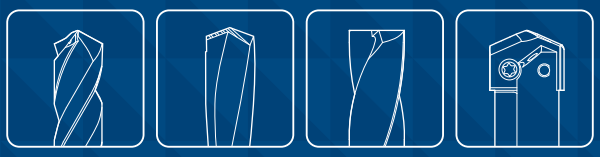
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WORLD CLASS PRODUCT OF KOREA
세계일류상품

CUTTING TOOLS



HOLEMAKING

钻削工具

YG-1 CO., LTD.

HOLEMAKING TOOLS

i-One钻，硬质合金刀片&刀柄	i-ONE DRILLS, CARBIDE INSERTS & HOLDERS
i-梦幻钻，硬质合金刀片&刀柄	i-DREAM DRILLS, CARBIDE INSERTS & HOLDERS
硬质合金, 梦幻钻头-PRO	SOLID CARBIDE DREAM DRILLS - PRO
整体硬质合金梦幻钻头-普通	SOLID CARBIDE DREAM DRILLS - GENERAL
硬质合金, 梦幻钻头 - 软材质用	SOLID CARBIDE DREAM DRILLS - SOFT
硬质合金, 梦幻钻头 - 高进给	SOLID CARBIDE DREAM DRILLS - HIGH FEED
硬质合金, 梦幻钻头一平底钻	SOLID CARBIDE DREAM DRILLS - FLAT BOTTOM
硬质合金, 梦幻钻头 - INOX	SOLID CARBIDE DREAM DRILLS - INOX
硬质合金, 梦幻钻头 - ALU	SOLID CARBIDE DREAM DRILLS - ALU
硬质合金, 梦幻钻头 - CFRP	SOLID CARBIDE DREAM DRILLS - CFRP
油孔硬质合金 梦幻钻头 -MQL类型	SOLID CARBIDE DREAM DRILLS - MQL TYPE
高硬度钢 (HRc50~HRc70) 用硬质合金钻头	SOLID CARBIDE DREAM DRILLS for HIGH HARDENED STEELS
硬质合金钻头	SOLID CARBIDE GENERAL CARBIDE DRILLS
粉末高速钢 MULTI-1 钻头	HSS-PM MULTI-1 DRILLS
高速钢GOLD-P钻头	HSS & HSSCo8 GOLD-P DRILLS
高级高速钢，SUPER-GP钻头	SUPER HSS SUPER-GP DRILLS
深孔用直柄麻花钻头	HSS-E WORM PATTERN DRILLS
高速钢直柄钻头	HSS & HSSCo8 STRAIGHT SHANK DRILLS
莫氏锥柄麻花钻头	HSS, HSS-E & HSSCo8 MORSE TAPER SHANK DRILLS
定心钻头	HSSCo8 NC-SPOTTING DRILLS
中心钻	HSS-E CENTER DRILLS
硬质合金&粉末高速钢铲钻	SPADE DRILLS, INSERTS & HOLDERS
硬质合金机用铰刀	CARBIDE, HSS & HSS-E REAMERS
高速钢沉孔刀	HSS & HSSCo8 COUNTERSINKS
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YG-1 CO., LTD.

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沉孔刀 COUNTERSINKS

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YG-1 CO., LTD.

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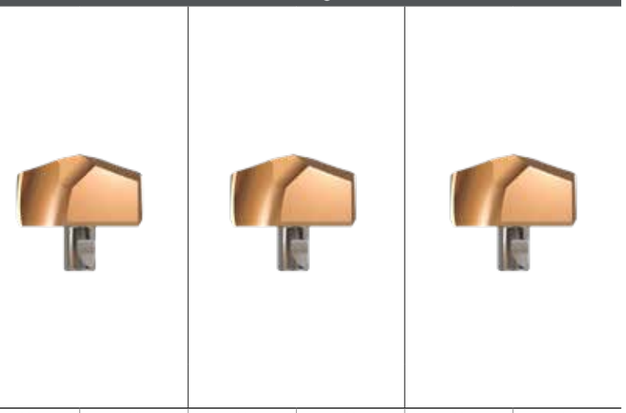
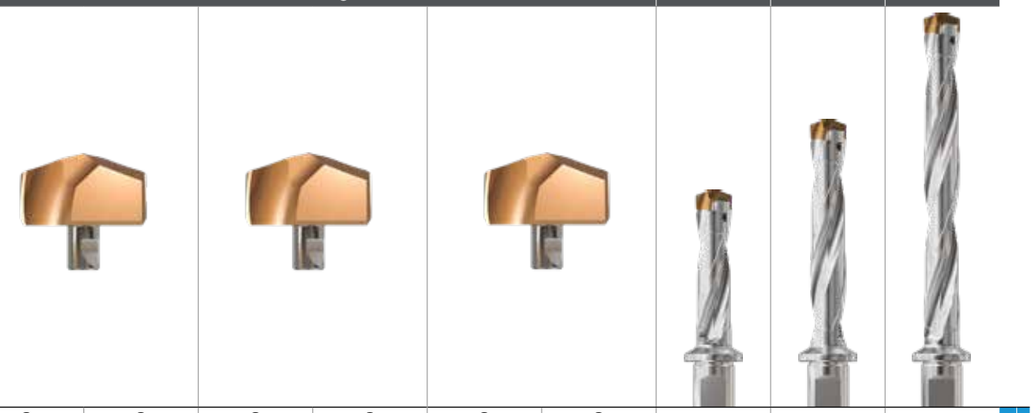
i-One钻，硬质合金刀片&刀柄 钢 铸铁用高性能可换 钻头	**i-ONE DRILLS**, CARBIDE INSERTS & HOLDERS High Performance Exchangeable for General Steels and Cast Iron	i-ONE DRILLS
i-梦幻钻，硬质合金刀片&刀柄 适用于普通钢和不锈钢	**i-DREAM DRILLS**, CARBIDE INSERTS & HOLDERS For General Steels and Stainless Steels	i-DREAM DRILLS
硬质合金, 梦幻钻头-PRO 普通用途通常是HRc30 到 HRc50 采用YG-1特殊的 Z 涂层技术，具有超高的硬度和耐热性	SOLID CARBIDE **DREAM DRILLS - PRO** For General Purpose (HRc30 to HRc50) Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology	DREAM DRILLS -PRO
整体硬质合金梦幻钻头 - 普通 普通用途通常是HRc30 ~ HRc50	SOLID CARBIDE **DREAM DRILLS - GENERAL** For General Purpose (HRc30 to HRc50)	DREAM DRILLS -GENERAL
硬质合金, 梦幻钻头 - 软材质用 用于中等硬度钢	SOLID CARBIDE **DREAM DRILLS - SOFT** For Steels, up to Medium Hardness	DREAM DRILLS -SOFT
硬质合金, 梦幻钻头 - 高进给 (带油孔) 比2刃钻头进给量1.5到2倍 用于碳钢, 合金钢(硬度35以下)和铸铁	SOLID CARBIDE **DREAM DRILLS - HIGH FEED** (with Coolant holes) 1.5 to 2 Times Faster Feeding Speed than 2-Flute Drill for Carbon Steels, Alloy Steels(up to HRc35) and Cast Iron	DREAM DRILLS -HIGH FEED
硬质合金, 梦幻钻头一平底钻 用于倾斜孔加工	SOLID CARBIDE **DREAM DRILLS - FLAT BOTTOM** For Holes on Various Angled Surfaces	DREAM DRILLS -FLAT BOTTOM
硬质合金, 梦幻钻头 - INOX (带油孔) 镍合金和钛等硬质材料	SOLID CARBIDE - **INOX** (with Coolant Holes) For Tough Materials like Stainless Steels	DREAM DRILLS -INOX
硬质合金, 梦幻钻头 - ALU (带油孔) 铝和铝合金用带喷水孔硬质合金梦幻钻头	SOLID CARBIDE **DREAM DRILLS - ALU** (with Coolant Holes) For Aluminum and Aluminum Alloys	DREAM DRILLS -ALU
硬质合金, 梦幻钻头 - CFRP (带油孔) 用于复合材料，含CFRP与GFRP	SOLID CARBIDE **DREAM DRILLS - CFRP** (without Coolant Holes) For Composite Materials including CFRP and GFRP	DREAM DRILLS -CFRP
油孔硬质合金 梦幻钻头 - MQL类型 (带油孔) MQL (用少量的润滑油) 钻深孔 (10D到40D)	SOLID CARBIDE **DREAM DRILLS - MQL TYPE** (with Coolant Holes) Minimum Quantity Lubrication Drilling Deep Holes (10×D ~ 40×D)	DREAM DRILLS -MQL
高硬度钢 (HRc50~HRc70) 用硬质合金钻头 用于硬质合金 (硬度50到70)	SOLID CARBIDE **DREAM DRILLS for HIGH HARDENED STEELS** (HRc50~HRc70) For High Hardened Steels (HRc50 to HRc70)	DREAM DRILLS for HIGH HARDENED STEELS
硬质合金钻头 普通用途	GENERAL SOLID **CARBIDE DRILLS** For General Purpose	GENERAL CARBIDE DRILLS
粉末高速钢 MULTI-1 钻头 广泛用途特别是不锈钢和钛	HSS-PM **MULTI-1 DRILLS** For Wide Range of Applications Particularly Stainless Steels and Titanium	MULTI-1 DRILLS
高速钢 GOLD-P 钻头 与整个TIN涂层钻头相同的性能	HSS & HSSCo8 **GOLD-P DRILLS** Same Performance as Full TiN-coated Drills	GOLD-P DRILLS
高级高速钢，SUPER-GP钻头 广泛使用无论加工条件: 好或差	SUPER HSS **SUPER-GP DRILLS** All Applications Regardless of Machining Conditions; Good or Poor	SUPER-GP DRILLS
深孔用直柄麻花钻头 DH100-为了在普通钢上深孔	HSS-E **WORM PATTERN DRILLS** DH100-For Deep hole drilling in general steels	WORM PATTERN DRILLS
高速钢直柄钻头 一般用途 (软&硬材料)	HSS & HSSCo8 **STRAIGHT SHANK DRILLS** For General Purpose (Soft &Tough Materials)	STRAIGHT SHANK DRILLS
莫氏锥柄麻花钻头 普通用途（HSS & HSS-E & 含钴8%)	HSS, HSS-E & HSSCo8 **MORSE TAPER SHANK DRILLS** Morse Taper Shank Drills for Wide Applications	TAPER SHANK DRILLS
定心钻头 定中心和倒角	HSSCo8 **NC-SPOTTING DRILLS** For Centering and Chamfering of Holes	NC-SPOTTING DRILLS
中心钻 普通用途	HSS-E **CENTER DRILLS** General Purpose	CENTER DRILLS
硬质合金&粉末高速钢铲钻 普通机械和钻头用直径，工具寿命延长及高生产率	**SPADE DRILLS**, INSERTS & HOLDERS For General Machines and Drilling Large Diameters Longer Tool Life and High Productivity	SPADE DRILLS
硬质合金机用铰刀 硬质合金机用铰刀 HSS手用铰刀, HSS-E机夹铰刀	CARBIDE, HSS & HSS-E **REAMERS** Carbide NC Machine Reamers HSS Hand Reamers, HSS-E Chucking Reamers	REAMERS
高速钢沉孔刀 去毛刺, 倒角和深孔	HSS & HSSCo8 **COUNTERSINKS** For Deburring, Chamfering and Countersinking	COUNTER SINKS
HSS-E 锪刀 用于加工螺钉头座	HSS-E **COUNTERBORES** For Machining Screw Head Seats	COUNTER BORES
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◎ : Excellent
○ : Good

					i-ONE DRILLS INSERTS						i-ONE DRILLS INSERTS						i-ONE DRILLS HOLDERS			
				SERIES 系列	Y101H	Y121H	Y141H	Y161H	Y181H	Y201H	Y221H	Y241H	Y261H	Y281H	Y301H	Y321H	ZD*3	ZD*5	ZD*8	
				SIZE MIN 最小尺寸	10.00	12.00	14.00	16.00	18.00	20.00	22.00	24.00	26.00	28.00	30.00	32.00				
				SIZE MAX 最大尺寸	11.91	13.90	15.90	17.90	19.90	21.90	23.90	25.90	27.78	29.77	31.75	33.73				
				PAGE 页数	A24	A25	A26	A27	A28	A29	A30	A31	A32	A32	A33	A33				
				SURFACE TREATMENT 表面处理	H-Coating						H-Coating						3XD	5XD	8XD	
																				
ISO 公制	VDI 3323	Material Description 材料描述	HB 布氏硬度	HRc 硬度																
P	1	Non-alloy steel	125		◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				1
	2		190	13	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				2
	3		250	25	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				3
	4		270	28	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				4
	5		300	32	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				5
	6	Low alloy steel	180	10	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				6
	7		275	29	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				7
	8		300	32	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				8
	9		350	38	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				9
	10	High alloyed steel, and tool steel	200	15	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				10
	11		325	35	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				11
M	12	Stainless steel	200	15																12
	13		240	23																13
	14		180	10																14
K	15	Grey cast iron	180	10	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				15
	16		260	26	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				16
	17	Nodular cast iron	160	3	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				17
	18		250	25	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				8
	19	Malleable cast iron	130		◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				19
	20		230	21	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				20
N	21	Aluminum-wrought alloy	60																	21
	22		100																	22
	23	Aluminum-cast, alloyed	75																	23
	24		90																	24
	25		130																	25
	26	Copper and Copper Alloys (Bronze / Brass)	110																	26
	27		90																	27
	28		100																	28
	29	Non Metallic Materials																		29
	30																			30
S	31	Heat Resistant Super Alloys	200	15																31
	32		280	30																32
	33		250	25																33
	34		350	38																34
	35		320	34																35
	36	Titanium Alloys	400 Rm																	36
	37		1050 Rm																	37
H	38	Hardened steel	550	55																38
	39		630	60																39
	40	Chilled Cast Iron	400	42																40
	41	Hardened Cast Iron	550	55																41

CARBIDE
HSS
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
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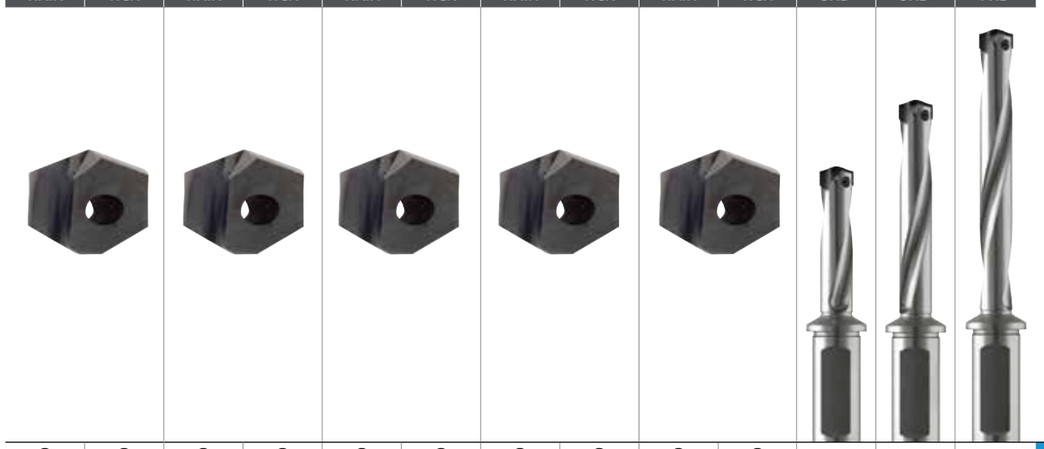
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◎ : Excellent
○ : Good

ISO 公制	VDI 3323	Material Description 材料描述	HB 布氏硬度	HRc 硬度	SERIES 系列	YA1A	YA2C	YB1A	YB2C	YC1A	YC2C	YD1A	YD2C	YE1A	YE2C
					TYPE 类型	A		B		C		D		E	
					SIZE MIN 最小尺寸	12.00		14.00		16.00		18.00		20.00	
					SIZE MAX 最大尺寸	13.89		15.87		17.86		19.84		21.83	
					PAGE 页数	A44		A45		A46		A47		A48	
					SURFACE TREATMENT 表面处理	TiAlN	TiCN	TiAlN	TiCN	TiAlN	TiCN	TiAlN	TiCN	TiAlN	TiCN
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													
	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											



ISO 公制	VDI 3323	Material Description 材料描述	HB 布氏硬度	HRc 硬度	SERIES 系列	YF1A	YF2C	YG1A	YG2C	YH1A	YH2C	YI1A	YI2C	YJ1A	YJ2C	ZH*3	ZH*5	ZH*7
					TYPE 类型	F		G		H		I		J				
					SIZE MIN 最小尺寸	22.00		24.00		26.00		28.00		30.00				
					SIZE MAX 最大尺寸	23.81		25.80		27.78		29.77		31.75				
					PAGE 页数	A49		A50		A51		A52		A53				
					SURFACE TREATMENT 表面处理	TiAlN	TiCN	TiAlN	TiCN	TiAlN	TiCN	TiAlN	TiCN	TiAlN	TiCN	3XD	5XD	7XD
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																
	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
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

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SPADE DRILLS INSERTS

SERIES 系列	1~8	Y,Z,0,1~4	Y,Z,0,1,2	Y,Z,0,1,2	Y,Z,0,1~3	Y,Z,0,1~3
TOOL MATERIAL 刀具材料	HSS M4	SUPER HSS T15	PREMIUM HSS M48	CARBIDE K10	CARBIDE K20	CARBIDE P40
LENGTH 长度	STANDARD	STANDARD	STANDARD	STANDARD	STANDARD	STANDARD
SIZE MIN 最小尺寸	Ø17.86(#1)	Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)
SIZE MAX 最大尺寸	Ø114.3(#8)	Ø65.09(#4)	Ø35(#2)	Ø35(#2)	Ø47.63(#3)	Ø47.63(#3)
PAGE 页数	A264	A270	A275	A278	A281	A285
SURFACE TREATMENT 表面处理	TiN / TiCN / TiAlN					



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◎ : Excellent
○ : Good

ISO 公制	VDI 3323	Material Description 材料描述	HB 布氏硬度	HRc 硬度					
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								
	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						

SPADE DRILLS INSERTS

1~3	Y,Z,0,1~3	Y,Z,0,1,2	Y,Z,0,1,2	Y,Z,0,1~3	Y,Z,0,1~3	Y,Z,0,1~8	Y,Z,0,1~8	Y,Z,0,1~3	Y,Z,0,1,2
HSS M4	SUPER HSS T15	PREMIUM HSS M48	CARBIDE K10	CARBIDE K20	CARBIDE P40	SUPER COBALT T15	PREMIUM COBALT M48	C5 P40	SUPER COBALT T15
SM-POINT	SM-POINT	SM-POINT	SM-POINT	SM-POINT	SM-POINT	SV-POINT	SV-POINT	SV-POINT	FALT BOTTOM
Ø17.86(#1)	Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)
Ø47.63(#3)	Ø47.63(#3)	Ø35(#2)	Ø35(#2)	Ø47.63(#3)	Ø47.63(#3)	Ø114.3(#3)	Ø114.3(#3)	Ø47.63(#2)	Ø35(#2)
A290	A293	A297	A300	A303	A307	A312	A323	A334	A339
TiN / TiCN / TiAlN						Hardslick / H-Coating			TiN / Hardslick / TiAlN



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

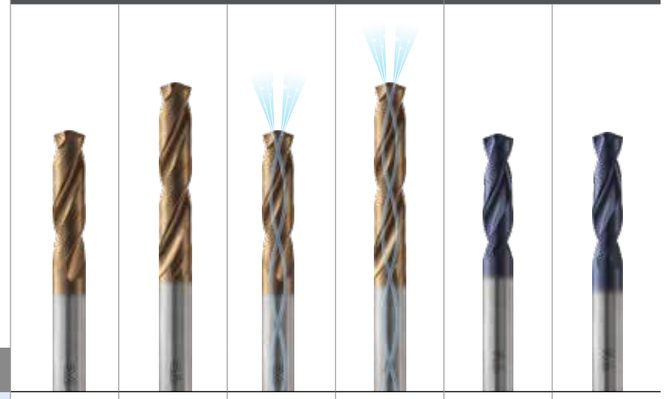
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◎ : Excellent
○ : Good

	SERIES 系列	DREAM DRILLS PRO				DREAM DRILLS GENERAL	
		DGN523	DGN526	DGN506	DGN508	DH404	DH423
	DRILLING DEPTH 钻销深度	3XD	5XD	3XD	5XD	3XD	3XD
	LENGTH 长度	SHORT 短	LONG 长	SHORT 短	LONG 长	STUB 超短	SHORT 短
	SIZE MIN 最小尺寸	D3.0	D1.0	D3.0	D1.0	D3.0	D3.0
	SIZE MAX 最大尺寸	D20.0	D20.0	D20.0	D20.0	D20.0	D20.0
	PAGE 页数	A63	A66	A69	A72	A80	A82
	SURFACE TREATMENT 表面处理	X-Coating				TiAlN	



ISO 公制	VDI 3323	Material Description 材料描述	HB 布氏硬度	HRc 硬度						
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								
	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	DREAM DRILLS GENERAL				DREAM DRILLS SOFT		DREAM DRILLS HIGH FEED		DREAM DRILLS FLAT BOTTOM	
		DH424	DH406	DH408	DH421	DPPA01	DPPA02	DGR493	DGR495	DPP447	DH450
	DRILLING DEPTH 钻销深度	5XD	3XD	5XD	8XD	-	-	3XD	5XD	2XD	5XD
	LENGTH 长度	LONG 长	SHORT 短	LONG 长	EXTRA LONG 超长	REGULAR 常规	LONG 长	SHORT 短	LONG 长	SHORT 短	LONG 长
	SIZE MIN 最小尺寸	D1.0	D3.0	D1.0	D3.0	D1.0	D3.0	D5.0	D5.0	D3.0	D3.0
	SIZE MAX 最大尺寸	D20.0	D20.0	D20.0	D14.0	D20.0	D20.0	D20.0	D20.0	D20.0	D20.0
	PAGE 页数	A85	A88	A91	A94	A103	A106	A113	A115	A122	A125
	SURFACE TREATMENT 表面处理	TiAlN				X-Coating		H-Coating		X-Coating	TiAlN

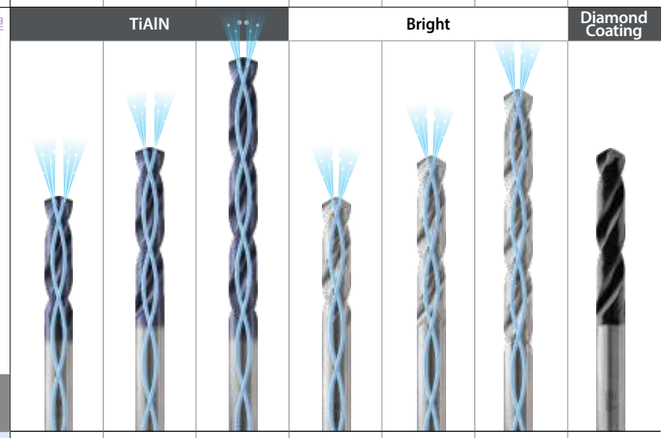


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○	○	○	○			○	○	○	○	○	○	9	
◎	◎	◎	◎	○	○	◎	◎					10	
○	○	○	○			○	○					11	
○	○	○	○	○	○					○	○	12	M
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												14	
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	15	K
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												41	

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SERIES 系列	DREAM DRILLS INOX			DREAM DRILLS ALU			DREAM DRILLS CFRP
	DH451	DH452	DH453	D5432	D5433	D5434	DI473
DRILLING DEPTH 钻销深度	3XD	5XD	8XD	3XD	5XD	8XD	5XD
LENGTH 长度	SHORT 短	LONG 长	EXTRA LONG 超长	SHORT 短	LONG 长	EXTRA LONG 超长	LONG 长
SIZE MIN 最小尺寸	D3.0	D1.0	D3.0	D3.0	D3.0	D3.0	D2.5
SIZE MAX 最大尺寸	D20.0	D20.0	D14.0	D20.0	D20.0	D14.0	D12.0
PAGE 页数	A133	A136	A139	A145	A148	A151	A157
SURFACE TREATMENT 表面处理	TiAlN			Bright			Diamond Coating

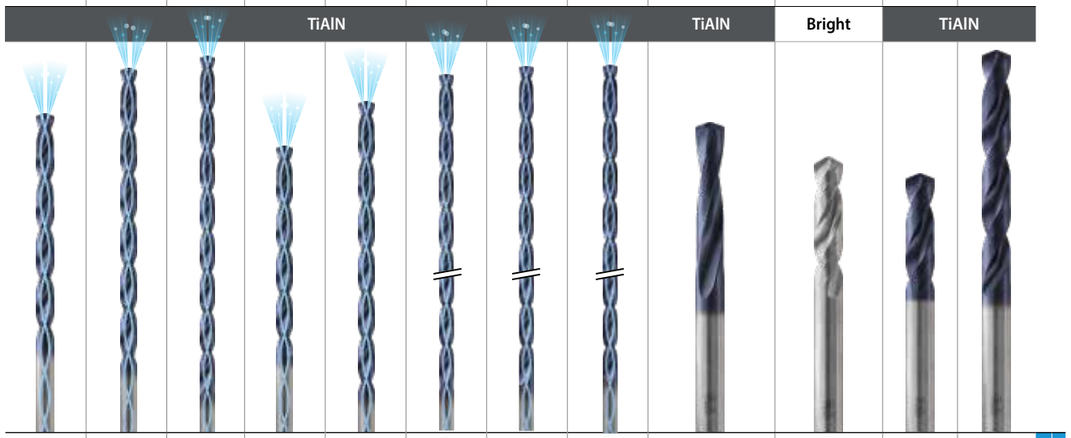


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◎ : Excellent
○ : Good

ISO 公制	VDI 3323	Material Description 材料描述	HB 布氏硬度	HRc 硬度						
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								◎
	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						

DREAM DRILLS - MQL TYPE								DREAM DRILLS for HIGH HARDENED STEELS	GENERAL CARBIDE DRILLS	MULTI-1 DRILLS	
DH510	DH515	DH520	DHM10	DHM15	DHM20	DHM25	DHM30	DH500	D5401	CDRA03	CDRA04
10XD	15XD	20XD	10XD	15XD	20XD	25XD	30XD	3XD	-	HSS-PM	
EXTRA LONG 超长	EXTRA LONG 超长	EXTRA LONG 超长	EXTRA LONG 超长	EXTRA LONG 超长	EXTRA LONG 超长	EXTRA LONG 超长	EXTRA LONG 超长	SHORT 短	REGULAR 常规	STUB 超短	JOBBER 细长
D3.0	D3.0	D3.0	D3.0	D3.0	D3.0	D3.0	D3.0	D2.6	D1.0	D1.0	D2.0
D14.0	D12.0	D12.0	D14.0	D12.0	D12.0	D10.0	D8.0	D14.0	D13.0	D13.0	D13.0
A162	A163	A163	A164	A164	A164	A165	A165	A171	A175	A181	A185
TiAlN								TiAlN	Bright	TiAlN	

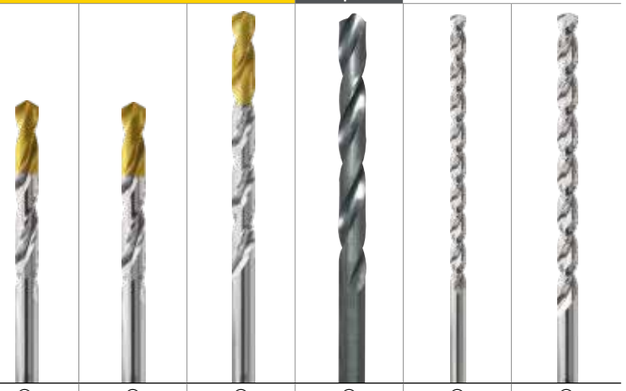


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												4	
												5	
◎	◎	◎	◎	◎	◎	◎	◎		○	◎	◎	6	P
○	○	○	○	○	○	○	○			○	○	7	
○	○	○	○	○	○	○	○					8	
												9	
○	○	○	○	○	○	○	○					10	
○	○	○	○	○	○	○	○					11	
									○	○	○	12	
												13	M
										◎	◎	14	
◎	◎	◎	◎	◎	◎	◎	◎		○	○	○	15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

SELECTION GUIDE
选用指南

YG HOLEMAKING TOOLS

	GOLD-P DRILLS			SUPER-GP DRILLS	WORM PATTERN DRILLS	
SERIES 系列	D1GP103	D1GP123	D2GP191	DSH101	DL600	DL126
STANDARD 标准	JIS	JIS	JIS	JIS	DIN1869/1	-
LENGTH 长度	REGULAR 常规	REGULAR 常规	REGULAR 常规	REGULAR 常规	EXTRA LONG 超长	EXTRA LONG 超长
SIZE MIN 最小尺寸	D1.0	D1.0	D1.0	D2.0	D2.0	D2.0
SIZE MAX 最大尺寸	D13.0	D13.0	D13.0	D13.0	D12.0	D12.0
PAGE 页数	A192	A195	A198	A205	A211	A212
SURFACE TREATMENT 表面处理	TiN			Steam Tempered	Bright	



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◎ : Excellent
○ : Good

ISO 公制	VDI 3323	Material Description 材料描述	HB 布氏硬度	HRc 硬度						
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			○	○	○	○		
	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						

	STRAIGHT SHANK DRILLS				MORSE TAPER SHANK DRILLS						
SERIES 系列	D2101	D1101	D1102	D1104	D1201	D1203	D1202	D1204	D1208	D1207	D2201
STANDARD 标准	JIS	JIS	-	DIN340	KS	KS	KS	KS	KS	KS	KS
LENGTH 长度	REGULAR 常规	REGULAR 常规	LONG 长	LONG 长	REGULAR 常规	LONG 长	LONG 长	LONG 长	LONG 长	LONG 长	REGULAR 常规
SIZE MIN 最小尺寸	D2.0	D1.0	D2.0	D1.0	D13.0	D14.0	D14.0	D14.5	D14.5	D14.5	D13.0
SIZE MAX 最大尺寸	D13.0	D13.0	D13.0	D17.5	D60.0	D23.0	D32.0	D50.0	D50.0	D50.0	D47.0
PAGE 页数	A217	A219	A221	A227	A234	A236	A237	A238	A239	A240	A241
SURFACE TREATMENT 表面处理	Gold Coloring	Steam Homo		Bright	Steam Tempered						



◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	1		
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	2		
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	3		
○	○	○	○	○	○	○	○	○	○	○	4		
											5		
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	6	P	
○	○	○	○	○	○	○	○	○	○	○	7		
○	○	○	○	○	○	○	○	○	○	○	8		
											9		
○	○	○	○	○	○	○	○	○	○	○	10		
											11		
○	○	◎	○	◎	◎	◎	◎	◎	◎	◎	12		
○	○	○	○	○	○	○	○	○	○	○	13	M	
○	○	○	○								14		
○	○	○	○	○	○	○	○	○	○	○	15		
○	○	○	○	○	○	○	○	○	○	○	16		
○	○	○	○	○	○	○	○	○	○	○	17	K	
				○	○	○	○	○	○	○	18		
○	○	○	○	○	○	○	○	○	○	○	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
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HOLEMAKING TOOLS

SERIES 系列	D2203	D2202	D2204	D2208	DN221
STANDARD 标准	KS	KS	KS	KS	-
LENGTH 长度	LONG 长	LONG 长	LONG 长	LONG 长	SHORT 短
SIZE MIN 最小尺寸	D16.0	D18.0	D20.0	D20.0	D13.0
SIZE MAX 最大尺寸	D22.0	D30.0	D20.0	D30.0	D32.0
PAGE 页数	A242	A242	A242	A242	A243
SURFACE TREATMENT 表面处理	Steam Tempered				TiN



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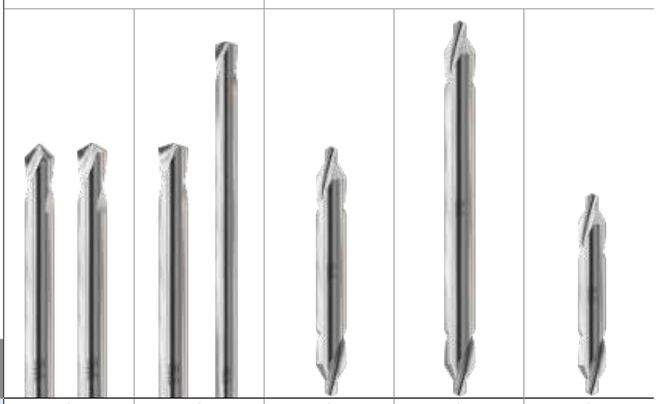
◎ : Excellent
○ : Good

ISO 公制	VDI 3323	Material Description 材料描述	HB 布氏硬度	HRc 硬度	D2203	D2202	D2204	D2208	DN221
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			○	○	○	○	
	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					

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HOLEMAKING TOOLS

SERIES 系列	D2306 D2307	D2320 D2323	DV304	DV305	DV301
DRILLING DEPTH 钻销深度	-	-	-	-	-
LENGTH 长度	90°/120°	142°	EXTRA LONG 超长	EXTRA LONG 超长	-
SIZE MIN 最小尺寸	D3.0	D3.0 / D6.0	D1.0	D1.5	D1.0
SIZE MAX 最大尺寸	D20.0	D20.0 /D12.0	D5.0	D5.0	D6.0
PAGE 页数	A249	A250	A255	A255	A256
SURFACE TREATMENT 表面处理	Bright		Bright		



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◎ : Excellent
○ : Good

ISO 公制	VDI 3323	Material Description 材料描述	HB 布氏硬度	HRc 硬度	D2306 D2307	D2320 D2323	DV304	DV305	DV301
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					○	○	○
	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					

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HOLEMAKING TOOLS

REAMERS

SERIES 系列	K4101	K4111	K1143	K1153	K2101	K2111	K2121	K2102	K2112	K21B1
HOLE TYPE 孔类型										
FLUTE TYPE 槽型	Straight	LH Spiral	Straight	LH Spiral	Straight	LH Spiral	LH Spiral (Quick Spiral)	Straight	LH Spiral	LH Spiral
SIZE MIN 最小尺寸	D2.0	D2.0	D2.0	D2.0	D2.0	D2.0	D4.0	D10.0	D10.0	D2.0
SIZE MAX 最大尺寸	D20.0	D20.0	D60.0	D60.0	D20.0	D20.0	D20.0	D50.0	D50.0	D20.0
PAGE 页数	A376	A377	A378	A380	A382	A384	A386	A387	A389	A391
SURFACE TREATMENT 表面处理	Bright									



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◎ : Excellent
○ : Good

ISO 公制	VDI 3323	Material Description 材料描述	HB 布氏硬度	HRc 硬度									
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												
	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										

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HOLEMAKING TOOLS

COUNTERSINKS

SERIES 系列	C1109 C3109	C1119 C3119	C1136 C3136	C1139 C3139	C1132 C3132
STANDARD 标准	YG STD	YG STD	DIN334C	DIN335C	YG STD
POINT ANGLE 钻尖角度	90°	90°	60°	90°	120°
SIZE MIN 最小尺寸	D10.0	D10.0	D6.3	D4.3	D8.0
SIZE MAX 最大尺寸	D50.0	D50.0	D25.0	D31.0	D25.0
PAGE 页数	A404	A405	A406	A407	A408
SURFACE TREATMENT 表面处理	Bright				



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◎ : Excellent
○ : Good

ISO 公制	VDI 3323	Material Description 材料描述	HB 布氏硬度	HRc 硬度					
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							
	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					

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COUNTERBORES

SERIES 系列	EL950		
TYPE 类型	MEDIUM	FINE	BEOFRE THREADING
PILOT DIA. 导柱直径	3.4~14.0	3.2~13.0	2.5~10.2
CUTTER DIA. 刀部直径	6.0~20.0		
PAGE 页数	A413		
SURFACE TREATMENT 表面处理	Bright		



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◎ : Excellent
○ : Good

ISO 公制	VDI 3323	Material Description 材料描述	HB 布氏硬度	HRc 硬度	EL950
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			
	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	

YG

Leading Through Innovation



CARBIDE INSERTS & HOLDERS

i-ONE DRILLS

- High Performance Exchangeable for General Steels and Cast Iron
- 钢 铸铁用高性能可换 钻头

SELECTION GUIDE 选用指南

YG HOLEMAKING TOOLS

CARBIDE INSERTS & HOLDERS
i-ONE DRILLS

High Performance Exchangeable for General Steels and Cast Iron

钢 铸铁用高性能可换 钻头

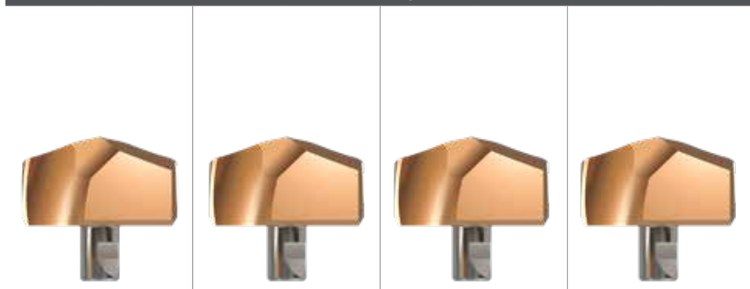
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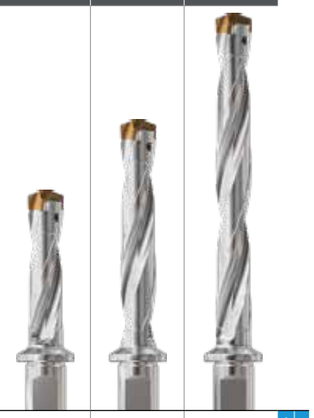
◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工条件) : p. A34

SERIES 系列	Y101H	Y121H	Y141H	Y161H	Y181H	Y201H	Y221H	Y241H	Y261H	Y281H	Y301H	Y321H	ZD*3	ZD*5	ZD*8
SIZE MIN 最小尺寸	10.00	12.00	14.00	16.00	18.00	20.00	22.00	24.00	26.00	28.00	30.00	32.00			
SIZE MAX 最大尺寸	11.91	13.90	15.90	17.90	19.90	21.90	23.90	25.90	27.78	29.77	31.75	33.73			
PAGE 页数	A24	A25	A26	A27	A28	A29	A30	A31	A32	A32	A33	A33			
SURFACE TREATMENT 表面处理	H-Coating				H-Coating								3XD	5XD	8XD







	ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB 布氏硬度	HRc 硬度												
P	1		Non-alloy steel	About 0.15% C	Annealed	125		◎	◎	◎	◎	◎	◎	◎	◎				1
	2			About 0.45% C	Annealed	190	13	◎	◎	◎	◎	◎	◎	◎	◎				2
	3			About 0.45% C	Quenched & Tempered	250	25	◎	◎	◎	◎	◎	◎	◎	◎				3
	4			About 0.75% C	Annealed	270	28	◎	◎	◎	◎	◎	◎	◎	◎				4
	5			About 0.75% C	Quenched & Tempered	300	32	◎	◎	◎	◎	◎	◎	◎	◎				5
	6		Low alloy steel		Annealed	180	10	◎	◎	◎	◎	◎	◎	◎	◎				6
	7				Quenched & Tempered	275	29	◎	◎	◎	◎	◎	◎	◎	◎				7
	8				Quenched & Tempered	300	32	◎	◎	◎	◎	◎	◎	◎	◎				8
	9				Quenched & Tempered	350	38	◎	◎	◎	◎	◎	◎	◎	◎				9
	10		High alloyed steel, and tool steel		Annealed	200	15	◎	◎	◎	◎	◎	◎	◎	◎				10
	11				Quenched & Tempered	325	35	◎	◎	◎	◎	◎	◎	◎	◎				11
M	12		Stainless steel	Ferritic / Martensitic	Annealed	200	15												12
	13			Martensitic	Quenched & Tempered	240	23												13
	14			Austenitic10		180	10												14
K	15		Grey cast iron	Pearlitic / ferritic		180	10	◎	◎	◎	◎	◎	◎	◎	◎				15
	16			Pearlitic (Martensitic)		260	26	◎	◎	◎	◎	◎	◎	◎	◎				16
	17		Nodular cast iron	Ferritic		160	3	◎	◎	◎	◎	◎	◎	◎	◎				17
	18			Pearlitic		250	25	◎	◎	◎	◎	◎	◎	◎	◎				18
	19		Malleable cast iron	Ferritic		130		◎	◎	◎	◎	◎	◎	◎	◎				19
	20			Pearlitic		230	21	◎	◎	◎	◎	◎	◎	◎	◎				20
N	21		Aluminum-wrought alloy	Not Curable		60													21
	22			Curable	Hardened	100													22
	23		Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75													23
	24			≤ 12% Si, Curable	Hardened	90													24
	25			> 12% Si, Not Curable		130													25
	26		Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110													26
	27			CuZn, CuSnZn (Brass)		90													27
	28			CuSn, lead-free copper and electrolytic copper		100													28
	29		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic															29
	30			Rubber, Wood, etc.															30
S	31		Heat Resistant Super Alloys	Fe Based	Annealed	200	15												31
	32				Cured	280	30												32
	33			Ni or Co Based	Annealed	250	25												33
	34				Cured	350	38												34
	35				Cast	320	34												35
	36		Titanium Alloys	Pure Titanium		400 Rm													36
	37			Alpha + Beta Alloys	Hardened	1050 Rm													37
H	38		Hardened steel		Hardened	550	55												38
	39				Hardened	630	60												39
	40		Chilled Cast Iron		Cast	400	42												40
	41		Hardened Cast Iron		Hardened	550	55												41

CARBIDE
HSS
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

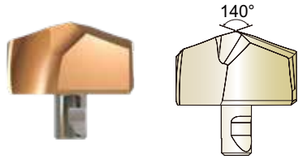
i - ONE DRILLS

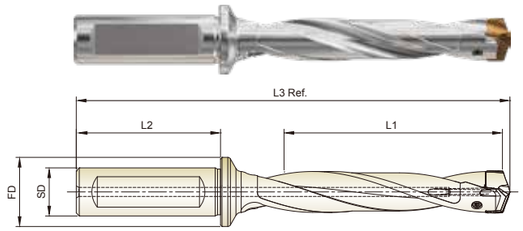
Y101H SERIES

i-ONE DRILL INSERTS & HOLDERS
i-ONE 钻头 刀片 & 刀柄

- Applications
▶ For carbon steels, alloy steels and cast iron.
▶ Holder length: 3xD, 5xD, 8xD
- Benefits
▶ Secure and quick clamping system.
▶ High performance with cost efficiency.
▶ Multi-layered coating delivers outstanding productivity and reliability.

- 应用
▶ 适合碳钢，合金钢和铸铁.
▶ 刀柄长度：3xD, 5xD, 8xD
- 收益
▶ 安全快速的夹紧系统.
▶ 高性能，高性价比.
▶ 多层涂层提供卓越的生产率和可靠性.





CARBIDE | ISO 9766 | h7 | 140° | p. A34

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-
ER COLLET CHUCK	D73 - 115		

Unit(单位) : mm

Series Range	Insert EDP No.	Insert O.D.			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth	Overall Length	Screw No.
(mm)	H-Coating	h7				SD	L_2	FD	L_1	L_3 Ref.	
		dec.	frac.	mm							
S10 Ø10.00 to Ø11.99	Y101H1000	0.3937	-	10.00	ZD10003016	16	48	23	3D	31.5	103.0	TX1011P5
	Y101H1010	0.3976	-	10.10							
	Y101H1020	0.4016	-	10.20	ZD10005016				5D	52.5	123.0
	Y101H1030	0.4055	-	10.30							
	Y101H1032	0.4063	13/32	10.32	ZD10008016				8D	84.0	153.0
	Y101H1040	0.4094	-	10.40							
	Y101H1050	0.4134	-	10.50	ZD10503016	16	48	23	3D	33.0	104.0
	Y101H1060	0.4173	-	10.60							
	Y101H1070	0.4213	-	10.70	ZD10505016				5D	55.0	125.0
	Y101H1072	0.4219	27/64	10.72							
	Y101H1080	0.4252	-	10.80	ZD10508016				8D	88.0	156.5
	Y101H1090	0.4291	-	10.90							
	Y101H1100	0.4331	-	11.00	ZD11003016	16	48	23	3D	34.5	105.0	
	Y101H1110	0.4370	-	11.10							
	Y101H1111	0.4375	7/16	11.11	ZD11005016				5D	57.5	127.0
	Y101H1120	0.4409	-	11.20							
	Y101H1130	0.4449	-	11.30	ZD11008016				8D	92.0	160.0
	Y101H1140	0.4488	-	11.40							
	Y101H1150	0.4528	-	11.50	ZD11503016	16	48	23	3D	36.0	106.0	
	Y101H1151	0.4531	29/64	11.51							
	Y101H1160	0.4567	-	11.60	ZD11505016				5D	60.0	129.0
	Y101H1170	0.4606	-	11.70							
	Y101H1180	0.4646	-	11.80	ZD11508016				8D	96.0	163.5
	Y101H1190	0.4685	-	11.90							
	Y101H1191	0.4688	15/32	11.91							

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : 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			Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14		15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	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																					

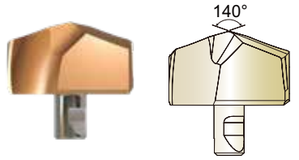
i - ONE DRILLS

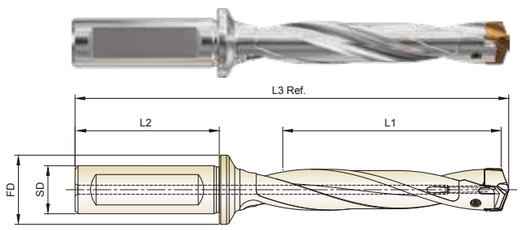
Y121H SERIES

i-ONE DRILL INSERTS & HOLDERS
i-ONE 钻头 刀片 & 刀柄

- Applications
▶ For carbon steels, alloy steels and cast iron.
▶ Holder length: 3xD, 5xD, 8xD
- Benefits
▶ Secure and quick clamping system.
▶ High performance with cost efficiency.
▶ Multi-layered coating delivers outstanding productivity and reliability.

- 应用
▶ 适合碳钢，合金钢和铸铁.
▶ 刀柄长度：3xD, 5xD, 8xD
- 收益
▶ 安全快速的夹紧系统.
▶ 高性能，高性价比.
▶ 多层涂层提供卓越的生产率和可靠性.





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Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-
ER COLLET CHUCK	D73 - 115		

Unit(单位) : mm

Series Range	Insert EDP No.	Insert O.D.			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth	Overall Length	Screw No.
(mm)	H-Coating	h7				SD	L_2	FD	L_1	L_3 Ref.	
		dec.	frac.	mm							
S12 Ø12.00 to Ø13.99	Y121H1200	0.4724	-	12.00	ZD12003016	16	48	23	3D	37.5	109.8	TX1213P5
	Y121H1210	0.4764	-	12.10							
	Y121H1220	0.4803	-	12.20	ZD12005016				5D	62.5	133.8
	Y121H1230	0.4844	31/64	12.30							
	Y121H1240	0.4882	-	12.40	ZD12008016				8D	100.0	169.8
	Y121H1250	0.4921	-	12.50	ZD12503016	16	48	23	3D	39.0	110.8	
	Y121H1260	0.4961	-	12.60							
	Y121H1270	0.5000	1/2	12.70	ZD12505016				5D	65.0	135.8
	Y121H1280	0.5039	-	12.80							
	Y121H1290	0.5079	-	12.90	ZD12508016				8D	104.0	173.3
	Y121H1300	0.5118	-	13.00	ZD13003016	16	48	23	3D	40.5	112.8	
	Y121H1310	0.5156	33/64	13.10							
	Y121H1320	0.5197	-	13.20	ZD13005016				5D	67.5	138.8
	Y121H1330	0.5236	-	13.30							
	Y121H1340	0.5276	-	13.40	ZD13008016				8D	108.0	177.8
	Y121H1349	0.5313	17/32	13.49							
	Y121H1350	0.5315	-	13.50	ZD13503016	16	48	23	3D	42.0	113.8	
	Y121H1360	0.5354	-	13.60							
	Y121H1370	0.5394	-	13.70	ZD13505016				5D	70.0	140.8
	Y121H1380	0.5433	-	13.80							
	Y121H1389	0.5469	35/64	13.89	ZD13508016				8D	112.0	181.3
	Y121H1390	0.5472	-	13.90							

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : 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			Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14		15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	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																					

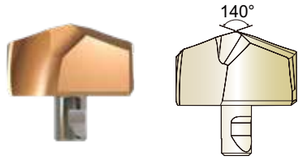
i - ONE DRILLS

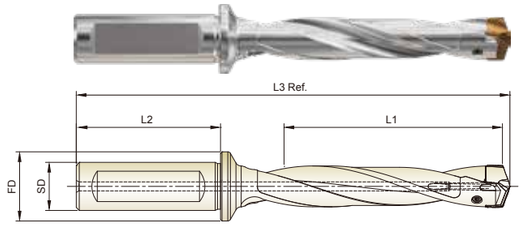
Y141H SERIES

i-ONE DRILL INSERTS & HOLDERS
i-ONE 钻头 刀片 & 刀柄

- Applications
▶ For carbon steels, alloy steels and cast iron.
▶ Holder length: 3xD, 5xD, 8xD
- Benefits
▶ Secure and quick clamping system.
▶ High performance with cost efficiency.
▶ Multi-layered coating delivers outstanding productivity and reliability.

- 应用
▶ 适合碳钢，合金钢和铸铁.
▶ 刀柄长度：3xD, 5xD, 8xD
- 收益
▶ 安全快速的夹紧系统.
▶ 高性能，高性价比.
▶ 多层涂层提供卓越的生产率和可靠性.





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Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-
ER COLLET CHUCK	D73 - 115		

Unit(单位) : mm

Series Range	Insert EDP No.	Insert O.D. h7 dec.	frac.	mm	Holder EDP No.	Shank Dia. SD	Shank Length L2	Flange Dia. FD	Drilling Depth L1	Overall Length L3 Ref.	Screw No.
(mm)	H-Coating										
S14 Ø14.00 to Ø15.99	Y141H1400	0.5512	-	14.00	ZD14003016	16	48	23	3D	43.5	116.3	TX1415P7
	Y141H1410	0.5551	-	14.10							
	Y141H1420	0.5591	-	14.20							
	Y141H1429	0.5625	9/16	14.29	ZD14005016				5D	72.5	144.3	
	Y141H1430	0.5630	-	14.30							
	Y141H1440	0.5669	-	14.40	ZD14008016				8D	116.0	186.3	
	Y141H1450	0.5709	-	14.50							
	Y141H1460	0.5748	-	14.60	ZD14503016	16	48	23	3D	45.0	118.3	
	Y141H1468	0.5781	37/64	14.68							
	Y141H1470	0.5787	-	14.70	ZD14505016				5D	75.0	147.3	
	Y141H1480	0.5827	-	14.80							
	Y141H1490	0.5866	-	14.90	ZD14508016				8D	120.0	190.8	
	Y141H1500	0.5906	-	15.00							
	Y141H1508	0.5938	19/32	15.08	ZD15003016	16	48	23	3D	46.5	120.3	
	Y141H1510	0.5945	-	15.10							
	Y141H1520	0.5984	-	15.20	ZD15005016				5D	77.5	150.3	
	Y141H1530	0.6024	-	15.30							
	Y141H1540	0.6063	-	15.40	ZD15008016				8D	124.0	195.3	
	Y141H1548	0.6094	39/64	15.48							
	Y141H1550	0.6102	-	15.50							
	Y141H1560	0.6142	-	15.60	ZD15503016	16	48	23	3D	48.0	121.3	
	Y141H1570	0.6181	-	15.70							
	Y141H1580	0.6220	-	15.80	ZD15505016				5D	80.0	152.3	
	Y141H1588	0.6250	5/8	15.88							
	Y141H1590	0.6260	-	15.90	ZD15508016				8D	128.0	198.8	

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : 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			Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14		15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	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																					

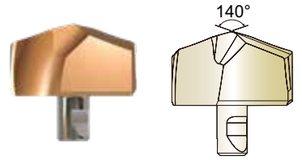
i - ONE DRILLS

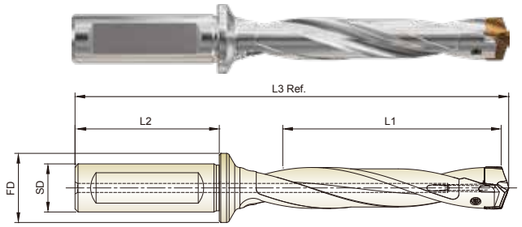
Y161H SERIES

i-ONE DRILL INSERTS & HOLDERS
i-ONE 钻头 刀片 & 刀柄

- Applications
▶ For carbon steels, alloy steels and cast iron.
▶ Holder length: 3xD, 5xD, 8xD
- Benefits
▶ Secure and quick clamping system.
▶ High performance with cost efficiency.
▶ Multi-layered coating delivers outstanding productivity and reliability.

- 应用
▶ 适合碳钢，合金钢和铸铁.
▶ 刀柄长度：3xD, 5xD, 8xD
- 收益
▶ 安全快速的夹紧系统.
▶ 高性能，高性价比.
▶ 多层涂层提供卓越的生产率和可靠性.





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Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-
ER COLLET CHUCK	D73 - 115		

Unit(单位) : mm

Series Range	Insert EDP No.	Insert O.D. h7 dec.	frac.	mm	Holder EDP No.	Shank Dia. SD	Shank Length L2	Flange Dia. FD	Drilling Depth L1	Overall Length L3 Ref.	Screw No.
(mm)	H-Coating										
S16 Ø16.00 to Ø17.99	Y161H1600	0.6299	-	16.00	ZD16003020	20	50	25	3D	51.0	127.0	TX1617P7
	Y161H1609	0.6335	-	16.09							
	Y161H1610	0.6339	-	16.10							
	Y161H1620	0.6378	-	16.20							
	Y161H1627	0.6406	41/64	16.27	ZD16005020				5D	85.0	160.0	
	Y161H1630	0.6417	-	16.30							
	Y161H1640	0.6457	-	16.40							
	Y161H1650	0.6496	-	16.50							
	Y161H1660	0.6535	-	16.60	ZD16008020				8D	136.0	209.5	
	Y161H1667	0.6563	21/32	16.67							
	Y161H1670	0.6575	-	16.70							
	Y161H1680	0.6614	-	16.80							
	Y161H1690	0.6654	-	16.90							
	Y161H1700	0.6693	-	17.00							
	Y161H1707	0.6719	43/64	17.07							
	Y161H1710	0.6732	-	17.10							
	Y161H1720	0.6772	-	17.20	ZD17003020	20	50	25	3D	54.0	130.0	TX1718P7
	Y161H1730	0.6811	-	17.30							
	Y161H1740	0.6850	-	17.40							
	Y161H1746	0.6875	11/16	17.46	ZD17005020				5D	90.0	165.0	
	Y161H1750	0.6890	-	17.50							
	Y161H1760	0.6929	-	17.60							
	Y161H1770	0.6969	-	17.70	ZD17008020				8D	144.0	217.5	
	Y161H1780	0.7008	-	17.80							
	Y161H1786	0.7031	45/64	17.86							
	Y161H1790	0.7047	-	17.90							

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : 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			Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14		15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	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																					

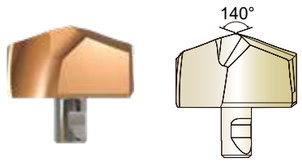
i - ONE DRILLS

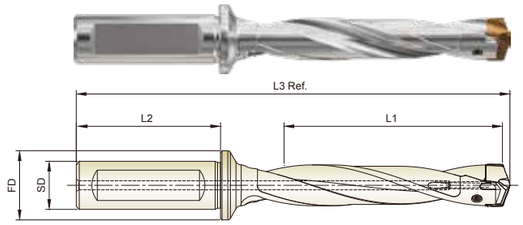
Y181H SERIES

i-ONE DRILL INSERTS & HOLDERS
i-ONE 钻头 刀片 & 刀柄

- Applications
▶ For carbon steels, alloy steels and cast iron.
▶ Holder length: 3xD, 5xD, 8xD
- Benefits
▶ Secure and quick clamping system.
▶ High performance with cost efficiency.
▶ Multi-layered coating delivers outstanding productivity and reliability.

- 应用
▶ 适合碳钢，合金钢和铸铁.
▶ 刀柄长度：3xD, 5xD, 8xD
- 收益
▶ 安全快速的夹紧系统.
▶ 高性能，高性价比.
▶ 多层涂层提供卓越的生产率和可靠性.





