104	0.2
GYG52250	25.0	25	45	121	0.2

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h6

Enforced Cutting Edge
刃线保护处理

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎

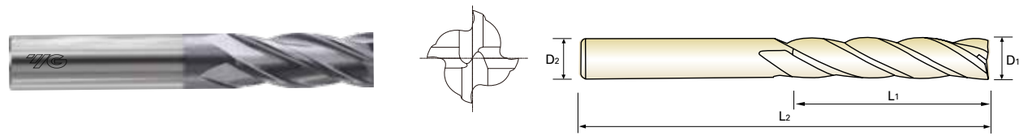
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○												○	

ONLY ONE COATED PM60 END MILLS

PLAIN SHANK **GYG76 SERIES**
FLAT SHANK **GYG02 SERIES**

PM60, 4 FLUTE LONG LENGTH (Center Cut)

PM60，4刃 长刃（中心切断）



PM60 | 4 | 30° | PLAIN | FLAT | p.C540

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No. PLAIN	EDP No. FLAT	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
GYG76020	GYG02020	2.0	6	10	54
GYG76030	GYG02030	3.0	6	12	56
GYG76040	GYG02040	4.0	6	19	63
GYG76050	GYG02050	5.0	6	24	68
GYG76060	GYG02060	6.0	6	24	68
GYG76070	GYG02070	7.0	8	30	80
GYG76080	GYG02080	8.0	8	38	88
GYG76090	GYG02090	9.0	10	38	88
GYG76100	GYG02100	10.0	10	45	95
GYG76120	GYG02120	12.0	12	53	110
GYG76140	GYG02140	14.0	12	53	110
GYG76160	GYG02160	16.0	16	63	123
GYG76180	GYG02180	18.0	16	63	123
GYG76200	GYG02200	20.0	20	75	141
GYG76220	GYG02220	22.0	20	75	141
GYG76250	GYG02250	25.0	25	90	166

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎

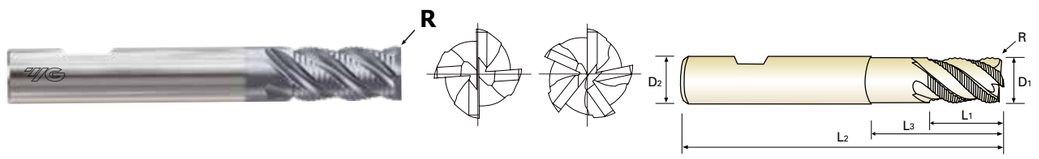
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○												○	

ONLY ONE COATED PM60 END MILLS

FLAT SHANK **GYF95 SERIES**

PM60, MULTI FLUTE MULTIPLE HELIX SHORT LENGTH CORNER RADIUS ROUGHING - FINE (Center Cut)

PM60，多刃 不等螺旋 短刃 圆鼻 粗加工 - 细牙（中心切断）



PM60 | 4-5 | 44°/44.5°/45° | HR | FLAT | p.C542

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1(js12)	Shank Diameter 柄径 D2(h6)	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall engthh 全长 L2	No. of Flute 槽数
GYF95060	R0.5	**6.0**	6	13	-	57	4
GYF95070	R0.5	**7.0**	10	16	-	66	4
GYF95080	R0.5	**8.0**	10	19	-	69	4
GYF95090	R0.5	**9.0**	10	19	-	69	4
GYF95100	R0.5	**10.0**	10	22	31	72	4
GYF95120	R0.5	**12.0**	12	26	37	83	4
GYF95140	R1.0	**14.0**	12	26	-	83	5
GYF95160	R1.0	**16.0**	16	32	44	92	5
GYF95180	R1.0	**18.0**	16	32	-	92	5
GYF95200	R1.0	**20.0**	20	38	54	104	5
GYF95250	R1.0	**25.0**	25	45	63	121	5

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

Tolerance range in μm / 公差范围为 Nominal-Diameter in mm / 直径范围为	over 6 to 10	over 10 to 18	over 18 to 30
js12	±75	±90	±105
h6	0 / - 9	0 / - 11	0 / - 13

◎ : Excellent (优秀) ○ : Good (良好)

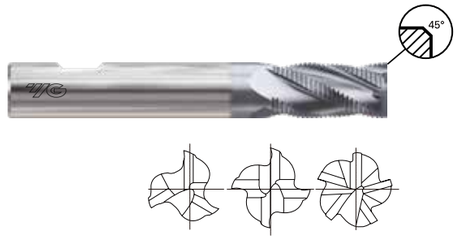
ISO	P																			M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron								
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20								
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21								
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230								
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎								
ISO	N										S							H										
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron								
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41								
HRc											15	30	25	38	34			55	60	42	55								
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550								
Recommend						○	○	○												○								

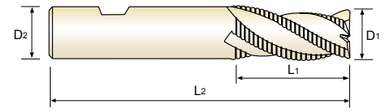
ONLY ONE COATED PM60 END MILLS

FLAT SHANK **GYF94 SERIES**

PM60, MULTI FLUTE SHORT LENGTH ROUGHING - FINE (Center Cut)

PM60，多刃 短刃 粗加工 - 细牙（中心切断）





PM60 | 3-5 | 30° | HR | FLAT | C x 45° | p.C543

Recommended ToolHolder

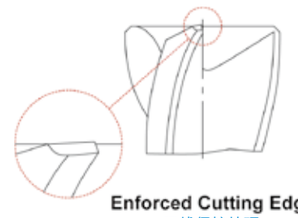
Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1(js12)	Shank Diameter 柄径 D2(h6)	Length of Cut 刃长 L1	Overall Length 全长 L2	No. of Flute 槽数	Chamfer 导向
GYF94060	**6.0**	6	13	57	3	0.18
GYF94070	**7.0**	10	16	66	3	0.18
GYF94080	**8.0**	10	19	69	3	0.18
GYF94090	**9.0**	10	19	69	3	0.18
GYF94100	**10.0**	10	22	72	4	0.18
GYF94120	**12.0**	12	26	83	4	0.18
GYF94140	**14.0**	12	26	83	4	0.25
GYF94160	**16.0**	16	32	92	4	0.25
GYF94180	**18.0**	16	32	92	4	0.25
GYF94200	**20.0**	20	38	104	4	0.25
GYF94250	**25.0**	25	45	121	5	0.36

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

Tolerance range in μm / 公差范围为 Nominal-Diameter in mm / 直径范围为	over 6 to 10	over 10 to 18	over 18 to 30
js12	±75	±90	±105
h6	0 / - 9	0 / - 11	0 / - 13



Enforced Cutting Edge
刃线保护处理

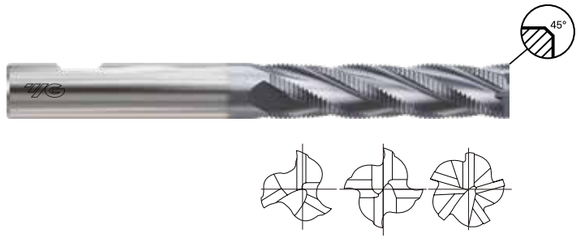
◎ : Excellent (优秀) ○ : Good (良好)

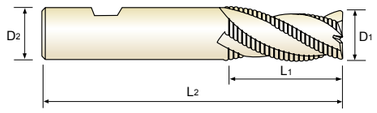
ISO	P																			M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron								
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20								
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21								
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230								
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎								
ISO	N										S							H										
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron								
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41								
HRc											15	30	25	38	34			55	60	42	55								
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550								
Recommend						○	○	○												○								

ONLY ONE COATED PM60 END MILLS

FLAT SHANK **GYF98 SERIES**

PM60, MULTI FLUTE LONG LENGTH ROUGHING - FINE (Center Cut)
PM60，多刃 长刃 粗加工 - 细牙（中心切断）





PM60 | 3-5 | 30° | HR | FLAT | C x 45° | p.C543

Recommended ToolHolder

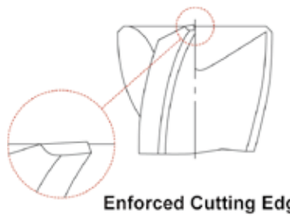
Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1(js12)	Shank Diameter 柄径 D2(h6)	Length of Cut 刃长 L1	Overall Length 全长 L2	No. of Flute 槽数	Chamfer 导向
GYF98060	6.0	6	24	68	3	0.18
GYF98070	7.0	10	30	80	3	0.18
GYF98080	8.0	10	38	88	3	0.18
GYF98090	9.0	10	38	88	3	0.18
GYF98100	10.0	10	45	95	4	0.18
GYF98120	12.0	12	53	110	4	0.18
GYF98140	14.0	12	53	110	4	0.25
GYF98160	16.0	16	63	123	4	0.25
GYF98180	18.0	16	63	123	4	0.25
GYF98200	20.0	20	75	141	4	0.25
GYF98250	25.0	25	90	166	5	0.36

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

Tolerance range in μm / 公差范围为 Nominal-Diameter in mm / 直径范围为	over 6 to 10	over 10 to 18	over 18 to 30
js12	±75	±90	±105
h6	0 / - 9	0 / - 11	0 / - 13



Enforced Cutting Edge
刃线保护处理

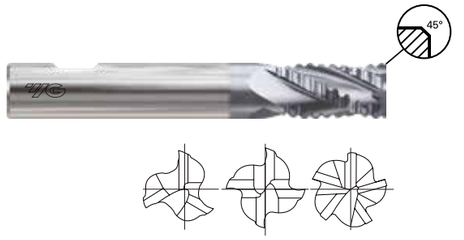
◎ : Excellent (优秀) ○ : Good (良好)

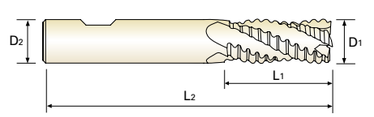
ISO	P																			M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron								
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20								
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21								
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230								
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎								
ISO	N										S							H										
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron								
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41								
HRc											15	30	25	38	34			55	60	42	55								
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550								
Recommend						○	○	○												○								

ONLY ONE COATED PM60 END MILLS

FLAT SHANK **GYG03 SERIES**

PM60, MULTI FLUTE SHORT LENGTH ROUGHING - COARSE(Center Cut)
PM60，多刃 长刃 粗加工 - 粗牙（中心切断）





PM60 | 3-5 | 30° | NR | FLAT | C x 45° | p.C543

Recommended ToolHolder

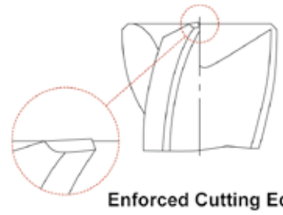
Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1(js12)	Shank Diameter 柄径 D2(h6)	Length of Cut 刃长 L1	Overall Length 全长 L2	No. of Flute 槽数	Chamfer 导向
GYG03060	6.0	6	13	57	3	0.25
GYG03070	7.0	10	16	66	3	0.25
GYG03080	8.0	10	19	69	3	0.25
GYG03090	9.0	10	19	69	3	0.36
GYG03100	10.0	10	22	72	4	0.36
GYG03120	12.0	12	26	83	4	0.56
GYG03140	14.0	12	26	83	4	0.6
GYG03160	16.0	16	32	92	4	0.6
GYG03180	18.0	16	32	92	4	0.6
GYG03200	20.0	20	38	104	4	0.6
GYG03250	25.0	25	45	121	5	0.6

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

Tolerance range in μm / 公差范围为 Nominal-Diameter in mm / 直径范围为	over 6 to 10	over 10 to 18	over 18 to 30
js12	±75	±90	±105
h6	0 / - 9	0 / - 11	0 / - 13



Enforced Cutting Edge
刃线保护处理

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron								
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20								
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21								
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230								
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎								
ISO	N										S							H										
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron								
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41								
HRc											15	30	25	38	34			55	60	42	55								
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550								
Recommend						○	○	○												○								

ONLY ONE COATED PM60 END MILLS

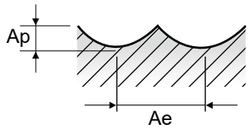
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GYG77 , GYF97 SERIES

2 FLUTE BALL NOSE
2刃 球头

Vc (切削速度) = (m/min.)
f z (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 3.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	25.0
P	1	Non-alloy steel	0.5D	0.2D	Vc	83	90	100	101	104	104	103	102	90
					fz	0.023	0.036	0.054	0.079	0.109	0.115	0.141	0.156	0.162
					RPM	8807	7162	5305	4019	3310	2759	2049	1623	1146
					FEED	405	516	573	635	722	634	578	506	371
	2		0.5D	0.2D	Vc	66	70	79	78	79	81	78	75	70
					fz	0.020	0.032	0.046	0.067	0.095	0.097	0.123	0.140	0.140
					RPM	7003	5570	4191	3104	2515	2149	1552	1194	891
					FEED	280	357	386	416	478	417	382	334	250
	3-4		0.5D	0.2D	Vc	44	45	52	54	53	54	54	52	44
					fz	0.016	0.026	0.039	0.056	0.082	0.083	0.1	0.11	0.125
					RPM	4669	3581	2759	2149	1687	1432	1074	828	560
					FEED	149	186	215	241	277	238	215	182	140
	5		0.5D	0.2D	Vc	23	24	27	27	26	26	27	27	24
					fz	0.014	0.023	0.035	0.047	0.073	0.071	0.090	0.099	0.100
					RPM	2440	1910	1432	1074	828	690	537	430	306
					FEED	68	88	100	101	121	98	97	85	61
	6	Low alloy steel	0.5D	0.2D	Vc	66	70	79	78	79	81	78	75	70
					fz	0.020	0.032	0.046	0.067	0.095	0.097	0.123	0.140	0.140
					RPM	7003	5570	4191	3104	2515	2149	1552	1194	891
					FEED	280	357	386	416	478	417	382	334	250
	7		0.5D	0.2D	Vc	44	45	52	54	53	54	54	52	44
					fz	0.016	0.026	0.039	0.056	0.082	0.083	0.1	0.11	0.125
					RPM	4669	3581	2759	2149	1687	1432	1074	828	560
					FEED	149	186	215	241	277	238	215	182	140
	8-9		0.5D	0.2D	Vc	23	24	27	27	26	26	27	27	24
					fz	0.014	0.023	0.035	0.047	0.073	0.071	0.090	0.099	0.100
					RPM	2440	1910	1432	1074	828	690	537	430	306
					FEED	68	88	100	101	121	98	97	85	61
	10	High alloyed steel, and tool steel	0.5D	0.2D	Vc	66	70	79	78	79	81	78	75	70
					fz	0.020	0.032	0.046	0.067	0.095	0.097	0.123	0.140	0.140
					RPM	7003	5570	4191	3104	2515	2149	1552	1194	891
					FEED	280	357	386	416	478	417	382	334	250
	11.1		0.5D	0.2D	Vc	23	24	27	27	26	26	27	27	24
					fz	0.014	0.023	0.035	0.047	0.073	0.071	0.090	0.099	0.100
					RPM	2440	1910	1432	1074	828	690	537	430	306
					FEED	68	88	100	101	121	98	97	85	61
	11.2		0.3D	0.2D	Vc	16	17	19	19	18	18	19	19	16
					fz	0.013	0.024	0.035	0.047	0.075	0.071	0.088	0.1	0.095
					RPM	1698	1353	1008	756	573	477	378	302	204
					FEED	44	65	71	71	86	68	67	60	39
M	14.1	Stainless steel	0.5D	0.2D	Vc	25	27	30	30	28	29	30	30	26
					fz	0.013	0.023	0.036	0.049	0.072	0.075	0.093	0.099	0.098
					RPM	2653	2149	1592	1194	891	769	597	477	331
					FEED	69	99	115	117	128	115	111	95	65
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.5D	0.2D	Vc	66	70	79	78	79	81	78	75	70
					fz	0.02	0.032	0.046	0.067	0.095	0.097	0.123	0.14	0.14
					RPM	7003	5570	4191	3104	2515	2149	1552	1194	891
					FEED	280	357	386	416	478	417	382	334	250
H	40	Chilled Cast Iron	0.3D	0.2D	Vc	16	17	19	19	18	18	19	19	16
					fz	0.013	0.024	0.035	0.047	0.075	0.071	0.088	0.1	0.095
					RPM	1698	1353	1008	756	573	477	378	302	204
					FEED	44	65	71	71	86	68	67	60	39



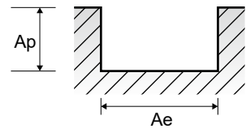
ONLY ONE COATED PM60 END MILLS

GYG72 , GYF99 SERIES

2 FLUTE - SLOTTING
2刃 - 槽铣削

Vc (切削速度) = (m/min.)
f z (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0
P	1	Non-alloy steel	1.0D	0.5D	Vc	53	57	65	74	79	78	79	81	84	81	78	72	70	71
					fz	0.008	0.016	0.027	0.033	0.038	0.053	0.071	0.076	0.083	0.099	0.105	0.116	0.109	0.103
					RPM	8435	6048	5173	4711	4191	3104	2515	2149	1910	1611	1379	1146	1013	904
					FEED	135	194	279	311	319	329	357	327	317	319	290	266	221	186
	2		1.0D	0.5D	Vc	44	46	54	61	66	66	68	66	66	69	64	59	59	60
					fz	0.008	0.016	0.024	0.031	0.036	0.055	0.074	0.083	0.083	0.085	0.103	0.106	0.106	0.112
					RPM	7003	4881	4297	3883	3501	2626	2165	1751	1501	1373	1132	939	854	764
					FEED	112	156	206	241	252	289	320	291	249	233	233	199	181	171
	3-4		1.0D	0.5D	Vc	37	38	48	49	52	54	55	52	53	54	54	53	50	46
					fz	0.008	0.017	0.025	0.035	0.042	0.056	0.079	0.091	0.098	0.1	0.1	0.107	0.104	0.119
					RPM	5889	4032	3820	3119	2759	2149	1751	1379	1205	1074	955	844	723	586
					FEED	94	137	191	218	232	241	277	251	236	215	191	181	150	139
	5		1.0D	0.5D	Vc	24	26	30	32	33	35	34	34	33	34	34	33	33	34
					fz	0.011	0.017	0.023	0.029	0.037	0.051	0.069	0.079	0.086	0.09	0.1	0.104	0.099	0.105
					RPM	3820	2759	2387	2037	1751	1393	1082	902	750	676	601	525	477	433
					FEED	84	94	110	118	130	142	149	142	129	122	120	109	95	91
	6	Low alloy steel	1.0D	0.5D	Vc	44	46	54	61	66	66	68	66	66	69	64	59	59	60
					fz	0.008	0.016	0.024	0.031	0.036	0.055	0.074	0.083	0.083	0.085	0.103	0.106	0.106	0.112
					RPM	7003	4881	4297	3883	3501	2626	2165	1751	1501	1373	1132	939	854	764
					FEED	112	156	206	241	252	289	320	291	249	233	233	199	181	171
	7		1.0D	0.5D	Vc	37	38	48	49	52	54	55	52	53	54	54	53	50	46
					fz	0.008	0.017	0.025	0.035	0.042	0.056	0.079	0.091	0.098	0.1	0.1	0.107	0.104	0.119
					RPM	5889	4032	3820	3119	2759	2149	1751	1379	1205	1074	955	844	723	586
					FEED	94	137	191	218	232	241	277	251	236	215	191	181	150	139
	8		1.0D	0.5D	Vc	24	26	30	32	33	35	34	34	33	34	34	33	33	34
					fz	0.011	0.017	0.023	0.029	0.037	0.051	0.069	0.079	0.086	0.09	0.1	0.104	0.099	0.105
					RPM	3820	2759	2387	2037	1751	1393	1082	902	750	676	601	525	477	433
					FEED	84	94	110	118	130	142	149	142	129	122	120	109	95	91
	9		1.0D	0.3D	Vc	15	20	24	25	26	27	26	26	26	27	27	27	26	24
					fz	0.01	0.017	0.023	0.028	0.036	0.047	0.071	0.071	0.079	0.09	0.094	0.099	0.086	0.1
					RPM	2387	2122	1910	1592	1379	1074	828	690	591	537	477	430	376	306
					FEED	48	72	88	89	99	101	118	98	93	97	90	85	65	61
	10	High alloyed steel, and tool steel	1.0D	0.5D	Vc	44	46	54	61	66	66	68	66	66	69	64	59	59	60
					fz	0.008	0.016	0.024	0.031	0.036	0.055	0.074	0.083	0.083	0.085	0.103	0.106	0.106	0.112
					RPM	7003	4881	4297	3883	3501	2626	2165	1751	1501	1373	1132	939	854	764
					FEED	112	156	206	241	252	289	320	291	249	233	233	199	181	171
	11.1		1.0D	0.5D	Vc	24	26	30	32	33	35	34	34	33	34	34	33	33	34
					fz	0.011	0.017	0.023	0.029	0.037	0.051	0.069	0.079	0.086	0.09	0.1	0.104	0.099	0.105
					RPM	3820	2759	2387	2037	1751	1393	1082	902	750	676	601	525	477	433
					FEED	84	94	110	118	130	142	149	142	129	122	120	109	95	91
	11.2		1.0D	0.3D	Vc	11	14	17	18	18	19	19	18	18	19	19	19	19	16
					fz	0.01	0.018	0.024	0.029	0.036	0.047	0.072	0.071	0.077	0.088	0.096	0.1	0.083	0.095
					RPM	1751	1485	1353	1146	955	756	605	477	409	378	336	302	275	204
					FEED	35	53	65	66	69	71	87	68	63	67	65	60	46	39
M	14.1	Stainless steel	1.0D	0.5D	Vc	17	22	27	28	29	30	29	29	29	29	30	30	29	26
					fz	0.01	0.018	0.024	0.028	0.036	0.047	0.071	0.071	0.08	0.091	0.094	0.101	0.083	0.098
					RPM	2706	2334	2149	1783	1538	1194	923	769	659	577	531	477	420	331
					FEED	54	84	103	100	111	112	131	109	105	105	100	96	70	65
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	0.5D	Vc	44	46	54	61	66	66	68	66	66	69	64	59	59	60
					fz	0.008	0.016	0.024	0.031	0.036	0.055	0.074	0.083	0.083	0.085	0.103	0.106	0.106	0.112
					RPM	7003	4881	4297	3883	3501	2626	2165	1751	1501	1373	1132	939	854	764
					FEED	112	156	206	241	252	289	320	291	249	233	233	199	181	171
H	40	Chilled Cast Iron	1.0D	0.3D	Vc	11	14	17	18	18	19	19	18	18	19	19	19	19	16
					fz	0.01	0.018	0.024	0.029	0.036	0.047	0.072	0.071	0.077	0.088	0.096	0.1	0.083	0.095
					RPM	1751	1485	1353	1146	955	756	605	477	409	378	336	302	275	204
					FEED	35	53	65	66	69	71	87	68	63	67	65	60	46	39



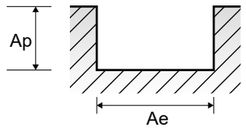
ONLY ONE COATED PM60 END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GYG01 SERIES — 3 FLUTE - SLOTTING
3刃 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0
P	1	Non-alloy steel	1.0D	0.5D	Vc	49	52	65	72	76	78	79	81	84	81	78	72	70	71
					fz	0.004	0.007	0.011	0.014	0.023	0.031	0.04	0.051	0.052	0.06	0.07	0.08	0.091	0.107
					RPM	7799	5517	5173	4584	4032	3104	2515	2149	1910	1611	1379	1146	1013	904
					FEED	94	116	171	193	278	289	302	329	298	290	290	275	276	290
	2		1.0D	0.5D	Vc	41	44	54	60	63	66	68	66	71	69	61	60	61	60
					fz	0.003	0.007	0.011	0.013	0.023	0.032	0.039	0.053	0.055	0.06	0.072	0.081	0.089	0.11
					RPM	6525	4669	4297	3820	3342	2626	2165	1751	1614	1373	1079	955	883	764
					FEED	59	98	142	149	231	252	253	278	266	247	233	232	236	252
	3-4		1.0D	0.5D	Vc	36	38	45	49	52	54	53	54	53	54	54	53	50	46
					fz	0.003	0.005	0.009	0.012	0.021	0.028	0.038	0.047	0.053	0.056	0.063	0.067	0.083	0.107
					RPM	5730	4032	3581	3119	2759	2149	1687	1432	1205	1074	955	844	723	586
					FEED	52	60	97	112	174	180	192	202	192	180	180	170	180	188
	5		1.0D	0.5D	Vc	23	25	29	32	33	35	34	34	35	34	34	33	33	34
					fz	0.004	0.007	0.009	0.012	0.021	0.029	0.044	0.052	0.055	0.06	0.064	0.069	0.08	0.093
					RPM	3661	2653	2308	2037	1751	1393	1082	902	796	676	601	525	477	433
					FEED	44	56	62	73	110	121	143	141	131	122	115	109	115	121
	6		1.0D	0.5D	Vc	41	44	54	60	63	66	68	66	71	69	61	60	61	60
					fz	0.003	0.007	0.011	0.013	0.023	0.032	0.039	0.053	0.055	0.06	0.072	0.081	0.089	0.11
					RPM	6525	4669	4297	3820	3342	2626	2165	1751	1614	1373	1079	955	883	764
					FEED	59	98	142	149	231	252	253	278	266	247	233	232	236	252
	7	Low alloy steel	1.0D	0.5D	Vc	36	38	45	49	52	54	53	54	53	54	54	53	50	46
					fz	0.003	0.005	0.009	0.012	0.021	0.028	0.038	0.047	0.053	0.056	0.063	0.067	0.083	0.107
					RPM	5730	4032	3581	3119	2759	2149	1687	1432	1205	1074	955	844	723	586
					FEED	52	60	97	112	174	180	192	202	192	180	180	170	180	188
	8		1.0D	0.5D	Vc	23	25	29	32	33	35	34	34	35	34	34	33	33	34
					fz	0.004	0.007	0.009	0.012	0.021	0.029	0.044	0.052	0.055	0.06	0.064	0.069	0.08	0.093
					RPM	3661	2653	2308	2037	1751	1393	1082	902	796	676	601	525	477	433
					FEED	44	56	62	73	110	121	143	141	131	122	115	109	115	121
	9		1.0D	0.3D	Vc	14	20	23	25	25	27	26	26	26	27	27	27	26	24
					fz	0.005	0.008	0.012	0.014	0.023	0.031	0.045	0.052	0.056	0.063	0.066	0.074	0.088	0.111
					RPM	2228	2122	1830	1592	1326	1074	828	690	591	537	477	430	376	306
					FEED	33	51	66	67	92	100	112	108	99	102	95	95	99	102
	10	High alloyed steel, and tool steel	1.0D	0.5D	Vc	41	44	54	60	63	66	68	66	71	69	61	60	61	60
					fz	0.003	0.007	0.011	0.013	0.023	0.032	0.039	0.053	0.055	0.06	0.072	0.081	0.089	0.11
					RPM	6525	4669	4297	3820	3342	2626	2165	1751	1614	1373	1079	955	883	764
					FEED	59	98	142	149	231	252	253	278	266	247	233	232	236	252
	11.1		1.0D	0.5D	Vc	23	25	29	32	33	35	34	34	35	34	34	33	33	34
					fz	0.004	0.007	0.009	0.012	0.021	0.029	0.044	0.052	0.055	0.06	0.064	0.069	0.08	0.093
					RPM	3661	2653	2308	2037	1751	1393	1082	902	796	676	601	525	477	433
					FEED	44	56	62	73	110	121	143	141	131	122	115	109	115	121
	11.2		1.0D	0.3D	Vc	10	14	16	17	17	19	18	18	18	19	19	19	19	16
					fz	0.005	0.009	0.012	0.014	0.024	0.031	0.044	0.051	0.056	0.063	0.064	0.072	0.086	0.111
					RPM	1592	1485	1273	1082	902	756	573	477	409	378	336	302	275	204
					FEED	24	40	46	45	65	70	76	73	69	71	65	65	71	68
M	14.1	Stainless steel	1.0D	0.5D	Vc	41	44	54	60	63	66	68	66	71	69	61	60	61	60
					fz	0.003	0.007	0.011	0.013	0.023	0.032	0.039	0.053	0.055	0.06	0.072	0.081	0.089	0.11
					RPM	6525	4669	4297	3820	3342	2626	2165	1751	1614	1373	1079	955	883	764
					FEED	59	98	142	149	231	252	253	278	266	247	233	232	236	252
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	0.5D	Vc	41	44	54	60	63	66	68	66	71	69	61	60	61	60
					fz	0.003	0.007	0.011	0.013	0.023	0.032	0.039	0.053	0.055	0.06	0.072	0.081	0.089	0.11
					RPM	6525	4669	4297	3820	3342	2626	2165	1751	1614	1373	1079	955	883	764
					FEED	59	98	142	149	231	252	253	278	266	247	233	232	236	252
H	40	Chilled Cast Iron	1.0D	0.3D	Vc	10	14	16	17	17	19	18	18	18	19	19	19	19	16
					fz	0.005	0.009	0.012	0.014	0.024	0.031	0.044	0.051	0.056	0.063	0.064	0.072	0.086	0.111
					RPM	1592	1485	1273	1082	902	756	573	477	409	378	336	302	275	204
					FEED	24	40	46	45	65	70	76	73	69	71	65	65	71	68

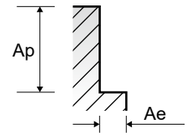


ONLY ONE COATED PM60 END MILLS

GYG01 SERIES — 3 FLUTE - SIDE CUTTING
3刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0
P	1	Non-alloy steel	0.1D	1.5D	Vc	62	66	78	89	95	97	94	95	95	97	92	94	95	94
					fz	0.004	0.008	0.012	0.015	0.024	0.034	0.047	0.056	0.065	0.069	0.076	0.08	0.089	0.11
					RPM	9868	7003	6207	5666	5040	3860	2992	2520	2160	1930	1627	1496	1375	1197
					FEED	118	168	223	255	363	394	422	423	421	399	371	359	367	395
	2		0.1D	1.5D	Vc	51	54	66	75	81	78	79	81	79	78	78	79	79	79
					fz	0.004	0.008	0.012	0.015	0.023	0.035	0.046	0.056	0.063	0.071	0.077	0.081	0.094	0.109
					RPM	8117	5730	5252	4775	4297	3104	2515	2149	1796	1552	1379	1257	1143	1006
					FEED	97	138	189	215	297	326	347	361	339	331	319	306	322	329
	3-4		0.1D	1.5D	Vc	41	43	53	55	59	60	60	63	61	60	61	59	62	60
					fz	0.004	0.007	0.01	0.014	0.025	0.033	0.043	0.055	0.06	0.067	0.073	0.082	0.088	0.11
					RPM	6525	4562	4218	3501	3130	2387	1910	1671	1387	1194	1079	939	897	764
					FEED	78	96	127	147	235	236	246	276	250	240	236	231	237	252
	5		0.1D	1.5D	Vc	29	31	35	38	41	39	38	41	41	40	40	39	39	39
					fz	0.004	0.008	0.011	0.014	0.023	0.036	0.05	0.056	0.06	0.072	0.074	0.081	0.092	0.107
					RPM	4615	3289	2785	2419	2175	1552	1210	1088	932	796	707	621	564	497
					FEED	55	79	92	102	150	168	181	183	168	172	157	151	156	159
	6		0.1D	1.5D	Vc	51	54	66	75	81	78	79	81	79	78	78	79	79	79
					fz	0.004	0.008	0.012	0.015	0.023	0.035	0.046	0.056	0.063	0.071	0.077	0.081	0.094	0.109
					RPM	8117	5730	5252	4775	4297	3104	2515	2149	1796	1552	1379	1257	1143	1006
					FEED	97	138	189	215	297	326	347	361	339	331	319	306	322	329
	7	Low alloy steel	0.1D	1.5D	Vc	41	43	53	55	59	60	60	63	61	60	61	59	62	60
					fz	0.004	0.007	0.01	0.014	0.025	0.033	0.043	0.055	0.06	0.067	0.073	0.082	0.088	0.11
					RPM	6525	4562	4218	3501	3130	2387	1910	1671	1387	1194	1079	939	897	764
					FEED	78	96	127	147	235	236	246	276	250	240	236	231	237	252
	8		0.1D	1.5D	Vc	29	31	35	38	41	39	38	41	41	40	40	39	39	39
					fz	0.004	0.008	0.011	0.014	0.023	0.036	0.05	0.056	0.06	0.072	0.074	0.081	0.092	0.107
					RPM	4615	3289	2785	2419	2175	1552	1210	1088	932	796	707	621	564	497
					FEED	55	79	92	102	150	168	181	183	168	172	157	151	156	159
	9		0.05D	1.5D	Vc	18	25	29	32	34	33	34	34	33	33	34	33	33	34
					fz	0.006	0.01	0.013	0.015	0.022	0.035	0.047	0.056	0.064	0.071	0.072	0.082	0.09	0.112
					RPM	2865	2653	2308	2037	1804	1313	1082	902	750	657	601	525	477	433
					FEED	52	80	90	92	119	138	153	152	144	140	130	129	129	145
	10	High alloyed steel, and tool steel	0.1D	1.5D	Vc	51	54	66	75	81	78	79	81	79	78	78	79	79	79
					fz	0.004	0.008	0.012	0.015	0.023	0.035	0.046	0.056	0.063	0.071	0.077	0.081	0.094	0.109
					RPM	8117	5730	5252	4775	4297	3104	2515	2149	1796	1552	1379	1257	1143	1006
					FEED	97	138	189	215	297	326	347	361	339	331	319	306	322	329
	11.1		0.1D	1.5D	Vc	29	31	35	38	41	39	38	41	41	40	40	39	39	39
					fz	0.004	0.008	0.011	0.014	0.023	0.036	0.05	0.056	0.06	0.072	0.074	0.081	0.092	0.107
					RPM	4615	3289	2785	2419	2175	1552	1210	1088	932	796	707	621	564	497
					FEED	55	79	92	102	150	168	181	183	168	172	157	151	156	159
	11.2		0.05D	1.5D	Vc	13	17	20	22	24	23	24	23	23	23	24	23	23	24
					fz	0.006	0.01	0.014	0.015	0.022	0.036	0.047	0.056	0.063	0.072	0.071	0.081	0.088	0.111
					RPM	2069	1804	1592	1401	1273	915	764	610	523	458	424	366	333	306
					FEED	37	54	67	63	84	99	108	102	99	99	90	89	88	102
M	14.1	Stainless steel	0.1D	1.5D	Vc	20	27	32	35	37	36	37	37	37	37	37	36	37	37
					fz	0.006	0.01	0.013	0.015	0.022	0.036	0.047	0.056	0.063	0.071	0.073	0.083	0.091	0.113
					RPM	3183	2865	2546	2228	1963	1432	1178	981	841	736	654	573	535	471
					FEED	57	86	99	100	130	155	166	165	159	157	143	143	146	160
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	1.5D	Vc	51	54	66	75	81	78	79	81	79	78	78	79	79	79
					fz	0.004	0.008	0.012	0.015	0.023	0.035	0.046	0.056	0.063	0.071	0.077	0.081	0.094	0.109
					RPM	8117	5730	5252	4775	4297	3104	2515	2149	1796	1552	1379	1257	1143	1006
					FEED	97	138	189	215	297	326	347	361	339	331	319	306	322	329
H	40	Chilled Cast Iron	0.05D	1.5D	Vc	13	17	20	22	24	23	24	23	23	23	24	23	23	24
					fz	0.006	0.01	0.014	0.015	0.022	0.036	0.047	0.056	0.063	0.072	0.071	0.081	0.088	0.111
					RPM	2069	1804	1592	1401	1273	915	764	610	523	458	424	366	333	306
					FEED	37	54	67	63	84	99	108	102	99	99	90	89	88	102



ONLY ONE COATED PM60 END MILLS

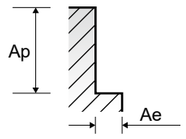
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GYG74 , GYF96 , GYG76 , GYG02 SERIES

4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0
P	1	Non-alloy steel	0.1D	1.5D	Vc	69	75	80	83	88	93	87	90	95	97	102	94	87	94
					fz	0.008	0.015	0.023	0.029	0.035	0.046	0.068	0.071	0.076	0.079	0.076	0.088	0.097	0.093
					RPM	10982	7958	6366	5284	4669	3700	2769	2387	2160	1930	1804	1496	1259	1197
					FEED	351	477	586	613	654	681	753	678	657	610	548	527	488	445
	2		0.1D	1.5D	Vc	63	68	71	75	81	78	79	81	84	84	85	79	79	79
					fz	0.007	0.015	0.021	0.026	0.031	0.046	0.063	0.067	0.072	0.077	0.08	0.088	0.084	0.09
					RPM	10027	7215	5650	4775	4297	3104	2515	2149	1910	1671	1503	1257	1143	1006
					FEED	281	433	475	497	533	571	634	576	550	515	481	443	384	362
	3-4		0.1D	1.5D	Vc	46	50	54	55	59	60	60	63	58	60	61	59	57	60
					fz	0.007	0.014	0.021	0.028	0.032	0.046	0.059	0.066	0.08	0.085	0.086	0.088	0.093	0.09
					RPM	7321	5305	4297	3501	3130	2387	1910	1671	1319	1194	1079	939	825	764
					FEED	205	297	361	392	401	439	451	441	422	406	371	331	307	275
	5		0.1D	1.5D	Vc	31	31	35	38	41	42	38	40	42	41	43	40	39	39
					fz	0.008	0.017	0.022	0.028	0.032	0.043	0.067	0.068	0.072	0.081	0.077	0.082	0.085	0.09
					RPM	4934	3289	2785	2419	2175	1671	1210	1061	955	816	760	637	564	497
					FEED	158	224	245	271	278	287	324	289	275	264	234	209	192	179
	6	Low alloy steel	0.1D	1.5D	Vc	63	68	71	75	81	78	79	81	84	84	85	79	79	79
					fz	0.007	0.015	0.021	0.026	0.031	0.046	0.063	0.067	0.072	0.077	0.08	0.088	0.084	0.09
					RPM	10027	7215	5650	4775	4297	3104	2515	2149	1910	1671	1503	1257	1143	1006
					FEED	281	433	475	497	533	571	634	576	550	515	481	443	384	362
	7		0.1D	1.5D	Vc	46	50	54	55	59	60	60	63	58	60	61	59	57	60
					fz	0.007	0.014	0.021	0.028	0.032	0.046	0.059	0.066	0.08	0.085	0.086	0.088	0.093	0.09
					RPM	7321	5305	4297	3501	3130	2387	1910	1671	1319	1194	1079	939	825	764
					FEED	205	297	361	392	401	439	451	441	422	406	371	331	307	275
	8		0.1D	1.5D	Vc	31	31	35	38	41	42	38	40	42	41	43	40	39	39
					fz	0.008	0.017	0.022	0.028	0.032	0.043	0.067	0.068	0.072	0.081	0.077	0.082	0.085	0.09
					RPM	4934	3289	2785	2419	2175	1671	1210	1061	955	816	760	637	564	497
					FEED	158	224	245	271	278	287	324	289	275	264	234	209	192	179
	9		0.05D	1.5D	Vc	25	27	30	32	33	35	34	32	33	33	34	33	33	34
					fz	0.006	0.013	0.019	0.023	0.031	0.04	0.056	0.064	0.067	0.076	0.075	0.08	0.081	0.087
					RPM	3979	2865	2387	2037	1751	1393	1082	849	750	657	601	525	477	433
					FEED	95	149	181	187	217	223	242	217	201	200	180	168	155	151
	10	High alloyed steel, and tool steel	0.1D	1.5D	Vc	63	68	71	75	81	78	79	81	84	84	85	79	79	79
					fz	0.007	0.015	0.021	0.026	0.031	0.046	0.063	0.067	0.072	0.077	0.08	0.088	0.084	0.09
					RPM	10027	7215	5650	4775	4297	3104	2515	2149	1910	1671	1503	1257	1143	1006
					FEED	281	433	475	497	533	571	634	576	550	515	481	443	384	362
	11.1		0.1D	1.5D	Vc	31	31	35	38	41	42	38	40	42	41	43	40	39	39
					fz	0.008	0.017	0.022	0.028	0.032	0.043	0.067	0.068	0.072	0.081	0.077	0.082	0.085	0.09
					RPM	4934	3289	2785	2419	2175	1671	1210	1061	955	816	760	637	564	497
					FEED	158	224	245	271	278	287	324	289	275	264	234	209	192	179
	11.2		0.05D	1.5D	Vc	17	19	21	22	23	24	24	23	23	23	24	23	23	24
					fz	0.006	0.013	0.019	0.024	0.031	0.04	0.057	0.065	0.068	0.076	0.074	0.081	0.081	0.088
					RPM	2706	2016	1671	1401	1220	955	764	610	523	458	424	366	333	306
					FEED	65	105	127	134	151	153	174	159	142	139	126	119	108	108
M	14.1	Stainless steel	0.1D	1.5D	Vc	27	30	33	35	36	38	37	36	37	37	37	36	37	37
					fz	0.006	0.013	0.019	0.023	0.031	0.039	0.056	0.063	0.067	0.075	0.076	0.08	0.08	0.088
					RPM	4297	3183	2626	2228	1910	1512	1178	955	841	736	654	573	535	471
					FEED	103	166	200	205	237	236	264	241	225	221	199	183	171	166
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	1.5D	Vc	63	68	71	75	81	78	79	81	84	84	85	79	79	79
					fz	0.007	0.015	0.021	0.026	0.031	0.046	0.063	0.067	0.072	0.077	0.08	0.088	0.084	0.09
					RPM	10027	7215	5650	4775	4297	3104	2515	2149	1910	1671	1503	1257	1143	1006
					FEED	281	433	475	497	533	571	634	576	550	515	481	443	384	362
H	40	Chilled Cast Iron	0.05D	1.5D	Vc	17	19	21	22	23	24	24	23	23	23	24	23	23	24
					fz	0.006	0.013	0.019	0.024	0.031	0.04	0.057	0.065	0.068	0.076	0.074	0.081	0.081	0.088
					RPM	2706	2016	1671	1401	1220	955	764	610	523	458	424	366	333	306
					FEED	65	105	127	134	151	153	174	159	142	139	126	119	108	108



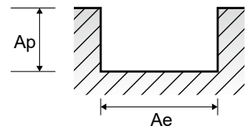
ONLY ONE COATED PM60 END MILLS

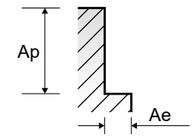
GYG52 SERIES

4 FLUTE - SLOTTING, SIDE CUTTING
4刃 - 槽铣削，侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Slotting 槽铣削 Ae(mm)	Slotting 槽铣削 Ap(mm)	Side Cutting 侧铣削 Ae(mm)	Side Cutting 侧铣削 Ap(mm)	Parameter 参数	Diameter (Ø) 直径 3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	25.0
P	1-2	Non-alloy steel	1.0D	0.5D	0.3D	1.5D	Vc	70	70	70	70	70	77	77	77	77	77	77	77
							fz	0.005	0.008	0.012	0.016	0.028	0.039	0.047	0.049	0.053	0.059	0.065	0.063
							RPM	7427	5570	4456	3714	2785	2451	2042	1751	1532	1362	1225	980
							FEED	149	178	214	238	312	382	384	343	325	321	319	247
	3-4		1.0D	0.5D	0.3D	1.5D	Vc	64	63	63	64	64	70	70	70	70	70	70	70
							fz	0.005	0.008	0.011	0.016	0.028	0.039	0.047	0.049	0.053	0.059	0.065	0.063
							RPM	6791	5013	4011	3395	2546	2228	1857	1592	1393	1238	1114	891
							FEED	136	160	176	217	285	348	349	312	295	292	290	225
	5		1.0D	0.5D	0.3D	1.5D	Vc	44	44	44	44	44	49	49	49	49	49	49	49
							fz	0.005	0.008	0.011	0.016	0.028	0.038	0.047	0.05	0.052	0.059	0.066	0.065
							RPM	4669	3501	2801	2334	1751	1560	1300	1114	975	867	780	624
							FEED	93	112	123	149	196	237	244	223	203	204	206	162
	6	Low alloy steel	1.0D	0.5D	0.3D	1.5D	Vc	70	70	70	70	70	77	77	77	77	77	77	77
							fz	0.005	0.008	0.012	0.016	0.028	0.039	0.047	0.049	0.053	0.059	0.065	0.063
							RPM	7427	5570	4456	3714	2785	2451	2042	1751	1532	1362	1225	980
							FEED	149	178	214	238	312	382	384	343	325	321	319	247
	7		1.0D	0.5D	0.3D	1.5D	Vc	64	63	63	64	64	70	70	70	70	70	70	70
							fz	0.005	0.008	0.011	0.016	0.028	0.039	0.047	0.049	0.053	0.059	0.065	0.063
							RPM	6791	5013	4011	3395	2546	2228	1857	1592	1393	1238	1114	891
							FEED	136	160	176	217	285	348	349	312	295	292	290	225
	8		1.0D	0.5D	0.3D	1.5D	Vc	44	44	44	44	44	49	49	49	49	49	49	49
							fz	0.005	0.008	0.011	0.016	0.028	0.038	0.047	0.05	0.052	0.059	0.066	0.065
							RPM	4669	3501	2801	2334	1751	1560	1300	1114	975	867	780	624
							FEED	93	112	123	149	196	237	244	223	203	204	206	162
	9		1.0D	0.3D	0.15D	1.5D	Vc	27	27	27	27	27	30	29	29	30	29	30	29
							fz	0.004	0.007	0.01	0.014	0.024	0.032	0.04	0.041	0.044	0.05	0.056	0.054
							RPM	2865	2149	1719	1432	1074	955	769	659	597	513	477	369
							FEED	46	60	69	80	103	122	123	108	105	103	107	80
	10	High alloyed steel, and tool steel	1.0D	0.5D	0.3D	1.5D	Vc	70	70	70	70	70	77	77	77	77	77	77	77
							fz	0.005	0.008	0.012	0.016	0.028	0.039	0.047	0.049	0.053	0.059	0.065	0.063
							RPM	7427	5570	4456	3714	2785	2451	2042	1751	1532	1362	1225	980
							FEED	149	178	214	238	312	382	384	343	325	321	319	247
	11.1		1.0D	0.5D	0.3D	1.5D	Vc	44	44	44	44	44	49	49	49	49	49	49	49
							fz	0.005	0.008	0.011	0.016	0.028	0.038	0.047	0.05	0.052	0.059	0.066	0.065
							RPM	4669	3501	2801	2334	1751	1560	1300	1114	975	867	780	624
							FEED	93	112	123	149	196	237	244	223	203	204	206	162
	11.2		1.0D	0.3D	0.15D	1.5D	Vc	27	27	27	27	27	30	29	29	30	29	30	29
							fz	0.004	0.007	0.01	0.014	0.024	0.032	0.04	0.041	0.044	0.05	0.056	0.054
							RPM	2865	2149	1719	1432	1074	955	769	659	597	513	477	369
							FEED	46	60	69	80	103	122	123	108	105	103	107	80
M	14.1	Stainless steel	1.0D	0.5D	0.3D	1.5D	Vc	48	48	48	48	48	48	48	48	48	48	48	48
							fz	0.005	0.008	0.013	0.018	0.029	0.048	0.056	0.06	0.063	0.071	0.077	0.078
							RPM	5093	3820	3056	2546	1910	1528	1273	1091	955	849	764	611
							FEED	102	122	159	183	222	293	285	262	241	241	235	191
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	0.5D	0.3D	1.5D	Vc	70	70	70	70	70	77	77	77	77	77	77	77
							fz	0.005	0.008	0.012	0.016	0.028	0.039	0.047	0.049	0.053	0.059	0.065	0.063
							RPM	7427	5570	4456	3714	2785	2451	2042	1751	1532	1362	1225	980
							FEED	149	178	214	238	312	382	384	343	325	321	319	247
H	40	Chilled Cast Iron	1.0D	0.3D	0.15D	1.5D	Vc	27	27	27	27	27	30	29	29	30	29	30	29
							fz	0.004	0.007	0.01	0.014	0.024	0.032	0.04	0.041	0.044	0.05	0.056	0.054
							RPM	2865	2149	1719	1432	1074	955	769	659	597	513	477	369
							FEED	46	60	69	80	103	122	123	108	105	103	107	80





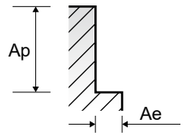
ONLY ONE COATED PM60 END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GYF95 SERIES
MULTI FLUTE ROUGHING - SIDE CUTTING
多刃 粗加工- 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	25.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	76	87	86	87	89	87	85	87	90
					fz	0.02	0.03	0.055	0.065	0.059	0.069	0.079	0.088	0.105
					RPM	4032	3462	2737	2308	2024	1731	1503	1385	1146
					FEED	323	415	602	600	597	597	594	609	602
	2		0.5D	1.5D	Vc	60	69	68	65	66	69	72	68	68
					fz	0.021	0.03	0.053	0.069	0.063	0.069	0.074	0.087	0.106
					RPM	3183	2745	2165	1724	1501	1373	1273	1082	866
					FEED	267	329	459	476	473	474	471	471	459
	3		0.5D	1.5D	Vc	43	51	47	49	48	48	50	48	47
					fz	0.018	0.028	0.046	0.063	0.061	0.069	0.075	0.086	0.107
					RPM	2281	2029	1496	1300	1091	955	884	764	598
					FEED	164	227	275	328	333	329	332	328	320
	4		0.5D	1.5D	Vc	43	51	47	49	48	48	50	48	47
					fz	0.018	0.028	0.046	0.063	0.061	0.069	0.075	0.086	0.107
					RPM	2281	2029	1496	1300	1091	955	884	764	598
					FEED	164	227	275	328	266	264	265	263	256
	5		0.5D	1.5D	Vc	35	38	40	40	40	40	40	40	41
					fz	0.02	0.03	0.045	0.061	0.057	0.066	0.073	0.081	0.1
					RPM	1857	1512	1273	1061	909	796	707	637	522
					FEED	149	181	229	259	259	263	258	258	261
	6	Low alloy steel	0.5D	1.5D	Vc	60	69	68	65	66	69	72	68	68
					fz	0.021	0.03	0.053	0.069	0.063	0.069	0.074	0.087	0.106
					RPM	3183	2745	2165	1724	1501	1373	1273	1082	866
					FEED	267	329	459	476	473	474	471	471	459
	7		0.5D	1.5D	Vc	43	51	47	49	48	48	50	48	47
					fz	0.018	0.028	0.046	0.063	0.061	0.069	0.075	0.086	0.107
					RPM	2281	2029	1496	1300	1091	955	884	764	598
					FEED	164	227	275	328	333	329	332	328	320
	8-9		0.5D	1.5D	Vc	35	38	40	40	40	40	40	40	41
					fz	0.02	0.03	0.045	0.061	0.057	0.066	0.073	0.081	0.1
					RPM	1857	1512	1273	1061	909	796	707	637	522
					FEED	149	181	229	259	259	263	258	258	261
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	60	69	68	65	66	69	72	68	68
					fz	0.021	0.03	0.053	0.069	0.063	0.069	0.074	0.087	0.106
					RPM	3183	2745	2165	1724	1501	1373	1273	1082	866
					FEED	267	329	459	476	473	474	471	471	459
	11.1		0.5D	1.5D	Vc	35	38	40	40	40	40	40	40	41
					fz	0.02	0.03	0.045	0.061	0.057	0.066	0.073	0.081	0.1
					RPM	1857	1512	1273	1061	909	796	707	637	522
					FEED	149	181	229	259	259	263	258	258	261
	11.2		0.3D	1.5D	Vc	25	27	28	28	28	28	28	28	28
					fz	0.02	0.029	0.044	0.06	0.056	0.065	0.072	0.08	0.1
					RPM	1326	1074	891	743	637	557	495	446	357
					FEED	106	125	157	178	178	181	178	178	178
M	14.1	Stainless steel	0.5D	1.5D	Vc	39	43	43	43	44	43	45	44	44
					fz	0.019	0.03	0.045	0.064	0.059	0.069	0.075	0.084	0.104
					RPM	2069	1711	1369	1141	1000	855	796	700	560
					FEED	157	205	246	292	295	295	298	294	291
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.5D	1.5D	Vc	60	69	68	65	66	69	72	68	68
					fz	0.021	0.03	0.053	0.069	0.063	0.069	0.074	0.087	0.106
					RPM	3183	2745	2165	1724	1501	1373	1273	1082	866
					FEED	267	329	459	476	473	474	471	471	459
H	40	Chilled Cast Iron	0.3D	1.5D	Vc	25	27	28	28	28	28	28	28	28
					fz	0.02	0.029	0.044	0.06	0.056	0.065	0.072	0.08	0.1
					RPM	1326	1074	891	743	637	557	495	446	357
					FEED	106	125	157	178	178	181	178	178	178

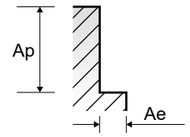


ONLY ONE COATED PM60 END MILLS

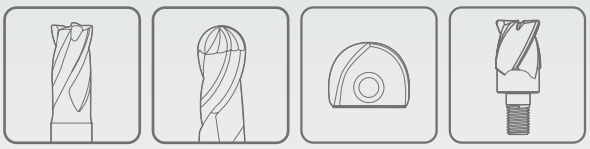
GYF94, GYF98, GYG03 SERIES
MULTI FLUTE ROUGHING - SIDE CUTTING
多刃 粗加工- 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	25.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	63	72	72	72	74	72	71	72	75
					fz	0.027	0.041	0.055	0.065	0.074	0.087	0.099	0.111	0.105
					RPM	3342	2865	2292	1910	1682	1432	1256	1146	955
					FEED	271	352	504	497	498	498	497	509	501
	2		0.5D	1.5D	Vc	50	57	57	54	55	57	61	57	57
					fz	0.027	0.04	0.053	0.069	0.078	0.087	0.092	0.109	0.106
					RPM	2653	2268	1814	1432	1251	1134	1079	907	726
					FEED	215	272	385	395	390	395	397	396	385
	3-4		0.5D	1.5D	Vc	36	42	40	41	40	40	41	40	39
					fz	0.024	0.038	0.047	0.064	0.076	0.087	0.094	0.107	0.106
					RPM	1910	1671	1273	1088	909	796	725	637	497
					FEED	138	191	239	278	276	277	273	272	263
	5		0.5D	1.5D	Vc	29	32	34	34	33	33	33	33	34
					fz	0.027	0.04	0.044	0.06	0.071	0.081	0.091	0.101	0.1
					RPM	1538	1273	1082	902	750	657	584	525	433
					FEED	125	153	190	216	213	213	212	212	216
	6	Low alloy steel	0.5D	1.5D	Vc	50	57	57	54	55	57	61	57	57
					fz	0.027	0.04	0.053	0.069	0.078	0.087	0.092	0.109	0.106
					RPM	2653	2268	1814	1432	1251	1134	1079	907	726
					FEED	215	272	385	395	390	395	397	396	385
	7		0.5D	1.5D	Vc	36	42	40	41	40	40	41	40	39
					fz	0.024	0.038	0.047	0.064	0.076	0.087	0.094	0.107	0.106
					RPM	1910	1671	1273	1088	909	796	725	637	497
					FEED	138	191	239	278	276	277	273	272	263
	8-9		0.5D	1.5D	Vc	29	32	34	34	33	33	33	33	34
					fz	0.027	0.04	0.044	0.06	0.071	0.081	0.091	0.101	0.1
					RPM	1538	1273	1082	902	750	657	584	525	433
					FEED	125	153	190	216	213	213	212	212	216
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	50	57	57	54	55	57	61	57	57
					fz	0.027	0.04	0.053	0.069	0.078	0.087	0.092	0.109	0.106
					RPM	2653	2268	1814	1432	1251	1134	1079	907	726
					FEED	215	272	385	395	390	395	397	396	385
	11.1		0.5D	1.5D	Vc	29	32	34	34	33	33	33	33	34
					fz	0.027	0.04	0.044	0.06	0.071	0.081	0.091	0.101	0.1
					RPM	1538	1273	1082	902	750	657	584	525	433
					FEED	125	153	190	216	213	213	212	212	216
	11.2		0.3D	1.5D	Vc	21	22	24	23	23	23	23	23	24
					fz	0.028	0.04	0.045	0.06	0.071	0.082	0.091	0.101	0.1
					RPM	1114	875	764	610	523	458	407	366	306
					FEED	94	105	138	146	149	150	148	148	153
M	14.1	Stainless steel	0.5D	1.5D	Vc	33	36	36	36	37	36	37	36	37
					fz	0.025	0.039	0.045	0.064	0.074	0.085	0.093	0.106	0.102
					RPM	1751	1432	1146	955	841	716	654	573	471
					FEED	131	168	206	244	249	244	243	243	240
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.5D	1.5D	Vc	50	57	57	54	55	57	61	57	57
					fz	0.027	0.04	0.053	0.069	0.078	0.087	0.092	0.109	0.106
					RPM	2653	2268	1814	1432	1251	1134	1079	907	726
					FEED	215	272	385	395	390	395	397	396	385
H	40	Chilled Cast Iron	0.3D	1.5D	Vc	21	22	24	23	23	23	23	23	24
					fz	0.028	0.04	0.045	0.06	0.071	0.082	0.091	0.101	0.1
					RPM	1114	875	764	610	523	458	407	366	306
					FEED	94	105	138	146	149	150	148	148	153



Global Cutting Tool Leader **YG-1**



MILLING

YG

Leading Through Innovation

HSS-PM

TANK-POWER
END MILLS

- **High Toughness for Stainless Steels, Carbon steels and Alloy Steels**
- 适用于不锈钢，碳钢和合金钢的高韧性铣刀

SELECTION GUIDE
选用指南

YG MILLING TOOLS

HSS-PM
TANK-POWER
END MILLS

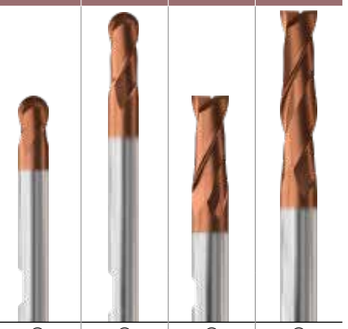
High Toughness, for Stainless Steels, Carbon steels, Alloy Steels
For General Application, Rough & Finish
适用于不锈钢，碳钢，合金钢
可用于普通加工，粗&精加工的高韧性铣刀

Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工参数) : p.C562

SERIES 系列	E9940 GA940	E9A32 GAA32	E9936 GA936	E9A29 GAA29
FLUTE 槽数	2	2	2	2
HELIX ANGLE 螺旋角度	30°	30°	30°	30°
CUTTING EDGE SHAPE 类型	BALL NOSE	BALL NOSE	SQUARE	SQUARE
SIZE MIN 最小尺寸	R0.5	R1.0	D1.0	D1.0
SIZE MAX 最大尺寸	R12.5	R12.5	D25.0	D25.0
PAGE 页数	C548	C549	C550	C551
	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	LONG LENGTH
	TiAlN	TiAlN	TiAlN	TiAlN



ISO	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB	HRc				
P	1	Non-alloy steel	About 0.15% C	Annealed	125		◎	◎	◎	◎
	2		About 0.45% C	Annealed	190	13	◎	◎	◎	◎
	3		About 0.45% C	Quenched & Tempered	250	25	◎	◎	◎	◎
	4		About 0.75% C	Annealed	270	28	◎	◎	◎	◎
	5		About 0.75% C	Quenched & Tempered	300	32	◎	◎	◎	◎
	6	Low alloy steel		Annealed	180	10	◎	◎	◎	◎
	7			Quenched & Tempered	275	29	◎	◎	◎	◎
	8			Quenched & Tempered	300	32	◎	◎	◎	◎
	9			Quenched & Tempered	350	38	○	○	○	○
	10	High alloyed steel, and tool steel		Annealed	200	15	◎	◎	◎	◎
	11			Quenched & Tempered	325	35	○	○	○	○
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15	◎	◎	◎	◎
	13		Martensitic	Quenched & Tempered	240	23	◎	◎	◎	◎
	14		Austenitic		180	10	◎	◎	◎	◎
K	15	Grey cast iron	Pearlitic / ferritic		180	10	◎	◎	◎	◎
	16		Pearlitic (Martensitic)		260	26	◎	◎	◎	◎
	17	Nodular cast iron	Ferritic		160	3	◎	◎	◎	◎
	18		Pearlitic		250	25	◎	◎	◎	◎
	19	Malleable cast iron	Ferritic		130		◎	◎	◎	◎
	20		Pearlitic		230	21	◎	◎	◎	◎
N	21	Aluminum-wrought alloy	Not Curable		60					
	22		Curable	Hardened	100					
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75					
	24		≤ 12% Si, Curable	Hardened	90					
	25		> 12% Si, Not Curable		130					
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110		○	○	○	○
	27		CuZn, CuSnZn (Brass)		90		○	○	○	○
	28		CuSn, lead-free copper and electrolytic copper		100		○	○	○	○
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic							
	30		Rubber, Wood, etc.							
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15				
	32			Cured	280	30				
	33		Ni or Co Based	Annealed	250	25				
	34			Cured	350	38				
	35			Cast	320	34				
	36	Titanium Alloys	Pure Titanium		400 Rm					
	37		Alpha + Beta Alloys	Hardened	1050 Rm					
H	38	Hardened steel		Hardened	550	55				
	39			Hardened	630	60				
	40	Chilled Cast Iron		Cast	400	42				
	41	Hardened Cast Iron		Hardened	550	55				

E9942 GA942	E9A30 GAA30	E9938 GA938	E9A31 GAA31	E9941 GA941	E9A35 GAA35	E9A26 GAA26	E9A33 GAA33	E9A34 GAA34	E9E43 GAE43
3	3	4	4	Multi Flute	Multi Flute	Multi Flute	Multi Flute	Multi Flute	Multi Flute
30°	30°	30°	30°	30°	30°	45°	30°	30°	30°
SQUARE	SQUARE	SQUARE	SQUARE	ROUGHING	ROUGHING	ROUGHING	ROUGHING	ROUGHING	ROUGHING
D1.0	D1.0	D1.0	D2.0	D6.0	D6.0	D4.0	D6.0	D6.0	D10.0
D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0
C552	C553	554	C555	C556	C557	C558	C559	C560	C561
STUB LENGTH	SHORT LENGTH	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	SHORT LENGTH	LONG LENGTH	WITH NECK
TiAlN	TiAlN	TiAlN	TiAlN	X-Coating	X-Coating	X-Coating	X-Coating	X-Coating	X-Coating

◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	1	
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										41	

BALL NOSE = 球头　SQUARE = 平头　ROUGHING = 粗加工
SHORT LENGTH= 短刃　LONG LENGTH = 长刃　WITH NECK = 带颈部　MULTIPLE HELIX = 不等螺旋

TANK-POWER HSS-PM END MILLS

UNCOATED **E9940 SERIES**
TiAlN COATED **GA940 SERIES**

HSS-PM, 2 FLUTE SHORT LENGTH BALL NOSE
粉末高速钢，2刃 短刃 球头

- ▶ Designed to machine carbon steels, alloyed steels, stainless steels.
- ▶ Designed for milling of radius bottom slots, fillets and special contours.
- ▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting.

- ▶ 适合加工碳钢、合金钢、不锈钢
- ▶ 适合底部圆弧槽、圆角和特殊轮廓的铣削
- ▶ 采用YG-1最新研发的 适合高速加工 TANK-POWER 涂层，

HSS PM | DIN 327 | 2 | 30° | R ±0.02 | DIN 1835B

p.C562-563

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No. UNCOATED	EDP No. TiAlN	Radius of Ball Nose 圆弧角 R(±0.02)	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
E9940010	**GA940010**	R0.5	**1.0**	6	2.5	47
E9940020	**GA940020**	R1.0	**2.0**	6	4	48
E9940030	**GA940030**	R1.5	**3.0**	6	5	49
E9940040	**GA940040**	R2.0	**4.0**	6	7	51
E9940050	**GA940050**	R2.5	**5.0**	6	8	52
E9940060	**GA940060**	R3.0	**6.0**	6	8	52
E9940070	**GA940070**	R3.5	**7.0**	10	10	60
E9940080	**GA940080**	R4.0	**8.0**	10	11	61
E9940090	**GA940090**	R4.5	**9.0**	10	11	61
E9940100	**GA940100**	R5.0	**10.0**	10	13	63
E9940120	**GA940120**	R6.0	**12.0**	12	16	73
E9940140	**GA940140**	R7.0	**14.0**	12	16	73
E9940160	**GA940160**	R8.0	**16.0**	16	19	79
E9940180	**GA940180**	R9.0	**18.0**	16	19	79
E9940200	**GA940200**	R10.0	**20.0**	20	22	88
E9940220	**GA940220**	R11.0	**22.0**	20	22	88
E9940250	**GA940250**	R12.5	**25.0**	25	26	102

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○													

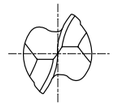
TANK-POWER HSS-PM END MILLS

UNCOATED **E9A32 SERIES**
TiAlN COATED **GAA32 SERIES**

HSS-PM, 2 FLUTE LONG LENGTH BALL NOSE
粉末高速钢，2刃 长刃 球头

- ▶ Designed to machine carbon steels, alloyed steels, stainless steels.
- ▶ Designed for milling of radius bottom slots, fillets and special contours.
- ▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting.

- ▶ 适合加工碳钢、合金钢、不锈钢
- ▶ 适合底部圆弧槽、圆角和特殊轮廓的铣削
- ▶ 采用YG-1最新研发的 适合高速加工 TANK-POWER 涂层，



HSS PM | DIN 1889 | 2 | 30° | R ±0.02 | DIN 1835B

p.C562-563

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No. UNCOATED	EDP No. TiAlN	Radius of Ball Nose 圆弧角 R(±0.02)	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
E9A32020	**GAA32020**	R1.0	**2.0**	6	7	54
E9A32030	**GAA32030**	R1.5	**3.0**	6	8	56
E9A32040	**GAA32040**	R2.0	**4.0**	6	11	63
E9A32050	**GAA32050**	R2.5	**5.0**	6	13	68
E9A32060	**GAA32060**	R3.0	**6.0**	6	13	68
E9A32070	**GAA32070**	R3.5	**7.0**	10	16	80
E9A32080	**GAA32080**	R4.0	**8.0**	10	19	88
E9A32090	**GAA32090**	R4.5	**9.0**	10	19	88
E9A32100	**GAA32100**	R5.0	**10.0**	10	22	95
E9A32120	**GAA32120**	R6.0	**12.0**	12	26	110
E9A32140	**GAA32140**	R7.0	**14.0**	12	26	110
E9A32160	**GAA32160**	R8.0	**16.0**	16	32	123
E9A32180	**GAA32180**	R9.0	**18.0**	16	32	123
E9A32200	**GAA32200**	R10.0	**20.0**	20	38	141
E9A32220	**GAA32220**	R11.0	**22.0**	20	38	141
E9A32250	**GAA32250**	R12.5	**25.0**	25	45	166

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○													

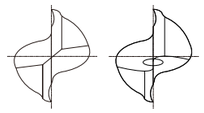
TANK-POWER HSS-PM END MILLS

UNCOATED **E9936** SERIES
TiAlN COATED **GA936** SERIES

HSS-PM, 2 FLUTE SHORT LENGTH
粉末高速钢，2刃 短刃

- ▶ Designed to machine carbon steels, alloyed steels, stainless steels.
- ▶ 2 Flute design for slotting.
- ▶ Suitable for high speed cutting of difficult-to-cut materials.
- ▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting.

- ▶ 适合加工碳钢、合金钢、不锈钢
- ▶ 为了槽铣削采用2槽设计
- ▶ 适用于高速加工难切削材料
- ▶ 采用YG-1最新研发的 适合高速加工 TANK-POWER 涂层，



to Ø 3mm Ø3以下 | over Ø 3m 超过Ø3

HSS PM | DIN 327 | 2 | 30° | DIN 1835B

p.C564-565

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter 直径 e8	Shank Diameter 柄径 h6	Length of Cut 刃长	Overall Length 全长
E9936010	GA936010	1.0	6	2.5	47
E9936020	GA936020	2.0	6	4	48
E9936030	GA936030	3.0	6	5	49
E9936040	GA936040	4.0	6	7	51
E9936050	GA936050	5.0	6	8	52
E9936060	GA936060	6.0	6	8	52
E9936070	GA936070	7.0	10	10	60
E9936080	GA936080	8.0	10	11	61
E9936090	GA936090	9.0	10	11	61
E9936100	GA936100	10.0	10	13	63
E9936120	GA936120	12.0	12	16	73
E9936140	GA936140	14.0	12	16	73
E9936160	GA936160	16.0	16	19	79
E9936180	GA936180	18.0	16	19	79
E9936200	GA936200	20.0	20	22	88
E9936220	GA936220	22.0	20	22	88
E9936250	GA936250	25.0	25	26	102

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

Tolerance range in ㎛ / 公差单位为 — Nominal-Diameter in (直径单位为) ㎜	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30
e8	- 14 - 28	- 20 - 38	- 25 - 47	- 32 - 59	- 40 - 73
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○													

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

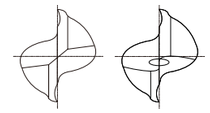
TANK-POWER HSS-PM END MILLS

UNCOATED **E9A29** SERIES
TiAlN COATED **GAA29** SERIES

HSS-PM, 2 FLUTE LONG LENGTH
粉末高速钢，2刃 长刃

- ▶ Designed to machine carbon steels, alloyed steels, stainless steels.
- ▶ 2 Flute design for slotting.
- ▶ Suitable for high speed cutting of difficult-to-cut materials.
- ▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting.

- ▶ 适合加工碳钢、合金钢、不锈钢
- ▶ 为了槽铣削采用2槽设计
- ▶ 适用于高速加工难切削材料
- ▶ 采用YG-1最新研发的 适合高速加工 TANK-POWER 涂层，



to Ø 3mm Ø3以下 | over Ø 3m 超过Ø3

HSS PM | DIN 844 | 2 | 30° | DIN 1835B

p.C564-565

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter 直径 e8	Shank Diameter 柄径 h6	Length of Cut 刃长	Overall Length 全长
E9A29010	GAA29010	1.0	6	3	47
E9A29020	GAA29020	2.0	6	7	51
E9A29030	GAA29030	3.0	6	8	52
E9A29040	GAA29040	4.0	6	11	55
E9A29050	GAA29050	5.0	6	13	57
E9A29060	GAA29060	6.0	6	13	57
E9A29070	GAA29070	7.0	10	16	66
E9A29080	GAA29080	8.0	10	19	69
E9A29090	GAA29090	9.0	10	19	69
E9A29100	GAA29100	10.0	10	22	72
E9A29120	GAA29120	12.0	12	26	83
E9A29140	GAA29140	14.0	12	26	83
E9A29160	GAA29160	16.0	16	32	92
E9A29180	GAA29180	18.0	16	32	92
E9A29200	GAA29200	20.0	20	38	104
E9A29220	GAA29220	22.0	20	38	104
E9A29250	GAA29250	25.0	25	45	121

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

Tolerance range in ㎛ / 公差单位为 — Nominal-Diameter in (直径单位为) ㎜	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30
e8	- 14 - 28	- 20 - 38	- 25 - 47	- 32 - 59	- 40 - 73
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB											15	30	25	38	34			55	60	42	55
Recommend						○	○	○													

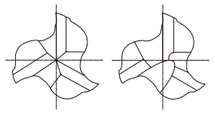
TANK-POWER HSS-PM END MILLS

UNCOATED **E9942** SERIES
TiAlN COATED **GA942** SERIES

HSS-PM, 3 FLUTE STUB LENGTH
粉末高速钢，3刃 超短刃

- ▶ Designed to machine carbon steels, alloyed steels, stainless steels.
- ▶ Well balanced web design to minimize deflection and chattering.
- ▶ 3 flute design possess the advantage of 2 flute and 4 flute end mill.
- ▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting.

- ▶ 适合加工碳钢、合金钢、不锈钢
- ▶ 平衡良好的芯核设计，最大限度地减少挠度和抖振
- ▶ 3槽设计兼具2槽4槽铣刀的优点
- ▶ 采用YG-1最新研发的 适合高速加工 TANK-POWER 涂层，



up to Ø 1mm Ø1mm以下 | over Ø 1mm 超过Ø1mm

HSS PM | DIN 327 | 3 | 30° | DIN 1835B

p.C566-567

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter 直径 e8	Shank Diameter 柄径 h6	Length of Cut 刃长	Overall Length 全长
E9942010	GA942010	1.0	6	2.5	47
E9942020	GA942020	2.0	6	4	48
E9942030	GA942030	3.0	6	5	49
E9942040	GA942040	4.0	6	7	51
E9942050	GA942050	5.0	6	8	52
E9942060	GA942060	6.0	6	8	52
E9942070	GA942070	7.0	10	10	60
E9942080	GA942080	8.0	10	11	61
E9942090	GA942090	9.0	10	11	61
E9942100	GA942100	10.0	10	13	63
E9942120	GA942120	12.0	12	16	73
E9942140	GA942140	14.0	12	16	73
E9942160	GA942160	16.0	16	19	79
E9942180	GA942180	18.0	16	19	79
E9942200	GA942200	20.0	20	22	88
E9942220	GA942220	22.0	20	22	88
E9942250	GA942250	25.0	25	26	102

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

Tolerance range in μm / 公差单位为 Nominal-Diameter in mm / 直径单位为	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30
e8	- 14 - 28	- 20 - 38	- 25 - 47	- 32 - 59	- 40 - 73
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○													

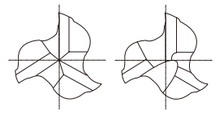
TANK-POWER HSS-PM END MILLS

UNCOATED **E9A30** SERIES
TiAlN COATED **GAA30** SERIES

HSS-PM, 3 FLUTE SHORT LENGTH
粉末高速钢，3刃 短刃

- ▶ Designed to machine carbon steels, alloyed steels, stainless steels.
- ▶ Well balanced web design to minimize deflection and chattering.
- ▶ 3 flute design possess the advantage of 2 flute and 4 flute end mill.
- ▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting.

- ▶ 适合加工碳钢、合金钢、不锈钢
- ▶ 平衡良好的芯核设计，最大限度地减少挠度和抖振
- ▶ 3槽设计兼具2槽4槽铣刀的优点
- ▶ 采用YG-1最新研发的 适合高速加工 TANK-POWER 涂层，



up to Ø 1mm Ø1mm以下 | over Ø 1mm 超过Ø1mm

HSS PM | DIN 844 | 3 | 30° | DIN 1835B

p.C566-567

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter 直径 e8	Shank Diameter 柄径 h6	Length of Cut 刃长	Overall Length 全长
E9A30010	GAA30010	1.0	6	3	47
E9A30020	GAA30020	2.0	6	7	51
E9A30030	GAA30030	3.0	6	8	52
E9A30040	GAA30040	4.0	6	11	55
E9A30050	GAA30050	5.0	6	13	57
E9A30060	GAA30060	6.0	6	13	57
E9A30070	GAA30070	7.0	10	16	66
E9A30080	GAA30080	8.0	10	19	69
E9A30090	GAA30090	9.0	10	19	69
E9A30100	GAA30100	10.0	10	22	72
E9A30120	GAA30120	12.0	12	26	83
E9A30140	GAA30140	14.0	12	26	83
E9A30160	GAA30160	16.0	16	32	92
E9A30180	GAA30180	18.0	16	32	92
E9A30200	GAA30200	20.0	20	38	104
E9A30220	GAA30220	22.0	20	38	104
E9A30250	GAA30250	25.0	25	45	121

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

Tolerance range in μm / 公差单位为 Nominal-Diameter in mm / 直径单位为	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30
e8	- 14 - 28	- 20 - 38	- 25 - 47	- 32 - 59	- 40 - 73
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○													

TANK-POWER HSS-PM END MILLS

UNCOATED **E9938 SERIES**
TiAlN COATED **GA938 SERIES**

HSS-PM, 4 FLUTE SHORT LENGTH
粉末高速钢，4刃 短刃

- ▶ Designed to machine carbon steels, alloyed steels, stainless steels.
- ▶ Recommended for pocketing, cam milling, die sinking and slotting..
- ▶ Designed for high speed cutting of difficult-to-cut materials.
- ▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting.

- ▶ 适合加工碳钢、合金钢、不锈钢
- ▶ 推荐用于型腔、凸轮铣削、凹模和开槽加工
- ▶ 专为难切削材料的高速切削而设计
- ▶ 采用YG-1最新研发的 适合高速加工 TANK-POWER 涂层，

HSS PM | DIN 844 | 4 | 30° | DIN 1835B

p.C570-571

Recommended ToolHolder

Flat Shank		Page	Plain Shank		Page
◎	END MILL HOLDER	D118 - 137	POWER MILLING CHUCK		D161 - 176
◎	-	-	ER COLLET CHUCK		D73 - 115
			SK SLIM CHUCK		D183 - 201

Unit(单位) : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TiAlN	直径	柄径	刃长	全长
E9938010	GA938010	1.0	6	3	49
E9938020	GA938020	2.0	6	7	51
E9938030	GA938030	3.0	6	8	52
E9938040	GA938040	4.0	6	11	55
E9938050	GA938050	5.0	6	13	57
E9938060	GA938060	6.0	6	13	57
E9938070	GA938070	7.0	10	16	66
E9938080	GA938080	8.0	10	19	69
E9938090	GA938090	9.0	10	19	69
E9938100	GA938100	10.0	10	22	72
E9938120	GA938120	12.0	12	26	83
E9938140	GA938140	14.0	12	26	83
E9938160	GA938160	16.0	16	32	92
E9938180	GA938180	18.0	16	32	92
E9938200	GA938200	20.0	20	38	104
E9938220	GA938220	22.0	20	38	104
E9938250	GA938250	25.0	25	45	121

▶Mill Diameter 1mm: Center match end teeth

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○													

TANK-POWER HSS-PM END MILLS

UNCOATED **E9A31 SERIES**
TiAlN COATED **GAA31 SERIES**

HSS-PM, 4 FLUTE LONG LENGTH
粉末高速钢，4刃 长刃

- ▶ Designed to machine carbon steels, alloyed steels, stainless steels.
- ▶ Recommended for pocketing, cam milling, die sinking and slotting..
- ▶ Designed for high speed cutting of difficult-to-cut materials.
- ▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting.

- ▶ 适合加工碳钢、合金钢、不锈钢
- ▶ 推荐用于型腔、凸轮铣削、凹模和开槽加工
- ▶ 专为难切削材料的高速切削而设计
- ▶ 采用YG-1最新研发的 适合高速加工 TANK-POWER 涂层，

HSS PM | DIN 844 | 4 | 30° | DIN 1835B

p.C570-571

Recommended ToolHolder

Flat Shank		Page	Plain Shank		Page
◎	END MILL HOLDER	D118 - 137	POWER MILLING CHUCK		D161 - 176
◎	-	-	ER COLLET CHUCK		D73 - 115
			SK SLIM CHUCK		D183 - 201

Unit(单位) : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TiAlN	直径	柄径	刃长	全长
E9A31020	GAA31020	2.0	6	10	54
E9A31030	GAA31030	3.0	6	12	56
E9A31040	GAA31040	4.0	6	19	63
E9A31050	GAA31050	5.0	6	24	68
E9A31060	GAA31060	6.0	6	24	68
E9A31070	GAA31070	7.0	10	30	80
E9A31080	GAA31080	8.0	10	38	88
E9A31090	GAA31090	9.0	10	38	88
E9A31100	GAA31100	10.0	10	45	95
E9A31120	GAA31120	12.0	12	53	110
E9A31140	GAA31140	14.0	12	53	110
E9A31160	GAA31160	16.0	16	63	123
E9A31180	GAA31180	18.0	16	63	123
E9A31200	GAA31200	20.0	20	75	141
E9A31220	GAA31220	22.0	20	75	141
E9A31250	GAA31250	25.0	25	90	166

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○													

TANK-POWER HSS-PM END MILLS

UNCOATED **E9941** SERIES
X-COATED **GA941** SERIES

HSS-PM, MULTI FLUTE SHORT LENGTH ROUGHING - FINE
粉末高速钢，多刃 短刃 粗加工 - 细牙

- ▶ Suitable for high-feed roughing milling.
- ▶ Designed to machine carbon steels, alloyed steels, stainless steels.
- ▶ Providing excellent finished surfaces in many cases.
- ▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting.
- ▶ up to Ø20 : center cut, over Ø20 : non center cut

- ▶ 适合高速粗加工
- ▶ 适合加工碳钢、合金钢、不锈钢
- ▶ 多数情况下，可实现精加工
- ▶ 采用YG-1最新研发的 适合高速加工 TANK-POWER 涂层，
- ▶ Ø20以下，底刃过中心，Ø20以上，底刃不过中心

up to Ø9 Ø9 以下 | Ø10~Ø20 | over Ø20 超过Ø20

HSS PM | DIN 844 | HR | 3-5

30° | DIN 1835B | ~Ø20 | Ø22~ | C x 45°

p.C572-573

Recommended ToolHolder

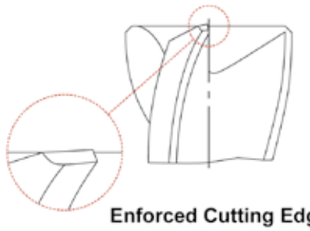
Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No. UNCOATED	EDP No. X-COATING	Mill Diameter 直径 js12	Shank Diameter 柄径 h6	Length of Cut 刃长	Overall Length 全长	No. of Flute 槽数	Chamfer 导向
E9941060	GA941060	6.0	6	13	57	3	0.18
E9941070	GA941070	7.0	10	16	66	3	0.18
E9941080	GA941080	8.0	10	19	69	3	0.18
E9941090	GA941090	9.0	10	19	69	3	0.18
E9941100	GA941100	10.0	10	22	72	4	0.18
E9941120	GA941120	12.0	12	26	83	4	0.18
E9941140	GA941140	14.0	12	26	83	4	0.25
E9941160	GA941160	16.0	16	32	92	4	0.25
E9941180	GA941180	18.0	16	32	92	4	0.25
E9941200	GA941200	20.0	20	38	104	4	0.25
E9941220	GA941220	22.0	20	38	104	5	0.36
E9941250	GA941250	25.0	25	45	121	5	0.36

Tolerances according to DIN 7160 & 7161(标准精度)
按DIN7160&7161的标准公差

Tolerance range in ㎛ / 公差单位为						
Nominal-Diameter in mm / 直径单位为						
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50
js12	± 50	± 60	± 75	± 90	± 105	± 125
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16



Enforced Cutting Edge
刃线保护处理

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○													

TANK-POWER HSS-PM END MILLS

UNCOATED **E9A35** SERIES
X-COATED **GAA35** SERIES

HSS-PM, MULTI FLUTE LONG LENGTH ROUGHING - FINE
粉末高速钢，多刃 长刃 粗加工 - 细牙

- ▶ Suitable for high-feed roughing milling.
- ▶ Designed to machine carbon steels, alloyed steels, stainless steels.
- ▶ Providing excellent finished surfaces in many cases.
- ▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting.
- ▶ up to Ø20 : center cut, over Ø20 : non center cut

- ▶ 适合高速粗加工
- ▶ 适合加工碳钢、合金钢、不锈钢
- ▶ 多数情况下，可实现精加工
- ▶ 采用YG-1最新研发的 适合高速加工 TANK-POWER 涂层，
- ▶ Ø20以下，底刃过中心，Ø20以上，底刃不过中心

up to Ø9 Ø9 以下 | Ø10~Ø20 | over Ø20 超过Ø20

HSS PM | DIN 844 | HR | 3-5

30° | DIN 1835B | ~Ø20 | Ø22~ | C x 45°

p.C572-573

Recommended ToolHolder

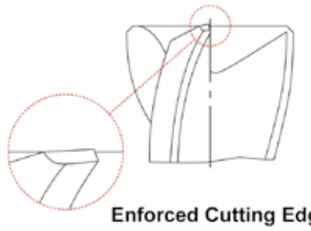
Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No. UNCOATED	EDP No. X-COATING	Mill Diameter 直径 js12	Shank Diameter 柄径 h6	Length of Cut 刃长	Overall Length 全长	No. of Flute 槽数	Chamfer 导向
E9A35060	GAA35060	6.0	6	24	68	3	0.18
E9A35070	GAA35070	7.0	10	30	80	3	0.18
E9A35080	GAA35080	8.0	10	38	88	3	0.18
E9A35090	GAA35090	9.0	10	38	88	3	0.18
E9A35100	GAA35100	10.0	10	45	95	4	0.18
E9A35120	GAA35120	12.0	12	53	110	4	0.18
E9A35140	GAA35140	14.0	12	53	110	4	0.25
E9A35160	GAA35160	16.0	16	63	123	4	0.25
E9A35180	GAA35180	18.0	16	63	123	4	0.25
E9A35200	GAA35200	20.0	20	75	141	4	0.25
E9A35220	GAA35220	22.0	20	75	141	5	0.36
E9A35250	GAA35250	25.0	25	90	166	5	0.36

Tolerances according to DIN 7160 & 7161(标准精度)
按DIN7160&7161的标准公差

Tolerance range in ㎛ / 公差单位为						
Nominal-Diameter in mm / 直径单位为						
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50
js12	± 50	± 60	± 75	± 90	± 105	± 125
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16



Enforced Cutting Edge
刃线保护处理

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○													

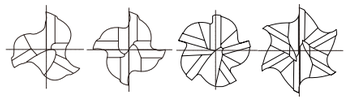
TANK-POWER HSS-PM END MILLS

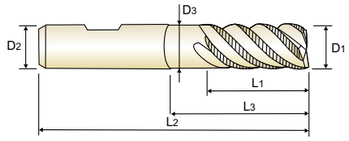
UNCOATED **E9A26** SERIES
X-COATED **GAA26** SERIES

HSS-PM, MULTI FLUTE 45°HELIX SHORT LENGTH ROUGHING - FINE
粉末高速钢，多刃 45度螺旋 粗加工 - 细牙

▶ High chip removal and minimizing breakages of cutting edges.
▶ Designed to machine carbon steels, alloyed steels, stainless steels
▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting

▶ 高切屑去除率和最大限度地减少切削刃的破损
▶ 适合加工碳钢、合金钢、不锈钢
▶ 采用YG-1最新研发的 适合高速加工 TANK-POWER 涂层，





HSS PM | DIN 844 | HR | 3-6 | 45° | DIN 1835B | C x 45°

p.C574-575

Recommended ToolHolder

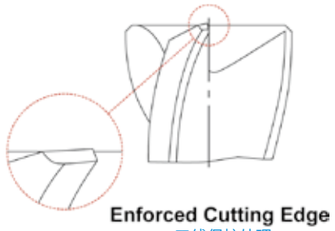
Flat Shank		Page	Plain Shank		Page
END MILL HOLDER	D118 - 137		POWER MILLING CHUCK	D161 - 176	
-	-		ER COLLET CHUCK	D73 - 115	
			SK SLIM CHUCK	D183 - 201	

Unit(单位) : mm

EDP No.		Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Length Below Shank 颈长	Overall Length 全长	Neck Diameter 颈径	No. of Flute 槽数	Chamfer 导向
UNCOATED	X-COATING	D_1(js12)	D_2(h6)	L_1	L_3	L_2	D_3		
E9A26040	**GAA26040**	**4.0**	6	11	-	57	-	3	0.1
E9A26050	**GAA26050**	**5.0**	6	13	-	57	-	4	0.13
E9A26060	**GAA26060**	**6.0**	6	13	-	57	-	4	0.15
E9A26070	**GAA26070**	**7.0**	10	16	-	66	-	4	0.15
E9A26080	**GAA26080**	**8.0**	10	19	-	69	-	4	0.18
E9A26090	**GAA26090**	**9.0**	10	19	-	69	-	4	0.18
E9A26100	**GAA26100**	**10.0**	10	22	31	72	9.5	4	0.20
E9A26120	**GAA26120**	**12.0**	12	26	37	83	11.5	4	0.20
E9A26140	**GAA26140**	**14.0**	12	26	-	83	-	5	0.20
E9A26160	**GAA26160**	**16.0**	16	32	44	92	15	5	0.20
E9A26180	**GAA26180**	**18.0**	16	32	-	92	-	6	0.20
E9A26200	**GAA26200**	**20.0**	20	38	54	104	19	6	0.20
E9A26250	**GAA26250**	**25.0**	25	45	63	121	24	6	0.20

Tolerances according to DIN 7160 & 7161(标准精度)
按DIN7160&7161的标准公差

Tolerance range in ㎛ / 公差单位为						
Nominal-Diameter in mm / 直径单位为						
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50
js12	± 50	± 60	± 75	± 90	± 105	± 125
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16



Enforced Cutting Edge
刃线保护处理

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			M			K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron										
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20									
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21									
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230									
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎									
ISO	N											S									H								
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys				Hardened steel		Chilled Cast Iron	Hardened Cast Iron					
VDI 3323	21	22	23	24	25	26	27	28	29	30		31	32	33	34	35	36	37			38	39	40	41					
HRc												15	30	25	38	34					55	60	42	55					
HB	60	100	75	90	130	110	90	100				200	280	250	350	320	400 Rm	1050 Rm			550	630	400	550					
Recommend						○	○	○																					

TANK-POWER HSS-PM END MILLS

UNCOATED **E9A33** SERIES
X-COATED **GAA33** SERIES

HSS-PM, MULTI FLUTE SHORT LENGTH ROUGHING - COARSE
粉末高速钢，多刃 短刃 粗加工 - 粗牙

▶ Suitable for high-feed roughing milling.
▶ Designed to machine carbon steels, alloyed steels, stainless steels.
▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting.
▶ up to Ø20 : center cut, over Ø20 : non center cut

▶ 适合高速粗加工
▶ 多数情况下，可实现精加工
▶ 采用YG-1最新研发的 适合高速加工 TANK-POWER 涂层，
▶ Ø20以下，底刃过中心，Ø20以上，底刃不过中心

HSS PM | DIN 844 | NR | 3-5 | 30° | DIN 1835B | ~Ø20 | Ø22~ | C x 45°

p.C572-573

Recommended ToolHolder

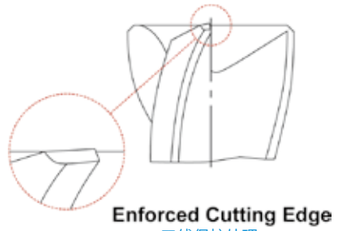
Flat Shank		Page	Plain Shank		Page
END MILL HOLDER	D118 - 137		POWER MILLING CHUCK	D161 - 176	
-	-		ER COLLET CHUCK	D73 - 115	
			SK SLIM CHUCK	D183 - 201	

Unit(单位) : mm

EDP No.		Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长	No. of Flute 槽数	Chamfer 导向
UNCOATED	X-COATING	js12	h6				
E9A33060	**GAA33060**	**6.0**	6	13	57	3	0.25
E9A33070	**GAA33070**	**7.0**	10	16	66	3	0.25
E9A33080	**GAA33080**	**8.0**	10	19	69	3	0.25
E9A33090	**GAA33090**	**9.0**	10	19	69	3	0.36
E9A33100	**GAA33100**	**10.0**	10	22	72	4	0.36
E9A33120	**GAA33120**	**12.0**	12	26	83	4	0.5
E9A33140	**GAA33140**	**14.0**	12	26	83	4	0.55
E9A33160	**GAA33160**	**16.0**	16	32	92	4	0.55
E9A33180	**GAA33180**	**18.0**	16	32	92	4	0.55
E9A33200	**GAA33200**	**20.0**	20	38	104	4	0.55
E9A33220	**GAA33220**	**22.0**	20	38	104	5	0.55
E9A33250	**GAA33250**	**25.0**	25	45	121	5	0.55

Tolerances according to DIN 7160 & 7161(标准精度)
按DIN7160&7161的标准公差

Tolerance range in ㎛ / 公差单位为						
Nominal-Diameter in mm / 直径单位为						
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50
js12	± 50	± 60	± 75	± 90	± 105	± 125
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16



Enforced Cutting Edge
刃线保护处理

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K														
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron										
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20									
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21									
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230									
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎									
ISO	N										S									H								
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys			Hardened steel		Chilled Cast Iron	Hardened Cast Iron					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37			38	39	40	41					
HRc											15	30	25	38	34					55	60	42	55					
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm			550	630	400	550					
Recommend						○	○	○																				

TANK-POWER HSS-PM END MILLS

UNCOATED **E9A34** SERIES
X-COATING **GAA34** SERIES

HSS-PM, MULTI FLUTE LONG LENGTH ROUGHING - COARSE
粉末高速钢，多刃 长刃 粗加工 - 粗牙

- ▶ Suitable for high-feed roughing milling.
- ▶ Designed to machine carbon steels, alloyed steels, stainless steels.
- ▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting.
- ▶ up to Ø20 : center cut, over Ø20 : non center cut

- ▶ 适合高速粗加工
- ▶ 多数情况下，可实现精加工
- ▶ 采用YG-1最新研发的 适合高速加工 TANK-POWER 涂层，
- ▶ Ø20以下，底刃过中心，Ø20以上，底刃不过中心

HSS PM | DIN 844 | NR | 3-5 | 30° | DIN 1835B | ~Ø20 | Ø22~ | C x 45°

p.C572-573

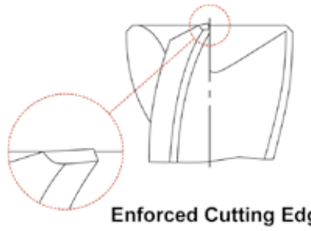
Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
	-	-	ER COLLET CHUCK	D73 - 115
			SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No. UNCOATED	EDP No. X-COATING	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长	No. of Flute 槽数	Chamfer 导向
		js12	h6				
E9A34060	GAA34060	6.0	6	24	68	3	0.25
E9A34070	GAA34070	7.0	10	30	80	3	0.25
E9A34080	GAA34080	8.0	10	38	88	3	0.25
E9A34090	GAA34090	9.0	10	38	88	3	0.36
E9A34100	GAA34100	10.0	10	45	95	4	0.36
E9A34120	GAA34120	12.0	12	53	110	4	0.5
E9A34140	GAA34140	14.0	12	53	110	4	0.55
E9A34160	GAA34160	16.0	16	63	123	4	0.55
E9A34180	GAA34180	18.0	16	63	123	4	0.55
E9A34200	GAA34200	20.0	20	75	141	4	0.55
E9A34220	GAA34220	22.0	20	75	141	5	0.55
E9A34250	GAA34250	25.0	25	90	166	5	0.55

Tolerances according to DIN 7160 & 7161(标准精度)
按DIN7160&7161的标准公差

Tolerance range in ㎛ / 公差单位为						
Nominal-Diameter in mm / 直径单位为						
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50
js12	± 50	± 60	± 75	± 90	± 105	± 125
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16



◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			M			K		
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron						
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21					
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230					
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎					

ISO	N									S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○													

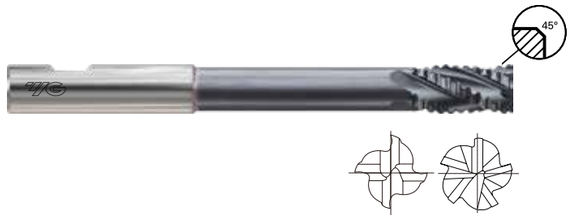
TANK-POWER HSS-PM END MILLS

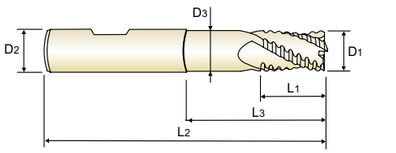
UNCOATED **E9E43** SERIES
X-COATING **GAE43** SERIES

HSS-PM, 4&5 FLUTE ROUGHING WITH NECK - COARSE
粉末高速钢，4&5刃 粗加工 带颈部 - 粗牙

- ▶ High chip removal and minimizing breakages of cutting edges.
- ▶ Design to machine carbon steels, alloyed steels, stainless steels.
- ▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting.