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Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-
ER COLLET CHUCK	D73 - 115		

Unit(单位) : mm

Series Range	Insert EDP No.	Insert O.D.			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth	Overall Length	Screw No.
		h7									
(mm)	H-Coating	dec.	frac.	mm		SD	L_2	FD	L_1	L_3 Ref.	
S18 Ø18.00 to Ø19.99	Y181H1800	0.7087	-	18.00	ZD18003025	25	56	32	3D	57.0	141.3	TX1819P9
	Y181H1810	0.7126	-	18.10							
	Y181H1820	0.7165	-	18.20							
	Y181H1826	0.7188	23/32	18.26							
	Y181H1830	0.7205	-	18.30							
	Y181H1840	0.7244	-	18.40	ZD18005025				5D	95.0	178.3	
	Y181H1850	0.7283	-	18.50							
	Y181H1860	0.7323	-	18.60							
	Y181H1865	0.7344	47/64	18.65							
	Y181H1870	0.7362	-	18.70	ZD18008025				8D	152.0	233.8	
	Y181H1880	0.7402	-	18.80							
	Y181H1890	0.7441	-	18.90							
	Y181H1900	0.7480	-	19.00	ZD19003025	25	56	32	3D	60.0	145.3	TX1920P9
	Y181H1905	0.7500	3/4	19.05							
	Y181H1910	0.7520	-	19.10							
	Y181H1920	0.7559	-	19.20							
	Y181H1927	0.7587	-	19.27							
	Y181H1930	0.7598	-	19.30	ZD19005025				5D	100.0	184.3	
	Y181H1940	0.7638	-	19.40							
	Y181H1945	0.7656	49/64	19.45							
	Y181H1950	0.7677	-	19.50							
	Y181H1960	0.7717	-	19.60							
	Y181H1970	0.7756	-	19.70	ZD19008025				8D	160.0	242.8	
	Y181H1980	0.7795	-	19.80							
	Y181H1984	0.7813	25/32	19.84							
	Y181H1990	0.7835	-	19.90							

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : 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			Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14		15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	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																					

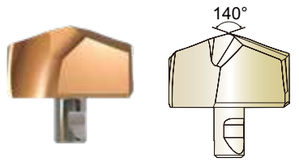
i - ONE DRILLS

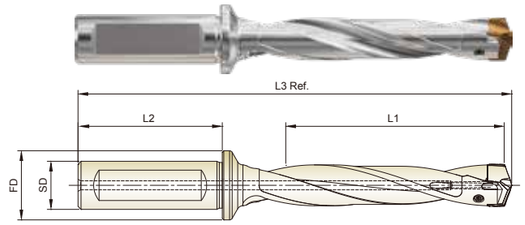
Y201H SERIES

i-ONE DRILL INSERTS & HOLDERS
i-ONE 钻头 刀片 & 刀柄

- Applications
▶ For carbon steels, alloy steels and cast iron.
▶ Holder length: 3xD, 5xD, 8xD
- Benefits
▶ Secure and quick clamping system.
▶ High performance with cost efficiency.
▶ Multi-layered coating delivers outstanding productivity and reliability.

- 应用
▶ 适合碳钢，合金钢和铸铁.
▶ 刀柄长度：3xD, 5xD, 8xD
- 收益
▶ 安全快速的夹紧系统.
▶ 高性能，高性价比.
▶ 多层涂层提供卓越的生产率和可靠性.





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Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-
ER COLLET CHUCK	D73 - 115		

Unit(单位) : mm

Series Range	Insert EDP No.	Insert O.D.			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth	Overall Length	Screw No.
		h7									
(mm)	H-Coating	dec.	frac.	mm		SD	L_2	FD	L_1	L_3 Ref.	
S20 Ø20.00 to Ø21.99	Y201H2000	0.7874	-	20.00	ZD20003025	25	56	32	3D	63.0	147.5	TX2021P9
	Y201H2010	0.7913	-	20.10							
	Y201H2020	0.7953	-	20.20							
	Y201H2024	0.7969	51/64	20.24							
	Y201H2030	0.7992	-	20.30							
	Y201H2040	0.8031	-	20.40	ZD20005025				5D	105.0	188.5	
	Y201H2050	0.8071	-	20.50							
	Y201H2060	0.8110	-	20.60							
	Y201H2064	0.8125	13/16	20.64							
	Y201H2070	0.8150	-	20.70	ZD20008025				8D	168.0	250.0	
	Y201H2080	0.8189	-	20.80							
	Y201H2090	0.8228	-	20.90							
	Y201H2100	0.8268	-	21.00	ZD21003025	25	56	32	3D	66.0	150.5	TX2122P9
	Y201H2103	0.8281	53/64	21.03							
	Y201H2110	0.8307	-	21.10							
	Y201H2120	0.8346	-	21.20							
	Y201H2130	0.8386	-	21.30							
	Y201H2140	0.8425	-	21.40	ZD21005025				5D	110.0	193.5	
	Y201H2143	0.8438	27/32	21.43							
	Y201H2150	0.8465	-	21.50							
	Y201H2160	0.8504	-	21.60							
	Y201H2170	0.8543	-	21.70	ZD21008025				8D	176.0	258.0	
	Y201H2180	0.8583	-	21.80							
	Y201H2183	0.8594	55/64	21.83							
	Y201H2190	0.8622	-	21.90							

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : 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			Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14		15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	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																					

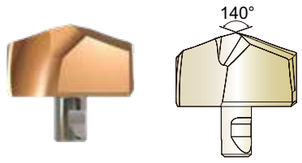
i - ONE DRILLS

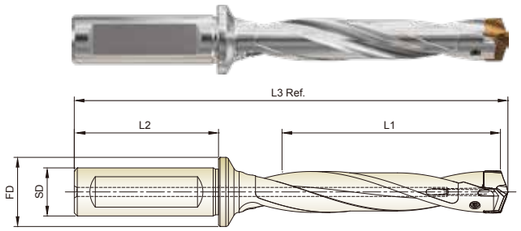
Y221H SERIES

i-ONE DRILL INSERTS & HOLDERS
i-ONE 钻头 刀片 & 刀柄

- Applications
▶ For carbon steels, alloy steels and cast iron.
▶ Holder length: 3xD, 5xD, 8xD
- Benefits
▶ Secure and quick clamping system.
▶ High performance with cost efficiency.
▶ Multi-layered coating delivers outstanding productivity and reliability.

- 应用
▶ 适合碳钢，合金钢和铸铁.
▶ 刀柄长度：3xD, 5xD, 8xD
- 收益
▶ 安全快速的夹紧系统.
▶ 高性能，高性价比.
▶ 多层涂层提供卓越的生产率和可靠性.





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Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-
ER COLLET CHUCK	D73 - 115		

Unit(单位) : mm

Series Range	Insert EDP No.	Insert O.D.			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth	Overall Length	Screw No.
		h7									
(mm)	H-Coating	dec.	frac.	mm		SD	L_2	FD	L_1	L_3 Ref.	
S22 Ø22.00 to Ø23.99	Y221H2200	0.8661	-	22.00	ZD22003025	25	56	32	3D	69.0	153.4	TX2223P9
	Y221H2210	0.8701	-	22.10								
	Y221H2220	0.8740	-	22.20								
	Y221H2223	0.8750	7/8	22.23								
	Y221H2230	0.8780	-	22.30								
	Y221H2240	0.8819	-	22.40	ZD22005025				5D	115.0	198.4	
	Y221H2250	0.8858	-	22.50								
	Y221H2260	0.8898	-	22.60								
	Y221H2262	0.8906	57/64	22.62	ZD22008025				8D	184.0	265.9	
	Y221H2270	0.8937	-	22.70								
	Y221H2280	0.8976	-	22.80								
	Y221H2290	0.9016	-	22.90								
	Y221H2300	0.9055	-	23.00	ZD23003025	25	56	32	3D	72.0	157.4	TX2324P9
	Y221H2302	0.9063	29/32	23.02								
	Y221H2310	0.9094	-	23.10								
	Y221H2320	0.9134	-	23.20								
	Y221H2330	0.9173	-	23.30								
	Y221H2340	0.9213	-	23.40								
	Y221H2342	0.9219	59/64	23.42	ZD23005025				5D	120.0	204.4	
	Y221H2350	0.9252	-	23.50								
	Y221H2360	0.9291	-	23.60								
	Y221H2370	0.9331	-	23.70								
	Y221H2380	0.9370	-	23.80								
	Y221H2381	0.9375	15/16	23.81								
	Y221H2390	0.9409	-	23.90	ZD23008025				8D	192.0	274.9	

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : 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			Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14		15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	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																					

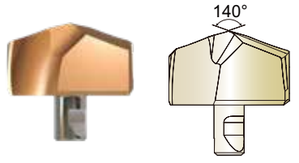
i - ONE DRILLS

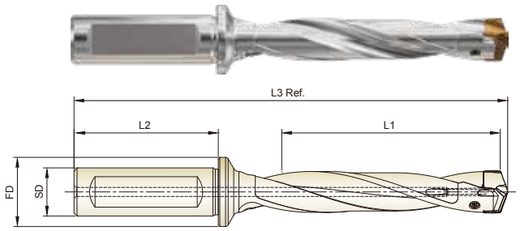
Y241H SERIES

i-ONE DRILL INSERTS & HOLDERS
i-ONE 钻头 刀片 & 刀柄

- Applications
▶ For carbon steels, alloy steels and cast iron.
▶ Holder length: 3xD, 5xD, 8xD
- Benefits
▶ Secure and quick clamping system.
▶ High performance with cost efficiency.
▶ Multi-layered coating delivers outstanding productivity and reliability.

- 应用
▶ 适合碳钢，合金钢和铸铁.
▶ 刀柄长度：3xD, 5xD, 8xD
- 收益
▶ 安全快速的夹紧系统.
▶ 高性能，高性价比.
▶ 多层涂层提供卓越的生产率和可靠性.





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Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-
ER COLLET CHUCK	D73 - 115		

Unit(单位) : mm

Series Range	Insert EDP No.	Insert O.D.			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth	Overall Length	Screw No.
		h7									
(mm)	H-Coating	dec.	frac.	mm		SD	L_2	FD	L_1	L_3 Ref.	
S24 Ø24.00 to Ø25.99	Y241H2400	0.9449	-	24.00	ZD24003032	25	56	32	3D	75.0	165.8	TX2425P10
	Y241H2410	0.9488	-	24.10								
	Y241H2420	0.9528	-	24.20								
	Y241H2421	0.9531	61/64	24.21								
	Y241H2430	0.9567	-	24.30								
	Y241H2440	0.9606	-	24.40	ZD24005032				5D	125.0	214.8	
	Y241H2450	0.9646	-	24.50								
	Y241H2460	0.9685	-	24.60								
	Y241H2461	0.9688	31/32	24.61	ZD24008032				8D	200.0	288.3	
	Y241H2470	0.9724	-	24.70								
	Y241H2480	0.9764	-	24.80								
	Y241H2490	0.9803	-	24.90								
	Y241H2500	0.9844	63/64	25.00	ZD25003032	25	56	32	3D	78.0	170.8	TX2526P10
	Y241H2510	0.9882	-	25.10								
	Y241H2520	0.9921	-	25.20								
	Y241H2530	0.9961	-	25.30								
	Y241H2540	1.0000	1	25.40								
	Y241H2550	1.0039	-	25.50	ZD25005032				5D	130.0	221.8	
	Y241H2560	1.0079	-	25.60								
	Y241H2567	1.0106	-	25.67								
	Y241H2570	1.0118	-	25.70								
	Y241H2580	1.0156	1-1/64	25.80	ZD25008032				8D	208.0	298.3	
	Y241H2590	1.0197	-	25.90								

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : 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			Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14		15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	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																					

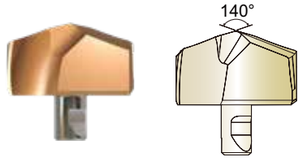
i - ONE DRILLS

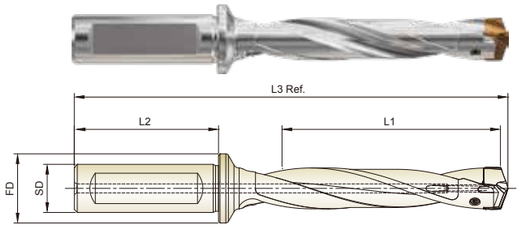
Y261H SERIES
Y281H SERIES

i-ONE DRILL INSERTS & HOLDERS
i-ONE 钻头 刀片 & 刀柄

- Applications
▶For carbon steels, alloy steels and cast iron.
▶Holder length: 3xD, 5xD, 8xD
- Benefits
▶Secure and quick clamping system.
▶High performance with cost efficiency.
▶Multi-layered coating delivers outstanding productivity and reliability.

- 应用
▶ 适合碳钢，合金钢和铸铁.
▶ 刀柄长度：3xD, 5xD, 8xD
- 收益
▶ 安全快速的夹紧系统.
▶ 高性能，高性价比.
▶ 多层涂层提供卓越的生产率和可靠性.





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Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
◎	ER COLLET CHUCK	D73 - 115		

Unit(单位) : mm

Series Range (mm)	Insert EDP No. H-Coating	Insert O.D. h7 dec.	frac.	mm	Holder EDP No.	Shank Dia. SD	Shank Length L2	Flange Dia. FD	Drilling Depth L1		Overall Length L3 Ref.	Screw No.
S26 Ø26.00 to Ø27.99	Y261H2600	1.0236	-	26.00	ZD26003032	32	60	37	3D	81.0	172.2	TX2627P10
	Y261H2619	1.0313	1-1/32	26.19								
	Y261H2650	1.0433	-	26.50	ZD26005032				5D	135.0	225.2	
	Y261H2659	1.0469	1-3/64	26.59								
	Y261H2699	1.0625	1-1/16	26.99	ZD26008032				8D	216.0	304.	
	Y261H2700	1.0630	-	27.00	ZD27003032	32	60	37	3D	84.0	175.2	TX2728P10
	Y261H2738	1.0781	1-5/64	27.38								
	Y261H2750	1.0827	-	27.50	ZD27005032				5D	140.0	230.2	
	Y261H2778	1.0938	1-3/32	27.78	ZD27008032				8D	224.0	312.7	
S28 Ø28.00 to Ø29.99	Y281H2800	1.1024	-	28.00	ZD28003032	32	60	37	3D	87.0	179.2	TX2829P10
	Y281H2818	1.1094	1-7/64	28.18								
	Y281H2850	1.1220	-	28.50	ZD28005032				5D	145.0	236.2	
	Y281H2858	1.1250	1-1/8	28.58								
	Y281H2897	1.1406	1-9/64	28.97	ZD28008032				8D	232.0	321.7	
	Y281H2900	1.1417	-	29.00	ZD29003032	32	60	37	3D	90.0	183.2	TX2930P10
	Y281H2937	1.1563	1-5/32	29.37								
	Y281H2950	1.1614	-	29.50	ZD29005032				5D	150.0	242.2	
	Y281H2977	1.1719	1-11/64	29.77	ZD29008032				8D	240.0	330.7	

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : 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			Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14		15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	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																					

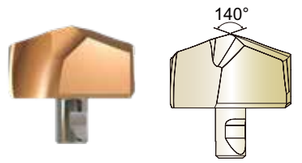
i - ONE DRILLS

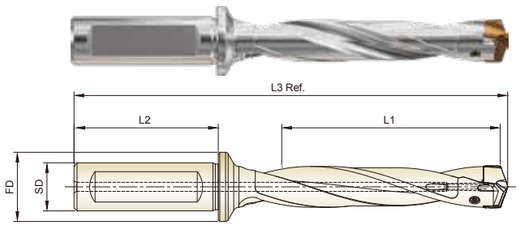
Y301H SERIES
Y321H SERIES

i-ONE DRILL INSERTS & HOLDERS
i-ONE 钻头 刀片 & 刀柄

- Applications
▶For carbon steels, alloy steels and cast iron.
▶Holder length: 3xD, 5xD, 8xD
- Benefits
▶Secure and quick clamping system.
▶High performance with cost efficiency.
▶Multi-layered coating delivers outstanding productivity and reliability.

- 应用
▶ 适合碳钢，合金钢和铸铁.
▶ 刀柄长度：3xD, 5xD, 8xD
- 收益
▶ 安全快速的夹紧系统.
▶ 高性能，高性价比.
▶ 多层涂层提供卓越的生产率和可靠性.





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Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
◎	ER COLLET CHUCK	D73 - 115		

Unit(单位) : mm

Series Range (mm)	Insert EDP No. H-Coating	Insert O.D. h7 dec.	frac.	mm	Holder EDP No.	Shank Dia. SD	Shank Length L2	Flange Dia. FD	Drilling Depth L1		Overall Length L3 Ref.	Screw No.
S30 Ø30.00 to Ø31.99	Y301H3000	1.1811		30.00	ZD30003032	32	60	37	3D	93.0	187.0	TX3031P15
	Y301H3016	1.1875	1-3/16	30.16								
	Y301H3050	1.2008		30.50	ZD30005032				5D	155.0	248.0	
	Y301H3056	1.2031	1-13/64	30.56								
	Y301H3096	1.2188	1-7/32	30.96	ZD30008032				8D	248.0	339.5	
	Y301H3100	1.2205		31.00	ZD31003032	32	60	37	3D	96.0	191.0	TX3132P15
	Y301H3135	1.2344	1-15/64	31.35								
	Y301H3150	1.2402		31.50	ZD31005032				5D	160.0	254.0	
	Y301H3175	1.2500	1-1/4	31.75	ZD31008032				8D	256.0	348.5	
S32 Ø32.00 to Ø33.99	Y321H3200	1.2598		32.00	ZD32003032	32	60	37	3D	99.0	197.2	TX3233P15
	Y321H3215	1.2656	1-17/64	32.15								
	Y321H3250	1.2795		32.50	ZD32005032				5D	165.0	262.2	
	Y321H3254	1.2813	1-9/32	32.54								
	Y321H3294	1.2969	1-19/64	32.94	ZD32008032				8D	264.0	359.7	
	Y321H3300	1.2992		33.00	ZD33003032	32	60	37	3D	102.0	201.2	TX3334P15
	Y321H3334	1.3125	1-5/16	33.34								
	Y321H3350	1.3189		33.50	ZD33005032				5D	170.0	268.2	
	Y321H3373	1.3281	1-21/64	33.73	ZD33008032				8D	272.0	368.7	

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : 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			Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14		15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	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																					

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Feed(mm/rev)					
				Ø10.0-11.99	Ø12.09-14.99	Ø15.00-17.99	Ø18.00-21.99	Ø22.0-26.9	Ø27.0-33.99
P	1	Non-alloy steel	100-126	0.14-0.24	0.18-0.31	0.23-0.39	0.30-0.44	0.37-0.57	0.41-0.61
	2		84-110	0.12-0.21	0.15-0.26	0.23-0.39	0.30-0.44	0.37-0.57	0.41-0.61
	3		63-84	0.11-0.18	0.13-0.22	0.19-0.31	0.24-0.35	0.33-0.51	0.36-0.54
	4		58-74	0.09-0.14	0.11-0.18	0.17-0.28	0.23-0.33	0.28-0.42	0.32-0.47
	5		58-74	0.09-0.14	0.11-0.18	0.17-0.28	0.23-0.33	0.28-0.42	0.32-0.47
	6	Low alloy steel	74-95	0.11-0.18	0.13-0.22	0.19-0.31	0.24-0.35	0.33-0.51	0.37-0.55
	7		63-84	0.11-0.18	0.13-0.22	0.17-0.28	0.24-0.35	0.33-0.51	0.37-0.55
	8		58-74	0.09-0.14	0.11-0.18	0.14-0.23	0.23-0.33	0.28-0.42	0.32-0.47
	9		47-63	0.07-0.11	0.09-0.13	0.14-0.23	0.23-0.33	0.28-0.42	0.32-0.47
	10	High alloyed steel, and tool steel	53-68	0.09-0.14	0.11-0.18	0.14-0.23	0.20-0.29	0.22-0.34	0.26-0.39
	11		42-58	0.09-0.14	0.11-0.18	0.12-0.20	0.23-0.33	0.22-0.34	0.26-0.39
K	15	Grey cast iron	105-131	0.13-0.23	0.17-0.29	0.22-0.41	0.30-0.46	0.40-0.56	0.44-0.61
	16		79-100	0.10-0.18	0.12-0.22	0.18-0.32	0.22-0.33	0.28-0.39	0.32-0.44
	17	Nodular cast iron	100-126	0.11-0.20	0.14-0.24	0.19-0.34	0.23-0.35	0.31-0.44	0.35-0.48
	18		79-100	0.10-0.18	0.12-0.22	0.15-0.29	0.21-0.32	0.28-0.39	0.32-0.44
	19	Malleable cast iron	105-131	0.11-0.20	0.14-0.24	0.19-0.34	0.23-0.35	0.31-0.44	0.35-0.48
	20		79-100	0.10-0.15	0.12-0.20	0.15-0.29	0.21-0.32	0.28-0.39	0.32-0.44

▶The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.
Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended.
▶Recommend you to reduce the feed rate to 85%, 70% when you use 5xD, 8xD holders.
▶For use of 8xD holder, we recommend to use a pilot drill with equal to or larger than 140º point angle (0.5xD ~ 1.5xD).
The use of the centering pre-hole improves hole location, roundness and surface finish.

▶表中推荐的速度, 进给率和其它参数只可用夹参考
推荐降低速度和进给量(速度降低20%和进给降低10%)
▶建议在使用5xD, 8xD的刀柄时把进给率降低到85%, 70%
▶在使用8xD刀柄时, 建议用等于或大于140度顶尖的钻头钻一个直径2/3以上的定位中心孔
定位中心孔的使用提高孔的定位, 圆度和表面粗糙度

i - ONE DRILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工条件

Comparison with Split Point Drill, Spade Drill & Dream Drill
普通钻，铲钻&梦幻钻对比



Normal Split Point Drill
普通钻



Dream Drill
梦幻钻

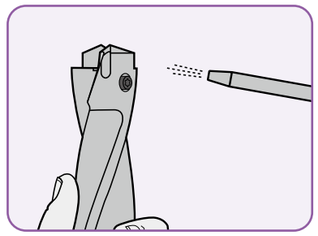


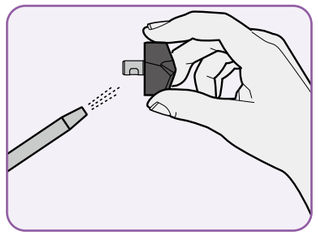
Spade Drill
铲钻



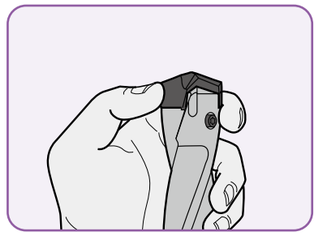
i-One Drill
i-One钻

ASSEMBLY OF *i*-ONE DRILLS

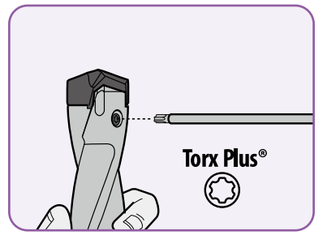




Make sure to clean the insert and insert seat.
定刀片及刀架的清洁.



Slide the drill insert into the slot of the holder and press down the insert to touch the bottom of the slot.
将钻头刀片滑至夹具的夹缝中并按下刀片至夹缝底部.



After confirming the insert is pressed down to the bottom of the slot, tighten the screw using anti-seize compound.
确定刀片按压至夹缝底部后用抓具扣紧螺丝使其进一步融合.

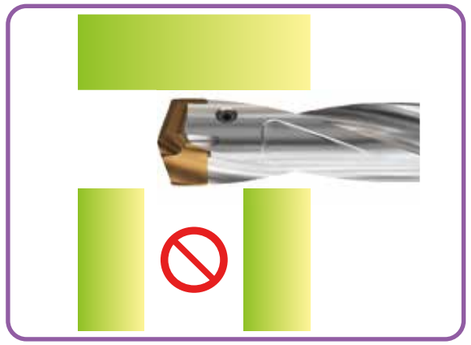
WRENCH TYPE	PRODUCT NO.	SERIES (INSERT SIZE)	TORX PLUS®	TORQUE (N·m)
	TWFP05	S10~S12 (10.00 ~ 13.90)	5 IP	0.6
	TWDP07	S14~S16 (14.00 ~ 17.90)	7 IP	1.0
	TWDP09	S18~S22 (18.00 ~ 23.90)	9 IP	1.5
	TWDP10	S24~S28 (24.00 ~ 29.77)	10 IP	2.2
	TWDP15	S30~S32 (30.00 ~ 33.73)	15 IP	3.2

Use the Torx Plus wrench
用翼形或T形扳手

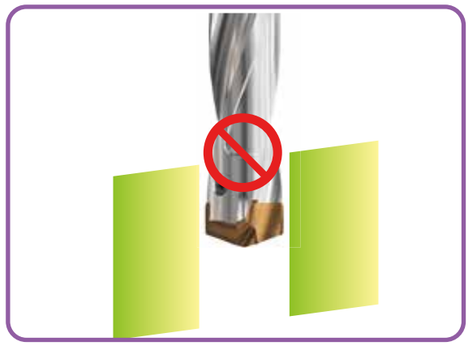
- ▶ Need to use appropriate wrenches and screws as indicated.
  根据指示，需要使用合适的扳手和螺钉.
- ▶ It's important to tighten up the screw properly.
  适当的拧紧螺钉是很重要的.

YG i - ONE DRILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工条件

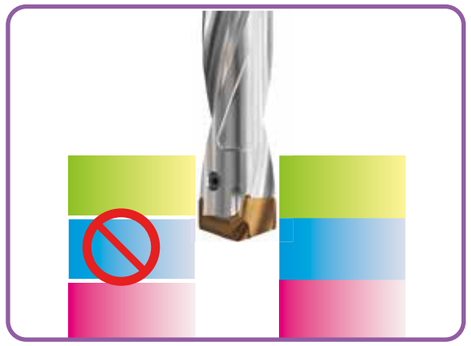
CAUTION-NOT RECOMMENDABLE APPLICATION
注意-不推荐使用



Intersecting cross hole is bigger than the drill insert's Margin Length.
交叉孔比钻头刀片的钻边长度大.

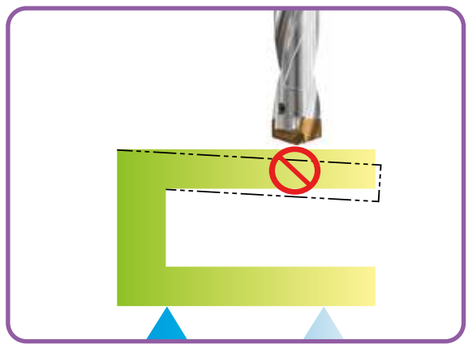


Material with slanting entrance and exit over 7 degrees. (If drilling 7 degrees or under slanting surface, reduce the feed about 30-50%)
倾斜进入的材料和超过7度的出口. (如果钻7度的孔或者在倾斜面下钻孔，可减少30~50%的进给)



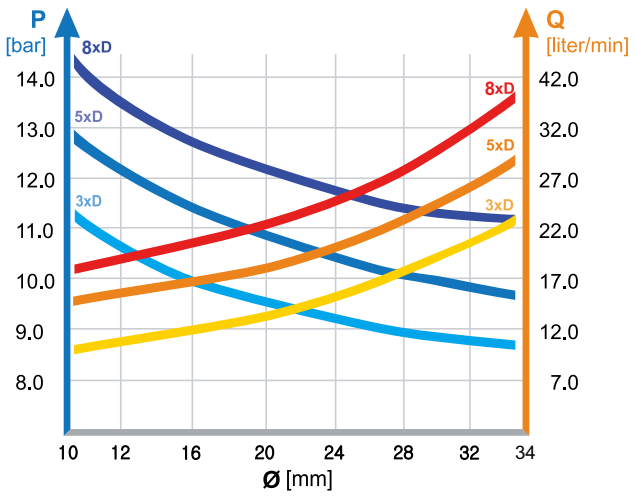
For drilling stacked plates, minimize the space between the plates.
对于钻一堆整齐的薄板，薄板之间的间隙减小到最低.

The space between stacked plates can cause insert breakage or poor chip control.
整齐的薄板间隔可导致刀片破损或铁屑不易排除.



The material needs to be fixtured securely before drilling.
在钻削前材料需要进行安全固定.

RECOMMENDED COOLANT PRESSURE AND FLOW RATE ON VERTICAL DRILLING
在立式钻孔中, 推荐使用的油压和流速



- Recommended emulsion mix is 6 - 8%.
  推荐使用6-8%的混合乳化液.
- For Drilling into Stainless and High Strength steels, a mix of 10% is recommended.
  钻孔加工不锈钢和高强度钢时, 推荐使用10%的 混合乳化液.
- For horizontal drilling, 30% reduction on the coolant pressure and flow rate is possible.
  对于水平钻孔, 油压和流速降低30%是可能的.
- Dry drilling is possible for 1-2xD drilling. But not recommended.
  干式钻孔可以用于 1-2xD钻削, 但是不推荐使用.

TROUBLE SHOOTING
问题解答



1) Heavy flank wear / Fast flank wear
- Reduce cutting speed
- Increase feed

巨大磨损/快速磨损
- 降低切削速度
- 增加进给量



2) Chipping on cutting edge
- Reduce feed
- Check the rigidity of spindle and chuck
- Rigid clamping of workpiece

切削刃崩刃
- 减少进给量
- 检测主轴和刀夹刚性
- 工作件的强性夹持



3) Build-up on cutting edge
- Increase cutting speed
- Use a coated insert

刃边积瘤
- 增加切削速度
- 使用涂层刀片



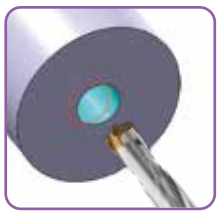
4) Chipping or break down on outer corner
- Reduce feed
- Rigid clamping of workpiece

在转角处崩刃或破损
- 减少进给量
- 增强工件夹持刚性



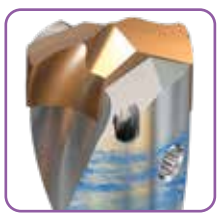
5) Wear of land margin
- Rigid clamping of workpiece
- Reduce cutting speed
- Increase coolant flow

刀具刃带磨损
- 增强工件夹持刚性
- 降低切削速度
- 增加油流量



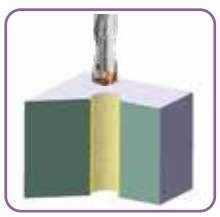
6) Unsatisfactory positioning of the hole
- Rigid clamping of workpiece
- Reduce feed during entrance or exit

孔位置度不良
- 增强工件夹持刚性
- 在进入和退出时降低速度



7) Scratching on holder
- Rigid clamping of workpiece
- Reduce feed
- Increase coolant flow

刀体损伤
- 增强工件夹持刚性
- 减少进给量
- 增加油流量



8) Unsatisfactory surface finish
- Rigid clamping of workpiece
- Increase coolant flow and pressure

令人不满意的表面粗糙度
- 增强工件夹持刚性
- 增加油流量和油压力

YG

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CARBIDE INSERTS & HOLDERS

i-DREAM DRILLS

- For General Steels and Stainless Steels
- 适用于普通钢和不锈钢

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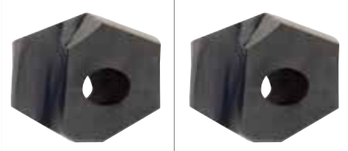
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Please visit 请访问 globalyg1.com/mat for material search 查看产品材料

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工条件) : p. A54, 56

SERIES 系列	YA1A	YA2C	YB1A	YB2C	YC1A	YC2C	YD1A	YD2C	YE1A	YE2C	YF1A	YF2C	YG1A	YG2C
TYPE 类型	A		B		C		D		E		F		G	
SIZE MIN 最小尺寸	12.00		14.00		16.00		18.00		20.00		22.00		24.00	
SIZE MAX 最大尺寸	13.89		15.87		17.86		19.84		21.83		23.81		25.80	
PAGE 页数	A44		A45		A46		A47		A48		A49		A50	
SURFACE TREATMENT 表面处理	TiAlN	TiCN	TiAlN	TiCN	TiAlN	TiCN	TiAlN	TiCN	TiAlN	TiCN	TiAlN	TiCN	TiAlN	TiCN



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

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i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
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Recommended cutting conditions (推荐加工条件) : p. A54, 56

SERIES 系列	YH1A	YH2C	YI1A	YI2C	YJ1A	YJ2C	ZH*3	ZH*5	ZH*7
TYPE 类型	H		I		J				
SIZE MIN 最小尺寸	26.00		28.00		30.00				
SIZE MAX 最大尺寸	27.78		29.77		31.75				
PAGE 页数	A51		A52		A53				
SURFACE TREATMENT 表面处理	TiAlN	TiCN	TiAlN	TiCN	TiAlN	TiCN	3XD	5XD	7XD













ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB 布氏硬度	HRc 硬度	YH1A	YH2C	YI1A	YI2C	YJ1A	YJ2C	ZH*3	ZH*5	ZH*7	
P	1	Non-alloy steel	About 0.15% C	Annealed	125		◎	○	◎	○	◎	○				1
	2		About 0.45% C	Annealed	190	13	◎	○	◎	○	◎	○				2
	3		About 0.45% C	Quenched & Tempered	250	25	◎	○	◎	○	◎	○				3
	4		About 0.75% C	Annealed	270	28	◎	○	◎	○	◎	○				4
	5		About 0.75% C	Quenched & Tempered	300	32	◎		◎		◎					5
	6	Low alloy steel		Annealed	180	10	◎	○	◎	○	◎	○				6
	7			Quenched & Tempered	275	29	◎	○	◎	○	◎	○				7
	8			Quenched & Tempered	300	32	◎		◎		◎					8
	9			Quenched & Tempered	350	38	◎		◎		◎					9
	10	High alloyed steel, and tool steel		Annealed	200	15	◎	○	◎	○	◎	○				10
	11			Quenched & Tempered	325	35	◎		◎		◎					11
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15		◎		◎		◎				12
	13		Martensitic	Quenched & Tempered	240	23		◎		◎		◎				13
	14		Austenitic		180	10		◎		◎		◎				14
K	15	Grey cast iron	Pearlitic / ferritic		180	10	◎		◎		◎					15
	16		Pearlitic (Martensitic)		260	26	◎		◎		◎					16
	17	Nodular cast iron	Ferritic		160	3	◎		◎		◎					17
	18		Pearlitic		250	25	◎		◎		◎					18
	19	Malleable cast iron	Ferritic		130		◎		◎		◎					19
	20		Pearlitic		230	21	◎		◎		◎					20
N	21	Aluminum-wrought alloy	Not Curable		60			○		○						21
	22		Curable	Hardened	100			○		○						22
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75			○		○						23
	24		≤ 12% Si, Curable	Hardened	90			○		○						24
	25		> 12% Si, Not Curable		130			○		○						25
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110			○		○						26
	27		CuZn, CuSnZn (Brass)		90			○		○						27
	28		CuSn, lead-free copper and electrolytic copper		100			○		○						28
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic													29
	30		Rubber, Wood, etc.													30
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15										31
	32			Cured	280	30										32
	33		Ni or Co Based	Annealed	250	25										33
	34			Cured	350	38										34
	35			Cast	320	34										35
	36	Titanium Alloys	Pure Titanium		400 Rm											36
	37		Alpha + Beta Alloys	Hardened	1050 Rm											37
H	38	Hardened steel		Hardened	550	55										38
	39			Hardened	630	60										39
	40	Chilled Cast Iron		Cast	400	42										40
	41	Hardened Cast Iron		Hardened	550	55										41

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SPADE DRILLS

REAMERS

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COUNTER BORES

TECHNICAL DATA

YG *i* - DREAM DRILLS

YA1A SERIES
YA2C SERIES

i-DREAM DRILL INSERTS & HOLDERS
i-梦幻钻 刀片 & 刀柄

- Features of *i*-*Dream Drill* Inserts-
- i-梦幻钻刀片 优点 -

▶ Secure and accurate seating resulting in accurate repeatability and concentricity.
牢固精确的底座可以使产品重复使用而不影响精度.

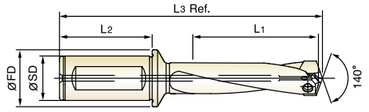
i-Dream Drill ***General*** */* 一般i-梦幻钻
▶ For most steels materials / 适用于大多数钢材

i-Dream Drill ***INOX*** */* 不锈钢用的 i-梦幻钻
▶ For tough, ductile materials and stainless steels
适用于比较坚韧的材质和不锈钢
▶ Light, sharp cutting edge / 具有轻而锋利的切削刃
▶ Soft cutting action / 有软切削作用
▶ Minimize cutting forces / 可以减少切削力
▶ Reduce built-up edge / 减少积屑瘤

- Features of *i*-*Dream Drill* Holders-
- i-梦幻钻刀柄 优点-

▶ Special Alloy Steels maintain its hardness and toughness under high temperatures.
特殊的合金钢材质使产品在高温下仍能保持其硬度和韧性
▶ Innovative surface treatment improves wear resistance and reduces corrosion.
新开发的表面处理方式可以提高产品的耐磨性并减少腐蚀
▶ High Performance flute design allows maximum chip evacuation and minimum interference.
高性能的沟槽设计使排屑最大化和阻碍最小化





CARBIDE | ISO 9766 | h7 | 140° | p. A54, A56

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-
ER COLLET CHUCK	D73 - 115		

Unit(单位) : mm

Series Range	Insert EDP No.		Insert O.D.		
	General (TiAlN)	INOX (TiCN)	h7		
(mm)			dec.	frac.	mm
A Ø12.00 to Ø13.99	YA1A1200	YA2C1200	.4724	-	12.00
	YA1A1210	YA2C1210	.4764	-	12.10
	YA1A1220	YA2C1220	.4803	-	12.20
	YA1A1230	YA2C1230	.4844	31/64	12.30
	YA1A1250	YA2C1250	.4921	-	12.50
	YA1A1260	YA2C1260	.4961	-	12.60
	YA1A1270	YA2C1270	.5000	1/2	12.70
	YA1A1280	YA2C1280	.5039	-	12.80
	YA1A1290	YA2C1290	.5079	-	12.90
	YA1A1300	YA2C1300	.5118	-	13.00
	YA1A1310	YA2C1310	.5156	33/64	13.10
	YA1A1320	YA2C1320	.5197	-	13.20
	YA1A1349	YA2C1349	.5312	17/32	13.49
	YA1A1350	YA2C1350	.5315	-	13.50
	YA1A1360	YA2C1360	.5354	-	13.60
	YA1A1370	YA2C1370	.5394	-	13.70
	YA1A1380	YA2C1380	.5433	-	13.80
	YA1A1389	YA2C1389	.5469	35/64	13.89

Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.
	SD	L2	FD	L1		L3 Ref.	
ZH12003020	20	50	25	3D	36	112.4	TX1213T08
ZH12005020				5D	60	136.4	
ZH12007020				7D	84	160.4	
ZH12503020				3D	37.5	113.4	
ZH12505020				5D	62.5	138.4	
ZH12507020				7D	87.5	163.4	
ZH13003020				3D	39	115.4	TX1314T08
ZH13005020				5D	65	141.4	
ZH13007020				7D	91	167.4	
ZH13503020				3D	40.5	116.4	
ZH13505020				5D	67.5	143.4	
ZH13507020				7D	94.5	170.4	

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : 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
YA1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				◎	◎	◎	◎	◎	◎
YA2C	○	○	○	○		○	○			○		◎	◎	◎						

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
YA1A																					
YA2C	○	○	○	○	○	○	○	○													

YG *i* - DREAM DRILLS

YB1A SERIES
YB2C SERIES

i-DREAM DRILL INSERTS & HOLDERS
i-梦幻钻 刀片 & 刀柄

- Features of *i*-*Dream Drill* Inserts-
- i-梦幻钻刀片 优点 -

▶ Secure and accurate seating resulting in accurate repeatability and concentricity.
牢固精确的底座可以使产品重复使用而不影响精度.

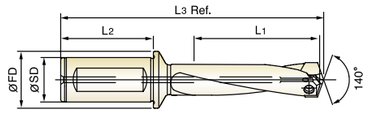
i-Dream Drill ***General*** */* 一般i-梦幻钻
▶ For most steels materials / 适用于大多数钢材

i-Dream Drill ***INOX*** */* 不锈钢用的 i-梦幻钻
▶ For tough, ductile materials and stainless steels
适用于比较坚韧的材质和不锈钢
▶ Light, sharp cutting edge / 具有轻而锋利的切削刃
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CARBIDE | ISO 9766 | h7 | 140° | p. A54, A56

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-
ER COLLET CHUCK	D73 - 115		

Unit(单位) : mm

Series Range	Insert EDP No.		Insert O.D.		
	General (TiAlN)	INOX (TiCN)	h7		
(mm)			dec.	frac.	mm
B Ø14.00 to Ø15.99	YB1A1400	YB2C1400	.5512	-	14.00
	YB1A1410	YB2C1410	.5551	-	14.10
	YB1A1420	YB2C1420	.5591	-	14.20
	YB1A1429	YB2C1429	.5625	9/16	14.29
	YB1A1430	YB2C1430	.5630	-	14.30
	YB1A1440	YB2C1440	.5669	-	14.40
	YB1A1450	YB2C1450	.5709	-	14.50
	YB1A1460	YB2C1460	.5748	-	14.60
	YB1A1468	YB2C1468	.5781	37/64	14.68
	YB1A1480	YB2C1480	.5827	-	14.80
	YB1A1500	YB2C1500	.5906	-	15.00
	YB1A1508	YB2C1508	.5938	19/32	15.08
	YB1A1510	YB2C1510	.5945	-	15.10
	YB1A1520	YB2C1520	.5984	-	15.20
	YB1A1530	YB2C1530	.6024	-	15.30
	YB1A1548	YB2C1548	.6094	39/64	15.48
	YB1A1550	YB2C1550	.6102	-	15.50
	YB1A1560	YB2C1560	.6142	-	15.60
	YB1A1570	YB2C1570	.6181	-	15.70
	YB1A1580	YB2C1580	.6220	-	15.80
	YB1A1587	YB2C1587	.6250	5/8	15.87

Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.
	SD	L2	FD	L1		L3 Ref.	
ZH14003020	20	50	25	3D	42	118.9	TX1415T08
ZH14005020				5D	70	146.9	
ZH14007020				7D	98	174.9	
ZH14503020				3D	43.5	120.9	
ZH14505020				5D	72.5	149.9	
ZH14507020				7D	101.5	178.9	
ZH15003020				3D	45	122.9	TX1516T08
ZH15005020				5D	75	152.9	
ZH15007020				7D	105	182.9	
ZH15503020				3D	46.5	123.9	
ZH15505020				5D	77.5	154.9	
ZH15507020				7D	108.5	185.9	

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : 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
YB1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				◎	◎	◎	◎	◎	◎
YB2C	○	○	○	○		○	○			○		◎	◎	◎						

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
YB1A																					
YB2C	○	○	○	○	○	○	○	○													

i - DREAM DRILLS

YC1A SERIES
YC2C SERIES

i-DREAM DRILL INSERTS & HOLDERS
i-梦幻钻 刀片 & 刀柄

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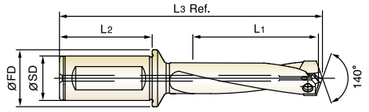
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CARBIDE | ISO 9766 | h7 | 140°

p. A54, A56

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-
ER COLLET CHUCK	D73 - 115		

Unit(单位) : mm

Series Range	Insert EDP No.		Insert O.D.			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.
(mm)	General (TiAlN)	INOX (TiCN)	h7 dec.	h7 frac.	h7 mm		SD	L2	FD	L1		L3 Ref.	
C Ø16.00 to Ø17.99	YC1A1600	YC2C1600	.6299	-	16.00	ZH16003020	20	50	25	3D	48	125.0	TX1617T08
	YC1A1609	YC2C1609	.6335	-	16.09								
	YC1A1620	YC2C1620	.6378	-	16.20	ZH16005020				5D	80	157.0	
	YC1A1627	YC2C1627	.6406	41/64	16.27								
	YC1A1630	YC2C1630	.6417	-	16.30	ZH16007020				7D	112	189.0	
	YC1A1650	YC2C1650	.6496	-	16.50	ZH16503020	20	50	25	3D	49.5	127.0	
	YC1A1667	YC2C1667	.6562	21/32	16.67	ZH16505020				5D	82.5	160.0	
	YC1A1680	YC2C1680	.6614	-	16.80	ZH16507020				7D	115.5	193.0	
	YC1A1700	YC2C1700	.6693	-	17.00	ZH17003020	20	50	25	3D	51	128.0	TX1718T08
	YC1A1707	YC2C1707	.6719	43/64	17.07	ZH17005020				5D	85	162.0	
	YC1A1746	YC2C1746	.6875	11/16	17.46	ZH17007020				7D	119	196.0	
	YC1A1750	YC2C1750	.6890	-	17.50	ZH17503020	20	50	25	3D	52.5	130.0	
	YC1A1780	YC2C1780	.7008	-	17.80	ZH17505020				5D	87.5	165.0	
	YC1A1786	YC2C1786	.7031	45/64	17.86	ZH17507020				7D	122.5	200.0	

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : 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
YC1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				◎	◎	◎	◎	◎	◎
YC2C	○	○	○	○		○	○			○		◎	◎	◎						

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
YC1A																					
YC2C	○	○	○	○	○	○	○	○													

CARBIDE
HSS
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

i - DREAM DRILLS

YD1A SERIES
YD2C SERIES

i-DREAM DRILL INSERTS & HOLDERS
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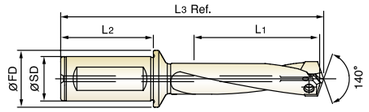
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CARBIDE | ISO 9766 | h7 | 140°

p. A54, A56

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-
ER COLLET CHUCK	D73 - 115		

Unit(单位) : mm

Series Range	Insert EDP No.		Insert O.D.			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.
(mm)	General (TiAlN)	INOX (TiCN)	h7 dec.	h7 frac.	h7 mm		SD	L2	FD	L1		L3 Ref.	
D Ø18.00 to Ø19.99	YD1A1800	YD2C1800	.7087	-	18.00	ZH18003025	25	56	32	3D	54	140.3	TX1819T15
	YD1A1826	YD2C1826	.7188	23/32	18.26	ZH18005025				5D	90	176.3	
	YD1A1850	YD2C1850	.7283	-	18.50	ZH18007025				7D	126	212.3	
	YD1A1865	YD2C1865	.7344	47/64	18.65	ZH18503025	25	56	32	3D	55.5	141.3	
	YD1A1880	YD2C1880	.7402	-	18.80	ZH18505025				5D	92.5	178.3	
	YD1A1900	YD2C1900	.7480	-	19.00	ZH18507025				7D	129.5	215.3	
	YD1A1905	YD2C1905	.7500	3/4	19.05	ZH19003025	25	56	32	3D	57	144.3	TX1920T15
	YD1A1927	YD2C1927	.7587	-	19.27	ZH19005025				5D	95	182.3	
	YD1A1945	YD2C1945	.7656	49/64	19.45	ZH19007025				7D	133	220.3	
	YD1A1950	YD2C1950	.7677	-	19.50	ZH19503025	25	56	32	3D	58.5	145.3	
	YD1A1980	YD2C1980	.7795	-	19.80	ZH19505025				5D	97.5	184.3	
	YD1A1984	YD2C1984	.7812	25/32	19.84	ZH19507025				7D	136.5	223.3	

▶ Other diameters of insert and shank types of holder are available upon request.

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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
YD1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				◎	◎	◎	◎	◎	◎
YD2C	○	○	○	○		○	○			○		◎	◎	◎						

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
YD1A																					
YD2C	○	○	○	○	○	○	○	○													

i - DREAM DRILLS

YE1A SERIES
YE2C SERIES

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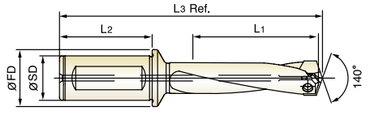
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▶ Light, sharp cutting edge / 具有轻而锋利的切削刃
▶ Soft cutting action / 有软切削作用
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- Features of *i*-*Dream Drill* Holders-
- i-梦幻钻刀柄 优点-

▶ Special Alloy Steels maintain its hardness and toughness under high temperatures.
特殊的合金钢材质使产品在高温下仍能保持其硬度和韧性
▶ Innovative surface treatment improves wear resistance and reduces corrosion.
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▶ High Performance flute design allows maximum chip evacuation and minimum interference.
高性能的沟槽设计使排屑最大化和阻碍最小化





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Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-
ER COLLET CHUCK	D73 - 115		

Unit(单位) : mm

Series Range	Insert EDP No.		Insert O.D.			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.
(mm)	General (TiAlN)	INOX (TiCN)	h7 dec.	frac.	mm		SD	L2	FD	L1		L3 Ref.	
E Ø20.00 to Ø21.99	YE1A2000	YE2C2000	.7874	-	20.00	ZH20003025	25	56	32	3D	60	145.5	TX2021T20
	YE1A2024	YE2C2024	.7969	51/64	20.24	ZH20005025				5D	100	185.5	
						ZH20007025				7D	140	225.5	
	YE1A2050	YE2C2050	.8071	-	20.50	ZH20503025	25	56	32	3D	61.5	147.5	
	YE1A2064	YE2C2064	.8125	13/16	20.64	ZH20505025				5D	102.5	188.5	
	YE1A2070	YE2C2070	.8150	-	20.70	ZH20507025				7D	143.5	229.5	
	YE1A2100	YE2C2100	.8268	-	21.00	ZH21003025	25	56	32	3D	63	149.5	TX2122T20
	YE1A2103	YE2C2103	.8281	53/64	21.03	ZH21005025				5D	105	191.5	
	YE1A2143	YE2C2143	.8438	27/32	21.43	ZH21007025				7D	147	233.5	
	YE1A2150	YE2C2150	.8465	-	21.50	ZH21503025	25	56	32	3D	64.5	150.5	
	YE1A2170	YE2C2170	.8543	-	21.70	ZH21505025				5D	107.5	193.5	
	YE1A2183	YE2C2183	.8594	55/64	21.83	ZH21507025				7D	150.5	236.5	

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : 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
YE1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				◎	◎	◎	◎	◎	◎
YE2C	○	○	○	○		○	○			○		◎	◎	◎						

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
YE1A																					
YE2C	○	○	○	○	○	○	○	○													

i - DREAM DRILLS

YF1A SERIES
YF2C SERIES

i-DREAM DRILL INSERTS & HOLDERS
i-梦幻钻 刀片 & 刀柄

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- i-梦幻钻刀片 优点 -

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i-Dream Drill ***General*** */* 一般i-梦幻钻
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Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-
ER COLLET CHUCK	D73 - 115		

Unit(单位) : mm

Series Range	Insert EDP No.		Insert O.D.			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.
(mm)	General (TiAlN)	INOX (TiCN)	h7 dec.	frac.	mm		SD	L2	FD	L1		L3 Ref.	
F Ø22.00 to Ø23.99	YF1A2200	YF2C2200	.8661	-	22.00	ZH22003025	25	56	32	3D	66	152.4	TX2223T20
	YF1A2223	YF2C2223	.8750	7/8	22.23	ZH22005025				5D	110	196.4	
						ZH22007025				7D	154	240.4	
	YF1A2250	YF2C2250	.8858	-	22.50	ZH22503025	25	56	32	3D	67.5	153.4	
	YF1A2262	YF2C2262	.8906	57/64	22.62	ZH22505025				5D	112.5	198.4	
	YF1A2270	YF2C2270	.8937	-	22.70	ZH22507025				7D	157.5	243.4	
	YF1A2300	YF2C2300	.9055	-	23.00	ZH23003025	25	56	32	3D	69	155.4	TX2324T20
	YF1A2302	YF2C2302	.9062	29/32	23.02	ZH23005025				5D	115	201.4	
	YF1A2342	YF2C2342	.9219	59/64	23.42	ZH23007025				7D	161	247.4	
	YF1A2350	YF2C2350	.9252	-	23.50	ZH23503025	25	56	32	3D	70.5	157.4	
	YF1A2370	YF2C2370	.9331	-	23.70	ZH23505025				5D	117.5	204.4	
	YF1A2381	YF2C2381	.9375	15/16	23.81	ZH23507025				7D	164.5	251.4	

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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
YF1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				◎	◎	◎	◎	◎	◎
YF2C	○	○	○	○		○	○			○		◎	◎	◎						

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
YF1A																					
YF2C	○	○	○	○	○	○	○	○													

YG *i* - DREAM DRILLS

YG1A SERIES
YG2C SERIES

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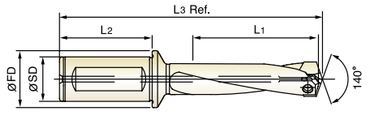
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Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-
ER COLLET CHUCK	D73 - 115		

Unit(单位) : mm

Series Range	Insert EDP No.		Insert O.D.			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.
(mm)	General (TiAlN)	INOX (TiCN)	h7 dec.	h7 frac.	h7 mm		SD	L2	FD	L1		L3 Ref.	
G Ø24.00 to Ø25.99	YG1A2400	YG2C2400	.9449	-	24.00	ZH24003032	32	60	37	3D	72	164.8	TX2425T20
	YG1A2421	YG2C2421	.9531	61/64	24.21	ZH24005032				5D	120	212.8	
						ZH24007032				7D	168	260.8	
	YG1A2450	YG2C2450	.9646	-	24.50	ZH24503032	32	60	37	3D	73.5	165.8	
	YG1A2461	YG2C2461	.9688	31/32	24.61	ZH24505032				5D	122.5	214.8	
	YG1A2470	YG2C2470	.9724	-	24.70	ZH24507032				7D	171.5	263.8	
	YG1A2500	YG2C2500	.9843	63/64	25.00	ZH25003032	32	60	37	3D	75	167.8	TX2526T20
	YG1A2540	YG2C2540	1.0000	1	25.40	ZH25005032				5D	125	217.8	
						ZH25007032				7D	175	267.8	
	YG1A2550	YG2C2550	1.0039	-	25.50	ZH25503032	32	60	37	3D	76.5	170.8	
	YG1A2567	YG2C2567	1.0106	-	25.67	ZH25505032				5D	127.5	221.8	
	YG1A2570	YG2C2570	1.0118	-	25.70	ZH25507032				7D	178.5	272.8	
	YG1A2580	YG2C2580	1.0156	1-1/64	25.80								

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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
YG1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				◎	◎	◎	◎	◎	◎
YG2C	○	○	○	○		○	○			○		◎	◎	◎						

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
YG1A																					
YG2C	○	○	○	○	○	○	○	○													

YG *i* - DREAM DRILLS

YH1A SERIES
YH2C SERIES

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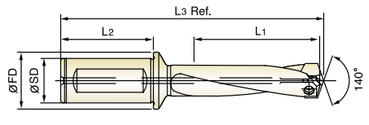
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Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-
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Unit(单位) : mm

Series Range	Insert EDP No.		Insert O.D.			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.
(mm)	General (TiAlN)	INOX (TiCN)	h7 dec.	h7 frac.	h7 mm		SD	L2	FD	L1		L3 Ref.	
H Ø26.00 to Ø27.99	YH1A2600	YH2C2600	1.0236	-	26.00	ZH26003032	32	60	37	3D	78	171.2	TX2627T25
	YH1A2619	YH2C2619	1.0312	1-1/32	26.19	ZH26005032				5D	130	223.2	
						ZH26007032				7D	182	275.2	
	YH1A2650	YH2C2650	1.0433		26.50	ZH26503032	32	60	37	3D	79.5	172.2	
	YH1A2659	YH2C2659	1.0469	1-3/64	26.59	ZH26505032				5D	132.5	225.2	
	YH1A2699	YH2C2699	1.0625	1-1/16	26.99	ZH26507032				7D	185.5	278.2	
	YH1A2700	YH2C2700	1.0630	-	27.00	ZH27003032	32	60	37	3D	81	174.2	TX2728T25
						ZH27005032				5D	135	228.2	
						ZH27007032				7D	189	282.2	
	YH1A2750	YH2C2750	1.0827	-	27.50	ZH27503032	32	60	37	3D	82.5	175.2	
	YH1A2778	YH2C2778	1.0938	1-3/32	27.78	ZH27505032				5D	137.5	230.2	
						ZH27507032				7D	192.5	285.2	

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YH1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				◎	◎	◎	◎	◎	◎
YH2C	○	○	○	○		○	○			○		◎	◎	◎						

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, 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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HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
YH1A																					
YH2C	○	○	○	○	○	○	○	○													

YG i - DREAM DRILLS

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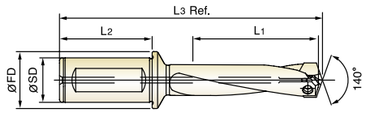
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Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-
ER COLLET CHUCK	D73 - 115		

Unit(单位) : mm

Series Range	Insert EDP No.		Insert O.D.			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth	Overall Length	Screw No.
(mm)	General (TiAlN)	INOX (TiCN)	h7 dec.	h7 frac.	mm		SD	L2	FD	L1	L3 Ref.	
I Ø28.00 to Ø29.99	YI1A2800	YI2C2800	1.1024	-	28.00	ZH28003032	32	60	37	3D	84	178.2	TX2829T25
	YI1A2818	YI2C2818	1.1094	1-7/64	28.18	ZH28005032				5D	140	234.2	
						ZH28007032				7D	196	290.2	
	YI1A2850	YI2C2850	1.1220	-	28.50	ZH28503032	32	60	37	3D	85.5	179.2	
	YI1A2858	YI2C2858	1.1250	1-1/8	28.58	ZH28505032				5D	142.5	236.2	
						ZH28507032				7D	199.5	293.2	
	YI1A2900	YI2C2900	1.1417	-	29.00	ZH29003032	32	60	37	3D	87	182.2	TX2930T25
	YI1A2937	YI2C2937	1.1562	1-5/32	29.37	ZH29005032				5D	145	240.2	
						ZH29007032				7D	203	298.2	
	YI1A2950	YI2C2950	1.1614	-	29.50	ZH29503032	32	60	37	3D	88.5	183.2	
	YI1A2977	YI2C2977	1.1719	1-11/64	29.77	ZH29505032				5D	147.5	242.2	
						ZH29507032				7D	206.5	301.2	

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : 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
YI1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				◎	◎	◎	◎	◎	◎
YI2C	○	○	○	○		○	○			○		◎	◎	◎						

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
YI1A																					
YI2C	○	○	○	○	○	○	○	○													

YG i - DREAM DRILLS

YJ1A SERIES
YJ2C SERIES

i-DREAM DRILL INSERTS & HOLDERS
i-梦幻钻 刀片 & 刀柄

- Features of *i*-*Dream Drill* Inserts-
- i-梦幻钻刀片 优点 -

▶ Secure and accurate seating resulting in accurate repeatability and concentricity.
牢固精确的底座可以使产品重复使用而不影响精度.

i-Dream Drill ***General*** */* 一般i-梦幻钻
▶ For most steels materials / 适用于大多数钢材

i-Dream Drill ***INOX*** */* 不锈钢用的 i-梦幻钻
▶ For tough, ductile materials and stainless steels
适用于比较坚韧的材质和不锈钢
▶ Light, sharp cutting edge / 具有轻而锋利的切削刃
▶ Soft cutting action / 有软切削作用
▶ Minimize cutting forces / 可以减少切削力
▶ Reduce built-up edge / 减少积屑瘤

- Features of *i*-*Dream Drill* Holders-
- i-梦幻钻刀柄 优点-

▶ Special Alloy Steels maintain its hardness and toughness under high temperatures.
特殊的合金钢材质使产品在高温下仍能保持其硬度和韧性
▶ Innovative surface treatment improves wear resistance and reduces corrosion.
新开发的表面处理方式可以提高产品的耐磨性并减少腐蚀
▶ High Performance flute design allows maximum chip evacuation and minimum interference.
高性能的沟槽设计使排屑最大化和阻碍最小化



CARBIDE | ISO 9766 | h7 | 140° | p. A54, A56

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-
ER COLLET CHUCK	D73 - 115		

Unit(单位) : mm

Series Range	Insert EDP No.		Insert O.D.			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth	Overall Length	Screw No.
(mm)	General (TiAlN)	INOX (TiCN)	h7 dec.	h7 frac.	mm		SD	L2	FD	L1	L3 Ref.	
J Ø30.00 to Ø31.99	YJ1A3000	YJ2C3000	1.1811		30.00	ZH30003032	32	60	37	3D	90	186.0	TX3031T25
	YJ1A3016	YJ2C3016	1.1875	1-3/16	30.16	ZH30005032				5D	150	246.0	
						ZH30007032				7D	210	306.0	
	YJ1A3050	YJ2C3050	1.2008		30.50	ZH30503032	32	60	37	3D	91.5	187.0	
	YJ1A3056	YJ2C3056	1.2031	1-13/64	30.56	ZH30505032				5D	152.5	248.0	
	YJ1A3096	YJ2C3096	1.2188	1-7/32	30.96	ZH30507032				7D	213.5	309.0	
	YJ1A3100	YJ2C3100	1.2205		31.00	ZH31003032	32	60	37	3D	93	188.0	TX3132T25
						ZH31005032				5D	155	250.0	
						ZH31007032				7D	217	312.0	
	YJ1A3150	YJ2C3150	1.2402		31.50	ZH31503032	32	60	37	3D	94.5	191.0	
	YJ1A3175	YJ2C3175	1.2500	1-1/4	31.75	ZH31505032				5D	157.5	254.0	
						ZH31507032				7D	220.5	317.0	

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : 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
YJ1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				◎	◎	◎	◎	◎	◎
YJ2C	○	○	○	○		○	○			○		◎	◎	◎						

ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
YJ1A																					
YJ2C	○	○	○	○	○	○	○	○													

i - DREAM DRILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

YA1A, YB1A, YC1A, YD1A, YE1A, YF1A, YG1A, YH1A, YI1A, YJ1A SERIES

i-DREAM DRILLS - GENERAL
i-梦幻钻 - GENERAL

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

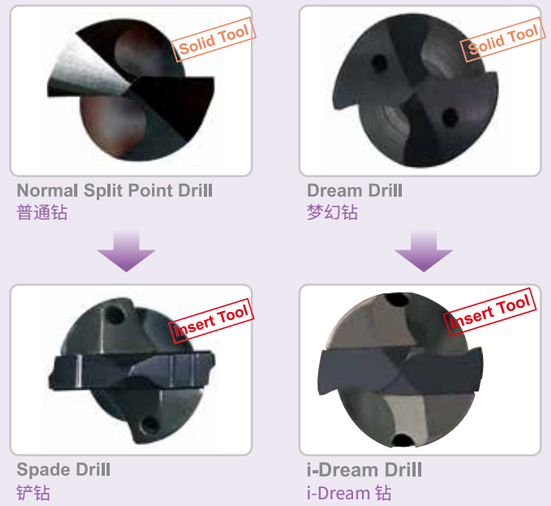
ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Feed(mm/rev)				
				Ø12.00-14.99	Ø15.00-17.99	Ø18.00-21.99	Ø22.00-26.99	Ø27.00-31.99
P	1	Non-alloy steel	95-120	0.16-0.28	0.21-0.35	0.27-0.40	0.34-0.52	0.37-0.55
	2		80-105	0.14-0.24	0.21-0.35	0.27-0.40	0.34-0.52	0.37-0.55
	3		60-80	0.12-0.20	0.17-0.28	0.22-0.32	0.30-0.46	0.33-0.49
	4		55-70	0.10-0.16	0.15-0.25	0.21-0.30	0.25-0.38	0.29-0.43
	5		55-70	0.10-0.16	0.15-0.25	0.21-0.30	0.25-0.38	0.29-0.43
	6	Low alloy steel	70-90	0.12-0.20	0.17-0.28	0.22-0.32	0.30-0.46	0.34-0.50
	7		60-80	0.12-0.20	0.15-0.25	0.22-0.32	0.30-0.46	0.34-0.50
	8		55-70	0.10-0.16	0.13-0.21	0.21-0.30	0.25-0.38	0.29-0.43
	9		45-60	0.08-0.12	0.13-0.21	0.21-0.30	0.25-0.38	0.29-0.43
	10	High alloyed steel, and tool steel	50-65	0.10-0.16	0.13-0.21	0.18-0.26	0.20-0.31	0.24-0.35
	11		40-55	0.10-0.16	0.11-0.18	0.21-0.30	0.20-0.31	0.24-0.35
K	15	Grey cast iron	100-125	0.15-0.26	0.20-0.37	0.27-0.42	0.36-0.51	0.40-0.55
	16		75-95	0.11-0.20	0.16-0.29	0.20-0.30	0.25-0.35	0.29-0.40
	17	Nodular cast iron	95-120	0.13-0.22	0.17-0.31	0.21-0.32	0.28-0.40	0.32-0.44
	18		75-95	0.11-0.20	0.14-0.26	0.19-0.29	0.25-0.35	0.29-0.40
	19	Malleable cast iron	100-125	0.13-0.22	0.17-0.31	0.21-0.32	0.28-0.40	0.32-0.44
	20		75-95	0.11-0.18	0.14-0.26	0.19-0.29	0.25-0.35	0.29-0.40

▶ The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.
Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended.
▶ Recommend you to reduce the feed rate to 85%, 70% when you use 5xD, 7xD holders.
▶ For use of 7xD holder, we recommend to use a pilot drill with equal to or larger than 140° point angle (0.5xD - 1.5xD).
The use of the centering pre-hole improves hole location, roundness and surface finish.