- ▶ 高切屑去除率和最大限度地减少切削刃的破损
- ▶ 适合加工碳钢、合金钢、不锈钢
- ▶ 采用YG-1最新研发的 适合高速加工 TANK-POWER 涂层，





HSS PM | NR | 4&5 | 30° | DIN 1835B | C x 45°

p.C576-577

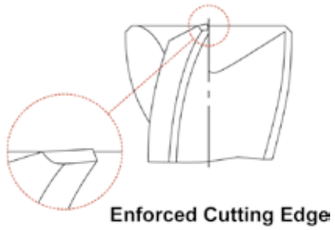
Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
	-	-	ER COLLET CHUCK	D73 - 115
			SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No. UNCOATED	EDP No. X-COATING	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Length Below Shank 颈长	Overall Length 全长	Neck Diameter 颈径	No. of Flute 槽数	Chamfer 导向
		D1(js12)	D2(h6)	L1	L3	L2	D3		
E9E43100	GAE43100	10.0	10	22	69	110	8.5	4	0.34
E9E43120	GAE43120	12.0	12	26	78	125	10.5	4	0.50
E9E43160	GAE43160	16.0	16	32	87	138	14	4	0.55
E9E43200	GAE43200	20.0	20	38	108	160	18	5	0.55
E9E43250	GAE43250	25.0	25	45	155	216	23	5	0.55

Tolerances according to DIN 7160 & 7161(标准精度)
按DIN7160&7161的标准公差

Tolerance range in ㎛ / 公差单位为						
Nominal-Diameter in mm / 直径单位为						
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50
js12	± 50	± 60	± 75	± 90	± 105	± 125
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16



◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N									S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○													

TANK-POWER HSS-PM END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

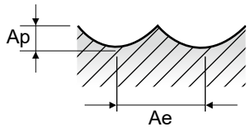
GA940 , GAA32 SERIES

2 FLUTE BALL NOSE
2刃 球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 3.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	25.0
P	1	Non-alloy steel	0.5D	0.2D	Vc	70	75	85	85	85	85	85	85	75
					fz	0.023	0.036	0.055	0.079	0.109	0.115	0.141	0.156	0.163
					RPM	7427	5968	4509	3382	2706	2255	1691	1353	955
					FEED	342	430	496	534	590	519	477	422	311
	2		0.5D	0.2D	Vc	55	60	65	65	65	70	65	65	60
					fz	0.02	0.031	0.046	0.067	0.095	0.097	0.123	0.14	0.142
					RPM	5836	4775	3448	2586	2069	1857	1293	1035	764
					FEED	233	296	317	347	393	360	318	290	217
	3-4		0.5D	0.2D	Vc	35	40	45	45	45	45	45	45	35
					fz	0.016	0.027	0.039	0.056	0.082	0.083	0.101	0.11	0.122
					RPM	3714	3183	2387	1790	1432	1194	895	716	446
					FEED	119	172	186	201	235	198	181	158	109
	5		0.5D	0.2D	Vc	20	20	25	20	20	20	20	25	20
					fz	0.014	0.023	0.035	0.048	0.075	0.073	0.091	0.097	0.104
					RPM	2122	1592	1326	796	637	531	398	398	255
					FEED	59	73	93	76	95	77	72	77	53
	6	Low alloy steel	0.5D	0.2D	Vc	55	60	65	65	65	70	65	65	60
					fz	0.02	0.031	0.046	0.067	0.095	0.097	0.123	0.14	0.142
					RPM	5836	4775	3448	2586	2069	1857	1293	1035	764
					FEED	233	296	317	347	393	360	318	290	217
	7		0.5D	0.2D	Vc	35	40	45	45	45	45	45	45	35
					fz	0.016	0.027	0.039	0.056	0.082	0.083	0.101	0.11	0.122
					RPM	3714	3183	2387	1790	1432	1194	895	716	446
					FEED	119	172	186	201	235	198	181	158	109
	8-9		0.5D	0.2D	Vc	20	20	25	20	20	20	20	25	20
					fz	0.014	0.023	0.035	0.048	0.075	0.073	0.091	0.097	0.104
					RPM	2122	1592	1326	796	637	531	398	398	255
					FEED	59	73	93	76	95	77	72	77	53
	10	High alloyed steel, and tool steel	0.5D	0.2D	Vc	55	60	65	65	65	70	65	65	60
					fz	0.02	0.031	0.046	0.067	0.095	0.097	0.123	0.14	0.142
					RPM	5836	4775	3448	2586	2069	1857	1293	1035	764
					FEED	233	296	317	347	393	360	318	290	217
	11.1		0.5D	0.2D	Vc	20	20	25	20	20	20	20	25	20
					fz	0.014	0.023	0.035	0.048	0.075	0.073	0.091	0.097	0.104
					RPM	2122	1592	1326	796	637	531	398	398	255
					FEED	59	73	93	76	95	77	72	77	53
M	14.1	Stainless steel	0.5D	0.2D	Vc	20	20	25	25	25	25	25	25	20
					fz	0.014	0.023	0.036	0.048	0.073	0.074	0.092	0.1	0.1
					RPM	2122	1592	1326	995	796	663	497	398	255
					FEED	59	73	95	95	116	98	92	80	51
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.5D	0.2D	Vc	55	60	65	65	65	70	65	65	60
					fz	0.02	0.031	0.046	0.067	0.095	0.097	0.123	0.14	0.142
					RPM	5836	4775	3448	2586	2069	1857	1293	1035	764
					FEED	233	296	317	347	393	360	318	290	217

※ The FEED, in long & extra long types, should be reduced by around 50%



TANK-POWER HSS-PM END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

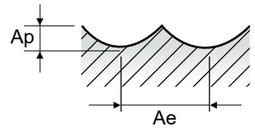
E9940 , E9A32 SERIES

2 FLUTE BALL NOSE
2刃 球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 3.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	25.0
P	1	Non-alloy steel	0.5D	0.2D	Vc	45	50	55	60	55	55	55	60	50
					fz	0.021	0.033	0.05	0.072	0.103	0.11	0.136	0.14	0.148
					RPM	4775	3979	2918	2387	1751	1459	1094	955	637
					FEED	201	263	292	344	361	321	298	267	188
	2		0.5D	0.2D	Vc	35	40	45	45	45	45	45	45	40
					fz	0.018	0.029	0.043	0.061	0.089	0.092	0.111	0.12	0.13
					RPM	3714	3183	2387	1790	1432	1194	895	716	509
					FEED	134	185	205	218	255	220	199	172	132
	3-4		0.5D	0.2D	Vc	25	25	30	30	30	30	30	30	25
					fz	0.015	0.024	0.034	0.052	0.07	0.076	0.092	0.099	0.103
					RPM	2653	1989	1592	1194	955	796	597	477	318
					FEED	80	95	108	124	134	121	110	95	66
	5		0.5D	0.2D	Vc	10	15	15	15	15	15	15	15	15
					fz	0.013	0.023	0.034	0.046	0.068	0.069	0.083	0.094	0.086
					RPM	1061	1194	796	597	477	398	298	239	191
					FEED	28	55	54	55	65	55	50	45	33
	6	Low alloy steel	0.5D	0.2D	Vc	35	40	45	45	45	45	45	45	40
					fz	0.018	0.029	0.043	0.061	0.089	0.092	0.111	0.12	0.13
					RPM	3714	3183	2387	1790	1432	1194	895	716	509
					FEED	134	185	205	218	255	220	199	172	132
	7		0.5D	0.2D	Vc	25	25	30	30	30	30	30	30	25
					fz	0.015	0.024	0.034	0.052	0.07	0.076	0.092	0.099	0.103
					RPM	2653	1989	1592	1194	955	796	597	477	318
					FEED	80	95	108	124	134	121	110	95	66
	8-9		0.5D	0.2D	Vc	10	15	15	15	15	15	15	15	15
					fz	0.013	0.023	0.034	0.046	0.068	0.069	0.083	0.094	0.086
					RPM	1061	1194	796	597	477	398	298	239	191
					FEED	28	55	54	55	65	55	50	45	33
	10	High alloyed steel, and tool steel	0.5D	0.2D	Vc	35	40	45	45	45	45	45	45	40
					fz	0.018	0.029	0.043	0.061	0.089	0.092	0.111	0.12	0.13
					RPM	3714	3183	2387	1790	1432	1194	895	716	509
					FEED	134	185	205	218	255	220	199	172	132
	11.1		0.5D	0.2D	Vc	10	15	15	15	15	15	15	15	15
					fz	0.013	0.023	0.034	0.046	0.068	0.069	0.083	0.094	0.086
					RPM	1061	1194	796	597	477	398	298	239	191
					FEED	28	55	54	55	65	55	50	45	33
M	14.1	Stainless steel	0.5D	0.2D	Vc	15	15	15	15	15	15	15	15	15
					fz	0.014	0.025	0.036	0.049	0.075	0.074	0.091	0.104	0.09
					RPM	1592	1194	796	597	477	398	298	239	191
					FEED	45	60	57	58	72	59	54	50	34
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.5D	0.2D	Vc	35	40	45	45	45	45	45	45	40
					fz	0.018	0.029	0.043	0.061	0.089	0.092	0.111	0.12	0.13
					RPM	3714	3183	2387	1790	1432	1194	895	716	509
					FEED	134	185	205	218	255	220	199	172	132

※ The FEED, in long & extra long types, should be reduced by around 50%



TANK-POWER HSS-PM END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

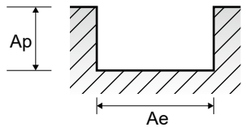
GA936 , GAA29 SERIES

2 FLUTE - SLOTTING
2刃 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0
P	1	Non-alloy steel	1.0D	0.5D	Vc	45	45	55	60	65	65	65	70	70	70	65	60	60	60
					fz	0.008	0.016	0.027	0.033	0.038	0.053	0.071	0.076	0.083	0.098	0.104	0.116	0.11	0.103
					RPM	7162	4775	4377	3820	3448	2586	2069	1857	1592	1393	1149	955	868	764
					FEED	115	153	236	252	262	274	294	282	264	273	239	222	191	157
	2		1.0D	0.5D	Vc	35	40	45	50	55	55	55	55	55	60	55	50	50	50
					fz	0.008	0.016	0.024	0.031	0.036	0.055	0.074	0.083	0.084	0.085	0.103	0.106	0.106	0.111
					RPM	5570	4244	3581	3183	2918	2188	1751	1459	1251	1194	973	796	723	637
					FEED	89	136	172	197	210	241	259	242	210	203	200	169	153	141
	3-4		1.0D	0.5D	Vc	30	30	40	40	45	45	45	45	45	45	45	45	40	40
					fz	0.008	0.017	0.025	0.036	0.041	0.056	0.079	0.091	0.098	0.101	0.101	0.107	0.104	0.117
					RPM	4775	3183	3183	2546	2387	1790	1432	1194	1023	895	796	716	579	509
					FEED	76	108	159	183	196	201	226	217	201	181	161	153	120	119
	5		1.0D	0.5D	Vc	45	45	55	60	65	65	65	70	70	70	65	60	60	60
					fz	0.008	0.016	0.027	0.033	0.038	0.053	0.071	0.076	0.083	0.098	0.104	0.116	0.11	0.103
					RPM	7162	4775	4377	3820	3448	2586	2069	1857	1592	1393	1149	955	868	764
					FEED	115	153	236	252	262	274	294	282	264	273	239	222	191	157
	6	Low alloy steel	1.0D	0.5D	Vc	35	40	45	50	55	55	55	55	55	60	55	50	50	50
					fz	0.008	0.016	0.024	0.031	0.036	0.055	0.074	0.083	0.084	0.085	0.103	0.106	0.106	0.111
					RPM	5570	4244	3581	3183	2918	2188	1751	1459	1251	1194	973	796	723	637
					FEED	89	136	172	197	210	241	259	242	210	203	200	169	153	141
	7		1.0D	0.5D	Vc	30	30	40	40	45	45	45	45	45	45	45	45	40	40
					fz	0.008	0.017	0.025	0.036	0.041	0.056	0.079	0.091	0.098	0.101	0.101	0.107	0.104	0.117
					RPM	4775	3183	3183	2546	2387	1790	1432	1194	1023	895	796	716	579	509
					FEED	76	108	159	183	196	201	226	217	201	181	161	153	120	119
	8		1.0D	0.5D	Vc	45	45	55	60	65	65	65	70	70	70	65	60	60	60
					fz	0.008	0.016	0.027	0.033	0.038	0.053	0.071	0.076	0.083	0.098	0.104	0.116	0.11	0.103
					RPM	7162	4775	4377	3820	3448	2586	2069	1857	1592	1393	1149	955	868	764
					FEED	115	153	236	252	262	274	294	282	264	273	239	222	191	157
	9		1.0D	0.5D	Vc	35	40	45	50	55	55	55	55	55	60	55	50	50	50
					fz	0.008	0.016	0.024	0.031	0.036	0.055	0.074	0.083	0.084	0.085	0.103	0.106	0.106	0.111
					RPM	5570	4244	3581	3183	2918	2188	1751	1459	1251	1194	973	796	723	637
					FEED	89	136	172	197	210	241	259	242	210	203	200	169	153	141
	10	High alloyed steel, and tool steel	1.0D	0.5D	Vc	35	40	45	50	55	55	55	55	55	60	55	50	50	50
					fz	0.008	0.016	0.024	0.031	0.036	0.055	0.074	0.083	0.084	0.085	0.103	0.106	0.106	0.111
					RPM	5570	4244	3581	3183	2918	2188	1751	1459	1251	1194	973	796	723	637
					FEED	89	136	172	197	210	241	259	242	210	203	200	169	153	141
	11.1		1.0D	0.5D	Vc	45	45	55	60	65	65	65	70	70	70	65	60	60	60
					fz	0.008	0.016	0.027	0.033	0.038	0.053	0.071	0.076	0.083	0.098	0.104	0.116	0.11	0.103
					RPM	7162	4775	4377	3820	3448	2586	2069	1857	1592	1393	1149	955	868	764
					FEED	115	153	236	252	262	274	294	282	264	273	239	222	191	157
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	0.5D	Vc	35	40	45	50	55	55	55	55	55	60	55	50	50	50
					fz	0.008	0.016	0.024	0.031	0.036	0.055	0.074	0.083	0.084	0.085	0.103	0.106	0.106	0.111
					RPM	5570	4244	3581	3183	2918	2188	1751	1459	1251	1194	973	796	723	637
					FEED	89	136	172	197	210	241	259	242	210	203	200	169	153	141

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给



TANK-POWER HSS-PM END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

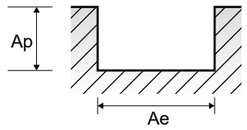
E9936 , E9A29 SERIES

2 FLUTE - SLOTTING
2刃 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0
P	1	Non-alloy steel	1.0D	0.5D	Vc	30	30	35	40	45	45	45	45	50	45	45	40	40	40
					fz	0.007	0.015	0.024	0.031	0.035	0.047	0.064	0.071	0.073	0.089	0.094	0.102	0.096	0.093
					RPM	4775	3183	2785	2546	2387	1790	1432	1194	1137	895	796	637	579	509
					FEED	67	95	134	158	167	168	183	170	166	159	150	130	111	95
	2		1.0D	0.5D	Vc	25	25	30	35	40	40	40	40	35	40	35	35	35	35
					fz	0.007	0.015	0.023	0.028	0.034	0.05	0.069	0.075	0.082	0.09	0.094	0.093	0.094	0.099
					RPM	3979	2653	2387	2228	2122	1592	1273	1061	796	796	619	557	506	446
					FEED	56	80	110	125	144	159	176	159	131	143	116	104	95	88
	3-4		1.0D	0.5D	Vc	20	20	25	30	30	30	30	30	30	30	30	30	30	25
					fz	0.008	0.017	0.024	0.032	0.038	0.052	0.07	0.081	0.088	0.092	0.094	0.099	0.094	0.103
					RPM	3183	2122	1989	1910	1592	1194	955	796	682	597	531	477	434	318
					FEED	51	72	95	122	121	124	134	129	120	110	100	95	82	66
	5		1.0D	0.5D	Vc	15	15	15	15	20	20	20	20	20	20	20	20	20	20
					fz	0.01	0.016	0.023	0.03	0.033	0.047	0.067	0.07	0.076	0.086	0.081	0.092	0.093	0.094
					RPM	2387	1592	1194	955	1061	796	637	531	455	398	354	318	289	255
					FEED	48	51	55	57	70	75	85	74	69	68	57	59	54	48
	6	Low alloy steel	1.0D	0.5D	Vc	25	25	30	35	40	40	40	40	35	40	35	35	35	35
					fz	0.007	0.015	0.023	0.028	0.034	0.05	0.069	0.075	0.082	0.09	0.094	0.093	0.094	0.099
					RPM	3979	2653	2387	2228	2122	1592	1273	1061	796	796	619	557	506	446
					FEED	56	80	110	125	144	159	176	159	131	143	116	104	95	88
	7		1.0D	0.5D	Vc	20	20	25	30	30	30	30	30	30	30	30	30	30	25
					fz	0.008	0.017	0.024	0.032	0.038	0.052	0.07	0.081	0.088	0.092	0.094	0.099	0.094	0.103
					RPM	3183	2122	1989	1910	1592	1194	955	796	682	597	531	477	434	318
					FEED	51	72	95	122	121	124	134	129	120	110	100	95	82	66
	8		1.0D	0.5D	Vc	15	15	15	15	20	20	20	20	20	20	20	20	20	20
					fz	0.01	0.016	0.023	0.03	0.033	0.047	0.067	0.07	0.076	0.086	0.081	0.092	0.093	0.094
					RPM	2387	1592	1194	955	1061	796	637	531	455	398	354	318	289	255
					FEED	48	51	55	57	70	75	85	74	69	68	57	59	54	48
	9		1.0D	0.5D	Vc	10	10	15	15	15	15	15	15	15	15	15	15	15	15
					fz	0.01	0.017	0.021	0.025	0.037	0.046	0.068	0.069	0.074	0.083	0.083	0.083	0.083	0.086
					RPM	1592	1061	1194	955	796	597	477	398	341	298	265	239	217	191
					FEED	32	36	50	48	59	55	65	55	50	50	44	40	36	33
	10	High alloyed steel, and tool steel	1.0D	0.5D	Vc	25	25	30	35	40	40	40	40	35	40	35	35	35	35
					fz	0.007	0.015	0.023	0.028	0.034	0.05	0.069	0.075	0.082	0.09	0.094	0.093	0.094	0.099
					RPM	3979	2653	2387	2228	2122	1592	1273	1061	796	796	619	557	506	446
					FEED	56	80	110	125	144	159	176	159	131	143	116	104	95	88
	11.1		1.0D	0.5D	Vc	15	15	15	15	20	20	20	20	20	20	20	20	20	20
					fz	0.01	0.016	0.023	0.03	0.033	0.047	0.067	0.07	0.076	0.086	0.081	0.092	0.093	0.094
					RPM	2387	1592	1194	955	1061	796	637	531	455	398	354	318	289	255
					FEED	48	51	55	57	70	75	85	74	69	68	57	59	54	48
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	0.5D	Vc	25	25	30	35	40	40	40	40	35	40	35	35	35	35
					fz	0.007	0.015	0.023	0.028	0.034	0.05	0.069	0.075	0.082	0.09	0.094	0.093	0.094	0.099
					RPM	3979	2653	2387	2228	2122	1592	1273	1061	796	796	619	557	506	446
					FEED	56	80	110	125	144	159	176	159	131	143	116	104	95	88

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给



TANK-POWER HSS-PM END MILLS

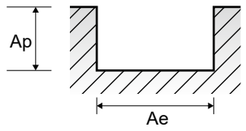
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GA942 , GAA30 SERIES

3 FLUTE - SLOTTING
3刃 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0
P	1	Non-alloy steel	1.0D	0.5D	Vc	40	45	55	60	65	65	65	70	70	70	65	60	60	60
					fz	0.004	0.007	0.011	0.014	0.023	0.031	0.033	0.051	0.052	0.059	0.07	0.081	0.091	0.107
					RPM	6366	4775	4377	3820	3448	2586	2069	1857	1592	1393	1149	955	868	764
					FEED	76	100	144	160	238	241	205	284	248	246	241	232	237	245
	2		1.0D	0.5D	Vc	35	35	45	50	55	55	55	55	60	60	50	50	50	50
					fz	0.003	0.007	0.011	0.014	0.023	0.032	0.039	0.053	0.054	0.061	0.071	0.08	0.089	0.111
					RPM	5570	3714	3581	3183	2918	2188	1751	1459	1364	1194	884	796	723	637
					FEED	50	78	118	134	201	210	205	232	221	218	188	191	193	212
	3-4		1.0D	0.5D	Vc	30	30	40	40	45	45	45	45	45	45	45	45	40	40
					fz	0.003	0.005	0.009	0.012	0.02	0.028	0.038	0.047	0.053	0.056	0.063	0.067	0.083	0.109
					RPM	4775	3183	3183	2546	2387	1790	1432	1194	1023	895	796	716	579	509
					FEED	43	48	86	92	143	150	163	168	163	150	150	144	144	167
	5		1.0D	0.5D	Vc	20	20	25	25	25	30	30	30	30	30	30	30	30	30
					fz	0.004	0.007	0.009	0.012	0.021	0.03	0.043	0.052	0.056	0.061	0.063	0.07	0.079	0.094
					RPM	3183	2122	1989	1592	1326	1194	955	796	682	597	531	477	434	382
					FEED	38	45	54	57	84	107	123	124	115	109	100	100	103	108
	6	Low alloy steel	1.0D	0.5D	Vc	35	35	45	50	55	55	55	55	60	60	50	50	50	50
					fz	0.003	0.007	0.011	0.014	0.023	0.032	0.039	0.053	0.054	0.061	0.071	0.08	0.089	0.111
					RPM	5570	3714	3581	3183	2918	2188	1751	1459	1364	1194	884	796	723	637
					FEED	50	78	118	134	201	210	205	232	221	218	188	191	193	212
	7		1.0D	0.5D	Vc	30	30	40	40	45	45	45	45	45	45	45	45	40	40
					fz	0.003	0.005	0.009	0.012	0.02	0.028	0.038	0.047	0.053	0.056	0.063	0.067	0.083	0.109
					RPM	4775	3183	3183	2546	2387	1790	1432	1194	1023	895	796	716	579	509
					FEED	43	48	86	92	143	150	163	168	163	150	150	144	144	167
	8		1.0D	0.5D	Vc	20	20	25	25	25	30	30	30	30	30	30	30	30	30
					fz	0.004	0.007	0.009	0.012	0.021	0.03	0.043	0.052	0.056	0.061	0.063	0.07	0.079	0.094
					RPM	3183	2122	1989	1592	1326	1194	955	796	682	597	531	477	434	382
					FEED	38	45	54	57	84	107	123	124	115	109	100	100	103	108
	9		1.0D	0.5D	Vc	10	15	20	20	20	20	20	20	20	20	25	25	20	20
					fz	0.005	0.008	0.012	0.014	0.023	0.032	0.045	0.053	0.057	0.064	0.067	0.074	0.09	0.113
					RPM	1592	1592	1592	1273	1061	796	637	531	455	398	442	398	289	255
					FEED	24	38	57	53	73	76	86	84	78	76	89	88	78	86
	10	High alloyed steel, and tool steel	1.0D	0.5D	Vc	35	35	45	50	55	55	55	55	60	60	50	50	50	50
					fz	0.003	0.007	0.011	0.014	0.023	0.032	0.039	0.053	0.054	0.061	0.071	0.08	0.089	0.111
					RPM	5570	3714	3581	3183	2918	2188	1751	1459	1364	1194	884	796	723	637
					FEED	50	78	118	134	201	210	205	232	221	218	188	191	193	212
	11.1		1.0D	0.5D	Vc	20	20	25	25	25	30	30	30	30	30	30	30	30	30
					fz	0.004	0.007	0.009	0.012	0.021	0.03	0.043	0.052	0.056	0.061	0.063	0.07	0.079	0.094
					RPM	3183	2122	1989	1592	1326	1194	955	796	682	597	531	477	434	382
					FEED	38	45	54	57	84	107	123	124	115	109	100	100	103	108
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	0.5D	Vc	35	35	45	50	55	55	55	55	60	60	50	50	50	50
					fz	0.003	0.007	0.011	0.014	0.023	0.032	0.039	0.053	0.054	0.061	0.071	0.08	0.089	0.111
					RPM	5570	3714	3581	3183	2918	2188	1751	1459	1364	1194	884	796	723	637
					FEED	50	78	118	134	201	210	205	232	221	218	188	191	193	212



CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

TANK-POWER HSS-PM END MILLS

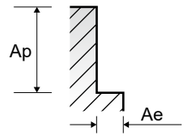
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GA942 , GAA30 SERIES

3 FLUTE - SIDE CUTTING
3刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0
P	1	Non-alloy steel	0.1D	1.5D	Vc	50	55	65	75	80	80	80	80	80	80	75	80	80	80
					fz	0.004	0.008	0.012	0.015	0.024	0.034	0.047	0.056	0.065	0.069	0.077	0.08	0.09	0.11
					RPM	7958	5836	5173	4775	4244	3183	2546	2122	1819	1592	1326	1273	1157	1019
					FEED	95	140	186	215	306	325	359	357	355	329	306	306	313	336
	2		0.1D	1.5D	Vc	45	45	55	65	70	65	65	70	65	65	65	65	65	65
					fz	0.004	0.008	0.012	0.015	0.023	0.035	0.046	0.056	0.063	0.071	0.077	0.081	0.093	0.109
					RPM	7162	4775	4377	4138	3714	2586	2069	1857	1478	1293	1149	1035	940	828
					FEED	86	115	158	186	256	272	286	312	279	275	266	251	262	271
	3-4		0.1D	1.5D	Vc	35	35	45	45	50	50	50	55	50	50	50	50	50	50
					fz	0.004	0.007	0.01	0.014	0.024	0.033	0.044	0.055	0.061	0.067	0.073	0.081	0.088	0.111
					RPM	5570	3714	3581	2865	2653	1989	1592	1459	1137	995	884	796	723	637
					FEED	67	78	107	120	191	197	210	241	208	200	194	193	191	212
	5		0.1D	1.5D	Vc	25	25	30	30	35	35	30	35	35	35	35	35	30	35
					fz	0.004	0.008	0.011	0.014	0.023	0.036	0.05	0.056	0.06	0.071	0.075	0.08	0.092	0.107
					RPM	3979	2653	2387	1910	1857	1393	955	928	796	696	619	557	434	446
					FEED	48	64	79	80	128	150	143	156	143	148	139	134	120	143
	6	Low alloy steel	0.1D	1.5D	Vc	45	45	55	65	70	65	65	70	65	65	65	65	65	65
					fz	0.004	0.008	0.012	0.015	0.023	0.035	0.046	0.056	0.063	0.071	0.077	0.081	0.093	0.109
					RPM	7162	4775	4377	4138	3714	2586	2069	1857	1478	1293	1149	1035	940	828
					FEED	86	115	158	186	256	272	286	312	279	275	266	251	262	271
	7		0.1D	1.5D	Vc	35	35	45	45	50	50	50	55	50	50	50	50	50	50
					fz	0.004	0.007	0.01	0.014	0.024	0.033	0.044	0.055	0.061	0.067	0.073	0.081	0.088	0.111
					RPM	5570	3714	3581	2865	2653	1989	1592	1459	1137	995	884	796	723	637
					FEED	67	78	107	120	191	197	210	241	208	200	194	193	191	212
	8		0.1D	1.5D	Vc	25	25	30	30	35	35	30	35	35	35	35	35	30	35
					fz	0.004	0.008	0.011	0.014	0.023	0.036	0.05	0.056	0.06	0.071	0.075	0.08	0.092	0.107
					RPM	3979	2653	2387	1910	1857	1393	955	928	796	696	619	557	434	446
					FEED	48	64	79	80	128	150	143	156	143	148	139	134	120	143
	9		0.1D	1.5D	Vc	15	20	25	25	30	30	30	30	30	30	30	30	30	30
					fz	0.006	0.01	0.013	0.015	0.022	0.035	0.047	0.056	0.063	0.07	0.073	0.083	0.092	0.111
					RPM	2387	2122	1989	1592	1592	1194	955	796	682	597	531	477	434	382
					FEED	43	64	78	72	105	125	135	134	129	125	116	119	120	127
	10	High alloyed steel, and tool steel	0.1D	1.5D	Vc	45	45	55	65	70	65	65	70	65	65	65	65	65	65
					fz	0.004	0.008	0.012	0.015	0.023	0.035	0.046	0.056	0.063	0.071	0.077	0.081	0.093	0.109
					RPM	7162	4775	4377	4138	3714	2586	2069	1857	1478	1293	1149	1035	940	828
					FEED	86	115	158	186	256	272	286	312	279	275	266	251	262	271
	11.1		0.1D	1.5D	Vc	25	25	30	30	35	35	30	35	35	35	35	35	30	35
					fz	0.004	0.008	0.011	0.014	0.023	0.036	0.05	0.056	0.06	0.071	0.075	0.08	0.092	0.107
					RPM	3979	2653	2387	1910	1857	1393	955	928	796	696	619	557	434	446
					FEED	48	64	79	80	128	150	143	156	143	148	139	134	120	143
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	1.5D	Vc	45	45	55	65	70	65	65	70	65	65	65	65	65	65
					fz	0.004	0.008	0.012	0.015	0.023	0.035	0.046	0.056	0.063	0.071	0.077	0.081	0.093	0.109
					RPM	7162	4775	4377	4138	3714	2586	2069	1857	1478	1293	1149	1035	940	828
					FEED	86	115	158	186	256	272	286	312	279	275	266	251	262	271



TANK-POWER HSS-PM END MILLS

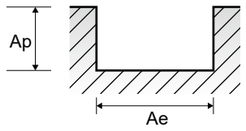
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

E9942 , E9A30 SERIES

3 FLUTE - SLOTTING
3刃 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0
P	1	Non-alloy steel	1.0D	0.5D	Vc	30	30	35	40	45	45	45	45	45	45	45	40	40	40
					fz	0.003	0.007	0.01	0.013	0.021	0.028	0.037	0.047	0.048	0.054	0.064	0.076	0.085	0.096
					RPM	4775	3183	2785	2546	2387	1790	1432	1194	1023	895	796	637	579	509
					FEED	43	67	84	99	150	150	159	168	147	145	153	145	148	147
	2		1.0D	0.5D	Vc	25	25	30	35	35	40	40	40	40	40	35	35	35	35
					fz	0.003	0.007	0.01	0.012	0.021	0.029	0.036	0.048	0.048	0.056	0.066	0.075	0.08	0.101
					RPM	3979	2653	2387	2228	1857	1592	1273	1061	909	796	619	557	506	446
					FEED	36	56	72	80	117	138	138	153	131	134	123	125	122	135
	3-4		1.0D	0.5D	Vc	20	30	25	30	30	30	30	30	30	30	30	30	30	25
					fz	0.003	0.003	0.008	0.01	0.018	0.026	0.035	0.043	0.049	0.052	0.06	0.059	0.077	0.098
					RPM	3183	3183	1989	1910	1592	1194	955	796	682	597	531	477	434	318
					FEED	29	29	48	57	86	93	100	103	100	93	95	85	100	94
	5		1.0D	0.5D	Vc	15	15	15	15	20	20	20	20	20	20	20	20	20	20
					fz	0.003	0.007	0.009	0.012	0.018	0.028	0.038	0.047	0.048	0.057	0.057	0.061	0.074	0.09
					RPM	2387	1592	1194	955	1061	796	637	531	455	398	354	318	289	255
					FEED	21	33	32	34	57	67	73	75	65	68	60	58	64	69
	6	Low alloy steel	1.0D	0.5D	Vc	25	25	30	35	35	40	40	40	40	40	35	35	35	35
					fz	0.003	0.007	0.01	0.012	0.021	0.029	0.036	0.048	0.048	0.056	0.066	0.075	0.08	0.101
					RPM	3979	2653	2387	2228	1857	1592	1273	1061	909	796	619	557	506	446
					FEED	36	56	72	80	117	138	138	153	131	134	123	125	122	135
	7		1.0D	0.5D	Vc	20	30	25	30	30	30	30	30	30	30	30	30	30	25
					fz	0.003	0.003	0.008	0.01	0.018	0.026	0.035	0.043	0.049	0.052	0.06	0.059	0.077	0.098
					RPM	3183	3183	1989	1910	1592	1194	955	796	682	597	531	477	434	318
					FEED	29	29	48	57	86	93	100	103	100	93	95	85	100	94
	8		1.0D	0.5D	Vc	15	15	15	15	20	20	20	20	20	20	20	20	20	20
					fz	0.003	0.007	0.009	0.012	0.018	0.028	0.038	0.047	0.048	0.057	0.057	0.061	0.074	0.09
					RPM	2387	1592	1194	955	1061	796	637	531	455	398	354	318	289	255
					FEED	21	33	32	34	57	67	73	75	65	68	60	58	64	69
	9		1.0D	0.5D	Vc	10	10	15	15	15	15	15	15	15	15	15	15	15	15
					fz	0.005	0.008	0.012	0.013	0.02	0.03	0.042	0.049	0.053	0.061	0.062	0.068	0.085	0.108
					RPM	1592	1061	1194	955	796	597	477	398	341	298	265	239	217	191
					FEED	24	25	43	37	48	54	60	58	54	55	49	49	55	62
	10	High alloyed steel, and tool steel	1.0D	0.5D	Vc	25	25	30	35	35	40	40	40	40	40	35	35	35	35
					fz	0.003	0.007	0.01	0.012	0.021	0.029	0.036	0.048	0.048	0.056	0.066	0.075	0.08	0.101
					RPM	3979	2653	2387	2228	1857	1592	1273	1061	909	796	619	557	506	446
					FEED	36	56	72	80	117	138	138	153	131	134	123	125	122	135
	11.1		1.0D	0.5D	Vc	15	15	15	15	20	20	20	20	20	20	20	20	20	20
					fz	0.003	0.007	0.009	0.012	0.018	0.028	0.038	0.047	0.048	0.057	0.057	0.061	0.074	0.09
					RPM	2387	1592	1194	955	1061	796	637	531	455	398	354	318	289	255
					FEED	21	33	32	34	57	67	73	75	65	68	60	58	64	69
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	0.5D	Vc	25	25	30	35	35	40	40	40	40	40	35	35	35	35
					fz	0.003	0.007	0.01	0.012	0.021	0.029	0.036	0.048	0.048	0.056	0.066	0.075	0.08	0.101
					RPM	3979	2653	2387	2228	1857	1592	1273	1061	909	796	619	557	506	446
					FEED	36	56	72	80	117	138	138	153	131	134	123	125	122	135



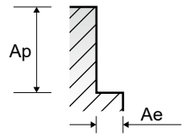
TANK-POWER HSS-PM END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

E9942 , E9A30 SERIES

3 FLUTE - SIDE CUTTING
3刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0
P	1	Non-alloy steel	0.1D	1.5D	Vc	50	55	65	75	80	80	80	80	80	80	75	80	80	80
					fz	0.004	0.008	0.012	0.015	0.024	0.034	0.047	0.056	0.065	0.069	0.077	0.08	0.09	0.11
					RPM	7958	5836	5173	4775	4244	3183	2546	2122	1819	1592	1326	1273	1157	1019
					FEED	95	140	186	215	306	325	359	357	355	329	306	306	313	336
	2		0.1D	1.5D	Vc	45	45	55	65	70	65	65	70	65	65	65	65	65	65
					fz	0.004	0.008	0.012	0.015	0.023	0.035	0.046	0.056	0.063	0.071	0.077	0.081	0.093	0.109
					RPM	7162	4775	4377	4138	3714	2586	2069	1857	1478	1293	1149	1035	940	828
					FEED	86	115	158	186	256	272	286	312	279	275	266	251	262	271
	3-4		0.1D	1.5D	Vc	35	35	45	45	50	50	50	55	50	50	50	50	50	50
					fz	0.004	0.007	0.01	0.014	0.024	0.033	0.044	0.055	0.061	0.067	0.073	0.081	0.088	0.111
					RPM	5570	3714	3581	2865	2653	1989	1592	1459	1137	995	884	796	723	637
					FEED	67	78	107	120	191	197	210	241	208	200	194	193	191	212
	5		0.1D	1.5D	Vc	25	25	30	30	35	35	30	35	35	35	35	35	30	35
					fz	0.004	0.008	0.011	0.014	0.023	0.036	0.05	0.056	0.06	0.071	0.075	0.08	0.092	0.107
					RPM	3979	2653	2387	1910	1857	1393	955	928	796	696	619	557	434	446
					FEED	48	64	79	80	128	150	143	156	143	148	139	134	120	143
	6	Low alloy steel	0.1D	1.5D	Vc	45	45	55	65	70	65	65	70	65	65	65	65	65	65
					fz	0.004	0.008	0.012	0.015	0.023	0.035	0.046	0.056	0.063	0.071	0.077	0.081	0.093	0.109
					RPM	7162	4775	4377	4138	3714	2586	2069	1857	1478	1293	1149	1035	940	828
					FEED	86	115	158	186	256	272	286	312	279	275	266	251	262	271
	7		0.1D	1.5D	Vc	35	35	45	45	50	50	50	55	50	50	50	50	50	50
					fz	0.004	0.007	0.01	0.014	0.024	0.033	0.044	0.055	0.061	0.067	0.073	0.081	0.088	0.111
					RPM	5570	3714	3581	2865	2653	1989	1592	1459	1137	995	884	796	723	637
					FEED	67	78	107	120	191	197	210	241	208	200	194	193	191	212
	8		0.1D	1.5D	Vc	25	25	30	30	35	35	30	35	35	35	35	35	30	35
					fz	0.004	0.008	0.011	0.014	0.023	0.036	0.05	0.056	0.06	0.071	0.075	0.08	0.092	0.107
					RPM	3979	2653	2387	1910	1857	1393	955	928	796	696	619	557	434	446
					FEED	48	64	79	80	128	150	143	156	143	148	139	134	120	143
	9		0.1D	1.5D	Vc	15	20	25	25	30	30	30	30	30	30	30	30	30	30
					fz	0.006	0.01	0.013	0.015	0.022	0.035	0.047	0.056	0.063	0.07	0.073	0.083	0.092	0.111
					RPM	2387	2122	1989	1592	1592	1194	955	796	682	597	531	477	434	382
					FEED	43	64	78	72	105	125	135	134	129	125	116	119	120	127
	10	High alloyed steel, and tool steel	0.1D	1.5D	Vc	45	45	55	65	70	65	65	70	65	65	65	65	65	65
					fz	0.004	0.008	0.012	0.015	0.023	0.035	0.046	0.056	0.063	0.071	0.077	0.081	0.093	0.109
					RPM	7162	4775	4377	4138	3714	2586	2069	1857	1478	1293	1149	1035	940	828
					FEED	86	115	158	186	256	272	286	312	279	275	266	251	262	271
	11.1		0.1D	1.5D	Vc	25	25	30	30	35	35	30	35	35	35	35	35	30	35
					fz	0.004	0.008	0.011	0.014	0.023	0.036	0.05	0.056	0.06	0.071	0.075	0.08	0.092	0.107
					RPM	3979	2653	2387	1910	1857	1393	955	928	796	696	619	557	434	446
					FEED	48	64	79	80	128	150	143	156	143	148	139	134	120	143
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	1.5D	Vc	45	45	55	65	70	65	65	70	65	65	65	65	65	65
					fz	0.004	0.008	0.012	0.015	0.023	0.035	0.046	0.056	0.063	0.071	0.077	0.081	0.093	0.109
					RPM	7162	4775	4377	4138	3714	2586	2069	1857	1478	1293	1149	1035	940	828
					FEED	86	115	158	186	256	272	286	312	279	275	266	251	262	271



CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

TANK-POWER HSS-PM END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

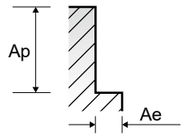
GA938 , GAA31 SERIES

4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0
P	1	Non-alloy steel	0.1D	1.5D	Vc	60	60	65	70	75	80	70	75	80	80	85	80	75	80
					fz	0.008	0.016	0.023	0.029	0.035	0.046	0.068	0.071	0.076	0.08	0.077	0.088	0.098	0.093
					RPM	9549	6366	5173	4456	3979	3183	2228	1989	1819	1592	1503	1273	1085	1019
					FEED	306	407	476	517	557	586	606	565	553	509	463	448	425	379
	2		0.1D	1.5D	Vc	55	55	60	65	70	65	65	70	70	70	70	65	65	65
					fz	0.007	0.015	0.021	0.026	0.031	0.046	0.063	0.067	0.072	0.077	0.08	0.088	0.084	0.091
					RPM	8754	5836	4775	4138	3714	2586	2069	1857	1592	1393	1238	1035	940	828
					FEED	245	350	401	430	460	476	521	498	458	429	396	364	316	301
	3-4		0.1D	1.5D	Vc	40	40	45	45	50	50	50	55	50	50	50	50	45	50
					fz	0.007	0.014	0.021	0.028	0.032	0.046	0.059	0.066	0.08	0.085	0.087	0.088	0.094	0.091
					RPM	6366	4244	3581	2865	2653	1989	1592	1459	1137	995	884	796	651	637
					FEED	178	238	301	321	340	366	376	385	364	338	308	280	245	232
	5		0.1D	1.5D	Vc	25	25	30	30	35	35	30	35	35	35	35	35	30	35
					fz	0.008	0.017	0.022	0.028	0.032	0.043	0.066	0.067	0.073	0.081	0.077	0.083	0.085	0.089
					RPM	3979	2653	2387	1910	1857	1393	955	928	796	696	619	557	434	446
					FEED	127	180	210	214	238	240	252	249	232	226	191	185	148	159
	6		0.1D	1.5D	Vc	55	55	60	65	70	65	65	70	70	70	70	65	65	65
					fz	0.007	0.015	0.021	0.026	0.031	0.046	0.063	0.067	0.072	0.077	0.08	0.088	0.084	0.091
					RPM	8754	5836	4775	4138	3714	2586	2069	1857	1592	1393	1238	1035	940	828
					FEED	245	350	401	430	460	476	521	498	458	429	396	364	316	301
	7	Low alloy steel	0.1D	1.5D	Vc	40	40	45	45	50	50	50	55	50	50	50	50	45	50
					fz	0.007	0.014	0.021	0.028	0.032	0.046	0.059	0.066	0.08	0.085	0.087	0.088	0.094	0.091
					RPM	6366	4244	3581	2865	2653	1989	1592	1459	1137	995	884	796	651	637
					FEED	178	238	301	321	340	366	376	385	364	338	308	280	245	232
	8		0.1D	1.5D	Vc	25	25	30	30	35	35	30	35	35	35	35	35	30	35
					fz	0.008	0.017	0.022	0.028	0.032	0.043	0.066	0.067	0.073	0.081	0.077	0.083	0.085	0.089
					RPM	3979	2653	2387	1910	1857	1393	955	928	796	696	619	557	434	446
					FEED	127	180	210	214	238	240	252	249	232	226	191	185	148	159
	9		0.1D	1.5D	Vc	20	25	25	25	25	30	30	25	30	30	30	30	30	30
					fz	0.006	0.013	0.019	0.024	0.031	0.04	0.056	0.064	0.067	0.075	0.075	0.08	0.081	0.087
					RPM	3183	2653	1989	1592	1326	1194	955	663	682	597	531	477	434	382
					FEED	76	138	151	153	164	191	214	170	183	179	159	153	141	133
	10	High alloyed steel, and tool steel	0.1D	1.5D	Vc	55	55	60	65	70	65	65	70	70	70	70	65	65	65
					fz	0.007	0.015	0.021	0.026	0.031	0.046	0.063	0.067	0.072	0.077	0.08	0.088	0.084	0.091
					RPM	8754	5836	4775	4138	3714	2586	2069	1857	1592	1393	1238	1035	940	828
					FEED	245	350	401	430	460	476	521	498	458	429	396	364	316	301
	11.1		0.1D	1.5D	Vc	25	25	30	30	35	35	30	35	35	35	35	35	30	35
					fz	0.008	0.017	0.022	0.028	0.032	0.043	0.066	0.067	0.073	0.081	0.077	0.083	0.085	0.089
					RPM	3979	2653	2387	1910	1857	1393	955	928	796	696	619	557	434	446
					FEED	127	180	210	214	238	240	252	249	232	226	191	185	148	159
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	1.5D	Vc	55	55	60	65	70	65	65	70	70	70	70	65	65	65
					fz	0.007	0.015	0.021	0.026	0.031	0.046	0.063	0.067	0.072	0.077	0.08	0.088	0.084	0.091
					RPM	8754	5836	4775	4138	3714	2586	2069	1857	1592	1393	1238	1035	940	828
					FEED	245	350	401	430	460	476	521	498	458	429	396	364	316	301

※ The FEED, in long & extra long types, should be reduced by around 50%



TANK-POWER HSS-PM END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

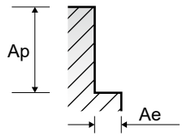
E9938 , E9A31 SERIES

4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0
P	1	Non-alloy steel	0.1D	1.5D	Vc	40	40	45	45	50	55	50	50	55	55	55	55	50	55
					fz	0.007	0.014	0.021	0.026	0.032	0.043	0.061	0.069	0.071	0.07	0.07	0.079	0.092	0.085
					RPM	6366	4244	3581	2865	2653	2188	1592	1326	1251	1094	973	875	723	700
					FEED	178	238	301	298	340	376	388	366	355	306	272	277	266	238
	2		0.1D	1.5D	Vc	35	40	40	40	45	45	45	45	50	45	50	45	45	45
					fz	0.007	0.013	0.02	0.025	0.029	0.042	0.059	0.063	0.065	0.074	0.074	0.081	0.078	0.083
					RPM	5570	4244	3183	2546	2387	1790	1432	1194	1137	895	884	716	651	573
					FEED	156	221	255	255	277	301	338	301	296	265	262	232	203	190
	3-4		0.1D	1.5D	Vc	25	30	30	30	35	35	35	35	35	35	35	35	30	35
					fz	0.007	0.013	0.02	0.024	0.028	0.041	0.053	0.064	0.069	0.075	0.079	0.081	0.087	0.081
					RPM	3979	3183	2387	1910	1857	1393	1114	928	796	696	619	557	434	446
					FEED	111	166	191	183	208	228	236	238	220	209	196	180	151	144
	5		0.1D	1.5D	Vc	20	20	20	20	25	25	20	25	25	25	25	25	20	20
					fz	0.007	0.014	0.02	0.024	0.029	0.042	0.058	0.063	0.066	0.075	0.07	0.076	0.078	0.085
					RPM	3183	2122	1592	1273	1326	995	637	663	568	497	442	398	289	255
					FEED	89	119	127	122	154	167	148	167	150	149	124	121	90	87
	6		0.1D	1.5D	Vc	35	40	40	40	45	45	45	45	50	45	50	45	45	45
					fz	0.007	0.013	0.02	0.025	0.029	0.042	0.059	0.063	0.065	0.074	0.074	0.081	0.078	0.083
					RPM	5570	4244	3183	2546	2387	1790	1432	1194	1137	895	884	716	651	573
					FEED	156	221	255	255	277	301	338	301	296	265	262	232	203	190
	7	Low alloy steel	0.1D	1.5D	Vc	25	30	30	30	35	35	35	35	35	35	35	35	30	35
					fz	0.007	0.013	0.02	0.024	0.028	0.041	0.053	0.064	0.069	0.075	0.079	0.081	0.087	0.081
					RPM	3979	3183	2387	1910	1857	1393	1114	928	796	696	619	557	434	446
					FEED	111	166	191	183	208	228	236	238	220	209	196	180	151	144
	8		0.1D	1.5D	Vc	20	20	20	20	25	25	20	25	25	25	25	25	20	20
					fz	0.007	0.014	0.02	0.024	0.029	0.042	0.058	0.063	0.066	0.075	0.07	0.076	0.078	0.085
					RPM	3183	2122	1592	1273	1326	995	637	663	568	497	442	398	289	255
					FEED	89	119	127	122	154	167	148	167	150	149	124	121	90	87
	9		0.1D	1.5D	Vc	15	15	15	20	20	20	20	20	20	20	20	20	20	20
					fz	0.006	0.012	0.018	0.022	0.028	0.038	0.052	0.058	0.061	0.067	0.07	0.071	0.074	0.083
					RPM	2387	1592	1194	1273	1061	796	637	531	455	398	354	318	289	255
					FEED	57	76	86	112	119	121	132	123	111	107	99	90	86	85
	10	High alloyed steel, and tool steel	0.1D	1.5D	Vc	35	40	40	40	45	45	45	45	50	45	50	45	45	45
					fz	0.007	0.013	0.02	0.025	0.029	0.042	0.059	0.063	0.065	0.074	0.074	0.081	0.078	0.083
					RPM	5570	4244	3183	2546	2387	1790	1432	1194	1137	895	884	716	651	573
					FEED	156	221	255	255	277	301	338	301	296	265	262	232	203	190
	11.1		0.1D	1.5D	Vc	20	20	20	20	25	25	20	25	25	25	25	25	20	20
					fz	0.007	0.014	0.02	0.024	0.029	0.042	0.058	0.063	0.066	0.075	0.07	0.076	0.078	0.085
					RPM	3183	2122	1592	1273	1326	995	637	663	568	497	442	398	289	255
					FEED	89	119	127	122	154	167	148	167	150	149	124	121	90	87
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	1.5D	Vc	35	40	40	40	45	45	45	45	50	45	50	45	45	45
					fz	0.007	0.013	0.02	0.025	0.029	0.042	0.059	0.063	0.065	0.074	0.074	0.081	0.078	0.083
					RPM	5570	4244	3183	2546	2387	1790	1432	1194	1137	895	884	716	651	573
					FEED	156	221	255	255	277	301	338	301	296	265	262	232	203	190

※ The FEED, in long & extra long types, should be reduced by around 50%



CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

TANK-POWER HSS-PM END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

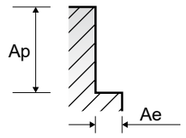
GA941 , GAA35 , GAA33 , GAA34 SERIES

MULTI FLUTE ROUGHING - SIDE CUTTING
多刃 粗加工- 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 6.0	8.0	10.0	12.0	22.0	25.0	18.0	20.0	22.0	25.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	55	60	60	60	60	60	60	60	60	60
					fz	0.027	0.04	0.055	0.065	0.074	0.086	0.099	0.111	0.096	0.105
					RPM	2918	2387	1910	1592	1364	1194	1061	955	868	764
					FEED	236	286	420	414	404	411	420	424	417	401
	2		0.5D	1.5D	Vc	40	50	45	45	45	50	50	50	45	45
					fz	0.027	0.04	0.053	0.069	0.079	0.087	0.093	0.109	0.102	0.105
					RPM	2122	1989	1432	1194	1023	995	884	796	651	573
					FEED	172	239	304	329	323	346	329	347	332	301
	3-4		0.5D	1.5D	Vc	30	35	35	35	35	35	35	35	30	35
					fz	0.024	0.038	0.046	0.064	0.076	0.087	0.094	0.108	0.098	0.105
					RPM	1592	1393	1114	928	796	696	619	557	434	446
					FEED	115	159	205	238	242	242	233	241	213	234
	5		0.5D	1.5D	Vc	25	25	30	30	30	30	30	30	30	30
					fz	0.027	0.04	0.045	0.061	0.071	0.082	0.092	0.102	0.09	0.1
					RPM	1326	995	955	796	682	597	531	477	434	382
					FEED	107	119	172	194	194	196	195	195	195	191
	6	Low alloy steel	0.5D	1.5D	Vc	40	50	45	45	45	50	50	50	45	45
					fz	0.027	0.04	0.053	0.069	0.079	0.087	0.093	0.109	0.102	0.105
					RPM	2122	1989	1432	1194	1023	995	884	796	651	573
					FEED	172	239	304	329	323	346	329	347	332	301
	7		0.5D	1.5D	Vc	30	35	35	35	35	35	35	35	30	35
					fz	0.024	0.038	0.046	0.064	0.076	0.087	0.094	0.108	0.098	0.105
					RPM	1592	1393	1114	928	796	696	619	557	434	446
					FEED	115	159	205	238	242	242	233	241	213	234
	8-9		0.5D	1.5D	Vc	25	25	30	30	30	30	30	30	30	30
					fz	0.027	0.04	0.045	0.061	0.071	0.082	0.092	0.102	0.09	0.1
					RPM	1326	995	955	796	682	597	531	477	434	382
					FEED	107	119	172	194	194	196	195	195	195	191
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	40	50	45	45	45	50	50	50	45	45
					fz	0.027	0.04	0.053	0.069	0.079	0.087	0.093	0.109	0.102	0.105
					RPM	2122	1989	1432	1194	1023	995	884	796	651	573
					FEED	172	239	304	329	323	346	329	347	332	301
	11.1		0.5D	1.5D	Vc	25	25	30	30	30	30	30	30	30	30
					fz	0.027	0.04	0.045	0.061	0.071	0.082	0.092	0.102	0.09	0.1
					RPM	1326	995	955	796	682	597	531	477	434	382
					FEED	107	119	172	194	194	196	195	195	195	191
M	14.1	Stainless steel	0.5D	1.5D	Vc	25	30	30	30	30	30	30	30	30	30
					fz	0.025	0.039	0.045	0.064	0.074	0.085	0.093	0.107	0.095	0.103
					RPM	1326	1194	955	796	682	597	531	477	434	382
					FEED	99	140	172	204	202	203	197	204	206	197
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.5D	1.5D	Vc	40	50	45	45	45	50	50	50	45	45
					fz	0.027	0.04	0.053	0.069	0.079	0.087	0.093	0.109	0.102	0.105
					RPM	2122	1989	1432	1194	1023	995	884	796	651	573
					FEED	172	239	304	329	323	346	329	347	332	301

※ The FEED, in long & extra long types, should be reduced by around 50%



TANK-POWER HSS-PM END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

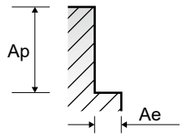
E9941 , E9A35 , E9A33 , E9A34 SERIES

MULTI FLUTE ROUGHING - SIDE CUTTING
多刃 粗加工- 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 6.0	8.0	10.0	12.0	22.0	25.0	18.0	20.0	22.0	25.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	35	40	40	40	40	40	40	40	40	40
					fz	0.018	0.028	0.05	0.059	0.056	0.063	0.061	0.067	0.072	0.08
					RPM	1857	1592	1273	1061	909	796	707	637	579	509
					FEED	100	134	255	250	204	201	173	171	208	204
	2		0.5D	1.5D	Vc	30	35	30	30	30	30	35	30	30	30
					fz	0.018	0.027	0.049	0.063	0.058	0.064	0.056	0.067	0.078	0.081
					RPM	1592	1393	955	796	682	597	619	477	434	382
					FEED	86	113	187	201	158	153	139	128	169	155
	3-4		0.5D	1.5D	Vc	20	25	20	25	20	25	25	25	20	20
					fz	0.017	0.028	0.044	0.058	0.055	0.062	0.057	0.065	0.073	0.08
					RPM	1061	995	637	663	455	497	442	398	289	255
					FEED	54	84	112	154	100	123	101	103	106	102
	5		0.5D	1.5D	Vc	15	20	20	20	20	20	20	20	20	20
					fz	0.018	0.027	0.042	0.055	0.051	0.059	0.056	0.061	0.068	0.076
					RPM	796	796	637	531	455	398	354	318	289	255
					FEED	43	64	107	117	93	94	79	78	98	97
	6	Low alloy steel	0.5D	1.5D	Vc	30	35	30	30	30	30	35	30	30	30
					fz	0.018	0.027	0.049	0.063	0.058	0.064	0.056	0.067	0.078	0.081
					RPM	1592	1393	955	796	682	597	619	477	434	382
					FEED	86	113	187	201	158	153	139	128	169	155
	7		0.5D	1.5D	Vc	20	25	20	25	20	25	25	25	20	20
					fz	0.017	0.028	0.044	0.058	0.055	0.062	0.057	0.065	0.073	0.08
					RPM	1061	995	637	663	455	497	442	398	289	255
					FEED	54	84	112	154	100	123	101	103	106	102
	8-9		0.5D	1.5D	Vc	15	20	20	20	20	20	20	20	20	20
					fz	0.018	0.027	0.042	0.055	0.051	0.059	0.056	0.061	0.068	0.076
					RPM	796	796	637	531	455	398	354	318	289	255
					FEED	43	64	107	117	93	94	79	78	98	97
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	30	35	30	30	30	30	35	30	30	30
					fz	0.018	0.027	0.049	0.063	0.058	0.064	0.056	0.067	0.078	0.081
					RPM	1592	1393	955	796	682	597	619	477	434	382
					FEED	86	113	187	201	158	153	139	128	169	155
	11.1		0.5D	1.5D	Vc	20	20	20	20	20	20	20	20	20	20
					fz	0.018	0.027	0.042	0.055	0.051	0.059	0.056	0.061	0.068	0.076
					RPM	796	796	637	531	455	398	354	318	289	255
					FEED	43	64	107	117	93	94	79	78	98	97
M	14.1	Stainless steel	0.5D	1.5D	Vc	20	20	20	20	20	20	20	20	20	20
					fz	0.02	0.03	0.045	0.065	0.06	0.069	0.064	0.073	0.081	0.086
					RPM	1061	796	637	531	455	398	354	318	289	255
					FEED	64	72	115	138	109	110	91	93	117	109
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.5D	1.5D	Vc	30	35	30	30	30	30	35	30	30	30
					fz	0.018	0.027	0.049	0.063	0.058	0.064	0.056	0.067	0.078	0.081
					RPM	1592	1393	955	796	682	597	619	477	434	382
					FEED	86	113	187	201	158	153	139	128	169	155

※ The FEED, in long & extra long types, should be reduced by around 50%



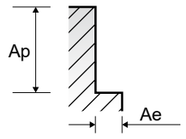
TANK-POWER HSS-PM END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GAA26 SERIES — MULTI FLUTE ROUGHING - SIDE CUTTING
多刃 粗加工- 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	55	60	60	60	60	60	60	60	60	60
					fz	0.021	0.03	0.055	0.065	0.059	0.069	0.066	0.074	0.08	0.088
					RPM	2918	2387	1910	1592	1364	1194	1061	955	868	764
					FEED	245	286	420	414	402	412	420	424	417	403
	2		0.5D	1.5D	Vc	40	50	45	45	45	50	50	50	45	45
					fz	0.02	0.03	0.053	0.069	0.063	0.069	0.062	0.072	0.085	0.088
					RPM	2122	1989	1432	1194	1023	995	884	796	651	573
					FEED	170	239	304	329	322	343	329	344	332	303
	3-4		0.5D	1.5D	Vc	30	35	35	35	35	35	35	35	30	35
					fz	0.018	0.029	0.046	0.064	0.061	0.07	0.063	0.072	0.082	0.087
					RPM	1592	1393	1114	928	796	696	619	557	434	446
					FEED	115	162	205	238	243	244	234	241	214	233
	5		0.5D	1.5D	Vc	25	25	30	30	30	30	30	30	30	30
					fz	0.02	0.03	0.045	0.061	0.057	0.065	0.061	0.068	0.075	0.083
					RPM	1326	995	955	796	682	597	531	477	434	382
					FEED	106	119	172	194	194	194	194	195	195	190
	6	Low alloy steel	0.5D	1.5D	Vc	40	50	45	45	45	50	50	50	45	45
					fz	0.02	0.03	0.053	0.069	0.063	0.069	0.062	0.072	0.085	0.088
					RPM	2122	1989	1432	1194	1023	995	884	796	651	573
					FEED	170	239	304	329	322	343	329	344	332	303
	7		0.5D	1.5D	Vc	30	35	35	35	35	35	35	35	30	35
					fz	0.018	0.029	0.046	0.064	0.061	0.07	0.063	0.072	0.082	0.087
					RPM	1592	1393	1114	928	796	696	619	557	434	446
					FEED	115	162	205	238	243	244	234	241	214	233
	8-9		0.5D	1.5D	Vc	25	25	30	30	30	30	30	30	30	30
					fz	0.02	0.03	0.045	0.061	0.057	0.065	0.061	0.068	0.075	0.083
					RPM	1326	995	955	796	682	597	531	477	434	382
					FEED	106	119	172	194	194	194	194	195	195	190
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	40	50	45	45	45	50	50	50	45	45
					fz	0.02	0.03	0.053	0.069	0.063	0.069	0.062	0.072	0.085	0.088
					RPM	2122	1989	1432	1194	1023	995	884	796	651	573
					FEED	170	239	304	329	322	343	329	344	332	303
	11.1		0.5D	1.5D	Vc	25	25	30	30	30	30	30	30	30	30
					fz	0.02	0.03	0.045	0.061	0.057	0.065	0.061	0.068	0.075	0.083
					RPM	1326	995	955	796	682	597	531	477	434	382
					FEED	106	119	172	194	194	194	194	195	195	190
M	14.1	Stainless steel	0.5D	1.5D	Vc	25	30	30	30	30	30	30	30	30	30
					fz	0.019	0.029	0.045	0.064	0.059	0.068	0.062	0.071	0.079	0.085
					RPM	1326	1194	955	796	682	597	531	477	434	382
					FEED	101	138	172	204	201	203	197	203	206	195
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.5D	1.5D	Vc	40	50	45	45	45	50	50	50	45	45
					fz	0.02	0.03	0.053	0.069	0.063	0.069	0.062	0.072	0.085	0.088
					RPM	2122	1989	1432	1194	1023	995	884	796	651	573
					FEED	170	239	304	329	322	343	329	344	332	303



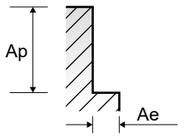
TANK-POWER HSS-PM END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

E9A26 SERIES — MULTI FLUTE ROUGHING - SIDE CUTTING
多刃 粗加工- 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	35	40	40	40	40	40	40	40	40	40
					fz	0.018	0.028	0.05	0.059	0.056	0.063	0.061	0.067	0.072	0.08
					RPM	1857	1592	1273	1061	909	796	707	637	579	509
					FEED	134	178	255	250	255	251	259	256	250	244
	2		0.5D	1.5D	Vc	30	35	30	30	30	30	35	30	30	30
					fz	0.018	0.027	0.049	0.063	0.058	0.064	0.056	0.067	0.078	0.081
					RPM	1592	1393	955	796	682	597	619	477	434	382
					FEED	115	150	187	201	198	191	208	192	203	186
	3-4		0.5D	1.5D	Vc	20	25	20	25	20	25	25	25	20	20
					fz	0.017	0.028	0.044	0.058	0.055	0.062	0.057	0.065	0.073	0.08
					RPM	1061	995	637	663	455	497	442	398	289	255
					FEED	72	111	112	154	125	154	151	155	127	122
	5		0.5D	1.5D	Vc	15	20	20	20	20	20	20	20	20	20
					fz	0.018	0.027	0.042	0.055	0.051	0.059	0.056	0.061	0.068	0.076
					RPM	796	796	637	531	455	398	354	318	289	255
					FEED	57	86	107	117	116	117	119	117	118	116
	6	Low alloy steel	0.5D	1.5D	Vc	30	35	30	30	30	30	35	30	30	30
					fz	0.018	0.027	0.049	0.063	0.058	0.064	0.056	0.067	0.078	0.081
					RPM	1592	1393	955	796	682	597	619	477	434	382
					FEED	115	150	187	201	198	191	208	192	203	186
	7		0.5D	1.5D	Vc	20	25	20	25	20	25	25	25	20	20
					fz	0.017	0.028	0.044	0.058	0.055	0.062	0.057	0.065	0.073	0.08
					RPM	1061	995	637	663	455	497	442	398	289	255
					FEED	72	111	112	154	125	154	151	155	127	122
	8-9		0.5D	1.5D	Vc	15	20	20	20	20	20	20	20	20	20
					fz	0.018	0.027	0.042	0.055	0.051	0.059	0.056	0.061	0.068	0.076
					RPM	796	796	637	531	455	398	354	318	289	255
					FEED	57	86	107	117	116	117	119	117	118	116
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	30	35	30	30	30	30	35	30	30	30
					fz	0.018	0.027	0.049	0.063	0.058	0.064	0.056	0.067	0.078	0.081
					RPM	1592	1393	955	796	682	597	619	477	434	382
					FEED	115	150	187	201	198	191	208	192	203	186
	11.1		0.5D	1.5D	Vc	15	20	20	20	20	20	20	20	20	20
					fz	0.018	0.027	0.042	0.055	0.051	0.059	0.056	0.061	0.068	0.076
					RPM	796	796	637	531	455	398	354	318	289	255
					FEED	57	86	107	117	116	117	119	117	118	116
M	14.1	Stainless steel	0.5D	1.5D	Vc	20	20	20	20	20	20	20	20	20	20
					fz	0.02	0.03	0.045	0.065	0.06	0.069	0.064	0.073	0.081	0.086
					RPM	1061	796	637	531	455	398	354	318	289	255
					FEED	85	95	115	138	136	137	136	139	141	131
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.5D	1.5D	Vc	30	35	30	30	30	30	35	30	30	30
					fz	0.018	0.027	0.049	0.063	0.058	0.064	0.056	0.067	0.078	0.081
					RPM	1592	1393	955	796	682	597	619	477	434	382
					FEED	115	150	187	201	198	191	208	192	203	186



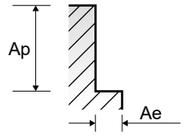
TANK-POWER HSS-PM END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

E9E43 SERIES
MULTI FLUTE ROUGHING - SIDE CUTTING
多刃 粗加工- 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	10.0	12.0	16.0	20.0	25.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	41	41	41	41	41
					fz	0.042	0.05	0.067	0.085	0.081
					RPM	1305	1088	816	653	522
					FEED	219	218	219	222	211
	2		0.5D	1.5D	Vc	32	32	32	32	32
					fz	0.041	0.053	0.068	0.086	0.083
					RPM	1019	849	637	509	407
					FEED	167	180	173	175	169
	3-4		0.5D	1.5D	Vc	23	23	23	23	23
					fz	0.037	0.05	0.067	0.083	0.082
					RPM	732	610	458	366	293
					FEED	108	122	123	122	120
	5		0.5D	1.5D	Vc	19	19	19	19	19
					fz	0.035	0.048	0.064	0.079	0.079
					RPM	605	504	378	302	242
					FEED	85	97	97	96	96
	6	Low alloy steel	0.5D	1.5D	Vc	32	32	32	32	32
					fz	0.041	0.053	0.068	0.086	0.083
					RPM	1019	849	637	509	407
					FEED	167	180	173	175	169
	7		0.5D	1.5D	Vc	23	23	23	23	23
					fz	0.037	0.05	0.067	0.083	0.082
					RPM	732	610	458	366	293
					FEED	108	122	123	122	120
	8		0.5D	1.5D	Vc	19	19	19	19	19
					fz	0.035	0.048	0.064	0.079	0.079
					RPM	605	504	378	302	242
					FEED	85	97	97	96	96
	9		0.5D	1.5D	Vc	19	19	19	19	19
					fz	0.035	0.048	0.064	0.079	0.079
					RPM	605	504	378	302	242
					FEED	64	97	97	119	96
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	32	32	32	32	32
					fz	0.041	0.053	0.068	0.086	0.083
					RPM	1019	849	637	509	407
					FEED	167	180	173	175	169
	11.1		0.5D	1.5D	Vc	19	19	19	19	19
					fz	0.035	0.048	0.064	0.079	0.079
					RPM	605	504	378	302	242
					FEED	85	97	97	96	96
M	14.1	Stainless steel	0.5D	1.5D	Vc	21	21	21	21	21
					fz	0.038	0.058	0.074	0.095	0.089
					RPM	668	557	418	334	267
					FEED	102	129	124	127	119
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.5D	1.5D	Vc	32	32	32	32	32
					fz	0.041	0.053	0.068	0.086	0.083
					RPM	1019	849	637	509	407
					FEED	167	180	173	175	169

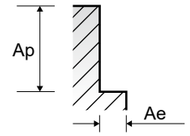


TANK-POWER HSS-PM END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

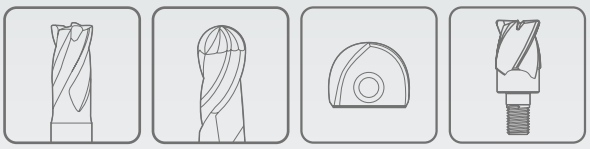
GAE43 SERIES
MULTI FLUTE ROUGHING - SIDE CUTTING
多刃 粗加工- 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	10.0	12.0	16.0	20.0	25.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	60	60	60	60	60
					fz	0.047	0.055	0.074	0.094	0.09
					RPM	1910	1592	1194	955	764
					FEED	359	350	353	359	344
	2		0.5D	1.5D	Vc	47	47	47	47	47
					fz	0.045	0.058	0.074	0.092	0.09
					RPM	1496	1247	935	748	598
					FEED	269	289	277	275	269
	3-4		0.5D	1.5D	Vc	33	33	33	33	33
					fz	0.039	0.054	0.074	0.092	0.088
					RPM	1050	875	657	525	420
					FEED	164	189	194	193	185
	5		0.5D	1.5D	Vc	28	28	28	28	28
					fz	0.038	0.052	0.07	0.088	0.086
					RPM	891	743	557	446	357
					FEED	135	154	156	157	153
	6	Low alloy steel	0.5D	1.5D	Vc	47	47	47	47	47
					fz	0.045	0.058	0.074	0.092	0.09
					RPM	1496	1247	935	748	598
					FEED	269	289	277	275	269
	7		0.5D	1.5D	Vc	33	33	33	33	33
					fz	0.039	0.054	0.074	0.092	0.088
					RPM	1050	875	657	525	420
					FEED	164	189	194	193	185
	8-9		0.5D	1.5D	Vc	28	28	28	28	28
					fz	0.038	0.052	0.07	0.088	0.086
					RPM	891	743	557	446	357
					FEED	135	154	156	157	153
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	47	47	47	47	47
					fz	0.045	0.058	0.074	0.092	0.09
					RPM	1496	1247	935	748	598
					FEED	269	289	277	275	269
	11.1		0.5D	1.5D	Vc	28	28	28	28	28
					fz	0.038	0.052	0.07	0.088	0.086
					RPM	891	743	557	446	357
					FEED	135	154	156	157	153
M	14.1	Stainless steel	0.5D	1.5D	Vc	30	30	30	30	30
					fz	0.038	0.055	0.073	0.091	0.087
					RPM	955	796	597	477	382
					FEED	145	175	174	174	166
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.5D	1.5D	Vc	47	47	47	47	47
					fz	0.045	0.058	0.074	0.092	0.09
					RPM	1496	1247	935	748	598
					FEED	269	289	277	275	269



Global Cutting Tool Leader **YG-1**



MILLING

Leading Through Innovation

HSS

GENERAL HSS
END MILLS

- General Purpose / Coating Available
- 普通加工 / 可以提供涂层

SELECTION GUIDE
选用指南

YG MILLING TOOLS

HSS
GENERAL HSS END MILLS

General Purpose, Non-coated, Any Coating Available

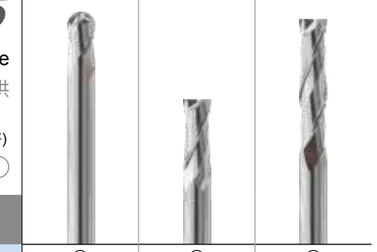
普通加工，非涂层，任何涂层都可以提供

Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀) ○ : Good (良好)

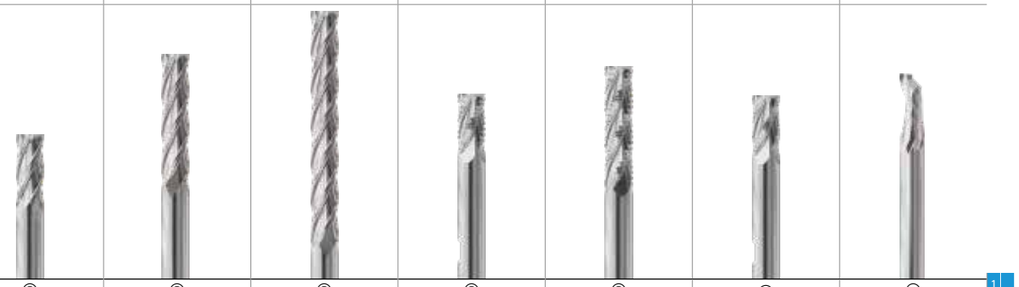
Recommended cutting conditions (推荐加工参数) : p.C600

SERIES 系列	E2480	E2401	E2406
FLUTE 槽数	2	2	2
HELIX ANGLE 螺旋角度	30°	30°	30°
CUTTING EDGE SHAPE 类型	BALL NOSE	SQUARE	SQUARE
SIZE MIN 最小尺寸	R0.5	D1.0	D3.0
SIZE MAX 最大尺寸	R25.0	D50.0	D50.0
PAGE 页数	C582-583	C584-586	C587-588
	REGULAR LENGTH	REGULAR LENGTH	LONG LENGTH
	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN
	HSSCo8	HSSCo8	HSSCo8



ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment		HB	HRc			
P	1	Non-alloy steel	About 0.15% C	Annealed	125		◎	◎	◎
	2		About 0.45% C	Annealed	190	13	◎	◎	◎
	3		About 0.45% C	Quenched & Tempered	250	25	◎	◎	◎
	4		About 0.75% C	Annealed	270	28	◎	◎	◎
	5		About 0.75% C	Quenched & Tempered	300	32	◎	◎	◎
	6	Low alloy steel		Annealed	180	10	◎	◎	◎
	7			Quenched & Tempered	275	29	◎	◎	◎
	8			Quenched & Tempered	300	32	◎	◎	◎
	9			Quenched & Tempered	350	38	○	○	○
	10	High alloyed steel, and tool steel		Annealed	200	15	◎	◎	◎
	11			Quenched & Tempered	325	35	○	○	○
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15			
	13		Martensitic	Quenched & Tempered	240	23			
	14		Austenitic		180	10			
K	15	Grey cast iron	Pearlitic / ferritic		180	10			
	16		Pearlitic (Martensitic)		260	26			
	17	Nodular cast iron	Ferritic		160	3			
	18		Pearlitic		250	25			
	19	Malleable cast iron	Ferritic		130				
	20		Pearlitic		230	21			
N	21	Aluminum-wrought alloy	Not Curable		60		○	○	○
	22		Curable	Hardened	100		○	○	○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75		○	○	○
	24		≤ 12% Si, Curable	Hardened	90		○	○	○
	25		> 12% Si, Not Curable		130		○	○	○
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110				
	27		CuZn, CuSnZn (Brass)		90				
	28		CuSn, lead-free copper and electrolytic copper		100				
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic						
	30		Rubber, Wood, etc.						
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15			
	32			Cured	280	30			
	33		Ni or Co Based	Annealed	250	25			
	34			Cured	350	38			
	35			Cast	320	34			
	36	Titanium Alloys	Pure Titanium		400 Rm				
	37		Alpha + Beta Alloys	Hardened	1050 Rm				
H	38	Hardened steel		Hardened	550	55			
	39			Hardened	630	60			
	40	Chilled Cast Iron		Cast	400	42			
	41	Hardened Cast Iron		Hardened	550	55			

E2412	E2659	E2750	E2760	E2759	E2753	EL612
4	4	4	4-6 (Multi Flute)	4-6 (Multi Flute)	3-6 (Multi Flute)	1
30°	30°	30°	30°	30°	30°	≒ 30°
SQUARE	SQUARE	SQUARE	SQUARE ROUGHING - COARSE	SQUARE ROUGHING - COARSE	SQUARE ROUGHING - FINE	SQUARE
D1.0	D3.0	D16.0	D6.0	D10.0	D6.0	D3.0
D50.0	D50.0	D50.0	D50.0	D50.0	D40.0	D10.0
C589-591	C592-593	C594	C595-596	C597	C598	C599
REGULAR LENGTH CENTER CUT	LONG LENGTH CENTER CUT	EXTRA LONG LENGTH	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	-
Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated
HSSCo8	HSSCo8	HSSCo8	HSSCo8	HSSCo8	HSSCo8	HSS-E



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BALL NOSE = 球头 SQUARE = 平头 ROUGHING = 粗加工 MULTIPLE HELIX = 不等螺旋 Center Cut = 过中心 EXTRA LONG LENGTH = 加长刃
SHORT LENGTH= 短刃 REGULAR LENGTH = 普通刃长 LONG LENGTH = 长刃 COARSE = 粗牙 FINE= 细牙 Uncoated = 非涂层

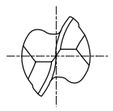
GENERAL HSS END MILLS

PLAIN SHANK **E2480** SERIES
PLAIN SHANK **EQ480** SERIES

HSSCo8, 2 FLUTE REGULAR LENGTH BALL NOSE
HSSCo8，2刃 普通刃长 球头

▶The two flute ball End Mills are designed for milling of radius bottom slot, fillet and special contour. The end teeth are cut to center allowing these end mills to drill into material at the beginning of a slotting cut. The two flute design provides good chip ejection ability in slotting.

▶2个刃的球头铣刀是用来加工圆弧底面的立槽，带沟和特殊轮廓而设计的。底刃切削刃到中心允许这些铁刀在开立槽之前在材料上先钻孔。2刃设计为开立槽时提供了很好的排屑能力。



HSS Co8 | 2 | 30° | R ±0.02 | PLAIN

p.C600~601

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
	-	-	ER COLLET CHUCK	D73 - 115
			SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No. UNCOATED	EDP No. TiAlN	Radius of Ball Nose 圆弧角 R (±0.02)	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
E2480010	**EQ480010**	R0.5	**1.0**	6	2.5	50
E2480015	**EQ480015**	R0.75	**1.5**	6	4	50
E2480020	**EQ480020**	R1.0	**2.0**	6	5	50
E2480025	**EQ480025**	R1.25	**2.5**	6	6	60
E2480030	**EQ480030**	R1.5	**3.0**	6	8	60
E2480901	**EQ480901**	R2.0	**4.0**	6	8	70
E2480902	**EQ480902**	R2.5	**5.0**	6	10	80
E2480903	**EQ480903**	R3.0	**6.0**	6	12	90
E2480904	**EQ480904**	R3.5	**7.0**	8	14	90
E2480905	**EQ480905**	R4.0	**8.0**	8	14	100
E2480090	**EQ480090**	R4.5	**9.0**	10	18	100
E2480100	**EQ480100**	R5.0	**10.0**	10	18	100
E2480110	**EQ480110**	R5.5	**11.0**	12	22	100
E2480120	**EQ480120**	R6.0	**12.0**	12	22	110
E2480130	**EQ480130**	R6.5	**13.0**	12	26	110
E2480906	**EQ480906**	R7.0	**14.0**	12	26	110
E2480907	**EQ480907**	R7.5	**15.0**	12	30	110
E2480160	**EQ480160**	R8.0	**16.0**	16	30	140
E2480170	**EQ480170**	R8.5	**17.0**	16	34	140
E2480180	**EQ480180**	R9.0	**18.0**	16	34	140
E2480190	**EQ480190**	R9.5	**19.0**	16	38	140
E2480200	**EQ480200**	R10.0	**20.0**	20	38	160
E2480210	**EQ480210**	R10.5	**21.0**	20	45	170
E2480220	**EQ480220**	R11.0	**22.0**	20	45	170

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○										

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○																

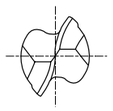
GENERAL HSS END MILLS

PLAIN SHANK E2480 SERIES
PLAIN SHANK EQ480 SERIES

HSSCo8, 2 FLUTE REGULAR LENGTH BALL NOSE
HSSCo8，2刃 普通刃长 球头

▶The two flute ball End Mills are designed for milling of radius bottom slot, fillet and special contour. The end teeth are cut to center allowing these end mills to drill into material at the beginning of a slotting cut. The two flute design provides good chip ejection ability in slotting.

▶2个刃的球头铣刀是用来加工圆弧底面的立槽，带沟和特殊轮廓而设计的。底刃切削刃到中心允许这些铁刀在开立槽之前在材料上先钻孔。2刃设计为开立槽时提供了很好的排屑能力。



HSS Co8 | 2 | 30° | R ±0.02 | PLAIN

p.C600~601

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
	-	-	ER COLLET CHUCK	D73 - 115
			SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No. UNCOATED	EDP No. TiAlN	Radius of Ball Nose 圆弧角 R (±0.02)	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
E2480230	**EQ480230**	R11.5	**23.0**	20	50	180
E2480908	**EQ480908**	R12.0	**24.0**	20	50	180
E2480240	**EQ480240**	R12.0	**24.0**	25	50	180
E2480250	**EQ480250**	R12.5	**25.0**	25	50	180
E2480260	**EQ480260**	R13.0	**26.0**	25	50	180
E2480270	**EQ480270**	R13.5	**27.0**	25	50	180
E2480280	**EQ480280**	R14.0	**28.0**	25	50	180
E2480300	**EQ480300**	R15.0	**30.0**	25	55	180
E2480320	**EQ480320**	R16.0	**32.0**	32	60	180
E2480350	**EQ480350**	R17.5	**35.0**	32	60	180
E2480400	**EQ480400**	R20.0	**40.0**	32	65	200
E2480500	**EQ480500**	R25.0	**50.0**	42	75	210

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○										

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○																

GENERAL HSS END MILLS

PLAIN SHANK **E2401** SERIES
PLAIN SHANK **EQ401** SERIES

HSSCo8, 2 FLUTE REGULAR LENGTH
HSSCo8，2刃 普通刃长

▶ These end mills are furnished as regular with right-hand cutting and right-hand helical flutes. These are designed for slotting, drilling, pocketing and general-purpose operation.

▶ 这些铁刀是右向螺旋角右向切削的正规铁刀，为开立槽，钻孔，型腔和普通用途加工而设计

HSS Co8 | 2 | 30° | PLAIN | p.C602~603

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TiAlN	直径	柄径	刃长	全长
E2401010	EQ401010	1.0	6	2.5	55
E2401015	EQ401015	1.5	6	4	55
E2401020	EQ401020	2.0	6	6	55
E2401025	EQ401025	2.5	6	7	55
E2401030	EQ401030	3.0	6	10	55
E2401035	EQ401035	3.5	8	12	60
E2401903	EQ401903	4.0	6	12	55
E2401040	EQ401040	4.0	8	12	60
E2401045	EQ401045	4.5	8	15	65
E2401905	EQ401905	5.0	6	15	60
E2401050	EQ401050	5.0	8	15	65
E2401055	EQ401055	5.5	8	15	65
E2401907	EQ401907	•6.0	6	15	60
E2401060	EQ401060	•6.0	8	15	65
E2401065	EQ401065	6.5	10	20	75
E2401070	EQ401070	7.0	10	20	75
E2401909	EQ401909	7.0	8	20	70
E2401075	EQ401075	7.5	10	20	75
E2401080	EQ401080	•8.0	10	21	75
E2401911	EQ401911	•8.0	8	20	70
E2401085	EQ401085	8.5	10	25	80
E2401090	EQ401090	9.0	10	25	80
E2401095	EQ401095	9.5	10	25	80
E2401100	EQ401100	10.0	10	26	80
E2401105	EQ401105	10.5	12	30	90
E2401110	EQ401110	11.0	12	30	90

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差					Shank Dia.Tolerance 柄径公差
•6	•8	•10	•12	Other size	
0 - 0.035	0 - 0.040	0 - 0.040	0 - 0.045	0 - 0.030	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○										

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○																

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

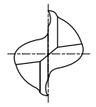
GENERAL HSS END MILLS

PLAIN SHANK **E2401** SERIES
PLAIN SHANK **EQ401** SERIES

HSSCo8, 2 FLUTE REGULAR LENGTH
HSSCo8，2刃 普通刃长

▶ These end mills are furnished as regular with right-hand cutting and right-hand helical flutes. These are designed for slotting, drilling, pocketing and general-purpose operation.

▶ 这些铁刀是右向螺旋角右向切削的正规铁刀，为开立槽，钻孔，型腔和普通用途加工而设计



HSS Co8 | 2 | 30° | PLAIN | p.C602~603

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TiAlN	直径	柄径	刃长	全长
E2401115	EQ401115	11.5	12	30	90
E2401120	EQ401120	•12.0	12	31	90
E2401130	EQ401130	13.0	12	35	95
E2401916	EQ401916	14.0	12	35	95
E2401140	EQ401140	14.0	16	35	100
E2401150	EQ401150	15.0	16	40	105
E2401160	EQ401160	16.0	16	40	105
E2401170	EQ401170	17.0	16	40	105
E2401180	EQ401180	18.0	16	40	105
E2401190	EQ401190	19.0	20	45	115
E2401200	EQ401200	20.0	20	45	115
E2401210	EQ401210	21.0	20	45	115
E2401220	EQ401220	22.0	20	45	115
E2401230	EQ401230	23.0	25	50	125
E2401240	EQ401240	24.0	25	50	125
E2401250	EQ401250	25.0	25	50	125
E2401260	EQ401260	26.0	25	50	125
E2401270	EQ401270	27.0	25	55	125
E2401280	EQ401280	28.0	25	55	125
E2401290	EQ401290	29.0	25	55	125
E2401300	EQ401300	30.0	25	55	125
E2401310	EQ401310	31.0	32	60	145
E2401320	EQ401320	32.0	32	60	145
E2401330	EQ401330	33.0	32	60	145
E2401340	EQ401340	34.0	32	60	145
E2401350	EQ401350	35.0	32	60	145

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差					Shank Dia.Tolerance 柄径公差
•6	•8	•10	•12	Other size	
0 - 0.035	0 - 0.040	0 - 0.040	0 - 0.045	0 - 0.030	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○										

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○																

GENERAL HSS END MILLS

PLAIN SHANK **E2401** SERIES
PLAIN SHANK **EQ401** SERIES

HSSCo8, 2 FLUTE REGULAR LENGTH
HSSCo8，2刃 普通刃长

▶ These end mills are furnished as regular with right-hand cutting and right-hand helical flutes. These are designed for slotting, drilling, pocketing and general-purpose operation.

▶ 这些铣刀是右向螺旋角右向切削的正规铣刀，为开立槽，钻孔，型腔和普通用途加工而设计

HSS Co8 | 2 | 30° | PLAIN | p.C602~605

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
	-	-	ER COLLET CHUCK	D73 - 115
			SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
E2401360	EQ401360	36.0	32	65	150
E2401370	EQ401370	37.0	32	65	150
E2401380	EQ401380	38.0	32	65	150
E2401390	EQ401390	39.0	32	65	150
E2401400	EQ401400	40.0	32	65	150
E2401420	EQ401420	42.0	42	70	160
E2401450	EQ401450	45.0	42	70	160
E2401460	EQ401460	46.0	42	75	160
E2401480	EQ401480	48.0	42	75	165
E2401500	EQ401500	50.0	42	75	165

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○																

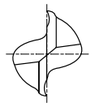
GENERAL HSS END MILLS

PLAIN SHANK **E2406** SERIES
PLAIN SHANK **EQ406** SERIES

HSSCo8, 2 FLUTE LONG LENGTH
HSSCo8，2刃 长刃

▶ Possible for deeper & wider cutting by using the much longer flutes.

▶ 通过使用更长的沟槽可以进行更深更宽的加工



HSS Co8 | 2 | 30° | PLAIN | p.C602~605

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
	-	-	ER COLLET CHUCK	D73 - 115
			SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
E2406030	EQ406030	3.0	6	15	60
E2406901	EQ406901	4.0	6	20	65
E2406902	EQ406902	5.0	6	25	70
E2406050	EQ406050	5.0	8	25	75
E2406903	EQ406903	6.0	6	25	70
E2406060	EQ406060	6.0	8	25	75
E2406070	EQ406070	7.0	10	35	90
E2406080	EQ406080	8.0	10	35	90
E2406090	EQ406090	9.0	10	45	100
E2406100	EQ406100	10.0	10	45	100
E2406110	EQ406110	11.0	12	55	115
E2406120	EQ406120	12.0	12	55	115
E2406130	EQ406130	13.0	12	55	115
E2406140	EQ406140	14.0	16	55	120
E2406150	EQ406150	15.0	16	65	130
E2406160	EQ406160	16.0	16	65	130
E2406170	EQ406170	17.0	16	65	130
E2406180	EQ406180	18.0	16	65	130
E2406190	EQ406190	19.0	20	75	145
E2406200	EQ406200	20.0	20	75	145
E2406210	EQ406210	21.0	20	75	145
E2406220	EQ406220	22.0	20	75	145
E2406230	EQ406230	23.0	25	90	165
E2406240	EQ406240	24.0	25	90	165
E2406250	EQ406250	25.0	25	90	165
E2406260	EQ406260	26.0	25	90	165
E2406270	EQ406270	27.0	25	90	165
E2406280	EQ406280	28.0	25	90	165

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○																

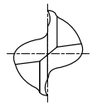
GENERAL HSS END MILLS

PLAIN SHANK **E2406** SERIES
PLAIN SHANK **EQ406** SERIES

HSSCo8, 2 FLUTE LONG LENGTH
HSSCo8，2刃 长刃

▶ Possible for deeper & wider cutting by using the much longer flutes.

▶ 通过使用更长的沟槽可以进行更深更宽的加工



HSS Co8 | 2 | 30° | PLAIN

p.C602~605

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TiAlN	直径	柄径	刃长	全长
E2406290	EQ406290	29.0	25	90	165
E2406300	EQ406300	30.0	25	90	165
E2406310	EQ406310	31.0	32	95	180
E2406320	EQ406320	32.0	32	95	180
E2406330	EQ406330	33.0	32	100	185
E2406340	EQ406340	34.0	32	100	185
E2406350	EQ406350	35.0	32	100	185
E2406360	EQ406360	36.0	32	105	190
E2406370	EQ406370	37.0	32	105	190
E2406380	EQ406380	38.0	32	105	190
E2406390	EQ406390	39.0	32	110	195
E2406400	EQ406400	40.0	32	110	195
E2406420	EQ406420	42.0	42	115	200
E2406450	EQ406450	45.0	42	120	205
E2406480	EQ406480	48.0	42	125	215
E2406500	EQ406500	50.0	42	125	215

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P													M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel				Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○											

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○																

GENERAL HSS END MILLS

PLAIN SHANK **E2412** SERIES
PLAIN SHANK **EQ412** SERIES

HSSCo8, 4FLUTE REGULAR LENGTH (Center Cut)
HSSCo8，4刃 普通刃长（过中心）

▶ These end mills are furnished as regular with right-hand cutting and right-hand helical flutes. These are designed for slotting, drilling, pocketing and general-purpose operation.

▶ 这些铁刀是右向螺旋角右向切削的正规铁刀，为开立槽，钻孔，型腔和普通用途加工而设计

HSS Co8 | 4 | 30° | PLAIN

p.C606~609

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TiAlN	直径	柄径	刃长	全长
E2412010	EQ412010	1.0	6	2.5	55
E2412015	EQ412015	1.5	6	4	55
E2412020	EQ412020	2.0	6	6	55
E2412025	EQ412025	2.5	6	7	55
E2412030	EQ412030	3.0	6	10	55
E2412035	EQ412035	3.5	8	12	60
E2412040	EQ412040	4.0	8	12	60
E2412045	EQ412045	4.5	8	15	65
E2412050	EQ412050	5.0	8	15	65
E2412055	EQ412055	5.5	8	15	65
E2412060	EQ412060	6.0	8	15	65
E2412065	EQ412065	6.5	10	20	75
E2412070	EQ412070	7.0	10	20	75
E2412075	EQ412075	7.5	10	20	75
E2412080	EQ412080	8.0	10	20	75
E2412085	EQ412085	8.5	10	25	80
E2412090	EQ412090	9.0	10	25	80
E2412095	EQ412095	9.5	10	25	80
E2412100	EQ412100	10.0	10	25	80
E2412105	EQ412105	10.5	12	30	90
E2412110	EQ412110	11.0	12	30	90
E2412115	EQ412115	11.5	12	30	90
E2412120	EQ412120	12.0	12	30	90
E2412130	EQ412130	13.0	12	35	95
E2412912	EQ412912	14.0	12	35	95
E2412140	EQ412140	14.0	16	35	100
E2412150	EQ412150	15.0	16	40	105
E2412160	EQ412160	16.0	16	40	105

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ + 0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P													M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel				Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○											

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○																

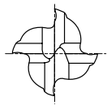
GENERAL HSS END MILLS

PLAIN SHANK **E2412** SERIES
PLAIN SHANK **EQ412** SERIES

HSSCo8, 4FLUTE REGULAR LENGTH (Center Cut)
HSSCo8，4刃 普通刃长（过中心）

▶ These end mills are furnished as regular with right-hand cutting and right-hand helical flutes. These are designed for slotting, drilling, pocketing and general-purpose operation.

▶ 这些铁刀是右向螺旋角右向切削的正规铁刀，为开立槽，钻孔，型腔和普通用途加工而设计



HSS Co8 | 4 | 30° | PLAIN

p.C606~609

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TiAlN	直径	柄径	刃长	全长
E2412170	EQ412170	17.0	16	40	105
E2412180	EQ412180	18.0	16	40	105
E2412190	EQ412190	19.0	20	45	115
E2412200	EQ412200	20.0	20	45	115
E2412210	EQ412210	21.0	20	45	115
E2412220	EQ412220	22.0	20	45	115
E2412230	EQ412230	23.0	25	50	125
E2412240	EQ412240	24.0	25	50	125
E2412250	EQ412250	25.0	25	50	125
E2412260	EQ412260	26.0	25	50	125
E2412270	EQ412270	27.0	25	55	125
E2412280	EQ412280	28.0	25	55	125
E2412290	EQ412290	29.0	25	55	125
E2412300	EQ412300	30.0	25	55	125
E2412310	EQ412310	31.0	32	60	145
E2412320	EQ412320	32.0	32	60	145
E2412330	EQ412330	33.0	32	60	145
E2412340	EQ412340	34.0	32	60	145
E2412350	EQ412350	35.0	32	60	145
E2412360	EQ412360	36.0	32	65	150
E2412370	EQ412370	37.0	32	65	150
E2412380	EQ412380	38.0	32	65	150
E2412390	EQ412390	39.0	32	65	150
E2412400	EQ412400	40.0	32	65	150
E2412410	EQ412410	41.0	42	70	160
E2412420	EQ412420	42.0	42	70	160
E2412430	EQ412430	43.0	42	70	160
E2412440	EQ412440	44.0	42	70	160

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ + 0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○																

GENERAL HSS END MILLS

PLAIN SHANK E2412 SERIES
PLAIN SHANK EQ412 SERIES

HSSCo8, 4FLUTE REGULAR LENGTH (Center Cut)
HSSCo8，4刃 普通刃长（过中心）

▶ These end mills are furnished as regular with right-hand cutting and right-hand helical flutes. These are designed for slotting, drilling, pocketing and general-purpose operation.

▶ 这些铁刀是右向螺旋角右向切削的正规铁刀，为开立槽，钻孔，型腔和普通用途加工而设计

HSS Co8 | 4 | 30° | PLAIN

p.C606~609

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
-	-	ER COLLET CHUCK	D73 - 115
		SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TiAlN	直径	柄径	刃长	全长
E2412450	EQ412450	45.0	42	70	160
E2412460	EQ412460	46.0	42	70	160
E2412470	EQ412470	47.0	42	75	165
E2412480	EQ412480	48.0	42	75	165
E2412490	EQ412490	49.0	42	75	165
E2412500	EQ412500	50.0	42	75	165

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ + 0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○																

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

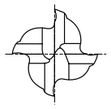
GENERAL HSS END MILLS

PLAIN SHANK **E2659** SERIES
PLAIN SHANK **EQ659** SERIES

HSSCo8, 4FLUTE LONG LENGTH (Center Cut)
HSSCo8，4刃 长刃（过中心）

▶ Possible for deeper & wider cutting by using the much longer flutes.

▶ 通过使用更长的沟槽可以进行更深更宽的加工



HSS Co8 | 4 | 30° | PLAIN

p.C606~609

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK	D73 - 115
			SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TiAlN	直径	柄径	刃长	全长
E2659030	EQ659030	3.0	6	15	60
E2659040	EQ659040	4.0	8	20	70
E2659050	EQ659050	5.0	8	25	75
E2659060	EQ659060	6.0	8	25	75
E2659070	EQ659070	7.0	10	35	90
E2659080	EQ659080	8.0	10	35	90
E2659090	EQ659090	9.0	10	45	100
E2659100	EQ659100	10.0	10	45	100
E2659110	EQ659110	11.0	12	55	115
E2659120	EQ659120	12.0	12	55	115
E2659130	EQ659130	13.0	12	55	115
E2659140	EQ659140	14.0	16	55	120
E2659150	EQ659150	15.0	16	65	130
E2659160	EQ659160	16.0	16	65	130
E2659170	EQ659170	17.0	16	65	130
E2659180	EQ659180	18.0	16	65	130
E2659190	EQ659190	19.0	20	75	145
E2659200	EQ659200	20.0	20	75	145
E2659210	EQ659210	21.0	20	75	145
E2659220	EQ659220	22.0	20	75	145
E2659230	EQ659230	23.0	25	90	165
E2659240	EQ659240	24.0	25	90	165
E2659250	EQ659250	25.0	25	90	165
E2659260	EQ659260	26.0	25	90	165
E2659270	EQ659270	27.0	25	90	165
E2659280	EQ659280	28.0	25	90	165
E2659290	EQ659290	29.0	25	90	165
E2659300	EQ659300	30.0	25	90	165

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ + 0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○										

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○																

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

GENERAL HSS END MILLS

PLAIN SHANK **E2659** SERIES
PLAIN SHANK **EQ659** SERIES

HSSCo8, 4FLUTE LONG LENGTH (Center Cut)
HSSCo8，4刃 长刃（过中心）

▶ Possible for deeper & wider cutting by using the much longer flutes.

▶ 通过使用更长的沟槽可以进行更深更宽的加工

HSS Co8 | 4 | 30° | PLAIN

p.C606~609

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK	D73 - 115
			SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TiAlN	直径	柄径	刃长	全长
E2659310	EQ659310	31.0	32	95	180
E2659320	EQ659320	32.0	32	95	180
E2659330	EQ659330	33.0	32	100	185
E2659340	EQ659340	34.0	32	100	185
E2659350	EQ659350	35.0	32	100	185
E2659360	EQ659360	36.0	32	105	190
E2659370	EQ659370	37.0	32	105	190
E2659380	EQ659380	38.0	32	105	190
E2659390	EQ659390	39.0	32	110	195
E2659400	EQ659400	40.0	32	110	195
E2659420	EQ659420	42.0	42	115	200
E2659450	EQ659450	45.0	42	120	205
E2659460	EQ659460	46.0	42	125	215
E2659480	EQ659480	48.0	42	125	215
E2659500	EQ659500	50.0	42	125	215

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ + 0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○										

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○																

GENERAL HSS END MILLS

PLAIN SHANK **E2750** SERIES
PLAIN SHANK **EQ750** SERIES

HSSCo8, 4 FLUTE EXTRA LONG LENGTH
HSSCo8，4刃 加长刃

HSS Co8 | 4 | 30° | PLAIN

p.C606~609

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
◎	-	-	ER COLLET CHUCK	D73 - 115
			SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
E2750160	EQ750160	16.0	16	100	160
E2750180	EQ750180	18.0	16	100	180
E2750200	EQ750200	20.0	20	100	180
E2750901	EQ750901	20.0	20	120	200
E2750902	EQ750902	20.0	20	150	230
E2750220	EQ750220	22.0	20	120	200
E2750240	EQ750240	24.0	25	100	180
E2750903	EQ750903	24.0	25	150	250
E2750250	EQ750250	25.0	25	100	180
E2750904	EQ750904	25.0	25	120	220
E2750905	EQ750905	25.0	25	150	250
E2750260	EQ750260	26.0	25	150	250
E2750280	EQ750280	28.0	25	150	250
E2750300	EQ750300	30.0	25	120	200
E2750906	EQ750906	30.0	25	150	250
E2750907	EQ750907	30.0	25	200	280
E2750320	EQ750320	32.0	32	150	230
E2750908	EQ750908	32.0	32	200	280
E2750350	EQ750350	35.0	32	150	250
E2750909	EQ750909	35.0	32	200	300
E2750360	EQ750360	36.0	32	150	250
E2750380	EQ750380	38.0	32	150	250
E2750400	EQ750400	40.0	32	150	250
E2750910	EQ750910	40.0	32	200	300
E2750450	EQ750450	45.0	42	200	300
E2750500	EQ750500	50.0	42	200	300

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ + 0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○										

ISO	N									S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○																

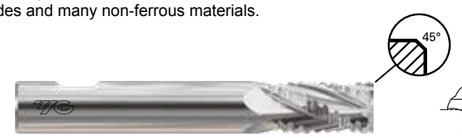
GENERAL HSS END MILLS

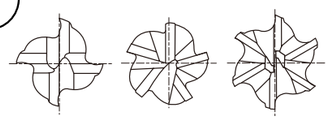
FLAT SHANK **E2760** SERIES
FLAT SHANK **EQ760** SERIES

HSSCo8, MULTI FLUTE SHORT LENGTH ROUGHING-COARSE
HSSCo8，多刃 短刃 粗加工 - 粗牙

▶ This general purpose rougher is designed for high production metal removal in a wide range of work piece material. It is recommanded for cutting steel grades and many non-ferrous materials.

▶ 普通用途的粗加工刀具为在广泛的被加工材料上进行高生产量金属切削而设计的





HSS Co8 | NR | 4-6 | 30° | DIN 1835B

p.C610~613

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
◎	-	-	ER COLLET CHUCK	D73 - 115
			SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长	No. of Flute 槽数
E2760060	EQ760060	6.0	8	15	60	4
E2760070	EQ760070	7.0	10	20	65	4
E2760080	EQ760080	8.0	10	20	65	4
E2760090	EQ760090	9.0	12	25	75	4
E2760100	EQ760100	10.0	12	25	75	4
E2760110	EQ760110	11.0	12	30	80	4
E2760120	EQ760120	12.0	12	30	80	4
E2760130	EQ760130	13.0	16	35	90	4
E2760140	EQ760140	14.0	16	35	90	4
E2760150	EQ760150	15.0	16	40	95	4
E2760160	EQ760160	16.0	16	40	95	4
E2760170	EQ760170	17.0	20	40	105	4
E2760180	EQ760180	18.0	20	40	105	4
E2760190	EQ760190	19.0	20	45	110	4
E2760200	EQ760200	20.0	20	45	110	4
E2760210	EQ760210	21.0	20	45	110	5
E2760220	EQ760220	22.0	20	45	110	5
E2760230	EQ760230	23.0	25	50	120	5
E2760240	EQ760240	24.0	25	50	120	5
E2760250	EQ760250	25.0	25	50	120	5
E2760260	EQ760260	26.0	25	50	120	6
E2760270	EQ760270	27.0	25	55	125	6
E2760280	EQ760280	28.0	25	55	125	6
E2760290	EQ760290	29.0	25	55	125	6
E2760300	EQ760300	30.0	25	55	125	6
E2760310	EQ760310	31.0	32	60	145	6

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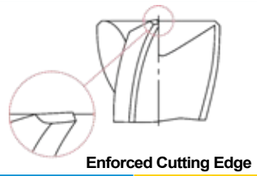
Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.12	h6



Enforced Cutting Edge

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○										

ISO	N									S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○																

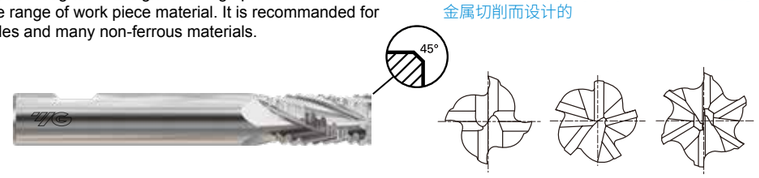
GENERAL HSS END MILLS

FLAT SHANK **E2760 SERIES**
FLAT SHANK **EQ760 SERIES**

HSSCo8, MULTI FLUTE SHORT LENGTH ROUGHING-COARSE
HSSCo8，多刃 短刃 粗加工 - 粗牙

▶ This general purpose rougher is designed for high production metal removal in a wide range of work piece material. It is recommanded for cutting steel grades and many non-ferrous materials.