▶ 表中推荐的速度, 进给率和其它参数只可用夹参考
推荐降低速度和进给量(速度降低20%和进给降低10%)
▶ 建议在使用5xD,7xD的刀柄时把进给率降低到85%, 70%
▶ 在使用7xD刀柄时，建议用等于或大于140度顶尖的钻头钻一个直径2/3以上的定位中心孔
定位中心孔的使用提高孔的定位，圆度和表面粗糙度

i - DREAM DRILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工条件

Comparison with Split Point Drill, Spade Drill & Dream Drill
普通钻，铲钻&梦幻钻对比



i - DREAM DRILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

YA2C, YB2C, YC2C, YD2C, YE2C, YF2C, YG2C, YH2C, YI2C, YJ2C SERIES

i-DREAM DRILLS - INOX
i-梦幻钻 - INOX

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

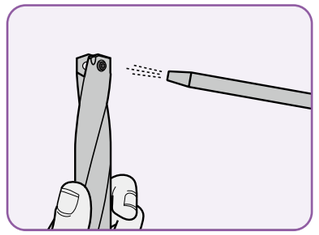
ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Feed(mm/rev) Ø12.00-14.99	Ø15.00-17.99	Ø18.00-21.90	Ø22.00-26.99	Ø27.00-31.99
P	1	Non-alloy steel	95-120	0.16-0.28	0.21-0.35	0.27-0.40	0.34-0.52	0.37-0.55
	2		80-105	0.14-0.24	0.21-0.35	0.27-0.40	0.34-0.52	0.37-0.55
	3		60-80	0.12-0.20	0.17-0.28	0.22-0.32	0.30-0.46	0.33-0.49
	4		55-70	0.10-0.16	0.15-0.25	0.21-0.30	0.25-0.38	0.29-0.43
	6	Low alloy steel	70-90	0.12-0.20	0.17-0.28	0.22-0.32	0.30-0.46	0.34-0.50
	7		60-80	0.12-0.20	0.15-0.25	0.22-0.32	0.30-0.46	0.34-0.50
	10	High alloyed steel, and tool steel	50-65	0.10-0.16	0.13-0.21	0.18-0.26	0.20-0.31	0.24-0.35
M	12	Stainless steel	30-45	0.08-0.14	0.09-0.15	0.10-0.16	0.12-0.20	0.14-0.22
	13		30-45	0.08-0.14	0.09-0.15	0.10-0.16	0.12-0.20	0.14-0.22
	14		45-60	0.10-0.16	0.12-0.18	0.14-0.20	0.15-0.26	0.18-0.28
N	21	Aluminum-wrought alloy	250-330	0.30-0.40	0.35-0.45	0.40-0.50	0.45-0.55	0.50-0.60
	22		200-250	0.30-0.40	0.35-0.45	0.40-0.50	0.45-0.55	0.50-0.60
	23	Aluminum-cast, alloyed	200-250	0.25-0.35	0.30-0.40	0.35-0.45	0.40-0.50	0.45-0.55
	24		150-220	0.25-0.35	0.30-0.40	0.35-0.45	0.40-0.50	0.45-0.55
	25		100-200	0.20-0.30	0.25-0.35	0.30-0.40	0.35-0.45	0.40-0.50
	26	Copper and Copper Alloys (Bronze / Brass)	115-145	0.16-0.28	0.23-0.36	0.29-0.36	0.37-0.45	0.41-0.48
	27		145-185	0.17-0.29	0.24-0.37	0.30-0.38	0.38-0.46	0.42-0.49
	28		95-120	0.06-0.09	0.09-0.13	0.11-0.13	0.15-0.18	0.19-0.22

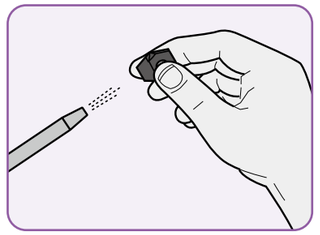
▶The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.
Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended.
▶Recommend you to reduce the feed rate to 85%, 70% when you use 5xD, 7xD holders.
▶For use of 7xD holder, we recommend to use a pilot drill with equal to or larger than 140° point angle (0.5xD - 1.5xD). The use of the centering pre-hole improves hole location, roundness and surface finish.

▶表中推荐的速度, 进给率和其它参数只可用夹参考
推荐降低速度和进给量(速度降低20%和进给降低10%)
▶建议在使用5xD,7xD的刀柄时把进给率降低到85%, 70%
▶在使用7xD刀柄时，建议用等于或大于140度顶尖的钻头钻一个直径2/3以上的定位中心孔
定位中心孔的使用提高孔的定位，圆度和表面粗糙度

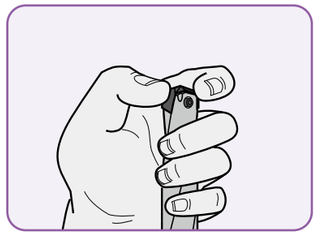
i - DREAM DRILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工条件

ASSEMBLY OF i-DREAM DRILLS
i-梦幻钻的装配

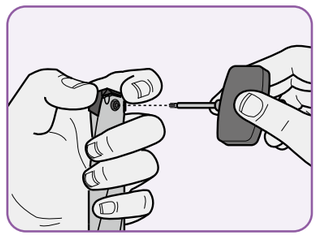




Make sure to clean the insert and insert seat.
确定刀片及刀架的清洁



Slide the drill insert into the slot of the holder and press down the insert to touch the bottom of the slot.
将钻头刀片滑至夹具的夹缝中并按下刀片至夹缝底部.



After confirming the insert is pressed down to the bottom of the slot, tighten the screw using anti-seize compound.
确定刀片按压至夹缝底部后用抓具扣紧螺丝使其进一步融合

WRENCH TYPE	PRODUCT NO.	T-HANDLE No.	SERIES (SIZE)
WING TYPE 	TWWT08	—	A (Ø12.00-Ø13.99)
			B (Ø14.00-Ø15.99)
			C (Ø16.00-Ø17.99)
TORX BIT TYPE 	TWBT15	TWH600 	D (Ø18.00-Ø19.99)
	TWBT20		E, F, G (Ø20.00-Ø25.99)
	TWBT25		H, I, J (Ø26.00-Ø31.99)

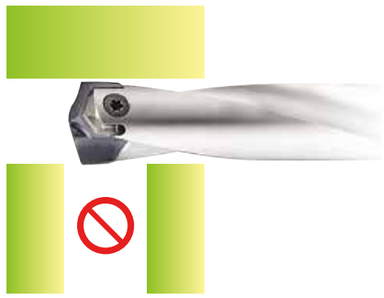
Use the wing type or T-type wrench.
用翼形或T形扳手

▶ Need to use appropriate wrenches and screws as indicated.
根据指示，需要使用合适的扳手和螺钉

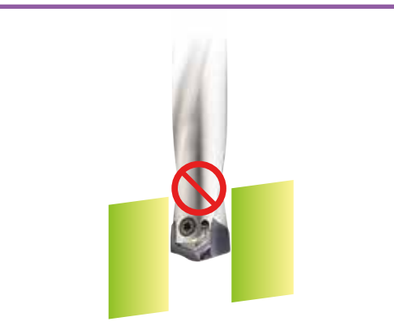
▶ It's important to tighten up the screw properly.
适当的拧紧螺钉是很重要的

CARBIDE
HSS
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

CAUTION-NOT RECOMMENDABLE APPLICATION
注意-不推荐使用



Intersecting cross hole is bigger than the drill insert's Margin Length.
交叉孔比钻头刀片的钻边长度大

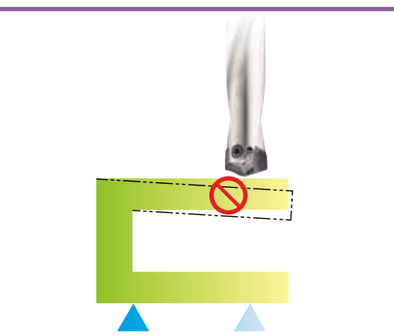


Material with slanting entrance and exit over 7 degrees. (If drilling 7 degrees or under slanting surface, reduce the feed about 30-50%)
倾斜进入的材料和超过7度的出口(如果钻7度的孔或者在倾斜面下钻孔，可减少30~50%的进给)



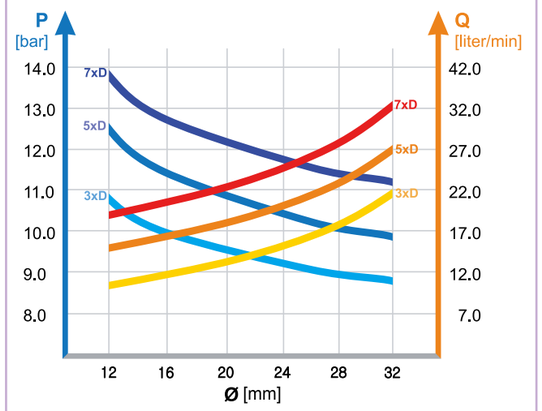
For drilling stacked plates, minimize the space between the plates.
对于钻一堆整齐的薄板，薄板之间的间隙减小到最低

The space between stacked plates can cause insert breakage or poor chip control.
整齐的薄板间隔可导致刀片破损或铁屑不易排除



The material needs to be fixtured securely before drilling.
在钻削前材料需要进行安全固定

RECOMMENDED COOLANT PRESSURE AND FLOW RATE ON VERTICAL DRILLING
在立式钻孔中, 推荐使用的油压和流速



- Recommended emulsion mix is 6 - 8%.
推荐使用6-8%的混合乳化液
- For Drilling into Stainless and High Strength steels, a mix of 10% is recommended.
钻孔加工不锈钢和高强度钢时, 推荐使用10%的混合乳化液
- For horizontal drilling, 30% reduction on the coolant pressure and flow rate is possible.
对于水平钻孔, 油压和流速降低30%是可能的
- Dry drilling is possible for 1-2xD drilling. But not recommended.
干式钻孔可以用于 1-2xD钻削，但是不推荐使用

TROUBLE SHOOTING
问题解答



1) Heavy flank wear / Fast flank wear
- Reduce cutting speed
- Increase feed

巨大磨损/快速磨损
- 降低切削速度
- 增加进给量



2) Chipping on cutting edge
- Reduce feed
- Check the rigidity of spindle and chuck
- Rigid clamping of workpiece

切削刃崩刃
- 减少进给量
- 检测主轴和刀夹刚性
- 工作件的强性夹持



3) Build-up on cutting edge
- Increase cutting speed
- Use a coated insert

刃边积瘤
- 增加切削速度
- 使用涂层刀片



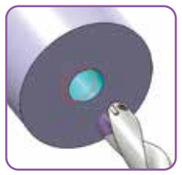
4) Chipping or break down on outer corner
- Reduce feed
- Rigid clamping of workpiece

在转角处崩刃或破损
- 减少进给量
- 增强工件夹持刚性



5) Wear of land margin
- Rigid clamping of workpiece
- Reduce cutting speed
- Increase coolant flow

刀具刃带磨损
- 增强工件夹持刚性
- 降低切削速度
- 增加油流量



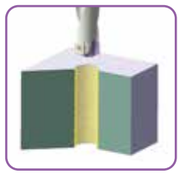
6) Unsatisfactory positioning of the hole
- Rigid clamping of workpiece
- Reduce feed during entrance or exit

孔位置度不良
- 增强工件夹持刚性
- 在进入和退出时降低速度



7) Scratching on holder
- Rigid clamping of workpiece
- Reduce feed
- Increase coolant flow

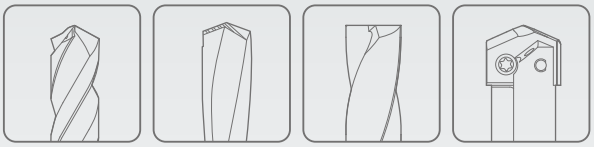
刀体损伤
- 增强工件夹持刚性
- 减少进给量
- 增加油流量



8) Unsatisfactory surface finish
- Rigid clamping of workpiece
- Increase coolant flow and pressure

令人不满意的表面粗糙度
- 增强工件夹持刚性
- 增加油流量和油压力

Global Cutting Tool Leader **YG-1**



HOLEMAKING



Leading Through Innovation

SOLID CARBIDE

DREAM DRILLS - PRO

- For General Purpose (HRc30 to HRc50)
- Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology

- 普通用途通常是HRc30 到 HRc50
- 采用YG-1特殊的 Z 涂层技术，具有超高的硬度和耐热性

SELECTION GUIDE
选用指南

HOLEMAKING TOOLS

SOLID CARBIDE DREAM DRILLS PRO

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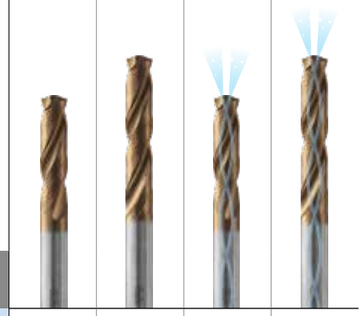
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Please visit 请访问 globalyg1.com/mat for material search 查看产品材料

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工条件) : p. A75

SERIES 系列	DGN523	DGN526	DGN506	DGN508
DRILLING DEPTH 钻销深度	3XD	5XD	3XD	5XD
LENGTH 长度	SHORT 短	LONG 长	SHORT 短	LONG 长
SIZE MIN 最小尺寸	D3.0	D1.0	D3.0	D1.0
SIZE MAX 最大尺寸	D20.0	D20.0	D20.0	D20.0
PAGE 页数	A63	A66	A69	A72
SURFACE TREATMENT 表面处理	Z-Coating			



ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB 布氏硬度	HRc 硬度	DGN523	DGN526	DGN506	DGN508
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				

DREAM DRILLS -PRO

DGN523 SERIES

CARBIDE, DREAM DRILLS PRO
硬质合金, 梦幻钻头-PRO

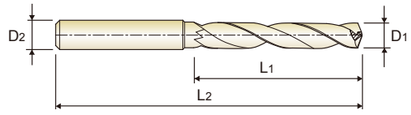
SHORT 短

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DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | p. A75

3 × D

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长	EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长
Z-Coating	D1	D2	L1	L2	Z-Coating	D1	D2	L1	L2
DGN523030	3.0	6	20	62	DGN523054	5.4	6	28	66
DGN523031	3.1	6	20	62	DGN523055	5.5	6	28	66
DGN523032	3.2	6	20	62	DGN523056	5.6	6	28	66
DGN523033	3.3	6	20	62	DGN523057	5.7	6	28	66
DGN523034	3.4	6	20	62	DGN523058	5.8	6	28	66
DGN523035	3.5	6	20	62	DGN523059	5.9	6	28	66
DGN523036	3.6	6	20	62	DGN523060	6.0	6	28	66
DGN523037	3.7	6	20	62	DGN523061	6.1	8	34	79
DGN523038	3.8	6	24	66	DGN523062	6.2	8	34	79
DGN523039	3.9	6	24	66	DGN523063	6.3	8	34	79
DGN523040	4.0	6	24	66	DGN523064	6.4	8	34	79
DGN523041	4.1	6	24	66	DGN523065	6.5	8	34	79
DGN523042	4.2	6	24	66	DGN523066	6.6	8	34	79
DGN523043	4.3	6	24	66	DGN523067	6.7	8	34	79
DGN523044	4.4	6	24	66	DGN523068	6.8	8	34	79
DGN523045	4.5	6	24	66	DGN523069	6.9	8	34	79
DGN523046	4.6	6	24	66	DGN523070	7.0	8	34	79
DGN523047	4.7	6	24	66	DGN523071	7.1	8	41	79
DGN523048	4.8	6	28	66	DGN523072	7.2	8	41	79
DGN523049	4.9	6	28	66	DGN523073	7.3	8	41	79
DGN523050	5.0	6	28	66	DGN523074	7.4	8	41	79
DGN523051	5.1	6	28	66	DGN523075	7.5	8	41	79
DGN523052	5.2	6	28	66	DGN523076	7.6	8	41	79
DGN523053	5.3	6	28	66	DGN523077	7.7	8	41	79

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供.

▶ 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
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																		○			

DREAM DRILLS -PRO

DGN523 SERIES

CARBIDE, DREAM DRILLS PRO

硬质合金, 梦幻钻头-PRO

SHORT

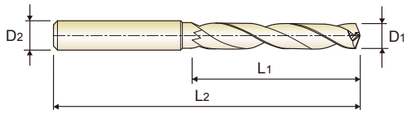
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DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | p. A75

3 × D

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D_1	D_2	L_1	L_2
DGN523078	7.8	8	41	79
DGN523079	7.9	8	41	79
DGN523080	8.0	8	41	79
DGN523081	8.1	10	47	89
DGN523082	8.2	10	47	89
DGN523083	8.3	10	47	89
DGN523084	8.4	10	47	89
DGN523085	8.5	10	47	89
DGN523086	8.6	10	47	89
DGN523087	8.7	10	47	89
DGN523088	8.8	10	47	89
DGN523089	8.9	10	47	89
DGN523090	9.0	10	47	89
DGN523091	9.1	10	47	89
DGN523092	9.2	10	47	89
DGN523093	9.3	10	47	89
DGN523094	9.4	10	47	89
DGN523095	9.5	10	47	89
DGN523096	9.6	10	47	89
DGN523097	9.7	10	47	89
DGN523098	9.8	10	47	89
DGN523099	9.9	10	47	89
DGN523100	10.0	10	47	89
DGN523101	10.1	12	55	102

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D_1	D_2	L_1	L_2
DGN523102	10.2	12	55	102
DGN523103	10.3	12	55	102
DGN523104	10.4	12	55	102
DGN523105	10.5	12	55	102
DGN523106	10.6	12	55	102
DGN523107	10.7	12	55	102
DGN523108	10.8	12	55	102
DGN523109	10.9	12	55	102
DGN523110	11.0	12	55	102
DGN523111	11.1	12	55	102
DGN523112	11.2	12	55	102
DGN523113	11.3	12	55	102
DGN523114	11.4	12	55	102
DGN523115	11.5	12	55	102
DGN523116	11.6	12	55	102
DGN523117	11.7	12	55	102
DGN523118	11.8	12	55	102
DGN523119	11.9	12	55	102
DGN523120	12.0	12	55	102
DGN523123	12.3	14	60	107
DGN523125	12.5	14	60	107
DGN523128	12.8	14	60	107
DGN523130	13.0	14	60	107
DGN523135	13.5	14	60	107

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▶ NEXT PAGE 下页

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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	
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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
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																		○			

DREAM DRILLS -PRO

DGN523 SERIES

CARBIDE, DREAM DRILLS PRO

硬质合金, 梦幻钻头-PRO

SHORT

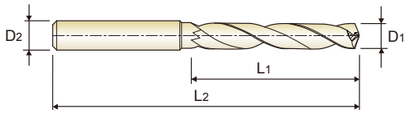
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DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | p. A75

3 × D

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D_1	D_2	L_1	L_2
DGN523138	13.8	14	60	107
DGN523140	14.0	14	60	107
DGN523145	14.5	16	65	115
DGN523148	14.8	16	65	115
DGN523150	15.0	16	65	115
DGN523155	15.5	16	65	115
DGN523158	15.8	16	65	115
DGN523160	16.0	16	65	115
DGN523165	16.5	18	73	123
DGN523168	16.8	18	73	123

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D_1	D_2	L_1	L_2
DGN523170	17.0	18	73	123
DGN523175	17.5	18	73	123
DGN523178	17.8	18	73	123
DGN523180	18.0	18	73	123
DGN523185	18.5	20	79	131
DGN523190	19.0	20	79	131
DGN523195	19.5	20	79	131
DGN523198	19.8	20	79	131
DGN523200	20.0	20	79	131

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供.

◎ : 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																		○			

DREAM DRILLS -PRO

DGN526 SERIES

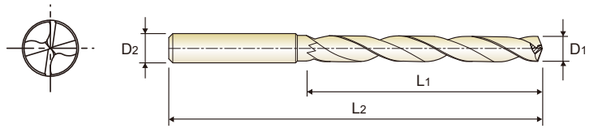
CARBIDE, DREAM DRILLS PRO
硬质合金, 梦幻钻头-PRO

LONG
长

- ▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRc30~50), Cast Iron
- ▶ Wave shape cutting edge to improve chip formation for low cutting force
- ▶ Helical thinning for low thrust, stable torque and good chip breakage
- ▶ Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology

- ▶ 适合加工碳钢，合金钢 (HB225~325)，预硬钢 (HRc30~50)，铸铁
- ▶ 波形切削刃降低切削力，改善切屑形状
- ▶ 螺旋横刃处理，减下加工阻力，切削稳定，断屑良好
- ▶ 采用YG-1特殊的 Z 涂层技术，具有超高的硬度和耐热性





DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | p. A75

5 × D

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No. 型号 Z-Coating	Drill Diameter 刃径 D_1	Shank Diameter 柄径 D_2	Flute Length 槽长 L_1	Overall Length 全长 L_2
DGN526010	1.0	3	8	55
DGN526011	1.1	3	12	55
DGN526012	1.2	3	12	55
DGN526013	1.3	3	12	55
DGN526014	1.4	3	12	55
DGN526015	1.5	3	16	55
DGN526016	1.6	3	16	55
DGN526017	1.7	3	16	55
DGN526018	1.8	3	16	55
DGN526019	1.9	3	16	55
DGN526020	2.0	4	21	57
DGN526021	2.1	4	21	57
DGN526022	2.2	4	21	57
DGN526023	2.3	4	21	57
DGN526024	2.4	4	21	57
DGN526025	2.5	4	21	57
DGN526026	2.6	4	21	57
DGN526027	2.7	4	21	57
DGN526028	2.8	4	21	57
DGN526029	2.9	4	21	57
DGN526030	3.0	6	28	66
DGN526031	3.1	6	28	66
DGN526032	3.2	6	28	66
DGN526033	3.3	6	28	66
DGN526034	3.4	6	28	66
DGN526035	3.5	6	28	66
DGN526036	3.6	6	28	66
DGN526037	3.7	6	28	66
DGN526038	3.8	6	36	74
DGN526039	3.9	6	36	74
DGN526040	4.0	6	36	74
DGN526041	4.1	6	36	74
DGN526042	4.2	6	36	74
DGN526043	4.3	6	36	74
DGN526044	4.4	6	36	74
DGN526045	4.5	6	36	74
DGN526046	4.6	6	36	74
DGN526047	4.7	6	36	74
DGN526048	4.8	6	44	82
DGN526049	4.9	6	44	82
DGN526050	5.0	6	44	82
DGN526051	5.1	6	44	82
DGN526052	5.2	6	44	82
DGN526053	5.3	6	44	82
DGN526054	5.4	6	44	82
DGN526055	5.5	6	44	82
DGN526056	5.6	6	44	82
DGN526057	5.7	6	44	82

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供.

▶ 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
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
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

DREAM DRILLS -PRO

DGN526 SERIES

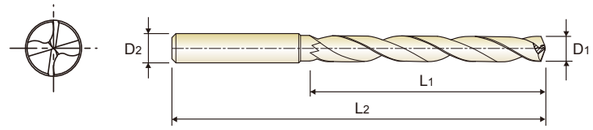
CARBIDE, DREAM DRILLS PRO
硬质合金, 梦幻钻头-PRO

LONG
长

- ▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRc30~50), Cast Iron
- ▶ Wave shape cutting edge to improve chip formation for low cutting force
- ▶ Helical thinning for low thrust, stable torque and good chip breakage
- ▶ Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology

- ▶ 适合加工碳钢，合金钢 (HB225~325)，预硬钢 (HRc30~50)，铸铁
- ▶ 波形切削刃降低切削力，改善切屑形状
- ▶ 螺旋横刃处理，减下加工阻力，切削稳定，断屑良好
- ▶ 采用YG-1特殊的 Z 涂层技术，具有超高的硬度和耐热性





DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | p. A75

5 × D

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No. 型号 Z-Coating	Drill Diameter 刃径 D_1	Shank Diameter 柄径 D_2	Flute Length 槽长 L_1	Overall Length 全长 L_2
DGN526058	5.8	6	44	82
DGN526059	5.9	6	44	82
DGN526060	6.0	6	44	82
DGN526061	6.1	8	53	91
DGN526062	6.2	8	53	91
DGN526063	6.3	8	53	91
DGN526064	6.4	8	53	91
DGN526065	6.5	8	53	91
DGN526066	6.6	8	53	91
DGN526067	6.7	8	53	91
DGN526068	6.8	8	53	91
DGN526069	6.9	8	53	91
DGN526070	7.0	8	53	91
DGN526071	7.1	8	53	91
DGN526072	7.2	8	53	91
DGN526073	7.3	8	53	91
DGN526074	7.4	8	53	91
DGN526075	7.5	8	53	91
DGN526076	7.6	8	53	91
DGN526077	7.7	8	53	91
DGN526078	7.8	8	53	91
DGN526079	7.9	8	53	91
DGN526080	8.0	8	53	91
DGN526081	8.1	10	61	103
DGN526082	8.2	10	61	103
DGN526083	8.3	10	61	103
DGN526084	8.4	10	61	103
DGN526085	8.5	10	61	103
DGN526086	8.6	10	61	103
DGN526087	8.7	10	61	103
DGN526088	8.8	10	61	103
DGN526089	8.9	10	61	103
DGN526090	9.0	10	61	103
DGN526091	9.1	10	61	103
DGN526092	9.2	10	61	103
DGN526093	9.3	10	61	103
DGN526094	9.4	10	61	103
DGN526095	9.5	10	61	103
DGN526096	9.6	10	61	103
DGN526097	9.7	10	61	103
DGN526098	9.8	10	61	103
DGN526099	9.9	10	61	103
DGN526100	10.0	10	61	103
DGN526101	10.1	12	71	118
DGN526102	10.2	12	71	118
DGN526103	10.3	12	71	118
DGN526104	10.4	12	71	118
DGN526105	10.5	12	71	118

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供.

▶ 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
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																		○			

DREAM DRILLS -PRO

DGN526 SERIES

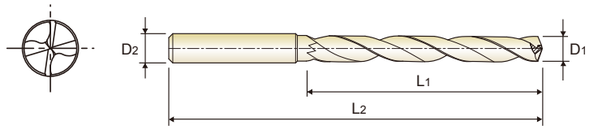
CARBIDE, DREAM DRILLS PRO — LONG

硬质合金, 梦幻钻头-PRO — 长

- ▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRc30~50), Cast Iron
- ▶ Wave shape cutting edge to improve chip formation for low cutting force
- ▶ Helical thinning for low thrust, stable torque and good chip breakage
- ▶ Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology

- ▶ 适合加工碳钢，合金钢 (HB225~325)，预硬钢 (HRc30~50)，铸铁
- ▶ 波形切削刃降低切削力，改善切屑形状
- ▶ 螺旋横刃处理，减下加工阻力，切削稳定，断屑良好
- ▶ 采用YG-1特殊的 Z 涂层技术，具有超高的硬度和耐热性





DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | p. A75

5 × D

Recommended ToolHolder	Plain Shank	Page
	SHRINK FIT HOLDER	D47 - 72
	HYDRAULIC CHUCK	D15 - 46
	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D_1	D_2	L_1	L_2
DGN526106	10.6	12	71	118
DGN526107	10.7	12	71	118
DGN526108	10.8	12	71	118
DGN526109	10.9	12	71	118
DGN526110	11.0	12	71	118
DGN526111	11.1	12	71	118
DGN526112	11.2	12	71	118
DGN526113	11.3	12	71	118
DGN526114	11.4	12	71	118
DGN526115	11.5	12	71	118
DGN526116	11.6	12	71	118
DGN526117	11.7	12	71	118
DGN526118	11.8	12	71	118
DGN526119	11.9	12	71	118
DGN526120	12.0	12	71	118
DGN526122	12.2	14	77	124
DGN526125	12.5	14	77	124
DGN526128	12.8	14	77	124
DGN526130	13.0	14	77	124
DGN526135	13.5	14	77	124
DGN526138	13.8	14	77	124

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D_1	D_2	L_1	L_2
DGN526140	14.0	14	77	124
DGN526142	14.2	16	83	133
DGN526145	14.5	16	83	133
DGN526148	14.8	16	83	133
DGN526150	15.0	16	83	133
DGN526151	15.1	16	83	133
DGN526152	15.2	16	83	133
DGN526155	15.5	16	83	133
DGN526158	15.8	16	83	133
DGN526160	16.0	16	83	133
DGN526165	16.5	18	93	143
DGN526170	17.0	18	93	143
DGN526173	17.3	18	93	143
DGN526175	17.5	18	93	143
DGN526177	17.7	18	93	143
DGN526180	18.0	18	93	143
DGN526185	18.5	20	101	153
DGN526190	19.0	20	101	153
DGN526193	19.3	20	101	153
DGN526195	19.5	20	101	153
DGN526200	20.0	20	101	153

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供.

◎ : 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																		○			

DREAM DRILLS -PRO

DGN506 SERIES

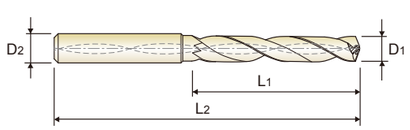
CARBIDE, DREAM DRILLS PRO with COOLANT HOLES — SHORT

硬质合金, 梦幻钻头-PRO 带内冷孔 — 短

- ▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRc30~50), Cast Iron
- ▶ Wave shape cutting edge to improve chip formation for low cutting force
- ▶ Helical thinning for low thrust, stable torque and good chip breakage
- ▶ Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology

- ▶ 适合加工碳钢，合金钢 (HB225~325)，预硬钢 (HRc30~50)，铸铁
- ▶ 波形切削刃降低切削力，改善切屑形状
- ▶ 螺旋横刃处理，减下加工阻力，切削稳定，断屑良好
- ▶ 采用YG-1特殊的 Z 涂层技术，具有超高的硬度和耐热性





DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar | p. A76

3 × D

Recommended ToolHolder	Plain Shank	Page
	SHRINK FIT HOLDER	D47 - 72
	HYDRAULIC CHUCK	D15 - 46
	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D_1	D_2	L_1	L_2
DGN506030	3.0	6	20	62
DGN506031	3.1	6	20	62
DGN506032	3.2	6	20	62
DGN506033	3.3	6	20	62
DGN506034	3.4	6	20	62
DGN506035	3.5	6	20	62
DGN506036	3.6	6	20	62
DGN506037	3.7	6	20	62
DGN506038	3.8	6	24	66
DGN506039	3.9	6	24	66
DGN506040	4.0	6	24	66
DGN506041	4.1	6	24	66
DGN506042	4.2	6	24	66
DGN506043	4.3	6	24	66
DGN506044	4.4	6	24	66
DGN506045	4.5	6	24	66
DGN506046	4.6	6	24	66
DGN506047	4.7	6	24	66
DGN506048	4.8	6	28	66
DGN506049	4.9	6	28	66
DGN506050	5.0	6	28	66
DGN506051	5.1	6	28	66
DGN506052	5.2	6	28	66
DGN506053	5.3	6	28	66

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D_1	D_2	L_1	L_2
DGN506054	5.4	6	28	66
DGN506055	5.5	6	28	66
DGN506056	5.6	6	28	66
DGN506057	5.7	6	28	66
DGN506058	5.8	6	28	66
DGN506059	5.9	6	28	66
DGN506060	6.0	6	28	66
DGN506061	6.1	8	34	79
DGN506062	6.2	8	34	79
DGN506063	6.3	8	34	79
DGN506064	6.4	8	34	79
DGN506065	6.5	8	34	79
DGN506066	6.6	8	34	79
DGN506067	6.7	8	34	79
DGN506068	6.8	8	34	79
DGN506069	6.9	8	34	79
DGN506070	7.0	8	34	79
DGN506071	7.1	8	41	79
DGN506072	7.2	8	41	79
DGN506073	7.3	8	41	79
DGN506074	7.4	8	41	79
DGN506075	7.5	8	41	79
DGN506076	7.6	8	41	79
DGN506077	7.7	8	41	79

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供.

▶ 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
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																		○			

DREAM DRILLS -PRO

DGN506 SERIES

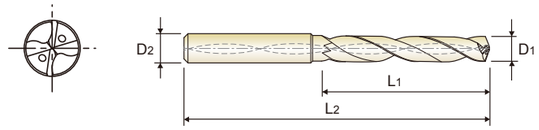
CARBIDE, DREAM DRILLS PRO with COOLANT HOLES — SHORT

硬质合金, 梦幻钻头-PRO 带内冷孔 — 短

- ▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRc30~50), Cast Iron
- ▶ Wave shape cutting edge to improve chip formation for low cutting force
- ▶ Helical thinning for low thrust, stable torque and good chip breakage
- ▶ Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology

- ▶ 适合加工碳钢，合金钢 (HB225~325)，预硬钢 (HRc30~50)，铸铁
- ▶ 波形切削刃降低切削力，改善切屑形状
- ▶ 螺旋横刃处理，减下加工阻力，切削稳定，断屑良好
- ▶ 采用YG-1特殊的 Z 涂层技术，具有超高的硬度和耐热性





DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar | p. A76 | 3 × D

Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D_1	D_2	L_1	L_2
DGN506078	7.8	8	41	79
DGN506079	7.9	8	41	79
DGN506080	8.0	8	41	79
DGN506081	8.1	10	47	89
DGN506082	8.2	10	47	89
DGN506083	8.3	10	47	89
DGN506084	8.4	10	47	89
DGN506085	8.5	10	47	89
DGN506086	8.6	10	47	89
DGN506087	8.7	10	47	89
DGN506088	8.8	10	47	89
DGN506089	8.9	10	47	89
DGN506090	9.0	10	47	89
DGN506091	9.1	10	47	89
DGN506092	9.2	10	47	89
DGN506093	9.3	10	47	89
DGN506094	9.4	10	47	89
DGN506095	9.5	10	47	89
DGN506096	9.6	10	47	89
DGN506097	9.7	10	47	89
DGN506098	9.8	10	47	89
DGN506099	9.9	10	47	89
DGN506100	10.0	10	47	89
DGN506101	10.1	12	55	102

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D_1	D_2	L_1	L_2
DGN506102	10.2	12	55	102
DGN506103	10.3	12	55	102
DGN506104	10.4	12	55	102
DGN506105	10.5	12	55	102
DGN506106	10.6	12	55	102
DGN506107	10.7	12	55	102
DGN506108	10.8	12	55	102
DGN506109	10.9	12	55	102
DGN506110	11.0	12	55	102
DGN506111	11.1	12	55	102
DGN506112	11.2	12	55	102
DGN506113	11.3	12	55	102
DGN506114	11.4	12	55	102
DGN506115	11.5	12	55	102
DGN506116	11.6	12	55	102
DGN506117	11.7	12	55	102
DGN506118	11.8	12	55	102
DGN506119	11.9	12	55	102
DGN506120	12.0	12	55	102
DGN506125	12.5	14	60	107
DGN506130	13.0	14	60	107
DGN506135	13.5	14	60	107
DGN506140	14.0	14	60	107
DGN506145	14.5	16	65	115

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供.

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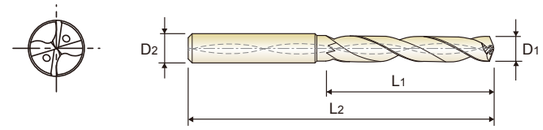
◎ : Excellent (优秀) ○ : Good (良好)

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																		○			

DREAM DRILLS -PRO
DGN506 SERIES
CARBIDE, DREAM DRILLS PRO with COOLANT HOLES — SHORT
硬质合金, 梦幻钻头-PRO 带内冷孔 — 短
▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRc30~50), Cast Iron
▶ Wave shape cutting edge to improve chip formation for low cutting force
▶ Helical thinning for low thrust, stable torque and good chip breakage
▶ Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology
▶ 适合加工碳钢，合金钢 (HB225~325)，预硬钢 (HRc30~50)，铸铁
▶ 波形切削刃降低切削力，改善切屑形状
▶ 螺旋横刃处理，减下加工阻力，切削稳定，断屑良好
▶ 采用YG-1特殊的 Z 涂层技术，具有超高的硬度和耐热性





DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar | p. A76 | 3 × D
Recommended ToolHolder
Plain Shank — Page
◎ SHRINK FIT HOLDER D47 - 72
◎ HYDRAULIC CHUCK D15 - 46
○ ER COLLET CHUCK D73 - 115
Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D_1	D_2	L_1	L_2
DGN506150	15.0	16	65	115
DGN506155	15.5	16	65	115
DGN506160	16.0	16	65	115
DGN506165	16.5	18	73	123
DGN506170	17.0	18	73	123
DGN506175	17.5	18	73	123

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D_1	D_2	L_1	L_2
DGN506180	18.0	18	73	123
DGN506185	18.5	20	79	131
DGN506190	19.0	20	79	131
DGN506195	19.5	20	79	131
DGN506200	20.0	20	79	131

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供.

◎ : 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																		○			

DREAM DRILLS -PRO

DGN508 SERIES

CARBIDE, DREAM DRILLS PRO with COOLANT HOLES — *LONG*

硬质合金, 梦幻钻头-PRO 带内冷孔 — 长

- ▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRc30~50), Cast Iron
- ▶ Wave shape cutting edge to improve chip formation for low cutting force
- ▶ Helical thinning for low thrust, stable torque and good chip breakage
- ▶ Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology

- ▶ 适合加工碳钢，合金钢 (HB225~325)，预硬钢 (HRc30~50)，铸铁
- ▶ 波形切削刃降低切削力，改善切屑形状
- ▶ 螺旋横刃处理，减下加工阻力，切削稳定，断屑良好
- ▶ 采用YG-1特殊的 Z 涂层技术，具有超高的硬度和耐热性



DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar | p. A76 | 5 × D

Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D_1	D_2	L_1	L_2
DGN508010	1.0	3	8	55
DGN508011	1.1	3	12	55
DGN508012	1.2	3	12	55
DGN508013	1.3	3	12	55
DGN508014	1.4	3	12	55
DGN508015	1.5	3	16	55
DGN508016	1.6	3	16	55
DGN508017	1.7	3	16	55
DGN508018	1.8	3	16	55
DGN508019	1.9	3	16	55
DGN508020	2.0	4	21	57
DGN508021	2.1	4	21	57
DGN508022	2.2	4	21	57
DGN508023	2.3	4	21	57
DGN508024	2.4	4	21	57
DGN508025	2.5	4	21	57
DGN508026	2.6	4	21	57
DGN508027	2.7	4	21	57
DGN508028	2.8	4	21	57
DGN508029	2.9	4	21	57
DGN508030	3.0	6	28	66
DGN508031	3.1	6	28	66
DGN508032	3.2	6	28	66
DGN508033	3.3	6	28	66

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D_1	D_2	L_1	L_2
DGN508034	3.4	6	28	66
DGN508035	3.5	6	28	66
DGN508036	3.6	6	28	66
DGN508037	3.7	6	28	66
DGN508038	3.8	6	36	74
DGN508039	3.9	6	36	74
DGN508040	4.0	6	36	74
DGN508041	4.1	6	36	74
DGN508042	4.2	6	36	74
DGN508043	4.3	6	36	74
DGN508044	4.4	6	36	74
DGN508045	4.5	6	36	74
DGN508046	4.6	6	36	74
DGN508047	4.7	6	36	74
DGN508048	4.8	6	44	82
DGN508049	4.9	6	44	82
DGN508050	5.0	6	44	82
DGN508051	5.1	6	44	82
DGN508052	5.2	6	44	82
DGN508053	5.3	6	44	82
DGN508054	5.4	6	44	82
DGN508055	5.5	6	44	82
DGN508056	5.6	6	44	82
DGN508057	5.7	6	44	82

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供.
▶ 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
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																		○			

DREAM DRILLS -PRO
DGN508 SERIES
CARBIDE, DREAM DRILLS PRO with COOLANT HOLES — LONG
硬质合金, 梦幻钻头-PRO 带内冷孔 — 长
▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRc30~50), Cast Iron
▶ Wave shape cutting edge to improve chip formation for low cutting force
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▶ 采用YG-1特殊的 Z 涂层技术，具有超高的硬度和耐热性



DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar | p. A76 | 5 × D
Recommended ToolHolder
Plain Shank — Page
◎ SHRINK FIT HOLDER D47 - 72
◎ HYDRAULIC CHUCK D15 - 46
○ ER COLLET CHUCK D73 - 115
Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D_1	D_2	L_1	L_2
DGN508058	5.8	6	44	82
DGN508059	5.9	6	44	82
DGN508060	6.0	6	44	82
DGN508061	6.1	8	53	91
DGN508062	6.2	8	53	91
DGN508063	6.3	8	53	91
DGN508064	6.4	8	53	91
DGN508065	6.5	8	53	91
DGN508066	6.6	8	53	91
DGN508067	6.7	8	53	91
DGN508068	6.8	8	53	91
DGN508069	6.9	8	53	91
DGN508070	7.0	8	53	91
DGN508071	7.1	8	53	91
DGN508072	7.2	8	53	91
DGN508073	7.3	8	53	91
DGN508074	7.4	8	53	91
DGN508075	7.5	8	53	91
DGN508076	7.6	8	53	91
DGN508077	7.7	8	53	91
DGN508078	7.8	8	53	91
DGN508079	7.9	8	53	91
DGN508080	8.0	8	53	91
DGN508081	8.1	10	61	103

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D_1	D_2	L_1	L_2
DGN508082	8.2	10	61	103
DGN508083	8.3	10	61	103
DGN508084	8.4	10	61	103
DGN508085	8.5	10	61	103
DGN508086	8.6	10	61	103
DGN508087	8.7	10	61	103
DGN508088	8.8	10	61	103
DGN508089	8.9	10	61	103
DGN508090	9.0	10	61	103
DGN508091	9.1	10	61	103
DGN508092	9.2	10	61	103
DGN508093	9.3	10	61	103
DGN508094	9.4	10	61	103
DGN508095	9.5	10	61	103
DGN508096	9.6	10	61	103
DGN508097	9.7	10	61	103
DGN508098	9.8	10	61	103
DGN508099	9.9	10	61	103
DGN508100	10.0	10	61	103
DGN508101	10.1	12	71	118
DGN508102	10.2	12	71	118
DGN508103	10.3	12	71	118
DGN508104	10.4	12	71	118
DGN508105	10.5	12	71	118

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供.
▶ 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
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																		○			

DREAM DRILLS -PRO

DGN508 SERIES

CARBIDE, DREAM DRILLS PRO with COOLANT HOLES — LONG

硬质合金, 梦幻钻头-PRO 带内冷孔 — 长

- ▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRc30~50), Cast Iron
- ▶ Wave shape cutting edge to improve chip formation for low cutting force
- ▶ Helical thinning for low thrust, stable torque and good chip breakage
- ▶ Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology

- ▶ 适合加工碳钢，合金钢 (HB225~325)，预硬钢 (HRc30~50)，铸铁
- ▶ 波形切削刃降低切削力，改善切屑形状
- ▶ 螺旋横刃处理，减下加工阻力，切削稳定，断屑良好
- ▶ 采用YG-1特殊的 Z 涂层技术，具有超高的硬度和耐热性



DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar | p. A76

5 × D

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D_1	D_2	L_1	L_2
DGN508106	10.6	12	71	118
DGN508107	10.7	12	71	118
DGN508108	10.8	12	71	118
DGN508109	10.9	12	71	118
DGN508110	11.0	12	71	118
DGN508111	11.1	12	71	118
DGN508112	11.2	12	71	118
DGN508113	11.3	12	71	118
DGN508114	11.4	12	71	118
DGN508115	11.5	12	71	118
DGN508116	11.6	12	71	118
DGN508117	11.7	12	71	118
DGN508118	11.8	12	71	118
DGN508119	11.9	12	71	118
DGN508120	12.0	12	71	118
DGN508125	12.5	14	77	124

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D_1	D_2	L_1	L_2
DGN508130	13.0	14	77	124
DGN508135	13.5	14	77	124
DGN508140	14.0	14	77	124
DGN508145	14.5	16	83	133
DGN508150	15.0	16	83	133
DGN508155	15.5	16	83	133
DGN508160	16.0	16	83	133
DGN508165	16.5	18	93	143
DGN508170	17.0	18	93	143
DGN508175	17.5	18	93	143
DGN508180	18.0	18	93	143
DGN508185	18.5	20	101	153
DGN508190	19.0	20	101	153
DGN508195	19.5	20	101	153
DGN508200	20.0	20	101	153

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供.