▶ 普通用途的粗加工刀具为在广泛的被加工材料上进行高生产量金属切削而设计的



HSS Co8 | NR | 4-6 | 30° | DIN 1835B

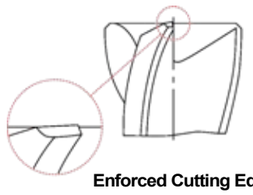
p.C610~613

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
	-	-	ER COLLET CHUCK	D73 - 115
			SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长	No. of Flute 槽数
E2760320	EQ760320	32.0	32	60	145	6
E2760330	EQ760330	33.0	32	60	145	6
E2760340	EQ760340	34.0	32	60	145	6
E2760350	EQ760350	35.0	32	60	145	6
E2760360	EQ760360	36.0	32	60	145	6
E2760370	EQ760370	37.0	32	65	150	6
E2760380	EQ760380	38.0	32	65	150	6
E2760390	EQ760390	39.0	32	65	150	6
E2760400	EQ760400	40.0	32	65	150	6
E2760420	EQ760420	42.0	32	65	155	6
E2760942	EQ760942	42.0	42	65	155	6
E2760450	EQ760450	45.0	32	70	160	6
E2760945	EQ760945	45.0	42	70	160	6
E2760480	EQ760480	48.0	32	70	160	6
E2760948	EQ760948	48.0	42	70	160	6
E2760500	EQ760500	50.0	32	70	160	6
E2760950	EQ760950	50.0	42	70	160	6

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.12	h6



Enforced Cutting Edge

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○										

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○																

GENERAL HSS END MILLS

PLAIN SHANK **E2759 SERIES**
PLAIN SHANK **EQ759 SERIES**

HSSCo8, MULTI FLUTE LONG LENGTH ROUGHING-COARSE
HSSCo8，多刃 长刃 粗加工 - 粗牙

HSS Co8 | NR | 4-6 | 30° | PLAIN

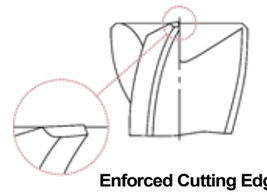
p.C614~615

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
	-	-	ER COLLET CHUCK	D73 - 115
			SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长	No. of Flute 槽数
E2759100	EQ759100	10.0	10	45	95	4
E2759120	EQ759120	12.0	12	53	110	4
E2759140	EQ759140	14.0	12	53	110	4
E2759160	EQ759160	16.0	16	63	123	4
E2759180	EQ759180	18.0	16	63	123	4
E2759200	EQ759200	20.0	20	75	141	4
E2759220	EQ759220	22.0	20	75	141	5
E2759250	EQ759250	25.0	25	90	166	5
E2759280	EQ759280	28.0	25	90	166	5
E2759300	EQ759300	30.0	25	90	166	6
E2759320	EQ759320	32.0	32	106	186	6
E2759350	EQ759350	35.0	32	106	186	6
E2759360	EQ759360	36.0	32	106	186	6
E2759400	EQ759400	40.0	32	125	205	6
E2759450	EQ759450	45.0	42	125	227	6
E2759500	EQ759500	50.0	42	150	252	6

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.12	h6



Enforced Cutting Edge

◎ : Excellent (优秀) ○ : Good (良好)

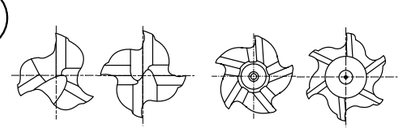
ISO	P											M			K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○										

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○																

GENERAL HSS END MILLS

FLAT SHANK **E2753** SERIES
FLAT SHANK **EQ753** SERIES

HSSCo8, MULTI FLUTE SHORT LENGTH ROUGHING - FINE
HSSCo8，多刃 短刃 粗加工 - 细牙



Up to Ø20mm

Over Ø20mm

HSS Co8 | DIN 844 | HR | 3-6 | 30° | DIN 1835B | ~Ø20 | Ø25~ | C x 45°

p.C616~619

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
◎	-	-	ER COLLET CHUCK	D73 - 115
			SK SLIM CHUCK	D183 - 201

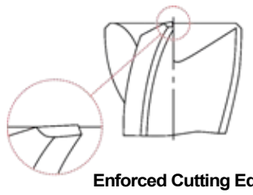
Unit(单位) : mm

EDP No.		Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长	No. of Flute 槽数	Chamfer 导向
UNCOATED	TiAlN	js12	h6				
E2753060	EQ753060	6.0	6	13	57	3	0.18
E2753070	EQ753070	7.0	10	16	66	3	0.18
E2753080	EQ753080	8.0	10	19	69	3	0.18
E2753090	EQ753090	9.0	10	19	69	3	0.18
E2753100	EQ753100	10.0	10	22	72	4	0.18
E2753110	EQ753110	11.0	12	22	79	4	0.18
E2753120	EQ753120	12.0	12	26	83	4	0.18
E2753130	EQ753130	13.0	12	26	83	4	0.18
E2753140	EQ753140	14.0	12	26	83	4	0.25
E2753150	EQ753150	15.0	12	26	83	4	0.25
E2753160	EQ753160	16.0	16	32	92	4	0.25
E2753180	EQ753180	18.0	16	32	92	4	0.25
E2753200	EQ753200	20.0	20	38	104	4	0.25
E2753250	EQ753250	25.0	25	45	121	5	0.36
E2753280	EQ753280	28.0	25	45	121	6	0.36
E2753300	EQ753300	30.0	25	45	121	6	0.36
E2753320	EQ753320	32.0	32	53	133	6	0.51
E2753350	EQ753350	35.0	32	53	133	6	0.51
E2753400	EQ753400	40.0	32	63	155	6	0.56

▶ Other shank design on your request.
其他柄部按照您的要求设计
▶ TiN and TiCN Coatings are available on your request.
TiN涂层和TiCN涂层可根据您的要求加工

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

Tolerance range in μm / 公差单位为						
Nominal-Diameter in mm / 直径单位为						
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50
js12	±50	±60	±75	±90	±105	±125
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16



Enforced Cutting Edge

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P												M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○																

GENERAL HSS END MILLS

PLAIN SHANK **EL612** SERIES

HSS-E, 1 FLUTE for ALUMINUM
HSS-E, 1刃 铝用

for ALUMINUM
适用于加工铝

HSS-E | 1 | 30° | DIN 1835A

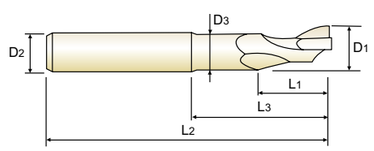
p.C619

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	POWER MILLING CHUCK	D161 - 176
◎	-	-	ER COLLET CHUCK	D73 - 115
			SK SLIM CHUCK	D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
UNCOATED	js14	h6		
EL612030	3.0	8	12	60
EL612040	4.0	8	12	60
EL612050	5.0	8	12	60
EL612060	6.0	8	14	60
EL612070	7.0	8	14	60
EL612080	8.0	8	14	80
EL612090	9.0	8	14	80
EL612100	10.0	8	14	80



Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Length Below Shank 颈长	Overall Length 全长	Neck Diameter 颈径
UNCOATED	D1(js14)	D2(h6)	L1	L3	L2	L2
EL612904	5.0	8	18	35	80	4.8
EL612909	5.0	8	40	-	100	-
EL612932	8.0	8	14	68	120	7.5

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

Tolerance range in μm / 公差单位为						
Nominal-Diameter in mm / 直径单位为						
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50
js14	±125	±150	±180	±215	±260	±310
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P												M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○				○				○										

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	○																

GENERAL HSS END MILLS

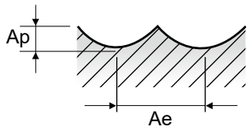
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

E2480 SERIES — 2 FLUTE BALL NOSE / 2刃 球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 3.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	25.0
P	1	Non-alloy steel	0.7D	0.3D	Vc	42	40	41	40	41	38	40	38	39
					fz	0.011	0.018	0.031	0.050	0.069	0.085	0.094	0.117	0.130
					RPM	4500	3200	2200	1600	1300	1000	800	600	500
					FEED	95	115	135	160	180	170	150	140	130
	2		0.7D	0.3D	Vc	32	30	32	30	31	30	30	31	31
					fz	0.010	0.017	0.026	0.044	0.060	0.066	0.083	0.085	0.088
					RPM	3400	2400	1700	1200	1000	800	600	500	400
					FEED	70	80	90	105	120	105	100	85	70
	3-4		0.7D	0.3D	Vc	19	18	19	18	18	17	18	19	17
					fz	0.008	0.013	0.023	0.036	0.054	0.061	0.079	0.083	0.091
					RPM	2000	1400	1000	700	560	450	350	300	220
					FEED	30	35	45	50	60	55	55	50	40
	5		0.7D	0.3D	Vc	13	13	13	13	13	12	13	13	13
					fz	0.007	0.013	0.018	0.030	0.044	0.055	0.070	0.088	0.094
					RPM	1400	1000	700	500	400	320	250	200	160
					FEED	20	25	25	30	35	35	35	35	30
	6	Low alloy steel	0.7D	0.3D	Vc	32	30	32	30	31	30	30	31	31
					fz	0.010	0.017	0.026	0.044	0.060	0.066	0.083	0.085	0.088
					RPM	3400	2400	1700	1200	1000	800	600	500	400
					FEED	70	80	90	105	120	105	100	85	70
	7		0.7D	0.3D	Vc	19	18	19	18	18	17	18	19	17
					fz	0.008	0.013	0.023	0.036	0.054	0.061	0.079	0.083	0.091
					RPM	2000	1400	1000	700	560	450	350	300	220
					FEED	30	35	45	50	60	55	55	50	40
	8-9		0.7D	0.3D	Vc	13	13	13	13	13	12	13	13	13
					fz	0.007	0.013	0.018	0.030	0.044	0.055	0.070	0.088	0.094
					RPM	1400	1000	700	500	400	320	250	200	160
					FEED	20	25	25	30	35	35	35	35	30
	10	High alloyed steel, and tool steel	0.7D	0.3D	Vc	32	30	32	30	31	30	30	31	31
					fz	0.010	0.017	0.026	0.044	0.060	0.066	0.083	0.085	0.088
					RPM	3400	2400	1700	1200	1000	800	600	500	400
					FEED	70	80	90	105	120	105	100	85	70
	11.1		0.7D	0.3D	Vc	13	13	13	13	13	12	13	13	13
					fz	0.007	0.013	0.018	0.030	0.044	0.055	0.070	0.088	0.094
					RPM	1400	1000	700	500	400	320	250	200	160
					FEED	20	25	25	30	35	35	35	35	30
N	21-22	Aluminum-wrought alloy	0.7D	0.3D	Vc	104	101	106	101	101	94	101	101	102
					fz	0.010	0.016	0.025	0.044	0.056	0.068	0.075	0.088	0.096
					RPM	11000	8000	5600	4000	3200	2500	2000	1600	1300
					FEED	230	260	280	350	360	340	300	280	250
	23-25	Aluminum-cast, alloyed	0.7D	0.3D	Vc	104	101	106	101	101	94	101	101	102
					fz	0.010	0.016	0.025	0.044	0.056	0.068	0.075	0.088	0.096
					RPM	11000	8000	5600	4000	3200	2500	2000	1600	1300
					FEED	230	260	280	350	360	340	300	280	250

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给



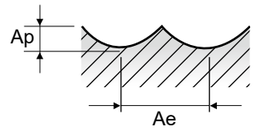
GENERAL HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

EQ480 SERIES — 2 FLUTE BALL NOSE (TiAlN-COATED) / 2刃 球头 (TiAlN 涂层)

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 3.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	25.0
P	1	Non-alloy steel	0.7D	0.3D	Vc	59	57	58	57	57	53	55	53	55
					fz	0.011	0.018	0.031	0.05	0.069	0.086	0.095	0.115	0.129
					RPM	6300	4500	3100	2250	1800	1400	1100	850	700
					FEED	135	160	190	225	250	240	210	195	180
	2		0.7D	0.3D	Vc	45	42	45	43	44	41	43	44	43
					fz	0.011	0.016	0.026	0.043	0.061	0.066	0.082	0.086	0.091
					RPM	4750	3350	2400	1700	1400	1100	850	700	550
					FEED	100	110	125	145	170	145	140	120	100
	3-4		0.7D	0.3D	Vc	26	25	26	25	25	25	25	25	24
					fz	0.007	0.013	0.023	0.035	0.053	0.058	0.075	0.088	0.092
					RPM	2800	1950	1400	1000	800	650	500	400	300
					FEED	40	50	65	70	85	75	75	70	55
	5		0.7D	0.3D	Vc	18	18	19	18	17	17	18	19	16
					fz	0.008	0.013	0.018	0.029	0.045	0.056	0.071	0.083	0.1
					RPM	1950	1400	1000	700	550	450	350	300	200
					FEED	30	35	35	40	50	50	50	50	40
	6	Low alloy steel	0.7D	0.3D	Vc	45	42	45	43	44	41	43	44	43
					fz	0.011	0.016	0.026	0.043	0.061	0.066	0.082	0.086	0.091
					RPM	4750	3350	2400	1700	1400	1100	850	700	550
					FEED	100	110	125	145	170	145	140	120	100
	7		0.7D	0.3D	Vc	26	25	26	25	25	25	25	25	24
					fz	0.007	0.013	0.023	0.035	0.053	0.058	0.075	0.088	0.092
					RPM	2800	1950	1400	1000	800	650	500	400	300
					FEED	40	50	65	70	85	75	75	70	55
	8-9		0.7D	0.3D	Vc	18	18	19	18	17	17	18	19	16
					fz	0.008	0.013	0.018	0.029	0.045	0.056	0.071	0.083	0.1
					RPM	1950	1400	1000	700	550	450	350	300	200
					FEED	30	35	35	40	50	50	50	50	40
	10	High alloyed steel, and tool steel	0.7D	0.3D	Vc	45	42	45	43	44	41	43	44	43
					fz	0.011	0.016	0.026	0.043	0.061	0.066	0.082	0.086	0.091
					RPM	4750	3350	2400	1700	1400	1100	850	700	550
					FEED	100	110	125	145	170	145	140	120	100
	11.1		0.7D	0.3D	Vc	18	18	19	18	17	17	18	19	16
					fz	0.008	0.013	0.018	0.029	0.045	0.056	0.071	0.083	0.1
					RPM	1950	1400	1000	700	550	450	350	300	200
					FEED	30	35	35	40	50	50	50	50	40
N	21-22	Aluminum-wrought alloy	0.7D	0.3D	Vc	145	141	148	141	141	132	141	141	141
					fz	0.01	0.016	0.025	0.044	0.056	0.068	0.075	0.087	0.097
					RPM	15400	11200	7850	5600	4500	3500	2800	2250	1800
					FEED	320	365	390	490	505	475	420	390	350
	23-24	Aluminum-cast, alloyed	0.7D	0.3D	Vc	145	141	148	141	141	132	141	141	141
					fz	0.01	0.016	0.025	0.044	0.056	0.068	0.075	0.087	0.097
					RPM	15400	11200	7850	5600	4500	3500	2800	2250	1800
					FEED	320	365	390	490	505	475	420	390	350

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给



GENERAL HSS END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

E2401, E2406 SERIES

2 FLUTE - SLOTTING
2刃 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0
P	1	Non-alloy steel	1.0D	0.5D	Vc	35	33	35	35	34	35	35	34	35
					fz	0.004	0.008	0.013	0.020	0.025	0.036	0.045	0.061	0.069
					RPM	5600	3500	2800	2200	1800	1400	1100	900	800
					FEED	40	55	70	90	90	100	100	110	110
	2		1.0D	0.5D	Vc	28	30	28	28	30	28	28	30	31
					fz	0.003	0.007	0.013	0.019	0.025	0.041	0.050	0.063	0.064
					RPM	4500	3200	2200	1800	1600	1100	900	800	700
					FEED	30	45	55	70	80	90	90	100	90
	3-4		1.0D	0.5D	Vc	25	24	23	25	23	23	25	24	25
					fz	0.004	0.008	0.013	0.019	0.025	0.039	0.050	0.063	0.071
					RPM	4000	2500	1800	1600	1200	900	800	630	560
					FEED	30	40	45	60	60	70	80	80	80
	5		1.0D	0.5D	Vc	14	15	14	14	15	14	14	15	15
					fz	0.003	0.006	0.014	0.019	0.025	0.040	0.050	0.063	0.071
					RPM	2200	1600	1100	900	800	560	450	400	350
					FEED	15	20	30	35	40	45	45	50	50
	6	Low alloy steel	1.0D	0.5D	Vc	28	30	28	28	30	28	28	30	31
					fz	0.003	0.007	0.013	0.019	0.025	0.041	0.050	0.063	0.064
					RPM	4500	3200	2200	1800	1600	1100	900	800	700
					FEED	30	45	55	70	80	90	90	100	90
	7		1.0D	0.5D	Vc	25	24	23	25	23	23	25	24	25
					fz	0.004	0.008	0.013	0.019	0.025	0.039	0.050	0.063	0.071
					RPM	4000	2500	1800	1600	1200	900	800	630	560
					FEED	30	40	45	60	60	70	80	80	80
	8-9		1.0D	0.5D	Vc	14	15	14	14	15	14	14	15	15
					fz	0.003	0.006	0.014	0.019	0.025	0.040	0.050	0.063	0.071
					RPM	2200	1600	1100	900	800	560	450	400	350
					FEED	15	20	30	35	40	45	45	50	50
	10	High alloyed steel, and tool steel	1.0D	0.5D	Vc	28	30	28	28	30	28	28	30	31
					fz	0.003	0.007	0.013	0.019	0.025	0.041	0.050	0.063	0.064
					RPM	4500	3200	2200	1800	1600	1100	900	800	700
					FEED	30	45	55	70	80	90	90	100	90
	11.1		1.0D	0.5D	Vc	14	15	14	14	15	14	14	15	15
					fz	0.003	0.006	0.014	0.019	0.025	0.040	0.050	0.063	0.071
					RPM	2200	1600	1100	900	800	560	450	400	350
					FEED	15	20	30	35	40	45	45	50	50
N	21-22	Aluminum-wrought alloy	1.0D	0.5D	Vc	75	104	101	99	106	101	97	94	97
					fz	0.007	0.011	0.018	0.025	0.028	0.049	0.065	0.076	0.080
					RPM	12000	11000	8000	6300	5600	4000	3100	2500	2200
					FEED	160	250	290	310	310	390	400	380	350
	23-25	Aluminum-cast, alloyed	1.0D	0.5D	Vc	75	104	101	99	106	101	97	94	97
					fz	0.007	0.011	0.018	0.025	0.028	0.049	0.065	0.076	0.080
					RPM	12000	11000	8000	6300	5600	4000	3100	2500	2200
					FEED	160	250	290	310	310	390	400	380	350

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给

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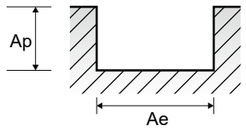
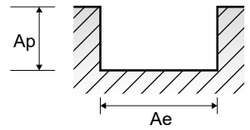


GENERAL HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
E2401, E2406 SERIES
2 FLUTE - SLOTTING
2刃 - 槽铣削
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0
P	1	1.0D	0.5D	Vc	35	36	35	35	35	35	33	35	35	35
				fz	0.079	0.079	0.089	0.100	0.100	0.100	0.100	0.100	0.097	0.107
				RPM	700	630	560	500	450	400	350	350	310	280
				FEED	110	100	100	100	90	80	70	70	60	60
	2	1.0D	0.5D	Vc	28	28	28	31	31	31	29	28	28	28
				fz	0.080	0.090	0.100	0.100	0.100	0.100	0.097	0.098	0.100	0.114
				RPM	560	500	450	450	400	350	310	280	250	220
				FEED	90	90	90	90	80	70	60	55	50	50
	3-4	1.0D	0.5D	Vc	23	23	25	24	24	25	24	22	23	23
				fz	0.078	0.088	0.088	0.100	0.097	0.098	0.100	0.102	0.100	0.111
				RPM	450	400	400	350	310	280	250	220	200	180
				FEED	70	70	70	70	60	55	50	45	40	40
	5	1.0D	0.5D	Vc	14	14	14	15	14	14	15	14	14	14
				fz	0.080	0.090	0.102	0.102	0.097	0.094	0.094	0.107	0.104	0.114
				RPM	280	250	220	220	180	160	160	140	120	110
				FEED	45	45	45	45	35	30	30	30	25	25
	6	1.0D	0.5D	Vc	28	28	28	31	31	31	29	28	28	28
				fz	0.080	0.090	0.100	0.100	0.100	0.100	0.097	0.098	0.100	0.114
				RPM	560	500	450	450	400	350	310	280	250	220
				FEED	90	90	90	90	80	70	60	55	50	50
	7	1.0D	0.5D	Vc	23	23	25	24	24	25	24	22	23	23
				fz	0.078	0.088	0.088	0.100	0.097	0.098	0.100	0.102	0.100	0.111
				RPM	450	400	400	350	310	280	250	220	200	180
				FEED	70	70	70	70	60	55	50	45	40	40
	8-9	1.0D	0.5D	Vc	14	14	14	15	14	14	15	14	14	14
				fz	0.080	0.090	0.102	0.102	0.097	0.094	0.094	0.107	0.104	0.114
				RPM	280	250	220	220	180	160	160	140	120	110
				FEED	45	45	45	45	35	30	30	30	25	25
	10	1.0D	0.5D	Vc	28	28	28	31	31	31	29	28	28	28
				fz	0.080	0.090	0.100	0.100	0.100	0.100	0.097	0.098	0.100	0.114
				RPM	560	500	450	450	400	350	310	280	250	220
				FEED	90	90	90	90	80	70	60	55	50	50
	11.1	1.0D	0.5D	Vc	14	14	14	15	14	14	15	14	14	14
				fz	0.080	0.090	0.102	0.102	0.097	0.094	0.094	0.107	0.104	0.114
				RPM	280	250	220	220	180	160	160	140	120	110
				FEED	45	45	45	45	35	30	30	30	25	25
N	21-22	1.0D	0.5D	Vc	101	102	101	97	94	97	104	101	102	101
				fz	0.088	0.097	0.100	0.107	0.117	0.123	0.123	0.120	0.122	0.125
				RPM	2000	1800	1600	1400	1200	1100	1100	1000	900	800
				FEED	350	350	320	300	280	270	270	240	220	200
	23-25	1.0D	0.5D	Vc	101	102	101	97	94	97	104	101	102	101
				fz	0.088	0.097	0.100	0.107	0.117	0.123	0.123	0.120	0.122	0.125
				RPM	2000	1800	1600	1400	1200	1100	1100	1000	900	800
				FEED	350	350	320	300	280	270	270	240	220	200

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给



GENERAL HSS END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

EQ401, EQ406 SERIES

2 FLUTE(TiAlN-COATED) - **SLOTTING**
2刃(TiAlN 涂层) - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0
P	1	Non-alloy steel	1.0D	0.5D	Vc	49	46	49	49	47	49	49	47	48
					fz	0.004	0.008	0.013	0.020	0.025	0.036	0.045	0.062	0.070
					RPM	7850	4900	3900	3100	2500	1950	1550	1250	1100
					FEED	55	75	100	125	125	140	140	155	155
	2		1.0D	0.5D	Vc	40	42	39	39	42	39	39	41	44
					fz	0.003	0.007	0.012	0.020	0.024	0.040	0.050	0.064	0.063
					RPM	6300	4500	3100	2500	2250	1550	1250	1100	1000
					FEED	40	65	75	100	110	125	125	140	125
	3-4		1.0D	0.5D	Vc	35	33	31	35	32	31	35	34	35
					fz	0.004	0.008	0.013	0.019	0.025	0.040	0.050	0.061	0.069
					RPM	5600	3500	2500	2250	1700	1250	1100	900	800
					FEED	40	55	65	85	85	100	110	110	110
	5		1.0D	0.5D	Vc	19	21	19	20	21	20	20	21	22
					fz	0.003	0.007	0.013	0.020	0.025	0.041	0.050	0.064	0.070
					RPM	3100	2250	1550	1250	1100	800	650	550	500
					FEED	20	30	40	50	55	65	65	70	70
	6	Low alloy steel	1.0D	0.5D	Vc	40	42	39	39	42	39	39	41	44
					fz	0.003	0.007	0.012	0.020	0.024	0.040	0.050	0.064	0.063
					RPM	6300	4500	3100	2500	2250	1550	1250	1100	1000
					FEED	40	65	75	100	110	125	125	140	125
	7		1.0D	0.5D	Vc	35	33	31	35	32	31	35	34	35
					fz	0.004	0.008	0.013	0.019	0.025	0.040	0.050	0.061	0.069
					RPM	5600	3500	2500	2250	1700	1250	1100	900	800
					FEED	40	55	65	85	85	100	110	110	110
	8-9		1.0D	0.5D	Vc	19	21	19	20	21	20	20	21	22
					fz	0.003	0.007	0.013	0.020	0.025	0.041	0.050	0.064	0.070
					RPM	3100	2250	1550	1250	1100	800	650	550	500
					FEED	20	30	40	50	55	65	65	70	70
	10	High alloyed steel, and tool steel	1.0D	0.5D	Vc	40	42	39	39	42	39	39	41	44
					fz	0.003	0.007	0.012	0.020	0.024	0.040	0.050	0.064	0.063
					RPM	6300	4500	3100	2500	2250	1550	1250	1100	1000
					FEED	40	65	75	100	110	125	125	140	125
	11.1		1.0D	0.5D	Vc	19	21	19	20	21	20	20	21	22
					fz	0.003	0.007	0.013	0.020	0.025	0.041	0.050	0.064	0.070
					RPM	3100	2250	1550	1250	1100	800	650	550	500
					FEED	20	30	40	50	55	65	65	70	70
N	21-22	Aluminum-wrought alloy	1.0D	0.5D	Vc	106	145	141	138	148	141	137	132	136
					fz	0.007	0.011	0.018	0.025	0.028	0.049	0.064	0.076	0.079
					RPM	16800	15400	11200	8800	7850	5600	4350	3500	3100
					FEED	225	350	405	435	435	545	560	530	490
	23-25	Aluminum-cast, alloyed	1.0D	0.5D	Vc	106	145	141	138	148	141	137	132	136
					fz	0.007	0.011	0.018	0.025	0.028	0.049	0.064	0.076	0.079
					RPM	16800	15400	11200	8800	7850	5600	4350	3500	3100
					FEED	225	350	405	435	435	545	560	530	490

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给

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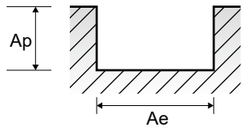
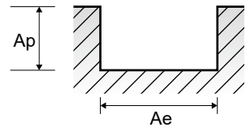


GENERAL HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
EQ401, EQ406 SERIES
2 FLUTE(TiAlN-COATED) - SLOTTING
2刃(TiAlN 涂层) - 槽铣削
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0
P	1	1.0D	0.5D	Vc	50	51	50	48	51	48	47	50	51	50
				fz	0.078	0.078	0.088	0.100	0.096	0.100	0.100	0.100	0.094	0.106
				RPM	1000	900	800	700	650	550	500	500	450	400
				FEED	155	140	140	140	125	110	100	100	85	85
	2	1.0D	0.5D	Vc	40	40	41	45	43	44	42	40	40	38
				fz	0.078	0.089	0.096	0.096	0.100	0.100	0.094	0.094	0.100	0.117
				RPM	800	700	650	650	550	500	450	400	350	300
				FEED	125	125	125	125	110	100	85	75	70	70
	3-4	1.0D	0.5D	Vc	33	31	35	35	35	35	33	30	34	31
				fz	0.077	0.091	0.091	0.100	0.094	0.094	0.100	0.108	0.092	0.110
				RPM	650	550	550	500	450	400	350	300	300	250
				FEED	100	100	100	100	85	75	70	65	55	55
	5	1.0D	0.5D	Vc	20	20	19	21	20	18	19	20	17	19
				fz	0.081	0.093	0.108	0.108	0.100	0.100	0.100	0.100	0.117	0.117
				RPM	400	350	300	300	250	200	200	200	150	150
				FEED	65	65	65	65	50	40	40	40	35	35
	6	1.0D	0.5D	Vc	40	40	41	45	43	44	42	40	40	38
				fz	0.078	0.089	0.096	0.096	0.100	0.100	0.094	0.094	0.100	0.117
				RPM	800	700	650	650	550	500	450	400	350	300
				FEED	125	125	125	125	110	100	85	75	70	70
	7	1.0D	0.5D	Vc	33	31	35	35	35	35	33	30	34	31
				fz	0.077	0.091	0.091	0.100	0.094	0.094	0.100	0.108	0.092	0.110
				RPM	650	550	550	500	450	400	350	300	300	250
				FEED	100	100	100	100	85	75	70	65	55	55
	8-9	1.0D	0.5D	Vc	20	20	19	21	20	18	19	20	17	19
				fz	0.081	0.093	0.108	0.108	0.100	0.100	0.100	0.100	0.117	0.117
				RPM	400	350	300	300	250	200	200	200	150	150
				FEED	65	65	65	65	50	40	40	40	35	35
	10	1.0D	0.5D	Vc	40	40	41	45	43	44	42	40	40	38
				fz	0.078	0.089	0.096	0.096	0.100	0.100	0.094	0.094	0.100	0.117
				RPM	800	700	650	650	550	500	450	400	350	300
				FEED	125	125	125	125	110	100	85	75	70	70
	11.1	1.0D	0.5D	Vc	20	20	19	21	20	18	19	20	17	19
				fz	0.081	0.093	0.108	0.108	0.100	0.100	0.100	0.100	0.117	0.117
				RPM	400	350	300	300	250	200	200	200	150	150
				FEED	65	65	65	65	50	40	40	40	35	35
N	21-22	1.0D	0.5D	Vc	141	141	141	135	134	136	146	141	141	138
				fz	0.088	0.098	0.100	0.108	0.115	0.123	0.123	0.120	0.124	0.127
				RPM	2800	2500	2250	1950	1700	1550	1550	1400	1250	1100
				FEED	490	490	450	420	390	380	380	335	310	280
	23-25	1.0D	0.5D	Vc	141	141	141	135	134	136	146	141	141	138
				fz	0.088	0.098	0.100	0.108	0.115	0.123	0.123	0.120	0.124	0.127
				RPM	2800	2500	2250	1950	1700	1550	1550	1400	1250	1100
				FEED	490	490	450	420	390	380	380	335	310	280

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给



CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

GENERAL HSS END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

E2412, E2659, E2750 SERIES

4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0
P	1	Non-alloy steel	0.1D	1.5D	Vc	35	33	35	35	34	35	35	34	35
					fz	0.004	0.008	0.013	0.02	0.025	0.036	0.045	0.061	0.069
					RPM	5600	3500	2800	2200	1800	1400	1100	900	800
					FEED	80	110	140	180	180	200	200	220	220
	2		0.1D	1.5D	Vc	28	30	28	28	30	28	28	30	31
					fz	0.003	0.006	0.011	0.017	0.023	0.036	0.044	0.056	0.057
					RPM	4500	3200	2200	1800	1600	1100	900	800	700
					FEED	55	80	100	125	145	160	160	180	160
	3-4		0.1D	1.5D	Vc	25	24	23	25	23	23	25	24	25
					fz	0.003	0.006	0.009	0.014	0.019	0.029	0.038	0.048	0.054
					RPM	4000	2500	1800	1600	1200	900	800	630	560
					FEED	45	60	65	90	90	105	120	120	120
	5		0.1D	1.5D	Vc	14	15	14	14	15	14	14	15	15
					fz	0.002	0.005	0.01	0.014	0.019	0.029	0.036	0.047	0.054
					RPM	2200	1600	1100	900	800	560	450	400	350
					FEED	20	30	45	50	60	65	65	75	75
	6	Low alloy steel	0.1D	1.5D	Vc	28	30	28	28	30	28	28	30	31
					fz	0.003	0.006	0.011	0.017	0.023	0.036	0.044	0.056	0.057
					RPM	4500	3200	2200	1800	1600	1100	900	800	700
					FEED	55	80	100	125	145	160	160	180	160
	7		0.1D	1.5D	Vc	25	24	23	25	23	23	25	24	25
					fz	0.003	0.006	0.009	0.014	0.019	0.029	0.038	0.048	0.054
					RPM	4000	2500	1800	1600	1200	900	800	630	560
					FEED	45	60	65	90	90	105	120	120	120
	8-9		0.1D	1.5D	Vc	14	15	14	14	15	14	14	15	15
					fz	0.002	0.005	0.01	0.014	0.019	0.029	0.036	0.047	0.054
					RPM	2200	1600	1100	900	800	560	450	400	350
					FEED	20	30	45	50	60	65	65	75	75
	10	High alloyed steel, and tool steel	0.1D	1.5D	Vc	28	30	28	28	30	28	28	30	31
					fz	0.003	0.006	0.011	0.017	0.023	0.036	0.044	0.056	0.057
					RPM	4500	3200	2200	1800	1600	1100	900	800	700
					FEED	55	80	100	125	145	160	160	180	160
	11.1		0.1D	1.5D	Vc	14	15	14	14	15	14	14	15	15
					fz	0.002	0.005	0.01	0.014	0.019	0.029	0.036	0.047	0.054
					RPM	2200	1600	1100	900	800	560	450	400	350
					FEED	20	30	45	50	60	65	65	75	75
N	21-22	Aluminum-wrought alloy	0.1D	1.5D	Vc	75	104	101	99	106	101	97	94	97
					fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048	0.057	0.06
					RPM	12000	11000	8000	6300	5600	4000	3100	2500	2200
					FEED	240	380	440	470	470	580	600	570	530
	23-25	Aluminum-cast, alloyed	0.1D	1.5D	Vc	75	104	101	99	106	101	97	94	97
					fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048	0.057	0.06
					RPM	12000	11000	8000	6300	5600	4000	3100	2500	2200
					FEED	240	380	440	470	470	580	600	570	530

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给

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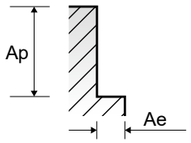
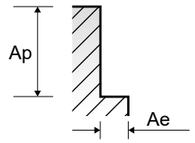


GENERAL HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
E2412, E2659, E2750 SERIES
4 FLUTE - SIDE CUTTING
4刃 - 侧铣削
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0
P	1	0.1D	1.5D	Vc	35	36	35	35	35	35	33	35	35	35
				fz	0.079	0.079	0.089	0.1	0.1	0.1	0.1	0.1	0.097	0.107
				RPM	700	630	560	500	450	400	350	350	310	280
				FEED	220	200	200	200	180	160	140	140	120	120
	2	0.1D	1.5D	Vc	28	28	28	31	31	31	29	28	28	28
				fz	0.071	0.08	0.089	0.089	0.091	0.089	0.089	0.089	0.09	0.102
				RPM	560	500	450	450	400	350	310	280	250	220
				FEED	160	160	160	160	145	125	110	100	90	90
	3-4	0.1D	1.5D	Vc	23	23	25	24	24	25	24	22	23	23
				fz	0.058	0.066	0.066	0.075	0.073	0.071	0.075	0.074	0.075	0.083
				RPM	450	400	400	350	310	280	250	220	200	180
				FEED	105	105	105	105	90	80	75	65	60	60
	5	0.1D	1.5D	Vc	14	14	14	15	14	14	15	14	14	14
				fz	0.058	0.065	0.074	0.074	0.069	0.07	0.07	0.08	0.073	0.08
				RPM	280	250	220	220	180	160	160	140	120	110
				FEED	65	65	65	65	50	45	45	45	35	35
	6	0.1D	1.5D	Vc	28	28	28	31	31	31	29	28	28	28
				fz	0.071	0.08	0.089	0.089	0.091	0.089	0.089	0.089	0.09	0.102
				RPM	560	500	450	450	400	350	310	280	250	220
				FEED	160	160	160	160	145	125	110	100	90	90
	7	0.1D	1.5D	Vc	23	23	25	24	24	25	24	22	23	23
				fz	0.058	0.066	0.066	0.075	0.073	0.071	0.075	0.074	0.075	0.083
				RPM	450	400	400	350	310	280	250	220	200	180
				FEED	105	105	105	105	90	80	75	65	60	60
	8-9	0.1D	1.5D	Vc	14	14	14	15	14	14	15	14	14	14
				fz	0.058	0.065	0.074	0.074	0.069	0.07	0.07	0.08	0.073	0.08
				RPM	280	250	220	220	180	160	160	140	120	110
				FEED	65	65	65	65	50	45	45	45	35	35
	10	0.1D	1.5D	Vc	28	28	28	31	31	31	29	28	28	28
				fz	0.071	0.08	0.089	0.089	0.091	0.089	0.089	0.089	0.09	0.102
				RPM	560	500	450	450	400	350	310	280	250	220
				FEED	160	160	160	160	145	125	110	100	90	90
	11.1	0.1D	1.5D	Vc	14	14	14	15	14	14	15	14	14	14
				fz	0.058	0.065	0.074	0.074	0.069	0.07	0.07	0.08	0.073	0.08
				RPM	280	250	220	220	180	160	160	140	120	110
				FEED	65	65	65	65	50	45	45	45	35	35
N	21-22	0.1D	1.5D	Vc	101	102	101	97	94	97	104	101	102	101
				fz	0.066	0.074	0.075	0.08	0.088	0.091	0.091	0.09	0.092	0.094
				RPM	2000	1800	1600	1400	1200	1100	1100	1000	900	800
				FEED	530	530	480	450	420	400	400	360	330	300
	23-25	0.1D	1.5D	Vc	101	102	101	97	94	97	104	101	102	101
				fz	0.066	0.074	0.075	0.08	0.088	0.091	0.091	0.09	0.092	0.094
				RPM	2000	1800	1600	1400	1200	1100	1100	1000	900	800
				FEED	530	530	480	450	420	400	400	360	330	300

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给



GENERAL HSS END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

EQ412, EQ659, EQ750 SERIES

4 FLUTE(TiAlN-COATED) - **SIDE CUTTING**
4刃(TiAlN 涂层)- **侧铣削**

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0
P	1	Non-alloy steel	0.1D	1.5D	Vc	49	46	49	49	47	49	49	47	48
					fz	0.004	0.008	0.013	0.020	0.025	0.036	0.045	0.062	0.070
					RPM	7850	4900	3900	3100	2500	1950	1550	1250	1100
					FEED	110	155	195	250	250	280	280	310	310
	2		0.1D	1.5D	Vc	40	42	39	39	42	39	39	41	44
					fz	0.003	0.006	0.011	0.018	0.023	0.036	0.045	0.057	0.056
					RPM	6300	4500	3100	2500	2250	1550	1250	1100	1000
					FEED	75	110	140	175	205	225	225	250	225
	3-4		0.1D	1.5D	Vc	35	33	31	35	32	31	35	34	35
					fz	0.003	0.006	0.009	0.014	0.018	0.029	0.039	0.047	0.053
					RPM	5600	3500	2500	2250	1700	1250	1100	900	800
					FEED	65	85	90	125	125	145	170	170	170
	5		0.1D	1.5D	Vc	19	21	19	20	21	20	20	21	22
					fz	0.002	0.004	0.010	0.014	0.019	0.028	0.035	0.048	0.053
					RPM	3100	2250	1550	1250	1100	800	650	550	500
					FEED	30	40	65	70	85	90	90	105	105
	6	Low alloy steel	0.1D	1.5D	Vc	40	42	39	39	42	39	39	41	44
					fz	0.003	0.006	0.011	0.018	0.023	0.036	0.045	0.057	0.056
					RPM	6300	4500	3100	2500	2250	1550	1250	1100	1000
					FEED	75	110	140	175	205	225	225	250	225
	7		0.1D	1.5D	Vc	35	33	31	35	32	31	35	34	35
					fz	0.003	0.006	0.009	0.014	0.018	0.029	0.039	0.047	0.053
					RPM	5600	3500	2500	2250	1700	1250	1100	900	800
					FEED	65	85	90	125	125	145	170	170	170
	8-9		0.1D	1.5D	Vc	19	21	19	20	21	20	20	21	22
					fz	0.002	0.004	0.010	0.014	0.019	0.028	0.035	0.048	0.053
					RPM	3100	2250	1550	1250	1100	800	650	550	500
					FEED	30	40	65	70	85	90	90	105	105
	10	High alloyed steel, and tool steel	0.1D	1.5D	Vc	40	42	39	39	42	39	39	41	44
					fz	0.003	0.006	0.011	0.018	0.023	0.036	0.045	0.057	0.056
					RPM	6300	4500	3100	2500	2250	1550	1250	1100	1000
					FEED	75	110	140	175	205	225	225	250	225
	11.1		0.1D	1.5D	Vc	19	21	19	20	21	20	20	21	22
					fz	0.002	0.004	0.010	0.014	0.019	0.028	0.035	0.048	0.053
					RPM	3100	2250	1550	1250	1100	800	650	550	500
					FEED	30	40	65	70	85	90	90	105	105
N	21-22	Aluminum-wrought alloy	0.1D	1.5D	Vc	106	145	141	138	148	141	137	132	136
					fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048	0.057	0.060
					RPM	16800	15400	11200	8800	7850	5600	4350	3500	3100
					FEED	335	530	615	660	660	810	840	800	740
	23-25	Aluminum-cast, alloyed	0.1D	1.5D	Vc	106	145	141	138	148	141	137	132	136
					fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048	0.057	0.060
					RPM	16800	15400	11200	8800	7850	5600	4350	3500	3100
					FEED	335	530	615	660	660	810	840	800	740

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给

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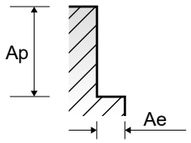
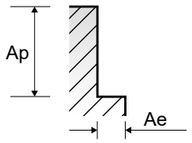


GENERAL HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
EQ412, EQ659, EQ750 SERIES
4 FLUTE(TiAlN-COATED) - SIDE CUTTING
4刃(TiAlN 涂层)- 侧铣削
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0
P	1	0.1D	1.5D	Vc	50	51	50	48	51	48	47	50	51	50
				fz	0.078	0.078	0.088	0.100	0.096	0.102	0.098	0.098	0.094	0.106
				RPM	1000	900	800	700	650	550	500	500	450	400
				FEED	310	280	280	280	250	225	195	195	170	170
	2	0.1D	1.5D	Vc	40	40	41	45	43	44	42	40	40	38
				fz	0.070	0.080	0.087	0.087	0.093	0.088	0.086	0.088	0.089	0.104
				RPM	800	700	650	650	550	500	450	400	350	300
				FEED	225	225	225	225	205	175	155	140	125	125
	3-4	0.1D	1.5D	Vc	33	31	35	35	35	35	33	30	34	31
				fz	0.056	0.066	0.066	0.073	0.069	0.069	0.075	0.075	0.071	0.085
				RPM	650	550	550	500	450	400	350	300	300	250
				FEED	145	145	145	145	125	110	105	90	85	85
	5	0.1D	1.5D	Vc	20	20	19	21	20	18	19	20	17	19
				fz	0.056	0.064	0.075	0.075	0.070	0.081	0.081	0.081	0.083	0.083
				RPM	400	350	300	300	250	200	200	200	150	150
				FEED	90	90	90	90	70	65	65	65	50	50
	6	0.1D	1.5D	Vc	40	40	41	45	43	44	42	40	40	38
				fz	0.070	0.080	0.087	0.087	0.093	0.088	0.086	0.088	0.089	0.104
				RPM	800	700	650	650	550	500	450	400	350	300
				FEED	225	225	225	225	205	175	155	140	125	125
	7	0.1D	1.5D	Vc	33	31	35	35	35	35	33	30	34	31
				fz	0.056	0.066	0.066	0.073	0.069	0.069	0.075	0.075	0.071	0.085
				RPM	650	550	550	500	450	400	350	300	300	250
				FEED	145	145	145	145	125	110	105	90	85	85
	8-9	0.1D	1.5D	Vc	20	20	19	21	20	18	19	20	17	19
				fz	0.056	0.064	0.075	0.075	0.070	0.081	0.081	0.081	0.083	0.083
				RPM	400	350	300	300	250	200	200	200	150	150
				FEED	90	90	90	90	70	65	65	65	50	50
	10	0.1D	1.5D	Vc	40	40	41	45	43	44	42	40	40	38
				fz	0.070	0.080	0.087	0.087	0.093	0.088	0.086	0.088	0.089	0.104
				RPM	800	700	650	650	550	500	450	400	350	300
				FEED	225	225	225	225	205	175	155	140	125	125
	11.1	0.1D	1.5D	Vc	20	20	19	21	20	18	19	20	17	19
				fz	0.056	0.064	0.075	0.075	0.070	0.081	0.081	0.081	0.083	0.083
				RPM	400	350	300	300	250	200	200	200	150	150
				FEED	90	90	90	90	70	65	65	65	50	50
N	21-22	0.1D	1.5D	Vc	141	141	141	135	134	136	146	141	141	138
				fz	0.066	0.074	0.074	0.081	0.087	0.090	0.090	0.090	0.092	0.095
				RPM	2800	2500	2250	1950	1700	1550	1550	1400	1250	1100
				FEED	740	740	670	630	590	560	560	505	460	420
	23-25	0.1D	1.5D	Vc	141	141	141	135	134	136	146	141	141	138
				fz	0.066	0.074	0.074	0.081	0.087	0.090	0.090	0.090	0.092	0.095
				RPM	2800	2500	2250	1950	1700	1550	1550	1400	1250	1100
				FEED	740	740	670	630	590	560	560	505	460	420

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给



CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

GENERAL HSS END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

E2760 SERIES

MULTI FLUTE ROUGHING - SIDE CUTTING
多刃 粗加工- 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 6.0	8.0	10.0	12.0	14.0	16.0	18.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	34	35	35	34	35	35	36
					fz	0.011	0.019	0.034	0.05	0.056	0.064	0.071
					RPM	1800	1400	1100	900	800	700	630
					FEED	80	105	150	180	180	180	180
	2		0.5D	1.5D	Vc	30	28	28	30	31	28	28
					fz	0.009	0.017	0.033	0.044	0.05	0.063	0.07
					RPM	1600	1100	900	800	700	560	500
					FEED	60	75	120	140	140	140	140
	3-4		0.5D	1.5D	Vc	23	23	25	24	25	23	23
					fz	0.011	0.018	0.034	0.044	0.049	0.061	0.069
					RPM	1200	900	800	630	560	450	400
					FEED	55	65	110	110	110	110	110
	5		0.5D	1.5D	Vc	15	14	14	15	15	14	14
					fz	0.009	0.016	0.033	0.044	0.05	0.063	0.07
					RPM	800	560	450	400	350	280	250
					FEED	30	35	60	70	70	70	70
	6	Low alloy steel	0.5D	1.5D	Vc	30	28	28	30	31	28	28
					fz	0.009	0.017	0.033	0.044	0.05	0.063	0.07
					RPM	1600	1100	900	800	700	560	500
					FEED	60	75	120	140	140	140	140
	7		0.5D	1.5D	Vc	23	23	25	24	25	23	23
					fz	0.011	0.018	0.034	0.044	0.049	0.061	0.069
					RPM	1200	900	800	630	560	450	400
					FEED	55	65	110	110	110	110	110
	8-9		0.5D	1.5D	Vc	15	14	14	15	15	14	14
					fz	0.009	0.016	0.033	0.044	0.05	0.063	0.07
					RPM	800	560	450	400	350	280	250
					FEED	30	35	60	70	70	70	70
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	30	28	28	30	31	28	28
					fz	0.009	0.017	0.033	0.044	0.05	0.063	0.07
					RPM	1600	1100	900	800	700	560	500
					FEED	60	75	120	140	140	140	140
	11.1		0.5D	1.5D	Vc	15	14	14	15	15	14	14
					fz	0.009	0.016	0.033	0.044	0.05	0.063	0.07
					RPM	800	560	450	400	350	280	250
					FEED	30	35	60	70	70	70	70
N	21-22	Aluminum-wrought alloy	0.5D	1.5D	Vc	85	78	79	75	79	80	79
					fz	0.011	0.019	0.035	0.05	0.058	0.07	0.084
					RPM	4500	3100	2500	2000	1800	1600	1400
					FEED	200	230	350	400	420	450	470
	23-25	Aluminum-cast, alloyed	0.5D	1.5D	Vc	85	78	79	75	79	80	79
					fz	0.011	0.019	0.035	0.05	0.058	0.07	0.084
					RPM	4500	3100	2500	2000	1800	1600	1400
					FEED	200	230	350	400	420	450	470

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给

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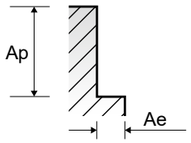
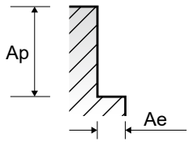