◎ : 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																		○			

DREAM DRILLS -PRO

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

DGN523, DGN526 SERIES — without COOLANT HOLES 不带内冷孔

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 1.0	2.0	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 3.0	4.0	5.0	6.0
P	2	Non-alloy steel	85	RPM	27060	13530	120	RPM	12730	9550	7640	6370
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
	3		85	RPM	27060	13530	120	RPM	12730	9550	7640	6370
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
	4		85	RPM	27060	13530	120	RPM	12730	9550	7640	6370
				FEED	0.03-0.05	0.05-0.07		FEED	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18
	5		75	RPM	23870	11940	95	RPM	10080	7560	6050	5040
				FEED	0.03-0.05	0.05-0.07		FEED	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18
	6	Low alloy steel	85	RPM	27060	13530	120	RPM	12730	9550	7640	6370
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
	7		75	RPM	23870	11940	95	RPM	10080	7560	6050	5040
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.10-0.20	0.12-0.24
	8		75	RPM	23870	11940	95	RPM	10080	7560	6050	5040
				FEED	0.02-0.04	0.03-0.05		FEED	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18
	9		36	RPM	11460	5730	50	RPM	5310	3980	3180	2650
				FEED	0.02-0.04	0.03-0.05		FEED	0.03-0.08	0.05-0.11	0.08-0.14	0.10-0.16
	10	High alloyed steel, and tool steel	60	RPM	19100	9550	80	RPM	8490	6370	5090	4240
				FEED	0.03-0.05	0.05-0.07		FEED	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18
	11		35	RPM	11140	5570	45	RPM	4770	3580	2860	2390
				FEED	0.02-0.04	0.03-0.05		FEED	0.03-0.08	0.05-0.11	0.08-0.14	0.10-0.16
M	12	Stainless steel	60	RPM	19100	9550	85	RPM	9020	6760	5410	4510
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
	13		45	RPM	14320	7160	55	RPM	5840	4380	3500	2920
				FEED	0.02-0.04	0.03-0.05		FEED	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18
K	15	Grey cast iron	85	RPM	27060	13530	120	RPM	12730	9550	7640	6370
				FEED	0.04-0.06	0.04-0.06		FEED	0.08-0.14	0.12-0.18	0.15-0.22	0.20-0.26
	16		80	RPM	25460	12730	95	RPM	10080	7560	6050	5040
				FEED	0.04-0.06	0.04-0.06		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
	17	Nodular cast iron	85	RPM	27060	13530	120	RPM	12730	9550	7640	6370
				FEED	0.04-0.06	0.04-0.06		FEED	0.08-0.14	0.12-0.18	0.15-0.22	0.20-0.26
	18		60	RPM	19100	9550	85	RPM	9020	6760	5410	4510
				FEED	0.04-0.06	0.04-0.06		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
	19	Malleable cast iron	75	RPM	23870	11940	95	RPM	10080	7560	6050	5040
				FEED	0.04-0.06	0.04-0.06		FEED	0.08-0.14	0.12-0.18	0.15-0.22	0.20-0.26
	20		60	RPM	19100	9550	85	RPM	9020	6760	5410	4510
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
H	55	Hardened steel	25	RPM	7960	3980	30	RPM	3180	2390	1910	1590
				FEED	0.01-0.02	0.01-0.03		FEED	0.01-0.03	0.01-0.04	0.02-0.05	0.03-0.06

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 8.0	10.0	12.0	14.0	16.0	18.0	20.0
P	2	Non-alloy steel	120	RPM	4770	3820	3180	2730	2390	2120	1910
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	3		120	RPM	4770	3820	3180	2730	2390	2120	1910
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	4		120	RPM	4770	3820	3180	2730	2390	2120	1910
				FEED	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
	5		95	RPM	3780	3020	2520	2160	1890	1680	1510
				FEED	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
	6	Low alloy steel	120	RPM	4770	3820	3180	2730	2390	2120	1910
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	7		95	RPM	3780	3020	2520	2160	1890	1680	1510
				FEED	0.16-0.28	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	8		95	RPM	3780	3020	2520	2160	1890	1680	1510
				FEED	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
	9		50	RPM	1990	1590	1330	1140	990	880	800
				FEED	0.12-0.18	0.13-0.19	0.14-0.20	0.15-0.21	0.16-0.22	0.17-0.25	0.18-0.28
	10	High alloyed steel, and tool steel	80	RPM	3180	2550	2120	1820	1590	1410	1270
				FEED	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
	11		45	RPM	1790	1430	1190	1020	900	800	720
				FEED	0.12-0.18	0.13-0.19	0.14-0.20	0.15-0.21	0.16-0.22	0.17-0.25	0.18-0.28
M	12	Stainless steel	85	RPM	3380	2710	2250	1930	1690	1500	1350
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	13		55	RPM	2190	1750	1460	1250	1090	970	880
				FEED	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
K	15	Grey cast iron	120	RPM	4770	3820	3180	2730	2390	2120	1910
				FEED	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
	16		95	RPM	3780	3020	2520	2160	1890	1680	1510
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	17	Nodular cast iron	120	RPM	4770	3820	3180	2730	2390	2120	1910
				FEED	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
	18		85	RPM	3380	2710	2250	1930	1690	1500	1350
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	19	Malleable cast iron	95	RPM	3780	3020	2520	2160	1890	1680	1510
				FEED	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
	20		85	RPM	3380	2710	2250	1930	1690	1500	1350
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
H	55	Hardened steel	30	RPM	1190	950	800	680	600	530	480
				FEED	0.03-0.06	0.04-0.07	0.04-0.08	0.05-0.09	0.05-0.09	0.05-0.10	0.05-0.10

▶ Recommend to reduce the feed rate as following 推荐减少进给量如下
Feed 进给 100% : DGN523(3×D), DGN526(5×D)

DREAM DRILLS -PRO

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

DGN506, DGN508 SERIES
with COOLANT HOLES
带内冷孔

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 1.0	2.0	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 3.0	4.0	5.0	6.0
P	2	Non-alloy steel	95	RPM	30240	15120	130	RPM	13790	10350	8280	6900
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
	3		95	RPM	30240	15120	130	RPM	13790	10350	8280	6900
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
	4		95	RPM	30240	15120	130	RPM	13790	10350	8280	6900
				FEED	0.03-0.05	0.05-0.07		FEED	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18
	5		85	RPM	27060	13530	110	RPM	11670	8750	7000	5840
				FEED	0.03-0.05	0.05-0.07		FEED	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18
	6	Low alloy steel	95	RPM	30240	15120	130	RPM	13790	10350	8280	6900
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
	7		85	RPM	27060	13530	110	RPM	11670	8750	7000	5840
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.10-0.20	0.12-0.24
	8		95	RPM	30240	15120	110	RPM	11670	8750	7000	5840
				FEED	0.02-0.04	0.03-0.05		FEED	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18
	9		50	RPM	15920	7960	60	RPM	6370	4770	3820	3180
				FEED	0.02-0.04	0.03-0.05		FEED	0.03-0.08	0.05-0.11	0.08-0.14	0.10-0.16
	10	High alloyed steel, and tool steel	70	RPM	22280	11140	90	RPM	9550	7160	5730	4770
				FEED	0.03-0.05	0.05-0.07		FEED	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18
	11		45	RPM	14320	7160	50	RPM	5310	3980	3180	2650
				FEED	0.02-0.04	0.03-0.05		FEED	0.03-0.08	0.05-0.11	0.08-0.14	0.10-0.16
M	12	Stainless steel	75	RPM	23870	11940	95	RPM	10080	7560	6050	5040
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
	13		55	RPM	17510	8750	65	RPM	6900	5170	4140	3450
				FEED	0.02-0.04	0.03-0.05		FEED	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18
K	15	Grey cast iron	95	RPM	30240	15120	130	RPM	13790	10350	8280	6900
				FEED	0.04-0.06	0.04-0.06		FEED	0.08-0.14	0.12-0.18	0.15-0.22	0.20-0.26
	16		90	RPM	28650	14320	115	RPM	12200	9150	7320	6100
				FEED	0.04-0.06	0.04-0.06		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
	17	Nodular cast iron	110	RPM	35010	17510	145	RPM	15380	11540	9230	7690
				FEED	0.04-0.06	0.04-0.06		FEED	0.08-0.14	0.12-0.18	0.15-0.22	0.20-0.26
	18		75	RPM	23870	11940	95	RPM	10080	7560	6050	5040
				FEED	0.04-0.06	0.04-0.06		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
	19	Malleable cast iron	85	RPM	27060	13530	110	RPM	11670	8750	7000	5840
				FEED	0.04-0.06	0.04-0.06		FEED	0.08-0.14	0.12-0.18	0.15-0.22	0.20-0.26
	20		75	RPM	23870	11940	95	RPM	10080	7560	6050	5040
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22
H	55	Hardened steel	30	RPM	9550	4770	35	RPM	3710	2790	2230	1860
				FEED	0.01-0.02	0.01-0.03		FEED	0.01-0.03	0.01-0.04	0.02-0.05	0.03-0.06

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 8.0	10.0	12.0	14.0	16.0	18.0	20.0
P	2	Non-alloy steel	130	RPM	5170	4140	3450	2960	2590	2300	2070
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	3		130	RPM	5170	4140	3450	2960	2590	2300	2070
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	4		130	RPM	5170	4140	3450	2960	2590	2300	2070
				FEED	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
	5		110	RPM	4380	3500	2920	2500	2190	1950	1750
				FEED	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
	6	Low alloy steel	130	RPM	5170	4140	3450	2960	2590	2300	2070
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	7		110	RPM	4380	3500	2920	2500	2190	1950	1750
				FEED	0.16-0.28	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	8		110	RPM	4380	3500	2920	2500	2190	1950	1750
				FEED	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
	9		60	RPM	2390	1910	1590	1360	1190	1060	950
				FEED	0.12-0.18	0.13-0.19	0.14-0.20	0.15-0.21	0.16-0.22	0.17-0.25	0.18-0.28
	10	High alloyed steel, and tool steel	90	RPM	3580	2860	2390	2050	1790	1590	1430
				FEED	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
	11		50	RPM	1990	1590	1330	1140	990	880	800
				FEED	0.12-0.18	0.13-0.19	0.14-0.20	0.15-0.21	0.16-0.22	0.17-0.25	0.18-0.28
M	12	Stainless steel	95	RPM	3780	3020	2520	2160	1890	1680	1510
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	13		65	RPM	2590	2070	1720	1480	1290	1150	1030
				FEED	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
K	15	Grey cast iron	130	RPM	5170	4140	3450	2960	2590	2300	2070
				FEED	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
	16		115	RPM	4580	3660	3050	2610	2290	2030	1830
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	17	Nodular cast iron	145	RPM	5770	4620	3850	3300	2880	2560	2310
				FEED	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
	18		95	RPM	3780	3020	2520	2160	1890	1680	1510
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	19	Malleable cast iron	110	RPM	4380	3500	2920	2500	2190	1950	1750
				FEED	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
	20		95	RPM	3780	3020	2520	2160	1890	1680	1510
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
H	55	Hardened steel	35	RPM	1390	1110	930	800	700	620	560
				FEED	0.03-0.06	0.04-0.07	0.04-0.08	0.05-0.09	0.05-0.09	0.05-0.10	0.05-0.10

▶ Recommend to reduce the feed rate as following 推荐减少进给量如下
Feed 进给 100% : DGN506(3×D), DGN508(5×D)

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SOLID CARBIDE

DREAM DRILLS -GENERAL

- For General Purpose (HRc30 to HRc50)
- 普通用途通常是HRc30 到 HRc50

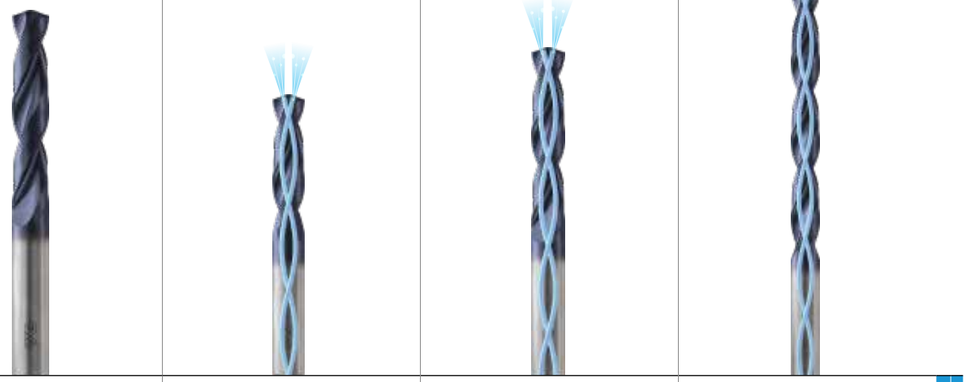
SELECTION GUIDE
选用指南

HOLEMAKING TOOLS

SERIES 系列	DH404	DH423	DH424	DH406	DH408	DH421
DRILLING DEPTH 钻销深度	3XD	3XD	5XD	3XD	5XD	8XD
LENGTH 长度	STUB 超短	SHORT 短	LONG 长	SHORT 短	LONG 长	EXTRA LONG 超长
SIZE MIN 最小尺寸	D3.0	D3.0	D1.0	D3.0	D1.0	D3.0
SIZE MAX 最大尺寸	D20.0	D20.0	D20.0	D20.0	D20.0	D14.0
PAGE 页数	A80	A82	A85	A88	A91	A94
SURFACE TREATMENT 表面处理	TiAlN		TiAlN			

SOLID CARBIDE
DREAM DRILLS
GENERAL

For General Purpose (HRc30 to HRc50)
普通用途通常是HRc30 到 HRc50

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◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工条件) : p. A96

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB 布氏硬度	HRc 硬度	DH404	DH423	DH424	DH406	DH408	DH421	
P	1	Non-alloy steel	About 0.15% C	Annealed	125								1
	2		About 0.45% C	Annealed	190	13	◎	◎	◎	◎	◎	◎	2
	3		About 0.45% C	Quenched & Tempered	250	25	◎	◎	◎	◎	◎	◎	3
	4		About 0.75% C	Annealed	270	28	◎	◎	◎	◎	◎	◎	4
	5		About 0.75% C	Quenched & Tempered	300	32	○	○	○	○	○	○	5
	6	Low alloy steel		Annealed	180	10	◎	◎	◎	◎	◎	◎	6
	7			Quenched & Tempered	275	29	◎	◎	◎	◎	◎	◎	7
	8			Quenched & Tempered	300	32	○	○	○	○	○	○	8
	9			Quenched & Tempered	350	38	○	○	○	○	○	○	9
	10	High alloyed steel, and tool steel		Annealed	200	15	◎	◎	◎	◎	◎	◎	10
	11			Quenched & Tempered	325	35	○	○	○	○	○	○	11
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15	○	○	○	○	○	○	12
	13		Martensitic	Quenched & Tempered	240	23	○	○	○	○	○	○	13
	14		Austenitic		180	10							14
K	15	Grey cast iron	Pearlitic / ferritic		180	10	◎	◎	◎	◎	◎	◎	15
	16		Pearlitic (Martensitic)		260	26	○	○	○	○	○	○	16
	17	Nodular cast iron	Ferritic		160	3	◎	◎	◎	◎	◎	◎	17
	18		Pearlitic		250	25	○	○	○	○	○	○	18
	19	Malleable cast iron	Ferritic		130		◎	◎	◎	◎	◎	◎	19
	20		Pearlitic		230	21	○	○	○	○	○	○	20
N	21	Aluminum-wrought alloy	Not Curable		60								21
	22		Curable	Hardened	100								22
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75								23
	24		≤ 12% Si, Curable	Hardened	90								24
	25		> 12% Si, Not Curable		130								25
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110								26
	27		CuZn, CuSnZn (Brass)		90								27
	28		CuSn, lead-free copper and electrolytic copper		100								28
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic										29
	30		Rubber, Wood, etc.										30
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15							31
	32			Cured	280	30							32
	33		Ni or Co Based	Annealed	250	25							33
	34			Cured	350	38							34
	35			Cast	320	34							35
	36	Titanium Alloys	Pure Titanium		400 Rm								36
	37		Alpha + Beta Alloys	Hardened	1050 Rm								37
H	38	Hardened steel		Hardened	550	55	○	○	○	○	○	○	38
	39			Hardened	630	60							39
	40	Chilled Cast Iron		Cast	400	42							40
	41	Hardened Cast Iron		Hardened	550	55							41

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MULTI-1 DRILLS
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WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

DREAM DRILLS - GENERAL

DH404 SERIES

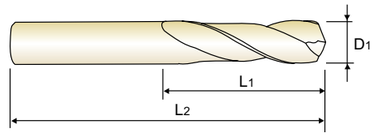
CARBIDE, DREAM DRILLS GENERAL — STUB

硬质合金 梦幻钻头 — 超短

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
- ▶ Self centering and chip breaking by R-thinning
- ▶ Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
- ▶ Optimized flute shape for strength of drilling and smooth chip evacuation

- ▶ 钻孔 钢件，铸钢，铸铁，球墨铸铁
- ▶ 由于R型中心刃，卓越自定心，断屑
- ▶ 由于刃部的波形和负角设计，实现低阻力，稳定扭矩和提高刀具寿命
- ▶ 最佳沟槽设计使强力钻孔和顺畅排屑





DIN 6539 | CARBIDE | 30° | h6 | h7 | 140° | p. A96-A97

$D_1=D_2$

3 × D

Recommended ToolHolder

	Plain Shank	Page
SHRINK FIT HOLDER		D47 - 72
HYDRAULIC CHUCK		D15 - 46
ER COLLET CHUCK		D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
型号	刃径	槽长	全长
TiAlN	D_1	L_1	L_2
DH404030	3.0	16	46
DH404031	3.1	18	49
DH404032	3.2	18	49
DH404033	3.3	18	49
DH404034	3.4	20	52
DH404035	3.5	20	52
DH404036	3.6	20	52
DH404037	3.7	20	52
DH404038	3.8	22	55
DH404039	3.9	22	55
DH404040	4.0	22	55
DH404041	4.1	22	55
DH404042	4.2	22	55
DH404043	4.3	24	58
DH404044	4.4	24	58
DH404045	4.5	24	58
DH404046	4.6	24	58
DH404047	4.7	24	58
DH404048	4.8	26	62
DH404049	4.9	26	62
DH404050	5.0	26	62
DH404051	5.1	26	62
DH404052	5.2	26	62
DH404053	5.3	26	62
DH404054	5.4	28	66
DH404055	5.5	28	66
DH404056	5.6	28	66
DH404057	5.7	28	66
DH404058	5.8	28	66
DH404059	5.9	28	66
DH404060	6.0	28	66
DH404061	6.1	31	70
DH404062	6.2	31	70
DH404063	6.3	31	70
DH404064	6.4	31	70
DH404065	6.5	31	70
DH404066	6.6	31	70
DH404067	6.7	31	70
DH404068	6.8	34	74
DH404069	6.9	34	74
DH404070	7.0	34	74
DH404071	7.1	34	74
DH404072	7.2	34	74
DH404073	7.3	34	74
DH404074	7.4	34	74
DH404075	7.5	34	74
DH404076	7.6	37	79
DH404077	7.7	37	79

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求.

▶ 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
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																		○			

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DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

DREAM DRILLS - GENERAL

DH404 SERIES

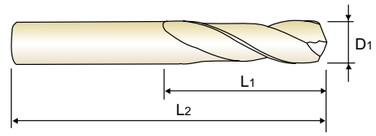
CARBIDE, DREAM DRILLS GENERAL — STUB

硬质合金, 梦幻钻头 — 超短

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
- ▶ Self centering and chip breaking by R-thinning
- ▶ Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
- ▶ Optimized flute shape for strength of drilling and smooth chip evacuation

- ▶ 钻孔 钢件，铸钢，铸铁，球墨铸铁
- ▶ 由于R型中心刃，卓越自定心，断屑
- ▶ 由于刃部的波形和负角设计，实现低阻力，稳定扭矩和提高刀具寿命
- ▶ 最佳沟槽设计使强力钻孔和顺畅排屑





DIN 6539 | CARBIDE | 30° | h6 | h7 | 140° | p. A96-A97

$D_1=D_2$

3 × D

Recommended ToolHolder

	Plain Shank	Page
SHRINK FIT HOLDER		D47 - 72
HYDRAULIC CHUCK		D15 - 46
ER COLLET CHUCK		D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
型号	刃径	槽长	全长
TiAlN	D_1	L_1	L_2
DH404078	7.8	37	79
DH404079	7.9	37	79
DH404080	8.0	37	79
DH404081	8.1	37	79
DH404082	8.2	37	79
DH404083	8.3	37	79
DH404084	8.4	37	79
DH404085	8.5	37	79
DH404086	8.6	40	84
DH404087	8.7	40	84
DH404088	8.8	40	84
DH404089	8.9	40	84
DH404090	9.0	40	84
DH404091	9.1	40	84
DH404092	9.2	40	84
DH404093	9.3	40	84
DH404094	9.4	40	84
DH404095	9.5	40	84
DH404096	9.6	43	89
DH404097	9.7	43	89
DH404098	9.8	43	89
DH404099	9.9	43	89
DH404100	10.0	43	89
DH404102	10.2	43	89
DH404105	10.5	43	89
DH404110	11.0	47	95
DH404115	11.5	47	95
DH404120	12.0	51	102
DH404130	13.0	51	102
DH404135	13.5	54	107
DH404140	14.0	54	107
DH404145	14.5	56	111
DH404150	15.0	56	111
DH404155	15.5	58	115
DH404160	16.0	58	115
DH404165	16.5	60	119
DH404170	17.0	60	119
DH404175	17.5	62	123
DH404180	18.0	62	123
DH404185	18.5	64	127
DH404190	19.0	64	127
DH404195	19.5	66	131
DH404200	20.0	66	131

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求.

◎ : 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																		○			

DREAM DRILLS - GENERAL

DH423 SERIES

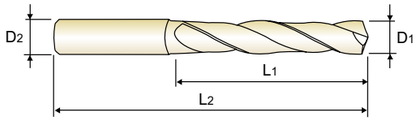
CARBIDE, DREAM DRILLS GENERAL — SHORT

硬质合金, 梦幻钻头 — 短

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
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- ▶ 由于刃部的波形和负角设计，实现低阻力，稳定扭矩和提高刀具寿命
- ▶ 最佳沟槽设计使强力钻孔和顺畅排屑





DIN 6539 | CARBIDE | 30° | h6 | h7 | 140° | p. A96-A97

3 × D

Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径 D1	Shank Diameter 柄径 D2	Flute Length 槽长 L1	Overall Length 全长 L2
TiAlN				
DH423030	3.0	6	20	62
DH423031	3.1	6	20	62
DH423032	3.2	6	20	62
DH423033	3.3	6	20	62
DH423034	3.4	6	20	62
DH423035	3.5	6	20	62
DH423036	3.6	6	20	62
DH423037	3.7	6	20	62
DH423038	3.8	6	24	66
DH423039	3.9	6	24	66
DH423040	4.0	6	24	66
DH423041	4.1	6	24	66
DH423042	4.2	6	24	66
DH423043	4.3	6	24	66
DH423044	4.4	6	24	66
DH423045	4.5	6	24	66
DH423046	4.6	6	24	66
DH423047	4.7	6	24	66
DH423048	4.8	6	28	66
DH423049	4.9	6	28	66
DH423050	5.0	6	28	66
DH423051	5.1	6	28	66
DH423052	5.2	6	28	66
DH423053	5.3	6	28	66
DH423054	5.4	6	28	66
DH423055	5.5	6	28	66
DH423056	5.6	6	28	66
DH423057	5.7	6	28	66
DH423058	5.8	6	28	66
DH423059	5.9	6	28	66
DH423060	6.0	6	28	66
DH423061	6.1	8	34	79
DH423062	6.2	8	34	79
DH423063	6.3	8	34	79
DH423064	6.4	8	34	79
DH423065	6.5	8	34	79
DH423066	6.6	8	34	79
DH423067	6.7	8	34	79
DH423068	6.8	8	34	79
DH423069	6.9	8	34	79
DH423070	7.0	8	34	79
DH423071	7.1	8	41	79
DH423072	7.2	8	41	79
DH423073	7.3	8	41	79
DH423074	7.4	8	41	79
DH423075	7.5	8	41	79
DH423076	7.6	8	41	79
DH423077	7.7	8	41	79

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求.

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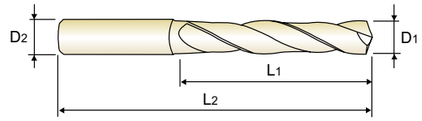
◎ : Excellent (优秀) ○ : Good (良好)

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																		○			

DREAM DRILLS - GENERAL
DH423 SERIES
CARBIDE, DREAM DRILLS GENERAL — SHORT
硬质合金, 梦幻钻头 — 短
▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
▶ Self centering and chip breaking by R-thinning
▶ Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
▶ Optimized flute shape for strength of drilling and smooth chip evacuation
▶ 钻孔 钢件，铸钢，铸铁，球墨铸铁
▶ 由于R型中心刃，卓越自定心，断屑
▶ 由于刃部的波形和负角设计，实现低阻力，稳定扭矩和提高刀具寿命
▶ 最佳沟槽设计使强力钻孔和顺畅排屑





DIN 6539 | CARBIDE | 30° | h6 | h7 | 140° | p. A96-A97
3 × D
Recommended ToolHolder
Plain Shank — Page
◎ SHRINK FIT HOLDER D47 - 72
◎ HYDRAULIC CHUCK D15 - 46
○ ER COLLET CHUCK D73 - 115
Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径 D1	Shank Diameter 柄径 D2	Flute Length 槽长 L1	Overall Length 全长 L2
TiAlN				
DH423078	7.8	8	41	79
DH423079	7.9	8	41	79
DH423080	8.0	8	41	79
DH423081	8.1	10	47	89
DH423082	8.2	10	47	89
DH423083	8.3	10	47	89
DH423084	8.4	10	47	89
DH423085	8.5	10	47	89
DH423086	8.6	10	47	89
DH423087	8.7	10	47	89
DH423088	8.8	10	47	89
DH423089	8.9	10	47	89
DH423090	9.0	10	47	89
DH423091	9.1	10	47	89
DH423092	9.2	10	47	89
DH423093	9.3	10	47	89
DH423094	9.4	10	47	89
DH423095	9.5	10	47	89
DH423096	9.6	10	47	89
DH423097	9.7	10	47	89
DH423098	9.8	10	47	89
DH423099	9.9	10	47	89
DH423100	10.0	10	47	89
DH423101	10.1	12	55	102
DH423102	10.2	12	55	102
DH423103	10.3	12	55	102
DH423104	10.4	12	55	102
DH423105	10.5	12	55	102
DH423106	10.6	12	55	102
DH423107	10.7	12	55	102
DH423108	10.8	12	55	102
DH423109	10.9	12	55	102
DH423110	11.0	12	55	102
DH423111	11.1	12	55	102
DH423112	11.2	12	55	102
DH423113	11.3	12	55	102
DH423114	11.4	12	55	102
DH423115	11.5	12	55	102
DH423116	11.6	12	55	102
DH423117	11.7	12	55	102
DH423118	11.8	12	55	102
DH423119	11.9	12	55	102
DH423120	12.0	12	55	102
DH423123	12.3	14	60	107
DH423125	12.5	14	60	107
DH423128	12.8	14	60	107
DH423130	13.0	14	60	107
DH423135	13.5	14	60	107

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求.

▶ 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
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																		○			

DREAM DRILLS - GENERAL

DH423 SERIES

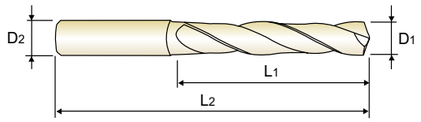
CARBIDE, DREAM DRILLS GENERAL — SHORT

硬质合金, 梦幻钻头 — 短

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
- ▶ Self centering and chip breaking by R-thinning
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- ▶ 钻孔 钢件，铸钢，铸铁，球墨铸铁
- ▶ 由于R型中心刃，卓越自定心，断屑
- ▶ 由于刃部的波形和负角设计，实现低阻力，稳定扭矩和提高刀具寿命
- ▶ 最佳沟槽设计使强力钻孔和顺畅排屑





DIN 6539 | CARBIDE | 30° | h6 | h7 | 140° | p. A96-A97

3 × D

Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47-72
◎	HYDRAULIC CHUCK	D15-46
○	ER COLLET CHUCK	D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH423138	13.8	14	60	107
DH423140	14.0	14	60	107
DH423145	14.5	16	65	115
DH423148	14.8	16	65	115
DH423150	15.0	16	65	115
DH423155	15.5	16	65	115
DH423158	15.8	16	65	115
DH423160	16.0	16	65	115
DH423165	16.5	18	73	123
DH423168	16.8	18	73	123

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH423170	17.0	18	73	123
DH423175	17.5	18	73	123
DH423178	17.8	18	73	123
DH423180	18.0	18	73	123
DH423185	18.5	20	79	131
DH423190	19.0	20	79	131
DH423195	19.5	20	79	131
DH423198	19.8	20	79	131
DH423200	20.0	20	79	131

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求.

◎ : 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																		○			

DREAM DRILLS - GENERAL

DH424 SERIES

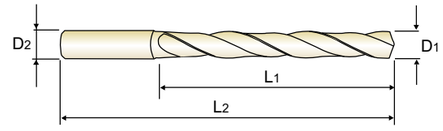
CARBIDE, DREAM DRILLS GENERAL — LONG

硬质合金, 梦幻钻头 — 长

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
- ▶ Self centering and chip breaking by R-thinning
- ▶ Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
- ▶ Optimized flute shape for strength of drilling and smooth chip evacuation

- ▶ 钻孔 钢件，铸钢，铸铁，球墨铸铁
- ▶ 由于R型中心刃，卓越自定心，断屑
- ▶ 由于刃部的波形和负角设计，实现低阻力，稳定扭矩和提高刀具寿命
- ▶ 最佳沟槽设计使强力钻孔和顺畅排屑





DIN 6539 | CARBIDE | 30° | h6 | h7 | 140° | p. A96-A97

5 × D

Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47-72
◎	HYDRAULIC CHUCK	D15-46
○	ER COLLET CHUCK	D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH424010	1.0	3	8	55
DH424011	1.1	3	12	55
DH424012	1.2	3	12	55
DH424013	1.3	3	12	55
DH424014	1.4	3	12	55
DH424015	1.5	3	16	55
DH424016	1.6	3	16	55
DH424017	1.7	3	16	55
DH424018	1.8	3	16	55
DH424019	1.9	3	16	55
DH424020	2.0	4	21	57
DH424021	2.1	4	21	57
DH424022	2.2	4	21	57
DH424023	2.3	4	21	57
DH424024	2.4	4	21	57
DH424025	2.5	4	21	57
DH424026	2.6	4	21	57
DH424027	2.7	4	21	57
DH424028	2.8	4	21	57
DH424029	2.9	4	21	57
DH424030	3.0	6	28	66
DH424031	3.1	6	28	66
DH424032	3.2	6	28	66
DH424033	3.3	6	28	66

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH424034	3.4	6	28	66
DH424035	3.5	6	28	66
DH424036	3.6	6	28	66
DH424037	3.7	6	28	66
DH424038	3.8	6	36	74
DH424039	3.9	6	36	74
DH424040	4.0	6	36	74
DH424041	4.1	6	36	74
DH424042	4.2	6	36	74
DH424043	4.3	6	36	74
DH424044	4.4	6	36	74
DH424045	4.5	6	36	74
DH424046	4.6	6	36	74
DH424047	4.7	6	36	74
DH424048	4.8	6	44	82
DH424049	4.9	6	44	82
DH424050	5.0	6	44	82
DH424051	5.1	6	44	82
DH424052	5.2	6	44	82
DH424053	5.3	6	44	82
DH424054	5.4	6	44	82
DH424055	5.5	6	44	82
DH424056	5.6	6	44	82
DH424057	5.7	6	44	82

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求.

▶ 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
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																		○			

DREAM DRILLS - GENERAL

DH424 SERIES

CARBIDE, DREAM DRILLS GENERAL

LONG

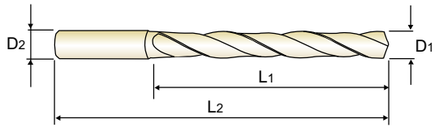
硬质合金, 梦幻钻头

长

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
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- ▶ 由于刃部的波形和负角设计，实现低阻力，稳定扭矩和提高刀具寿命
- ▶ 最佳沟槽设计使强力钻孔和顺畅排屑





DIN 6539 | CARBIDE | 30° | h6 | h7 | 140° | p. A96-A97

5 × D

Recommended ToolHolder

	Plain Shank	Page
SHRINK FIT HOLDER		D47-72
HYDRAULIC CHUCK		D15-46
ER COLLET CHUCK		D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH424058	5.8	6	44	82
DH424059	5.9	6	44	82
DH424060	6.0	6	44	82
DH424061	6.1	8	53	91
DH424062	6.2	8	53	91
DH424063	6.3	8	53	91
DH424064	6.4	8	53	91
DH424065	6.5	8	53	91
DH424066	6.6	8	53	91
DH424067	6.7	8	53	91
DH424068	6.8	8	53	91
DH424069	6.9	8	53	91
DH424070	7.0	8	53	91
DH424071	7.1	8	53	91
DH424072	7.2	8	53	91
DH424073	7.3	8	53	91
DH424074	7.4	8	53	91
DH424075	7.5	8	53	91
DH424076	7.6	8	53	91
DH424077	7.7	8	53	91
DH424078	7.8	8	53	91
DH424079	7.9	8	53	91
DH424080	8.0	8	53	91
DH424081	8.1	10	61	103

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH424082	8.2	10	61	103
DH424083	8.3	10	61	103
DH424084	8.4	10	61	103
DH424085	8.5	10	61	103
DH424086	8.6	10	61	103
DH424087	8.7	10	61	103
DH424088	8.8	10	61	103
DH424089	8.9	10	61	103
DH424090	9.0	10	61	103
DH424091	9.1	10	61	103
DH424092	9.2	10	61	103
DH424093	9.3	10	61	103
DH424094	9.4	10	61	103
DH424095	9.5	10	61	103
DH424096	9.6	10	61	103
DH424097	9.7	10	61	103
DH424098	9.8	10	61	103
DH424099	9.9	10	61	103
DH424100	10.0	10	61	103
DH424101	10.1	12	71	118
DH424102	10.2	12	71	118
DH424103	10.3	12	71	118
DH424104	10.4	12	71	118
DH424105	10.5	12	71	118

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求.

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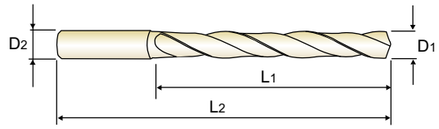
◎ : Excellent (优秀) ○ : Good (良好)

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																		○			

DREAM DRILLS - GENERAL
DH424 SERIES
CARBIDE, DREAM DRILLS GENERAL
LONG
硬质合金, 梦幻钻头
长
▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
▶ Self centering and chip breaking by R-thinning
▶ Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
▶ Optimized flute shape for strength of drilling and smooth chip evacuation
▶ 钻孔 钢件，铸钢，铸铁，球墨铸铁
▶ 由于R型中心刃，卓越自定心，断屑
▶ 由于刃部的波形和负角设计，实现低阻力，稳定扭矩和提高刀具寿命
▶ 最佳沟槽设计使强力钻孔和顺畅排屑





DIN 6539 | CARBIDE | 30° | h6 | h7 | 140° | p. A96-A97
5 × D
Recommended ToolHolder
Plain Shank | Page
SHRINK FIT HOLDER | D47-72
HYDRAULIC CHUCK | D15-46
ER COLLET CHUCK | D73-115
Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH424106	10.6	12	71	118
DH424107	10.7	12	71	118
DH424108	10.8	12	71	118
DH424109	10.9	12	71	118
DH424110	11.0	12	71	118
DH424111	11.1	12	71	118
DH424112	11.2	12	71	118
DH424113	11.3	12	71	118
DH424114	11.4	12	71	118
DH424115	11.5	12	71	118
DH424116	11.6	12	71	118
DH424117	11.7	12	71	118
DH424118	11.8	12	71	118
DH424119	11.9	12	71	118
DH424120	12.0	12	71	118
DH424125	12.5	14	77	124

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH424130	13.0	14	77	124
DH424135	13.5	14	77	124
DH424140	14.0	14	77	124
DH424145	14.5	16	83	133
DH424150	15.0	16	83	133
DH424155	15.5	16	83	133
DH424160	16.0	16	83	133
DH424165	16.5	18	93	143
DH424170	17.0	18	93	143
DH424175	17.5	18	93	143
DH424180	18.0	18	93	143
DH424185	18.5	20	101	153
DH424190	19.0	20	101	153
DH424195	19.5	20	101	153
DH424200	20.0	20	101	153

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求.

◎ : 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																		○			

DREAM DRILLS - GENERAL

DH406 SERIES

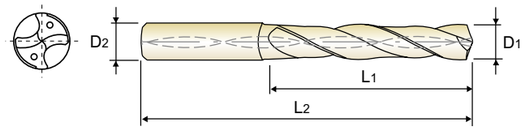
CARBIDE, DREAM DRILLS GENERAL with COOLANT HOLES — SHORT

硬质合金, 梦幻钻头 带内冷孔 — 短

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
- ▶ Self centering and chip breaking by R-thinning
- ▶ Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
- ▶ Optimized flute shape for strength of drilling and smooth chip evacuation

- ▶ 钻孔 钢件，铸钢，铸铁，球墨铸铁
- ▶ 由于R型中心刃，卓越自定心，断屑
- ▶ 由于刃部的波形和负角设计，实现低阻力，稳定扭矩和提高刀具寿命
- ▶ 最佳沟槽设计使强力钻孔和顺畅排屑





DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar | p. A98-A99 | 3 × D

Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH406030	3.0	6	20	62
DH406031	3.1	6	20	62
DH406032	3.2	6	20	62
DH406033	3.3	6	20	62
DH406034	3.4	6	20	62
DH406035	3.5	6	20	62
DH406036	3.6	6	20	62
DH406037	3.7	6	20	62
DH406038	3.8	6	24	66
DH406039	3.9	6	24	66
DH406040	4.0	6	24	66
DH406041	4.1	6	24	66
DH406042	4.2	6	24	66
DH406043	4.3	6	24	66
DH406044	4.4	6	24	66
DH406045	4.5	6	24	66
DH406046	4.6	6	24	66
DH406047	4.7	6	24	66
DH406048	4.8	6	28	66
DH406049	4.9	6	28	66
DH406050	5.0	6	28	66
DH406051	5.1	6	28	66
DH406052	5.2	6	28	66
DH406053	5.3	6	28	66
DH406054	5.4	6	28	66
DH406055	5.5	6	28	66
DH406056	5.6	6	28	66
DH406057	5.7	6	28	66
DH406058	5.8	6	28	66
DH406059	5.9	6	28	66
DH406060	6.0	6	28	66
DH406061	6.1	8	34	79
DH406062	6.2	8	34	79
DH406063	6.3	8	34	79
DH406064	6.4	8	34	79
DH406065	6.5	8	34	79
DH406066	6.6	8	34	79
DH406067	6.7	8	34	79
DH406068	6.8	8	34	79
DH406069	6.9	8	34	79
DH406070	7.0	8	34	79
DH406071	7.1	8	41	79
DH406072	7.2	8	41	79
DH406073	7.3	8	41	79
DH406074	7.4	8	41	79
DH406075	7.5	8	41	79
DH406076	7.6	8	41	79
DH406077	7.7	8	41	79

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求.

▶ 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
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																		○			

DREAM DRILLS - GENERAL

DH406 SERIES

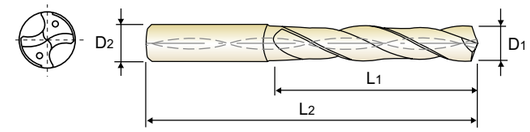
CARBIDE, DREAM DRILLS GENERAL with COOLANT HOLES — SHORT

硬质合金, 梦幻钻头 带内冷孔 — 短

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
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- ▶ 最佳沟槽设计使强力钻孔和顺畅排屑





DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar | p. A98-A99 | 3 × D

Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH406078	7.8	8	41	79
DH406079	7.9	8	41	79
DH406080	8.0	8	41	79
DH406081	8.1	10	47	89
DH406082	8.2	10	47	89
DH406083	8.3	10	47	89
DH406084	8.4	10	47	89
DH406085	8.5	10	47	89
DH406086	8.6	10	47	89
DH406087	8.7	10	47	89
DH406088	8.8	10	47	89
DH406089	8.9	10	47	89
DH406090	9.0	10	47	89
DH406091	9.1	10	47	89
DH406092	9.2	10	47	89
DH406093	9.3	10	47	89
DH406094	9.4	10	47	89
DH406095	9.5	10	47	89
DH406096	9.6	10	47	89
DH406097	9.7	10	47	89
DH406098	9.8	10	47	89
DH406099	9.9	10	47	89
DH406100	10.0	10	47	89
DH406101	10.1	12	55	102
DH406102	10.2	12	55	102
DH406103	10.3	12	55	102
DH406104	10.4	12	55	102
DH406105	10.5	12	55	102
DH406106	10.6	12	55	102
DH406107	10.7	12	55	102
DH406108	10.8	12	55	102
DH406109	10.9	12	55	102
DH406110	11.0	12	55	102
DH406111	11.1	12	55	102
DH406112	11.2	12	55	102
DH406113	11.3	12	55	102
DH406114	11.4	12	55	102
DH406115	11.5	12	55	102
DH406116	11.6	12	55	102
DH406117	11.7	12	55	102
DH406118	11.8	12	55	102
DH406119	11.9	12	55	102
DH406120	12.0	12	55	102
DH406125	12.5	14	60	107
DH406130	13.0	14	60	107
DH406135	13.5	14	60	107
DH406140	14.0	14	60	107
DH406145	14.5	16	65	115

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求.

▶ 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
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																		○			

DREAM DRILLS - GENERAL

DH406 SERIES

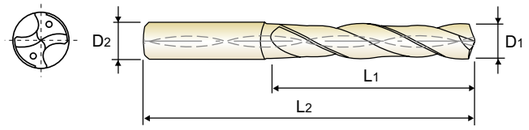
CARBIDE, DREAM DRILLS GENERAL with COOLANT HOLES — SHORT

硬质合金, 梦幻钻头 带内冷孔 — 短

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
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- ▶ 由于刃部的波形和负角设计，实现低阻力，稳定扭矩和提高刀具寿命
- ▶ 最佳沟槽设计使强力钻孔和顺畅排屑





DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar | p. A98-A99 | 3 × D

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D1	D2	L1	L2
DH406150	15.0	16	65	115
DH406155	15.5	16	65	115
DH406160	16.0	16	65	115
DH406165	16.5	18	73	123
DH406170	17.0	18	73	123
DH406175	17.5	18	73	123

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D1	D2	L1	L2
DH406180	18.0	18	73	123
DH406185	18.5	20	79	131
DH406190	19.0	20	79	131
DH406195	19.5	20	79	131
DH406200	20.0	20	79	131

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求.

◎ : 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																		○			

DREAM DRILLS - GENERAL

DH408 SERIES

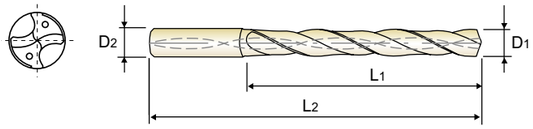
CARBIDE, DREAM DRILLS GENERAL with COOLANT HOLES — LONG

硬质合金, 梦幻钻头 带内冷孔 — 长

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
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- ▶ Optimized flute shape for strength of drilling and smooth chip evacuation

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- ▶ 由于R型中心刃，卓越自定心，断屑
- ▶ 由于刃部的波形和负角设计，实现低阻力，稳定扭矩和提高刀具寿命
- ▶ 最佳沟槽设计使强力钻孔和顺畅排屑





DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar | p. A98-A99 | 5 × D

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D1	D2	L1	L2
DH408010	1.0	3	8	55
DH408011	1.1	3	12	55
DH408012	1.2	3	12	55
DH408013	1.3	3	12	55
DH408014	1.4	3	12	55
DH408015	1.5	3	16	55
DH408016	1.6	3	16	55
DH408017	1.7	3	16	55
DH408018	1.8	3	16	55
DH408019	1.9	3	16	55
DH408020	2.0	4	21	57
DH408021	2.1	4	21	57
DH408022	2.2	4	21	57
DH408023	2.3	4	21	57
DH408024	2.4	4	21	57
DH408025	2.5	4	21	57
DH408026	2.6	4	21	57
DH408027	2.7	4	21	57
DH408028	2.8	4	21	57
DH408029	2.9	4	21	57
DH408030	3.0	6	28	66
DH408031	3.1	6	28	66
DH408032	3.2	6	28	66
DH408033	3.3	6	28	66

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D1	D2	L1	L2
DH408034	3.4	6	28	66
DH408035	3.5	6	28	66
DH408036	3.6	6	28	66
DH408037	3.7	6	28	66
DH408038	3.8	6	36	74
DH408039	3.9	6	36	74
DH408040	4.0	6	36	74
DH408041	4.1	6	36	74
DH408042	4.2	6	36	74
DH408043	4.3	6	36	74
DH408044	4.4	6	36	74
DH408045	4.5	6	36	74
DH408046	4.6	6	36	74
DH408047	4.7	6	36	74
DH408048	4.8	6	44	82
DH408049	4.9	6	44	82
DH408050	5.0	6	44	82
DH408051	5.1	6	44	82
DH408052	5.2	6	44	82
DH408053	5.3	6	44	82
DH408054	5.4	6	44	82
DH408055	5.5	6	44	82
DH408056	5.6	6	44	82
DH408057	5.7	6	44	82

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求.

▶ 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
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																		○			

DREAM DRILLS - GENERAL

DH408 SERIES

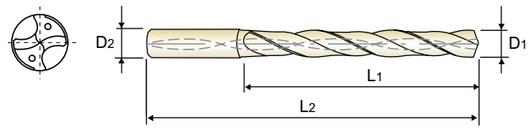
CARBIDE, DREAM DRILLS GENERAL with COOLANT HOLES — LONG

硬质合金, 梦幻钻头 带内冷孔 — 长

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
- ▶ Self centering and chip breaking by R-thinning
- ▶ Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
- ▶ Optimized flute shape for strength of drilling and smooth chip evacuation

- ▶ 钻孔 钢件，铸钢，铸铁，球墨铸铁
- ▶ 由于R型中心刃，卓越自定心，断屑
- ▶ 由于刃部的波形和负角设计，实现低阻力，稳定扭矩和提高刀具寿命
- ▶ 最佳沟槽设计使强力钻孔和顺畅排屑





DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar | p. A98-A99 | 5 × D

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH408058	5.8	6	44	82
DH408059	5.9	6	44	82
DH408060	6.0	6	44	82
DH408061	6.1	8	53	91
DH408062	6.2	8	53	91
DH408063	6.3	8	53	91
DH408064	6.4	8	53	91
DH408065	6.5	8	53	91
DH408066	6.6	8	53	91
DH408067	6.7	8	53	91
DH408068	6.8	8	53	91
DH408069	6.9	8	53	91
DH408070	7.0	8	53	91
DH408071	7.1	8	53	91
DH408072	7.2	8	53	91
DH408073	7.3	8	53	91
DH408074	7.4	8	53	91
DH408075	7.5	8	53	91
DH408076	7.6	8	53	91
DH408077	7.7	8	53	91
DH408078	7.8	8	53	91
DH408079	7.9	8	53	91
DH408080	8.0	8	53	91
DH408081	8.1	10	61	103

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH408082	8.2	10	61	103
DH408083	8.3	10	61	103
DH408084	8.4	10	61	103
DH408085	8.5	10	61	103
DH408086	8.6	10	61	103
DH408087	8.7	10	61	103
DH408088	8.8	10	61	103
DH408089	8.9	10	61	103
DH408090	9.0	10	61	103
DH408091	9.1	10	61	103
DH408092	9.2	10	61	103
DH408093	9.3	10	61	103
DH408094	9.4	10	61	103
DH408095	9.5	10	61	103
DH408096	9.6	10	61	103
DH408097	9.7	10	61	103
DH408098	9.8	10	61	103
DH408099	9.9	10	61	103
DH408100	10.0	10	61	103
DH408101	10.1	12	71	118
DH408102	10.2	12	71	118
DH408103	10.3	12	71	118
DH408104	10.4	12	71	118
DH408105	10.5	12	71	118

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求.

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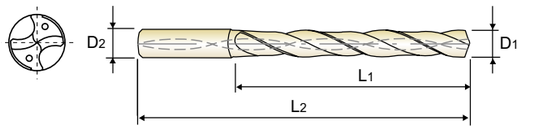
◎ : Excellent (优秀) ○ : Good (良好)

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																		○			

DREAM DRILLS - GENERAL
DH408 SERIES
CARBIDE, DREAM DRILLS GENERAL with COOLANT HOLES — LONG
硬质合金, 梦幻钻头 带内冷孔 — 长
▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
▶ Self centering and chip breaking by R-thinning
▶ Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
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▶ 由于R型中心刃，卓越自定心，断屑
▶ 由于刃部的波形和负角设计，实现低阻力，稳定扭矩和提高刀具寿命
▶ 最佳沟槽设计使强力钻孔和顺畅排屑





DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar | p. A98-A99 | 5 × D
Recommended ToolHolder
Plain Shank / Page
SHRINK FIT HOLDER D47 - 72
HYDRAULIC CHUCK D15 - 46
ER COLLET CHUCK D73 - 115
Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH408106	10.6	12	71	118
DH408107	10.7	12	71	118
DH408108	10.8	12	71	118
DH408109	10.9	12	71	118
DH408110	11.0	12	71	118
DH408111	11.1	12	71	118
DH408112	11.2	12	71	118
DH408113	11.3	12	71	118
DH408114	11.4	12	71	118
DH408115	11.5	12	71	118
DH408116	11.6	12	71	118
DH408117	11.7	12	71	118
DH408118	11.8	12	71	118
DH408119	11.9	12	71	118
DH408120	12.0	12	71	118
DH408125	12.5	14	77	124

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH408130	13.0	14	77	124
DH408135	13.5	14	77	124
DH408140	14.0	14	77	124
DH408145	14.5	16	83	133
DH408150	15.0	16	83	133
DH408155	15.5	16	83	133
DH408160	16.0	16	83	133
DH408165	16.5	18	93	143
DH408170	17.0	18	93	143
DH408175	17.5	18	93	143
DH408180	18.0	18	93	143
DH408185	18.5	20	101	153
DH408190	19.0	20	101	153
DH408195	19.5	20	101	153
DH408200	20.0	20	101	153

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求.

◎ : 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																		○			

DREAM DRILLS - GENERAL

DH421 SERIES

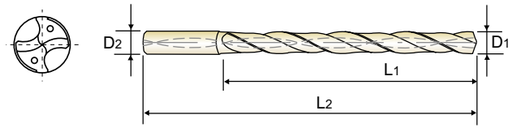
CARBIDE, DREAM DRILLS GENERAL with COOLANT HOLES *EXTRA LONG*

硬质合金, 梦幻钻头 带内冷孔 超长

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
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- ▶ 由于刃部的波形和负角设计，实现低阻力，稳定扭矩和提高刀具寿命
- ▶ 最佳沟槽设计使强力钻孔和顺畅排屑





DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar

p. A98-A99

8 × D

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH421030	3.0	6	34	72
DH421031	3.1	6	34	72
DH421032	3.2	6	34	72
DH421033	3.3	6	34	72
DH421034	3.4	6	34	72
DH421035	3.5	6	34	72
DH421036	3.6	6	34	72
DH421037	3.7	6	34	72
DH421038	3.8	6	43	81
DH421039	3.9	6	43	81
DH421040	4.0	6	43	81
DH421041	4.1	6	43	81
DH421042	4.2	6	43	81
DH421043	4.3	6	43	81
DH421044	4.4	6	43	81
DH421045	4.5	6	43	81
DH421046	4.6	6	43	81
DH421047	4.7	6	43	81
DH421048	4.8	6	57	95
DH421049	4.9	6	57	95
DH421050	5.0	6	57	95
DH421051	5.1	6	57	95
DH421052	5.2	6	57	95
DH421053	5.3	6	57	95
DH421054	5.4	6	57	95
DH421055	5.5	6	57	95
DH421056	5.6	6	57	95
DH421057	5.7	6	57	95
DH421058	5.8	6	57	95
DH421059	5.9	6	57	95
DH421060	6.0	6	57	95
DH421061	6.1	8	76	114
DH421062	6.2	8	76	114
DH421063	6.3	8	76	114
DH421064	6.4	8	76	114
DH421065	6.5	8	76	114
DH421066	6.6	8	76	114
DH421067	6.7	8	76	114
DH421068	6.8	8	76	114
DH421069	6.9	8	76	114
DH421070	7.0	8	76	114
DH421071	7.1	8	76	114
DH421072	7.2	8	76	114
DH421073	7.3	8	76	114
DH421074	7.4	8	76	114
DH421075	7.5	8	76	114
DH421076	7.6	8	76	114
DH421077	7.7	8	76	114

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▶ 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
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
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

DREAM DRILLS - GENERAL

DH421 SERIES

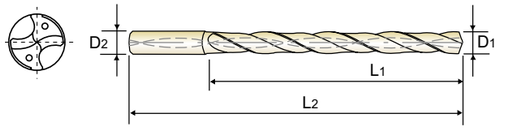
CARBIDE, DREAM DRILLS GENERAL with COOLANT HOLES *EXTRA LONG*

硬质合金, 梦幻钻头 带内冷孔 超长

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DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar

p. A98-A99

8 × D

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH421078	7.8	8	76	114
DH421079	7.9	8	76	114
DH421080	8.0	8	76	114
DH421081	8.1	10	95	142
DH421082	8.2	10	95	142
DH421083	8.3	10	95	142
DH421084	8.4	10	95	142
DH421085	8.5	10	95	142
DH421086	8.6	10	95	142
DH421087	8.7	10	95	142
DH421088	8.8	10	95	142
DH421089	8.9	10	95	142
DH421090	9.0	10	95	142
DH421091	9.1	10	95	142
DH421092	9.2	10	95	142
DH421093	9.3	10	95	142
DH421094	9.4	10	95	142
DH421095	9.5	10	95	142
DH421096	9.6	10	95	142
DH421097	9.7	10	95	142
DH421098	9.8	10	95	142
DH421099	9.9	10	95	142
DH421100	10.0	10	95	142
DH421101	10.1	12	114	162
DH421102	10.2	12	114	162
DH421103	10.3	12	114	162
DH421104	10.4	12	114	162
DH421105	10.5	12	114	162
DH421106	10.6	12	114	162
DH421107	10.7	12	114	162
DH421108	10.8	12	114	162
DH421109	10.9	12	114	162
DH421110	11.0	12	114	162
DH421111	11.1	12	114	162
DH421112	11.2	12	114	162
DH421113	11.3	12	114	162
DH421114	11.4	12	114	162
DH421115	11.5	12	114	162
DH421116	11.6	12	114	162
DH421117	11.7	12	114	162
DH421118	11.8	12	114	162
DH421119	11.9	12	114	162
DH421120	12.0	12	114	162
DH421125	12.5	14	133	178
DH421130	13.0	14	133	178
DH421135	13.5	14	133	178
DH421140	14.0	14	133	178

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求.

◎ : 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																		○			

DREAM DRILLS - GENERAL

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

DH404, DH423, DH424 SERIES — without COOLANT HOLES
不带内冷孔

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 1.0	2.0	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 3.0	4.0	5.0
P	2	Non-alloy steel	70	RPM	22280	11140	100	RPM	10610	7960	6370
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20
	3		70	RPM	22280	11140	100	RPM	10610	7960	6370
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20
	4		70	RPM	22280	11140	100	RPM	10610	7960	6370
				FEED	0.03-0.05	0.05-0.07		FEED	0.04-0.10	0.07-0.13	0.10-0.16
	5		60	RPM	19100	9550	80	RPM	8490	6370	5090
				FEED	0.03-0.05	0.05-0.07		FEED	0.04-0.10	0.07-0.13	0.10-0.16
	6	Low alloy steel	70	RPM	22280	11140	100	RPM	10610	7960	6370
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20
	7		60	RPM	19100	9550	80	RPM	8490	6370	5090
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.10-0.20
	8		60	RPM	19100	9550	80	RPM	8490	6370	5090
				FEED	0.02-0.04	0.03-0.05		FEED	0.04-0.10	0.07-0.13	0.10-0.16
	9		30	RPM	9550	4770	40	RPM	4240	3180	2550
				FEED	0.02-0.04	0.03-0.05		FEED	0.03-0.08	0.05-0.11	0.08-0.14
	10	High alloyed steel, and tool steel	50	RPM	15920	7960	70	RPM	7430	5570	4460
				FEED	0.03-0.05	0.05-0.07		FEED	0.04-0.10	0.07-0.13	0.10-0.16
	11		30	RPM	9550	4770	40	RPM	4240	3180	2550
				FEED	0.02-0.04	0.03-0.05		FEED	0.03-0.08	0.05-0.11	0.08-0.14
M	12	Stainless steel	50	RPM	15920	7960	70	RPM	7430	5570	4460
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20
	13		35	RPM	11140	5570	45	RPM	4770	3580	2860
				FEED	0.02-0.04	0.03-0.05		FEED	0.04-0.10	0.07-0.13	0.10-0.16
K	15	Grey cast iron	70	RPM	22280	11140	100	RPM	10610	7960	6370
				FEED	0.04-0.06	0.04-0.06		FEED	0.08-0.14	0.12-0.18	0.15-0.22
	16		65	RPM	20690	10350	80	RPM	8490	6370	5090
				FEED	0.04-0.06	0.04-0.06		FEED	0.06-0.12	0.08-0.14	0.14-0.20
	17	Nodular cast iron	70	RPM	22280	11140	100	RPM	10610	7960	6370
				FEED	0.04-0.06	0.04-0.06		FEED	0.08-0.14	0.12-0.18	0.15-0.22
	18		50	RPM	15920	7960	70	RPM	7430	5570	4460
				FEED	0.04-0.06	0.04-0.06		FEED	0.06-0.12	0.08-0.14	0.14-0.20
	19	Malleable cast iron	60	RPM	19100	9550	80	RPM	8490	6370	5090
				FEED	0.04-0.06	0.04-0.06		FEED	0.08-0.14	0.12-0.18	0.15-0.22
	20		50	RPM	15920	7960	70	RPM	7430	5570	4460
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20
H	55	Hardened steel	20	RPM	6370	3180	25	RPM	2650	1990	1590
				FEED	0.01-0.02	0.01-0.03		FEED	0.01-0.03	0.01-0.04	0.02-0.05

▶ Recommend to reduce the feed rate as following / 荐于按照下面减少进给速度

Feed 100% : DH404(3×D), DH423(3×D)

Feed 85% : DH424(5×D)

DREAM DRILLS - GENERAL
RECOMMENDED CUTTING CONDITIONS
推荐加工条件
RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

VDI 3323	Parameter 参数	Drill Diameter 刃径 (mm) 6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
2	RPM	5310	3980	3180	2650	2270	1990	1770	1590
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
3	RPM	5310	3980	3180	2650	2270	1990	1770	1590
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
4	RPM	5310	3980	3180	2650	2270	1990	1770	1590
	FEED	0.12-0.18	0.14-0.2	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
5	RPM	4240	3180	2550	2120	1820	1590	1410	1270
	FEED	0.12-0.18	0.14-0.2	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
6	RPM	5310	3980	3180	2650	2270	1990	1770	1590
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
7	RPM	4240	3180	2550	2120	1820	1590	1410	1270
	FEED	0.12-0.24	0.16-0.28	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
8	RPM	4240	3180	2550	2120	1820	1590	1410	1270
	FEED	0.12-0.18	0.14-0.2	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
9	RPM	2120	1590	1270	1060	910	800	710	640
	FEED	0.10-0.16	0.12-0.18	0.13-0.19	0.14-0.20	0.15-0.21	0.16-0.22	0.17-0.25	0.18-0.28
10	RPM	3710	2790	2230	1860	1590	1390	1240	1110
	FEED	0.12-0.18	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
11	RPM	2120	1590	1270	1060	910	800	710	640
	FEED	0.10-0.16	0.12-0.18	0.13-0.19	0.14-0.20	0.15-0.21	0.16-0.22	0.17-0.25	0.18-0.28
12	RPM	3710	2790	2230	1860	1590	1390	1240	1110
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
13	RPM	2390	1790	1430	1190	1020	900	800	720
	FEED	0.12-0.18	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
15	RPM	5310	3980	3180	2650	2270	1990	1770	1590
	FEED	0.20-0.26	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
16	RPM	4240	3180	2550	2120	1820	1590	1410	1270
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
17	RPM	5310	3980	3180	2650	2270	1990	1770	1590
	FEED	0.20-0.26	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
18	RPM	3710	2790	2230	1860	1590	1390	1240	1110
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
19	RPM	4240	3180	2550	2120	1820	1590	1410	1270
	FEED	0.20-0.26	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
20	RPM	3710	2790	2230	1860	1590	1390	1240	1110
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
55	RPM	1,330	990	800	660	570	500	440	400
	FEED	0.03-0.06	0.03-0.06	0.04-0.07	0.04-0.08	0.05-0.09	0.05-0.09	0.05-0.10	0.05-0.10

DREAM DRILLS - GENERAL

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

DH406, DH408, DH421 SERIES with COOLANT HOLES
带内冷孔

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 1.0	2.0	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 3.0	4.0	5.0
P	2	Non-alloy steel	80	RPM	25460	12730	110	RPM	11670	8750	7000
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20
	3		80	RPM	25460	12730	110	RPM	11670	8750	7000
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20
	4		80	RPM	25460	12730	110	RPM	11670	8750	7000
				FEED	0.03-0.05	0.05-0.07		FEED	0.04-0.10	0.07-0.13	0.10-0.16
	5		70	RPM	22280	11140	90	RPM	9550	7160	5730
				FEED	0.03-0.05	0.05-0.07		FEED	0.04-0.10	0.07-0.13	0.10-0.16
	6	Low alloy steel	80	RPM	25460	12730	110	RPM	11670	8750	7000
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20
	7		70	RPM	22280	11140	90	RPM	9550	7160	5730
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.10-0.20
	8		70	RPM	22280	11140	90	RPM	9550	7160	5730
				FEED	0.02-0.04	0.03-0.05		FEED	0.04-0.10	0.07-0.13	0.10-0.16
	9		40	RPM	12730	6370	50	RPM	5310	3980	3180
				FEED	0.02-0.04	0.03-0.05		FEED	0.03-0.08	0.05-0.11	0.08-0.14
	10	High alloyed steel, and tool steel	60	RPM	19100	9550	80	RPM	8490	6370	5090
				FEED	0.03-0.05	0.05-0.07		FEED	0.04-0.10	0.07-0.13	0.10-0.16
	11		40	RPM	12730	6370	45	RPM	4770	3580	2860
				FEED	0.02-0.04	0.03-0.05		FEED	0.03-0.08	0.05-0.11	0.08-0.14
M	12	Stainless steel	60	RPM	19100	9550	80	RPM	8490	6370	5090
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20
	13		45	RPM	14320	7160	55	RPM	5840	4380	3500
				FEED	0.02-0.04	0.03-0.05		FEED	0.04-0.10	0.07-0.13	0.10-0.16
K	15	Grey cast iron	80	RPM	25460	12730	110	RPM	11670	8750	7,000
				FEED	0.04-0.06	0.04-0.06		FEED	0.08-0.14	0.12-0.18	0.15-0.22
	16		75	RPM	23870	11940	95	RPM	10080	7560	6050
				FEED	0.04-0.06	0.04-0.06		FEED	0.06-0.12	0.08-0.14	0.14-0.20
	17	Nodular cast iron	90	RPM	28650	14320	120	RPM	12730	9550	7640
				FEED	0.04-0.06	0.04-0.06		FEED	0.08-0.14	0.12-0.18	0.15-0.22
	18		60	RPM	19100	9550	80	RPM	8490	6370	5090
				FEED	0.04-0.06	0.04-0.06		FEED	0.06-0.12	0.08-0.14	0.14-0.20
	19	Malleable cast iron	70	RPM	22280	11140	90	RPM	9550	7160	5730
				FEED	0.04-0.06	0.04-0.06		FEED	0.08-0.14	0.12-0.18	0.15-0.22
	20		60	RPM	19100	9550	80	RPM	8490	6370	5090
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20
H	55	Hardened steel	25	RPM	7960	3980	30	RPM	3180	2390	1910
				FEED	0.01-0.02	0.01-0.03		FEED	0.01-0.03	0.01-0.04	0.02-0.05

▶ Recommend to reduce the feed rate as following / 荐于按照下面减少进给速度

Feed 100% : DH406(3×D), DH408(5×D)

Feed 75% : DH421(8×D)

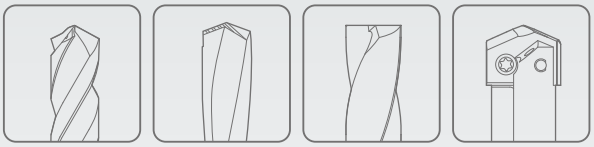
DREAM DRILLS - GENERAL
RECOMMENDED CUTTING CONDITIONS
推荐加工条件

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

VDI 3323	Parameter 参数	Drill Diameter 刃径 (mm) 6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
2	RPM	5840	4380	3500	2920	2500	2190	1950	1750
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
3	RPM	5840	4380	3500	2920	2500	2190	1950	1750
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
4	RPM	5840	4380	3500	2920	2500	2190	1950	1750
	FEED	0.12-0.18	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
5	RPM	4770	3580	2860	2390	2050	1790	1590	1430
	FEED	0.12-0.18	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
6	RPM	5840	4380	3500	2920	2500	2190	1950	1750
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
7	RPM	4770	3580	2860	2390	2050	1790	1590	1430
	FEED	0.12-0.24	0.16-0.28	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
8	RPM	4770	3580	2860	2390	2050	1790	1590	1430
	FEED	0.12-0.18	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
9	RPM	2650	1990	1590	1330	1140	990	880	800
	FEED	0.10-0.16	0.12-0.18	0.13-0.19	0.14-0.20	0.15-0.21	0.16-0.22	0.17-0.25	0.18-0.28
10	RPM	4240	3180	2550	2120	1820	1590	1410	1270
	FEED	0.12-0.18	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
11	RPM	2390	1790	1430	1190	1020	900	800	720
	FEED	0.10-0.16	0.12-0.18	0.13-0.19	0.14-0.20	0.15-0.21	0.16-0.22	0.17-0.25	0.18-0.28
12	RPM	4240	3180	2550	2120	1820	1590	1410	1270
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
13	RPM	2920	2190	1750	1460	1250	1090	970	880
	FEED	0.12-0.18	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
15	RPM	5840	4380	3500	2920	2500	2190	1950	1750
	FEED	0.20-0.26	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
16	RPM	5040	3780	3020	2520	2160	1890	1680	1510
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
17	RPM	6370	4770	3820	3180	2730	2390	2120	1910
	FEED	0.20-0.26	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
18	RPM	4240	3180	2550	2120	1820	1590	1410	1270
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
19	RPM	4770	3580	2860	2390	2050	1790	1590	1430
	FEED	0.20-0.26	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
20	RPM	4240	3180	2550	2120	1820	1590	1410	1270
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
55	RPM	1590	1190	950	800	680	600	530	480
	FEED	0.03-0.06	0.03-0.06	0.04-0.07	0.04-0.08	0.05-0.09	0.05-0.09	0.05-0.10	0.05-0.10

CARBIDE
HSS
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

Global Cutting Tool Leader **YG-1**



HOLEMAKING



Leading Through Innovation

SOLID CARBIDE

DREAM DRILLS -SOFT

- For Steels, up to Medium Hardness
- 用于中等硬度钢

SELECTION GUIDE
选用指南

HOLEMAKING TOOLS

SERIES 系列	DPPA01	DPPA02
DRILLING DEPTH 钻销深度	-	-
LENGTH 长度	REGULAR 常规	LONG 长
SIZE MIN 最小尺寸	D1.0	D3.0
SIZE MAX 最大尺寸	D20.0	D20.0
PAGE 页数	A103	A106
SURFACE TREATMENT 表面处理	X-Coating	



SOLID CARBIDE DREAM DRILLS SOFT

For Steels, up to Medium Hardness
用于中等硬度钢

Please visit 请访问 globalyg1.com/mat for material search 查看产品材料

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工条件) : p. A108

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB 布氏硬度	HRc 硬度		
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		

DREAM DRILLS -SOFT

DPPA01 SERIES

CARBIDE, DREAM DRILLS - SOFT
硬质合金, 梦幻钻头 - 软材质用

REGULAR 常规

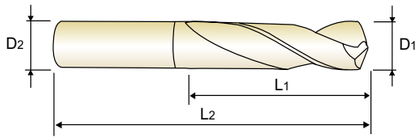
- Drilling for Non-alloy Steel, Low Alloy Steel and Cast Iron.
- Lip straight shape cutting edge will allow low thrust, strong rigidity and stable torque.
- Unique radius thinning for self-centering and chip breaking
- Negative land on the cutting edge for reliable tool life

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- 负片地的切削刃为可靠的刀具寿命





up to 1.5mm ø1.6~ø1.9 over 1.9mm



CARBIDE 30° h6 h7 140°

p. A108-A109

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径 D1	Shank Diameter 柄径 D2	Flute Length 槽长 L1	Overall Length 全长 L2
X-Coating				
DPPA01010	1.0	3	8	38
DPPA01011	1.1	3	9	42
DPPA01012	1.2	3	10	42
DPPA01013	1.3	3	10	42
DPPA01014	1.4	3	11	42
DPPA01015	1.5	3	11	42
DPPA01016	1.6	3	12	42
DPPA01017	1.7	3	12	42
DPPA01018	1.8	3	13	42
DPPA01019	1.9	3	13	42
DPPA01020	2.0	3	17	50
DPPA01021	2.1	3	17	50
DPPA01022	2.2	3	17	50
DPPA01023	2.3	3	17	50
DPPA01024	2.4	3	17	50
DPPA01025	2.5	3	17	50
DPPA01026	2.6	3	17	50
DPPA01027	2.7	3	17	50
DPPA01028	2.8	3	17	50
DPPA01029	2.9	3	17	50
DPPA01030	3.0	4	20	55
DPPA01031	3.1	4	20	55

EDP No. 型号	Drill Diameter 刃径 D1	Shank Diameter 柄径 D2	Flute Length 槽长 L1	Overall Length 全长 L2
X-Coating				
DPPA01032	3.2	4	20	55
DPPA01033	3.3	4	20	55
DPPA01034	3.4	4	20	55
DPPA01035	3.5	4	20	55
DPPA01036	3.6	4	25	55
DPPA01037	3.7	4	25	55
DPPA01038	3.8	4	25	55
DPPA01039	3.9	4	25	55
DPPA01040	4.0	4	25	55
DPPA01041	4.1	4	25	55
DPPA01042	4.2	5	32	62
DPPA01043	4.3	5	32	62
DPPA01044	4.4	5	32	62
DPPA01045	4.5	5	32	62
DPPA01046	4.6	5	32	62
DPPA01047	4.7	5	32	62
DPPA01048	4.8	5	32	62
DPPA01049	4.9	5	32	62
DPPA01050	5.0	5	32	62
DPPA01051	5.1	5	32	62
DPPA01052	5.2	6	36	66
DPPA01053	5.3	6	36	66

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供.

▶ 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
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																					

DREAM DRILLS -SOFT

DPPA01 SERIES

CARBIDE, DREAM DRILLS - SOFT

REGULAR

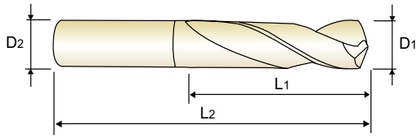
硬质合金, 梦幻钻头 - 软材质用

常规

- Drilling for Non-alloy Steel, Low Alloy Steel and Cast Iron.
- Lip straight shape cutting edge will allow low thrust, strong rigidity and stable torque.
- Unique radius thinning for self-centering and chip breaking
- Negative land on the cutting edge for reliable tool life

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- 独特的薄圆弧形，自主定心，断屑
- 负片地的切削刃为可靠的刀具寿命





CARBIDE | 30° | h6 | h7 | 140° | p. A108-A109

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D_1	D_2	L_1	L_2
DPPA01054	**5.4**	6	36	66
DPPA01055	**5.5**	6	36	66
DPPA01056	**5.6**	6	36	66
DPPA01057	**5.7**	6	36	66
DPPA01058	**5.8**	6	36	66
DPPA01059	**5.9**	6	36	66
DPPA01060	**6.0**	6	36	66
DPPA01061	**6.1**	6	36	66
DPPA01062	**6.2**	7	42	74
DPPA01063	**6.3**	7	42	74
DPPA01064	**6.4**	7	42	74
DPPA01065	**6.5**	7	42	74
DPPA01066	**6.6**	7	42	74
DPPA01067	**6.7**	7	42	74
DPPA01068	**6.8**	7	42	74
DPPA01069	**6.9**	7	42	74
DPPA01070	**7.0**	7	42	74
DPPA01071	**7.1**	7	42	74
DPPA01072	**7.2**	8	46	79
DPPA01073	**7.3**	8	46	79
DPPA01074	**7.4**	8	46	79
DPPA01075	**7.5**	8	46	79

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D_1	D_2	L_1	L_2
DPPA01076	**7.6**	8	46	79
DPPA01077	**7.7**	8	46	79
DPPA01078	**7.8**	8	46	79
DPPA01079	**7.9**	8	46	79
DPPA01080	**8.0**	8	46	79
DPPA01081	**8.1**	8	46	79
DPPA01082	**8.2**	9	50	84
DPPA01083	**8.3**	9	50	84
DPPA01084	**8.4**	9	50	84
DPPA01085	**8.5**	9	50	84
DPPA01086	**8.6**	9	50	84
DPPA01087	**8.7**	9	50	84
DPPA01088	**8.8**	9	50	84
DPPA01089	**8.9**	9	50	84
DPPA01090	**9.0**	9	50	84
DPPA01091	**9.1**	9	50	84
DPPA01092	**9.2**	10	53	89
DPPA01093	**9.3**	10	53	89
DPPA01094	**9.4**	10	53	89
DPPA01095	**9.5**	10	53	89
DPPA01096	**9.6**	10	53	89
DPPA01097	**9.7**	10	53	89

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供.

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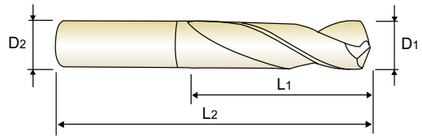
◎ : Excellent (优秀) ○ : Good (良好)

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																					

DREAM DRILLS -SOFT
DPPA01 SERIES
CARBIDE, DREAM DRILLS - SOFT
REGULAR
硬质合金, 梦幻钻头 - 软材质用
常规
▶ Drilling for Non-alloy Steel, Low Alloy Steel and Cast Iron.
▶ Lip straight shape cutting edge will allow low thrust, strong rigidity and stable torque.
▶ Unique radius thinning for self-centering and chip breaking
▶ Negative land on the cutting edge for reliable tool life
▶ 为钻碳素钢，低合金钢，铸铁
▶ 唇形直刃，低推力，强刚性和稳定扭矩.
▶ 独特的薄圆弧形，自主定心，断屑
▶ 负片地的切削刃为可靠的刀具寿命





CARBIDE | 30° | h6 | h7 | 140° | p. A108-A109
Recommended ToolHolder
Plain Shank | Page
SHRINK FIT HOLDER | D47 - 72
HYDRAULIC CHUCK | D15 - 46
ER COLLET CHUCK | D73 - 115
Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D_1	D_2	L_1	L_2
DPPA01098	**9.8**	10	53	89
DPPA01099	**9.9**	10	53	89
DPPA01100	**10.0**	10	53	89
DPPA01101	**10.1**	10	53	89
DPPA01102	**10.2**	11	55	95
DPPA01103	**10.3**	11	55	95
DPPA01104	**10.4**	11	55	95
DPPA01105	**10.5**	11	55	95
DPPA01106	**10.6**	11	55	95
DPPA01107	**10.7**	11	55	95
DPPA01108	**10.8**	11	55	95
DPPA01109	**10.9**	11	55	95
DPPA01110	**11.0**	11	55	95
DPPA01111	**11.1**	11	55	95
DPPA01112	**11.2**	12	62	102
DPPA01113	**11.3**	12	62	102
DPPA01114	**11.4**	12	62	102
DPPA01115	**11.5**	12	62	102
DPPA01116	**11.6**	12	62	102
DPPA01117	**11.7**	12	62	102

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D_1	D_2	L_1	L_2
DPPA01118	**11.8**	12	62	102
DPPA01119	**11.9**	12	62	102
DPPA01120	**12.0**	12	62	102
DPPA01125	**12.5**	13	62	102
DPPA01130	**13.0**	13	62	102
DPPA01135	**13.5**	14	64	107
DPPA01140	**14.0**	14	64	107
DPPA01145	**14.5**	15	67	111
DPPA01150	**15.0**	15	67	111
DPPA01155	**15.5**	16	69	115
DPPA01160	**16.0**	16	69	115
DPPA01165	**16.5**	17	71	119
DPPA01170	**17.0**	17	71	119
DPPA01175	**17.5**	18	74	123
DPPA01180	**18.0**	18	74	123
DPPA01185	**18.5**	19	76	127
DPPA01190	**19.0**	19	76	127
DPPA01195	**19.5**	20	80	131
DPPA01200	**20.0**	20	80	131

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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									
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																					

DREAM DRILLS -SOFT

DPPA02 SERIES

CARBIDE, DREAM DRILLS - SOFT

LONG

硬质合金, 梦幻钻头 - 软材质用

长

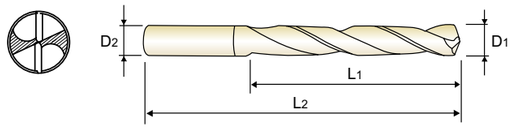
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- 负片地的切削刃为可靠的刀具寿命





up to ø1.9mm over 1.9mm



CARBIDE 30° h6 h7 140°

p. A108-A109

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D_1	D_2	L_1	L_2
DPPA02030	3.0	4	45	80
DPPA02031	3.1	4	45	80
DPPA02032	3.2	4	45	80
DPPA02033	3.3	4	45	80
DPPA02034	3.4	4	45	80
DPPA02035	3.5	4	45	80
DPPA02036	3.6	4	45	80
DPPA02037	3.7	4	45	80
DPPA02038	3.8	4	45	80
DPPA02039	3.9	4	45	80
DPPA02040	4.0	4	45	80
DPPA02041	4.1	4	45	80
DPPA02042	4.2	5	45	80
DPPA02043	4.3	5	45	80
DPPA02044	4.4	5	45	80
DPPA02045	4.5	5	45	80
DPPA02046	4.6	5	45	80
DPPA02047	4.7	5	45	80
DPPA02048	4.8	5	45	80
DPPA02049	4.9	5	45	80
DPPA02050	5.0	5	45	80
DPPA02051	5.1	5	45	80
DPPA02052	5.2	6	50	83
DPPA02053	5.3	6	50	83
DPPA02054	5.4	6	50	83
DPPA02055	5.5	6	50	83
DPPA02056	5.6	6	50	83

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D_1	D_2	L_1	L_2
DPPA02057	5.7	6	50	83
DPPA02058	5.8	6	50	83
DPPA02059	5.9	6	50	83
DPPA02060	6.0	6	50	83
DPPA02061	6.1	6	50	83
DPPA02062	6.2	7	53	85
DPPA02063	6.3	7	53	85
DPPA02064	6.4	7	53	85
DPPA02065	6.5	7	53	85
DPPA02066	6.6	7	53	85
DPPA02067	6.7	7	53	85
DPPA02068	6.8	7	53	85
DPPA02069	6.9	7	53	85
DPPA02070	7.0	7	53	85
DPPA02071	7.1	7	53	85
DPPA02072	7.2	8	58	90
DPPA02073	7.3	8	58	90
DPPA02074	7.4	8	58	90
DPPA02075	7.5	8	58	90
DPPA02076	7.6	8	58	90
DPPA02077	7.7	8	58	90
DPPA02078	7.8	8	58	90
DPPA02079	7.9	8	58	90
DPPA02080	8.0	8	58	90
DPPA02081	8.1	8	58	90
DPPA02082	8.2	9	64	98
DPPA02083	8.3	9	64	98

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供.

▶ 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
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																					

DREAM DRILLS -SOFT

DPPA02 SERIES

CARBIDE, DREAM DRILLS - SOFT

LONG

硬质合金, 梦幻钻头 - 软材质用

长

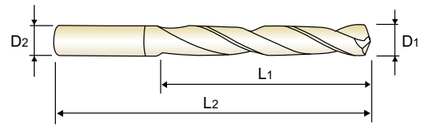
- Drilling for Non-alloy Steel, Low Alloy Steel and Cast Iron.
- Lip straight shape cutting edge will allow low thrust, strong rigidity and stable torque.
- Unique radius thinning for self-centering and chip breaking
- Negative land on the cutting edge for reliable tool life

- 为钻碳素钢，低合金钢，铸铁
- 唇形直刃，低推力，强刚性和稳定扭矩.
- 独特的薄圆弧形，自主定心，断屑
- 负片地的切削刃为可靠的刀具寿命





up to ø1.9mm over 1.9mm



CARBIDE 30° h6 h7 140°

p. A108-A109

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D_1	D_2	L_1	L_2
DPPA02084	8.4	9	64	98
DPPA02085	8.5	9	64	98
DPPA02086	8.6	9	64	98
DPPA02087	8.7	9	64	98
DPPA02088	8.8	9	64	98
DPPA02089	8.9	9	64	98
DPPA02090	9.0	9	64	98
DPPA02091	9.1	9	64	98
DPPA02092	9.2	10	68	105
DPPA02093	9.3	10	68	105
DPPA02094	9.4	10	68	105
DPPA02095	9.5	10	68	105
DPPA02096	9.6	10	68	105
DPPA02097	9.7	10	68	105
DPPA02098	9.8	10	68	105
DPPA02099	9.9	10	68	105
DPPA02100	10.0	10	68	105
DPPA02101	10.1	10	68	105
DPPA02102	10.2	11	73	110
DPPA02103	10.3	11	73	110
DPPA02104	10.4	11	73	110
DPPA02105	10.5	11	73	110
DPPA02106	10.6	11	73	110
DPPA02107	10.7	11	73	110
DPPA02108	10.8	11	73	110
DPPA02109	10.9	11	73	110
DPPA02110	11.0	11	73	110

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D_1	D_2	L_1	L_2
DPPA02111	11.1	11	73	110
DPPA02112	11.2	12	80	120
DPPA02113	11.3	12	80	120
DPPA02114	11.4	12	80	120
DPPA02115	11.5	12	80	120
DPPA02116	11.6	12	80	120
DPPA02117	11.7	12	80	120
DPPA02118	11.8	12	80	120
DPPA02119	11.9	12	80	120
DPPA02120	12.0	12	80	120
DPPA02125	12.5	13	90	137
DPPA02130	13.0	13	90	137
DPPA02135	13.5	14	96	147
DPPA02140	14.0	14	96	147
DPPA02145	14.5	15	100	153
DPPA02150	15.0	15	100	153
DPPA02155	15.5	16	112	160
DPPA02160	16.0	16	112	160
DPPA02165	16.5	17	112	160
DPPA02170	17.0	17	112	160
DPPA02175	17.5	18	112	160
DPPA02180	18.0	18	112	160
DPPA02185	18.5	19	112	160
DPPA02190	19.0	19	112	160
DPPA02195	19.5	20	112	160
DPPA02200	20.0	20	112	160

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供.

◎ : 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																					

DREAM DRILLS -SOFT

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

DPPA01, DPPA02 SERIES

without COOLANT HOLES
不带内冷孔

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

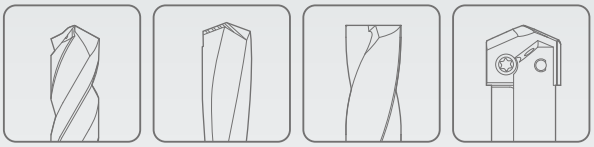
ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 1.0	2.0	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 3.0	4.0	5.0
P	2	Non-alloy steel	60	RPM	19100	9550	80	RPM	8490	6370	5090
				FEED	0.02-0.04	0.04-0.06		FEED	0.04-0.10	0.06-0.12	0.12-0.18
	3		60	RPM	19100	9550	80	RPM	8490	4770	3820
				FEED	0.02-0.04	0.04-0.06		FEED	0.04-0.10	0.06-0.12	0.12-0.18
	6	Low alloy steel	60	RPM	19100	9550	80	RPM	8490	6370	5090
				FEED	0.02-0.04	0.04-0.06		FEED	0.04-0.10	0.06-0.12	0.12-0.18
	7		40	RPM	12730	6370	60	RPM	6370	4770	3820
				FEED	0.02-0.04	0.04-0.06		FEED	0.04-0.10	0.06-0.12	0.12-0.18
	10	High alloyed steel, and tool steel	35	RPM	11140	5570	55	RPM	5840	4380	3500
				FEED	0.02-0.04	0.04-0.06		FEED	0.04-0.10	0.06-0.12	0.12-0.18
M	12	Stainless steel	30	RPM	9550	4770	45	RPM	4770	3580	2860
				FEED	0.02-0.04	0.02-0.04		FEED	0.03-0.05	0.05-0.09	0.07-0.11
	13		20	RPM	6370	3180	35	RPM	3710	2790	2230
				FEED	0.02-0.04	0.02-0.04		FEED	0.03-0.05	0.05-0.09	0.07-0.11
K	15	Grey cast iron	60	RPM	19100	9550	80	RPM	8490	6370	5090
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20
	16		40	RPM	12730	6370	60	RPM	6370	4770	3820
				FEED	0.02-0.04	0.04-0.06		FEED	0.04-0.10	0.06-0.12	0.12-0.18
	17	Nodular cast iron	60	RPM	19100	9550	80	RPM	8490	6370	5090
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20
	18		35	RPM	11140	5570	55	RPM	5840	4380	3500
				FEED	0.02-0.04	0.04-0.06		FEED	0.04-0.10	0.06-0.12	0.12-0.18
	19	Malleable cast iron	40	RPM	12730	6370	60	RPM	6370	4770	3820
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20
	20		35	RPM	11140	5570	55	RPM	5840	4380	3500
				FEED	0.02-0.04	0.04-0.06		FEED	0.04-0.10	0.06-0.12	0.12-0.18

DREAM DRILLS -SOFT
RECOMMENDED CUTTING CONDITIONS
推荐加工条件

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
P	2	Non-alloy steel	80	RPM	4240	3180	2550	2120	1820	1590	1410	1270
				FEED	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26	0.22-0.28	0.24-0.30	0.26-0.36	0.28-0.38
	3		80	RPM	3180	2390	1910	1590	1360	1190	1060	950
				FEED	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26	0.22-0.28	0.24-0.30	0.26-0.36	0.28-0.38
	6	Low alloy steel	80	RPM	4240	3180	2550	2120	1820	1590	1410	1270
				FEED	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26	0.22-0.28	0.24-0.30	0.26-0.36	0.28-0.38
	7		60	RPM	3180	2390	1910	1590	1360	1190	1060	950
				FEED	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26	0.22-0.28	0.24-0.30	0.26-0.36	0.28-0.38
	10	High alloyed steel, and tool steel	55	RPM	2920	2190	1750	1460	1250	1090	970	880
				FEED	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26	0.22-0.28	0.24-0.30	0.26-0.36	0.28-0.38
M	12	Stainless steel	45	RPM	2390	1790	1430	1190	1020	900	800	720
				FEED	0.08-0.12	0.09-0.13	0.10-0.15	0.11-0.16	0.12-0.17	0.13-0.18	0.14-0.19	0.15-0.20
	13		35	RPM	1860	1390	1110	930	800	700	620	560
				FEED	0.08-0.12	0.09-0.13	0.10-0.15	0.11-0.16	0.12-0.17	0.13-0.18	0.14-0.19	0.15-0.20
K	15	Grey cast iron	80	RPM	4240	3180	2550	2120	1820	1590	1410	1270
				FEED	0.16-0.22	0.18-0.24	0.20-0.26	0.22-0.28	0.24-0.30	0.26-0.32	0.28-0.38	0.30-0.40
	16		60	RPM	3180	2390	1910	1590	1360	1190	1060	950
				FEED	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26	0.22-0.28	0.24-0.30	0.26-0.36	0.28-0.38
	17	Nodular cast iron	80	RPM	4240	3180	2550	2120	1820	1590	1410	1270
				FEED	0.16-0.22	0.18-0.24	0.20-0.26	0.22-0.28	0.24-0.30	0.26-0.32	0.28-0.38	0.30-0.40
	18		55	RPM	2920	2190	1750	1460	1250	1090	970	880
				FEED	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26	0.22-0.28	0.24-0.30	0.26-0.36	0.28-0.38
	19	Malleable cast iron	60	RPM	3180	2390	1910	1590	1360	1190	1060	950
				FEED	0.16-0.22	0.18-0.24	0.20-0.26	0.22-0.28	0.24-0.30	0.26-0.32	0.28-0.38	0.30-0.40
	20		55	RPM	2920	2190	1750	1460	1250	1090	970	880
				FEED	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26	0.22-0.28	0.24-0.30	0.26-0.36	0.28-0.38

Global Cutting Tool Leader **YG-1**



HOLEMAKING

Leading Through Innovation



SOLID CARBIDE

DREAM DRILLS -HIGH FEED

- 1.5 to 2 Times Faster Feeding Speed than 2-Flute Drill
  For Carbon Steels, Alloy Steels(up to HRc35) and Cast Iron
- 比2刃钻头进给量1.5到2倍
  用于碳钢, 合金钢(硬度35以下)和铸铁

SELECTION GUIDE
选用指南

HOLEMAKING TOOLS

SERIES 系列	DGR493	DGR495
DRILLING DEPTH 钻销深度	3XD	5XD
LENGTH 长度	SHORT 短	LONG 长
SIZE MIN 最小尺寸	D5.0	D5.0
SIZE MAX 最大尺寸	D20.0	D20.0
PAGE 页数	A113	A115
SURFACE TREATMENT 表面处理	H-Coating	

SOLID CARBIDE
DREAM DRILLS
HIGH FEED

1.5 to 2 Times Faster Feeding Speed than 2-Flute Drill
for Carbon Steels, Alloy Steels(up to HRc35) and Cast Iron
比2刀钻头进给量1.5到2倍
用于碳钢, 合金钢(硬度35以下)和铸铁

Please visit 请访问 globalyg1.com/mat for material search 查看产品材料

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工条件) : p. A117





ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB 布氏硬度	HRc 硬度	DGR493	DGR495
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		

DREAM DRILLS - HIGH FEED

DGR493 SERIES

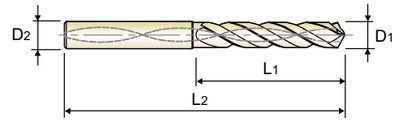
CARBIDE, DREAM DRILLS - HIGH FEED with COOLANT HOLES *SHORT*
硬质合金, 梦幻钻头 - 高进给 带内冷孔 短

- ▶ Drilling for Carbon Steels, Alloy Steels(-HRc35) and Cast Iron
- ▶ Higher productivity due to 1.5 to 2 times faster feeding speed than 2-flute drill
- ▶ Multi-Layer coating delivers much better productivity and reliability
- ▶ Self centering and chip breaking by R-thinning and coolant holes

- ▶ 加工碳钢,合金钢(硬度35以下)和铸铁
- ▶ 由于1.5~2倍进给量比2刃钻头，实现高产率
- ▶ 多层涂层带来更高产率和稳定性
- ▶ 由于R型中心刃和内冷，卓越自定心和断屑性能







DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar

p. A117

3 × D

Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长
H-Coating	D_1	D_2	L_1	L_2
DGR493050	5.0	6	28	66
DGR493051	5.1	6	28	66
DGR493052	5.2	6	28	66
DGR493053	5.3	6	28	66
DGR493054	5.4	6	28	66
DGR493055	5.5	6	28	66
DGR493056	5.6	6	28	66
DGR493057	5.7	6	28	66
DGR493058	5.8	6	28	66
DGR493059	5.9	6	28	66
DGR493060	6.0	6	28	66
DGR493061	6.1	8	34	79
DGR493062	6.2	8	34	79
DGR493063	6.3	8	34	79
DGR493064	6.4	8	34	79
DGR493065	6.5	8	34	79
DGR493066	6.6	8	34	79
DGR493067	6.7	8	34	79
DGR493068	6.8	8	34	79
DGR493069	6.9	8	34	79
DGR493070	7.0	8	34	79
DGR493071	7.1	8	41	79
DGR493072	7.2	8	41	79
DGR493073	7.3	8	41	79

EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长
H-Coating	D_1	D_2	L_1	L_2
DGR493074	7.4	8	41	79
DGR493075	7.5	8	41	79
DGR493076	7.6	8	41	79
DGR493077	7.7	8	41	79
DGR493078	7.8	8	41	79
DGR493079	7.9	8	41	79
DGR493080	8.0	8	41	79
DGR493081	8.1	10	47	89
DGR493082	8.2	10	47	89
DGR493083	8.3	10	47	89
DGR493084	8.4	10	47	89
DGR493085	8.5	10	47	89
DGR493086	8.6	10	47	89
DGR493087	8.7	10	47	89
DGR493088	8.8	10	47	89
DGR493089	8.9	10	47	89
DGR493090	9.0	10	47	89
DGR493091	9.1	10	47	89
DGR493092	9.2	10	47	89
DGR493093	9.3	10	47	89
DGR493094	9.4	10	47	89
DGR493095	9.5	10	47	89
DGR493096	9.6	10	47	89
DGR493097	9.7	10	47	89

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供.

▶ 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
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																					

DREAM DRILLS - HIGH FEED

DGR493 SERIES

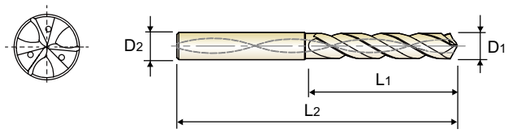
CARBIDE, DREAM DRILLS - HIGH FEED with COOLANT HOLES — SHORT

硬质合金, 梦幻钻头 - 高进给 带内冷孔 — 短

- ▶ Drilling for Carbon Steels, Alloy Steels(-HRc35) and Cast Iron
- ▶ Higher productivity due to 1.5 to 2 times faster feeding speed than 2-flute drill
- ▶ Multi-Layer coating delivers much better productivity and reliability
- ▶ Self centering and chip breaking by R-thinning and coolant holes

- ▶ 加工碳钢,合金钢(硬度35以下)和铸铁
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DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar

p. A117

3 × D

Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长
H-Coating	D1	D2	L1	L2
DGR493098	9.8	10	47	89
DGR493099	9.9	10	47	89
DGR493100	10.0	10	47	89
DGR493101	10.1	12	55	102
DGR493102	10.2	12	55	102
DGR493103	10.3	12	55	102
DGR493104	10.4	12	55	102
DGR493105	10.5	12	55	102
DGR493106	10.6	12	55	102
DGR493107	10.7	12	55	102
DGR493108	10.8	12	55	102
DGR493109	10.9	12	55	102
DGR493110	11.0	12	55	102
DGR493111	11.1	12	55	102
DGR493112	11.2	12	55	102
DGR493113	11.3	12	55	102
DGR493114	11.4	12	55	102
DGR493115	11.5	12	55	102
DGR493116	11.6	12	55	102
DGR493117	11.7	12	55	102

EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长
H-Coating	D1	D2	L1	L2
DGR493118	11.8	12	55	102
DGR493119	11.9	12	55	102
DGR493120	12.0	12	55	102
DGR493125	12.5	14	60	107
DGR493130	13.0	14	60	107
DGR493135	13.5	14	60	107
DGR493140	14.0	14	60	107
DGR493145	14.5	16	65	115
DGR493150	15.0	16	65	115
DGR493155	15.5	16	65	115
DGR493160	16.0	16	65	115
DGR493165	16.5	18	73	123
DGR493170	17.0	18	73	123
DGR493175	17.5	18	73	123
DGR493180	18.0	18	73	123
DGR493185	18.5	20	79	131
DGR493190	19.0	20	79	131
DGR493195	19.5	20	79	131
DGR493200	20.0	20	79	131

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供.

◎ : 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																					

DREAM DRILLS - HIGH FEED

DGR495 SERIES

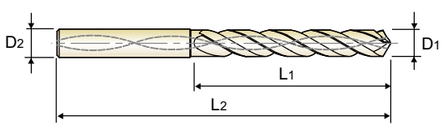
CARBIDE, DREAM DRILLS - HIGH FEED with COOLANT HOLES — LONG

硬质合金, 梦幻钻头 - 高进给 带内冷孔 — 长

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DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar

p. A117

5 × D

Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长
H-Coating	D1	D2	L1	L2
DGR495050	5.0	6	44	82
DGR495051	5.1	6	44	82
DGR495052	5.2	6	44	82
DGR495053	5.3	6	44	82
DGR495054	5.4	6	44	82
DGR495055	5.5	6	44	82
DGR495056	5.6	6	44	82
DGR495057	5.7	6	44	82
DGR495058	5.8	6	44	82
DGR495059	5.9	6	44	82
DGR495060	6.0	6	44	82
DGR495061	6.1	8	53	91
DGR495062	6.2	8	53	91
DGR495063	6.3	8	53	91
DGR495064	6.4	8	53	91
DGR495065	6.5	8	53	91
DGR495066	6.6	8	53	91
DGR495067	6.7	8	53	91
DGR495068	6.8	8	53	91
DGR495069	6.9	8	53	91
DGR495070	7.0	8	53	91
DGR495071	7.1	8	53	91
DGR495072	7.2	8	53	91
DGR495073	7.3	8	53	91

EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长
H-Coating	D1	D2	L1	L2
DGR495074	7.4	8	53	91
DGR495075	7.5	8	53	91
DGR495076	7.6	8	53	91
DGR495077	7.7	8	53	91
DGR495078	7.8	8	53	91
DGR495079	7.9	8	53	91
DGR495080	8.0	8	53	91
DGR495081	8.1	10	61	103
DGR495082	8.2	10	61	103
DGR495083	8.3	10	61	103
DGR495084	8.4	10	61	103
DGR495085	8.5	10	61	103
DGR495086	8.6	10	61	103
DGR495087	8.7	10	61	103
DGR495088	8.8	10	61	103
DGR495089	8.9	10	61	103
DGR495090	9.0	10	61	103
DGR495091	9.1	10	61	103
DGR495092	9.2	10	61	103
DGR495093	9.3	10	61	103
DGR495094	9.4	10	61	103
DGR495095	9.5	10	61	103
DGR495096	9.6	10	61	103
DGR495097	9.7	10	61	103

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供.

▶ 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
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																					

DREAM DRILLS - HIGH FEED

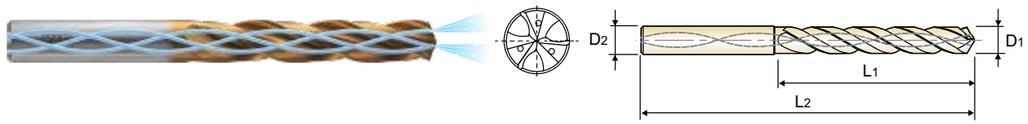
DGR495 SERIES

CARBIDE, DREAM DRILLS - HIGH FEED with COOLANT HOLES *LONG*

硬质合金, 梦幻钻头 - 高进给 带内冷孔 长

- ▶ Drilling for Carbon Steels, Alloy Steels(-HRc35) and Cast Iron
- ▶ Higher productivity due to 1.5 to 2 times faster feeding speed than 2-flute drill
- ▶ Multi-Layer coating delivers much better productivity and reliability
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- ▶ 由于1.5~2倍进给量比2刃钻头，实现高产率
- ▶ 多层涂层带来更高产率和稳定性
- ▶ 由于R型中心刃和内冷，卓越自定心和断屑性能



DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar

p. A117

5 × D

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
H-Coating	D_1	D_2	L_1	L_2
DGR495098	9.8	10	61	103
DGR495099	9.9	10	61	103
DGR495100	10.0	10	61	103
DGR495101	10.1	12	71	118
DGR495102	10.2	12	71	118
DGR495103	10.3	12	71	118
DGR495104	10.4	12	71	118
DGR495105	10.5	12	71	118
DGR495106	10.6	12	71	118
DGR495107	10.7	12	71	118
DGR495108	10.8	12	71	118
DGR495109	10.9	12	71	118
DGR495110	11.0	12	71	118
DGR495111	11.1	12	71	118
DGR495112	11.2	12	71	118
DGR495113	11.3	12	71	118
DGR495114	11.4	12	71	118
DGR495115	11.5	12	71	118
DGR495116	11.6	12	71	118
DGR495117	11.7	12	71	118

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
H-Coating	D_1	D_2	L_1	L_2
DGR495118	11.8	12	71	118
DGR495119	11.9	12	71	118
DGR495120	12.0	12	71	118
DGR495125	12.5	14	77	124
DGR495130	13.0	14	77	124
DGR495135	13.5	14	77	124
DGR495140	14.0	14	77	124
DGR495145	14.5	16	83	133
DGR495150	15.0	16	83	133
DGR495155	15.5	16	83	133
DGR495160	16.0	16	83	133
DGR495165	16.5	18	93	143
DGR495170	17.0	18	93	143
DGR495175	17.5	18	93	143
DGR495180	18.0	18	93	143
DGR495185	18.5	20	101	153
DGR495190	19.0	20	101	153
DGR495195	19.5	20	101	153
DGR495200	20.0	20	101	153

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供.

◎ : 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																					

DREAM DRILLS - HIGH FEED

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

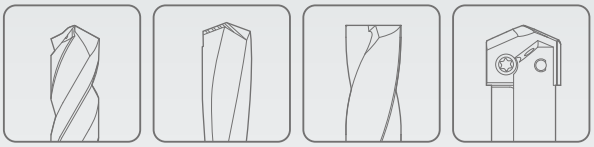
DGR493, DGR495 SERIES

with COOLANT HOLES
带内冷孔

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
P	2	Non-alloy steel	100	RPM	6370	5310	3980	3180	2650	2270	1990	1770	1590
				FEED	0.2-0.25	0.24-0.3	0.32-0.4	0.4-0.5	0.48-0.6	0.56-0.7	0.56-0.72	0.63-0.81	0.7-0.88
	3		100	RPM	6370	5310	3980	3180	2650	2270	1990	1770	1590
				FEED	0.2-0.25	0.24-0.3	0.32-0.4	0.4-0.5	0.48-0.6	0.56-0.7	0.56-0.72	0.63-0.81	0.7-0.88
	4		100	RPM	6370	5310	3980	3180	2650	2270	1990	1770	1590
				FEED	0.16-0.21	0.2-0.26	0.26-0.34	0.34-0.42	0.41-0.47	0.47-0.54	0.47-0.55	0.5-0.59	0.54-0.67
	5		80	RPM	5090	4240	3180	2550	2120	1820	1590	1410	1270
				FEED	0.16-0.21	0.2-0.26	0.26-0.34	0.34-0.42	0.41-0.47	0.47-0.54	0.47-0.55	0.5-0.59	0.54-0.67
	6	Low alloy steel	100	RPM	6370	5310	3980	3180	2650	2270	1990	1770	1590
				FEED	0.2-0.25	0.24-0.3	0.32-0.4	0.4-0.5	0.48-0.54	0.56-0.63	0.56-0.64	0.63-0.72	0.68-0.81
	7		80	RPM	5090	4240	3180	2550	2120	1820	1590	1410	1270
				FEED	0.2-0.25	0.24-0.3	0.32-0.4	0.4-0.5	0.48-0.54	0.56-0.63	0.56-0.64	0.63-0.72	0.68-0.81
	8		80	RPM	5090	4240	3180	2550	2120	1820	1590	1410	1270
				FEED	0.16-0.21	0.2-0.26	0.26-0.34	0.34-0.42	0.41-0.47	0.47-0.54	0.47-0.55	0.5-0.59	0.54-0.67
	9		40	RPM	2550	2120	1590	1270	1060	910	800	710	640
				FEED	0.13-0.18	0.16-0.22	0.21-0.29	0.26-0.36	0.32-0.38	0.36-0.43	0.36-0.45	0.38-0.47	0.41-0.54
	10	High alloyed steel, and tool steel	70	RPM	4460	3710	2790	2230	1860	1590	1390	1240	1110
				FEED	0.16-0.21	0.2-0.26	0.26-0.34	0.34-0.42	0.41-0.47	0.47-0.54	0.47-0.55	0.5-0.59	0.54-0.67
	11		40	RPM	2550	2120	1590	1270	1060	910	800	710	640
				FEED	0.13-0.18	0.16-0.22	0.21-0.29	0.26-0.36	0.32-0.38	0.36-0.43	0.36-0.45	0.38-0.47	0.41-0.54
K	15	Grey cast iron	100	RPM	6370	5310	3980	3180	2650	2270	1990	1770	1590
				FEED	0.23-0.30	0.27-0.36	0.36-0.48	0.45-0.60	0.54-0.72	0.63-0.84	0.64-0.80	0.72-0.90	0.80-0.98
	16		80	RPM	5090	4240	3180	2550	2120	1820	1590	1410	1270
				FEED	0.20-0.25	0.24-0.30	0.32-0.40	0.40-0.50	0.48-0.60	0.56-0.70	0.56-0.72	0.63-0.81	0.70-0.90
	17	Nodular cast iron	100	RPM	6370	5310	3980	3180	2650	2270	1990	1770	1590
				FEED	0.23-0.30	0.27-0.36	0.36-0.48	0.45-0.60	0.54-0.72	0.63-0.84	0.64-0.80	0.72-0.90	0.80-0.98
	18		70	RPM	4460	3710	2790	2230	1860	1590	1390	1240	1110
				FEED	0.20-0.25	0.24-0.30	0.32-0.40	0.40-0.50	0.48-0.60	0.56-0.70	0.56-0.72	0.63-0.81	0.70-0.90
	19	Malleable cast iron	80	RPM	5090	4240	3180	2550	2120	1820	1590	1410	1270
				FEED	0.23-0.30	0.27-0.36	0.36-0.48	0.45-0.60	0.54-0.72	0.63-0.84	0.64-0.80	0.72-0.90	0.80-0.98
	20		70	RPM	4460	3710	2790	2230	1860	1590	1390	1240	1110
				FEED	0.20-0.25	0.24-0.30	0.32-0.40	0.40-0.50	0.48-0.60	0.56-0.70	0.56-0.72	0.63-0.81	0.70-0.90

Global Cutting Tool Leader **YG-1**



HOLEMAKING

Leading Through Innovation



SOLID CARBIDE

DREAM DRILLS -FLAT BOTTOM

- For Holes on Various Angled Surfaces
- 用于倾斜孔加工

SELECTION GUIDE
选用指南

HOLEMAKING TOOLS

SERIES 系列	DPP447	DH450
DRILLING DEPTH 钻销深度	2XD	5XD
LENGTH 长度	SHORT 短	LONG 长
SIZE MIN 最小尺寸	D3.0	D3.0
SIZE MAX 最大尺寸	D20.0	D20.0
PAGE 页数	A122	A125
SURFACE TREATMENT 表面处理	X-Coating	TiAlN

SOLID CARBIDE
DREAM DRILLS
FLAT BOTTOM

For Holes on Various Angled Surfaces
用于倾斜孔加工




Please visit 请访问 globalyg1.com/mat for material search 查看产品材料

◎ : Excellent (优秀) ○ : Good (良好)

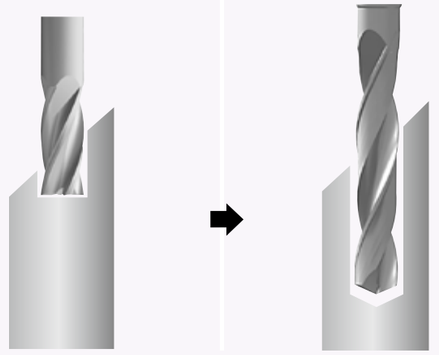
Recommended cutting conditions (推荐加工条件) : p. A128

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB 布氏硬度	HRc 硬度	DPP447	DH450
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		

Only One Operation for Angled Surface
在斜面一次钻孔

For angled surfaces, two operations are required to drill in a conventional process
有斜面钻孔, 按传统工艺需要两步操作

For angled surfaces, only one operation can complete the drilling with Dream Drill Flat Bottom
采用梦幻钻头一平底钻可一步完成在斜面上钻孔



1st operation (End mill)
第一步(铣刀)
Counter boring to make flat surface and guide hole
锪平面和钻导向孔

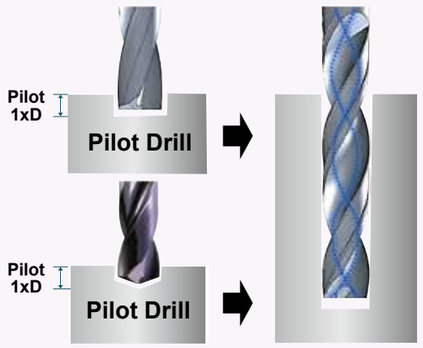
2nd operation (Drill)
第二步(钻头)
Drilling to required depth of hole
钻至要求孔深



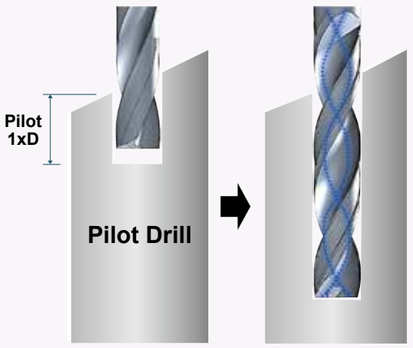
One operation (Dream Drill Flat Bottom)
One Drill does it all
第一把梦幻钻头一平底钻可一步完成孔加工
without using both an end mill and a drill
不需要同事使用铣刀

Pilot Drilling for 5 X D
导向钻孔 : 约5XD

1. FLAT SURFACE



2. INCLINED SURFACE



▶For Flat bottom 5xD drilling depth, Slope surface needs Pilot Drilling with YG-1 Flat Bottom Drill (2XD) and Flat surface needs Pilot Drilling with YG-1 Dream Drill General.
对于钻深5XD, 斜面需要YG-1 平底钻加工导向孔, 平面需要YG -1通用性梦幻钻头加工导向孔

▶Pilot Drilling Depth : around 1XD
导向钻孔深度 : 约1XD

▶Pilot Drilling Diameter : same size diameter
导向钻孔直径 : 同尺寸直径

DREAM DRILLS - FLAT BOTTOM

DPP447 SERIES

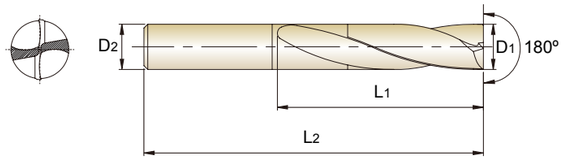
CARBIDE, DREAM DRILLS - FLAT BOTTOM — *SHORT*

硬质合金, 梦幻钻头一平底钻 — 短

- ▶ For holes on various angled surfaces.
- ▶ 180 degree point angle enables drilling of flat, inclined and curved surfaces.
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- ▶ High strength cutting edge to improve tool life and versatility drilling.
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- ▶ 对于通孔, 钻孔薄板时, 可以将入口和出口处的毛刺降至最低





CARBIDE | 20° | h6 | h7 | 180° | p. A128

2 × D

Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D_1	D_2	L_1	L_2
DPP447030	3.0	6	16	50
DPP447031	3.1	6	16	50
DPP447032	3.2	6	16	50
DPP447033	3.3	6	16	50
DPP447034	3.4	6	18	50
DPP447035	3.5	6	18	50
DPP447036	3.6	6	18	50
DPP447037	3.7	6	18	50
DPP447038	3.8	6	18	50
DPP447039	3.9	6	18	50
DPP447040	4.0	6	18	50
DPP447041	4.1	6	20	60
DPP447042	4.2	6	20	60
DPP447043	4.3	6	20	60
DPP447044	4.4	6	20	60
DPP447045	4.5	6	22	60
DPP447046	4.6	6	22	60
DPP447047	4.7	6	22	60
DPP447048	4.8	6	22	60
DPP447049	4.9	6	22	60
DPP447050	5.0	6	22	60
DPP447051	5.1	6	24	60
DPP447052	5.2	6	24	60
DPP447053	5.3	6	24	60

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D_1	D_2	L_1	L_2
DPP447054	5.4	6	24	60
DPP447055	5.5	6	24	60
DPP447056	5.6	6	24	60
DPP447057	5.7	6	26	60
DPP447058	5.8	6	26	60
DPP447059	5.9	6	26	60
DPP447060	6.0	6	26	60
DPP447061	6.1	8	28	70
DPP447062	6.2	8	28	70
DPP447063	6.3	8	28	70
DPP447064	6.4	8	30	70
DPP447065	6.5	8	30	70
DPP447066	6.6	8	30	70
DPP447067	6.7	8	30	70
DPP447068	6.8	8	30	70
DPP447069	6.9	8	30	70
DPP447070	7.0	8	30	70
DPP447071	7.1	8	34	70
DPP447072	7.2	8	34	70
DPP447073	7.3	8	34	70
DPP447074	7.4	8	34	70
DPP447075	7.5	8	34	70
DPP447076	7.6	8	34	70
DPP447077	7.7	8	34	70

▶ Other diameters and shank types are available upon request. / 其他直径与刀柄类型可根据您的要求提供

▶ NEXT PAGE 下页

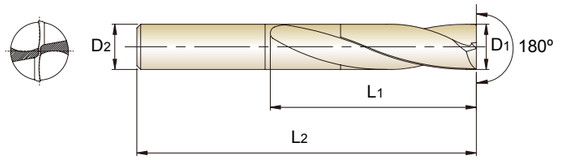
◎ : Excellent (优秀) ○ : Good (良好)

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
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	○	○																			

DREAM DRILLS - FLAT BOTTOM
DPP447 SERIES
CARBIDE, DREAM DRILLS - FLAT BOTTOM — SHORT
硬质合金, 梦幻钻头一平底钻 — 短
▶ For holes on various angled surfaces.
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▶ High strength cutting edge to improve tool life and versatility drilling.
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CARBIDE | 20° | h6 | h7 | 180° | p. A128
2 × D
Recommended ToolHolder
Plain Shank / Page
◎ SHRINK FIT HOLDER D47 - 72
◎ HYDRAULIC CHUCK D15 - 46
○ ER COLLET CHUCK D73 - 115
Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D_1	D_2	L_1	L_2
DPP447078	7.8	8	34	70
DPP447079	7.9	8	34	70
DPP447080	8.0	8	34	70
DPP447081	8.1	10	38	80
DPP447082	8.2	10	38	80
DPP447083	8.3	10	38	80
DPP447084	8.4	10	38	80
DPP447085	8.5	10	38	80
DPP447086	8.6	10	38	80
DPP447087	8.7	10	40	80
DPP447088	8.8	10	40	80
DPP447089	8.9	10	40	80
DPP447090	9.0	10	40	80
DPP447091	9.1	10	42	80
DPP447092	9.2	10	42	80
DPP447093	9.3	10	42	80
DPP447094	9.4	10	42	80
DPP447095	9.5	10	42	80
DPP447096	9.6	10	42	80
DPP447097	9.7	10	45	80
DPP447098	9.8	10	45	80
DPP447099	9.9	10	45	80
DPP447100	10.0	10	45	80
DPP447101	10.1	12	46	90

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D_1	D_2	L_1	L_2
DPP447102	10.2	12	46	90
DPP447103	10.3	12	46	90
DPP447104	10.4	12	48	90
DPP447105	10.5	12	48	90
DPP447106	10.6	12	48	90
DPP447107	10.7	12	48	90
DPP447108	10.8	12	48	90
DPP447109	10.9	12	48	90
DPP447110	11.0	12	48	90
DPP447111	11.1	12	50	90
DPP447112	11.2	12	50	90
DPP447113	11.3	12	50	90
DPP447114	11.4	12	50	90
DPP447115	11.5	12	50	90
DPP447116	11.6	12	50	90
DPP447117	11.7	12	52	90
DPP447118	11.8	12	52	90
DPP447119	11.9	12	52	90
DPP447120	12.0	12	52	90
DPP447125	12.5	14	54	100
DPP447130	13.0	14	56	100
DPP447135	13.5	14	58	100
DPP447140	14.0	14	58	100
DPP447145	14.5	16	62	105

▶ Other diameters and shank types are available upon request. / 其他直径与刀柄类型可根据您的要求提供
◎ : 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	○	○																			

DREAM DRILLS - FLAT BOTTOM

DPP447 SERIES

CARBIDE, DREAM DRILLS - FLAT BOTTOM

SHORT

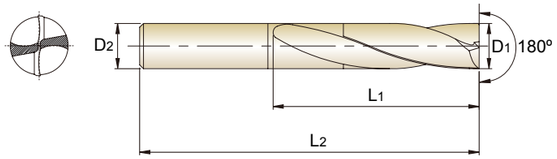
硬质合金, 梦幻钻头一平底钻

短

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- ▶ 适合各种斜面孔加工
- ▶ 采用180°钻顶角, 可以在平面, 斜面和曲面上钻孔加工
- ▶ 最佳的槽形设计, 实现出色的排屑
- ▶ 高强度切削刃, 提高刀具寿命和多功能性
- ▶ 对于通孔, 钻孔薄板时, 可以将入口和出口处的毛刺降至最低





CARBIDE | 20° | h6 | h7 | 180° | p. A128

2 × D

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D_1	D_2	L_1	L_2
DPP447150	15.0	16	62	105
DPP447155	15.5	16	64	115
DPP447160	16.0	16	64	115
DPP447165	16.5	18	70	125
DPP447170	17.0	18	70	125
DPP447175	17.5	18	70	125

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D_1	D_2	L_1	L_2
DPP447180	18.0	18	70	125
DPP447185	18.5	20	75	135
DPP447190	19.0	20	75	135
DPP447195	19.5	20	75	145
DPP447200	20.0	20	75	145

▶ Other diameters and shank types are available upon request. / 其他直径与刀柄类型可根据您的要求提供

◎ : 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	○	○																			

DREAM DRILLS - FLAT BOTTOM

DH450 SERIES

CARBIDE, DREAM DRILLS - FLAT BOTTOM with COOLANT HOLES

LONG

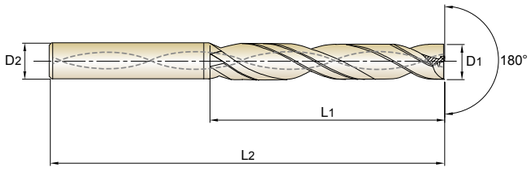
硬质合金, 梦幻钻头一平底钻带内冷孔

长

- ▶ For holes on various angled surfaces.
- ▶ 180 degree point angle enables drilling of flat, inclined and curved surfaces.
- ▶ Optimized flute shape for excellent chip evacuation.
- ▶ High strength cutting edge to improve tool life and versatility drilling.
- ▶ For through holes, minimized burrs at entrance and exit when drilling thin plate.
- ▶ Pilot Drilling for 5XD

- ▶ 加工多种角度的表面
- ▶ 180度钻顶角度可以加工平面,倾斜和弯曲的表面
- ▶ 最佳沟槽设计使卓越排屑
- ▶ 高强度刃部提高刀具寿命和多用途钻孔
- ▶ 加工通孔的薄工件时，入口和出口的毛刺最小化
- ▶ 双刃带设计提供稳定的孔直线度和圆度，以提高刀具寿命和多功能钻孔





CARBIDE | 30° | h6 | h7 | 180° | 20 bar | p. A129

5 × D

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH450030	3.0	6	28	66
DH450031	3.1	6	28	66
DH450032	3.2	6	28	66
DH450033	3.3	6	28	66
DH450034	3.4	6	28	66
DH450035	3.5	6	28	66
DH450036	3.6	6	28	66
DH450037	3.7	6	28	66
DH450038	3.8	6	36	74
DH450039	3.9	6	36	74
DH450040	4.0	6	36	74
DH450041	4.1	6	36	74
DH450042	4.2	6	36	74
DH450043	4.3	6	36	74
DH450044	4.4	6	36	74
DH450045	4.5	6	36	74
DH450046	4.6	6	36	74
DH450047	4.7	6	36	74
DH450048	4.8	6	44	82
DH450049	4.9	6	44	82
DH450050	5.0	6	44	82
DH450051	5.1	6	44	82

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH450052	5.2	6	44	82
DH450053	5.3	6	44	82
DH450054	5.4	6	44	82
DH450055	5.5	6	44	82
DH450056	5.6	6	44	82
DH450057	5.7	6	44	82
DH450058	5.8	6	44	82
DH450059	5.9	6	44	82
DH450060	6.0	6	44	82
DH450061	6.1	8	53	91
DH450062	6.2	8	53	91
DH450063	6.3	8	53	91
DH450064	6.4	8	53	91
DH450065	6.5	8	53	91
DH450066	6.6	8	53	91
DH450067	6.7	8	53	91
DH450068	6.8	8	53	91
DH450069	6.9	8	53	91
DH450070	7.0	8	53	91
DH450071	7.1	8	53	91
DH450072	7.2	8	53	91
DH450073	7.3	8	53	91

▶ Other diameters and shank types are available upon request. / 其他直径与刀柄类型可根据您的要求提供

▶ 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
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	○	○																			