GENERAL HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
E2760 SERIES
MULTI FLUTE ROUGHING - SIDE CUTTING
多刃 粗加工- 侧铣削
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0	50.0
P	1	0.5D	1.5D	Vc	35	35	35	35	33	35	35	35	35
				fz	0.08	0.088	0.098	0.088	0.1	0.1	0.113	0.119	0.152
				RPM	560	500	450	400	350	350	310	280	220
				FEED	180	220	220	210	210	210	210	200	200
	2	0.5D	1.5D	Vc	28	31	31	31	29	28	28	28	28
				fz	0.078	0.076	0.085	0.076	0.086	0.095	0.107	0.114	0.157
				RPM	450	450	400	350	310	280	250	220	180
				FEED	140	170	170	160	160	160	160	150	170
	3-4	0.5D	1.5D	Vc	25	24	24	25	24	22	23	23	25
				fz	0.069	0.08	0.09	0.077	0.087	0.098	0.108	0.111	0.146
				RPM	400	350	310	280	250	220	200	180	160
				FEED	110	140	140	130	130	130	130	120	140
	5	0.5D	1.5D	Vc	14	15	14	14	15	14	14	14	14
				fz	0.08	0.077	0.094	0.089	0.089	0.101	0.118	0.121	0.148
				RPM	220	220	180	160	160	140	120	110	90
				FEED	70	85	85	85	85	85	85	80	80
	6	0.5D	1.5D	Vc	28	31	31	31	29	28	28	28	28
				fz	0.078	0.076	0.085	0.076	0.086	0.095	0.107	0.114	0.157
				RPM	450	450	400	350	310	280	250	220	180
				FEED	140	170	170	160	160	160	160	150	170
	7	0.5D	1.5D	Vc	25	24	24	25	24	22	23	23	25
				fz	0.069	0.08	0.09	0.077	0.087	0.098	0.108	0.111	0.146
				RPM	400	350	310	280	250	220	200	180	160
				FEED	110	140	140	130	130	130	130	120	140
	8-9	0.5D	1.5D	Vc	14	15	14	14	15	14	14	14	14
				fz	0.08	0.077	0.094	0.089	0.089	0.101	0.118	0.121	0.148
				RPM	220	220	180	160	160	140	120	110	90
				FEED	70	85	85	85	85	85	85	80	80
	10	0.5D	1.5D	Vc	28	31	31	31	29	28	28	28	28
				fz	0.078	0.076	0.085	0.076	0.086	0.095	0.107	0.114	0.157
				RPM	450	450	400	350	310	280	250	220	180
				FEED	140	170	170	160	160	160	160	150	170
	11.1	0.5D	1.5D	Vc	14	15	14	14	15	14	14	14	14
				fz	0.08	0.077	0.094	0.089	0.089	0.101	0.118	0.121	0.148
				RPM	220	220	180	160	160	140	120	110	90
				FEED	70	85	85	85	85	85	85	80	80
N	21-22	0.5D	1.5D	Vc	75	76	79	79	85	80	79	79	79
				fz	0.104	0.085	0.09	0.094	0.098	0.104	0.112	0.119	0.123
				RPM	1200	1100	1000	900	900	800	700	630	500
				FEED	500	470	450	510	530	500	470	450	370
	23-25	0.5D	1.5D	Vc	75	76	79	79	85	80	79	79	79
				fz	0.104	0.085	0.09	0.094	0.098	0.104	0.112	0.119	0.123
				RPM	1200	1100	1000	900	900	800	700	630	500
				FEED	500	470	450	510	530	500	470	450	370

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给



GENERAL HSS END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

EQ760 SERIES

MULTI FLUTE ROUGHING(TiAlN-COATED) - SIDE CUTTING
多刃 粗加工(TiAlN 涂层) - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 6.0	8.0	10.0	12.0	14.0	16.0	18.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	47	49	49	47	48	50	51
					fz	0.011	0.019	0.034	0.05	0.057	0.063	0.069
					RPM	2500	1950	1550	1250	1100	1000	900
					FEED	110	145	210	250	250	250	250
	2		0.5D	1.5D	Vc	42	39	39	41	44	40	40
					fz	0.009	0.017	0.034	0.044	0.049	0.061	0.07
					RPM	2250	1550	1250	1100	1000	800	700
					FEED	85	105	170	195	195	195	195
	3-4		0.5D	1.5D	Vc	32	31	35	34	35	33	31
					fz	0.011	0.018	0.035	0.043	0.048	0.06	0.07
					RPM	1700	1250	1100	900	800	650	550
					FEED	75	90	155	155	155	155	155
	5		0.5D	1.5D	Vc	21	20	20	21	22	20	20
					fz	0.009	0.016	0.033	0.045	0.05	0.063	0.071
					RPM	1100	800	650	550	500	400	350
					FEED	40	50	85	100	100	100	100
	6	Low alloy steel	0.5D	1.5D	Vc	42	39	39	41	44	40	40
					fz	0.009	0.017	0.034	0.044	0.049	0.061	0.07
					RPM	2250	1550	1250	1100	1000	800	700
					FEED	85	105	170	195	195	195	195
	7		0.5D	1.5D	Vc	32	31	35	34	35	33	31
					fz	0.011	0.018	0.035	0.043	0.048	0.06	0.07
					RPM	1700	1250	1100	900	800	650	550
					FEED	75	90	155	155	155	155	155
	8-9		0.5D	1.5D	Vc	21	20	20	21	22	20	20
					fz	0.009	0.016	0.033	0.045	0.05	0.063	0.071
					RPM	1100	800	650	550	500	400	350
					FEED	40	50	85	100	100	100	100
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	42	39	39	41	44	40	40
					fz	0.009	0.017	0.034	0.044	0.049	0.061	0.07
					RPM	2250	1550	1250	1100	1000	800	700
					FEED	85	105	170	195	195	195	195
	11.1		0.5D	1.5D	Vc	21	20	20	21	22	20	20
					fz	0.009	0.016	0.033	0.045	0.05	0.063	0.071
					RPM	1100	800	650	550	500	400	350
					FEED	40	50	85	100	100	100	100
N	21-22	Aluminum-wrought alloy	0.5D	1.5D	Vc	119	109	110	106	110	113	110
					fz	0.011	0.018	0.035	0.05	0.059	0.07	0.085
					RPM	6300	4350	3500	2800	2500	2250	1950
					FEED	280	320	490	560	590	630	660
	23-25	Aluminum-cast, alloyed	0.5D	1.5D	Vc	119	109	110	106	110	113	110
					fz	0.011	0.018	0.035	0.05	0.059	0.07	0.085
					RPM	6300	4350	3500	2800	2500	2250	1950
					FEED	280	320	490	560	590	630	660

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给

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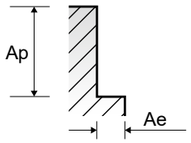
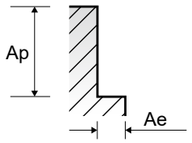


GENERAL HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
EQ760 SERIES
MULTI FLUTE ROUGHING(TiAlN-COATED) - SIDE CUTTING
多刃 粗加工(TiAlN 涂层) - 侧铣削
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0	50.0
P	1	0.5D	1.5D	Vc	50	48	51	48	47	50	51	50	47
				fz	0.078	0.089	0.095	0.089	0.098	0.098	0.109	0.117	0.156
				RPM	800	700	650	550	500	500	450	400	300
				FEED	250	310	310	295	295	295	295	280	280
	2	0.5D	1.5D	Vc	41	45	43	44	42	40	40	38	39
				fz	0.075	0.074	0.087	0.075	0.083	0.094	0.107	0.117	0.16
				RPM	650	650	550	500	450	400	350	300	250
				FEED	195	240	240	225	225	225	225	210	240
	3-4	0.5D	1.5D	Vc	35	35	35	35	33	30	34	31	35
				fz	0.07	0.078	0.087	0.075	0.086	0.1	0.1	0.113	0.148
				RPM	550	500	450	400	350	300	300	250	220
				FEED	155	195	195	180	180	180	180	170	195
	5	0.5D	1.5D	Vc	19	21	20	19	21	20	19	16	19
				fz	0.083	0.08	0.096	0.091	0.091	0.1	0.118	0.141	0.153
				RPM	300	300	250	220	220	200	170	130	120
				FEED	100	120	120	120	120	120	120	110	110
	6	0.5D	1.5D	Vc	41	45	43	44	42	40	40	38	39
				fz	0.075	0.074	0.087	0.075	0.083	0.094	0.107	0.117	0.16
				RPM	650	650	550	500	450	400	350	300	250
				FEED	195	240	240	225	225	225	225	210	240
	7	0.5D	1.5D	Vc	35	35	35	35	33	30	34	31	35
				fz	0.07	0.078	0.087	0.075	0.086	0.1	0.1	0.113	0.148
				RPM	550	500	450	400	350	300	300	250	220
				FEED	155	195	195	180	180	180	180	170	195
	8-9	0.5D	1.5D	Vc	19	21	20	19	21	20	19	16	19
				fz	0.083	0.08	0.096	0.091	0.091	0.1	0.118	0.141	0.153
				RPM	300	300	250	220	220	200	170	130	120
				FEED	100	120	120	120	120	120	120	110	110
	10	0.5D	1.5D	Vc	41	45	43	44	42	40	40	38	39
				fz	0.075	0.074	0.087	0.075	0.083	0.094	0.107	0.117	0.16
				RPM	650	650	550	500	450	400	350	300	250
				FEED	195	240	240	225	225	225	225	210	240
	11.1	0.5D	1.5D	Vc	19	21	20	19	21	20	19	16	19
				fz	0.083	0.08	0.096	0.091	0.091	0.1	0.118	0.141	0.153
				RPM	300	300	250	220	220	200	170	130	120
				FEED	100	120	120	120	120	120	120	110	110
N	21-22	0.5D	1.5D	Vc	107	107	110	110	118	111	113	113	110
				fz	0.103	0.106	0.113	0.143	0.148	0.159	0.165	0.175	0.186
				RPM	1700	1550	1400	1250	1250	1100	1000	900	700
				FEED	700	660	630	715	740	700	660	630	520
	23-25	0.5D	1.5D	Vc	107	107	110	110	118	111	113	113	110
				fz	0.103	0.106	0.113	0.143	0.148	0.159	0.165	0.175	0.186
				RPM	1700	1550	1400	1250	1250	1100	1000	900	700
				FEED	700	660	630	715	740	700	660	630	520

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给



CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

GENERAL HSS END MILLS

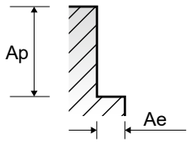
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

E2759 SERIES — MULTI FLUTE ROUGHING - SIDE CUTTING
多刃 粗加工- 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0	50.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	35	34	35	35	36	35	35	35	35	33	35	35	35	35
					fz	0.034	0.05	0.056	0.064	0.071	0.08	0.088	0.098	0.105	0.1	0.1	0.113	0.119	0.152
					RPM	1100	900	800	700	630	560	500	450	400	350	350	310	280	220
					FEED	150	180	180	180	180	180	220	220	210	210	210	210	200	200
	2		0.5D	1.5D	Vc	28	30	31	28	28	28	31	31	31	29	28	28	28	28
					fz	0.033	0.044	0.05	0.063	0.07	0.078	0.076	0.085	0.091	0.086	0.095	0.107	0.114	0.157
					RPM	900	800	700	560	500	450	450	400	350	310	280	250	220	180
					FEED	120	140	140	140	140	140	170	170	160	160	160	160	150	170
	3-4		0.5D	1.5D	Vc	25	24	25	23	23	25	24	24	25	24	22	23	23	25
					fz	0.034	0.044	0.049	0.061	0.069	0.069	0.08	0.09	0.093	0.087	0.098	0.108	0.111	0.146
					RPM	800	630	560	450	400	400	350	310	280	250	220	200	180	160
					FEED	110	110	110	110	110	110	140	140	130	130	130	130	120	140
	5		0.5D	1.5D	Vc	14	15	15	14	14	14	15	14	14	15	14	14	14	14
					fz	0.033	0.044	0.05	0.063	0.07	0.08	0.077	0.094	0.106	0.089	0.101	0.118	0.121	0.148
					RPM	450	400	350	280	250	220	220	180	160	160	140	120	110	90
					FEED	60	70	70	70	70	70	85	85	85	85	85	85	80	80
	6	Low alloy steel	0.5D	1.5D	Vc	28	30	31	28	28	28	31	31	31	29	28	28	28	28
					fz	0.033	0.044	0.05	0.063	0.07	0.078	0.076	0.085	0.091	0.086	0.095	0.107	0.114	0.157
					RPM	900	800	700	560	500	450	450	400	350	310	280	250	220	180
					FEED	120	140	140	140	140	140	170	170	160	160	160	160	150	170
	7		0.5D	1.5D	Vc	25	24	25	23	23	25	24	24	25	24	22	23	23	25
					fz	0.034	0.044	0.049	0.061	0.069	0.069	0.08	0.09	0.093	0.087	0.098	0.108	0.111	0.146
					RPM	800	630	560	450	400	400	350	310	280	250	220	200	180	160
					FEED	110	110	110	110	110	110	140	140	130	130	130	130	120	140
	8-9		0.5D	1.5D	Vc	14	15	15	14	14	14	15	14	14	15	14	14	14	14
					fz	0.033	0.044	0.05	0.063	0.07	0.08	0.077	0.094	0.106	0.089	0.101	0.118	0.121	0.148
					RPM	450	400	350	280	250	220	220	180	160	160	140	120	110	90
					FEED	60	70	70	70	70	70	85	85	85	85	85	85	80	80
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	28	30	31	28	28	28	31	31	31	29	28	28	28	28
					fz	0.033	0.044	0.05	0.063	0.07	0.078	0.076	0.085	0.091	0.086	0.095	0.107	0.114	0.157
					RPM	900	800	700	560	500	450	450	400	350	310	280	250	220	180
					FEED	120	140	140	140	140	140	170	170	160	160	160	160	150	170
	11.1		0.5D	1.5D	Vc	14	15	15	14	14	14	15	14	14	15	14	14	14	14
					fz	0.033	0.044	0.05	0.063	0.07	0.08	0.077	0.094	0.106	0.089	0.101	0.118	0.121	0.148
					RPM	450	400	350	280	250	220	220	180	160	160	140	120	110	90
					FEED	60	70	70	70	70	70	85	85	85	85	85	85	80	80
N	21-22	Aluminum-wrought alloy	0.5D	1.5D	Vc	79	75	79	80	79	75	76	79	79	85	80	79	79	79
					fz	0.035	0.05	0.058	0.07	0.084	0.104	0.085	0.09	0.113	0.098	0.104	0.112	0.119	0.123
					RPM	2500	2000	1800	1600	1400	1200	1100	1000	900	900	800	700	630	500
					FEED	350	400	420	450	470	500	470	450	510	530	500	470	450	370
	23-25	Aluminum-cast, alloyed	0.5D	1.5D	Vc	79	75	79	80	79	75	76	79	79	85	80	79	79	79
					fz	0.035	0.05	0.058	0.07	0.084	0.104	0.085	0.09	0.113	0.098	0.104	0.112	0.119	0.123
					RPM	2500	2000	1800	1600	1400	1200	1100	1000	900	900	800	700	630	500
					FEED	350	400	420	450	470	500	470	450	510	530	500	470	450	370

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给



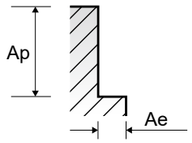
GENERAL HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

EQ759 SERIES — MULTI FLUTE ROUGHING(TiAlN-COATED) - SIDE CUTTING
多刃 粗加工(TiAlN 涂层) - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0	50.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	49	47	48	50	51	50	48	51	48	47	50	51	50	47
					fz	0.034	0.05	0.057	0.063	0.069	0.078	0.089	0.095	0.107	0.098	0.098	0.109	0.117	0.156
					RPM	1550	1250	1100	1000	900	800	700	650	550	500	500	450	400	300
					FEED	210	250	250	250	250	250	310	310	295	295	295	295	280	280
	2		0.5D	1.5D	Vc	39	41	44	40	40	41	45	43	44	42	40	40	38	39
					fz	0.034	0.044	0.049	0.061	0.07	0.075	0.074	0.087	0.09	0.083	0.094	0.107	0.117	0.16
					RPM	1250	1100	1000	800	700	650	650	550	500	450	400	350	300	250
					FEED	170	195	195	195	195	195	240	240	225	225	225	225	210	240
	3-4		0.5D	1.5D	Vc	35	34	35	33	31	35	35	35	35	33	30	34	31	35
					fz	0.035	0.043	0.048	0.06	0.07	0.07	0.078	0.087	0.09	0.086	0.1	0.1	0.113	0.148
					RPM	1100	900	800	650	550	550	500	450	400	350	300	300	250	220
					FEED	155	155	155	155	155	155	195	195	180	180	180	180	170	195
	5		0.5D	1.5D	Vc	20	21	22	20	20	19	21	20	19	21	20	19	16	19
					fz	0.033	0.045	0.05	0.063	0.071	0.083	0.08	0.096	0.109	0.091	0.1	0.118	0.141	0.153
					RPM	650	550	500	400	350	300	300	250	220	220	200	170	130	120
					FEED	85	100	100	100	100	100	120	120	120	120	120	120	110	110
	6	Low alloy steel	0.5D	1.5D	Vc	39	41	44	40	40	41	45	43	44	42	40	40	38	39
					fz	0.034	0.044	0.049	0.061	0.07	0.075	0.074	0.087	0.09	0.083	0.094	0.107	0.117	0.16
					RPM	1250	1100	1000	800	700	650	650	550	500	450	400	350	300	250
					FEED	170	195	195	195	195	195	240	240	225	225	225	225	210	240
	7		0.5D	1.5D	Vc	35	34	35	33	31	35	35	35	35	33	30	34	31	35
					fz	0.035	0.043	0.048	0.06	0.07	0.07	0.078	0.087	0.09	0.086	0.1	0.1	0.113	0.148
					RPM	1100	900	800	650	550	550	500	450	400	350	300	300	250	220
					FEED	155	155	155	155	155	155	195	195	180	180	180	180	170	195
	8-9		0.5D	1.5D	Vc	20	21	22	20	20	19	21	20	19	21	20	19	16	19
					fz	0.033	0.045	0.05	0.063	0.071	0.083	0.08	0.096	0.109	0.091	0.1	0.118	0.141	0.153
					RPM	650	550	500	400	350	300	300	250	220	220	200	170	130	120
					FEED	85	100	100	100	100	100	120	120	120	120	120	120	110	110
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	39	41	44	40	40	41	45	43	44	42	40	40	38	39
					fz	0.034	0.044	0.049	0.061	0.07	0.075	0.074	0.087	0.09	0.083	0.094	0.107	0.117	0.16
					RPM	1250	1100	1000	800	700	650	650	550	500	450	400	350	300	250
					FEED	170	195	195	195	195	195	240	240	225	225	225	225	210	240
	11.1		0.5D	1.5D	Vc	20	21	22	20	20	19	21	20	19	21	20	19	16	19
					fz	0.033	0.045	0.05	0.063	0.071	0.083	0.08	0.096	0.109	0.091	0.1	0.118	0.141	0.153
					RPM	650	550	500	400	350	300	300	250	220	220	200	170	130	120
					FEED	85	100	100	100	100	100	120	120	120	120	120	120	110	110
N	21-22	Aluminum-wrought alloy	0.5D	1.5D	Vc	110	106	110	113	110	107	107	110	110	118	111	113	113	110
					fz	0.035	0.05	0.059	0.07	0.085	0.103	0.085	0.09	0.114	0.099	0.106	0.11	0.117	0.124
					RPM	3500	2800	2500	2250	1950	1700	1550	1400	1250	1250	1100	1000	900	700
					FEED	490	560	590	630	660	700	660	630	715	740	700	660	630	520
	23-25	Aluminum-cast, alloyed	0.5D	1.5D	Vc	110	106	110	113	110	107	107	110	110	118	111	113	113	110
					fz	0.035	0.05	0.059	0.07	0.085	0.103	0.085	0.09	0.114	0.099	0.106	0.11	0.117	0.124
					RPM	3500	2800	2500	2250	1950	1700	1550	1400	1250	1250	1100	1000	900	700
					FEED	490	560	590	630	660	700	660	630	715	740	700	660	630	520

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给



GENERAL HSS END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

E2753 SERIES — MULTI FLUTE ROUGHING - SIDE CUTTING
多刃 粗加工- 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 6.0	8.0	10.0	12.0	14.0	16.0	18.0
P	1	Non-alloy steel	0.1D	1.5D	Vc	35	35	35	35	35	35	35
					fz	0.015	0.025	0.034	0.05	0.056	0.064	0.071
					RPM	1857	1393	1114	928	796	696	619
					FEED	84	104	152	186	178	178	176
	2		0.1D	1.5D	Vc	30	30	30	30	30	30	30
					fz	0.013	0.023	0.033	0.044	0.05	0.063	0.07
					RPM	1592	1194	955	796	682	597	531
					FEED	62	82	126	140	136	150	149
	3-4		0.1D	1.5D	Vc	25	25	25	25	25	25	25
					fz	0.015	0.024	0.034	0.044	0.049	0.061	0.069
					RPM	1326	995	796	663	568	497	442
					FEED	60	72	108	117	111	121	122
	5		0.1D	1.5D	Vc	15	15	15	15	15	15	15
					fz	0.013	0.021	0.033	0.044	0.05	0.063	0.07
					RPM	796	597	477	398	341	298	265
					FEED	31	38	63	70	68	75	74
	6	Low alloy steel	0.1D	1.5D	Vc	30	30	30	30	30	30	30
					fz	0.013	0.023	0.033	0.044	0.05	0.063	0.07
					RPM	1592	1194	955	796	682	597	531
					FEED	62	82	126	140	136	150	149
	7		0.1D	1.5D	Vc	25	25	25	25	25	25	25
					fz	0.015	0.024	0.034	0.044	0.049	0.061	0.069
					RPM	1326	995	796	663	568	497	442
					FEED	60	72	108	117	111	121	122
	8-9		0.1D	1.5D	Vc	15	15	15	15	15	15	15
					fz	0.013	0.021	0.033	0.044	0.05	0.063	0.07
					RPM	796	597	477	398	341	298	265
					FEED	31	38	63	70	68	75	74
	10	High alloyed steel, and tool steel	0.1D	1.5D	Vc	30	30	30	30	30	30	30
					fz	0.013	0.023	0.033	0.044	0.05	0.063	0.07
					RPM	1592	1194	955	796	682	597	531
					FEED	62	82	126	140	136	150	149
	11.1		0.1D	1.5D	Vc	15	15	15	15	15	15	15
					fz	0.013	0.021	0.033	0.044	0.05	0.063	0.07
					RPM	796	597	477	398	341	298	265
					FEED	31	38	63	70	68	75	74
N	21-22	Aluminum-wrought alloy	0.1D	1.5D	Vc	85	80	80	75	80	80	80
					fz	0.015	0.025	0.035	0.05	0.058	0.07	0.084
					RPM	4509	3183	2546	1989	1819	1592	1415
					FEED	203	239	357	398	422	446	475
	23-24	Aluminum-cast, alloyed	0.1D	1.5D	Vc	55	52	52	49	52	52	52
					fz	0.015	0.025	0.035	0.05	0.058	0.07	0.084
					RPM	2918	2069	1655	1300	1182	1035	920
					FEED	131	155	232	260	274	290	309

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给

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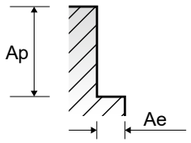
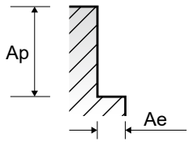


GENERAL HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
E2753 SERIES — MULTI FLUTE ROUGHING - SIDE CUTTING
多刃 粗加工- 侧铣削
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0	50.0
P	1	0.1D	1.5D	Vc	35	35	35	35	35	35	35	35	35
				fz	0.08	0.088	0.098	0.088	0.1	0.1	0.113	0.119	0.152
				RPM	557	506	446	398	371	348	309	279	223
				FEED	178	223	218	210	223	209	210	199	203
	2	0.1D	1.5D	Vc	30	30	30	30	30	30	30	30	30
				fz	0.078	0.076	0.085	0.076	0.086	0.095	0.107	0.114	0.157
				RPM	477	434	382	341	318	298	265	239	191
				FEED	149	165	162	156	164	170	170	163	180
	3-4	0.1D	1.5D	Vc	25	25	25	25	25	20	25	25	25
				fz	0.069	0.08	0.09	0.077	0.087	0.098	0.108	0.111	0.146
				RPM	398	362	318	284	265	199	221	199	159
				FEED	110	145	143	131	138	117	143	132	139
	5	0.1D	1.5D	Vc	15	15	15	15	15	15	15	15	15
				fz	0.08	0.077	0.094	0.089	0.089	0.101	0.118	0.121	0.148
				RPM	239	217	191	171	159	149	133	119	95
				FEED	76	84	90	91	85	90	94	87	85
	6	0.1D	1.5D	Vc	30	30	30	30	30	30	30	30	30
				fz	0.078	0.076	0.085	0.076	0.086	0.095	0.107	0.114	0.157
				RPM	477	434	382	341	318	298	265	239	191
				FEED	149	165	162	156	164	170	170	163	180
	7	0.1D	1.5D	Vc	25	25	25	25	25	20	25	25	25
				fz	0.069	0.08	0.09	0.077	0.087	0.098	0.108	0.111	0.146
				RPM	398	362	318	284	265	199	221	199	159
				FEED	110	145	143	131	138	117	143	132	139
	8-9	0.1D	1.5D	Vc	15	15	15	15	15	15	15	15	15
				fz	0.08	0.077	0.094	0.089	0.089	0.101	0.118	0.121	0.148
				RPM	239	217	191	171	159	149	133	119	95
				FEED	76	84	90	91	85	90	94	87	85
	10	0.1D	1.5D	Vc	30	30	30	30	30	30	30	30	30
				fz	0.078	0.076	0.085	0.076	0.086	0.095	0.107	0.114	0.157
				RPM	477	434	382	341	318	298	265	239	191
				FEED	149	165	162	156	164	170	170	163	180
	11.1	0.1D	1.5D	Vc	15	15	15	15	15	15	15	15	15
				fz	0.08	0.077	0.094	0.089	0.089	0.101	0.118	0.121	0.148
				RPM	239	217	191	171	159	149	133	119	95
				FEED	76	84	90	91	85	90	94	87	85
N	21-22	0.1D	1.5D	Vc	75	75	80	80	85	80	80	80	80
				fz	0.104	0.085	0.09	0.094	0.098	0.104	0.112	0.119	0.123
				RPM	1194	1085	1019	909	902	796	707	637	509
				FEED	497	461	458	513	530	497	475	455	376
	23-24	0.1D	1.5D	Vc	49	49	52	52	55	52	52	52	52
				fz	0.104	0.085	0.09	0.094	0.098	0.104	0.112	0.119	0.123
				RPM	780	709	662	591	584	517	460	414	331
				FEED	324	301	298	333	343	323	309	295	244

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给



CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

GENERAL HSS END MILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

EQ753 SERIES — MULTI FLUTE ROUGHING(TiAlN-COATED) - SIDE CUTTING
多刃 粗加工(TiAlN 涂层) - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 6.0	8.0	10.0	12.0	14.0	16.0	18.0
P	1	Non-alloy steel	0.1D	1.5D	Vc	45	50	50	45	50	50	50
					fz	0.015	0.025	0.034	0.05	0.057	0.063	0.069
					RPM	2387	1989	1592	1194	1137	995	884
					FEED	107	149	216	239	259	251	244
	2		0.1D	1.5D	Vc	40	40	40	40	45	40	40
					fz	0.013	0.023	0.034	0.044	0.049	0.061	0.07
					RPM	2122	1592	1273	1061	1023	796	707
					FEED	83	110	173	187	201	194	198
	3-4		0.1D	1.5D	Vc	30	30	35	35	35	35	30
					fz	0.015	0.024	0.035	0.043	0.048	0.06	0.07
					RPM	1592	1194	1114	928	796	696	531
					FEED	72	86	156	160	153	167	149
	5		0.1D	1.5D	Vc	20	20	20	20	20	20	20
					fz	0.012	0.021	0.033	0.045	0.05	0.063	0.071
					RPM	1061	796	637	531	455	398	354
					FEED	38	50	84	95	91	100	100
	6	Low alloy steel	0.1D	1.5D	Vc	40	40	40	40	45	40	40
					fz	0.013	0.023	0.034	0.044	0.049	0.061	0.07
					RPM	2122	1592	1273	1061	1023	796	707
					FEED	83	110	173	187	201	194	198
	7		0.1D	1.5D	Vc	30	30	35	35	35	35	30
					fz	0.015	0.024	0.035	0.043	0.048	0.06	0.07
					RPM	1592	1194	1114	928	796	696	531
					FEED	72	86	156	160	153	167	149
	8-9		0.1D	1.5D	Vc	20	20	20	20	20	20	20
					fz	0.012	0.021	0.033	0.045	0.05	0.063	0.071
					RPM	1061	796	637	531	455	398	354
					FEED	38	50	84	95	91	100	100
	10	High alloyed steel, and tool steel	0.1D	1.5D	Vc	40	40	40	40	45	40	40
					fz	0.013	0.023	0.034	0.044	0.049	0.061	0.07
					RPM	2122	1592	1273	1061	1023	796	707
					FEED	83	110	173	187	201	194	198
	11.1		0.1D	1.5D	Vc	20	20	20	20	20	20	20
					fz	0.012	0.021	0.033	0.045	0.05	0.063	0.071
					RPM	1061	796	637	531	455	398	354
					FEED	38	50	84	95	91	100	100
N	21-22	Aluminum-wrought alloy	0.1D	1.5D	Vc	120	110	110	105	110	115	110
					fz	0.015	0.025	0.035	0.05	0.059	0.07	0.085
					RPM	6366	4377	3501	2785	2501	2288	1945
					FEED	286	328	490	557	590	641	661
	23-24	Aluminum-cast, alloyed	0.1D	1.5D	Vc	78	72	72	68	72	75	72
					fz	0.015	0.025	0.035	0.05	0.059	0.07	0.085
					RPM	4138	2865	2292	1804	1637	1492	1273
					FEED	186	215	321	361	386	418	433

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给

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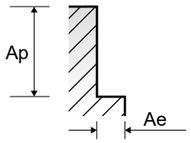
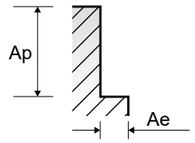


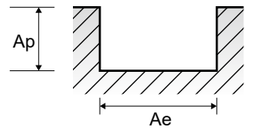
GENERAL HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数
EQ753 SERIES — MULTI FLUTE ROUGHING(TiAlN-COATED) - SIDE CUTTING
多刃 粗加工(TiAlN 涂层) - 侧铣削
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0	50.0
P	1	Non-alloy steel	0.1D	1.5D	Vc	50	50	50	50	45	50	50	50	45
					fz	0.078	0.089	0.095	0.089	0.098	0.098	0.109	0.117	0.156
					RPM	796	723	637	568	477	497	442	398	286
					FEED	248	322	302	304	281	292	289	279	268
	2		0.1D	1.5D	Vc	40	45	45	45	40	40	40	40	40
					fz	0.075	0.074	0.087	0.075	0.083	0.094	0.107	0.117	0.16
					RPM	637	651	573	512	424	398	354	318	255
					FEED	191	241	249	230	211	224	227	223	244
	3-4		0.1D	1.5D	Vc	35	35	35	35	35	30	35	30	35
					fz	0.07	0.078	0.087	0.075	0.086	0.1	0.1	0.113	0.148
					RPM	557	506	446	398	371	298	309	239	223
					FEED	156	197	194	179	192	179	186	162	198
	5		0.1D	1.5D	Vc	20	20	20	20	20	20	20	15	20
					fz	0.083	0.08	0.096	0.091	0.091	0.1	0.118	0.141	0.153
					RPM	318	289	255	227	212	199	177	119	127
					FEED	106	116	122	124	116	119	125	101	117
	6	Low alloy steel	0.1D	1.5D	Vc	40	45	45	45	40	40	40	40	40
					fz	0.075	0.074	0.087	0.075	0.083	0.094	0.107	0.117	0.16
					RPM	637	651	573	512	424	398	354	318	255
					FEED	191	241	249	230	211	224	227	223	244
	7		0.1D	1.5D	Vc	35	35	35	35	35	30	35	30	35
					fz	0.07	0.078	0.087	0.075	0.086	0.1	0.1	0.113	0.148
					RPM	557	506	446	398	371	298	309	239	223
					FEED	156	197	194	179	192	179	186	162	198
	8-9		0.1D	1.5D	Vc	20	20	20	20	20	20	20	15	20
					fz	0.083	0.08	0.096	0.091	0.091	0.1	0.118	0.141	0.153
					RPM	318	289	255	227	212	199	177	119	127
					FEED	106	116	122	124	116	119	125	101	117
	10	High alloyed steel, and tool steel	0.1D	1.5D	Vc	40	45	45	45	40	40	40	40	40
					fz	0.075	0.074	0.087	0.075	0.083	0.094	0.107	0.117	0.16
					RPM	637	651	573	512	424	398	354	318	255
					FEED	191	241	249	230	211	224	227	223	244
	11.1		0.1D	1.5D	Vc	20	20	20	20	20	20	20	15	20
					fz	0.083	0.08	0.096	0.091	0.091	0.1	0.118	0.141	0.153
					RPM	318	289	255	227	212	199	177	119	127
					FEED	106	116	122	124	116	119	125	101	117
N	21-22	Aluminum-wrought alloy	0.1D	1.5D	Vc	105	105	110	110	120	110	115	115	110
					fz	0.103	0.085	0.09	0.095	0.099	0.106	0.11	0.117	0.124
					RPM	1671	1519	1401	1251	1273	1094	1017	915	700
					FEED	689	646	630	713	756	696	671	642	521
	23-24	Aluminum-cast, alloyed	0.1D	1.5D	Vc	68	68	72	72	78	72	75	75	72
					fz	0.103	0.085	0.09	0.095	0.099	0.106	0.11	0.117	0.124
					RPM	1082	984	917	819	828	716	663	597	458
					FEED	446	418	413	467	492	456	438	419	341

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给

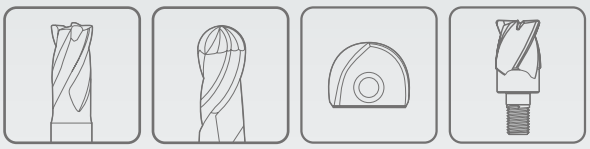


EL612 SERIES — 1 FLUTE - SLOTTING
1刃- 槽铣削



ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 3.0	4.0	5.0	6.0	7.0	8.0	10.0
N	21-22	Aluminum-wrought alloy	1.0D	0.5D (~Ø3:0.2D)	Vc	188	226	220	207	220	214	220
					fz	0.055	0.053	0.054	0.055	0.055	0.053	0.054
					RPM	19947	17985	14006	10982	10004	8515	7003
					FEED	1097	953	756	604	550	451	378
	23-24	Aluminum-cast, alloyed	1.0D	0.5D (~Ø3:0.2D)	Vc	122	147	143	135	143	139	143
					fz	0.055	0.053	0.054	0.055	0.055	0.053	0.054
					RPM	12945	11698	9104	7162	6503	5531	4552
					FEED	712	620	492	394	358	293	246

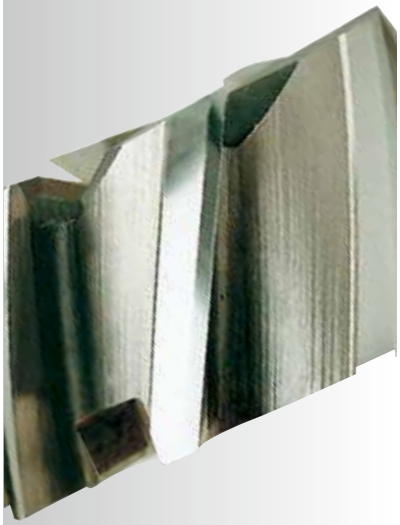
Global Cutting Tool Leader **YG-1**



MILLING

YG

Leading Through Innovation



HSS

MILLING CUTTERS

- General Works. Available Dovetail, Woodruff Keyseat, T-slot, Side Milling Cutters and HSS (8% cobalt) Corner Rounding, Shell End Mills

- 普通加工，可提供燕尾槽铣刀，月牙键槽铣刀，T型铣刀，三面刃铣刀，含钴8%的圆角铣刀和圆筒形端铣刀

SELECTION GUIDE
选用指南

YG MILLING TOOLS

HSS MILLING CUTTERS

General Works. Available Dovetail, Woodruff Keyseat, T-slot, Side Milling Cutters and HSS (8% cobalt) Corner Rounding, Shell End Mills

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Please visit globalyg1.com/mat for material search

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工参数) : p.C644

ISO	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB	HRc	ML012, ML022 ML112, ML122 ML212, ML222	ML032, ML042 ML132, ML142 ML232, ML242	ML062 ML162 ML262
	SERIES 系列						DOVETAIL CUTTERS	DOVETAIL CUTTERS	WOODRUFF KEYSEAT CUTTERS
	FLUTE 槽数						-	-	-
	HELIX ANGLE 螺旋角度						0°	0°	10°-20°
	CUTTING EDGE SHAPE 类型						D16.0	D16.0	D10.5
	SIZE MIN 最小尺寸						D50.0	D38.0	D45.5
	SIZE MAX 最大尺寸						C624	C625	C626-627
	PAGE 页数						Type A, C, E	Type B, D, F	Type B, D, F
							Uncoated	Uncoated	Uncoated
							HSS-E	HSS-E	HSS-E
P	1	Non-alloy steel	About 0.15% C	Annealed	125		◎	◎	◎
	2		About 0.45% C	Annealed	190	13	◎	◎	◎
	3		About 0.45% C	Quenched & Tempered	250	25	◎	◎	◎
	4		About 0.75% C	Annealed	270	28	◎	◎	◎
	5		About 0.75% C	Quenched & Tempered	300	32	◎	◎	◎
	6	Low alloy steel		Annealed	180	10	◎	◎	◎
	7			Quenched & Tempered	275	29	◎	◎	◎
	8			Quenched & Tempered	300	32	◎	◎	◎
	9			Quenched & Tempered	350	38	○	○	○
	10	High alloyed steel, and tool steel		Annealed	200	15	◎	◎	◎
	11			Quenched & Tempered	325	35	○	○	○
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15			
	13		Martensitic	Quenched & Tempered	240	23			
	14		Austenitic		180	10			
K	15	Grey cast iron	Pearlitic / ferritic		180	10			
	16		Pearlitic (Martensitic)		260	26			
	17	Nodular cast iron	Ferritic		160	3			
	18		Pearlitic		250	25			
	19	Malleable cast iron	Ferritic		130				
	20		Pearlitic		230	21			
N	21	Aluminum-wrought alloy	Not Curable		60		○	○	○
	22		Curable	Hardened	100		○	○	○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75		○	○	○
	24		≤ 12% Si, Curable	Hardened	90		○	○	○
	25		> 12% Si, Not Curable		130		○	○	○
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110				
	27		CuZn, CuSnZn (Brass)		90				
	28		CuSn, lead-free copper and electrolytic copper		100				
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic						
	30		Rubber, Wood, etc.						
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15			
	32			Cured	280	30			
	33		Ni or Co Based	Annealed	250	25			
	34			Cured	350	38			
	35			Cast	320	34			
	36	Titanium Alloys	Pure Titanium		400 Rm				
	37		Alpha + Beta Alloys	Hardened	1050 Rm				
H	38	Hardened steel		Hardened	550	55			
	39			Hardened	630	60			
	40	Chilled Cast Iron		Cast	400	42			
	41	Hardened Cast Iron		Hardened	550	55			

ML072 ML172 ML272	ML092	ML102	E2675	E2676	E2677	E2678	E2679	E2498	
T-SLOT CUTTERS	SIDE AND FACE MILLING CUTTERS	SIDE AND FACE MILLING CUTTERS	SHELL END MILL	SHELL END MILL	ROUGHING SHELL END MILL	ROUGHING SHELL END MILL	ROUGHING & FINISHING SHELL END MILL	CORNER ROUNDING CUTTERS	
-	-	-	Multi Flute	Multi Flute	Multi Flute	Multi Flute	Multi Flute	4	
10°-20°	10°	-	30°	42°	30°	30°	30°	0°	
D12.5	D50.0	D50.0	D30.0	D30.0	D40.0	D40.0	D40.0	D8.0	
D40.0	D125.0	D200.0	D160.0	D100.0	D160.0	D160.0	D160.0	D56.0	
C628	C629-630	C631-636	C637	C638	C639	C640	C641	C642-643	
Type AA, AB, AD	with STRAIGHT TEETH	with STAGGERED TEETH	-	for ALUMINUM	-	-	-	-	
Uncoated	Uncoated	Uncoated	Uncoated	Uncoated	Uncoated	Uncoated	Uncoated	Uncoated	
HSS-E	HSS-E	HSS-E	HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS Co8	
◎	◎	◎	◎	○	◎	◎	◎	◎	1
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DOVETAIL CUTTERS = 燕尾槽铣刀　WOODRUFF KEYSEAT CUTTERS = 月牙键槽铣刀　T-SLOT CUTTERS = T型铣刀　SIDE AND FACE MILLING CUTTERS = 三面刃铣刀
STRAIGHT TEETH = 直齿　SHELL END MILL = 圆筒形端铣刀　CORNER ROUNDING CUTTERS = 圆角铣刀　Uncoated = 非涂层　ROUGHING & FINISHING = 粗加工&精加工

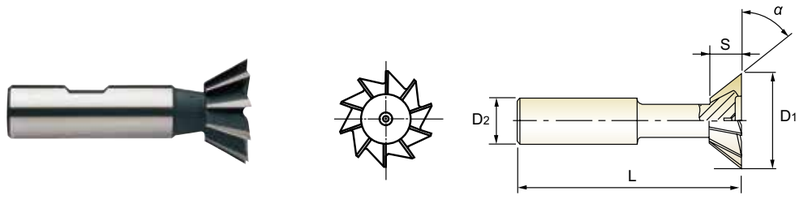
MILLING CUTTERS

PLAIN SHANK **ML012, ML022** SERIES
FLAT SHANK **ML112, ML122** SERIES
THREAD SHANK **ML212, ML222** SERIES

HSS-E, DOVETAIL CUTTERS TYPE “A”, “C”, “E”
HSS-E, 燕尾槽铣刀 A型，C型，E型

▶ Recommanded for use in place of arbor and threaded hole type cutters to reduce set time and facilitate handling.

▶ 推荐使用机器心轴和螺纹孔盘铣刀来降低调试时间并且容易处理



HSS-E | DIN 1833 | N | 0° | DIN 1835A | DIN 1835B | DIN 1835D

p.C644

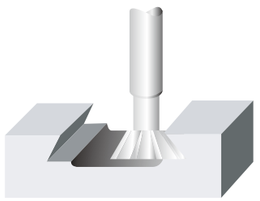
Unit(单位) : mm

EDP No.			Cutter Diameter 直径	Width of Face 刃幅	Divergent Taper Angle 锥度	Shank Diameter 柄径	Overall Length 全长	No. of Teeth 刃数
PLAIN	FLAT	THREAD	D1(js16)	S(js14)	α(±15´)	D2(h6)	L(js18)	Z
ML01201601	ML11201601	-	16.0	4	45°	12	60	6
ML01202001	ML11202001	▲ML21202001	20.0	5	45°	12	63	6
ML01202201	ML11202201	-	22.0	6	45°	12	67	6
ML01202501	ML11202501	▲ML21202501	25.0	6.3	45°	16	67	8
ML01202801	ML11202801	-	28.0	7.5	45°	16	67	8
ML01203201	ML11203201	-	32.0	8	45°	16	71	10
ML01203801	ML11203801	-	38.0	10	45°	16	80	12
ML02201601	ML12201601	▲ML22201601	16.0	6.3	60°	12	60	6
ML02202001	ML12202001	-	20.0	8	60°	12	63	6
ML02202201	ML12202201	-	22.0	9	60°	12	67	6
ML02202501	ML12202501	-	25.0	10	60°	16	67	8
ML02202801	ML12202801	-	28.0	11	60°	16	67	8
ML02203201	ML12203201	-	32.0	12.5	60°	16	71	10
ML02203801	ML12203801	-	38.0	16	60°	16	80	12
ML02204001	ML12204001	▲ML22204001	40.0	13	60°	25	85	12
ML02205001	ML12205001	-	50.0	16	60°	25	100	16

▲ : Only available till stock runs out 只提供到消耗现库存

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

Nominal-Diameter in mm / 直径单位为	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50	over 50 to 80	over 80 to 120
Tolerance range in mm / 公差单位为							
js16	±0.375	±0.45	±0.55	±0.65	±0.80	±0.95	±1.10
js14	±0.15	±0.18	±0.215	±0.26	±0.31	±0.37	±0.435
js18	±0.90	±1.10	±1.35	±1.65	±1.95	±2.30	±2.70
Tolerance range in μm / 公差单位为							
h6	0 −8	0 −9	0 −11	0 −13	0 −16	0 −19	0 −22



◎ : Excellent (优秀) ○ : Good (良好)

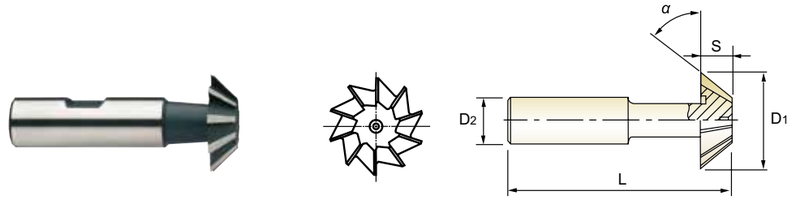
ISO	P																			
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○	○	○																

MILLING CUTTERS

PLAIN SHANK **ML032, ML042** SERIES
FLAT SHANK **ML132, ML142** SERIES
THREAD SHANK **ML232, ML242** SERIES

HSS-E, DOVETAIL CUTTERS TYPE “B”, “D”, “F”
HSS-E, 燕尾槽铣刀 B型，D型，F型



HSS-E | DIN 1833 | N | 0° | DIN 1835A | DIN 1835B | DIN 1835D

p.C645

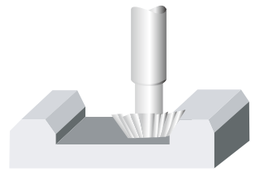
Unit(单位) : mm

EDP No.			Cutter Diameter 直径	Width of Face 刃幅	Divergent Taper Angle 锥度	Shank Diameter 柄径	Overall Length 全长	No. of Teeth 刃数
PLAIN	FLAT	THREAD	D1(js16)	S(js14)	α(±15´)	D2(h6)	L(js18)	Z
ML03201601	ML13201601	-	16.0	4	45°	12	60	6
ML03202001	ML13202001	-	20.0	5	45°	12	63	6
ML03202201	ML13202201	-	22.0	6	45°	12	67	6
ML03202501	ML13202501	▲ML23202501	25.0	6.3	45°	16	67	8
ML03202801	ML13202801	-	28.0	7.5	45°	16	67	8
ML03203201	ML13203201	-	32.0	8	45°	16	71	10
ML03203801	ML13203801	-	38.0	10	45°	16	80	12
ML04201601	ML14201601	-	16.0	6.3	60°	12	60	6
ML04202001	ML14202001	▲ML24202001	20.0	8	60°	12	63	6
ML04202201	ML14202201	-	22.0	9	60°	12	67	6
ML04202501	ML14202501	-	25.0	10	60°	16	67	8
ML04202801	ML14202801	-	28.0	11	60°	16	67	8
ML04203201	ML14203201	-	32.0	12.5	60°	16	71	10
ML04203801	ML14203801	-	38.0	16	60°	16	80	12

▲ : Only available till stock runs out 只提供到消耗现库存

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

Nominal-Diameter in mm / 直径单位为	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50	over 50 to 80	over 80 to 120
Tolerance range in mm / 公差单位为							
js16	±0.375	±0.45	±0.55	±0.65	±0.80	±0.95	±1.10
js14	±0.15	±0.18	±0.215	±0.26	±0.31	±0.37	±0.435
js18	±0.90	±1.10	±1.35	±1.65	±1.95	±2.30	±2.70
Tolerance range in μm / 公差单位为							
h6	0 −8	0 −9	0 −11	0 −13	0 −16	0 −19	0 −22



◎ : Excellent (优秀) ○ : Good (良好)

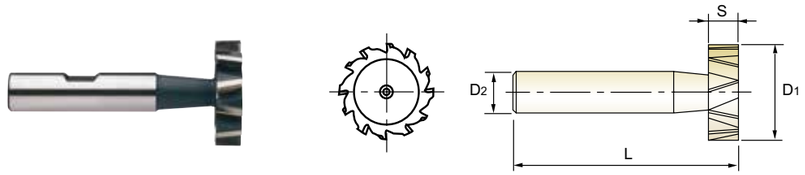
ISO	P																			
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○	○	○																

MILLING CUTTERS

PLAIN SHANK **ML062** SERIES
FLAT SHANK **ML162** SERIES
THREAD SHANK **ML262** SERIES

HSS-E, WOODRUFF KEYSEAT CUTTERS TYPE “B”, “D”, “F”
HSS-E, 月牙键槽铣刀 B型，D型，F型



HSS-E | DIN 850 | N | 10~12° | DIN 1835A | DIN 1835B | DIN 1835D

p.C646

Unit(单位) : mm

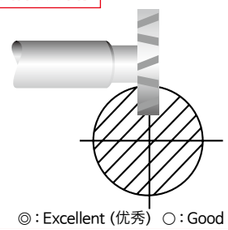
EDP No.			Cutter Diameter	Width of Face	Shank Diameter	Overall Length	No. of Teeth
			直径	刃幅	柄径	全长	刃数
PLAIN	FLAT	THREAD	D1(h11)	S(e8)	D2(h6)	L(js18)	Z
ML06210E01	ML16210E01	-	10.5	2	6	50	8
ML06210E02	ML16210E02	-	10.5	2.5	6	50	8
ML06210E03	ML16210E03	-	10.5	3	6	50	8
ML06213E01	ML16213E01	-	13.5	2	10	56	8
ML06213E02	ML16213E02	-	13.5	2.5	10	56	8
ML06213E03	ML16213E03	-	13.5	3	10	56	8
ML06213E04	ML16213E04	-	13.5	4	10	56	8
ML06216E01	ML16216E01	-	16.5	2.5	10	56	8
ML06216E02	ML16216E02	-	16.5	3	10	56	8
ML06216E03	ML16216E03	-	16.5	4	10	56	8
ML06216E04	ML16216E04	-	16.5	5	10	56	8
ML06219E01	ML16219E01	-	19.5	3	10	56	8
ML06219E02	ML16219E02	-	19.5	4	10	63	8
ML06219E03	ML16219E03	-	19.5	5	10	63	8
ML06219E04	ML16219E04	-	19.5	6	10	63	8
ML06222E01	ML16222E01	-	22.5	4	10	63	10
ML06222E02	ML16222E02	▲ML26222E02	22.5	5	10	63	10
ML06222E03	ML16222E03	-	22.5	6	10	63	10
ML06222E04	ML16222E04	-	22.5	8	10	63	10
ML06225E01	ML16225E01	-	25.5	5	10	63	10