DREAM DRILLS - FLAT BOTTOM

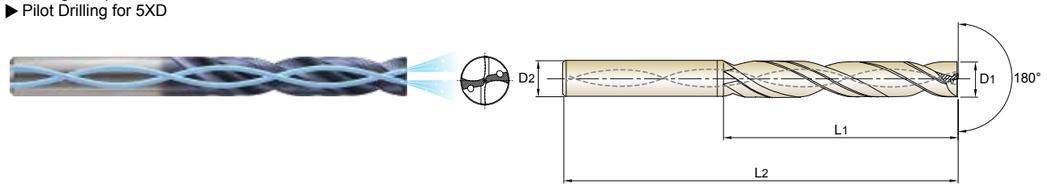
DH450 SERIES

CARBIDE, DREAM DRILLS - FLAT BOTTOM with COOLANT HOLES *LONG*

硬质合金, 梦幻钻头一平底钻带内冷孔 长

- ▶ For holes on various angled surfaces.
- ▶ 180 degree point angle enables drilling of flat, inclined and curved surfaces.
- ▶ Optimized flute shape for excellent chip evacuation.
- ▶ High strength cutting edge to improve tool life and versatility drilling.
- ▶ For through holes, minimized burrs at entrance and exit when drilling thin plate.
- ▶ Pilot Drilling for 5XD

- ▶ 加工多种角度的表面
- ▶ 180度钻顶角度可以加工平面,倾斜和弯曲的表面
- ▶ 最佳沟槽设计使卓越排屑
- ▶ 高强度刃部提高刀具寿命和多用途钻孔
- ▶ 加工通孔的薄工件时，入口和出口的毛刺最小化
- ▶ 双刃带设计提供稳定的孔直线度和圆度，以提高刀具寿命和多功能钻孔



CARBIDE | 30° | h6 | h7 | 180° | 20 bar | p. A129

5 × D

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH450074	7.4	8	53	91
DH450075	7.5	8	53	91
DH450076	7.6	8	53	91
DH450077	7.7	8	53	91
DH450078	7.8	8	53	91
DH450079	7.9	8	53	91
DH450080	8.0	8	53	91
DH450081	8.1	10	61	103
DH450082	8.2	10	61	103
DH450083	8.3	10	61	103
DH450084	8.4	10	61	103
DH450085	8.5	10	61	103
DH450086	8.6	10	61	103
DH450087	8.7	10	61	103
DH450088	8.8	10	61	103
DH450089	8.9	10	61	103
DH450090	9.0	10	61	103
DH450091	9.1	10	61	103
DH450092	9.2	10	61	103
DH450093	9.3	10	61	103
DH450094	9.4	10	61	103
DH450095	9.5	10	61	103

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH450096	9.6	10	61	103
DH450097	9.7	10	61	103
DH450098	9.8	10	61	103
DH450099	9.9	10	61	103
DH450100	10.0	10	61	103
DH450102	10.2	12	71	118
DH450105	10.5	12	71	118
DH450108	10.8	12	71	118
DH450110	11.0	12	71	118
DH450115	11.5	12	71	118
DH450118	11.8	12	71	118
DH450119	11.9	12	71	118
DH450120	12.0	12	71	118
DH450125	12.5	14	77	124
DH450130	13.0	14	77	124
DH450135	13.5	14	77	124
DH450140	14.0	14	77	124
DH450145	14.5	16	83	133
DH450150	15.0	16	83	133
DH450155	15.5	16	83	133
DH450160	16.0	16	83	133
DH450165	16.5	18	93	143

▶ Other diameters and shank types are available upon request. / 其他直径与刀柄类型可根据您的要求提供

▶ 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
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
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

DREAM DRILLS - FLAT BOTTOM

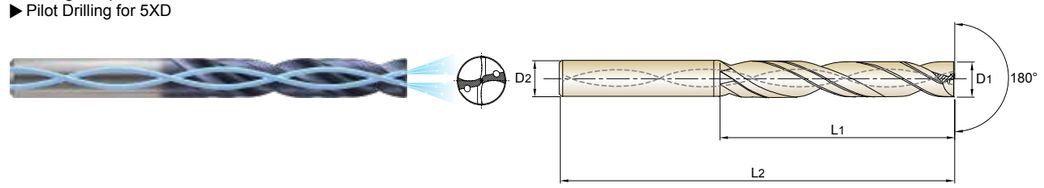
DH450 SERIES

CARBIDE, DREAM DRILLS - FLAT BOTTOM with COOLANT HOLES *LONG*

硬质合金, 梦幻钻头一平底钻带内冷孔 长

- ▶ For holes on various angled surfaces.
- ▶ 180 degree point angle enables drilling of flat, inclined and curved surfaces.
- ▶ Optimized flute shape for excellent chip evacuation.
- ▶ High strength cutting edge to improve tool life and versatility drilling.
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- ▶ 加工多种角度的表面
- ▶ 180度钻顶角度可以加工平面,倾斜和弯曲的表面
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- ▶ 高强度刃部提高刀具寿命和多用途钻孔
- ▶ 加工通孔的薄工件时，入口和出口的毛刺最小化
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CARBIDE | 30° | h6 | h7 | 180° | 20 bar | p. A129

5 × D

Recommended ToolHolder

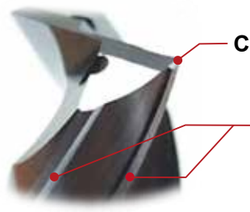
Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH450170	17.0	18	93	143
DH450175	17.5	18	93	143
DH450180	18.0	18	93	143
DH450185	18.5	20	101	153

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH450190	19.0	20	101	153
DH450195	19.5	20	101	153
DH450200	20.0	20	101	153

▶ Other diameters and shank types are available upon request. / 其他直径与刀柄类型可根据您的要求提供



Chamfer / 倒角 (Data as Below)

Double Margin / 双刃带 (2XD Single Margin)
Hole Straightness and roundness provide good alignments
改善孔的直线度和圆度

Drill Diameter / 刃径 (mm)	Corner Chamfer / 刀尖倒角 (mm)
Ø3.0 ~ Ø6.0	0.06
Ø6.1 ~ Ø10.0	0.12
Ø10.1 ~ Ø14.0	0.18
Ø14.1 ~ Ø20.0	0.26

◎ : 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	○	○																			

DREAM DRILLS - FLAT BOTTOM

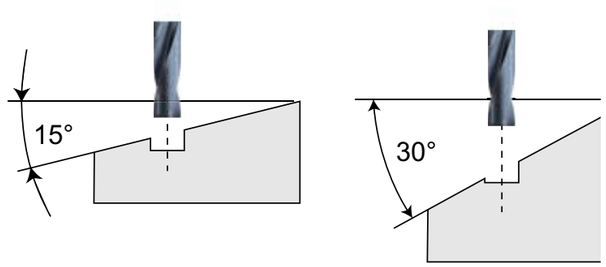
RECOMMENDED CUTTING CONDITIONS
推荐加工条件

DPP447 SERIES — without COOLANT HOLES (2XD)
不带内冷孔

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	1	Non-alloy steel	80	RPM	8490	6370	5090	4240	3180	2550	2120	1590	1270
				FEED	0.02-0.05	0.03-0.07	0.03-0.08	0.04-0.10	0.08-0.14	0.11-0.17	0.11-0.21	0.18-0.28	0.28-0.38
	2		80	RPM	8490	6370	5090	4240	3180	2550	2120	1590	1270
				FEED	0.02-0.05	0.03-0.07	0.03-0.08	0.04-0.10	0.08-0.14	0.11-0.17	0.11-0.21	0.18-0.28	0.28-0.38
	3		70	RPM	7430	5570	4460	3710	2790	2230	1860	1390	1110
				FEED	0.02-0.05	0.03-0.07	0.03-0.08	0.04-0.10	0.07-0.13	0.11-0.17	0.11-0.21	0.18-0.28	0.24-0.34
	4		40	RPM	4240	3180	2550	2120	1590	1270	1060	800	640
				FEED	0.02-0.05	0.03-0.07	0.03-0.08	0.04-0.10	0.07-0.13	0.11-0.17	0.11-0.21	0.18-0.28	0.24-0.34
	5		38	RPM	4030	3020	2420	2020	1510	1210	1010	760	600
				FEED	0.02-0.05	0.02-0.06	0.03-0.08	0.03-0.09	0.06-0.12	0.09-0.15	0.08-0.18	0.14-0.24	0.21-0.31
	6	Low alloy steel	45	RPM	4770	3580	2860	2390	1790	1430	1190	900	720
				FEED	0.02-0.05	0.03-0.07	0.03-0.08	0.04-0.10	0.07-0.13	0.11-0.17	0.11-0.21	0.18-0.28	0.24-0.34
	7		40	RPM	4240	3180	2550	2120	1590	1270	1060	800	640
				FEED	0.02-0.05	0.03-0.07	0.03-0.08	0.04-0.10	0.07-0.13	0.11-0.17	0.11-0.21	0.18-0.28	0.24-0.34
	8		38	RPM	4030	3020	2420	2020	1510	1210	1010	760	600
				FEED	0.02-0.05	0.02-0.06	0.03-0.08	0.03-0.09	0.06-0.12	0.09-0.15	0.08-0.18	0.14-0.24	0.21-0.31
	9		25	RPM	2650	1990	1590	1330	990	800	660	500	400
				FEED	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.08	0.05-0.10	0.06-0.12	0.06-0.16	0.10-0.20
M	12	Stainless steel	30	RPM	3180	2390	1910	1590	1190	950	800	600	480
				FEED	0.01-0.03	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.08	0.05-0.10	0.06-0.12	0.09-0.15
K	15	Grey cast iron	70	RPM	7430	5570	4460	3710	2790	2230	1860	1390	1110
				FEED	0.02-0.05	0.02-0.06	0.03-0.08	0.03-0.09	0.06-0.12	0.09-0.15	0.08-0.18	0.14-0.24	0.20-0.30
	16		60	RPM	6370	4770	3820	3180	2390	1910	1590	1190	950
				FEED	0.02-0.05	0.02-0.05	0.03-0.06	0.03-0.07	0.04-0.10	0.07-0.13	0.06-0.16	0.11-0.21	0.15-0.25
N	21	Aluminum-wrought alloy	165	RPM	17510	13130	10500	8750	6570	5250	4380	3280	2630
				FEED	0.02-0.05	0.04-0.08	0.04-0.10	0.06-0.12	0.10-0.16	0.14-0.20	0.14-0.24	0.22-0.32	0.30-0.40
	22		165	RPM	17510	13130	10500	8750	6570	5250	4380	3280	2630
				FEED	0.02-0.05	0.04-0.08	0.04-0.10	0.06-0.12	0.10-0.16	0.14-0.20	0.14-0.24	0.22-0.32	0.30-0.40

Surface Angle 表面角	Cutting Conditions / 加工条件 RPM / 转速	FEED / 进给
0° ~ 15°	100%	100%
15° ~ 30°	100%	50%
30° ~	70%	30%



▶ The cutting conditions are for 2xD. / 基于2XD径钻头的加工参数.
▶ A rigid and precise machine and holder are required. / 需要高精度和刚性的设备和刀柄.
▶ The recommended depth of hole is measured from the highest point of the hole on drilling in inclined and angled surfaces.
推荐的钻孔深度是从倾斜表面钻孔的最高点开始测量.
▶ The recommended cutting conditions are those for drilling on flat and horizontal surfaces.
推荐的切削条件是在平面和水平钻孔时的参数.
▶ Please adjust feed rate according to the above surface angle when drilling on an inclined surface.
在倾斜表面钻孔时, 请根据上述表面角度调整进给速度.
- The recommended feed rate 50% or lower, in case of 15°~30° of the incline angle.
在倾角为15° ~ 30°的情况下, 建议进给速度降为50%或更低.
- The recommended feed rate 30% or lower and RPM 70%, in case of 30° ~ of the incline angle.
在倾角为30°的情况下, 建议进给速度降到30%或更低, 转速降为70%.
▶ Please decrease cutting speed as material hardness increases. / 硬度增加时, 请降低加工速度.
▶ Only use drilling tools. Side milling, traversing, helical milling are not usable. / 仅适用于钻孔. 侧铣, 横铣, 螺旋铣不可用.

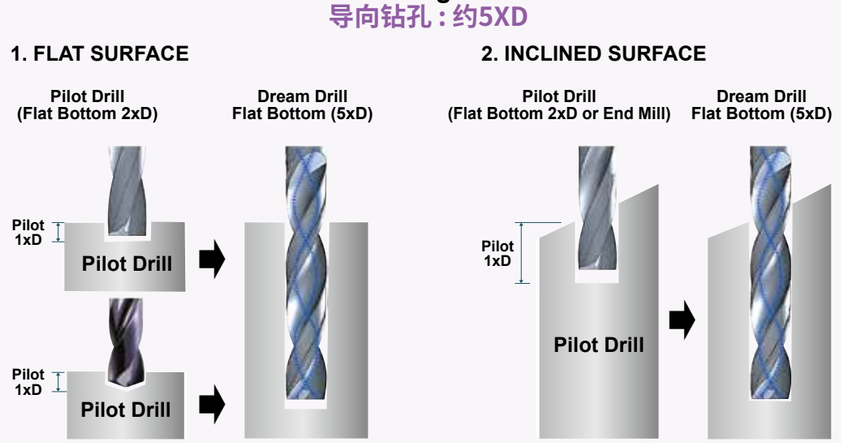
DREAM DRILLS - FLAT BOTTOM
RECOMMENDED CUTTING CONDITIONS
推荐加工条件

DH450 SERIES — with COOLANT HOLES (5XD)
带内冷孔

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	1	Non-alloy steel	100	RPM	10610	7960	6370	5310	3980	3180	2650	1990	1590
				FEED	0.05-0.09	0.08-0.12	0.09-0.15	0.12-0.18	0.18-0.24	0.24-0.30	0.26-0.36	0.38-0.48	0.50-0.60
	2		90	RPM	9550	7160	5730	4770	3580	2860	2390	1790	1430
				FEED	0.02-0.05	0.04-0.08	0.04-0.10	0.06-0.12	0.10-0.16	0.14-0.20	0.14-0.24	0.22-0.32	0.30-0.40
	3		90	RPM	9550	7160	5730	4770	3580	2860	2390	1790	1430
				FEED	0.02-0.05	0.04-0.08	0.04-0.10	0.06-0.12	0.10-0.16	0.14-0.20	0.14-0.24	0.22-0.32	0.30-0.40
	4		75	RPM	7960	5970	4770	3980	2980	2390	1990	1490	1190
				FEED	0.02-0.04	0.03-0.06	0.05-0.08	0.05-0.09	0.06-0.12	0.09-0.15	0.08-0.18	0.14-0.24	0.20-0.30
	5		75	RPM	7960	5970	4770	3980	2980	2390	1990	1490	1190
				FEED	0.02-0.04	0.03-0.06	0.05-0.08	0.05-0.09	0.06-0.12	0.09-0.15	0.08-0.18	0.14-0.24	0.20-0.30
	6	Low alloy steel	85	RPM	9020	6760	5410	4510	3380	2710	2250	1690	1350
				FEED	0.02-0.05	0.04-0.08	0.04-0.10	0.06-0.12	0.10-0.16	0.14-0.20	0.14-0.24	0.22-0.32	0.30-0.40
	7		75	RPM	7960	5970	4770	3980	2980	2390	1990	1490	1190
				FEED	0.02-0.05	0.04-0.08	0.04-0.10	0.06-0.12	0.10-0.16	0.14-0.20	0.14-0.24	0.22-0.32	0.30-0.40
	8		75	RPM	7960	5970	4770	3980	2980	2390	1990	1490	1190
				FEED	0.02-0.04	0.03-0.06	0.05-0.08	0.05-0.09	0.06-0.12	0.09-0.15	0.08-0.18	0.14-0.24	0.20-0.30
	9		50	RPM	5310	3980	3180	2650	1990	1590	1330	990	800
				FEED	0.02-0.04	0.03-0.06	0.05-0.08	0.05-0.09	0.06-0.12	0.09-0.15	0.08-0.18	0.14-0.24	0.20-0.30
M	12	Stainless steel	60	RPM	6370	4770	3820	3180	2390	1910	1590	1190	950
				FEED	0.02-0.05	0.04-0.08	0.04-0.10	0.06-0.12	0.10-0.16	0.14-0.20	0.14-0.24	0.22-0.32	0.30-0.40
K	15	Grey cast iron	90	RPM	9550	7160	5730	4770	3580	2860	2390	1790	1430
				FEED	0.02-0.05	0.03-0.06	0.05-0.08	0.05-0.09	0.06-0.12	0.09-0.15	0.08-0.18	0.14-0.24	0.20-0.30
	16		75	RPM	7960	5970	4770	3980	2980	2390	1990	1490	1190
				FEED	0.02-0.05	0.02-0.05	0.03-0.06	0.03-0.07	0.04-0.10	0.07-0.13	0.06-0.16	0.11-0.21	0.15-0.25
N	21	Aluminum-wrought alloy	160	RPM	16980	12730	10190	8490	6370	5090	4240	3180	2550
				FEED	0.05-0.09	0.08-0.12	0.09-0.15	0.12-0.18	0.18-0.24	0.24-0.30	0.26-0.36	0.38-0.48	0.50-0.60
	22		160	RPM	16980	12730	10190	8490	6370	5090	4240	3180	2550
				FEED	0.05-0.09	0.08-0.12	0.09-0.15	0.12-0.18	0.18-0.24	0.24-0.30	0.26-0.36	0.38-0.48	0.50-0.60

Pilot Drilling for 5 X D
导向钻孔 : 约5XD

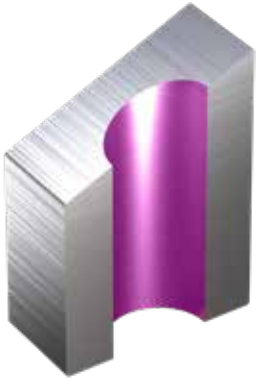


▶ For Flat bottom 5xD drilling depth, Slope surface needs Pilot Drilling with YG-1 Flat Bottom Drill (2XD) and Flat surface needs Pilot Drilling with YG-1 Dream Drill General. / 对于钻深5XD, 斜面需要YG-1 平底钻加工导向孔, 平面需要YG -1通用性梦幻钻头加工导向孔
▶ Pilot Drilling Depth : around 1XD / 导向钻孔深度 : 约1XD
▶ Pilot Drilling Diameter : same size diameter / 导向钻孔直径: 同尺寸直径

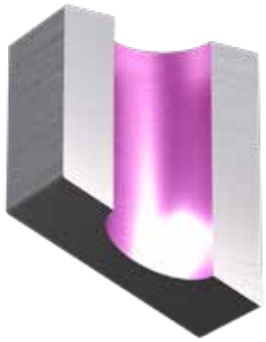
DREAM DRILLS - FLAT BOTTOM

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

VARIETY OF DRILLING
钻削的多样性



Inclined Entry
倾斜入口



Inclined Exit
倾斜出口



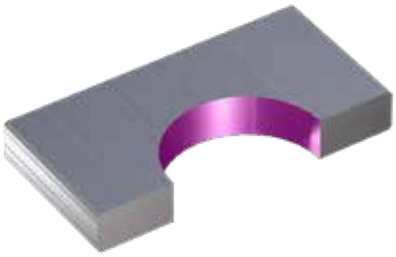
Counter Boring
沉孔



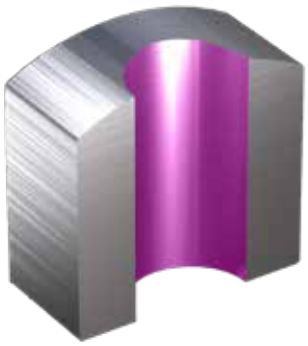
Guide Drilling
导向孔



Cross Drilling
交叉孔



Thin Plate
薄板



Curved Surface
曲面



Chained Hole
链接孔



Blind Hole for Threading
螺纹底孔

Leading Through Innovation



SOLID CARBIDE

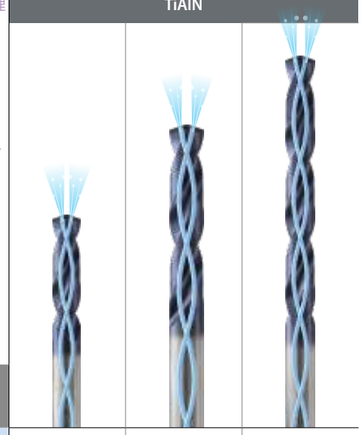
DREAM DRILLS -INOX

- For Tough Materials like Stainless Steels
- 镍合金和钛等硬质材料

SELECTION GUIDE
选用指南

HOLEMAKING TOOLS

SERIES 系列	DH451	DH452	DH453
DRILLING DEPTH 钻销深度	3XD	5XD	8XD
LENGTH 长度	SHORT 短	LONG 长	EXTRA LONG 超长
SIZE MIN 最小尺寸	D3.0	D1.0	D3.0
SIZE MAX 最大尺寸	D20.0	D20.0	D14.0
PAGE 页数	A133	A136	A139
SURFACE TREATMENT 表面处理	TiAlN		



SOLID CARBIDE
DREAM DRILLS INOX

For Tough Materials like Stainless Steels
镍合金和钛等硬质材料

Please visit 请访问 globalyg1.com/mat for material search 查看产品材料

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工条件) : p. A141

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB 布氏硬度	HRc 硬度	DH451	DH452	DH453
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			

CARBIDE
HSS
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

DREAM DRILLS - INOX

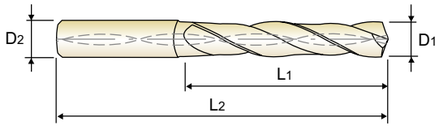
DH451 SERIES

CARBIDE, DREAM DRILLS - INOX with COOLANT HOLES — SHORT
硬质合金，梦幻钻头 - 不锈钢用 带内冷孔 — 短

- ▶ Special flute shape and geometry suitable for machining stainless steel
- ▶ Excellent chip evacuation from better surface treatment
- ▶ Point R-thinning achieves superior centering and chip curling
- ▶ TiAlN coating for better surface finishes and longer tool life

- ▶ 应用：沟槽的特殊几何形状使其适合加工不锈钢
- ▶ 更好的表面处理方式使其具有优秀的排屑性能
- ▶ 横刃修成R型使产品有较强的自定心能力和螺旋切削性
- ▶ 使用TiAlN涂层使被加工材料得到良好的表面粗糙度并且延长了钻头的使用寿命





DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar

p. A141

3 × D

Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长	EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长
TiAlN	D1	D2	L1	L2	TiAlN	D1	D2	L1	L2
DH451030	3.0	6	20	62	DH451050	5.0	6	28	66
DH451031	3.1	6	20	62	DH451051	5.1	6	28	66
DH451032	3.2	6	20	62	DH451052	5.2	6	28	66
DH451033	3.3	6	20	62	DH451053	5.3	6	28	66
DH451034	3.4	6	20	62	DH451054	5.4	6	28	66
DH451035	3.5	6	20	62	DH451055	5.5	6	28	66
DH451036	3.6	6	20	62	DH451056	5.6	6	28	66
DH451037	3.7	6	20	62	DH451057	5.7	6	28	66
DH451038	3.8	6	24	66	DH451058	5.8	6	28	66
DH451039	3.9	6	24	66	DH451059	5.9	6	28	66
DH451040	4.0	6	24	66	DH451060	6.0	6	28	66
DH451041	4.1	6	24	66	DH451061	6.1	8	34	79
DH451042	4.2	6	24	66	DH451062	6.2	8	34	79
DH451043	4.3	6	24	66	DH451063	6.3	8	34	79
DH451044	4.4	6	24	66	DH451064	6.4	8	34	79
DH451045	4.5	6	24	66	DH451065	6.5	8	34	79
DH451046	4.6	6	24	66	DH451066	6.6	8	34	79
DH451047	4.7	6	24	66	DH451067	6.7	8	34	79
DH451048	4.8	6	28	66	DH451068	6.8	8	34	79
DH451049	4.9	6	28	66	DH451069	6.9	8	34	79

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户要求提供.

▶ 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
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	◎	◎	○	○	○												○				

DREAM DRILLS - INOX

DH451 SERIES

CARBIDE, DREAM DRILLS - INOX with COOLANT HOLES — SHORT

硬质合金，梦幻钻头 - 不锈钢用 带内冷孔 — 短

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- ▶ 横刃修成R型使产品有较强的自定心能力和螺旋切削性
- ▶ 使用TiAlN涂层使被加工材料得到良好的表面粗糙度并且延长了钻头的使用寿命



DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar

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3 × D

Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH451070	7.0	8	34	79
DH451071	7.1	8	41	79
DH451072	7.2	8	41	79
DH451073	7.3	8	41	79
DH451074	7.4	8	41	79
DH451075	7.5	8	41	79
DH451076	7.6	8	41	79
DH451077	7.7	8	41	79
DH451078	7.8	8	41	79
DH451079	7.9	8	41	79
DH451080	8.0	8	41	79
DH451081	8.1	10	47	89
DH451082	8.2	10	47	89
DH451083	8.3	10	47	89
DH451084	8.4	10	47	89
DH451085	8.5	10	47	89
DH451086	8.6	10	47	89
DH451087	8.7	10	47	89
DH451088	8.8	10	47	89
DH451089	8.9	10	47	89

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH451090	9.0	10	47	89
DH451091	9.1	10	47	89
DH451092	9.2	10	47	89
DH451093	9.3	10	47	89
DH451094	9.4	10	47	89
DH451095	9.5	10	47	89
DH451096	9.6	10	47	89
DH451097	9.7	10	47	89
DH451098	9.8	10	47	89
DH451099	9.9	10	47	89
DH451100	10.0	10	47	89
DH451101	10.1	12	55	102
DH451102	10.2	12	55	102
DH451103	10.3	12	55	102
DH451104	10.4	12	55	102
DH451105	10.5	12	55	102
DH451106	10.6	12	55	102
DH451107	10.7	12	55	102
DH451108	10.8	12	55	102
DH451109	10.9	12	55	102

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户要求提供.

▶ 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
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	◎	◎	○	○	○												○				

DREAM DRILLS - INOX

DH451 SERIES

CARBIDE, DREAM DRILLS - INOX with COOLANT HOLES — SHORT

硬质合金，梦幻钻头 - 不锈钢用 带内冷孔 — 短

- ▶ Special flute shape and geometry suitable for machining stainless steel
- ▶ Excellent chip evacuation from better surface treatment
- ▶ Point R-thinning achieves superior centering and chip curling
- ▶ TiAlN coating for better surface finishes and longer tool life

- ▶ 应用：沟槽的特殊几何形状使其适合加工不锈钢
- ▶ 更好的表面处理方式使其具有优秀的排屑性能
- ▶ 横刃修成R型使产品有较强的自定心能力和螺旋切削性
- ▶ 使用TiAlN涂层使被加工材料得到良好的表面粗糙度并且延长了钻头的使用寿命



DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar

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Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH451110	11.0	12	55	102
DH451111	11.1	12	55	102
DH451112	11.2	12	55	102
DH451113	11.3	12	55	102
DH451114	11.4	12	55	102
DH451115	11.5	12	55	102
DH451116	11.6	12	55	102
DH451117	11.7	12	55	102
DH451118	11.8	12	55	102
DH451119	11.9	12	55	102
DH451120	12.0	12	55	102
DH451125	12.5	14	60	107
DH451130	13.0	14	60	107
DH451135	13.5	14	60	107

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH451140	14.0	14	60	107
DH451145	14.5	16	65	115
DH451150	15.0	16	65	115
DH451155	15.5	16	65	115
DH451160	16.0	16	65	115
DH451165	16.5	18	73	123
DH451170	17.0	18	73	123
DH451175	17.5	18	73	123
DH451180	18.0	18	73	123
DH451185	18.5	20	79	131
DH451190	19.0	20	79	131
DH451195	19.5	20	79	131
DH451200	20.0	20	79	131

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户要求提供.

◎ : 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	◎	◎	○	○	○												○				

DREAM DRILLS - INOX

DH452 SERIES

CARBIDE, DREAM DRILLS - INOX with COOLANT HOLES — LONG

硬质合金，梦幻钻头 - 不锈钢用 带内冷孔 — 长

- ▶ Special flute shape and geometry suitable for machining stainless steel
- ▶ Excellent chip evacuation from better surface treatment
- ▶ Point R-thinning achieves superior centering and chip curling
- ▶ TiAlN coating for better surface finishes and longer tool life

- ▶ 应用：沟槽的特殊几何形状使其适合加工不锈钢
- ▶ 更好的表面处理方式使其具有优秀的排屑性能
- ▶ 横刃修成R型使产品有较强的自定心能力和螺旋切削性
- ▶ 使用TiAlN涂层使被加工材料得到良好的表面粗糙度并且延长了钻头的使用寿命



DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar

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Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH452010	1.0	3	8	55
DH452011	1.1	3	12	55
DH452012	1.2	3	12	55
DH452013	1.3	3	12	55
DH452014	1.4	3	12	55
DH452015	1.5	3	16	55
DH452016	1.6	3	16	55
DH452017	1.7	3	16	55
DH452018	1.8	3	16	55
DH452019	1.9	3	16	55
DH452020	2.0	4	21	57
DH452021	2.1	4	21	57
DH452022	2.2	4	21	57
DH452023	2.3	4	21	57
DH452024	2.4	4	21	57
DH452025	2.5	4	21	57
DH452026	2.6	4	21	57
DH452027	2.7	4	21	57
DH452028	2.8	4	21	57
DH452029	2.9	4	21	57
DH452030	3.0	6	28	66
DH452031	3.1	6	28	66

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH452032	3.2	6	28	66
DH452033	3.3	6	28	66
DH452034	3.4	6	28	66
DH452035	3.5	6	28	66
DH452036	3.6	6	28	66
DH452037	3.7	6	28	66
DH452038	3.8	6	36	74
DH452039	3.9	6	36	74
DH452040	4.0	6	36	74
DH452041	4.1	6	36	74
DH452042	4.2	6	36	74
DH452043	4.3	6	36	74
DH452044	4.4	6	36	74
DH452045	4.5	6	36	74
DH452046	4.6	6	36	74
DH452047	4.7	6	36	74
DH452048	4.8	6	44	82
DH452049	4.9	6	44	82
DH452050	5.0	6	44	82
DH452051	5.1	6	44	82
DH452052	5.2	6	44	82
DH452053	5.3	6	44	82

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户要求提供.
▶ 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			
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	◎	◎	○	○	○												○				

DREAM DRILLS - INOX

DH452 SERIES

CARBIDE, DREAM DRILLS - INOX with COOLANT HOLES — LONG

硬质合金，梦幻钻头 - 不锈钢用 带内冷孔 — 长

▶ Special flute shape and geometry suitable for machining stainless steel
▶ Excellent chip evacuation from better surface treatment
▶ Point R-thinning achieves superior centering and chip curling
▶ TiAlN coating for better surface finishes and longer tool life

▶ 应用：沟槽的特殊几何形状使其适合加工不锈钢
▶ 更好的表面处理方式使其具有优秀的排屑性能
▶ 横刃修成R型使产品有较强的自定心能力和螺旋切削性
▶ 使用TiAlN涂层使被加工材料得到良好的表面粗糙度并且延长了钻头的使用寿命



DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar

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Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH452054	5.4	6	44	82
DH452055	5.5	6	44	82
DH452056	5.6	6	44	82
DH452057	5.7	6	44	82
DH452058	5.8	6	44	82
DH452059	5.9	6	44	82
DH452060	6.0	6	44	82
DH452061	6.1	8	53	91
DH452062	6.2	8	53	91
DH452063	6.3	8	53	91
DH452064	6.4	8	53	91
DH452065	6.5	8	53	91
DH452066	6.6	8	53	91
DH452067	6.7	8	53	91
DH452068	6.8	8	53	91
DH452069	6.9	8	53	91
DH452070	7.0	8	53	91
DH452071	7.1	8	53	91
DH452072	7.2	8	53	91
DH452073	7.3	8	53	91
DH452074	7.4	8	53	91
DH452075	7.5	8	53	91

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH452076	7.6	8	53	91
DH452077	7.7	8	53	91
DH452078	7.8	8	53	91
DH452079	7.9	8	53	91
DH452080	8.0	8	53	91
DH452081	8.1	10	61	103
DH452082	8.2	10	61	103
DH452083	8.3	10	61	103
DH452084	8.4	10	61	103
DH452085	8.5	10	61	103
DH452086	8.6	10	61	103
DH452087	8.7	10	61	103
DH452088	8.8	10	61	103
DH452089	8.9	10	61	103
DH452090	9.0	10	61	103
DH452091	9.1	10	61	103
DH452092	9.2	10	61	103
DH452093	9.3	10	61	103
DH452094	9.4	10	61	103
DH452095	9.5	10	61	103
DH452096	9.6	10	61	103
DH452097	9.7	10	61	103

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户要求提供.
▶ 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			
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	◎	◎	○	○	○												○				

DREAM DRILLS - INOX

DH452 SERIES

CARBIDE, DREAM DRILLS - INOX with COOLANT HOLES — *LONG*

硬质合金，梦幻钻头 - 不锈钢用 带内冷孔 — 长

- ▶ Special flute shape and geometry suitable for machining stainless steel
- ▶ Excellent chip evacuation from better surface treatment
- ▶ Point R-thinning achieves superior centering and chip curling
- ▶ TiAlN coating for better surface finishes and longer tool life

- ▶ 应用：沟槽的特殊几何形状使其适合加工不锈钢
- ▶ 更好的表面处理方式使其具有优秀的排屑性能
- ▶ 横刃修成R型使产品有较强的自定心能力和螺旋切削性
- ▶ 使用TiAlN涂层使被加工材料得到良好的表面粗糙度并且延长了钻头的使用寿命



DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar

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Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH452098	9.8	10	61	103
DH452099	9.9	10	61	103
DH452100	10.0	10	61	103
DH452101	10.1	12	71	118
DH452102	10.2	12	71	118
DH452103	10.3	12	71	118
DH452104	10.4	12	71	118
DH452105	10.5	12	71	118
DH452106	10.6	12	71	118
DH452107	10.7	12	71	118
DH452108	10.8	12	71	118
DH452109	10.9	12	71	118
DH452110	11.0	12	71	118
DH452111	11.1	12	71	118
DH452112	11.2	12	71	118
DH452113	11.3	12	71	118
DH452114	11.4	12	71	118
DH452115	11.5	12	71	118
DH452116	11.6	12	71	118
DH452117	11.7	12	71	118

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH452118	11.8	12	71	118
DH452119	11.9	12	71	118
DH452120	12.0	12	71	118
DH452125	12.5	14	77	124
DH452130	13.0	14	77	124
DH452135	13.5	14	77	124
DH452140	14.0	14	77	124
DH452145	14.5	16	83	133
DH452150	15.0	16	83	133
DH452155	15.5	16	83	133
DH452160	16.0	16	83	133
DH452165	16.5	18	93	143
DH452170	17.0	18	93	143
DH452175	17.5	18	93	143
DH452180	18.0	18	93	143
DH452185	18.5	20	101	153
DH452190	19.0	20	101	153
DH452195	19.5	20	101	153
DH452200	20.0	20	101	153

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户要求提供.

◎ : 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	◎	◎	○	○	○												○				

DREAM DRILLS - INOX

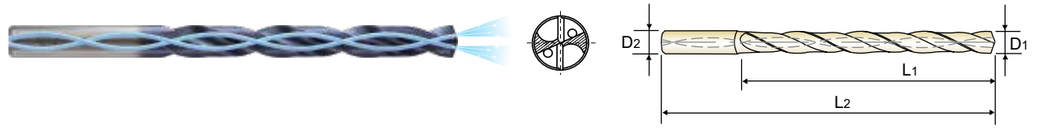
DH453 SERIES

CARBIDE, DREAM DRILLS - INOX with COOLANT HOLES — *EXTRA LONG*

硬质合金，梦幻钻头 - 不锈钢用 带内冷孔 — 超长

- ▶ Special flute shape and geometry suitable for machining stainless steel
- ▶ Excellent chip evacuation from better surface treatment
- ▶ Point R-thinning achieves superior centering and chip curling
- ▶ TiAlN coating for better surface finishes and longer tool life

- ▶ 应用：沟槽的特殊几何形状使其适合加工不锈钢
- ▶ 更好的表面处理方式使其具有优秀的排屑性能
- ▶ 横刃修成R型使产品有较强的自定心能力和螺旋切削性
- ▶ 使用TiAlN涂层使被加工材料得到良好的表面粗糙度并且延长了钻头的使用寿命



DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar

p. A141

8 × D

Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH453030	3.0	6	34	72
DH453031	3.1	6	34	72
DH453032	3.2	6	34	72
DH453033	3.3	6	34	72
DH453034	3.4	6	34	72
DH453035	3.5	6	34	72
DH453036	3.6	6	34	72
DH453037	3.7	6	34	72
DH453038	3.8	6	43	81
DH453039	3.9	6	43	81
DH453040	4.0	6	43	81
DH453041	4.1	6	43	81
DH453042	4.2	6	43	81
DH453043	4.3	6	43	81
DH453044	4.4	6	43	81
DH453045	4.5	6	43	81
DH453046	4.6	6	43	81
DH453047	4.7	6	43	81
DH453048	4.8	6	57	95
DH453049	4.9	6	57	95
DH453050	5.0	6	57	95
DH453051	5.1	6	57	95
DH453052	5.2	6	57	95
DH453053	5.3	6	57	95

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
DH453054	5.4	6	57	95
DH453055	5.5	6	57	95
DH453056	5.6	6	57	95
DH453057	5.7	6	57	95
DH453058	5.8	6	57	95
DH453059	5.9	6	57	95
DH453060	6.0	6	57	95
DH453061	6.1	8	76	114
DH453062	6.2	8	76	114
DH453063	6.3	8	76	114
DH453064	6.4	8	76	114
DH453065	6.5	8	76	114
DH453066	6.6	8	76	114
DH453067	6.7	8	76	114
DH453068	6.8	8	76	114
DH453069	6.9	8	76	114
DH453070	7.0	8	76	114
DH453071	7.1	8	76	114
DH453072	7.2	8	76	114
DH453073	7.3	8	76	114
DH453074	7.4	8	76	114
DH453075	7.5	8	76	114
DH453076	7.6	8	76	114
DH453077	7.7	8	76	114

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户要求提供.

▶ 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
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	◎	◎	○	○	○												○				

DREAM DRILLS - INOX

DH453 SERIES

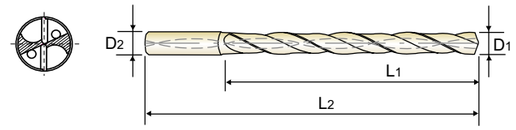
CARBIDE, DREAM DRILLS - INOX with COOLANT HOLES *EXTRA LONG*

硬质合金，梦幻钻头 - 不锈钢用 带内冷孔 超长

- ▶ Special flute shape and geometry suitable for machining stainless steel
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DIN 6537 | CARBIDE | 30° | h6 | m7 | 140° | 20 bar

p. A141

8 × D

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长
TiAlN	D_1	D_2	L_1	L_2
DH453078	**7.8**	8	76	114
DH453079	**7.9**	8	76	114
DH453080	**8.0**	8	76	114
DH453081	**8.1**	10	95	142
DH453082	**8.2**	10	95	142
DH453083	**8.3**	10	95	142
DH453084	**8.4**	10	95	142
DH453085	**8.5**	10	95	142
DH453086	**8.6**	10	95	142
DH453087	**8.7**	10	95	142
DH453088	**8.8**	10	95	142
DH453089	**8.9**	10	95	142
DH453090	**9.0**	10	95	142
DH453091	**9.1**	10	95	142
DH453092	**9.2**	10	95	142
DH453093	**9.3**	10	95	142
DH453094	**9.4**	10	95	142
DH453095	**9.5**	10	95	142
DH453096	**9.6**	10	95	142
DH453097	**9.7**	10	95	142
DH453098	**9.8**	10	95	142
DH453099	**9.9**	10	95	142
DH453100	**10.0**	10	95	142
DH453101	**10.1**	12	114	162

EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长
TiAlN	D_1	D_2	L_1	L_2
DH453102	**10.2**	12	114	162
DH453103	**10.3**	12	114	162
DH453104	**10.4**	12	114	162
DH453105	**10.5**	12	114	162
DH453106	**10.6**	12	114	162
DH453107	**10.7**	12	114	162
DH453108	**10.8**	12	114	162
DH453109	**10.9**	12	114	162
DH453110	**11.0**	12	114	162
DH453111	**11.1**	12	114	162
DH453112	**11.2**	12	114	162
DH453113	**11.3**	12	114	162
DH453114	**11.4**	12	114	162
DH453115	**11.5**	12	114	162
DH453116	**11.6**	12	114	162
DH453117	**11.7**	12	114	162
DH453118	**11.8**	12	114	162
DH453119	**11.9**	12	114	162
DH453120	**12.0**	12	114	162
DH453125	**12.5**	14	133	178
DH453130	**13.0**	14	133	178
DH453135	**13.5**	14	133	178
DH453140	**14.0**	14	133	178

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户要求提供.

◎ : 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	◎	◎	○	○	○												○				

DREAM DRILLS - INOX

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

DH451, DH452, DH453 SERIES with COOLANT HOLES 带内冷孔

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 1.0	2.0	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 3.0	4.0	5.0	6.0
P	2	Non-alloy steel	70	RPM	22280	11140	100	RPM	10610	7960	6370	5310
				FEED	0.02-0.04	0.04-0.06		FEED	0.04-0.10	0.06-0.12	0.12-0.18	0.14-0.20
	3		70	RPM	22280	11140	100	RPM	7430	5570	4460	3710
				FEED	0.02-0.04	0.04-0.06		FEED	0.04-0.10	0.06-0.12	0.12-0.18	0.14-0.20
	6	Low alloy steel	70	RPM	22280	11140	100	RPM	7430	5570	4460	3710
				FEED	0.02-0.04	0.04-0.06		FEED	0.04-0.10	0.06-0.12	0.12-0.18	0.14-0.20
	7		50	RPM	15920	7960	70	RPM	5310	3980	3180	2650
				FEED	0.02-0.04	0.04-0.06		FEED	0.04-0.10	0.06-0.12	0.12-0.18	0.14-0.20
M	12	Stainless steel	40	RPM	12730	6370	50	RPM	5310	3980	3180	2650
				FEED	0.02-0.04	0.02-0.04		FEED	0.03-0.05	0.05-0.09	0.07-0.11	0.08-0.12
	13		25	RPM	7960	3980	40	RPM	4240	3180	2550	2120
				FEED	0.02-0.04	0.02-0.04		FEED	0.03-0.05	0.05-0.09	0.07-0.11	0.08-0.12
	14		45	RPM	14320	7160	60	RPM	6370	4770	3820	3180
				FEED	0.02-0.04	0.02-0.04		FEED	0.04-0.06	0.06-0.10	0.08-0.12	0.09-0.13
N	21	Aluminum-wrought alloy	130	RPM	41380	20690	180	RPM	19100	14320	11460	9550
				FEED	0.04-0.10	0.08-0.14		FEED	0.14~0.20	0.19~0.25	0.20~0.26	0.22~0.28
	22		130	RPM	41380	20690	180	RPM	19100	14320	11460	9550
				FEED	0.04-0.10	0.08-0.14		FEED	0.14~0.20	0.19~0.25	0.20~0.26	0.22~0.28
	23	Aluminum-cast, alloyed	110	RPM	35010	17510	160	RPM	16980	12730	10190	8490
				FEED	0.04-0.10	0.08-0.14		FEED	0.14~0.20	0.19~0.25	0.20~0.26	0.22~0.28
	24		110	RPM	35010	17510	160	RPM	16980	12730	10190	8490
				FEED	0.04-0.10	0.08-0.14		FEED	0.14~0.20	0.19~0.25	0.20~0.26	0.22~0.28
	25		90	RPM	28650	14320	130	RPM	13790	10350	8280	6900
				FEED	0.04-0.08	0.06-0.10		FEED	0.12~0.18	0.16~0.22	0.17~0.23	0.19~0.25
S	37	Titanium Alloys	25	RPM	7960	3980	40	RPM	4240	3180	2550	2120
				FEED	0.01-0.03	0.01-0.03		FEED	0.02-0.04	0.04-0.08	0.06-0.10	0.07-0.11

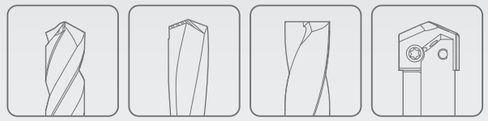
ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 8.0	10.0	12.0	14.0	16.0	18.0	20.0
P	2	Non-alloy steel	100	RPM	3980	3180	2650	2270	1990	1770	1590
				FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.39	0.23-0.31	0.26-0.36	0.28-0.38
	3		100	RPM	2790	2230	1860	1590	1390	1240	1110
				FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.39	0.23-0.31	0.26-0.36	0.28-0.38
	6	Low alloy steel	100	RPM	2790	2230	1860	1590	1390	1240	1110
				FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.39	0.23-0.31	0.26-0.36	0.28-0.38
	7		70	RPM	1990	1590	1330	1140	990	880	800
				FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.39	0.23-0.31	0.26-0.36	0.28-0.38
M	12	Stainless steel	50	RPM	1990	1590	1330	1140	990	880	800
				FEED	0.09-0.13	0.10-0.15	0.11-0.16	0.12-0.17	0.13-0.18	0.14-0.19	0.15-0.20
	13		40	RPM	1590	1270	1060	910	800	710	640
				FEED	0.09-0.13	0.10-0.15	0.11-0.16	0.12-0.17	0.13-0.18	0.14-0.19	0.15-0.20
	14		60	RPM	2390	1910	1590	1360	1190	1060	950
				FEED	0.10-0.14	0.11-0.16	0.12-0.17	0.13-0.18	0.14-0.19	0.15-0.20	0.16-0.21
N	21	Aluminum-wrought alloy	180	RPM	7160	5730	4770	4090	3580	3180	2860
				FEED	0.24~0.30	0.26~0.32	0.28~0.34	0.30~0.46	0.32~0.38	0.33~0.43	0.35~0.45
	22		180	RPM	7160	5730	4770	4090	3580	3180	2860
				FEED	0.24~0.30	0.26~0.32	0.28~0.34	0.30~0.46	0.32~0.38	0.33~0.43	0.35~0.45
	23	Aluminum-cast, alloyed	160	RPM	6370	5090	4240	3640	3180	2830	2550
				FEED	0.24~0.30	0.26~0.32	0.28~0.34	0.30~0.46	0.32~0.38	0.33~0.43	0.35~0.45
	24		160	RPM	6370	5090	4240	3640	3180	2830	2550
				FEED	0.24~0.30	0.26~0.32	0.28~0.34	0.30~0.46	0.32~0.38	0.33~0.43	0.35~0.45
	25		130	RPM	5170	4140	3450	2960	2590	2300	2070
				FEED	0.21~0.27	0.23~0.29	0.25~0.31	0.27~0.33	0.28~0.34	0.28~0.38	0.30~0.40
S	37	Titanium Alloys	40	RPM	1590	1270	1060	910	800	710	640
				FEED	0.08-0.12	0.09-0.14	0.10-0.15	0.11-0.16	0.12-0.17	0.13-0.18	0.14-0.19

▶ Recommend to reduce the feed rate as following / 建议进给速度降低如下

Feed 100% : DH451(3xD), DH452(5xD)

Feed 85% : DH453(8xD)

Global Cutting Tool Leader **YG-1**



HOLEMAKING

Leading Through Innovation



SOLID CARBIDE

DREAM DRILLS -ALU

- For Aluminum and Aluminum Alloys
- 铝和铝合金加工用

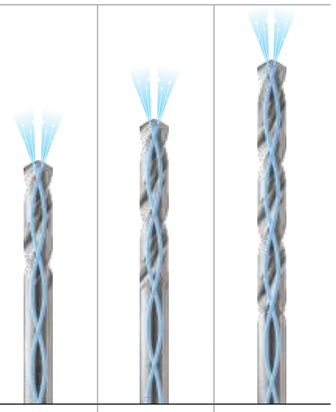
SELECTION GUIDE
选用指南

HOLEMAKING TOOLS

SERIES 系列	D5432	D5433	D5434
DRILLING DEPTH 钻销深度	3XD	5XD	8XD
LENGTH 长度	SHORT 短	LONG 长	EXTRA LONG 超长
SIZE MIN 最小尺寸	D3.0	D3.0	D3.0
SIZE MAX 最大尺寸	D20.0	D20.0	D14.0
PAGE 页数	A145	A148	A151
SURFACE TREATMENT 表面处理	Bright		

SOLID CARBIDE
DREAM DRILLS
ALU

For Aluminum and Aluminum Alloys
铝和铝合金加工用



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◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工条件) : p. A153

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB 布氏硬度	HRc 硬度	D5432	D5433	D5434
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			

DREAM DRILLS - ALU

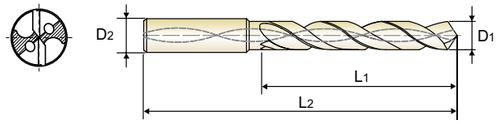
D5432 SERIES

CARBIDE, DREAM DRILLS - ALU with COOLANT HOLES — SHORT
硬质合金，梦幻钻头 - 不锈钢用 带内冷孔 — 短

- ▶ Optimized thinning for Aluminum & Aluminum Alloys to prevent any clogging from chip welding
- ▶ Wider and deeper flute gullets for maximum chip removal
- ▶ Special geometry and smooth coating reduces built up edge and improves finishes

- ▶ 铝&铝合金加工用最佳修磨设计预防屑堵塞问题
- ▶ 由于更宽更深的沟槽设计，提高排屑性能
- ▶ 特殊几何形状和顺畅涂层减少刀瘤





DIN 6537 | CARBIDE | 30° | h6 | m7 | 118° | 20 bar

p. A153

3 × D

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长
Bright	D1	D2	L1	L2
D5432030	3.0	6	20	62
D5432031	3.1	6	20	62
D5432032	3.2	6	20	62
D5432033	3.3	6	20	62
D5432034	3.4	6	20	62
D5432035	3.5	6	20	62
D5432036	3.6	6	20	62
D5432037	3.7	6	20	62
D5432038	3.8	6	24	66
D5432039	3.9	6	24	66
D5432040	4.0	6	24	66
D5432041	4.1	6	24	66
D5432042	4.2	6	24	66
D5432043	4.3	6	24	66
D5432044	4.4	6	24	66
D5432045	4.5	6	24	66
D5432046	4.6	6	24	66
D5432047	4.7	6	24	66
D5432048	4.8	6	28	66
D5432049	4.9	6	28	66
D5432050	5.0	6	28	66
D5432051	5.1	6	28	66

EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长
Bright	D1	D2	L1	L2
D5432052	5.2	6	28	66
D5432053	5.3	6	28	66
D5432054	5.4	6	28	66
D5432055	5.5	6	28	66
D5432056	5.6	6	28	66
D5432057	5.7	6	28	66
D5432058	5.8	6	28	66
D5432059	5.9	6	28	66
D5432060	6.0	6	28	66
D5432061	6.1	8	34	79
D5432062	6.2	8	34	79
D5432063	6.3	8	34	79
D5432064	6.4	8	34	79
D5432065	6.5	8	34	79
D5432066	6.6	8	34	79
D5432067	6.7	8	34	79
D5432068	6.8	8	34	79
D5432069	6.9	8	34	79
D5432070	7.0	8	34	79
D5432071	7.1	8	41	79
D5432072	7.2	8	41	79
D5432073	7.3	8	41	79

▶ DLC coating is available on your request. / DLC coating可根据客户要求进行加工
▶ Other shank types are available on your request. / 其他刀柄类型可根据客户要求提供.

▶ 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
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	◎	◎	◎	◎																	

DREAM DRILLS - ALU

D5432 SERIES

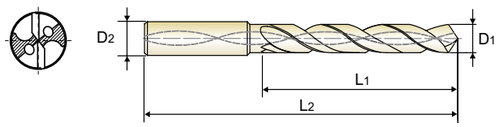
CARBIDE, DREAM DRILLS - ALU with COOLANT HOLES — *SHORT*

硬质合金，梦幻钻头 - 不锈钢用 带内冷孔 — 短

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DIN 6537 | CARBIDE | 30° | h6 | m7 | 118° | 20 bar | p. A153 | 3 × D

Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Bright	D_1	D_2	L_1	L_2
D5432074	7.4	8	41	79
D5432075	7.5	8	41	79
D5432076	7.6	8	41	79
D5432077	7.7	8	41	79
D5432078	7.8	8	41	79
D5432079	7.9	8	41	79
D5432080	8.0	8	41	79
D5432081	8.1	10	47	89
D5432082	8.2	10	47	89
D5432083	8.3	10	47	89
D5432084	8.4	10	47	89
D5432085	8.5	10	47	89
D5432086	8.6	10	47	89
D5432087	8.7	10	47	89
D5432088	8.8	10	47	89
D5432089	8.9	10	47	89
D5432090	9.0	10	47	89
D5432091	9.1	10	47	89
D5432092	9.2	10	47	89
D5432093	9.3	10	47	89
D5432094	9.4	10	47	89
D5432095	9.5	10	47	89

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Bright	D_1	D_2	L_1	L_2
D5432096	9.6	10	47	89
D5432097	9.7	10	47	89
D5432098	9.8	10	47	89
D5432099	9.9	10	47	89
D5432100	10.0	10	47	89
D5432101	10.1	12	55	102
D5432102	10.2	12	55	102
D5432103	10.3	12	55	102
D5432104	10.4	12	55	102
D5432105	10.5	12	55	102
D5432106	10.6	12	55	102
D5432107	10.7	12	55	102
D5432108	10.8	12	55	102
D5432109	10.9	12	55	102
D5432110	11.0	12	55	102
D5432111	11.1	12	55	102
D5432112	11.2	12	55	102
D5432113	11.3	12	55	102
D5432114	11.4	12	55	102
D5432115	11.5	12	55	102
D5432116	11.6	12	55	102
D5432117	11.7	12	55	102

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▶ 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		
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	◎	◎	◎	◎																	

DREAM DRILLS - ALU

D5432 SERIES

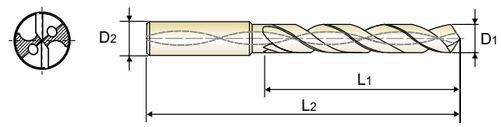
CARBIDE, DREAM DRILLS - ALU with COOLANT HOLES — SHORT

硬质合金，梦幻钻头 - 不锈钢用 带内冷孔 — 短

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DIN 6537 | CARBIDE | 30° | h6 | m7 | 118° | 20 bar | p. A153 | 3 × D

Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Bright	D_1	D_2	L_1	L_2
D5432118	11.8	12	55	102
D5432119	11.9	12	55	102
D5432120	12.0	12	55	102
D5432125	12.5	14	60	107
D5432130	13.0	14	60	107
D5432135	13.5	14	60	107
D5432140	14.0	14	60	107
D5432145	14.5	16	65	115
D5432150	15.0	16	65	115
D5432155	15.5	16	65	115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Bright	D_1	D_2	L_1	L_2
D5432160	16.0	16	65	115
D5432165	16.5	18	73	123
D5432170	17.0	18	73	123
D5432175	17.5	18	73	123
D5432180	18.0	18	73	123
D5432185	18.5	20	79	131
D5432190	19.0	20	79	131
D5432195	19.5	20	79	131
D5432200	20.0	20	79	131

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◎ : 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	◎	◎	◎	◎																	

DREAM DRILLS - ALU

D5433 SERIES

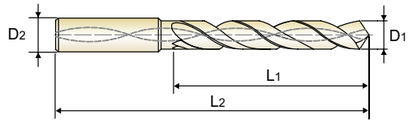
CARBIDE, DREAM DRILLS - ALU with COOLANT HOLES — *LONG*

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DIN 6537 | CARBIDE | 30° | h6 | m7 | 118° | 20 bar

p. A153

5 × D

Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Bright	D_1	D_2	L_1	L_2
D5433030	3.0	6	28	66
D5433031	3.1	6	28	66
D5433032	3.2	6	28	66
D5433033	3.3	6	28	66
D5433034	3.4	6	28	66
D5433035	3.5	6	28	66
D5433036	3.6	6	28	66
D5433037	3.7	6	28	66
D5433038	3.8	6	36	74
D5433039	3.9	6	36	74
D5433040	4.0	6	36	74
D5433041	4.1	6	36	74
D5433042	4.2	6	36	74
D5433043	4.3	6	36	74
D5433044	4.4	6	36	74
D5433045	4.5	6	36	74
D5433046	4.6	6	36	74
D5433047	4.7	6	36	74
D5433048	4.8	6	44	82
D5433049	4.9	6	44	82
D5433050	5.0	6	44	82
D5433051	5.1	6	44	82

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Bright	D_1	D_2	L_1	L_2
D5433052	5.2	6	44	82
D5433053	5.3	6	44	82
D5433054	5.4	6	44	82
D5433055	5.5	6	44	82
D5433056	5.6	6	44	82
D5433057	5.7	6	44	82
D5433058	5.8	6	44	82
D5433059	5.9	6	44	82
D5433060	6.0	6	44	82
D5433061	6.1	8	53	91
D5433062	6.2	8	53	91
D5433063	6.3	8	53	91
D5433064	6.4	8	53	91
D5433065	6.5	8	53	91
D5433066	6.6	8	53	91
D5433067	6.7	8	53	91
D5433068	6.8	8	53	91
D5433069	6.9	8	53	91
D5433070	7.0	8	53	91
D5433071	7.1	8	53	91
D5433072	7.2	8	53	91
D5433073	7.3	8	53	91

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▶ 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
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	◎	◎	◎	◎																	

DREAM DRILLS - ALU

D5433 SERIES

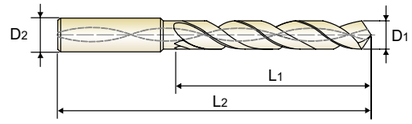
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DIN 6537 | CARBIDE | 30° | h6 | m7 | 118° | 20 bar

p. A153

5 × D

Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Bright	D_1	D_2	L_1	L_2
D5433074	7.4	8	53	91
D5433075	7.5	8	53	91
D5433076	7.6	8	53	91
D5433077	7.7	8	53	91
D5433078	7.8	8	53	91
D5433079	7.9	8	53	91
D5433080	8.0	8	53	91
D5433081	8.1	10	61	103
D5433082	8.2	10	61	103
D5433083	8.3	10	61	103
D5433084	8.4	10	61	103
D5433085	8.5	10	61	103
D5433086	8.6	10	61	103
D5433087	8.7	10	61	103
D5433088	8.8	10	61	103
D5433089	8.9	10	61	103
D5433090	9.0	10	61	103
D5433091	9.1	10	61	103
D5433092	9.2	10	61	103
D5433093	9.3	10	61	103
D5433094	9.4	10	61	103
D5433095	9.5	10	61	103

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Bright	D_1	D_2	L_1	L_2
D5433096	9.6	10	61	103
D5433097	9.7	10	61	103
D5433098	9.8	10	61	103
D5433099	9.9	10	61	103
D5433100	10.0	10	61	103
D5433101	10.1	12	71	118
D5433102	10.2	12	71	118
D5433103	10.3	12	71	118
D5433104	10.4	12	71	118
D5433105	10.5	12	71	118
D5433106	10.6	12	71	118
D5433107	10.7	12	71	118
D5433108	10.8	12	71	118
D5433109	10.9	12	71	118
D5433110	11.0	12	71	118
D5433111	11.1	12	71	118
D5433112	11.2	12	71	118
D5433113	11.3	12	71	118
D5433114	11.4	12	71	118
D5433115	11.5	12	71	118
D5433116	11.6	12	71	118
D5433117	11.7	12	71	118

▶ DLC coating is available on your request. / DLC coating可根据客户要求进行加工
▶ Other shank types are available on your request. / 其他刀柄类型可根据客户要求提供.

▶ 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
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	◎	◎	◎	◎																	

DREAM DRILLS - ALU

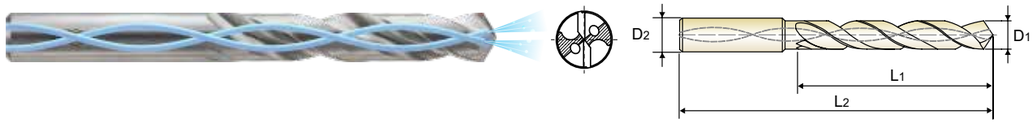
D5433 SERIES

CARBIDE, DREAM DRILLS - ALU with COOLANT HOLES — *LONG*

硬质合金，梦幻钻头 - 不锈钢用 带内冷孔 — 长

- ▶ Optimized thinning for Aluminum & Aluminum Alloys to prevent any clogging from chip welding
- ▶ Wider and deeper flute gullets for maximum chip removal
- ▶ Special geometry and smooth coating reduces built up edge and improves finishes

- ▶ 铝&铝合金加工用最佳修磨设计预防屑堵塞问题
- ▶ 由于更宽更深的沟槽设计，提高排屑性能
- ▶ 特殊几何形状和顺畅涂层减少刀瘤



DIN 6537 | CARBIDE | 30° | h6 | m7 | 118° | 20 bar

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5 × D

Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Bright	D_1	D_2	L_1	L_2
D5433118	11.8	12	71	118
D5433119	11.9	12	71	118
D5433120	12.0	12	71	118
D5433125	12.5	14	77	124
D5433130	13.0	14	77	124
D5433135	13.5	14	77	124
D5433140	14.0	14	77	124
D5433145	14.5	16	83	133
D5433150	15.0	16	83	133
D5433155	15.5	16	83	133

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Bright	D_1	D_2	L_1	L_2
D5433160	16.0	16	83	133
D5433165	16.5	18	93	143
D5433170	17.0	18	93	143
D5433175	17.5	18	93	143
D5433180	18.0	18	93	143
D5433185	18.5	20	101	153
D5433190	19.0	20	101	153
D5433195	19.5	20	101	153
D5433200	20.0	20	101	153

▶ DLC coating is available on your request. / DLC coating可根据客户要求进行加工
▶ Other shank types are available on your request. / 其他刀柄类型可根据客户要求提供.

◎ : 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	◎	◎	◎	◎																	

DREAM DRILLS - ALU

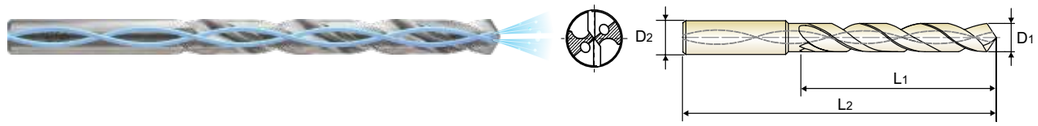
D5434 SERIES

CARBIDE, DREAM DRILLS - ALU with COOLANT HOLES — *EXTRA LONG*

硬质合金，梦幻钻头 - 不锈钢用 带内冷孔 — 超长

- ▶ Optimized thinning for Aluminum & Aluminum Alloys to prevent any clogging from chip welding
- ▶ Wider and deeper flute gullets for maximum chip removal
- ▶ Special geometry and smooth coating reduces built up edge and improves finishes

- ▶ 铝&铝合金加工用最佳修磨设计预防屑堵塞问题
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DIN 6537 | CARBIDE | 30° | h6 | m7 | 118° | 20 bar

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8 × D

Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Bright	D_1	D_2	L_1	L_2
D5434030	3.0	6	34	72
D5434031	3.1	6	34	72
D5434032	3.2	6	34	72
D5434033	3.3	6	34	72
D5434034	3.4	6	34	72
D5434035	3.5	6	34	72
D5434036	3.6	6	34	72
D5434037	3.7	6	34	72
D5434038	3.8	6	43	81
D5434039	3.9	6	43	81
D5434040	4.0	6	43	81
D5434041	4.1	6	43	81
D5434042	4.2	6	43	81
D5434043	4.3	6	43	81
D5434044	4.4	6	43	81
D5434045	4.5	6	43	81
D5434046	4.6	6	43	81
D5434047	4.7	6	43	81
D5434048	4.8	6	57	95
D5434049	4.9	6	57	95
D5434050	5.0	6	57	95
D5434051	5.1	6	57	95
D5434052	5.2	6	57	95
D5434053	5.3	6	57	95

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Bright	D_1	D_2	L_1	L_2
D5434054	5.4	6	57	95
D5434055	5.5	6	57	95
D5434056	5.6	6	57	95
D5434057	5.7	6	57	95
D5434058	5.8	6	57	95
D5434059	5.9	6	57	95
D5434060	6.0	6	57	95
D5434061	6.1	8	76	114
D5434062	6.2	8	76	114
D5434063	6.3	8	76	114
D5434064	6.4	8	76	114
D5434065	6.5	8	76	114
D5434066	6.6	8	76	114
D5434067	6.7	8	76	114
D5434068	6.8	8	76	114
D5434069	6.9	8	76	114
D5434070	7.0	8	76	114
D5434071	7.1	8	76	114
D5434072	7.2	8	76	114
D5434073	7.3	8	76	114
D5434074	7.4	8	76	114
D5434075	7.5	8	76	114
D5434076	7.6	8	76	114
D5434077	7.7	8	76	114

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▶ 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
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	◎	◎	◎	◎																	

DREAM DRILLS - ALU

D5434 SERIES

CARBIDE, DREAM DRILLS - ALU with COOLANT HOLES

EXTRA LONG

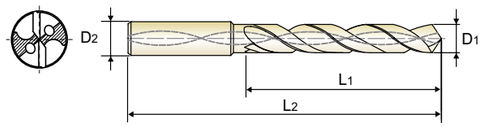
硬质合金，梦幻钻头 - 不锈钢用 带内冷孔

超长

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- ▶ 特殊几何形状和顺畅涂层减少刀瘤





DIN 6537 | CARBIDE | 30° | h6 | m7 | 118° | 20 bar

p. A153

8 × D

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长
Bright	D_1	D_2	L_1	L_2
D5434078	7.8	8	76	114
D5434079	7.9	8	76	114
D5434080	8.0	8	76	114
D5434081	8.1	10	95	142
D5434082	8.2	10	95	142
D5434083	8.3	10	95	142
D5434084	8.4	10	95	142
D5434085	8.5	10	95	142
D5434086	8.6	10	95	142
D5434087	8.7	10	95	142
D5434088	8.8	10	95	142
D5434089	8.9	10	95	142
D5434090	9.0	10	95	142
D5434091	9.1	10	95	142
D5434092	9.2	10	95	142
D5434093	9.3	10	95	142
D5434094	9.4	10	95	142
D5434095	9.5	10	95	142
D5434096	9.6	10	95	142
D5434097	9.7	10	95	142
D5434098	9.8	10	95	142
D5434099	9.9	10	95	142
D5434100	10.0	10	95	142
D5434101	10.1	12	114	162

EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长
Bright	D_1	D_2	L_1	L_2
D5434102	10.2	12	114	162
D5434103	10.3	12	114	162
D5434104	10.4	12	114	162
D5434105	10.5	12	114	162
D5434106	10.6	12	114	162
D5434107	10.7	12	114	162
D5434108	10.8	12	114	162
D5434109	10.9	12	114	162
D5434110	11.0	12	114	162
D5434111	11.1	12	114	162
D5434112	11.2	12	114	162
D5434113	11.3	12	114	162
D5434114	11.4	12	114	162
D5434115	11.5	12	114	162
D5434116	11.6	12	114	162
D5434117	11.7	12	114	162
D5434118	11.8	12	114	162
D5434119	11.9	12	114	162
D5434120	12.0	12	114	162
D5434125	12.5	14	133	178
D5434130	13.0	14	133	178
D5434135	13.5	14	133	178
D5434140	14.0	14	133	178

- ▶ DLC coating is available on your request. / DLC coating可根据客户要求进行加工
- ▶ Other shank types are available on your request. / 其他刀柄类型可根据客户要求提供.

◎ : 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	◎	◎	◎	◎																	

DREAM DRILLS - ALU

RECOMMENDED CUTTING CONDITIONS

推荐加工条件

D5432, D5433, D5434 SERIES

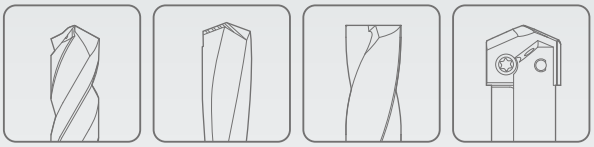
with COOLANT HOLES

带内冷孔

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 切削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
N	21	Aluminum-wrought alloy	200	RPM	21220	15920	12730	10610	7960	6370	5310	4550	3980	3540	3180
				FEED	0.12-0.18	0.14-0.22	0.15-0.23	0.17-0.25	0.21-0.28	0.24-0.30	0.24-0.30	0.25-0.35	0.25-0.35	0.28-0.38	0.30-0.40
	22		160	RPM	16980	12730	10190	8490	6370	5090	4240	3640	3180	2830	2550
				FEED	0.12-0.18	0.14-0.22	0.15-0.23	0.17-0.25	0.21-0.28	0.24-0.30	0.24-0.30	0.25-0.35	0.25-0.35	0.28-0.38	0.30-0.40
	23	Aluminum-cast, alloyed	150	RPM	15920	11940	9550	7960	5970	4770	3980	3410	2980	2650	2390
				FEED	0.15-0.21	0.17-0.25	0.19-0.27	0.21-0.28	0.24-0.31	0.29-0.45	0.33-0.55	0.35-0.60	0.35-0.60	0.39-0.73	0.39-0.85
	24		140	RPM	14850	11140	8910	7430	5570	4460	3710	3180	2790	2480	2230
				FEED	0.15-0.21	0.17-0.25	0.19-0.27	0.21-0.28	0.24-0.31	0.29-0.45	0.33-0.55	0.35-0.60	0.35-0.60	0.39-0.73	0.39-0.85

Global Cutting Tool Leader **YG-1**



HOLEMAKING



Leading Through Innovation

SOLID CARBIDE

DREAM DRILLS -CFRP

- For Composite Materials including CFRP and GFRP
- 用于复合材料，含CFRP与GFRP

SELECTION GUIDE
选用指南

SERIES 系列	DI473
DRILLING DEPTH 钻销深度	5XD
LENGTH 长度	LONG 长
SIZE MIN 最小尺寸	D2.5
SIZE MAX 最大尺寸	D12.0
PAGE 页数	A157
SURFACE TREATMENT 表面处理	Diamond Coating

HOLEMAKING TOOLS

SOLID CARBIDE DREAM DRILLS CFRP

For Composite Materials including CFRP and GFRP
用于复合材料，含CFRP与GFRP



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◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工条件) : p. A158

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB 布氏硬度	HRc 硬度	
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	



Scan QR Code
to See More Tools for COMPOSITE METERIALS
如想查看其它用于复合材料的工具，请扫描二维码

Dream Drill CFRP is only available till stock runs out!
梦幻钻头-CFRP，尽在库存用完之前可用

YG DREAM DRILLS - CFRP

DI473 SERIES

CARBIDE, DREAM DRILLS - CFRP
硬质合金，梦幻钻头 - CFRP

LONG 长

- ▶ Special point type to improve hole quality for Composite Materials
- ▶ Minimized burr and delamination at entry / exit hole
- ▶ Outstanding performance
- ▶ Long tool life and increased product by Diamond Coating

- ▶ 采用特殊钻顶类型，提高复合材料钻孔品质
- ▶ 钻孔入口和出口处的毛刺最小化
- ▶ 卓越性能
- ▶ 由于金刚石涂层，提高刀具寿命和产率



Only available till stock runs out
尽在库存用完之前可用

DIN 6537 | CARBIDE | 30° | h6 | m7 | 118° | p. A158

5 × D

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径 D1	Shank Diameter 柄径 D2	Flute Length 槽长 L1	Overall Length 全长 L2
▲ DI473025	2.5	6	24	66
▲ DI473030	3.0	6	28	66
▲ DI473040	4.0	6	36	74
▲ DI473050	5.0	6	44	82
▲ DI473060	6.0	6	44	82
▲ DI473080	8.0	8	53	91
▲ DI473090	9.0	10	61	103
▲ DI473100	10.0	10	61	103
▲ DI473110	11.0	12	71	118
▲ DI473120	12.0	12	71	118

▲ : Only available till stock runs out 尽在库存用完之前可用



Scan QR Code
to See More Tools for COMPOSITE METERIALS
如想查看其它用于复合材料的工具，请扫描二维码

Dream Drill CFRP is only available till stock runs out!
梦幻钻头-CFRP，尽在库存用完之前可用

◎ : 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	39.1	39.3	40	41
HRc											15	30	25	38	34			55	60	70	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									◎													

DREAM DRILLS - CFRP

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

DI473 SERIES — without COOLANT HOLES
不带内冷孔

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)						
					3.0	4.0	5.0	6.0	8.0	10.0	20.0
N	29	Non Metallic Materials	120	RPM	12730	9550	7640	6370	4770	3820	3180
				FEED	0.03-0.07	0.03-0.07	0.03-0.07	0.03-0.07	0.03-0.07	0.03-0.07	0.03-0.07

Leading Through Innovation



SOLID CARBIDE

DREAM DRILLS -MQL TYPE

- Minimum Quantity Lubrication
  Drilling Deep Holes (10×D ~ 40×D)
- MQL (用少量的润滑油)
  钻深孔 (10D到40D)

SELECTION GUIDE
选用指南

HOLEMAKING TOOLS

SOLID CARBIDE
DREAM DRILLS
MQL TYPE

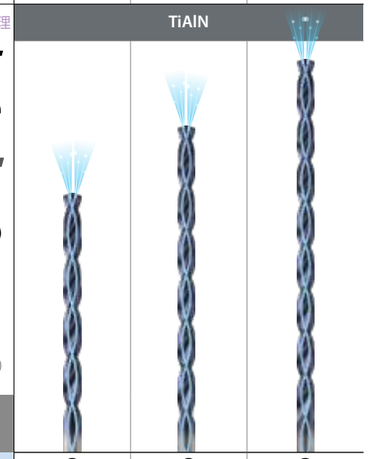
Minimum Quantity Lubrication, Drilling Deep Holes (10×D ~ 40×D)
MQL (用少量的润滑油) 钻深孔 (10D到40D)

Please visit 请访问 globalyg1.com/mat for material search 查看产品材料

◎ : Excellent (优秀) ○ : Good (良好)

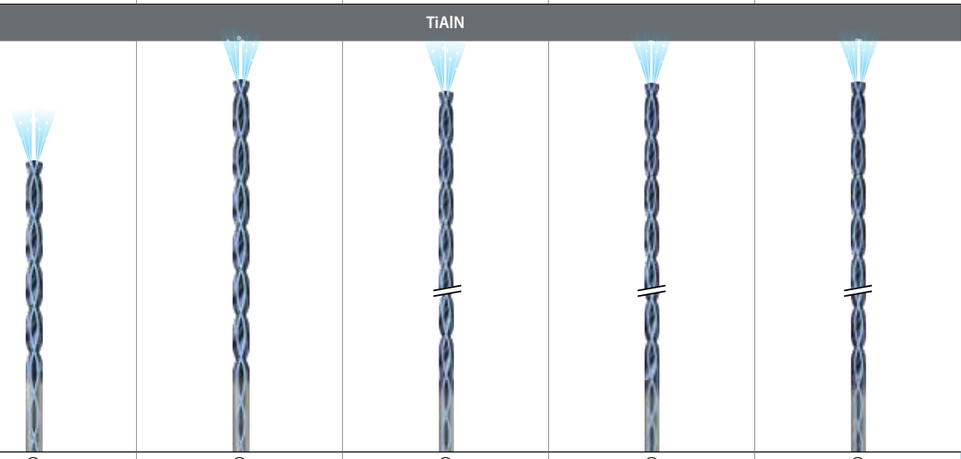
Recommended cutting conditions (推荐加工条件) : p. A166

SERIES 系列	DH510	DH515	DH520
DRILLING DEPTH 钻销深度	10XD	15XD	20XD
LENGTH 长度	EXTRA LONG 超长	EXTRA LONG 超长	EXTRA LONG 超长
SIZE MIN 最小尺寸	D3.0	D3.0	D3.0
SIZE MAX 最大尺寸	D14.0	D12.0	D12.0
PAGE 页数	A162	A163	A163
SURFACE TREATMENT 表面处理	TiAlN		



ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB 布氏硬度	HRc 硬度	DH510	DH515	DH520
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			

DHM10	DHM15	DHM20	DHM25	DHM30
10XD	15XD	20XD	25XD	30XD
EXTRA LONG 超长	EXTRA LONG 超长	EXTRA LONG 超长	EXTRA LONG 超长	EXTRA LONG 超长
D3.0	D3.0	D3.0	D3.0	D3.0
D14.0	D12.0	D12.0	D10.0	D8.0
A164	A164	A164	A165	A165
TiAlN				



DHM10	DHM15	DHM20	DHM25	DHM30		
◎	◎	◎	◎	◎	1	P
◎	◎	◎	◎	◎	2	
○	○	○	○	○	3	
					4	
					5	
◎	◎	◎	◎	◎	6	
○	○	○	○	○	7	
○	○	○	○	○	8	
					9	
○	○	○	○	○	10	
○	○	○	○	○	11	
					12	M
					13	
					14	
◎	◎	◎	◎	◎	15	K
○	○	○	○	○	16	
◎	◎	◎	◎	◎	17	
○	○	○	○	○	18	
◎	◎	◎	◎	◎	19	
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					21	N
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					40	
					41	

CARBIDE
HSS
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

DREAM DRILLS - MQL TYPE

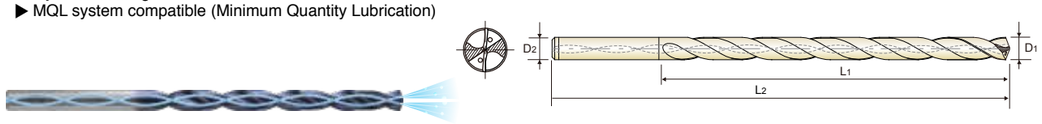
DH510 SERIES

CARBIDE, DREAM DRILLS MQL TYPE with COOLANT HOLES *EXTRA LONG*

硬质合金，梦幻钻头-MQL类型 带内冷孔 超长

- ▶ 4-Facet Point for good centering capability
- ▶ Optimized special flutes are ideal for removing chips and for productive drilling
- ▶ Enhanced chip evacuation by polished flute upgraded TiAlN nano layer full coating
- ▶ MQL system compatible (Minimum Quantity Lubrication)

- ▶ 采用4-Facet钻顶提高定心性能
- ▶ 最佳独特沟槽设计提高排屑性能和可提供高产率钻孔
- ▶ 采用TiAlN纳米级涂层抛光沟槽
- ▶ MQL系统相容（Minimum Quantity Lubrication）



CARBIDE | 30° | h6 | h7 | 140° | 20 bar

p. A166-A167

10 × D

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

DH510 Unit(单位) : mm

EDP No. 型号 TiAlN	Drill Diameter 刃径 D1	Shank Diameter 柄径 D2	Flute Length 槽长 L1	Overall Length 全长 L2
DH510030	3.0	3	39	90
DH510033	3.3	4	46	97
DH510035	3.5	4	46	97
DH510040	4.0	4	52	103
DH510042	4.2	5	59	112
DH510045	4.5	5	59	112
DH510050	5.0	5	65	118
DH510055	5.5	6	72	127
DH510060	6.0	6	78	133
DH510065	6.5	7	85	141
DH510068	6.8	7	91	147
DH510070	7.0	7	91	147
DH510075	7.5	8	98	155

EDP No. 型号 TiAlN	Drill Diameter 刃径 D1	Shank Diameter 柄径 D2	Flute Length 槽长 L1	Overall Length 全长 L2
DH510080	8.0	8	104	161
DH510085	8.5	9	111	169
DH510090	9.0	9	117	175
DH510095	9.5	10	124	182
DH510100	10.0	10	130	188
DH510105	10.5	11	137	201
DH510110	11.0	11	143	207
DH510115	11.5	12	150	215
DH510120	12.0	12	156	221
DH510125	12.5	13	163	229
DH510130	13.0	13	169	235
DH510135	13.5	14	176	243
DH510140	14.0	14	182	249

◎ : 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																					

DREAM DRILLS - MQL TYPE

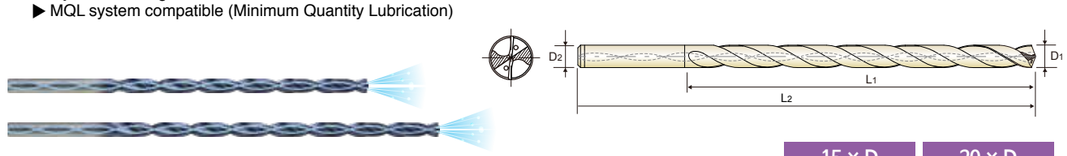
DH515 SERIES
DH520 SERIES

CARBIDE, DREAM DRILLS MQL TYPE with COOLANT HOLES *EXTRA LONG*

硬质合金，梦幻钻头-MQL类型 带内冷孔 超长

- ▶ 4-Facet Point for good centering capability
- ▶ Optimized special flutes are ideal for removing chips and for productive drilling
- ▶ Enhanced chip evacuation by polished flute upgraded TiAlN nano layer full coating
- ▶ MQL system compatible (Minimum Quantity Lubrication)

- ▶ 采用4-Facet钻顶提高定心性能
- ▶ 最佳独特沟槽设计提高排屑性能和可提供高产率钻孔
- ▶ 采用TiAlN纳米级涂层抛光沟槽
- ▶ MQL系统相容（Minimum Quantity Lubrication）



15 × D (DH515) | 20 × D (DH520)

CARBIDE | 30° | h6 | h7 | 140° | 20 bar

p. A166-A167

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

DH515 Unit(单位) : mm

EDP No. 型号 TiAlN	Drill Diameter 刃径 D1	Shank Diameter 柄径 D2	Flute Length 槽长 L1	Overall Length 全长 L2
DH515030	3.0	3	54	105
DH515035	3.5	4	63	114
DH515040	4.0	4	72	123
DH515045	4.5	5	81	134
DH515050	5.0	5	90	143
DH515055	5.5	6	99	154
DH515060	6.0	6	108	163
DH515070	7.0	7	126	182
DH515080	8.0	8	144	201
DH515090	9.0	9	162	220
DH515100	10.0	10	180	238
DH515110	11.0	11	198	262
DH515120	12.0	12	216	281

DH520 Unit(单位) : mm

EDP No. 型号 TiAlN	Drill Diameter 刃径 D1	Shank Diameter 柄径 D2	Flute Length 槽长 L1	Overall Length 全长 L2
DH520030	3.0	3	69	120
DH520035	3.5	4	81	132
DH520040	4.0	4	92	143
DH520045	4.5	5	104	157
DH520050	5.0	5	115	168
DH520055	5.5	6	127	182
DH520060	6.0	6	138	193
DH520070	7.0	7	161	217
DH520080	8.0	8	184	241
DH520090	9.0	9	207	265
DH520100	10.0	10	230	288
DH520120	12.0	12	276	341

◎ : 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																					

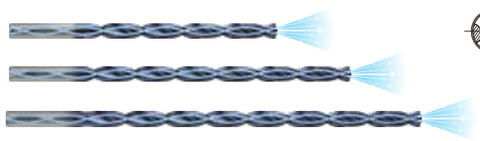
DREAM DRILLS - MQL TYPE

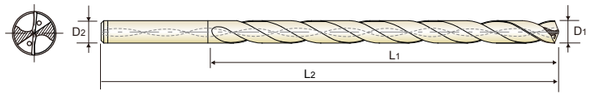
DHM10 SERIES | DHM15 SERIES | DHM20 SERIES

CARBIDE, DREAM DRILL MQL TYPE END MILL SHANK with COOLANT HOLE — EXTRA LONG
硬质合金，梦幻钻头铣刀柄-MQL类型 带内冷孔 — 超长

- ▶ 4-Facet Point for good centering capability
- ▶ Optimized special flutes are ideal for removing chips and for productive drilling
- ▶ Enhanced chip evacuation by polished flute upgraded TiAlN nano layer full coating
- ▶ MQL system compatible (Minimum Quantity Lubrication)

- ▶ 采用4-Facet钻顶提高定心性能
- ▶ 最佳独特沟槽设计提高排屑性能和可提供高产率钻孔
- ▶ 采用TiAlN纳米级涂层抛光沟槽
- ▶ MQL系统相容（Minimum Quantity Lubrication）





10 × D (DHM10) | 15 × D (DHM15) | 20 × D (DHM20)

DHM10 DHM15 DHM20

CARBIDE | 30° | h6 | h7 | 140° | 20 bar | 45 bar

p. A166-A167

Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

DHM10

Unit(单位) : mm

EDP No. 型号 TiAlN	Drill Diameter 刃径 D_1	Shank Diameter 柄径 D_2	Flute Length 槽长 L_1	Overall Length 全长 L_2
DHM10030	3.0	6	40	80
DHM10033	3.3	6	47	87
DHM10035	3.5	6	47	87
DHM10040	4.0	6	53	93
DHM10042	4.2	6	60	100
DHM10045	4.5	6	60	100
DHM10050	5.0	6	66	106
DHM10055	5.5	6	73	113
DHM10060	6.0	6	79	119
DHM10065	6.5	8	86	126
DHM10068	6.8	8	92	132
DHM10070	7.0	8	92	132
DHM10075	7.5	8	99	139
DHM10080	8.0	8	105	145
DHM10085	8.5	10	112	156
DHM10090	9.0	10	118	162
DHM10095	9.5	10	126	170
DHM10100	10.0	10	132	176
DHM10105	10.5	12	139	188
DHM10110	11.0	12	145	194
DHM10115	11.5	12	152	201
DHM10120	12.0	12	158	207
DHM10125	12.5	14	165	214
DHM10130	13.0	14	171	220
DHM10135	13.5	14	178	227
DHM10140	14.0	14	184	233

DHM15

Unit(单位) : mm

EDP No. 型号 TiAlN	Drill Diameter 刃径 D_1	Shank Diameter 柄径 D_2	Flute Length 槽长 L_1	Overall Length 全长 L_2
DHM15030	3.0	6	55	95
DHM15035	3.5	6	64	104
DHM15040	4.0	6	73	113
DHM15045	4.5	6	82	122
DHM15050	5.0	6	91	131
DHM15055	5.5	6	100	140
DHM15060	6.0	6	109	149
DHM15070	7.0	8	127	167
DHM15080	8.0	8	145	185
DHM15090	9.0	10	163	207
DHM15100	10.0	10	182	226
DHM15110	11.0	12	200	249
DHM15120	12.0	12	218	267

DHM20

Unit(单位) : mm

EDP No. 型号 TiAlN	Drill Diameter 刃径 D_1	Shank Diameter 柄径 D_2	Flute Length 槽长 L_1	Overall Length 全长 L_2
DHM20030	3.0	6	70	110
DHM20035	3.5	6	82	122
DHM20040	4.0	6	93	133
DHM20045	4.5	6	105	145
DHM20050	5.0	6	116	156
DHM20055	5.5	6	128	168
DHM20060	6.0	6	139	179
DHM20070	7.0	8	162	202
DHM20080	8.0	8	185	225
DHM20090	9.0	10	208	252
DHM20100	10.0	10	232	276
DHM20110	11.0	12	255	304
DHM20120	12.0	12	278	327

◎ : 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																					

DREAM DRILLS - MQL TYPE

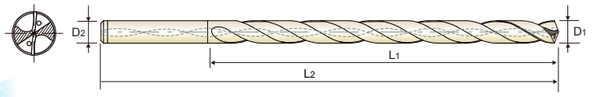
DHM25 SERIES | DHM30 SERIES

CARBIDE, DREAM DRILL MQL TYPE END MILL SHANK with COOLANT HOLE — EXTRA LONG
硬质合金，梦幻钻头铣刀柄-MQL类型 带内冷孔 — 超长

- ▶ 4-Facet Point for good centering capability
- ▶ Optimized special flutes are ideal for removing chips and for productive drilling
- ▶ Enhanced chip evacuation by polished flute upgraded TiAlN nano layer full coating
- ▶ MQL system compatible (Minimum Quantity Lubrication)

- ▶ 采用4-Facet钻顶提高定心性能
- ▶ 最佳独特沟槽设计提高排屑性能和可提供高产率钻孔
- ▶ 采用TiAlN纳米级涂层抛光沟槽
- ▶ MQL系统相容（Minimum Quantity Lubrication）





25 × D (DHM25) | 30 × D (DHM30)

CARBIDE | 30° | h6 | h7 | 140° | 45 bar

p. A166-A167

Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

DHM25

Unit(单位) : mm

EDP No. 型号 TiAlN	Drill Diameter 刃径 D_1	Shank Diameter 柄径 D_2	Flute Length 槽长 L_1	Overall Length 全长 L_2
DHM25030	3.0	6.0	85	125
DHM25035	3.5	6.0	99	139
DHM25040	4.0	6.0	113	153
DHM25045	4.5	6.0	127	167
DHM25050	5.0	6.0	141	181
DHM25055	5.5	6.0	155	195
DHM25060	6.0	6.0	169	209
DHM25070	7.0	8.0	197	237
DHM25080	8.0	8.0	225	265
DHM25090	9.0	10.0	253	297
DHM25100	10.0	10.0	282	326

▶ Made to order in depth 35xD & 40xD(Drill Dia. Ø3~6mm) / 其

DHM30

Unit(单位) : mm

EDP No. 型号 TiAlN	Drill Diameter 刃径 D_1	Shank Diameter 柄径 D_2	Flute Length 槽长 L_1	Overall Length 全长 L_2
DHM30030	3.0	6.0	100	140
DHM30035	3.5	6.0	117	157
DHM30040	4.0	6.0	133	173
DHM30045	4.5	6.0	150	190
DHM30050	5.0	6.0	166	206
DHM30055	5.5	6.0	183	223
DHM30060	6.0	6.0	199	239
DHM30070	7.0	8.0	232	272
DHM30080	8.0	8.0	265	305

◎ : 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																					

DREAM DRILLS - MQL TYPE

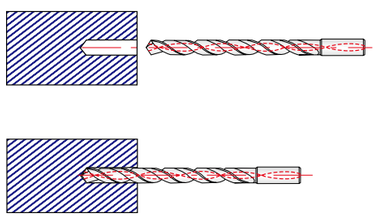
RECOMMENDED CUTTING CONDITIONS
推荐加工条件

DH510, DH515, DH520, DHM10, DHM15, DHM20, DHM25, DHM30 SERIES

with COOLANT HOLES
带内冷孔

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min) 10xD ~ 20xD	Vc 钻削速度 (m/min) 25xD ~ 30xD	Parameter 参数	Drill Diameter 刃径 (mm) 3.0	4.0	5.0	6.0
P	1	Non-alloy steel	120	100	RPM(10xD-20xD)	12730	9550	7640	6370
					RPM(25xD-30xD)	10610	7960	6370	5310
					FEED	0.08-0.12	0.10-0.14	0.12-0.18	0.14-0.20
	2		100	80	RPM(10xD-20xD)	10610	7960	6370	5310
					RPM(25xD-30xD)	8490	6370	5090	4240
					FEED	0.08-0.12	0.10-0.14	0.12-0.18	0.14-0.20
	3		80	65	RPM(10xD-20xD)	8490	6370	5090	4240
					RPM(25xD-30xD)	6900	5170	4140	3450
					FEED	0.06-0.10	0.08-0.12	0.10-0.16	0.12-0.18
	6	Low alloy steel	100	100	RPM(10xD-20xD)	10610	7960	6370	5310
					RPM(25xD-30xD)	10610	7960	6370	5310
					FEED	0.08-0.12	0.10-0.14	0.12-0.18	0.14-0.20
	7		70	60	RPM(10xD-20xD)	7430	5570	4460	3710
					RPM(25xD-30xD)	6370	4770	3820	3180
					FEED	0.06-0.10	0.08-0.12	0.10-0.16	0.12-0.18
	8		55	50	RPM(10xD-20xD)	5840	4380	3500	2920
					RPM(25xD-30xD)	5310	3980	3180	2650
					FEED	0.06-0.10	0.08-0.12	0.10-0.16	0.12-0.18
	10	High alloyed steel, and tool steel	60	50	RPM(10xD-20xD)	6370	4770	3820	3180
					RPM(25xD-30xD)	5310	3980	3180	2650
					FEED	0.05-0.09	0.07-0.11	0.08-0.14	0.10-0.16
	11		50	45	RPM(10xD-20xD)	5310	3980	3180	2650
					RPM(25xD-30xD)	4770	3580	2860	2390
					FEED	0.04-0.08	0.06-0.10	0.07-0.13	0.08-0.14
K	15	Grey cast iron	90	75	RPM(10xD-20xD)	9550	7160	5730	4770
					RPM(25xD-30xD)	7960	5970	4770	3980
					FEED	0.10-0.14	0.12-0.16	0.17-0.23	0.19-0.25
	16		70	60	RPM(10xD-20xD)	7430	5570	4460	3710
					RPM(25xD-30xD)	6370	4770	3820	3180
					FEED	0.10-0.14	0.12-0.16	0.17-0.23	0.19-0.25
	17	Nodular cast iron	100	80	RPM(10xD-20xD)	10610	7960	6370	5310
					RPM(25xD-30xD)	8490	6370	5090	4240
					FEED	0.10-0.14	0.12-0.16	0.17-0.23	0.19-0.25
	18		70	60	RPM(10xD-20xD)	7430	5570	4460	3710
					RPM(25xD-30xD)	6370	4770	3820	3180
					FEED	0.08-0.12	0.10-0.14	0.12-0.18	0.14-0.20
	19	Malleable cast iron	80	65	RPM(10xD-20xD)	8490	6370	5090	4240
					RPM(25xD-30xD)	6900	5170	4140	3450
					FEED	0.10-0.14	0.12-0.16	0.17-0.23	0.19-0.25
	20		70	55	RPM(10xD-20xD)	7430	5570	4460	3710
					RPM(25xD-30xD)	5840	4380	3500	2920
					FEED	0.08-0.12	0.10-0.14	0.12-0.18	0.14-0.20

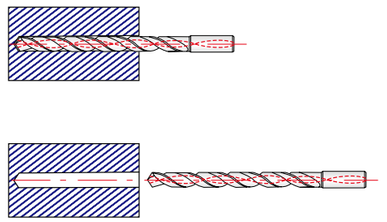


1. Guide Drilling should be done as Diameter +0.01~+0.1mm between 3xD and 5xD depth.
   导钻应该在3xD和5xD深度之间做在直径基础上 +0.01~+0.1mm的孔
2. For Main Drilling, proceed with low RPM at Guide Drilling segment.(RPM 300, FEED 400mm/min)
   对于主要钻孔, 应在导钻孔上使用低速进行 (钻速300, 进给400mm/min)
3. Just before the end of Guide Drilling segment, reduce feed to zero and increase the RPM according to Recommended Cutting Condition chart (See above).
   在加工完导孔时, 把进给降到, 同时根据提供的切削条件表增加钻速 (参考以上)

DREAM DRILLS - MQL TYPE
RECOMMENDED CUTTING CONDITIONS
推荐加工条件

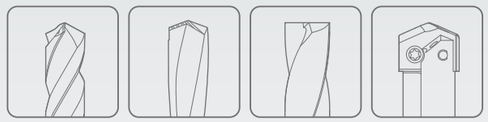
RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

VDI 3323	Parameter 参数	Drill Diameter 刃径 (mm) 8.0	10.0	12.0	14.0
1	RPM(10xD-20xD)	4770	3820	3180	2730
	RPM(25xD-30xD)	3980	3180	2650	2270
	FEED	0.18-0.24	0.20-0.26	0.22-0.26	0.25-0.31
2	RPM(10xD-20xD)	3980	3180	2650	2270
	RPM(25xD-30xD)	3180	2550	2120	1820
	FEED	0.18-0.24	0.20-0.26	0.22-0.26	0.25-0.31
3	RPM(10xD-20xD)	3180	2550	2120	1820
	RPM(25xD-30xD)	2590	2070	1720	1480
	FEED	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26
6	RPM(10xD-20xD)	3980	3180	2650	2270
	RPM(25xD-30xD)	3980	3180	2650	2270
	FEED	0.18-0.24	0.20-0.26	0.22-0.26	0.25-0.31
7	RPM(10xD-20xD)	2790	2230	1860	1590
	RPM(25xD-30xD)	2390	1910	1590	1360
	FEED	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26
8	RPM(10xD-20xD)	2190	1750	1460	1250
	RPM(25xD-30xD)	1990	1590	1330	1140
	FEED	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26
10	RPM(10xD-20xD)	2390	1910	1590	1360
	RPM(25xD-30xD)	1990	1590	1330	1140
	FEED	0.12-0.18	0.14-0.20	0.16-0.22	0.18-0.24
11	RPM(10xD-20xD)	1990	1590	1330	1140
	RPM(25xD-30xD)	1790	1430	1190	1020
	FEED	0.10-0.16	0.12-0.18	0.13-0.19	0.15-0.21
15	RPM(10xD-20xD)	3580	2860	2390	2050
	RPM(25xD-30xD)	2980	2390	1990	1710
	FEED	0.22-0.28	0.24-0.30	0.28-0.34	0.30-0.36
16	RPM(10xD-20xD)	2790	2230	1860	1590
	RPM(25xD-30xD)	2390	1910	1590	1360
	FEED	0.22-0.28	0.24-0.30	0.28-0.34	0.30-0.36
17	RPM(10xD-20xD)	3980	3180	2650	2270
	RPM(25xD-30xD)	3180	2550	2120	1820
	FEED	0.22-0.28	0.24-0.30	0.28-0.34	0.30-0.36
18	RPM(10xD-20xD)	2790	2230	1860	1590
	RPM(25xD-30xD)	2390	1910	1590	1360
	FEED	0.18-0.24	0.20-0.26	0.22-0.26	0.25-0.31
19	RPM(10xD-20xD)	3180	2550	2120	1820
	RPM(25xD-30xD)	2590	2070	1720	1480
	FEED	0.22-0.28	0.24-0.30	0.28-0.34	0.30-0.36
20	RPM(10xD-20xD)	2790	2230	1860	1590
	RPM(25xD-30xD)	2190	1750	1460	1250
	FEED	0.18-0.24	0.20-0.26	0.22-0.26	0.25-0.31



4. After then, proceed main drilling by increasing feed without step drilling.
   然后, 在没有阶梯孔的情况下增加进给进行主孔加工
5. When coming out from Guide Drilling start point after drilling, RPM should be reduced as 300 and feed should be 1000 mm/min.
   当钻完后从导孔的起始点出来时, 请把钻速降到300, 进给为 1000mm/min.
6. When coming out from Guide Drilling segment to the outside, the feed should be decreased as 50%.
   当从导孔段完全出来时, 进给应降到50%.

Global Cutting Tool Leader **YG-1**



HOLEMAKING

Leading Through Innovation



SOLID CARBIDE

DREAM DRILLS
- for HIGH HARDENED STEELS

- For High Hardened Steels (HRc50 to HRc70)
- 用于硬质合金 (硬度50到70)

SELECTION GUIDE
选用指南

HOLEMAKING TOOLS

SERIES 系列	DH500
DRILLING DEPTH 钻销深度	3XD
LENGTH 长度	SHORT 短
SIZE MIN 最小尺寸	D2.6
SIZE MAX 最大尺寸	D14.0
PAGE 页数	A171
SURFACE TREATMENT 表面处理	TiAlN

SOLID CARBIDE
DREAM DRILLS
for HIGH HARDENED STEELS

For High Hardened Steels (HRc50 to HRc70)
用于硬质合金 (硬度50到70)



Please visit 请访问 globalyg1.com/mat for material search 查看产品材料

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工条件) : p. A172

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB 布氏硬度	HRc 硬度	
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	

DREAM DRILLS for HIGH HARDENED STEELS

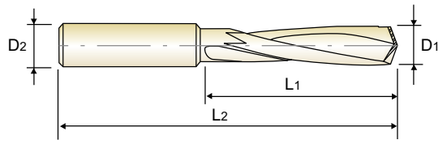
DH500 SERIES

CARBIDE, DREAM DRILLS for HIGH HARDENED STEELS (HRc50~HRc70) SHORT
硬质合金，梦幻钻头-高硬度钢(HRc50~70) 短

- ▶ Drilling for High Hardened Steels; Quenched Steels, Tempered Steels (under HRc70)
- ▶ Special geometry design for Hardened Steels
- ▶ Minimum of cutting load through special thinning
- ▶ Performing good chip removal and powerful drilling

- ▶ 加工高硬钢用；淬火钢，回火钢（~HRc70）
- ▶ 加工高硬钢用特殊几何形状设计
- ▶ 由于独特钻顶设计减少切削阻力
- ▶ 表现卓越排屑和强力钻孔





CARBIDE | 15° | h6 | h7 | 140° | p. A172

3 × D

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长	EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长
TiAlN	D_1	D_2	L_1	L_2	TiAlN	D_1	D_2	L_1	L_2
DH500026	2.6	3	14	44	DH500070	7.0	8	45	85
DH500030	3.0	3	16	46	DH500075	7.5	8	45	85
DH500033	3.3	4	18	48	DH500080	8.0	8	50	98
DH500034	3.4	4	20	50	DH500085	8.5	10	50	98
DH500035	3.5	4	20	50	DH500086	8.6	10	57	105
DH500040	4.0	4	22	52	DH500088	8.8	10	57	105
DH500042	4.2	6	25	65	DH500090	9.0	10	57	105
DH500043	4.3	6	28	68	DH500095	9.5	10	57	105
DH500044	4.4	6	28	68	DH500100	10.0	10	63	111
DH500045	4.5	6	28	68	DH500102	10.2	12	63	111
DH500050	5.0	6	32	72	DH500103	10.3	12	63	111
DH500051	5.1	6	32	72	DH500105	10.5	12	63	111
DH500052	5.2	6	32	72	DH500108	10.8	12	71	119
DH500055	5.5	6	35	75	DH500110	11.0	12	71	119
DH500060	6.0	6	35	75	DH500115	11.5	12	71	119
DH500065	6.5	8	40	80	DH500120	12.0	12	71	119
DH500068	6.8	8	45	85	DH500140	14.0	14	77	125
DH500069	6.9	8	45	85					

◎ : 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	39.1 39.3	40	41
HRc											15	30	25	38	34			55	60 70	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																		◎	◎ ◎		

DREAM DRILLS for HIGH HARDENED STEELS

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

DH500 SERIES
without COOLANT HOLES
不带内冷孔

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)								
					2.5	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0
H	38	Hardened steel	20	RPM	2550	2120	1590	1270	1060	800	640	530	450
				FEED	0.01~0.03	0.01-0.03	0.01-0.04	0.01-0.04	0.01-0.05	0.01-0.05	0.01-0.05	0.01-0.06	0.01-0.06
	39.1		15	RPM	1910	1590	1190	950	800	600	480	400	340
				FEED	0.01~0.03	0.01-0.03	0.01-0.04	0.01-0.04	0.01-0.05	0.01-0.05	0.01-0.05	0.01-0.06	0.01-0.06
	39.3		12	RPM	1530	1270	950	760	640	480	380	320	270
				FEED	0.01~0.03	0.01-0.03	0.01-0.04	0.01-0.04	0.01-0.05	0.01-0.05	0.01-0.05	0.01-0.06	0.01-0.06



Leading Through Innovation

SOLID CARBIDE

GENERAL CARBIDE DRILLS

- For General Purpose
- 普通用途

SELECTION GUIDE
选用指南

HOLEMAKING TOOLS

SERIES 系列	D5401
STANDARD 标准	-
LENGTH 长度	REGULAR 常规
SIZE MIN 最小尺寸	D1.0
SIZE MAX 最大尺寸	D13.0
PAGE 页数	A175
SURFACE TREATMENT 表面处理	Bright

SOLID CARBIDE GENERAL CARBIDE DRILLS

For General Purpose
普通用途



Please visit 请访问 globalyg1.com/mat for material search 查看产品材料

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工条件) : p. A177

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB 布氏硬度	HRc 硬度	
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	

CARBIDE
HSS
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

GENERAL CARBIDE DRILLS

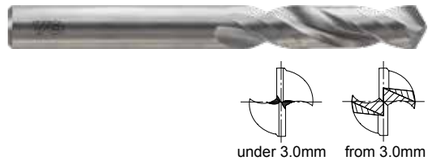
D5401 SERIES

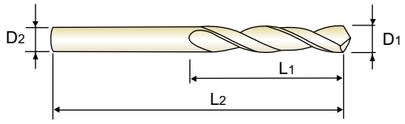
CARBIDE DRILLS
硬质合金钻头

REGULAR
常规

►**Application** : Drilling into steel in general, cast steel, cast iron, chilled cast iron, malleable cast iron, nonferrous heavy metal, non-ferrous light metal, abrasive plastic.

▶ 应用：用于加工一般的钻件, 铸钢, 铸铁, 冷硬铸铁, 可锻铸铁, 非铁重金属, 非铁轻金属, 耐磨塑料等材料





$D_1=D_2$

CARBIDE | 30° | h6 | h8 | 118° | p. A177

Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径	Flute Length 槽长	Overall Length 全长
Bright	D_1	L_1	L_2
D5401010	1.0	10	32
D5401011	1.1	10	32
D5401012	1.2	10	32
D5401013	1.3	10	32
D5401014	1.4	10	32
D5401015	1.5	13	35
D5401016	1.6	13	35
D5401017	1.7	13	35
D5401018	1.8	13	35
D5401019	1.9	13	35
D5401020	2.0	18	40
D5401021	2.1	18	40
D5401022	2.2	18	40
D5401023	2.3	18	40
D5401024	2.4	18	40
D5401025	2.5	22	45
D5401026	2.6	22	45
D5401027	2.7	22	45
D5401028	2.8	22	45
D5401029	2.9	22	45
D5401030	3.0	25	50
D5401031	3.1	25	50
D5401032	3.2	25	50
D5401033	3.3	28	50
D5401034	3.4	28	50
D5401035	3.5	28	50
D5401036	3.6	30	55
D5401037	3.7	30	55
D5401038	3.8	30	55
D5401039	3.9	30	55
D5401040	4.0	30	55

EDP No 型号	Drill Diameter 刃径	Flute Length 槽长	Overall Length 全长
Bright	D_1	L_1	L_2
D5401041	4.1	34	60
D5401042	4.2	34	60
D5401043	4.3	34	60
D5401044	4.4	34	60
D5401045	4.5	34	60
D5401046	4.6	38	65
D5401047	4.7	38	65
D5401048	4.8	38	65
D5401049	4.9	38	65
D5401050	5.0	38	65
D5401051	5.1	38	65
D5401052	5.2	38	65
D5401053	5.3	38	65
D5401054	5.4	38	65
D5401055	5.5	38	65
D5401056	5.6	40	75
D5401057	5.7	40	75
D5401058	5.8	40	75
D5401059	5.9	40	75
D5401060	6.0	40	75
D5401061	6.1	40	75
D5401062	6.2	40	75
D5401063	6.3	40	75
D5401064	6.4	40	75
D5401065	6.5	40	75
D5401066	6.6	46	80
D5401067	6.7	46	80
D5401068	6.8	46	80
D5401069	6.9	46	80
D5401070	7.0	46	80
D5401071	7.1	46	80

▶ 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
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	◎	◎	◎	◎												○					

GENERAL CARBIDE DRILLS

D5401 SERIES

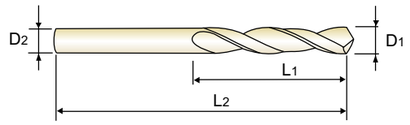
CARBIDE DRILLS
硬质合金钻头

REGULAR
常规

►**Application** : Drilling into steel in general, cast steel, cast iron, chilled cast iron, malleable cast iron, nonferrous heavy metal, non-ferrous light metal, abrasive plastic.

▶ 应用：用于加工一般的钻件, 铸钢, 铸铁, 冷硬铸铁, 可锻铸铁, 非铁重金属, 非铁轻金属, 耐磨塑料等材料





$D_1=D_2$

CARBIDE | 30° | h6 | h8 | 118° | p. A177

Recommended ToolHolder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No 型号 Bright	Drill Diameter 刃径 D_1	Flute Length 槽长 L_1	Overall Length 全长 L_2
D5401072	7.2	46	80
D5401073	7.3	46	80
D5401074	7.4	46	80
D5401075	7.5	46	80
D5401076	7.6	50	85
D5401077	7.7	50	85
D5401078	7.8	50	85
D5401079	7.9	50	85
D5401080	8.0	50	85
D5401081	8.1	50	85
D5401082	8.2	50	85
D5401083	8.3	50	85
D5401084	8.4	50	85
D5401085	8.5	50	85
D5401086	8.6	50	95
D5401087	8.7	50	95
D5401088	8.8	50	95
D5401089	8.9	50	95
D5401090	9.0	50	95
D5401091	9.1	50	95
D5401092	9.2	50	95
D5401093	9.3	50	95
D5401094	9.4	50	95
D5401095	9.5	50	95
D5401096	9.6	50	100
D5401097	9.7	50	100
D5401098	9.8	50	100
D5401099	9.9	50	100
D5401100	10.0	50	100
D5401101	10.1	60	115

EDP No 型号 Bright	Drill Diameter 刃径 D_1	Flute Length 槽长 L_1	Overall Length 全长 L_2
D5401102	10.2	60	115
D5401103	10.3	60	115
D5401104	10.4	60	115
D5401105	10.5	60	115
D5401106	10.6	60	115
D5401107	10.7	60	115
D5401108	10.8	60	115
D5401109	10.9	60	115
D5401110	11.0	60	115
D5401111	11.1	65	120
D5401112	11.2	65	120
D5401113	11.3	65	120
D5401114	11.4	65	120
D5401115	11.5	65	120
D5401116	11.6	65	120
D5401117	11.7	65	120
D5401118	11.8	65	120
D5401119	11.9	65	120
D5401120	12.0	65	120
D5401121	12.1	65	125
D5401122	12.2	65	125
D5401123	12.3	65	125
D5401124	12.4	65	125
D5401125	12.5	65	125
D5401126	12.6	65	125
D5401127	12.7	65	125
D5401128	12.8	65	125
D5401129	12.9	65	125
D5401130	13.0	65	125

◎ : 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	◎	◎	◎	◎												○					

GENERAL CARBIDE DRILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

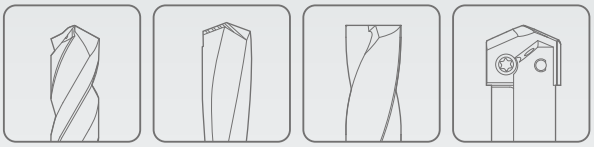
D5401 SERIES

CARBIDE DRILLS
硬质合金钻头

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 1.0	2.0	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 3.0	4.0	5.0	6.0	8.0	10.0	12.0	13.0
P	1	Non-alloy steel	55	RPM	17510	8750	70	RPM	7,430	5,570	4,460	3,710	2,790	2,230	1,860	1,710
				FEED	0.02-0.03	0.02-0.04		FEED	0.03-0.05	0.03-0..06	0.04-0.07	0.05-0.08	0.07-0.10	0.08-0.12	0.10-0.14	0.12-0.16
	2		45	RPM	14320	7160	60	RPM	6,370	4,770	3,820	3,180	2,390	1,910	1,590	1,470
				FEED	0.02-0.03	0.02-0.04		FEED	0.03-0.05	0.03-0..06	0.04-0.07	0.05-0.08	0.07-0.10	0.08-0.12	0.10-0.14	0.12-0.16
	6	Low alloy steel	35	RPM	11140	5570	50	RPM	5,310	3,980	3,180	2,650	1,990	1,590	1,330	1,220
				FEED	0.02-0.03	0.02-0.04		FEED	0.03-0.05	0.03-0..06	0.04-0.07	0.05-0.08	0.07-0.10	0.08-0.12	0.10-0.14	0.12-0.16
M	12	Stainless steel	15	RPM	4770	2390	25	RPM	2,650	1,990	1,590	1,330	990	800	660	610
				FEED	0.01-0.02	0.01-0.03		FEED	0.02-0.04	0.02-0.05	0.03-0.06	0.04-0.07	0.06-0.09	0.07-0.11	0.08-0.12	0.09-0.13
K	15	Grey cast iron	25	RPM	7960	3980	45	RPM	4,770	3,580	2,860	2,390	1,790	1,430	1,190	1,100
				FEED	0.03-0.04	0.03-0.05		FEED	0.04-0.06	0.04-0.07	0.05-0.08	0.06-0.09	0.09-0.12	0.12-0.16	0.14-0.18	0.16-0.20
N	21	Aluminum-wrought alloy	100	RPM	31830	15920	140	RPM	14,850	11,140	8,910	7,430	5,570	4,460	3,710	3,430
				FEED	0.04-0.05	0.04-0.06		FEED	0.05-0.07	0.05-0.08	0.06-0.09	0.08-0.11	0.12-0.15	0.15-0.19	0.19-0.23	0.21-0.25
	22		90	RPM	28650	14320	120	RPM	12,730	9,550	7,640	6,370	4,770	3,820	3,180	2,940
				FEED	0.04-0.05	0.04-0.06		FEED	0.05-0.07	0.05-0.08	0.06-0.09	0.08-0.11	0.12-0.15	0.15-0.19	0.19-0.23	0.21-0.25
	23	Aluminum-cast, alloyed	70	RPM	22280	11140	100	RPM	10,610	7,960	6,370	5,310	3,980	3,180	2,650	2,450
				FEED	0.04-0.05	0.04-0.06		FEED	0.05-0.07	0.05-0.08	0.06-0.09	0.08-0.11	0.12-0.15	0.15-0.19	0.19-0.23	0.21-0.25
	24		60	RPM	19100	9550	80	RPM	8,490	6,370	5,090	4,240	3,180	2,550	2,120	1,960
				FEED	0.04-0.05	0.04-0.06		FEED	0.05-0.07	0.05-0.08	0.06-0.09	0.08-0.11	0.12-0.15	0.15-0.19	0.19-0.23	0.21-0.25
S	36	Titanium Alloys	10	RPM	3180	1590	20	RPM	1,060	800	640	530	400	320	270	240
				FEED	0.01-0.02	0.01-0.03		FEED	0.02-0.04	0.02-0.05	0.03-0.06	0.04-0.07	0.06-0.09	0.07-0.11	0.08-0.12	0.09-0.13

Global Cutting Tool Leader **YG-1**



HOLEMAKING



Leading Through Innovation

HSS-PM

MULTI-1 DRILLS

- For Wide Range of Applications Particularly Stainless Steels and Titanium
- 广泛用途特别是不锈钢和钛

SELECTION GUIDE
选用指南

HOLEMAKING TOOLS

SERIES 系列	CDRA03	CDRA04
TOOL MATERIAL 刀具材料	HSS-PM	
LENGTH 长度	STUB 超短	JOBBER 细长
SIZE MIN 最小尺寸	D1.0	D2.0
SIZE MAX 最大尺寸	D13.0	D13.0
PAGE 页数	**A181**	**A185**
SURFACE TREATMENT 表面处理	TiAlN	

HSS-PM
MULTI-1 DRILLS

For Wide Range of Applications Particularly Stainless Steels and Titanium
广泛用途特别是不锈钢和钛



Please visit 请访问 globalyg1.com/mat for material search 查看产品材料

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工条件) : p. A188

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB 布氏硬度	HRc 硬度	CDRA03	CDRA04
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		

MULTI-1 DRILLS

CDRA03 SERIES

HSS-PM, MULTI-1 DRILLS
粉末高速钢，MULTI-1钻头

STUB
超短

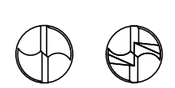
▶ **Application** : Structural steels, Carbon steels, Alloy steels, Pre-hardened steels, Mold steels, Stainless steels, Hardened steels(HRc30~45), Cast iron, Aluminum alloys, Nonferrous alloys, Titanium.