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

▲ : Only available till stock runs out 只提供到消耗现库存

▶ NEXT PAGE 下页

Nominal-Diameter in mm / 直径单位为							
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50	over 50 to 80
Tolerance range in mm / 公差单位为							
js18	± 0.90	± 1.10	± 1.35	± 1.65	± 1.95	± 2.30	± 2.70
Tolerance range in μm / 公差单位为							
h11	0 - 60	0 - 75	0 - 90	0 - 110	0 - 130	0 - 160	0 - 190
e8	- 14 - 28	- 20 - 38	- 25 - 47	- 32 - 59	- 40 - 73	- 50 - 89	- 60 - 106
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16	0 - 19

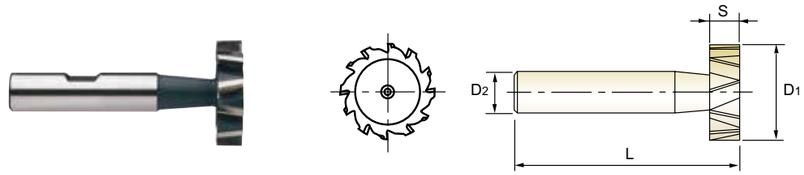


◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○	○	○																

MILLING CUTTERS
PLAIN SHANK ML062 SERIES
FLAT SHANK ML162 SERIES
THREAD SHANK ML262 SERIES
HSS-E, WOODRUFF KEYSEAT CUTTERS TYPE “B”, “D”, “F”
HSS-E, 月牙键槽铣刀 B型，D型，F型



HSS-E | DIN 850 | N | 10~12° | DIN 1835A | DIN 1835B | DIN 1835D

p.C646

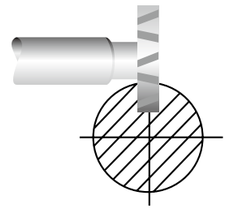
Unit(单位) : mm

EDP No.			Cutter Diameter	Width of Face	Shank Diameter	Overall Length	No. of Teeth
			直径	刃幅	柄径	全长	刃数
PLAIN	FLAT	THREAD	D1(h11)	S(e8)	D2(h6)	L(js18)	Z
ML06225E02	ML16225E02	-	25.5	6	10	63	10
ML06225E03	ML16225E03	-	25.5	7	10	63	10
ML06225E04	ML16225E04	-	25.5	8	10	63	10
ML06228E01	ML16228E01	▲ML26228E01	28.5	5	10	63	10
ML06228E02	ML16228E02	-	28.5	6	10	63	10
ML06228E03	ML16228E03	-	28.5	7	10	63	10
ML06228E04	ML16228E04	-	28.5	8	10	63	10
ML06228E05	ML16228E05	▲ML26228E05	28.5	10	12	71	10
ML06232E01	ML16232E01	-	32.5	5	12	71	12
ML06232E02	ML16232E02	-	32.5	6	12	71	12
ML06232E03	ML16232E03	▲ML26232E03	32.5	7	12	71	12
ML06232E04	ML16232E04	-	32.5	8	12	71	12
ML06232E05	ML16232E05	▲ML26232E05	32.5	10	12	71	12
ML06238E01	ML16238E01	-	38.5	7	12	71	12
ML06238E02	ML16238E02	-	38.5	8	12	71	12
ML06238E03	ML16238E03	-	38.5	9	12	71	12
ML06238E04	ML16238E04	-	38.5	10	12	71	12
ML06245E01	ML16245E01	-	45.5	10	12	71	14

▲ : Only available till stock runs out 只提供到消耗现库存

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

Nominal-Diameter in mm / 直径单位为							
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50	over 50 to 80
Tolerance range in mm / 公差单位为							
js18	± 0.90	± 1.10	± 1.35	± 1.65	± 1.95	± 2.30	± 2.70
Tolerance range in μm / 公差单位为							
h11	0 - 60	0 - 75	0 - 90	0 - 110	0 - 130	0 - 160	0 - 190
e8	- 14 - 28	- 20 - 38	- 25 - 47	- 32 - 59	- 40 - 73	- 50 - 89	- 60 - 106
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16	0 - 19



◎ : Excellent (优秀) ○ : Good (良好)

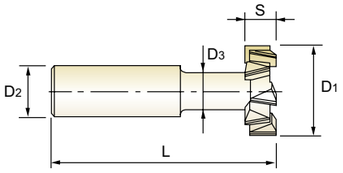
ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○	○	○																

MILLING CUTTERS

PLAIN SHANK **ML072** SERIES
FLAT SHANK **ML172** SERIES
THREAD SHANK **ML272** SERIES

HSS-E, T-SLOT CUTTERS TYPE “AA”, “AB”, “AD”
HSS-E, T型铣刀 AA型，AB型，AD型



HSS-E | DIN 851 | N | 10° | DIN 1835A | DIN 1835B | DIN 1835D

p.C647

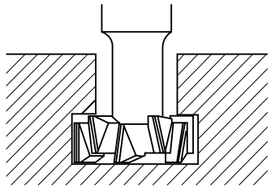
Unit(单位) : mm

EDP No.			Cutter Diameter 直径	Width of Face 刃幅	Shank Diameter 柄径	Neck Diameter 颈部	Overall Length 全长	No. of Teeth 刃数
PLAIN	FLAT	THREAD	D1(d11)	S(d11)	D2(h6)	D3(h12)	L(js18)	Z
ML07212E01	ML17212E01	-	12.5	6	10	5	57	6
ML07201601	ML17201601	-	16.0	8	10	6.5	62	6
ML07201801	ML17201801	-	18.0	8	12	8	70	6
ML07201901	ML17201901	-	19.0	9	12	8	71	6
ML07202101	ML17202101	-	21.0	9	12	10	74	6
ML07202201	ML17202201	-	22.0	10	12	10	75	6
ML07202501	ML17202501	-	25.0	11	16	12	82	6
ML07202801	ML17202801	▲ML27202801	28.0	12	16	13	83	6
ML07203201	ML17203201	-	32.0	14	16	15	90	8
ML07203601	ML17203601	▲ML27203601	36.0	16	25	17	103	8
ML07204001	ML17204001	▲ML27204001	40.0	18	25	19	108	8

▲ : Only available till stock runs out 只提供到消耗现库存

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

Nominal-Diameter in mm / 直径单位为	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50	over 50 to 80	over 80 to 120
Tolerance range in mm / 公差单位为							
h12	0 / - 0.12	0 / - 0.15	0 / - 0.18	0 / - 0.21	0 / - 0.25	0 / - 0.30	0 / - 0.35
js18	± 0.90	± 1.10	± 1.35	± 1.65	± 1.95	± 2.30	± 2.70
Tolerance range in μm / 公差单位为							
d11	- 30 / - 105	- 40 / - 130	- 50 / - 160	- 65 / - 195	- 80 / - 240	- 100 / - 290	- 120 / - 340
h6	0 / - 8	0 / - 9	0 / - 11	0 / - 13	0 / - 16	0 / - 19	0 / - 22



◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎		◎										

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○	○	○																

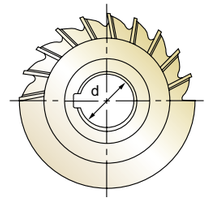
MILLING CUTTERS

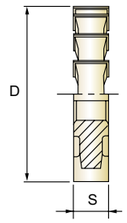
STRAIGHT TEETH **ML092** SERIES

HSS-E, SIDE AND FACE MILLING CUTTERS with STRAIGHT TEETH
HSS-E, 三面刃铣刀 直齿

▶ The tools are used for general purpose side and straddle milling where deep cut is not required.

▶ 刀具用在普通用途的侧铣和跨铣，这种铣法不要求深切削





HSS-E | DIN 885-B | H

p.C648

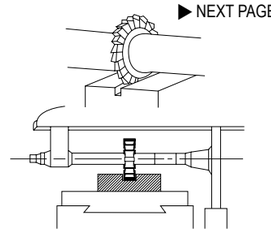
Unit(单位) : mm

EDP No.	Cutter Diameter 直径	Width of Face 刃幅	Internal Diameter 内径	No. of Teeth 刃数
	D1(js14)	S(k11)	d(H7)	Z
ML09205001	50.0	4	16	18
ML09205002	50.0	5	16	18
ML09205003	50.0	6	16	18
ML09205004	50.0	8	16	16
ML09205005	50.0	10	16	16
ML09206301	63.0	5	22	22
ML09206302	63.0	6	22	22
ML09206303	63.0	8	22	20
ML09206304	63.0	10	22	20
ML09206305	63.0	12	22	20
ML09208001	80.0	6	22	24
ML09208002	80.0	8	22	24
ML09208003	80.0	10	22	24
ML09208004	80.0	12	22	20
ML09208005	80.0	6	27	24
ML09208006	80.0	8	27	24
ML09208007	80.0	10	27	24
ML09208008	80.0	12	27	20
ML09210001	100.0	6	27	26
ML09210002	100.0	8	27	26

▶ NEXT PAGE 下页

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

Nominal-Diameter in mm / 直径单位为	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50	over 50 to 80	over 80 to 120	over 120 to 180
Tolerance range in mm / 公差单位为								
js14	± 0.15	± 0.18	± 0.215	± 0.26	± 0.31	± 0.37	± 0.435	± 0.50
Tolerance range in μm / 公差单位为								
k11	+ 75 / 0	+ 90 / 0	+ 110 / 0	+ 130 / 0	+ 160 / 0	+ 190 / 0	+ 220 / 0	+ 250 / 0
H7	+ 12 / 0	+ 15 / 0	+ 18 / 0	+ 21 / 0	+ 25 / 0	+ 30 / 0	+ 35 / 0	+ 40 / 0



◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○	○	○																

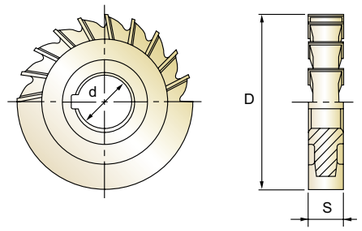
MILLING CUTTERS

STRAIGHT TEETH **ML092** SERIES

HSS-E, SIDE AND FACE MILLING CUTTERS with STRAIGHT TEETH
HSS-E, 三面刃铣刀 直齿

▶ The tools are used for general purpose side and straddle milling where deep cut is not required.

▶ 刀具用在普通用途的侧铣和跨铣，这种铣法不要求深切削



HSS-E | DIN 885-B | H

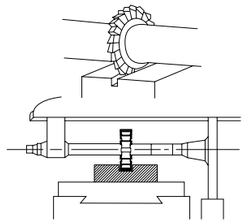
p.C648

Unit(单位) : mm

EDP No.	Cutter Diameter 直径 D_1(js14)	Width of Face 刃幅 S(k11)	Internal Diameter 内径 d(H7)	No. of Teeth 刃数 Z
ML09210003	100.0	10	27	22
ML09210004	100.0	6	32	26
ML09210005	100.0	8	32	26
ML09210006	100.0	10	32	22
ML09210007	100.0	12	32	22
ML09212501	125.0	8	32	30
ML09212502	125.0	10	32	30
ML09212503	125.0	12	32	24

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

Nominal-Diameter in mm / 直径单位为	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50	over 50 to 80	over 80 to 120	over 120 to 180
Tolerance range in mm / 公差单位为								
js14	± 0.15	± 0.18	± 0.215	± 0.26	± 0.31	± 0.37	± 0.435	± 0.50
Tolerance range in μm / 公差单位为								
k11	+ 75 0	+ 90 0	+ 110 0	+ 130 0	+ 160 0	+ 190 0	+ 220 0	+ 250 0
H7	+ 12 0	+ 15 0	+ 18 0	+ 21 0	+ 25 0	+ 30 0	+ 35 0	+ 40 0



◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○	○	○																

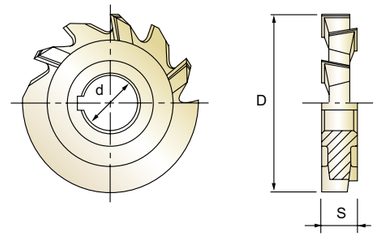
MILLING CUTTERS

STAGGERED TEETH **ML102** SERIES

HSS-E, SIDE AND FACE MILLING CUTTERS with STAGGERED TEETH
HSS-E, 三面刃铣刀 错齿

▶ The type of cutter is recommended for slotting operations. The alternate spiral effectively counteracts all tendency to chatter.

▶ 这种盘铣刀荐于开槽加工。交替的螺旋可有效的防治加工中的震动



HSS-E | DIN 885-A | H

p.C649

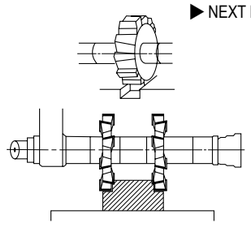
Unit(单位) : mm

EDP No.	Cutter Diameter 直径 D(js14)	Width of Face 刃幅 S(k11)	Internal Diameter 内径 d(H7)	No. of Teeth 刃数 Z
ML10205001	50.0	3	16	14
ML10205002	50.0	4	16	14
ML10205003	50.0	5	16	14
ML10205004	50.0	6	16	14
ML10205005	50.0	7	16	14
ML10205006	50.0	8	16	14
ML10205007	50.0	9	16	14
ML10205008	50.0	10	16	14
ML10206301	63.0	3	22	16
ML10206302	63.0	4	22	16
ML10206303	63.0	5	22	16
ML10206304	63.0	6	22	16
ML10206305	63.0	7	22	16
ML10206306	63.0	8	22	16
ML10206307	63.0	9	22	16
ML10206308	63.0	10	22	16
ML10206309	63.0	12	22	16
ML10206310	63.0	14	22	16
ML10206311	63.0	16	22	16
ML10206312	63.0	18	22	16

▶ NEXT PAGE 下页

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

Nominal-Diameter in mm / 直径单位为	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50	over 50 to 80	over 80 to 120	over 120 to 180	over 180 to 250
Tolerance range in mm / 公差单位为									
js14	± 0.15	± 0.18	± 0.215	± 0.26	± 0.31	± 0.37	± 0.435	± 0.50	± 0.575
Tolerance range in μm / 公差单位为									
k11	+ 75 0	+ 90 0	+ 110 0	+ 130 0	+ 160 0	+ 190 0	+ 220 0	+ 250 0	+ 290 0
H7	+ 12 0	+ 15 0	+ 18 0	+ 21 0	+ 25 0	+ 30 0	+ 35 0	+ 40 0	+ 46 0



◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○	○	○																

MILLING CUTTERS

STAGGERED TEETH **ML102** SERIES

HSS-E, SIDE AND FACE MILLING CUTTERS with STAGGERED TEETH

HSS-E, 三面刃铣刀 错齿

▶ The type of cutter is recommended for slotting operations.
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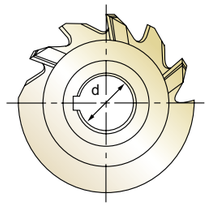


HSS-E | DIN 885-A | H

p.C649

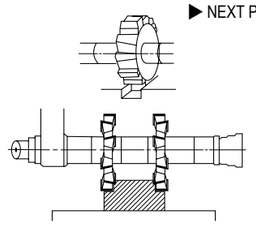
Unit(单位) : mm

EDP No.	Cutter Diameter 直径 D(js14)	Width of Face 刃幅 S(k11)	Internal Diameter 内径 d(H7)	No. of Teeth 刃数 Z
ML10208001	80.0	3	22	18
ML10208002	80.0	4	22	18
ML10208003	80.0	5	22	18
ML10208004	80.0	6	22	18
ML10208005	80.0	7	22	18
ML10208006	80.0	8	22	18
ML10208007	80.0	9	22	18
ML10208008	80.0	10	22	18
ML10208009	80.0	12	22	18
ML10208010	80.0	14	22	18
ML10208011	80.0	16	22	18
ML10208012	80.0	18	22	18
ML10208013	80.0	20	22	18
ML10208014	80.0	4	27	18
ML10208015	80.0	5	27	18
ML10208016	80.0	6	27	18
ML10208017	80.0	7	27	18
ML10208018	80.0	8	27	18
ML10208019	80.0	9	27	18
ML10208020	80.0	10	27	18

▶ NEXT PAGE 下页

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

Nominal-Diameter in mm / 直径单位为	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50	over 50 to 80	over 80 to 120	over 120 to 180	over 180 to 250
Tolerance range in mm / 公差单位为									
js14	± 0.15	± 0.18	± 0.215	± 0.26	± 0.31	± 0.37	± 0.435	± 0.50	± 0.575
Tolerance range in μm / 公差单位为									
k11	+ 75 0	+ 90 0	+ 110 0	+ 130 0	+ 160 0	+ 190 0	+ 220 0	+ 250 0	+ 290 0
H7	+ 12 0	+ 15 0	+ 18 0	+ 21 0	+ 25 0	+ 30 0	+ 35 0	+ 40 0	+ 46 0



◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○	○	○																

MILLING CUTTERS

STAGGERED TEETH ML102 SERIES

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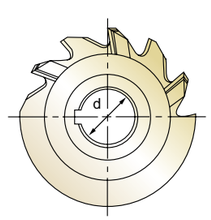


HSS-E | DIN 885-A | H

p.C649

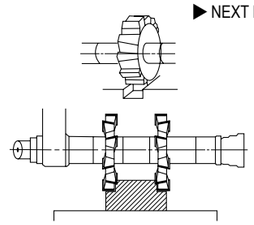
Unit(单位) : mm

EDP No.	Cutter Diameter 直径 D(js14)	Width of Face 刃幅 S(k11)	Internal Diameter 内径 d(H7)	No. of Teeth 刃数 Z
ML10208021	80.0	12	27	18
ML10208022	80.0	14	27	18
ML10208023	80.0	16	27	18
ML10208024	80.0	18	27	18
ML10208025	80.0	20	27	18
ML10210001	100.0	3	27	20
ML10210002	100.0	4	27	20
ML10210003	100.0	5	27	20
ML10210004	100.0	6	27	20
ML10210005	100.0	7	27	20
ML10210006	100.0	8	27	20
ML10210007	100.0	9	27	20
ML10210008	100.0	10	27	20
ML10210009	100.0	12	27	20
ML10210010	100.0	14	27	20
ML10210011	100.0	15	27	20
ML10210012	100.0	16	27	20
ML10210013	100.0	18	27	20
ML10210014	100.0	20	27	20
ML10210015	100.0	4	32	20

▶ NEXT PAGE 下页

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

Nominal-Diameter in mm / 直径单位为	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50	over 50 to 80	over 80 to 120	over 120 to 180	over 180 to 250
Tolerance range in mm / 公差单位为									
js14	± 0.15	± 0.18	± 0.215	± 0.26	± 0.31	± 0.37	± 0.435	± 0.50	± 0.575
Tolerance range in μm / 公差单位为									
k11	+ 75 0	+ 90 0	+ 110 0	+ 130 0	+ 160 0	+ 190 0	+ 220 0	+ 250 0	+ 290 0
H7	+ 12 0	+ 15 0	+ 18 0	+ 21 0	+ 25 0	+ 30 0	+ 35 0	+ 40 0	+ 46 0



◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○	○	○																

MILLING CUTTERS

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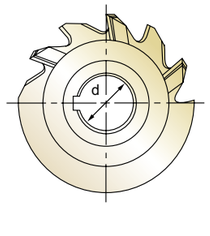

HSS-E | DIN 885-A | H

p.C649

Unit(单位) : mm

EDP No.	Cutter Diameter 直径 D(js14)	Width of Face 刃幅 S(k11)	Internal Diameter 内径 d(H7)	No. of Teeth 刃数 Z
ML10210016	100.0	5	32	20
ML10210017	100.0	6	32	20
ML10210018	100.0	7	32	20
ML10210019	100.0	8	32	20
ML10210020	100.0	9	32	20
ML10210021	100.0	10	32	20
ML10210022	100.0	12	32	20
ML10210023	100.0	14	32	20
ML10210024	100.0	15	32	20
ML10210025	100.0	16	32	20
ML10210026	100.0	18	32	20
ML10210027	100.0	20	32	20
ML10212501	125.0	5	32	22
ML10212502	125.0	6	32	22
ML10212503	125.0	8	32	22
ML10212504	125.0	10	32	22
ML10212505	125.0	12	32	22
ML10212506	125.0	14	32	22
ML10212507	125.0	16	32	22
ML10212508	125.0	18	32	22

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Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

	Nominal-Diameter in mm / 直径单位为								
	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50	over 50 to 80	over 80 to 120	over 120 to 180	over 180 to 250
Tolerance range in mm / 公差单位为									
js14	± 0.15	± 0.18	± 0.215	± 0.26	± 0.31	± 0.37	± 0.435	± 0.50	± 0.575
Tolerance range in μm / 公差单位为									
k11	+ 75 0	+ 90 0	+ 110 0	+ 130 0	+ 160 0	+ 190 0	+ 220 0	+ 250 0	+ 290 0
H7	+ 12 0	+ 15 0	+ 18 0	+ 21 0	+ 25 0	+ 30 0	+ 35 0	+ 40 0	+ 46 0

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○	○	○																

MILLING CUTTERS

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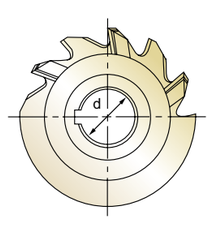

HSS-E | DIN 885-A | H

p.C649

Unit(单位) : mm

EDP No.	Cutter Diameter 直径 D(js14)	Width of Face 刃幅 S(k11)	Internal Diameter 内径 d(H7)	No. of Teeth 刃数 Z
ML10212509	125.0	20	32	22
ML10216001	160.0	6	32	26
ML10216002	160.0	8	32	26
ML10216003	160.0	10	32	26
ML10216004	160.0	12	32	26
ML10216005	160.0	14	32	26
ML10216006	160.0	16	32	26
ML10216007	160.0	18	32	26
ML10216008	160.0	20	32	26
ML10216009	160.0	6	40	26
ML10216010	160.0	8	40	26
ML10216011	160.0	10	40	26
ML10216012	160.0	12	40	26
ML10216013	160.0	14	40	26
ML10216014	160.0	16	40	26
ML10216015	160.0	18	40	26
ML10216016	160.0	20	40	26
ML10220001	200.0	10	40	30
ML10220002	200.0	12	40	30
ML10220003	200.0	14	40	30

▶ NEXT PAGE 下页

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

	Nominal-Diameter in mm / 直径单位为								
	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50	over 50 to 80	over 80 to 120	over 120 to 180	over 180 to 250
Tolerance range in mm / 公差单位为									
js14	± 0.15	± 0.18	± 0.215	± 0.26	± 0.31	± 0.37	± 0.435	± 0.50	± 0.575
Tolerance range in μm / 公差单位为									
k11	+ 75 0	+ 90 0	+ 110 0	+ 130 0	+ 160 0	+ 190 0	+ 220 0	+ 250 0	+ 290 0
H7	+ 12 0	+ 15 0	+ 18 0	+ 21 0	+ 25 0	+ 30 0	+ 35 0	+ 40 0	+ 46 0

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ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○	○	○																

MILLING CUTTERS

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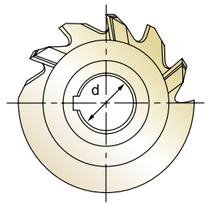

HSS-E | DIN 885-A | H

p.C649

Unit(单位) : mm

EDP No.	Cutter Diameter 直径 D(js14)	Width of Face 刃幅 S(k11)	Internal Diameter 内径 d(H7)	No. of Teeth 刃数 Z
ML10220004	200.0	16	40	30
ML10220005	200.0	18	40	30
ML10220006	200.0	20	40	30
ML10220007	200.0	22	40	30
ML10220008	200.0	25	40	30

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

Nominal-Diameter in mm / 直径单位为	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50	over 50 to 80	over 80 to 120	over 120 to 180	over 180 to 250
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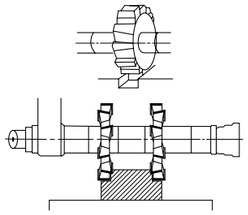


◎ : Excellent (优秀) ○ : Good (良好)

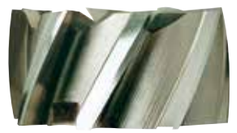
ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○									

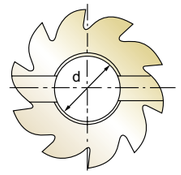
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○	○	○																

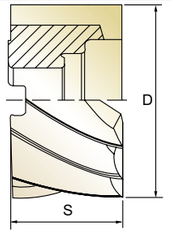
MILLING CUTTERS

E2675 SERIES

HSSCo8, MULTI FLUTE SHELL END MILL
HSSCo8, 多刃 圆筒形端铣刀







HSS Co8 | DIN 841 | N | 6-10 | 30°

p.C650

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D	Width of Face 刃幅 S	Internal Diameter 内径 d	No. of Teeth 刃数 Z
E2675300	30.0	30	● 13	6
E2675350	35.0	35	● 16	6
E2675400	40.0	20	● 16	8
E2675402	40.0	40	● 16	8
E2675500	50.0	25	22	8
E2675502	50.0	50	22	8
E2675600	60.0	30	27	8
E2675601	60.0	60	27	8
E2675750	75.0	35	27	10
E2675751	75.0	75	27	10
E2675900	90.0	35	27	10
E2675902	110.0	35	32	10

● Tolerance of Internal Diameter = +0.018 ~ 0
▶ TiN-COATING, TiCN-COATING & TiAlN-COATING is available on your request.

● 内径公差=+0.018~0
▶ 按客户要求可以提供TiN,TiCN,TiAlN涂层

HSS Co8 | DIN 1880 | N | 8-14 | 30°

p.C650

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D	Width of Face 刃幅 S	Internal Diameter 内径 d	No. of Teeth 刃数 Z
E2675401	40.0	32	● 16	8
E2675501	50.0	36	22	8
E2675630	63.0	40	27	8
E2675800	80.0	45	27	10
E2675901	100.0	50	32	10
E2675903	125.0	56	40	12
E2675904	160.0	63	50	14

● Tolerance of Internal Diameter = +0.018 ~ 0
▶ TiN-COATING, TiCN-COATING & TiAlN-COATING is available on your request.

● 内径公差=+0.018~0
▶ 按客户要求可以提供TiN,TiCN,TiAlN涂层

Mill Dia.Tolerance(mm) 直径公差	Width of Face Tolerance(mm) 刃幅公差	Internal Dia Tolerance(mm) 内径公差
+ 0.25 - 0.15	+ 0.5 - 0	+ 0.02 - 0

◎ : Excellent (优秀) ○ : Good (良好)

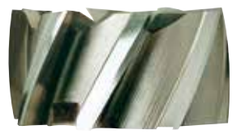
ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron			Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○									

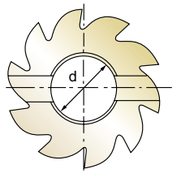
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																					

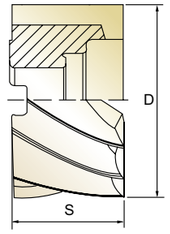
MILLING CUTTERS

E2676 SERIES

HSSCo8, MULTI FLUTE SHELL END MILL for ALUMINUM
HSSCo8, 多刃 圆筒形端铣刀







HSS Co8 | DIN 841 | W | 4&6 | 42° p.C650

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D	Width of Face 刃幅 S	Internal Diameter 内径 d	No. of Teeth 刃数 Z
E2676300	30.0	30	● 13	4
E2676400	40.0	20	● 16	4
E2676402	40.0	40	● 16	4
E2676500	50.0	25	22	6
E2676502	50.0	50	22	6
E2676600	60.0	30	27	6
E2676601	60.0	60	27	6
E2676750	75.0	75	27	6

● Tolerance of Internal Diameter = +0.018 ~ 0
▶ TiN-COATING, TiCN-COATING & TiAlN-COATING is available on your request.

● 内径公差=+0.018~0
▶ 按客户要求可以提供TiN,TiCN,TiAlN涂层

HSS Co8 | DIN 1880 | W | 4&6 | 42° p.C650

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D	Width of Face 刃幅 S	Internal Diameter 内径 d	No. of Teeth 刃数 Z
E2676401	40.0	32	● 16	4
E2676501	50.0	36	22	6
E2676630	63.0	40	27	6
E2676800	80.0	45	27	6
E2676901	100.0	50	32	6

● Tolerance of Internal Diameter = +0.018 ~ 0
▶ TiN-COATING, TiCN-COATING & TiAlN-COATING is available on your request.

● 内径公差=+0.018~0
▶ 按客户要求可以提供TiN,TiCN,TiAlN涂层

Mill Dia.Tolerance(mm) 直径公差	Width of Face Tolerance(mm) 刃幅公差	Internal Dia Tolerance(mm) 内径公差
+ 0.25 - 0.15	+ 0.5 - 0	+ 0.02 - 0

◎ : Excellent (优秀) ○ : Good (良好)

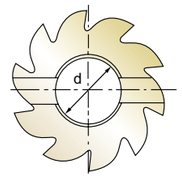
ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○		○	○			○										

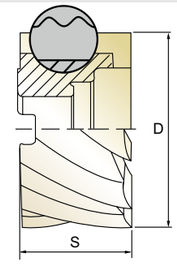
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎																

MILLING CUTTERS

E2677 SERIES

HSSCo8, MULTI FLUTE ROUGHING SHELL END MILL - COARSE
HSSCo8, 多刃 圆筒形端铣刀 粗加工 粗牙





HSS Co8 | DIN 841 | NR | 6-12 | 30° p.C651

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D	Width of Face 刃幅 S	Internal Diameter 内径 d	No. of Teeth 刃数 Z
E2677401	40.0	40	● 16	6
E2677501	50.0	50	22	8
E2677600	60.0	30	27	8
E2677601	60.0	60	27	8
E2677750	75.0	35	27	10
E2677751	75.0	75	27	10
E2677900	90.0	35	27	10
E2677902	110.0	35	32	12

● Tolerance of Internal Diameter = +0.018 ~ 0
▶ TiN-COATING, TiCN-COATING & TiAlN-COATING is available on your request.

● 内径公差=+0.018~0
▶ 按客户要求可以提供TiN,TiCN,TiAlN涂层

HSS Co8 | DIN 1880 | NR | 6-12 | 30° p.C651

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D	Width of Face 刃幅 S	Internal Diameter 内径 d	No. of Teeth 刃数 Z
E2677400	40.0	32	● 16	6
E2677500	50.0	36	22	8
E2677630	63.0	40	27	8
E2677800	80.0	45	27	10
E2677901	100.0	50	32	10
E2677903	125.0	56	40	12
E2677904	160.0	63	50	12

● Tolerance of Internal Diameter = +0.018 ~ 0
▶ TiN-COATING, TiCN-COATING & TiAlN-COATING is available on your request.

● 内径公差=+0.018~0
▶ 按客户要求可以提供TiN,TiCN,TiAlN涂层

Mill Dia.Tolerance(mm) 直径公差	Width of Face Tolerance(mm) 刃幅公差	Internal Dia Tolerance(mm) 内径公差
+ 0.25 - 0.15	+ 0.5 - 0	+ 0.02 - 0

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K					
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	○	◎	◎	○	○	◎	○									

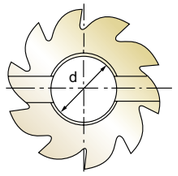
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○	○	○																

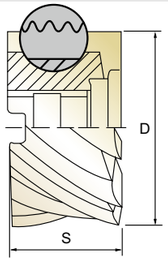
MILLING CUTTERS

E2678 SERIES

HSSCo8, MULTI FLUTE ROUGHING SHELL END MILL - FINE

HSSCo8, 多刃 圆筒形端铣刀 粗加工 细牙





HSS Co8 | DIN 841 | HR | 6-12 | 30° | p.C651

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D	Width of Face 刃幅 S	Internal Diameter 内径 d	No. of Teeth 刃数 Z
E2678401	40.0	40	● 16	6
E2678501	50.0	50	22	8
E2678600	60.0	30	27	8
E2678601	60.0	60	27	8
E2678750	75.0	35	27	10
E2678751	75.0	75	27	10
E2678900	90.0	35	27	10
E2678902	110.0	35	32	12

● Tolerance of Internal Diameter = +0.018 ~ 0
▶ TiN-COATING, TiCN-COATING & TiAlN-COATING is available on your request.

● 内径公差=+0.018~0
▶ 按客户要求可以提供TiN,TiCN,TiAlN涂层

HSS Co8 | DIN 1880 | HR | 6-12 | 30° | p.C651

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D	Width of Face 刃幅 S	Internal Diameter 内径 d	No. of Teeth 刃数 Z
E2678400	40.0	32	● 16	6
E2678500	50.0	36	22	8
E2678630	63.0	40	27	8
E2678800	80.0	45	27	10
E2678901	100.0	50	32	10
E2678903	125.0	56	40	12
E2678904	160.0	63	50	12

● Tolerance of Internal Diameter = +0.018 ~ 0
▶ TiN-COATING, TiCN-COATING & TiAlN-COATING is available on your request.

● 内径公差=+0.018~0
▶ 按客户要求可以提供TiN,TiCN,TiAlN涂层

Mill Dia.Tolerance(mm) 直径公差	Width of Face Tolerance(mm) 刃幅公差	Internal Dia Tolerance(mm) 内径公差
+ 0.25 - 0.15	+ 0.5 - 0	+ 0.02 - 0

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	○	◎	◎	○	○	◎	○										

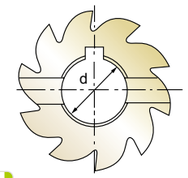
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○	○	○																

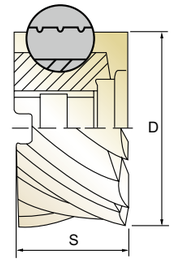
MILLING CUTTERS

E2679 SERIES

HSSCo8, MULTI FLUTE ROUGHING & FINISHING SHELL END MILL

HSSCo8, 多刃 圆筒形端铣刀 粗加工&精加工





HSS Co8 | DIN 841 | NF | 6-12 | 30° | p.C651

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D	Width of Face 刃幅 S	Internal Diameter 内径 d	No. of Teeth 刃数 Z
E2679401	40.0	40	● 16	6
E2679501	50.0	50	22	8
E2679600	60.0	30	27	8
E2679601	60.0	60	27	8
E2679750	75.0	35	27	10
E2679751	75.0	75	27	10
E2679900	90.0	35	27	10
E2679902	110.0	35	32	12

● Tolerance of Internal Diameter = +0.018 ~ 0
▶ TiN-COATING, TiCN-COATING & TiAlN-COATING is available on your request.

● 内径公差=+0.018~0
▶ 按客户要求可以提供TiN,TiCN,TiAlN涂层

HSS Co8 | DIN 1880 | NF | 6-12 | 30° | p.C651

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D	Width of Face 刃幅 S	Internal Diameter 内径 d	No. of Teeth 刃数 Z
E2679400	40.0	32	● 16	6
E2679500	50.0	36	22	8
E2679630	63.0	40	27	8
E2679800	80.0	45	27	10
E2679901	100.0	50	32	10
E2679903	125.0	56	40	12
E2679904	160.0	63	50	12

● Tolerance of Internal Diameter = +0.018 ~ 0
▶ TiN-COATING, TiCN-COATING & TiAlN-COATING is available on your request.

● 内径公差=+0.018~0
▶ 按客户要求可以提供TiN,TiCN,TiAlN涂层

Mill Dia.Tolerance(mm) 直径公差	Width of Face Tolerance(mm) 刃幅公差	Internal Dia Tolerance(mm) 内径公差
+ 0.25 - 0.15	+ 0.5 - 0	+ 0.02 - 0

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P											M			K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	○	◎	◎	○	○	◎	○										

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○	○	○																

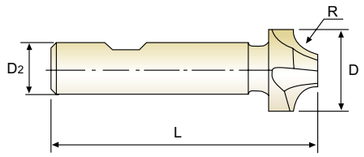
MILLING CUTTERS

FLAT SHANK **E2498** SERIES

HSSCo8, 4 FLUTE CORNER ROUNDING CUTTERS
HSSCo8, 4刃 圆角铣刀

▶ These tools can be adapted for many screw machine applications as end formming tools to form a specific radius.

▶ 这种产品用在自动切削机上对产品的端部进行详细精确的圆弧加工



HSS Co8 | DIN 6518 | N | 4 | 0° | DIN 1835B

p.C652

Unit(单位) : mm

EDP No.	Radius 半径 R(H11)	Outside Diameter 外径 D	Shank Diameter 柄径 D2(h6)	Overall Length 全长 L
E2498010	R1.0	**8.0**	10	60
E2498015	R1.5	**9.0**	10	60
E2498020	R2.0	**10.0**	10	60
E2498025	R2.5	**11.0**	10	60
E2498030	R3.0	**12.0**	12	60
E2498035	R3.5	**13.0**	12	60
E2498040	R4.0	**14.0**	12	60
E2498045	R4.5	**15.0**	12	60
E2498050	R5.0	**16.0**	12	60
E2498055	R5.5	**19.0**	16	67
E2498060	R6.0	**20.0**	16	67
E2498065	R6.5	**21.0**	16	71
E2498070	R7.0	**22.0**	16	71
E2498075	R7.5	**23.0**	16	71
E2498080	R8.0	**24.0**	16	71
E2498085	R8.5	**25.0**	25	85
E2498090	R9.0	**26.0**	25	85
E2498095	R9.5	**27.0**	25	85

▶ TiN-COATING, TiCN-COATING & TiAlN-COATING is available on your request.
▶ 按客户要求可以提供TiN,TiCN,TiAlN涂层

▶ NEXT PAGE 下页

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

Nominal-Diameter in mm / 直径单位为						
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50
Tolerance range in mm / 公差单位为						
H11	+ 60 0	+ 75 0	+ 90 0	+ 110 0	+ 130 0	+ 160 0
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	○	◎	◎	○	○	◎	○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○	○	○																

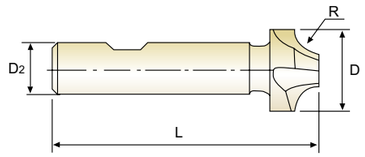
MILLING CUTTERS

FLAT SHANK **E2498** SERIES

HSSCo8, 4 FLUTE CORNER ROUNDING CUTTERS
HSSCo8, 4刃 圆角铣刀

▶ These tools can be adapted for many screw machine applications as end formming tools to form a specific radius.

▶ 这种产品用在自动切削机上对产品的端部进行详细精确的圆弧加工



HSS Co8 | DIN 6518 | N | 4 | 0° | DIN 1835B

p.C652

Unit(单位) : mm

EDP No.	Radius 半径 R(H11)	Outside Diameter 外径 D	Shank Diameter 柄径 D2(h6)	Overall Length 全长 L
E2498100	R10.0	**28.0**	25	85
E2498105	R10.5	**31.0**	25	90
E2498110	R11.0	**32.0**	25	90
E2498120	R12.0	**34.0**	25	90
E2498125	R12.5	**41.0**	25	100
E2498130	R13.0	**42.0**	25	100
E2498140	R14.0	**44.0**	25	100
E2498150	R15.0	**46.0**	25	100
E2498160	R16.0	**48.0**	25	100
E2498180	R18.0	**52.0**	32	112
E2498200	R20.0	**56.0**	32	112

▶ TiN-COATING, TiCN-COATING & TiAlN-COATING is available on your request.
▶ 按客户要求可以提供TiN,TiCN,TiAlN涂层

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

Nominal-Diameter in mm / 直径单位为						
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50
Tolerance range in mm / 公差单位为						
H11	+ 60 0	+ 75 0	+ 90 0	+ 110 0	+ 130 0	+ 160 0
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																			
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	○	◎	◎	○	○	◎	○									

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○	○	○																

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

MILLING CUTTERS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

ML012, ML112, ML022, ML122, ML212, ML222 SERIES

DOVETAIL CUTTERS TYPE 'A', 'C', 'E'

燕尾槽铣刀 A型，C型，E型

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径 16.0	20.0	25.0	32.0	40.0	50.0	63.0
P	1	Non-alloy steel	Vc	30	30	30	30	30	30	30
			fz	0.03	0.037	0.026	0.042	0.043	0.03	0.031
			RPM	597	477	382	298	239	191	152
			FEED	107	106	79	125	123	92	75
	2		Vc	15	15	15	15	15	15	15
			fz	0.031	0.036	0.031	0.041	0.043	0.026	0.031
			RPM	298	239	191	149	119	95	76
			FEED	56	52	47	61	62	40	38
	3-4		Vc	10	10	10	10	10	10	10
			fz	0.031	0.035	0.028	0.04	0.042	0.03	0.033
			RPM	199	159	127	99	80	64	51
			FEED	37	33	29	40	40	31	27
	5		Vc	10	10	10	10	10	10	10
			fz	0.021	0.02	0.02	0.02	0.022	0.02	0.023
			RPM	199	159	127	99	80	64	51
			FEED	25	19	20	20	21	20	19
	6	Low alloy steel	Vc	15	15	15	15	15	15	15
			fz	0.031	0.036	0.031	0.041	0.043	0.026	0.031
			RPM	298	239	191	149	119	95	76
			FEED	56	52	47	61	62	40	38
	7		Vc	10	10	10	10	10	10	10
			fz	0.031	0.035	0.028	0.04	0.042	0.03	0.033
			RPM	199	159	127	99	80	64	51
			FEED	37	33	29	40	40	31	27
	8-9		Vc	10	10	10	10	10	10	10
			fz	0.021	0.02	0.02	0.02	0.022	0.02	0.023
			RPM	199	159	127	99	80	64	51
			FEED	25	19	20	20	21	20	19
	10	High alloyed steel, and tool steel	Vc	15	15	15	15	15	15	15
			fz	0.031	0.036	0.031	0.041	0.043	0.026	0.031
			RPM	298	239	191	149	119	95	76
			FEED	56	52	47	61	62	40	38
	11.1		Vc	10	10	10	10	10	10	10
			fz	0.021	0.02	0.02	0.02	0.022	0.02	0.023
			RPM	199	159	127	99	80	64	51
			FEED	25	19	20	20	21	20	19
N	21~25	Aluminum-wrought alloy, Aluminum-cast, alloyed	Vc	95	85	90	90	95	85	90
			fz	0.03	0.04	0.029	0.041	0.042	0.03	0.033
			RPM	1890	1353	1146	895	756	541	455
			FEED	340	325	266	367	381	260	240

MILLING CUTTERS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

ML032, ML132, ML042, ML142, ML232, ML242 SERIES

DOVETAIL CUTTERS TYPE 'B', 'D', 'F'

燕尾槽铣刀 B型，D型，F型

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径 16.0	20.0	25.0	32.0
P	1	Non-alloy steel	Vc	30	30	30	30
			fz	0.03	0.037	0.026	0.042
			RPM	597	477	382	298
			FEED	107	106	79	125
	2		Vc	15	15	15	15
			fz	0.031	0.036	0.031	0.041
			RPM	298	239	191	149
			FEED	56	52	47	61
	3-4		Vc	10	10	10	10
			fz	0.031	0.035	0.028	0.04
			RPM	199	159	127	99
			FEED	37	33	29	40
	5		Vc	10	10	10	10
			fz	0.021	0.02	0.02	0.02
			RPM	199	159	127	99
			FEED	25	19	20	20
	6	Low alloy steel	Vc	15	15	15	15
			fz	0.031	0.036	0.031	0.041
			RPM	298	239	191	149
			FEED	56	52	47	61
	7		Vc	10	10	10	10
			fz	0.031	0.035	0.028	0.04
			RPM	199	159	127	99
			FEED	37	33	29	40
	8-9		Vc	10	10	10	10
			fz	0.021	0.02	0.02	0.02
			RPM	199	159	127	99
			FEED	25	19	20	20
	10	High alloyed steel, and tool steel	Vc	15	15	15	15
			fz	0.031	0.036	0.031	0.041
			RPM	298	239	191	149
			FEED	56	52	47	61
	11.1		Vc	10	10	10	10
			fz	0.021	0.02	0.02	0.02
			RPM	199	159	127	99
			FEED	25	19	20	20
N	21~25	Aluminum-wrought alloy, Aluminum-cast, alloyed	Vc	95	85	90	90
			fz	0.03	0.04	0.029	0.041
			RPM	1890	1353	1146	895
			FEED	340	325	266	367

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

MILLING CUTTERS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

ML062, ML162, ML262 SERIES

WOODRUFF KEYSEAT CUTTERS TYPE 'B', 'D', 'F'
月牙键槽铣刀 B型，D型，F型

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径 10.5	13.5	16.5	19.5	22.5	28.5	32.5	45.5
P	1	Non-alloy steel	Vc	30	30	30	30	30	30	30	30
			fz	0.01	0.01	0.025	0.035	0.04	0.05	0.06	0.07
			RPM	909	707	579	490	424	335	294	210
			FEED	73	57	116	137	170	168	212	206
	2		Vc	20	20	20	20	20	20	20	20
			fz	0.01	0.01	0.025	0.035	0.04	0.05	0.06	0.07
			RPM	606	472	386	326	283	223	196	140
			FEED	49	38	77	91	113	112	141	137
	3-4		Vc	15	15	15	15	15	15	15	15
			fz	0.01	0.01	0.025	0.035	0.04	0.05	0.06	0.07
			RPM	455	354	289	245	212	168	147	105
			FEED	36	28	58	69	85	84	106	103
	5		Vc	10	10	10	10	10	10	10	10
			fz	0.01	0.01	0.025	0.035	0.04	0.05	0.06	0.07
			RPM	303	236	193	163	141	112	98	70
			FEED	24	19	39	46	57	56	71	69
	6	Low alloy steel	Vc	20	20	20	20	20	20	20	20
			fz	0.01	0.01	0.025	0.035	0.04	0.05	0.06	0.07
			RPM	606	472	386	326	283	223	196	140
			FEED	49	38	77	91	113	112	141	137
	7		Vc	15	15	15	15	15	15	15	15
			fz	0.01	0.01	0.025	0.035	0.04	0.05	0.06	0.07
			RPM	455	354	289	245	212	168	147	105
			FEED	36	28	58	69	85	84	106	103
	8-9		Vc	10	10	10	10	10	10	10	10
			fz	0.01	0.01	0.025	0.035	0.04	0.05	0.06	0.07
			RPM	303	236	193	163	141	112	98	70
			FEED	24	19	39	46	57	56	71	69
	10	High alloyed steel, and tool steel	Vc	20	20	20	20	20	20	20	20
			fz	0.01	0.01	0.025	0.035	0.04	0.05	0.06	0.07
			RPM	606	472	386	326	283	223	196	140
			FEED	49	38	77	91	113	112	141	137
	11.1		Vc	10	10	10	10	10	10	10	10
			fz	0.01	0.01	0.025	0.035	0.04	0.05	0.06	0.07
			RPM	303	236	193	163	141	112	98	70
			FEED	24	19	39	46	57	56	71	69
N	21~25	Aluminum-wrought alloy, Aluminum-cast, alloyed	Vc	100	100	100	100	100	100	90	100
			fz	0.01	0.01	0.025	0.035	0.04	0.05	0.06	0.07
			RPM	3032	2358	1929	1632	1415	1117	881	700
			FEED	243	189	386	457	566	558	635	686

MILLING CUTTERS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

ML072, ML172, ML272 SERIES

T-SLOT CUTTERS TYPE 'AA', 'AB', 'AD'
T型铣刀 AA型，AB型，AD型

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径 12.5	16.0	18.0	19.0	21.0	22.0	25.0	28.0	32.0	50.0	63.0
P	1	Non-alloy steel	Vc	30	30	30	30	30	30	30	30	30	40	50
			fz	0.008	0.013	0.014	0.017	0.018	0.021	0.028	0.036	0.036	0.037	0.036
			RPM	764	597	531	503	455	434	382	341	298	255	253
			FEED	37	47	45	51	49	55	64	74	86	75	73
	2		Vc	15	15	15	15	15	15	15	15	15	20	25
			fz	0.007	0.011	0.012	0.013	0.016	0.019	0.026	0.037	0.035	0.037	0.04
			RPM	382	298	265	251	227	217	191	171	149	127	126
			FEED	16	20	19	20	22	25	30	38	42	38	40
	3-4		Vc	10	10	10	10	10	10	10	10	10	15	15
			fz	0.005	0.007	0.01	0.014	0.017	0.019	0.022	0.028	0.025	0.028	0.029
			RPM	255	199	177	168	152	145	127	114	99	95	76
			FEED	8	8	11	14	15	16	17	19	20	21	18
	6	Low alloy steel	Vc	15	15	15	15	15	15	15	15	15	20	25
			fz	0.007	0.011	0.012	0.013	0.016	0.019	0.026	0.037	0.035	0.037	0.04
			RPM	382	298	265	251	227	217	191	171	149	127	126
			FEED	16	20	19	20	22	25	30	38	42	38	40
	7		Vc	10	10	10	10	10	10	10	10	10	15	15
			fz	0.005	0.007	0.01	0.014	0.017	0.019	0.022	0.028	0.025	0.028	0.029
			RPM	255	199	177	168	152	145	127	114	99	95	76
			FEED	8	8	11	14	15	16	17	19	20	21	18
	10	High alloyed steel, and tool steel	Vc	15	15	15	15	15	15	15	15	15	20	25
			fz	0.007	0.011	0.012	0.013	0.016	0.019	0.026	0.037	0.035	0.037	0.04
			RPM	382	298	265	251	227	217	191	171	149	127	126
			FEED	16	20	19	20	22	25	30	38	42	38	40
N	21~25	Aluminum-wrought alloy, Aluminum-cast, alloyed	Vc	90	90	95	90	95	90	90	90	90	125	145
			fz	0.008	0.013	0.015	0.017	0.019	0.021	0.026	0.034	0.034	0.036	0.036
			RPM	2292	1790	1680	1508	1440	1302	1146	1023	895	796	733
			FEED	110	140	151	154	164	164	179	209	244	229	211

MILLING CUTTERS

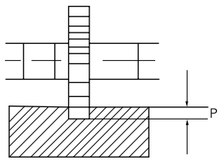
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

ML092 SERIES

SIDE AND FACE MILLING CUTTERS WITH STRAIGHT TEETH
三面刃铣刀 直齿

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Parameter 参数	Diameter (Ø) 直径				
				50.0	63.0	80.0	100.0	125.0
P	1	Non-alloy steel	Vc	25	25	25	25	25
			fz	0.045	0.058	0.06	0.063	0.066
			RPM	159	126	99	80	64
			FEED	129	161	143	130	126
	2		Vc	20	20	20	20	20
			fz	0.04	0.036	0.041	0.038	0.05
			RPM	127	101	80	64	51
			FEED	92	80	78	63	76
	3-4		Vc	15	15	15	15	15
			fz	0.034	0.031	0.033	0.034	0.042
			RPM	95	76	60	48	38
			FEED	58	52	47	42	48
	5		Vc	10	10	10	10	10
			fz	0.031	0.029	0.03	0.03	0.036
			RPM	64	51	40	32	25
			FEED	36	32	29	25	28
	6	Low alloy steel	Vc	20	20	20	20	20
			fz	0.04	0.036	0.041	0.038	0.05
			RPM	127	101	80	64	51
			FEED	92	80	78	63	76
	7		Vc	15	15	15	15	15
			fz	0.034	0.031	0.033	0.034	0.042
			RPM	95	76	60	48	38
			FEED	58	52	47	42	48
	8-9		Vc	10	10	10	10	10
			fz	0.031	0.029	0.03	0.03	0.036
			RPM	64	51	40	32	25
			FEED	36	32	29	25	28
	10	High alloyed steel, and tool steel	Vc	20	20	20	20	20
			fz	0.04	0.036	0.041	0.038	0.05
			RPM	127	101	80	64	51
			FEED	92	80	78	63	76
	11.1		Vc	10	10	10	10	10
			fz	0.031	0.029	0.03	0.03	0.036
			RPM	64	51	40	32	25
			FEED	36	32	29	25	28
N	21~25	Aluminum-wrought alloy, Aluminum-cast, alloyed	Vc	100	100	100	100	100
			fz	0.018	0.023	0.026	0.024	0.033
			RPM	637	505	398	318	255
			FEED	206	256	248	199	252



MILLING DEPTH P = WIDTH OF FACES
铣削深度=刃幅

MILLING CUTTERS

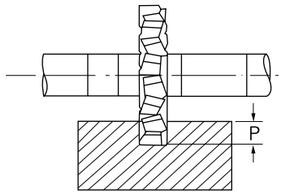
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

ML102 SERIES

SIDE AND FACE MILLING CUTTERS WITH STAGGERED TEETH
三面刃铣刀 错齿

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Parameter 参数	Diameter (Ø) 直径						
				50.0	63.0	80.0	100.0	125.0	160.0	200.0
P	1	Non-alloy steel	Vc	25	25	25	25	25	25	25
			fz	0.058	0.08	0.081	0.081	0.072	0.081	0.079
			RPM	159	126	99	80	64	50	40
			FEED	129	162	145	129	101	105	94
	2		Vc	20	20	20	20	20	20	20
			fz	0.053	0.052	0.055	0.05	0.055	0.05	0.048
			RPM	127	101	80	64	51	40	32
			FEED	94	84	79	64	62	52	46
	3-4		Vc	15	15	15	15	15	15	15
			fz	0.044	0.043	0.044	0.044	0.045	0.044	0.041
			RPM	95	76	60	48	38	30	24
			FEED	59	52	47	42	38	34	29
	5		Vc	10	10	10	10	10	10	10
			fz	0.039	0.04	0.04	0.039	0.039	0.04	0.039
			RPM	64	51	40	32	25	20	16
			FEED	35	32	29	25	22	21	19
	6	Low alloy steel	Vc	20	20	20	20	20	20	20
			fz	0.053	0.052	0.055	0.05	0.055	0.05	0.048
			RPM	127	101	80	64	51	40	32
			FEED	94	84	79	64	62	52	46
	7		Vc	15	15	15	15	15	15	15
			fz	0.044	0.043	0.044	0.044	0.045	0.044	0.041
			RPM	95	76	60	48	38	30	24
			FEED	59	52	47	42	38	34	29
	8-9		Vc	10	10	10	10	10	10	10
			fz	0.039	0.04	0.04	0.039	0.039	0.04	0.039
			RPM	64	51	40	32	25	20	16
			FEED	35	32	29	25	22	21	19
	10	High alloyed steel, and tool steel	Vc	20	20	20	20	20	20	20
			fz	0.053	0.052	0.055	0.05	0.055	0.05	0.048
			RPM	127	101	80	64	51	40	32
			FEED	94	84	79	64	62	52	46
	11.1		Vc	10	10	10	10	10	10	10
			fz	0.039	0.04	0.04	0.039	0.039	0.04	0.039
			RPM	64	51	40	32	25	20	16
			FEED	35	32	29	25	22	21	19
N	21~25	Aluminum-wrought alloy, Aluminum-cast, alloyed	Vc	100	100	100	100	100	100	100
			fz	0.023	0.031	0.035	0.031	0.036	0.029	0.031
			RPM	637	505	398	318	255	199	159
			FEED	205	251	251	197	202	150	148



MILLING DEPTH P = WIDTH OF FACES
铣削深度=刃幅

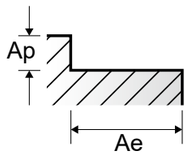
MILLING CUTTERS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

E2675 SERIES — MULTI FLUTE SHELL END MILL / 多刃 圆筒形端铣刀

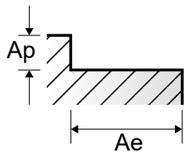
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 40.0	50.0	63.0	80.0	100.0	125.0	160.0
P	1-2	Non-alloy steel	0.75D	0.25D	Vc	30	30	30	30	30	30	30
					fz	0.07	0.078	0.092	0.1	0.115	0.12	0.131
					RPM	239	191	152	119	95	76	60
					FEED	134	119	112	119	110	110	109
	3-4		0.75D	0.25D	Vc	25	25	25	25	25	25	30
					fz	0.075	0.077	0.091	0.1	0.119	0.113	0.119
					RPM	199	159	126	99	80	64	60
					FEED	119	98	92	99	95	86	99
	5		0.75D	0.25D	Vc	20	20	20	20	20	20	20
					fz	0.071	0.078	0.09	0.094	0.117	0.108	0.116
					RPM	159	127	101	80	64	51	40
					FEED	90	79	73	75	74	66	65
	6	Low alloy steel	0.75D	0.25D	Vc	30	30	30	30	30	30	30
					fz	0.07	0.078	0.092	0.1	0.115	0.12	0.131
					RPM	239	191	152	119	95	76	60
					FEED	134	119	112	119	110	110	109
	7		0.75D	0.25D	Vc	25	25	25	25	25	25	30
					fz	0.075	0.077	0.091	0.1	0.119	0.113	0.119
					RPM	199	159	126	99	80	64	60
					FEED	119	98	92	99	95	86	99
	8		0.75D	0.25D	Vc	20	20	20	20	20	20	20
					fz	0.071	0.078	0.09	0.094	0.117	0.108	0.116
					RPM	159	127	101	80	64	51	40
					FEED	90	79	73	75	74	66	65
	9		0.75D	0.25D	Vc	10	10	10	10	10	10	10
					fz	0.078	0.08	0.1	0.1	0.117	0.146	0.125
					RPM	80	64	51	40	32	25	20
					FEED	50	41	40	40	37	45	35
	10	High alloyed steel, and tool steel	0.75D	0.25D	Vc	30	30	30	30	30	30	30
					fz	0.07	0.078	0.092	0.1	0.115	0.12	0.131
					RPM	239	191	152	119	95	76	60
					FEED	134	119	112	119	110	110	109
	11.1		0.75D	0.25D	Vc	20	20	20	20	20	20	20
					fz	0.071	0.078	0.09	0.094	0.117	0.108	0.116
					RPM	159	127	101	80	64	51	40
					FEED	90	79	73	75	74	66	65



E2676 SERIES — MULTI FLUTE SHELL END MILL for ALUMINUM / 多刃 圆筒形端铣刀 铝用

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 30.0	40.0	50.0	60.0	63.0	75.0	80.0	100.0
N	21~25	Aluminum-wrought alloy, Aluminum-cast, alloyed	0.75D	0.25D	Vc	100	105	95	95	95	105	100	100
					fz	0.05	0.06	0.069	0.1	0.115	0.13	0.128	0.151
					RPM	1061	836	605	504	480	446	398	318
					FEED	212	201	250	302	331	348	306	288

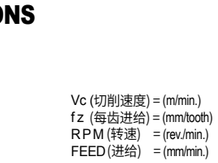


MILLING CUTTERS
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

E2677, E2678 SERIES — MULTI FLUTE ROUGHING SHELL END MILL / 多刃 圆筒形端铣刀 粗加工

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 40.0	50.0	63.0	80.0	100.0	125.0	160.0
P	1-2	Non-alloy steel	0.75D	0.25D	Vc	30	30	30	30	30	30	30
					fz	0.069	0.078	0.092	0.1	0.115	0.12	0.153
					RPM	239	191	152	119	95	76	60
					FEED	99	119	112	119	110	110	110
	3-4		0.75D	0.25D	Vc	25	25	25	25	25	25	30
					fz	0.071	0.077	0.091	0.1	0.119	0.113	0.139
					RPM	199	159	126	99	80	64	60
					FEED	85	98	92	99	95	86	100
	5		0.75D	0.25D	Vc	20	20	20	20	20	20	20
					fz	0.071	0.078	0.09	0.094	0.117	0.108	0.135
					RPM	159	127	101	80	64	51	40
					FEED	68	79	73	75	74	66	64
	6	Low alloy steel	0.75D	0.25D	Vc	30	30	30	30	30	30	30
					fz	0.069	0.078	0.092	0.1	0.115	0.12	0.153
					RPM	239	191	152	119	95	76	60
					FEED	99	119	112	119	110	110	110
	7		0.75D	0.25D	Vc	25	25	25	25	25	25	30
					fz	0.071	0.077	0.091	0.1	0.119	0.113	0.139
					RPM	199	159	126	99	80	64	60
					FEED	85	98	92	99	95	86	100
	8		0.75D	0.25D	Vc	20	20	20	20	20	20	20
					fz	0.071	0.078	0.09	0.094	0.117	0.108	0.135
					RPM	159	127	101	80	64	51	40
					FEED	68	79	73	75	74	66	64
	9		0.75D	0.25D	Vc	10	10	10	10	10	10	10
					fz	0.073	0.08	0.1	0.1	0.117	0.146	0.146
					RPM	80	64	51	40	32	25	20
					FEED	35	41	40	40	37	45	35
	10	High alloyed steel, and tool steel	0.75D	0.25D	Vc	30	30	30	30	30	30	30
					fz	0.069	0.078	0.092	0.1	0.115	0.12	0.153
					RPM	239	191	152	119	95	76	60
					FEED	99	119	112	119	110	110	110
	11.1		0.75D	0.25D	Vc	20	20	20	20	20	20	20
					fz	0.071	0.078	0.09	0.094	0.117	0.108	0.135
					RPM	159	127	101	80	64	51	40
					FEED	68	79	73	75	74	66	64



E2679 SERIES — MULTI FLUTE ROUGHING & FINISHING SHELL END MILL / 多刃 圆筒形端铣刀 粗加工&精加工

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径 40.0	50.0	63.0	80.0	100.0	125.0	160.0
P	1-2	Non-alloy steel	0.75D	0.25D	Vc	30	30	30	30	30	30	30
					fz	0.069	0.078	0.092	0.1	0.115	0.12	0.153
					RPM	239	191	152	119	95	76	60
					FEED	99	119	112	119	110	110	110
	3-4		0.75D	0.25D	Vc	25	25	25	25	25	25	30
					fz	0.071	0.077	0.091	0.1	0.119	0.113	0.139
					RPM	199	159	126	99	80	64	60
					FEED	85	98	92	99	95	86	100
	5		0.75D	0.25D	Vc	20	20	20	20	20	20	20
					fz	0.071	0.078	0.09	0.094	0.117	0.108	0.135
					RPM	159	127	101	80	64	51	40
					FEED	68	79	73	75	74	66	64
	6	Low alloy steel	0.75D	0.25D	Vc	30	30	30	30	30	30	30
					fz	0.069	0.078	0.092	0.1	0.115	0.12	0.153
					RPM	239	191	152	119	95	76	60
					FEED	99	119	112	119	110	110	110
	7		0.75D	0.25D	Vc	25	25	25	25	25	25	30
					fz	0.071	0.077	0.091	0.1	0.119	0.113	0.139
					RPM	199	159	126	99	80	64	60
					FEED	85	98	92	99	95	86	100
	8		0.75D	0.25D	Vc	20	20	20	20	20	20	20
					fz	0.071	0.078	0.09	0.094	0.117	0.108	0.135
					RPM	159	127	101	80	64	51	40
					FEED	68	79	73	75	74	66	64
	9		0.75D	0.25D	Vc	10	10	10	10	10	10	10
					fz	0.073	0.08	0.1	0.1	0.117	0.146	0.146
					RPM	80	64	51	40	32	25	20
					FEED	35	41	40	40	37	45	35
	10	High alloyed steel, and tool steel	0.75D	0.25D	Vc	30	30	30	30	30	30	30
					fz	0.069	0.078	0.092	0.1	0.115	0.12	0.153
					RPM	239	191	152	119	95	76	60
					FEED	99	119	112	119	110	110	110
	11.1		0.75D	0.25D	Vc	20	20	20	20	20	20	20
					fz	0.071	0.078	0.09	0.094	0.117	0.108	0.135
					RPM	159	127	101	80	64	51	40
					FEED	68	79	73	75	74	66	64

MILLING CUTTERS

RECOMMENDED CUTTING CONDITIONS
推荐加工参数

E2498 SERIES

4 FLUTE CORNER ROUNDING CUTTERS
4刃 圆角铣刀

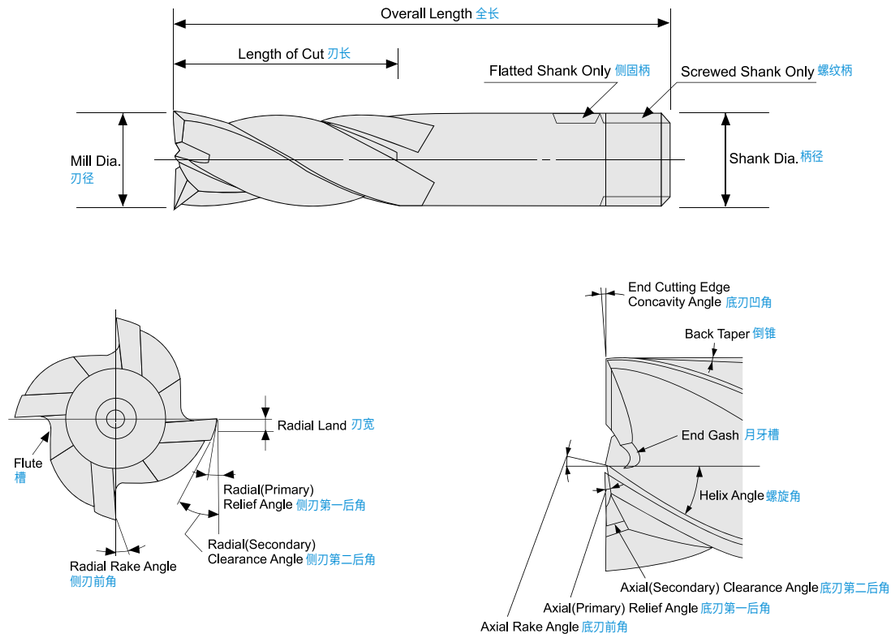
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径											
				8.0	9.0	10.0	11.0	12.0	14.0	16.0	20.0	24.0	28.0	34.0	48.0
P	1	Non-alloy steel	Vc	20	20	20	20	20	20	20	20	20	20	20	20
			fz	0.017	0.022	0.02	0.021	0.021	0.025	0.029	0.032	0.038	0.042	0.049	0.058
			RPM	796	707	637	579	531	455	398	318	265	227	187	133
			FEED	54	62	51	49	45	45	46	41	40	38	37	31
	2		Vc	15	15	15	15	15	15	15	15	15	15	15	15
			fz	0.015	0.016	0.016	0.019	0.019	0.023	0.029	0.033	0.039	0.04	0.048	0.053
			RPM	597	531	477	434	398	341	298	239	199	171	140	99
			FEED	36	34	31	33	30	31	35	32	31	27	27	21
	3-4		Vc	10	10	10	10	10	10	10	10	10	10	10	10
			fz	0.018	0.023	0.02	0.024	0.024	0.023	0.03	0.034	0.04	0.05	0.048	0.05
			RPM	398	354	318	289	265	227	199	159	133	114	94	66
			FEED	29	33	25	28	25	21	24	22	21	23	18	13
	6	Low alloy steel	Vc	15	15	15	15	15	15	15	15	15	15	15	15
			fz	0.015	0.016	0.016	0.019	0.019	0.023	0.029	0.033	0.039	0.04	0.048	0.053
			RPM	597	531	477	434	398	341	298	239	199	171	140	99
			FEED	36	34	31	33	30	31	35	32	31	27	27	21
	7-8		Vc	10	10	10	10	10	10	10	10	10	10	10	10
			fz	0.018	0.023	0.02	0.024	0.024	0.023	0.03	0.034	0.04	0.05	0.048	0.05
			RPM	398	354	318	289	265	227	199	159	133	114	94	66
			FEED	29	33	25	28	25	21	24	22	21	23	18	13
	10	High alloyed steel, and tool steel	Vc	15	15	15	15	15	15	15	15	15	15	15	15
			fz	0.015	0.016	0.016	0.019	0.019	0.023	0.029	0.033	0.039	0.04	0.048	0.053
			RPM	597	531	477	434	398	341	298	239	199	171	140	99
			FEED	36	34	31	33	30	31	35	32	31	27	27	21
	11.1		Vc	10	10	10	10	10	10	10	10	10	10	10	10
			fz	0.018	0.023	0.02	0.024	0.024	0.023	0.03	0.034	0.04	0.05	0.048	0.05
			RPM	398	354	318	289	265	227	199	159	133	114	94	66
			FEED	29	33	25	28	25	21	24	22	21	23	18	13
N	21~25	Aluminum-wrought alloy, Aluminum-cast, alloyed	Vc	90	80	90	85	90	90	80	90	90	85	85	90
			fz	0.018	0.021	0.02	0.023	0.022	0.025	0.031	0.034	0.038	0.045	0.05	0.058
			RPM	3581	2829	2865	2460	2387	2046	1592	1432	1194	966	796	597
			FEED	258	238	229	226	210	205	197	195	181	174	159	138

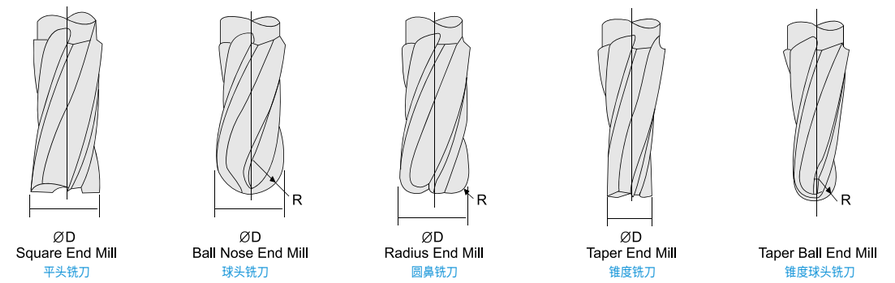
Leading Through Innovation

TECHNICAL DATA

1 NAMES OF END MILL PARTS
铣刀各部分名称

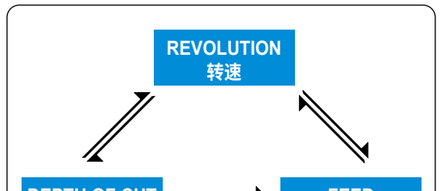


2 TYPES OF END MILL
铣刀类型



Speed, feed and depth of cut are the most important factors to consider for best results in milling. Improper feeds and speeds often cause low production, poor work quality and unnecessary damage to the cutter.
This section covers the basic principles of speed and feed selection for milling cutters and end mills. It will serve as a guide in setting-up new milling jobs.

速度，进给量和切削深度是确定切削效果最重要的因素。
不合适的进给量和速度常常导致降低产率，工作质量差和刀具的破损。
这部分包含了切削刀具的速度和进给量选择的基本原理。它将是铣削的向导



INTERRELATIONSHIP OF THREE FACTORS

3 SPEEDS
速度

In milling, SPEED is measured in peripheral feet per minute.(revolution per minute times cutter circumference in feet) This is frequently referred to as “peripheral speed” “cutting speed” or “surface speed”.
在铣削，速度是指在圆周上每分钟的英制数（以英制计算在刀具圆周上每分钟的转数），这通常指的是“圆周速度”，“切削速度”或“表面速度”

Revolutions per Minute
每分钟转数

$$N = \frac{1000V}{\pi D}$$

V : Cutting Speed(m/min) / 切削速度
D : Diameter of Tool(mm) / 刀具直径
N : Revolution per minute(rev/min) / 每分钟转数
π: 3.1416

They will have to be tempered to suit the conditons ON THE JOB. For example:
必须调节工作中适合条件。列如：

Use Lower Speed Ranges for 低线速度用在	Use Higher Speed Ranges for 高线速度用在
Hard materials / 高硬材料	Softer materials / 软质材料
Tough materials / 大韧性材料	Better finishes / 更好表面质量
Abrasive materials / 耐磨材料	Smaller diameter cutters / 更小刀具直径
Heavy cuts / 重切削	Light cuts / 轻切削
Minimum tool wear / 刀具磨损最小化	Frail work pieces or set-ups / 大脆性工件
Maximum cutter life / 刀具寿命最大化	Hand feed operations / 手动工作
	Maximum production rates / 产率最大化
	Non-metallics / 非铁金属

4 FEEDS
进给量

Feed is usually measured in milimeters per minute. It is the product of feed per tooth times revolution per minute times the number of teeth in the cutter. Due to variations in cutter sizes, numbers of teeth and revolutions per minute, all feed rates should be calculated from feed per tooth. Feed per tooth is the basis of all feed rates per minute, whether the cutters are large or small, fine or coarse tooth, and are run at high or low peripheral speed. Because feed per tooth affects chip thickness. It is a very important factor in cutter life.
Highest possible feed per tooth will usually give longer cutter life between grinds and greater production per grind. Excessive feeds may over load the cutter teeth and cause breakage or chipping of the cutting edges. The following factors should be kept in mind when using the recommended starting feed per tooth.

进给通常是通过每分钟的毫米数来测量的。
它是“每齿进给乘以每分钟的转速再乘以刀具上的齿数”的产物。由于刀具尺寸，刃数和每分钟转数的变化，
所有进给率应该通过每刃的进给来计算。无论刀具的大小，粗牙和细牙，高速或低速的圆周速度下运行，
每刃的进给是所有每分钟的进给率的基础因为每刃的进给影响铁屑的厚度。这是影响刀具寿命的一个非常重要的因素。
尽可能高的每齿进给可以带来更长的刀具寿命和更高的产率。过分的进给可能导致刀具的切削刃超负荷并引起刀具的切削刃破损或崩刃。
开始使用每齿进给时，下面隐私必须牢记

TECHNICAL DATA SUPER CUTTING END MILLS

Feed in milimeters per Minute / 每分钟进给的毫米数

F.M = F.R. × R.P.M

F.R. : Feed per Revolutions in milimeters / 每转的进给毫米数

R.P.M .: Revolutions per Minutes / 每分钟转数

The following factors should be kept in mind when using the recommended stating feed per tooth.

开始使用每齿进给时，下面因素必须牢记

Use Higher Feeds For 高进给量用在	Use Lower Feeds For 低进给量用在
Heavy, roughing cuts / 重切削，粗加工 Rigid set-ups / 刚性结构 Easy-to-machine work materials / 易切削材料 Rugged cutters / 粗加工刀具 Slab milling cuts / 平面切削 Low tensile strength materials / 低抗拉强度材料 Coarse tooth cutters / 粗牙刀具 Abrasive materials / 耐磨材料	Light, and finishing cuts / 轻切削，精加工 Frail set-ups / 脆性结构 Hard to machine work materials / 难切削材料 Frail and small cutters / 细小刀具 Deep slots / 深立槽加工 High tensile strength materials / 高抗拉强度材料 Fine tooth cutters / 细牙刀具

SPEED AND FEED CALCULATIONS FOR MILLING CUTTERS AND OTHER ROTATING TOOLS
在铣刀和其他旋转刀具的 速度和进给量计算公式

TO FIND 求值	HAVING 已知条件	FORMULA 公式
Surface(or Periphery) Speed in meter per Minute=S.P.M. 切削速度	Diameter of Tool in milimeters 刀具直径 =D Revolutions per Minute 转速 =R.P.M.	$V=\frac{D\times3.1416\times R.P.M.}{1000}$
Revolutions per Minute=R.P.M. 转速	Surface Speed in meter per Minute 切削速度 =S.P.M Diameter of Tool in milimeters 刀具直径 =D	$R.P.M.=\frac{V\times1000}{D\times3.1416}$
Feed per Revolution in milimeters-F.R. 每转进给量	Feed in milimeters per Minute 每分钟进给量 =F.M. Revolution per Minute 转速 =R.P.M.	$F.R.=\frac{F.M.}{R.P.M.}$
Feed in milimeters per Minute-F.M. 每分钟进给量	Feed per Revolution in milimeters =F.R. Revolution per Minute 转速 =R.P.M.	F.M.= F.R. × R.P.M.
Number of Cutting Teeth per Minute=T.M. 每分钟切削齿数	Number of Teeth in Tool 刀具齿数 =T Revolution per Minute 转速 =R.P.M.	T.M=T × R.P.M.
Feed per tooth=F.T. 每齿进给	Number of Teeth in Tool 刀具齿数 =T Revolution per Minute 转速 =R.P.M.	$F.T.=\frac{F.R.}{T}$
Feed per Tooth=F.T. 每齿进给	Number of Teeth in Tool 刀具齿数 =T Feed in milimeters per Minute 每分钟进给量 =F.M. Speed in Revolution per Minute 转速 =R.P.M.	$F.T.=\frac{F.M.}{T\times R.P.M.}$

TECHNICAL DATA SUPER CUTTING END MILLS

5 CASE OF RESHARPENING
修磨分析

When the product finish become worse, the cutting edge must get dulled, chips become smaller and the cutting sound gets louder. In such cases, a end mill must be resharpened. The following are the damages of end mills when the resharpening is required.

当产品的表面变差，切削刃变顿，切屑变小，切削声音变大，在这种情况下，铣刀必须要修磨。下面是铣刀需要修磨时的破损情况

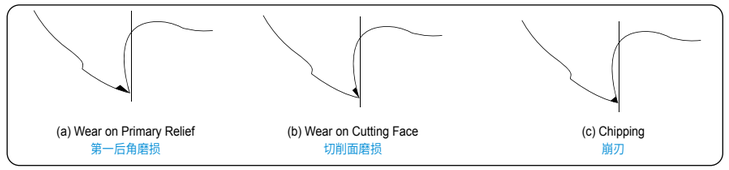


Fig. 1. Damages of Cutting Edge
图1.切削刃的破损

6 SHARPEN AT PREDETERMINED WEAR LAND
按预定的磨损修磨

Cutters should be sharpened as soons as the wear land(Fig. 2.) reaches a predetermined width. This width should permit sharpening without excessive loss of tool life. it may vary from a few hunderts to some tenth of a millimeter, depending on the type of cutter and the finish required on the product. This method is used on production runs where uneven amounts of stock is removed or where the material varies in machinability. It is also used on small quantity product lots.

一旦磨损刃线(图 2)到达预定程度，刀具需要修磨。
这个程度应该在刀具寿命不受到过分降低时允许修磨。
根据刀具的类型和所需要的表面粗糙度，它有从几十到几百的选择范围。
这个办法可用在加工不均一的切削余量或切削性能不同的材料上。
它也使用在小的数量生产批次上

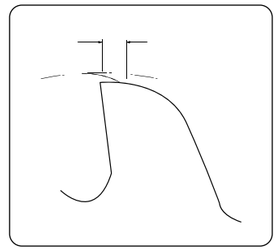


Fig. 2. Wear Land
图 2.刃线磨损

RESHARPENING PERIPHERAL CUTTING EDGE
外周切削刃修磨

1 RESHARPENING PERIPHERAL CUTTING EDGE
外周切削刃修

The geometry of relief angle in an end mill consist of three methods as shown in Fig.3 concave, flat, and eccentric. Recently, most end mills have the eccentric relief(eccenrtic sharpening). In this method, since the relief is formed an eccentric are surface in cylindrical grinding method, the roughness of the finished surface of the relief improves and the strength of cutting edge increase at the same time.(Fig.4) As a result, the tool life is improved.

铣刀前角的几何形状由3种表示法：凹形，平面，和弧形，如图 3所示。最近，大多数铣刀使用弧形前角(弧形磨尖)。
在这种办法，自从弧形前角采用了外周磨削法，同时提高了前角的表面粗糙度并加强了切削刃的力度。
（图4）从结果上看，提高了刀具寿命

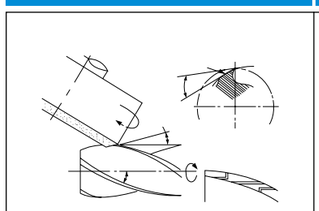
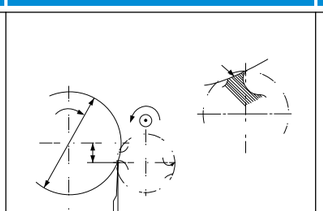
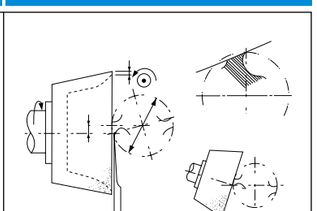
Eccentric	Concave	Flat
		

Fig. 3. Three Types of Primary Relief
图 3.三种前角

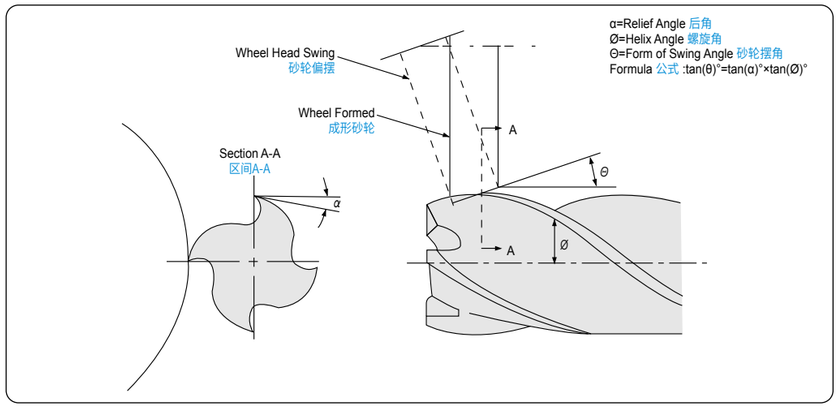


Fig. 4. Toothing of Eccentric Relief Angle
图 4. 切削刃的后角

2 ANGLE OF WHEEL INCLINATION
砂轮倾斜角度

Eccentric relief is produced with a plain wheel positioned with its axis parallel or at a slight angle with the cutter axis. The degree of relief is varied by changing the angle of wheel inclination.

弧形前角是通过普通砂轮的位置与轴平行或刀具轴向偏移轻微的角度来产生的，
通过改变砂轮的倾向的角度可以得到多种前角度

Table 1. RECOMMENDED RELIEF ON END MILLS
表格 1.推荐铣刀前角

Mill Diameter (mm)	Eccentric relief indicator drop for relief Angles shown		Checking Distance	Wheel Angles(Deg.)∅			Radial Relief Angles(α1)	Clearance Angles(α2)
				15° Helix	30° Helix	60° Helix		
-	Min	Max.	-	*Angle	*Angle	*Angle	*Angle	*Angle
3.0	0.100	0.130	0.40	4° 24´	9° 25´	26° 28´	16° 02´	25°
6.0	0.090	0.125	0.50	3° 18´	7° 05´	20° 25´	12° 08´	25°
12.0	0.100	0.135	0.65	2° 46´	5° 46´	17° 23´	10° 15´	25°
25.0	0.095	0.140	0.80	2° 15´	4° 15´	14° 16´	8° 21´	25°
40.0	0.085	0.125	0.80	2° 01´	4° 33´	12° 48´	7° 29´	25°
50.0	0.085	0.125	0.80	2° 01´	4° 33´	12° 48´	7° 29´	25°

The actual at the radial relief angle is normally kept within the range shown but may be varied to suit the cutter material, the work material and the operating conditions.
实际径向前角通常保持在所示的范围之内，但是他可能根据情况适合刀具的材质，被加工材料和加工条件
* Angle is calculated from the basic mean at the radical angle.
角度是在径向前角基础上算出来的

8 RESHARPENING END TEETH
底刃修磨

The three necessary operations and one option feature, along with setup suggestions are shown in Fig.5 A to D in each drawing, the shaded area indicates the surface being ground.

三个必须加工和一个选择性特征连同调式建议一起在
图 5种A到D的每一个图中显示出来，
阴影邹表示要修磨的面

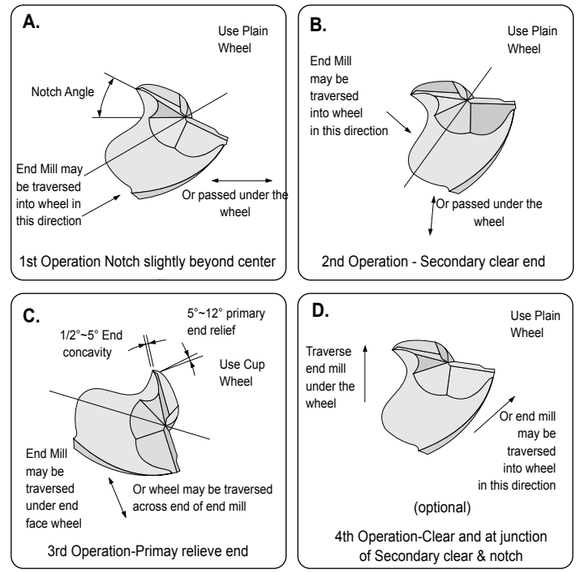


Fig 5. PROCEDURE FOR SHARPENING END OF 2 FLUTE SQUARE END MILLS

9 INSPECTION
检查

The inspection is caculated by using the formula shown in Table1.
Procedure To Check Radial Relief Angles With Indicators.

检查数值是通过表格1的公式计算出来的
使用指示器检查径向前角的过程

1. Mount the cutter to rotate freely with no end movement.
2. Adjust the sharp pointed indicator to bear at the very tip of the cutting edge, pointing in a radial line, shown in Fig.6
3. Roll the outter the tabuleted amount gives under “checking distance” using the second indicator as control.
4. Consult chart for amount of drop for the particular diameter and relief angle.

1. 把刀具按在可自由旋转无轴向移的装置上
2. 把千分表的探头调整在切削刃上，能显示出径向变化，
如图 6所示
3. 旋转刀具使第二个千分表指针变化，
变化的数据在“检测长度”种可以找到
4. 根据表格和变化的数据可以得出特定直径和前角度

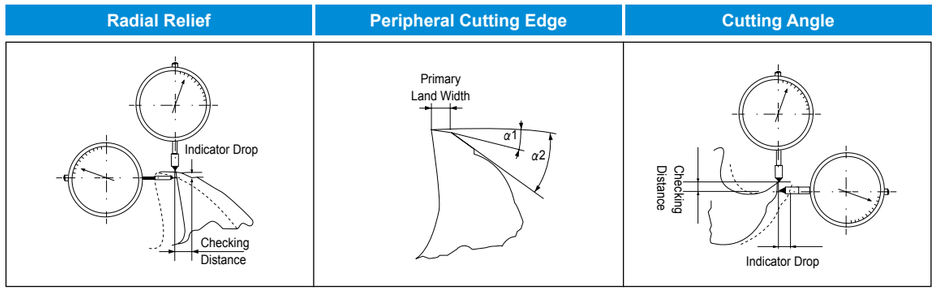


Fig. 6. Indicator Set-Up for Checking

10 TROUBLE SHOOTING IN MILLING
PROBLEMLÖSUNG BEI FRÄSEN

Trouble 问题	Occurrences of trouble 发生	Countermeasures 方案
Breaking of tool 刀具破损	·At time of engaging with work material 与被加工材料接触时 ·When ending cut 结束切削时	1. Decrease feed rate. / 降低进给量 2. Decrease projection amount / 减少发射次数 3. Shorten cutting edge length to required minimum limit 缩短切削刃长到所需的最小值极限
	·During normal cutting 结束切削时	1. Decrease feed rate / 降低进给量 2. Control wear → replace tool early 控制磨损→及早的替换刀具 3. Replace chuck or collet / 更换刀柄或夹头 4. Decrease projection amount / 减少发射次数 5. Carry out honing / 钝化处理 6. If 4 flute, reduce to 2 flute(clogging of chipping) 4刃改为2刃（切屑的堵塞） 7. If dry cutting change to wet cutting utilize cutting fluid. In case of wet cutting flow oil supplied from the front, change to from rear angle of side top. Use ample with rate. 把干切改为用切削油的湿切，冷却液从前面供给时，更改为顶部侧面角度，使用充足的速度
	·When changing direction of feed 变换进给方向时	1. Utilize circular interpolation(in case of NC machine) or temporarily stop feed(Dowelling) 使用环形内插法（数控设备）或临时停止进给（木钉） 2. Reduce feed rate before and after change of directions 改变方向前后降低进给速度 3. Replace chuck or collect / 更换刀柄或夹头
Fracture of cutting edge 切削刃的破裂	·Fracture of corners 拐角破裂	1. Carry out chamfering or nose with hand lapper. 用手动移动来完成倒角或圆鼻 2. Down cut → Up cut / 顺铣 → 逆铣
	·Fracture at boundary of depth of cut 切削深度的边界破裂	1. Down cut → Up cut / 顺铣 → 逆铣 2. Reduce cutting speed / 降低切削速度
	·Chipping at center part or overall 中心部分或全面崩刃	1. Carry out honing. Or enlarge. / 钝化处理 2. Change number of rotation(in case machine vibrates) 改变转数（设备振动的情况） 3. Increase cutting speed / 增加切削速度 4. In ease of squeaking noise during cutting, increase feed. 切削时产生噪音，增加进给量 5. It dry cutting use cutting fluid or blow air. 干铣时，使用切削液或气流冷却 6. Replace chuck or collet / 更换刀柄或夹头 7. Reduce cutting speed / 降低切削速度
	·Large fracturing of cutting edge 切削刃巨大的破裂	1. Decrease feed rate / 降低进给量 2. If 4 flute reduce to 2 flute 4刃改为2刃 3. Carry out honing. Or enlarge / 钝化处理 4. Replace chuck or collet / 更换刀柄或夹头 5. Reduce cutting speed / 降低切削速度 6. If dry cutting, change to wet cutting. In case oil supply in wet cutting is from the front, change to rear at an angle or from side top. Use ample supply. 把干切改为用切削油的湿切，冷却液从前面供给时，更改为顶部侧面角度，使用充足的速度

Trouble 问题	Occurrences of trouble 发生	Countermeasures 方案
Rapid tool wear 刀具磨损过快		1. Reduce cutting speed / 降低切削速度 2. Up cut → Down cut / 逆铣 → 顺铣 3. Increase feed / 增加进给 4. Utilize wet cutting or air / 利用湿切或气流 5. If reground tool, improve surface roughness of flank. 如果是修磨刀具，提高侧翼的表面粗糙度
Inferior finished surface 表面粗糙度恶劣	·Surface is good but rough 表面好但是粗糙	1. Decrease feed / 降低进给量 2. In case using 2 flute, increse to 4 flute 2刃改为4刃
	·Small chip welding 小的冷焊	1. Increase cutting speed / 增加切削速度 2. Utilize wet cutting air blow(ample supply) 利用湿切或气流（充足供应） 3. Carry out fine honing / 钝化处理 4. Up cut → Down cut / 逆铣 → 顺铣 5. Increase feed or enlarge finish allowance 增加进给或放大表面允许范围
	·With transverse streaks 横断条纹	1. Carry out fine honing / 钝化处理 2. Use water insoluble cutting fluid 使用水溶性切削液 3. Down cut → Up cut / 顺铣 → 逆铣
	·Signs of excessive cutting 过量载切的迹象	1. Reduce finishing depth of cut / 减少切深 2. Increase cutting speed / 增加切削速度 3. Reduce feed / 降低进给量
Poor machining accuracy 加工精度不好	·Finish dimensions are on minus side 最终尺寸是负值	1. Up cut → Down cut / 逆铣 → 顺铣 2. Reduce finishing depth of cut / 减少切削速度 3. Replace chuck or collet / 更换刀柄或夹头 4. Reduce projection amount / 减少发射次数 5. Increase cutting speed / 增加切削速度
	·Poor perpendicufarity 垂直度不好	1. Reduce finishing depth of cut / 减少切深 2. Replace chuck or collet / 更换刀柄或夹头 3. Reduce projection amont / 减少发射次数 4. Increase cutting speed / 增加切削速度 5. 2Flute → 4 Flute / 2刃 → 4刃 6. Reduce feed / 降低进给量 7. Check wear rate → Replace tool 检查磨损速度 → 更换刀具
Chattering 震纹		1. Increase feed rate(in case over 0.05 mm/Zahn, try reducing) 提高进给量（一旦超过0.05mm/Z，尽量降低） 2. Change cutting speed / 改变切削速度 3. Replace chuck or collet / 更换刀柄或夹头 4. Reduce projection amount / 减少发射次数 5. Use 2 flute cutter for rough cutting and 4 flute for finishing 使用2刃刀具粗加工以及4刃刀具精加工 6. Down cut → Up cut / 顺铣 → 逆铣

TECHNICAL DATA SUPER CUTTING END MILLS

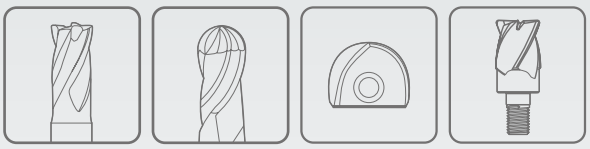
COMPARISON CHART SCALE FOR HARDNESS
硬度对照图

Rockwell Hardness C Scale 150kg Brale (HRc)	Diamond Pyramid Hardness Number. Vickers (HV)	Brinell Hardness Standard 10mm Ball 29.42kN (HB)	Rockwell Hardness A Scale 60kg Brale (HRA)	Shore Scleroscope Hardness Number (HS)	Approx. Tensile Strength N/mm^2
68	940	-	85.6	97	-
67	900	-	85.5	95	-
66	865	-	84.5	92	-
65	832	-	83.9	91	-
64	800	-	83.4	88	-
63	772	-	82.8	87	-
62	746	-	82.3	85	-
61	720	-	81.8	83	-
60	697	-	81.2	81	-
59	674	-	80.7	80	-
58	653	-	80.1	78	-
57	633	-	79.6	76	-
56	613	-	79.0	75	-
55	595	-	78.5	74	2079
54	577	-	78.0	72	2010
53	560	-	77.4	71	1952
52	544	500	76.8	69	1883
51	528	487	76.3	68	1824
50	513	475	75.9	67	1755
49	498	464	75.2	66	1687
48	484	451	74.7	64	1639
47	471	442	74.1	63	1578
46	458	432	73.6	62	1530
45	446	421	73.1	60	1481
44	434	409	72.5	58	1432
43	423	400	72.0	57	1383
42	412	390	71.5	56	1334
41	402	381	70.9	55	1294
40	392	371	70.4	54	1245
39	382	362	69.9	52	1216
38	372	353	69.4	51	1177
37	363	344	68.9	50	1157
36	354	336	68.4	49	1118
35	345	327	67.9	48	1079
34	336	319	67.4	47	1059
33	327	311	66.8	46	1030
32	318	301	66.3	44	1000
31	310	294	65.8	43	981
30	302	286	65.3	42	952
29	294	279	64.7	41	932
28	285	271	64.3	41	912
27	279	264	63.8	40	883
26	272	258	63.3	38	863
25	266	253	62.8	38	843
24	260	247	62.4	37	824
23	254	243	62.0	36	804
22	248	237	61.5	35	785
21	243	231	61.0	35	775
20	238	226	60.5	34	755
(18)	230	219	-	33	736
(16)	222	212	-	32	706
(14)	213	203	-	31	677
(12)	204	194	-	29	647
(10)	196	187	-	28	618
(8)	188	179	-	27	598
(6)	180	171	-	26	579
(4)	173	165	-	25	549
(2)	166	158	-	24	530
(0)	160	152	-	24	520

EDP No. INDEX

EDP No.	Page
ESB94	C25
ESD02	C26
XMB110A	C32
XMB120C	C32
XMB260T	C32
XMB130A	C33
XMM110V	C33
XMB110D	C33
XMR110A	C34 - 38
XMR120C	C34 - 38
XMR260T	C34 - 38
XMF110V	C39 - 43
XMR110D	C39 - 43
ZBC	C44
ZBS	C45
ZBT	C46
ZRC	C47
ZRS	C48
ZRT	C48
XSEMD98	C58
XSEME59	C59
XSEME60	C60
XSEME01	C61 - 62
XSEME68	C63
XSEME36	C64
XSEME75	C65
ZMC	C60
ZMS	C67
ZMT	C68
G8B59	C79
G8B54	C80
G8A46	C81 - 84
G8A54	C85
G8A28	C86 - 87
G8A38	C88
G8A53	C89
G8A59	C90
G8D62	C91
G8A60	C92 - 96
G8A36	C97 - 98
G8A52	C99
G8A50	C100
G8A47	C101
G8A37	C102
G8B08	C103
G8A39	C104
G8A45	C105 - 108
G8A01	C109
G8A02	C110
G8D63	C111
G8D64	C112
SEMD98	C140 - 145
SEM846	C146 - 155
SEM846	C156 - 158
SEMD99	C159 - 166
SEME61	C167 - 185
SEME01	C186 - 192
SEME64	C193 - 207
SEME35	C208 - 210
SEME35	C211
SEME35	C212
SEME70	C213 - 218
SEM845	C219 - 227
SEME36	C228 - 229
SEME71	C230 - 233
SEME72	C234 - 239
SEME73	C240 - 244
SEME75	C245 - 246
G9D75	C247
G9D67	C247
G9D76	C247
G9D68	C247
G9D77	C248
G9D69	C248
GAE53	C249
GMH31	C324
GMH32	C325 - 326
GMH37	C327
GMH38	C328
GMH33	C329
GMH34	C330 - 331
GMH35	C332
GMH36	C333
GMH39	C334
GM814	C335
GMG40	C352 - 353
GMG41	C352 - 353
GMG28	C354
GMG29	C354
GMG30	C355 - 356
GMG31	C355 - 356
GMG24	C357
GMG25	C357
GMG26	C358
GMG27	C358
EHE54	C359
EHE55	C359
EMD88	C367
EMD83	C368 - 369
EHD84	C370
EMD82	C371 - 372
EMD92	C373 - 374
GMH66	C384
GMH65	C385 - 386
GMF66	C387
GMH67	C388
GMH68	C389
GMH69	C390
GMH71	C391
GMH70	C392
EMB72	C393
EMB73	C393
E5H24	C402 - 404
JAH24	C402 - 404
E5H25	C405 - 407
JAH25	C405 - 407
E5H22	C408
JAH22	C408
E5H23	C409
JAH23	C409
E5D71	C415 - 416
E5C72	C417
E5D70	C418 - 423
E5D73	C424 - 425
EIE21	C431 - 435
EIE23	C436 - 437
EIE22	C438 - 440
EIE25	C441 - 442
EIE26	C443 - 444
SGED28	C449
SGED27	C450 - 451
SGED29	C452 - 453
SGED31	C454
SGED30	C455 - 456
EMC56	C463
EMC60	C464 - 468
EMC61	C469 - 470
EMC62	C471 - 472
EMC59	C473 - 478
EMC52	C479
EMC53	C480
EMC54	C481
EMC55	C482
EMC57	C483
EMC58	C483
EMC69	C484
G9A25	C485
G9B52	C486
G9A23	C487
G9B50	C488
G9A24	C489
G9B51	C490
E5414	C507
E5524	C508
E5401	C509
E5423	C510
E5402	C511
GYG77	C526
GYF97	C526
GYG72	C527
GYF99	C527
GYG01	C528
GYG74	C529
GYF96	C529
GYG52	C530
GYG76	C531
GYG02	C531
GYF95	C532
GYF94	C533
GYF98	C534
GYG03	C535
E9940	C548
GA940	C548
E9A32	C549
GAA32	C549
E9936	C550
GA936	C550
E9A29	C551
GAA29	C551
E9942	C552
GA942	C552
E9A30	C553
GAA30	C553
E9938	C554
GA938	C554
E9A31	C555
GAA31	C555
E9941	C556
GA941	C556
E9A35	C557
GAA35	C557
E9A26	C558
GAA26	C558
E9A33	C559
GAA33	C559
E9A34	C560
GAA34	C560
E9E43	C561
GAE43	C561
E2480	C582 - 583
E2401	C584 - 586
E2406	C587 - 588
E2412	C589 - 591
E2659	C592 - 593
E2750	C594
E2760	C595 - 596
E2759	C597
E2753	C598
EL612	C599
ML012	C624
ML022	C624
ML112	C624
ML122	C624
ML212	C624
ML222	C624
ML032	C625
ML042	C625
ML132	C625
ML142	C625
ML232	C625
ML242	C625
ML062	C626 - 627
ML162	C626 - 627
ML262	C626 - 627
ML072	C628
ML172	C628
ML272	C628
ML092	C629 - 630
ML102	C631 - 636
E2675	C637
E2676	C638
E2677	C639
E2678	C640
E2679	C641
E2498	C642 - 643

Global Cutting Tool Leader **YG-1**



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