▶ **Advantage** : Point shape to maximize self-centering. Flute design for the best chip evacuation. Premium powder materials with excellent toughness.

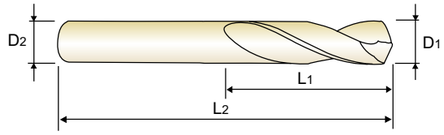
▶应用：适用于结构钢, 碳素钢, 合金钢, 预硬化钢, 模具钢, 不锈钢, 淬火钢(HRc30~45), 铸铁, 铝合金, 非铁金属合金

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up to 1.4mm over 1.4mm



HSS PM | 30° | h6 | h7 | 118° | 135° | p. A188

up to 1.9mm over 1.9mm

Recommended Toolholder — Plain Shank — ER COLLET CHUCK — Page D73-115

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长
TiAlN	D_1	D_2	L_1	L_2
CDRA03010	**1.00**	3	6	38
CDRA03910	**1.05**	3	6	38
CDRA03011	**1.10**	3	7	39
CDRA03911	**1.15**	3	7	39
CDRA03012	**1.20**	3	8	40
CDRA03912	**1.25**	3	8	40
CDRA03013	**1.30**	3	8	40
CDRA03913	**1.35**	3	9	41
CDRA03014	**1.40**	3	9	41
CDRA03914	**1.45**	3	9	41
CDRA03015	**1.50**	3	9	41
CDRA03915	**1.55**	3	10	42
CDRA03016	**1.60**	3	10	42
CDRA03916	**1.65**	3	10	42
CDRA03017	**1.70**	3	10	42
CDRA03917	**1.75**	3	11	43
CDRA03018	**1.80**	3	11	43
CDRA03918	**1.85**	3	11	43
CDRA03019	**1.90**	3	11	43
CDRA03919	**1.95**	3	12	44
CDRA03020	**2.00**	3	12	44
CDRA03920	**2.05**	3	12	44
CDRA03021	**2.10**	3	12	44
CDRA03921	**2.15**	3	13	45

EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长
TiAlN	D_1	D_2	L_1	L_2
CDRA03022	**2.20**	3	13	45
CDRA03922	**2.25**	3	13	45
CDRA03023	**2.30**	3	13	45
CDRA03923	**2.35**	3	13	45
CDRA03024	**2.40**	3	14	46
CDRA03924	**2.45**	3	14	46
CDRA03025	**2.50**	3	14	46
CDRA03925	**2.55**	3	14	46
CDRA03026	**2.60**	3	14	46
CDRA03926	**2.65**	3	14	46
CDRA03027	**2.70**	3	16	48
CDRA03927	**2.75**	3	16	48
CDRA03028	**2.80**	3	16	48
CDRA03928	**2.85**	3	16	48
CDRA03029	**2.90**	3	16	48
CDRA03929	**2.95**	3	16	48
CDRA03030	**3.00**	3	16	48
CDRA03930	**3.05**	4	18	50
CDRA03031	**3.10**	4	18	50
CDRA03931	**3.15**	4	18	50
CDRA03032	**3.20**	4	18	50
CDRA03932	**3.25**	4	18	50
CDRA03033	**3.30**	4	18	50
CDRA03933	**3.35**	4	18	50

▶ 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
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	◎	◎	○	○												○					

MULTI-1 DRILLS

CDRA03 SERIES

HSS-PM, MULTI-1 DRILLS

STUB

粉末高速钢，MULTI-1钻头

超短

▶ **Application** : Structural steels, Carbon steels, Alloy steels, Pre-hardened steels, Mold steels, Stainless steels, Hardened steels(HRc30~45), Cast iron, Aluminum alloys, Nonferrous alloys, Titanium.

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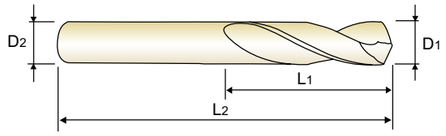
▶应用：适用于结构钢, 碳素钢, 合金钢, 预硬化钢, 模具钢, 不锈钢, 淬火钢(HRc30~45), 铸铁, 铝合金, 非铁金属合金

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up to 1.4mm over 1.4mm



HSS PM | 30° | h6 | h7 | 118° | 135° | up to 1.9mm over 1.9mm

p. A188

Recommended Toolholder | Plain Shank | ER COLLET CHUCK | Page D73-115

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长
	TiAlN	D_1	D_2	L_1	L_2
CDRA03034	3.40	4	20	52
CDRA03934	3.45	4	20	52
CDRA03035	3.50	4	20	52
CDRA03935	3.55	4	20	52
CDRA03036	3.60	4	20	52
CDRA03936	3.65	4	20	52
CDRA03037	3.70	4	20	52
CDRA03937	3.75	4	20	52
CDRA03038	3.80	4	22	54
CDRA03938	3.85	4	22	54
CDRA03039	3.90	4	22	54
CDRA03939	3.95	4	22	54
CDRA03040	4.00	4	22	54
CDRA03940	4.05	6	22	66
CDRA03041	4.10	6	22	66
CDRA03941	4.15	6	22	66
CDRA03042	4.20	6	22	66
CDRA03942	4.25	6	22	66
CDRA03043	4.30	6	24	68
CDRA03943	4.35	6	24	68
CDRA03044	4.40	6	24	68
CDRA03944	4.45	6	24	68
CDRA03045	4.50	6	24	68
CDRA03945	4.55	6	24	68

EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长
	TiAlN	D_1	D_2	L_1	L_2
CDRA03046	4.60	6	24	68
CDRA03946	4.65	6	24	68
CDRA03047	4.70	6	24	68
CDRA03947	4.75	6	24	68
CDRA03048	4.80	6	26	70
CDRA03948	4.85	6	26	70
CDRA03049	4.90	6	26	70
CDRA03949	4.95	6	26	70
CDRA03050	5.00	6	26	70
CDRA03950	5.05	6	26	70
CDRA03051	5.10	6	26	70
CDRA03951	5.15	6	26	70
CDRA03052	5.20	6	26	70
CDRA03952	5.25	6	26	70
CDRA03053	5.30	6	26	70
CDRA03953	5.35	6	28	72
CDRA03054	5.40	6	28	72
CDRA03954	5.45	6	28	72
CDRA03055	5.50	6	28	72
CDRA03955	5.55	6	28	72
CDRA03056	5.60	6	28	72
CDRA03956	5.65	6	28	72
CDRA03057	5.70	6	28	72
CDRA03957	5.75	6	28	72

▶ 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
Recommended	◎	◎	○			◎	○					○		◎	○					

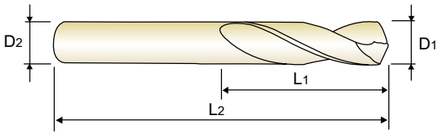
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	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	◎	◎	○	○												○					

MULTI-1 DRILLS
CDRA03 SERIES
HSS-PM, MULTI-1 DRILLS
STUB
粉末高速钢，MULTI-1钻头
超短
▶ Application : Structural steels, Carbon steels, Alloy steels, Pre-hardened steels, Mold steels, Stainless steels, Hardened steels(HRc30~45), Cast iron, Aluminum alloys, Nonferrous alloys, Titanium.
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▶应用：适用于结构钢, 碳素钢, 合金钢, 预硬化钢, 模具钢, 不锈钢, 淬火钢(HRc30~45), 铸铁, 铝合金, 非铁金属合金
▶优点：钻顶的形状使产品具有极佳的自定心能力.
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HSS PM | 30° | h6 | h7 | 118° | 135° | up to 1.9mm over 1.9mm

p. A188

Recommended Toolholder | Plain Shank | ER COLLET CHUCK | Page D73-115
Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长
	TiAlN	D_1	D_2	L_1	L_2
CDRA03058	5.80	6	28	72
CDRA03958	5.85	6	28	72
CDRA03059	5.90	6	28	72
CDRA03959	5.95	6	28	72
CDRA03060	6.00	6	28	72
CDRA03061	6.10	8	31	75
CDRA03062	6.20	8	31	75
CDRA03063	6.30	8	31	75
CDRA03064	6.40	8	31	75
CDRA03065	6.50	8	31	75
CDRA03066	6.60	8	31	75
CDRA03067	6.70	8	31	75
CDRA03068	6.80	8	34	78
CDRA03069	6.90	8	34	78
CDRA03070	7.00	8	34	78
CDRA03071	7.10	8	34	78
CDRA03072	7.20	8	34	78
CDRA03073	7.30	8	34	78
CDRA03074	7.40	8	34	78
CDRA03075	7.50	8	34	78
CDRA03076	7.60	8	37	81
CDRA03077	7.70	8	37	81
CDRA03078	7.80	8	37	81
CDRA03079	7.90	8	37	81

EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长
	TiAlN	D_1	D_2	L_1	L_2
CDRA03080	8.00	8	37	81
CDRA03081	8.10	10	37	87
CDRA03082	8.20	10	37	87
CDRA03083	8.30	10	37	87
CDRA03084	8.40	10	37	87
CDRA03085	8.50	10	37	87
CDRA03086	8.60	10	40	90
CDRA03087	8.70	10	40	90
CDRA03088	8.80	10	40	90
CDRA03089	8.90	10	40	90
CDRA03090	9.00	10	40	90
CDRA03091	9.10	10	40	90
CDRA03092	9.20	10	40	90
CDRA03093	9.30	10	40	90
CDRA03094	9.40	10	40	90
CDRA03095	9.50	10	40	90
CDRA03096	9.60	10	43	93
CDRA03097	9.70	10	43	93
CDRA03098	9.80	10	43	93
CDRA03099	9.90	10	43	93
CDRA03100	10.00	10	43	93
CDRA03101	10.10	12	43	100
CDRA03102	10.20	12	43	100
CDRA03103	10.30	12	43	100

▶ 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
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	◎	◎	○	○												○					

MULTI-1 DRILLS

CDRA03 SERIES

HSS-PM, MULTI-1 DRILLS

STUB

粉末高速钢，MULTI-1钻头

超短

▶ **Application** : Structural steels, Carbon steels, Alloy steels, Pre-hardened steels, Mold steels, Stainless steels, Hardened steels(HRc30~45), Cast iron, Aluminum alloys, Nonferrous alloys, Titanium.

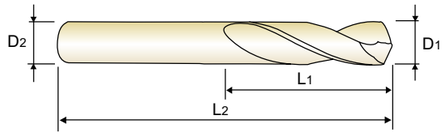
▶ **Advantage** : Point shape to maximize self-centering.
Flute design for the best chip evacuation.
Premium powder materials with excellent toughness.

▶应用：适用于结构钢, 碳素钢, 合金钢, 预硬化钢, 模具钢, 不锈钢, 淬火钢(HRc30~45), 铸铁, 铝合金, 非铁金属合金

▶优点：钻顶的形状使产品具有极佳的自定心能力.
沟槽的设计使产品的排削性能更高.
使用粉末高速钢制作使产品具有更优良的韧性.







HSS PM | 30° | h6 | h7 | 118° | 135° | up to 1.9mm | over 1.9mm

p. A188

Recommended Toolholder — Plain Shank — ER COLLET CHUCK — Page D73-115

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长
	TiAlN	D_1	D_2	L_1	L_2
CDRA03104	10.40	12	43	100
CDRA03105	10.50	12	43	100
CDRA03106	10.60	12	43	100
CDRA03107	10.70	12	47	104
CDRA03108	10.80	12	47	104
CDRA03109	10.90	12	47	104
CDRA03110	11.00	12	47	104
CDRA03111	11.10	12	47	104
CDRA03112	11.20	12	47	104
CDRA03113	11.30	12	47	104
CDRA03114	11.40	12	47	104
CDRA03115	11.50	12	47	104
CDRA03116	11.60	12	47	104
CDRA03117	11.70	12	47	104

EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长
	TiAlN	D_1	D_2	L_1	L_2
CDRA03118	11.80	12	47	104
CDRA03119	11.90	12	51	108
CDRA03120	12.00	12	51	108
CDRA03121	12.10	12	51	108
CDRA03122	12.20	12	51	108
CDRA03123	12.30	12	51	108
CDRA03124	12.40	12	51	108
CDRA03125	12.50	12	51	108
CDRA03126	12.60	12	51	108
CDRA03127	12.70	12	51	108
CDRA03128	12.80	12	51	108
CDRA03129	12.90	12	51	108
CDRA03130	13.00	12	51	108

◎ : 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	◎	◎	○	○												○					

MULTI-1 DRILLS

CDRA04 SERIES

HSS-PM, MULTI-1 DRILLS

JOBBER

粉末高速钢，MULTI-1钻头

细长

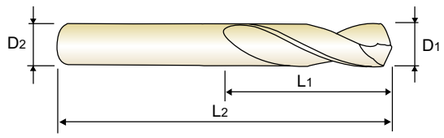
▶ **Application** : Structural steels, Carbon steels, Alloy steels, Pre-hardened steels, Mold steels, Stainless steels, Hardened steels(HRc30~45), Cast iron, Aluminum alloys, Nonferrous alloys, Titanium.

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Flute design for the best chip evacuation.
Premium powder materials with excellent toughness.

▶应用：适用于结构钢, 碳素钢, 合金钢, 预硬化钢, 模具钢, 不锈钢, 淬火钢(HRc30~45), 铸铁, 铝合金, 非铁金属合金

▶优点：钻顶的形状使产品具有极佳的自定心能力.
沟槽的设计使产品的排削性能更高.
使用粉末高速钢制作使产品具有更优良的韧性.





HSS PM | 30° | h6 | h7 | 135°

p. A188

Recommended Toolholder — Plain Shank — ER COLLET CHUCK — Page D73-115

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长
	TiAlN	D_1	D_2	L_1	L_2
CDRA04020	2.0	3	24	56
CDRA04021	2.1	3	24	56
CDRA04022	2.2	3	25	56
CDRA04023	2.3	3	25	56
CDRA04024	2.4	3	30	61
CDRA04025	2.5	3	30	61
CDRA04026	2.6	3	30	61
CDRA04027	2.7	3	33	64
CDRA04028	2.8	3	33	64
CDRA04029	2.9	3	33	64
CDRA04030	3.0	3	33	64
CDRA04031	3.1	4	36	68
CDRA04032	3.2	4	36	68
CDRA04033	3.3	4	36	68
CDRA04034	3.4	4	39	71
CDRA04035	3.5	4	39	71
CDRA04036	3.6	4	39	71
CDRA04037	3.7	4	39	71
CDRA04038	3.8	4	43	75
CDRA04039	3.9	4	43	75
CDRA04040	4.0	4	43	75
CDRA04041	4.1	6	43	85
CDRA04042	4.2	6	43	85
CDRA04043	4.3	6	47	89

EDP No. 型号	Drill Diameter 刃径	Shank Diameter 柄径	Flute Length 槽长	Overall Length 全长
	TiAlN	D_1	D_2	L_1	L_2
CDRA04044	4.4	6	47	89
CDRA04045	4.5	6	47	89
CDRA04046	4.6	6	47	89
CDRA04047	4.7	6	47	89
CDRA04048	4.8	6	52	94
CDRA04049	4.9	6	52	94
CDRA04050	5.0	6	52	94
CDRA04051	5.1	6	52	94
CDRA04052	5.2	6	52	94
CDRA04053	5.3	6	52	94
CDRA04054	5.4	6	57	99
CDRA04055	5.5	6	57	99
CDRA04056	5.6	6	57	99
CDRA04057	5.7	6	57	99
CDRA04058	5.8	6	57	99
CDRA04059	5.9	6	57	99
CDRA04060	6.0	6	57	99
CDRA04061	6.1	8	63	107
CDRA04062	6.2	8	63	107
CDRA04063	6.3	8	63	107
CDRA04064	6.4	8	63	107
CDRA04065	6.5	8	63	107
CDRA04066	6.6	8	63	107
CDRA04067	6.7	8	63	107

▶ 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
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	◎	◎	○	○												○					

MULTI-1 DRILLS

CDRA04 SERIES

HSS-PM, MULTI-1 DRILLS

JOBBER

粉末高速钢，MULTI-1钻头

细长

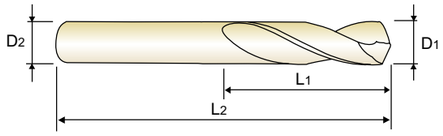
▶ **Application** : Structural steels, Carbon steels, Alloy steels, Pre-hardened steels, Mold steels, Stainless steels, Hardened steels(HRc30~45), Cast iron, Aluminum alloys, Nonferrous alloys, Titanium.

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Flute design for the best chip evacuation.
Premium powder materials with excellent toughness.

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▶优点： 钻顶的形状使产品具有极佳的自定心能力.
沟槽的设计使产品的排削性能更高.
使用粉末高速钢制作使产品具有更优良的韧性.





HSS PM | 30° | h6 | h7 | 135° | p. A188

Recommended Toolholder — Plain Shank — ER COLLET CHUCK — Page D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
CDRA04068	6.8	8	69	113
CDRA04069	6.9	8	69	113
CDRA04070	7.0	8	69	113
CDRA04071	7.1	8	69	113
CDRA04072	7.2	8	69	113
CDRA04073	7.3	8	69	113
CDRA04074	7.4	8	69	113
CDRA04075	7.5	8	69	113
CDRA04076	7.6	8	75	119
CDRA04077	7.7	8	75	119
CDRA04078	7.8	8	75	119
CDRA04079	7.9	8	75	119
CDRA04080	8.0	8	75	119
CDRA04081	8.1	10	75	125
CDRA04082	8.2	10	75	125
CDRA04083	8.3	10	75	125
CDRA04084	8.4	10	75	125
CDRA04085	8.5	10	75	125
CDRA04086	8.6	10	81	131
CDRA04087	8.7	10	81	131
CDRA04088	8.8	10	81	131
CDRA04089	8.9	10	81	131
CDRA04090	9.0	10	81	131
CDRA04091	9.1	10	81	131

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
CDRA04092	9.2	10	81	131
CDRA04093	9.3	10	81	131
CDRA04094	9.4	10	81	131
CDRA04095	9.5	10	81	131
CDRA04096	9.6	10	87	137
CDRA04097	9.7	10	87	137
CDRA04098	9.8	10	87	137
CDRA04099	9.9	10	87	137
CDRA04100	10.0	10	87	137
CDRA04101	10.1	12	87	144
CDRA04102	10.2	12	87	144
CDRA04103	10.3	12	87	144
CDRA04104	10.4	12	87	144
CDRA04105	10.5	12	87	144
CDRA04106	10.6	12	87	144
CDRA04107	10.7	12	94	151
CDRA04108	10.8	12	94	151
CDRA04109	10.9	12	94	151
CDRA04110	11.0	12	94	151
CDRA04111	11.1	12	94	151
CDRA04112	11.2	12	94	151
CDRA04113	11.3	12	94	151
CDRA04114	11.4	12	94	151
CDRA04115	11.5	12	94	151

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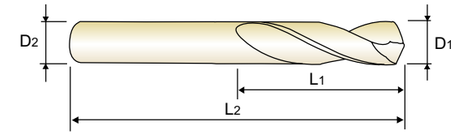
◎ : Excellent (优秀) ○ : Good (良好)

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	23	29	32	38	15	35	15	23	10	26	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	◎	◎	○	○												○					

MULTI-1 DRILLS
CDRA04 SERIES
HSS-PM, MULTI-1 DRILLS
JOBBER
粉末高速钢，MULTI-1钻头
细长
▶ Application : Structural steels, Carbon steels, Alloy steels, Pre-hardened steels, Mold steels, Stainless steels, Hardened steels(HRc30~45), Cast iron, Aluminum alloys, Nonferrous alloys, Titanium.
▶ Advantage : Point shape to maximize self-centering.
Flute design for the best chip evacuation.
Premium powder materials with excellent toughness.
▶应用： 适用于结构钢, 碳素钢, 合金钢, 预硬化钢, 模具钢, 不锈钢, 淬火钢(HRc30~45), 铸铁, 铝合金, 非铁金属合金
▶优点： 钻顶的形状使产品具有极佳的自定心能力.
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HSS PM | 30° | h6 | h7 | 135° | p. A188
Recommended Toolholder — Plain Shank — ER COLLET CHUCK — Page D73-115
Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
CDRA04116	11.6	12	94	151
CDRA04117	11.7	12	94	151
CDRA04118	11.8	12	94	151
CDRA04119	11.9	12	101	158
CDRA04120	12.0	12	101	158
CDRA04121	12.1	12	101	158
CDRA04122	12.2	12	101	158
CDRA04123	12.3	12	101	158

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D_1	D_2	L_1	L_2
CDRA04124	12.4	12	101	158
CDRA04125	12.5	12	101	158
CDRA04126	12.6	12	101	158
CDRA04127	12.7	12	101	158
CDRA04128	12.8	12	101	158
CDRA04129	12.9	12	101	158
CDRA04130	13.0	12	101	158

◎ : 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	◎	◎	○	○												○					

MULTI-1 DRILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

CDRA03, CDRA04 SERIES

MULTI-1 DRILLS
MULTI-1 钻头

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter (mm) 1.0	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter (mm) 2.0	3.0	4.0	5.0
P	1	Non-alloy steel	30	RPM	9550	40	RPM	6370	4240	3180	2550
				FEED	0.01~0.03		FEED	0.03~0.06	0.08~0.12	0.09~0.15	0.12~0.18
	2		28	RPM	8910	35	RPM	5570	3710	2790	2230
				FEED	0.01~0.03		FEED	0.03~0.06	0.08~0.12	0.09~0.15	0.12~0.18
	3		28	RPM	8910	35	RPM	5570	3710	2790	2230
				FEED	0.01~0.03		FEED	0.03~0.06	0.08~0.12	0.09~0.15	0.12~0.18
	6	Low alloy steel	28	RPM	8910	35	RPM	5570	3710	2790	2230
				FEED	0.01~0.03		FEED	0.03~0.06	0.08~0.12	0.09~0.15	0.12~0.18
	7		23	RPM	7320	30	RPM	4770	3180	2390	1910
				FEED	0.01~0.03		FEED	0.03~0.05	0.06~0.10	0.07~0.13	0.10~0.16
	8		20	RPM	6370	25	RPM	3980	2650	1990	1590
				FEED	0.01-0.02		FEED	0.02-0.05	0.03-0.07	0.04-0.10	0.06-0.12
	9		15	RPM	4770	20	RPM	3180	2120	1590	1270
				FEED	0.01-0.02		FEED	0.02-0.05	0.03-0.07	0.04-0.10	0.06-0.12
M	12	Stainless steel	15	RPM	4770	20	RPM	3180	2120	1590	1270
				FEED	0.01~0.03		FEED	0.03-0.07	0.05-0.09	0.06-0.12	0.09-0.15
	14		13	RPM	4140	15	RPM	2390	1590	1190	950
				FEED	0.01-0.02		FEED	0.02-0.05	0.03-0.07	0.04-0.10	0.06-0.12
K	15	Grey cast iron	30	RPM	9550	40	RPM	6370	4240	3180	2550
				FEED	0.02~0.04		FEED	0.04~0.10	0.07~0.13	0.09~0.15	0.12~0.18
N	21	Aluminum-wrought alloy	68	RPM	21650	90	RPM	14320	9550	7160	5730
				FEED	0.09~0.13		FEED	0.13~0.17	0.23~0.27	0.27~0.33	0.33~0.39
	22		68	RPM	21650	90	RPM	14320	9550	7160	5730
				FEED	0.09~0.13		FEED	0.13~0.17	0.23~0.27	0.27~0.33	0.33~0.39
	23	Aluminum-cast, alloyed	60	RPM	19100	80	RPM	12730	8490	6370	5090
				FEED	0.09~0.13		FEED	0.13~0.17	0.23~0.27	0.27~0.33	0.33~0.39
	24		55	RPM	17510	70	RPM	11140	7430	5570	4460
				FEED	0.06~0.10		FEED	0.10~0.14	0.15~0.19	0.20~0.26	0.24~0.30
S	36	Titanium Alloys	5	RPM	1590	5	RPM	800	530	400	320
				FEED	0.01~0.02		FEED	0.02~0.05	0.03~0.07	0.04~0.08	0.06~0.12

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter (mm) 6.0	8.0	10.0	12.0	13.0
P	1	Non-alloy steel	40	RPM	2120	1590	1270	1060	980
				FEED	0.14~0.20	0.18~0.24	0.18~0.28	0.20~0.30	0.20~0.30
	2		35	RPM	1860	1390	1110	930	860
				FEED	0.14~0.20	0.18~0.24	0.18~0.28	0.20~0.30	0.20~0.30
	3		35	RPM	1860	1390	1110	930	860
				FEED	0.14~0.20	0.18~0.24	0.18~0.28	0.20~0.30	0.20~0.30
	6	Low alloy steel	35	RPM	1860	1390	1110	930	860
				FEED	0.14~0.20	0.18~0.24	0.18~0.28	0.20~0.30	0.20~0.30
	7		30	RPM	1590	1190	950	800	730
				FEED	0.12~0.18	0.14~0.20	0.14~0.24	0.16~0.26	0.16~0.26
	8		25	RPM	1330	990	800	660	610
				FEED	0.07-0.13	0.10-0.20	0.12-0.22	0.14~0.24	0.14~0.24
	9		20	RPM	1060	800	640	530	490
				FEED	0.07-0.13	0.10-0.20	0.12-0.22	0.14~0.24	0.14~0.24
M	12	Stainless steel	20	RPM	1060	800	640	530	490
				FEED	0.12-0.18	0.18-0.24	0.20-0.30	0.26-0.36	0.26-0.36
	14		15	RPM	800	600	480	400	370
				FEED	0.07-0.13	0.10-0.20	0.12-0.22	0.14~0.24	0.14~0.24
K	15	Grey cast iron	40	RPM	2120	1590	1270	1060	980
				FEED	0.13~0.19	0.18~0.24	0.20~0.30	0.22~0.32	0.22~0.32
N	21	Aluminum-wrought alloy	90	RPM	4770	3580	2860	2390	2200
				FEED	0.40~0.46	0.45~0.51	0.51~0.61	0.63~0.73	0.63~0.73
	22		90	RPM	4770	3580	2860	2390	2200
				FEED	0.40~0.46	0.45~0.51	0.51~0.61	0.63~0.73	0.63~0.73
	23	Aluminum-cast, alloyed	80	RPM	4240	3180	2550	2120	1960
				FEED	0.40~0.46	0.45~0.51	0.51~0.61	0.63~0.73	0.63~0.73
	24		70	RPM	3710	2790	2230	1860	1710
				FEED	0.28~0.34	0.30~0.36	0.34~0.44	0.36~0.46	0.36~0.46
S	36	Titanium Alloys	5	RPM	270	200	160	130	120
				FEED	0.07~0.13	0.09~0.15	0.12~0.22	0.14~0.24	0.14~0.24

YG

Leading Through Innovation



HSS & HSSCo8

GOLD-P DRILLS

- Same Performance as Full TiN-coated Drills
- 与整个TIN涂层钻头相同的性能

SELECTION GUIDE
选用指南

HOLEMAKING TOOLS

SERIES 系列	D1GP103	D1GP123	D2GP191
STANDARD 标准	JIS	JIS	JIS
LENGTH 长度	REGULAR 细长	REGULAR 细长	REGULAR 细长
SIZE MIN 最小尺寸	D1.0	D1.0	D1.0
SIZE MAX 最大尺寸	D13.0	D13.0	D13.0
PAGE 页数	A192	A195	A198
SURFACE TREATMENT 表面处理	TiN	TiN	TiN

HSS & HSSCo8
GOLD-P DRILLS

Same Performance as Full TiN-coated Drills
与整个TiN涂层钻头相同的性能





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◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工条件) : p. A202

	ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB 布氏硬度	HRc 硬度	D1GP103	D1GP123	D2GP191		
P	1		Non-alloy steel	About 0.15% C	Annealed	125		◎	◎	◎	1	P
	2			About 0.45% C	Annealed	190	13	◎	◎	◎	2	
	3			About 0.45% C	Quenched & Tempered	250	25	◎	◎	◎	3	
	4			About 0.75% C	Annealed	270	28	○	○	○	4	
	5			About 0.75% C	Quenched & Tempered	300	32				5	
	6		Low alloy steel		Annealed	180	10	◎	◎	◎	6	
	7				Quenched & Tempered	275	29	○	○	○	7	
	8				Quenched & Tempered	300	32	○	○	○	8	
	9				Quenched & Tempered	350	38				9	
	10		High alloyed steel, and tool steel		Annealed	200	15	○	○	○	10	
	11				Quenched & Tempered	325	35				11	
M	12		Stainless steel	Ferritic / Martensitic	Annealed	200	15	◎	◎	◎	12	M
	13			Martensitic	Quenched & Tempered	240	23	○	○	○	13	
	14			Austenitic		180	10	○	○	○	14	
K	15		Grey cast iron	Pearlitic / ferritic		180	10	○	○	○	15	K
	16			Pearlitic (Martensitic)		260	26	○	○	○	16	
	17		Nodular cast iron	Ferritic		160	3	○	○	○	17	
	18			Pearlitic		250	25				18	
	19		Malleable cast iron	Ferritic		130		○	○	○	19	
	20			Pearlitic		230	21				20	
N	21		Aluminum-wrought alloy	Not Curable		60		○	○	○	21	N
	22			Curable	Hardened	100		○	○	○	22	
	23		Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75		○	○	○	23	
	24			≤ 12% Si, Curable	Hardened	90					24	
	25			> 12% Si, Not Curable		130					25	
	26		Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110					26	
	27			CuZn, CuSnZn (Brass)		90					27	
	28			CuSn, lead-free copper and electrolytic copper		100					28	
	29		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic				○	○	○	29	
	30			Rubber, Wood, etc.							30	
S	31		Heat Resistant Super Alloys	Fe Based	Annealed	200	15				31	S
	32				Cured	280	30				32	
	33			Ni or Co Based	Annealed	250	25				33	
	34				Cured	350	38				34	
	35				Cast	320	34				35	
	36		Titanium Alloys	Pure Titanium		400 Rm		○	○	○	36	
	37			Alpha + Beta Alloys	Hardened	1050 Rm					37	
H	38		Hardened steel		Hardened	550	55				38	H
	39				Hardened	630	60				39	
	40		Chilled Cast Iron		Cast	400	42				40	
	41		Hardened Cast Iron		Hardened	550	55				41	

GOLD-P DRILL SETS

SET EDP No. SET号	D1GP103SET1	D1GP103SET2	D2GP191SET1	D2GP191SET2
SIZE 尺寸	1.0-10.0x0.5mm step	1.0-13.0x0.5mm step	1.0-10.0x0.5mm step	1.0-13.0x0.5mm step
Q'TY 数量	19 pcs	25 pcs	19 pcs	25 pcs

GOLD-P DRILLS

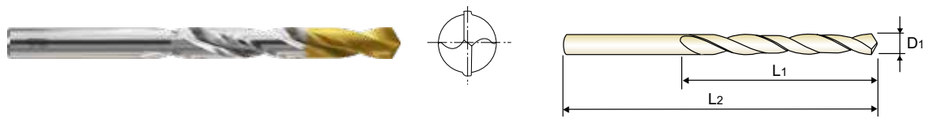
D1GP103 SERIES

HSS, STRAIGHT SHANK DRILLS GOLD-P COATED — *REGULAR*

HSS，直柄GOLD-P涂层钻头 — 细长

▶**Flute Geometry** : Right hand helix
▶**Point Angle** : 118°, Normal point
▶**Surface Treatment** : TiN-tip coating
▶**Application** : Drilling in Steels, Cast Steels Alloyed and Non-Alloyed, Stainless Steels, Aluminum and Titanium

▶刃形：右螺旋形设计
▶钻顶角：118°, 一般钻顶
▶表面处理：光亮体但在实际作业的前端处使用TiN涂层.
▶应用：适用于钢，铸铁合金和非合金，灰铸铁，不锈钢，铝和钛



JIS | HSS | 20~30° | h8 | 118° | p. A202

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73-115

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D1GP103010	1.0	18	40
D1GP103011	1.1	20	42
D1GP103012	1.2	20	42
D1GP103013	1.3	22	45
D1GP103014	1.4	23	48
D1GP103015	1.5	23	48
D1GP103016	1.6	25	50
D1GP103017	1.7	25	50
D1GP103018	1.8	28	52
D1GP103019	1.9	28	52
D1GP103020	2.0	29	55
D1GP103021	2.1	29	55
D1GP103022	2.2	33	58
D1GP103023	2.3	33	58
D1GP103024	2.4	35	61
D1GP103025	2.5	35	61
D1GP103026	2.6	37	64
D1GP103027	2.7	37	64
D1GP103028	2.8	39	67
D1GP103029	2.9	42	71
D1GP103030	3.0	42	71
D1GP103031	3.1	42	71
D1GP103032	3.2	42	71
D1GP103033	3.3	45	73
D1GP103034	3.4	45	73
D1GP103035	3.5	45	73

EDP No. 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D1GP103036	3.6	48	76
D1GP103037	3.7	48	76
D1GP103038	3.8	48	76
D1GP103039	3.9	51	79
D1GP103040	4.0	54	83
D1GP103041	4.1	54	83
D1GP103042	4.2	54	83
D1GP103043	4.3	54	83
D1GP103044	4.4	56	86
D1GP103045	4.5	56	86
D1GP103046	4.6	56	86
D1GP103047	4.7	59	89
D1GP103048	4.8	59	89
D1GP103049	4.9	62	92
D1GP103050	5.0	62	92
D1GP103051	5.1	62	92
D1GP103052	5.2	64	95
D1GP103053	5.3	64	95
D1GP103054	5.4	64	95
D1GP103055	5.5	64	95
D1GP103056	5.6	67	98
D1GP103057	5.7	67	98
D1GP103058	5.8	67	98
D1GP103059	5.9	67	98
D1GP103060	6.0	70	102
D1GP103061	6.1	70	102

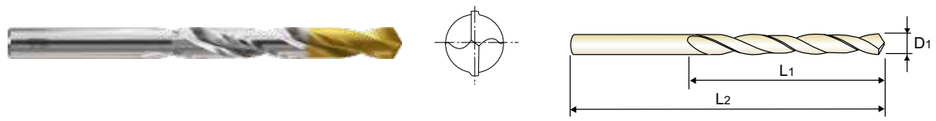
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◎ : Excellent (优秀) ○ : Good (良好)

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	○	○	○						○							○					

GOLD-P DRILLS
D1GP103 SERIES
HSS, STRAIGHT SHANK DRILLS GOLD-P COATED — REGULAR
HSS，直柄GOLD-P涂层钻头 — 细长
▶Flute Geometry : Right hand helix
▶Point Angle : 118°, Normal point
▶Surface Treatment : TiN-tip coating
▶Application : Drilling in Steels, Cast Steels Alloyed and Non-Alloyed, Stainless Steels, Aluminum and Titanium
▶刃形：右螺旋形设计
▶钻顶角：118°, 一般钻顶
▶表面处理：光亮体但在实际作业的前端处使用TiN涂层.
▶应用：适用于钢，铸铁合金和非合金，灰铸铁，不锈钢，铝和钛



JIS | HSS | 20~30° | h8 | 118° | p. A202
Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73-115
Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D1GP103062	6.2	70	102
D1GP103063	6.3	70	102
D1GP103064	6.4	73	105
D1GP103065	6.5	73	105
D1GP103066	6.6	73	105
D1GP103067	6.7	73	105
D1GP103068	6.8	73	105
D1GP103069	6.9	73	105
D1GP103070	7.0	73	105
D1GP103071	7.1	75	108
D1GP103072	7.2	75	108
D1GP103073	7.3	75	108
D1GP103074	7.4	78	111
D1GP103075	7.5	78	111
D1GP103076	7.6	78	111
D1GP103077	7.7	81	114
D1GP103078	7.8	81	114
D1GP103079	7.9	81	114
D1GP103080	8.0	81	114
D1GP103081	8.1	84	117
D1GP103082	8.2	84	117
D1GP103083	8.3	84	117
D1GP103084	8.4	87	121
D1GP103085	8.5	87	121
D1GP103086	8.6	87	121
D1GP103087	8.7	87	121

EDP No. 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D1GP103088	8.8	89	124
D1GP103089	8.9	89	124
D1GP103090	9.0	89	124
D1GP103091	9.1	89	124
D1GP103092	9.2	92	127
D1GP103093	9.3	92	127
D1GP103094	9.4	92	127
D1GP103095	9.5	92	127
D1GP103096	9.6	95	130
D1GP103097	9.7	95	130
D1GP103098	9.8	95	130
D1GP103099	9.9	95	130
D1GP103100	10.0	95	130
D1GP103101	10.1	98	133
D1GP103102	10.2	98	133
D1GP103103	10.3	98	133
D1GP103104	10.4	98	133
D1GP103105	10.5	100	137
D1GP103106	10.6	100	137
D1GP103107	10.7	100	137
D1GP103108	10.8	103	140
D1GP103109	10.9	103	140
D1GP103110	11.0	103	140
D1GP103111	11.1	103	140
D1GP103112	11.2	106	143
D1GP103113	11.3	106	143

▶ 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
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	○	○	○						○							○					

GOLD-P DRILLS

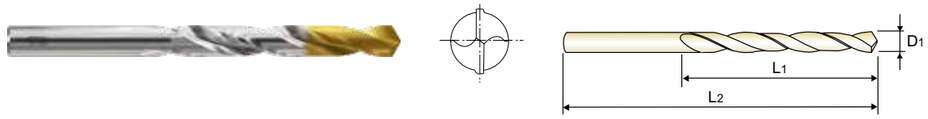
D1GP103 SERIES

HSS, STRAIGHT SHANK DRILLS GOLD-P COATED — *REGULAR*

HSS，直柄GOLD-P涂层钻头 — 细长

▶**Flute Geometry** : Right hand helix
▶**Point Angle** : 118°, Normal point
▶**Surface Treatment** : TiN-tip coating
▶**Application** : Drilling in Steels, Cast Steels Alloyed and Non-Alloyed, Stainless Steels, Aluminum and Titanium

▶刃形：右螺旋形设计
▶钻顶角：118°, 一般钻顶
▶表面处理：光亮体但在实际作业的前端处使用TiN涂层.
▶应用：适用于钢，铸铁合金和非合金，灰铸铁，不锈钢，铝和钛



JIS | HSS | 20~30° | h8 | 118° | p. A202

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73 - 115

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D1GP103114	11.4	106	143
D1GP103115	11.5	106	143
D1GP103116	11.6	109	146
D1GP103117	11.7	109	146
D1GP103118	11.8	109	146
D1GP103119	11.9	109	146
D1GP103120	12.0	111	149
D1GP103121	12.1	111	149
D1GP103122	12.2	111	149
D1GP103123	12.3	111	149
D1GP103124	12.4	114	152
D1GP103125	12.5	114	152
D1GP103126	12.6	114	152
D1GP103127	12.7	114	152
D1GP103128	12.8	114	152
D1GP103129	12.9	114	152
D1GP103130	13.0	114	152

◎ : 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	○	○	○						○							○					

GOLD-P DRILLS

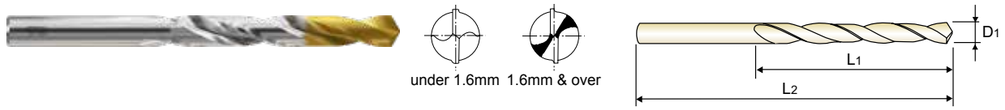
D1GP123 SERIES

HSS, STRAIGHT SHANK DRILLS GOLD-P COATED — *REGULAR*

HSS，直柄GOLD-P涂层钻头 — 细长

▶**Flute Geometry** : Right hand helix
▶**Point Angle** : 118°
Under 1.6mm : Normal point
1.6mm & over : Split point
▶**Surface Treatment** : TiN-tip coating
▶**Application** : Drilling in Steels, Cast Steels Alloyed and Non-Alloyed, Stainless Steels, Aluminum and Titanium

▶刃形：右螺旋形设计
▶钻顶角：118°
小于 1.6mm：一般钻顶
大于 1.6mm：分割点
▶表面处理：TiN-tip 涂层
▶应用：适用于钢，铸铁合金和非合金，灰铸铁，不锈钢，铝和钛



JIS | HSS | 20~30° | h8 | 118° | p. A202

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73 - 115

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D1GP123010	1.0	18	40
D1GP123012	1.2	20	42
D1GP123013	1.3	22	45
D1GP123014	1.4	23	48
D1GP123015	1.5	23	48
D1GP123016	1.6	25	50
D1GP123017	1.7	25	50
D1GP123018	1.8	28	52
D1GP123019	1.9	28	52
D1GP123020	2.0	29	55
D1GP123021	2.1	29	55
D1GP123022	2.2	33	58
D1GP123023	2.3	33	58
D1GP123024	2.4	35	61
D1GP123025	2.5	35	61
D1GP123026	2.6	37	64
D1GP123027	2.7	37	64
D1GP123028	2.8	39	67
D1GP123029	2.9	42	71
D1GP123030	3.0	42	71
D1GP123031	3.1	42	71
D1GP123032	3.2	42	71
D1GP123033	3.3	45	73
D1GP123034	3.4	45	73
D1GP123035	3.5	45	73
D1GP123036	3.6	48	76
D1GP123037	3.7	48	76
D1GP123038	3.8	48	76
D1GP123039	3.9	51	79
D1GP123040	4.0	54	83
D1GP123041	4.1	54	83
D1GP123042	4.2	54	83
D1GP123043	4.3	54	83
D1GP123044	4.4	56	86
D1GP123045	4.5	56	86
D1GP123046	4.6	56	86
D1GP123047	4.7	59	89
D1GP123048	4.8	59	89
D1GP123049	4.9	62	92
D1GP123050	5.0	62	92
D1GP123051	5.1	62	92
D1GP123052	5.2	64	95
D1GP123053	5.3	64	95
D1GP123054	5.4	64	95
D1GP123055	5.5	64	95
D1GP123056	5.6	67	98
D1GP123057	5.7	67	98
D1GP123058	5.8	67	98
D1GP123059	5.9	67	98
D1GP123060	6.0	70	102
D1GP123061	6.1	70	102
D1GP123062	6.2	70	102

▶ 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
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	○	○	○						○							○					

GOLD-P DRILLS

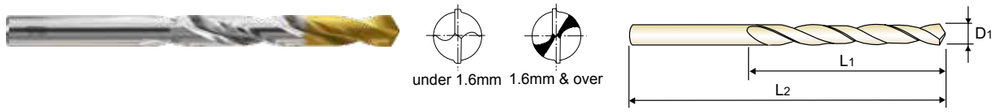
D1GP123 SERIES

HSS, STRAIGHT SHANK DRILLS GOLD-P COATED — REGULAR

HSS，直柄GOLD-P涂层钻头 — 细长

▶**Flute Geometry** : Right hand helix
▶**Point Angle** : 118°
Under 1.6mm : Normal point
1.6mm & over : Split point
▶**Surface Treatment** : TiN-tip coating
▶**Application** : Drilling in Steels, Cast Steels Alloyed and Non-Alloyed, Stainless Steels, Aluminum and Titanium

▶刃形：右螺旋形设计
▶钻顶角：118°
小于 1.6mm：一般钻顶
大于 1.6mm：分割点
▶表面处理：TiN-tip 涂层
▶应用：适用于钢，铸铁合金和非合金，灰铸铁，不锈钢，铝和钛



JIS | HSS | 20~30° | h8 | 118° | p. A202

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73-115

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D1GP123063	6.3	70	102
D1GP123064	6.4	73	105
D1GP123065	6.5	73	105
D1GP123066	6.6	73	105
D1GP123067	6.7	73	105
D1GP123068	6.8	73	105
D1GP123069	6.9	73	105
D1GP123070	7.0	73	105
D1GP123071	7.1	75	108
D1GP123072	7.2	75	108
D1GP123073	7.3	75	108
D1GP123074	7.4	78	111
D1GP123075	7.5	78	111
D1GP123076	7.6	78	111
D1GP123077	7.7	81	114
D1GP123078	7.8	81	114
D1GP123079	7.9	81	114
D1GP123080	8.0	81	114
D1GP123081	8.1	84	117
D1GP123082	8.2	84	117
D1GP123083	8.3	84	117
D1GP123084	8.4	87	121
D1GP123085	8.5	87	121
D1GP123086	8.6	87	121
D1GP123087	8.7	87	121
D1GP123088	8.8	89	124
D1GP123089	8.9	89	124
D1GP123090	9.0	89	124
D1GP123091	9.1	89	124
D1GP123092	9.2	92	127
D1GP123093	9.3	92	127
D1GP123094	9.4	92	127
D1GP123095	9.5	92	127
D1GP123096	9.6	95	130
D1GP123097	9.7	95	130
D1GP123098	9.8	95	130
D1GP123099	9.9	95	130
D1GP123100	10.0	95	130
D1GP123101	10.1	98	133
D1GP123102	10.2	98	133
D1GP123103	10.3	98	133
D1GP123104	10.4	98	133
D1GP123105	10.5	100	137
D1GP123106	10.6	100	137
D1GP123107	10.7	100	137
D1GP123108	10.8	103	140
D1GP123109	10.9	103	140
D1GP123110	11.0	103	140
D1GP123111	11.1	103	140
D1GP123112	11.2	106	143
D1GP123113	11.3	106	143
D1GP123114	11.4	106	143

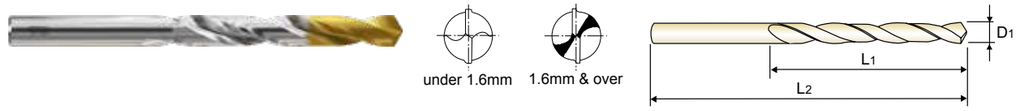
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◎ : Excellent (优秀) ○ : Good (良好)

ISO / Material Description	P: Non-alloy steel					P: Low alloy steel					P: High alloyed steel, and tool steel		P: Stainless steel			M: Grey cast iron		M: Nodular cast iron		M: Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	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 / Material Description	N: Aluminum-wrought alloy		N: Aluminum-cast, alloyed			N: Copper and Copper Alloys (Bronze / Brass)			N: Non Metallic Materials		S: Heat Resistant Super Alloys					S: Titanium Alloys		H: Hardened steel		H: Chilled Cast Iron	H: Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	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	○	○	○						○							○					

GOLD-P DRILLS
D1GP123 SERIES
HSS, STRAIGHT SHANK DRILLS GOLD-P COATED — REGULAR
HSS，直柄GOLD-P涂层钻头 — 细长
▶Flute Geometry : Right hand helix
▶Point Angle : 118°
Under 1.6mm : Normal point
1.6mm & over : Split point
▶Surface Treatment : TiN-tip coating
▶Application : Drilling in Steels, Cast Steels Alloyed and Non-Alloyed, Stainless Steels, Aluminum and Titanium
▶刃形：右螺旋形设计
▶钻顶角：118°
小于 1.6mm：一般钻顶
大于 1.6mm：分割点
▶表面处理：TiN-tip 涂层
▶应用：适用于钢，铸铁合金和非合金，灰铸铁，不锈钢，铝和钛



JIS | HSS | 20~30° | h8 | 118° | p. A202
Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73-115
Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D1GP123115	11.5	106	143
D1GP123116	11.6	109	146
D1GP123117	11.7	109	146
D1GP123118	11.8	109	146
D1GP123119	11.9	109	146
D1GP123120	12.0	111	149
D1GP123121	12.1	111	149
D1GP123122	12.2	111	149
D1GP123123	12.3	111	149
D1GP123124	12.4	114	152
D1GP123125	12.5	114	152
D1GP123126	12.6	114	152
D1GP123127	12.7	114	152
D1GP123128	12.8	114	152
D1GP123129	12.9	114	152
D1GP123130	13.0	114	152

◎ : Excellent (优秀) ○ : Good (良好)

ISO / Material Description	P: Non-alloy steel					P: Low alloy steel					P: High alloyed steel, and tool steel		P: Stainless steel			M: Grey cast iron		M: Nodular cast iron		M: Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	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 / Material Description	N: Aluminum-wrought alloy		N: Aluminum-cast, alloyed			N: Copper and Copper Alloys (Bronze / Brass)			N: Non Metallic Materials		S: Heat Resistant Super Alloys					S: Titanium Alloys		H: Hardened steel		H: Chilled Cast Iron	H: Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	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	○	○	○						○							○					

GOLD-P DRILLS

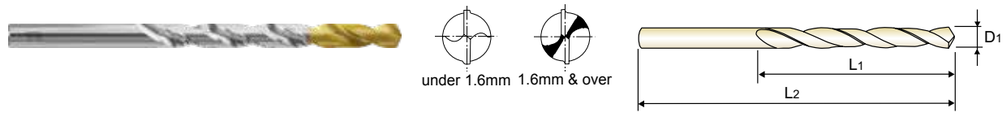
D2GP191 SERIES

HSSCO8, STRAIGHT SHANK DRILLS, GOLD-P COATED — *REGULAR*

HSSCo8，直柄GOLD-P涂层钻头 — 细长

▶**Flute Geometry** : Right hand helix
▶**Point Angle** : 135˚
under 1.6mm : Normal point
1.6mm & over : Split point
▶**Surface Treatment** : TiN-tip coating
▶**Application** : Drilling in Stainless Steels, Material of difficult machinability such as Titanium Alloy and Inconel

▶刃形：右螺旋形设计
▶钻顶角：135°
小于1.6mm：一般钻顶
大于1.6mm：静点
▶表面处理：光亮体但在实际作业的前端处使用TiN涂层
▶应用：适用于不锈钢和类钛合金和镍铬合金等难加工材料的钻削.



JIS | HSS Co8 | 33° | h8 | 135° | p. A202

Recommended ToolHolder — Plain Shank: ER COLLET CHUCK — Page: D73 - 115

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D2GP191010	1.0	18	40
D2GP191011	1.1	20	42
D2GP191012	1.2	20	42
D2GP191013	1.3	22	45
D2GP191014	1.4	23	48
D2GP191015	1.5	23	48
D2GP191016	1.6	25	50
D2GP191017	1.7	25	50
D2GP191018	1.8	28	52
D2GP191019	1.9	28	52
D2GP191020	2.0	29	55
D2GP191021	2.1	29	55
D2GP191022	2.2	33	58
D2GP191023	2.3	33	58
D2GP191024	2.4	35	61
D2GP191025	2.5	35	61
D2GP191026	2.6	37	64
D2GP191027	2.7	37	64
D2GP191028	2.8	39	67
D2GP191029	2.9	42	71
D2GP191030	3.0	42	71
D2GP191031	3.1	42	71
D2GP191032	3.2	42	71
D2GP191033	3.3	45	73
D2GP191034	3.4	45	73
D2GP191035	3.5	45	73
D2GP191036	3.6	48	76
D2GP191037	3.7	48	76
D2GP191038	3.8	48	76
D2GP191039	3.9	51	79
D2GP191040	4.0	54	83
D2GP191041	4.1	54	83
D2GP191042	4.2	54	83
D2GP191043	4.3	54	83
D2GP191044	4.4	56	86
D2GP191045	4.5	56	86
D2GP191046	4.6	56	86
D2GP191047	4.7	59	89
D2GP191048	4.8	59	89
D2GP191049	4.9	62	92
D2GP191050	5.0	62	92
D2GP191051	5.1	62	92
D2GP191052	5.2	64	95
D2GP191053	5.3	64	95
D2GP191054	5.4	64	95
D2GP191055	5.5	64	95
D2GP191056	5.6	67	98
D2GP191057	5.7	67	98
D2GP191058	5.8	67	98
D2GP191059	5.9	67	98
D2GP191060	6.0	70	102
D2GP191061	6.1	70	102

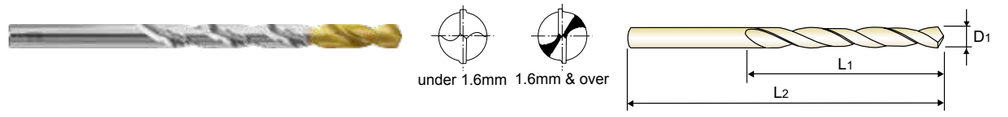
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◎ : Excellent (优秀) ○ : Good (良好)

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	○	○	○						○							○					

GOLD-P DRILLS
D2GP191 SERIES
HSSCO8, STRAIGHT SHANK DRILLS, GOLD-P COATED — REGULAR
HSSCo8，直柄GOLD-P涂层钻头 — 细长
▶Flute Geometry : Right hand helix
▶Point Angle : 135˚
under 1.6mm : Normal point
1.6mm & over : Split point
▶Surface Treatment : TiN-tip coating
▶Application : Drilling in Stainless Steels, Material of difficult machinability such as Titanium Alloy and Inconel
▶刃形：右螺旋形设计
▶钻顶角：135°
小于1.6mm：一般钻顶
大于1.6mm：静点
▶表面处理：光亮体但在实际作业的前端处使用TiN涂层
▶应用：适用于不锈钢和类钛合金和镍铬合金等难加工材料的钻削.



JIS | HSS Co8 | 33° | h8 | 135° | p. A202
Recommended ToolHolder — Plain Shank: ER COLLET CHUCK — Page: D73 - 115
Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D2GP191062	6.2	70	102
D2GP191063	6.3	70	102
D2GP191064	6.4	73	105
D2GP191065	6.5	73	105
D2GP191066	6.6	73	105
D2GP191067	6.7	73	105
D2GP191068	6.8	73	105
D2GP191069	6.9	73	105
D2GP191070	7.0	73	105
D2GP191071	7.1	75	108
D2GP191072	7.2	75	108
D2GP191073	7.3	75	108
D2GP191074	7.4	78	111
D2GP191075	7.5	78	111
D2GP191076	7.6	78	111
D2GP191077	7.7	81	114
D2GP191078	7.8	81	114
D2GP191079	7.9	81	114
D2GP191080	8.0	81	114
D2GP191081	8.1	84	117
D2GP191082	8.2	84	117
D2GP191083	8.3	84	117
D2GP191084	8.4	87	121
D2GP191085	8.5	87	121
D2GP191086	8.6	87	121
D2GP191087	8.7	87	121
D2GP191088	8.8	89	124
D2GP191089	8.9	89	124
D2GP191090	9.0	89	124
D2GP191091	9.1	89	124
D2GP191092	9.2	92	127
D2GP191093	9.3	92	127
D2GP191094	9.4	92	127
D2GP191095	9.5	92	127
D2GP191096	9.6	95	130
D2GP191097	9.7	95	130
D2GP191098	9.8	95	130
D2GP191099	9.9	95	130
D2GP191100	10.0	95	130
D2GP191101	10.1	98	133
D2GP191102	10.2	98	133
D2GP191103	10.3	98	133
D2GP191104	10.4	98	133
D2GP191105	10.5	100	137
D2GP191106	10.6	100	137
D2GP191107	10.7	100	137
D2GP191108	10.8	103	140
D2GP191109	10.9	103	140
D2GP191110	11.0	103	140
D2GP191111	11.1	103	140
D2GP191112	11.2	106	143
D2GP191113	11.3	106	143

▶ 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
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	○	○	○						○							○					

GOLD-P DRILLS

D2GP191 SERIES

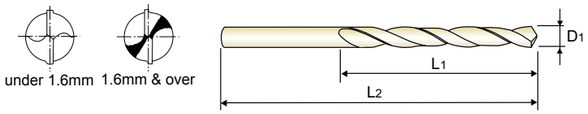
HSSCO8, STRAIGHT SHANK DRILLS, GOLD-P COATED — *REGULAR*

HSSCo8，直柄GOLD-P涂层钻头 — 细长

▶**Flute Geometry** : Right hand helix
▶**Point Angle** : 135˚
under 1.6mm : Normal point
1.6mm & over : Split point
▶**Surface Treatment** : TiN-tip coating
▶**Application** : Drilling in Stainless Steels, Material of difficult machinability such as Titanium Alloy and Inconel

▶刃形：右螺旋形设计
▶钻顶角：135°
小于1.6mm：一般钻顶
大于1.6mm：静点
▶表面处理：光亮体但在实际作业的前端处使用TiN涂层
▶应用：适用于不锈钢和类钛合金和镍铬合金等难加工材料的钻削.





JIS | HSS Co8 | 33° | h8 | 135° | p. A202

Recommended ToolHolder — Plain Shank: ER COLLET CHUCK — Page: D73 - 115

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D2GP191114	11.4	106	143
D2GP191115	11.5	106	143
D2GP191116	11.6	109	146
D2GP191117	11.7	109	146
D2GP191118	11.8	109	146
D2GP191119	11.9	109	146
D2GP191120	12.0	111	149
D2GP191121	12.1	111	149
D2GP191122	12.2	111	149

EDP No. 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D2GP191123	12.3	111	149
D2GP191124	12.4	114	152
D2GP191125	12.5	114	152
D2GP191126	12.6	114	152
D2GP191127	12.7	114	152
D2GP191128	12.8	114	152
D2GP191129	12.9	114	152
D2GP191130	13.0	114	152

◎ : 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	○	○	○						○							○					

GOLD-P DRILLS

GOLD-P COATED DRILL SETS

成套GOLD-P涂层钻头





JIS DRILL SETS REGULAR LENGTH Gold-P coated Drills

JIS成套GOLD-P涂层钻头普通长度

SET EDP No. SET号	DESCRIPTON 规格	SIZE 尺寸	Q'TY 数量
D1GP103SET1	HSS Straight Shank, Normal Point 高速钢直柄, 普通钻尖	1.0-10.0x0.5mm step	19 pcs
D1GP103SET2	HSS Straight Shank, Normal Point 高速钢直柄, 普通钻尖	1.0-13.0x0.5mm step	25 pcs
D2GP191SET1	HSSCo8 Straight Shank, Split Point (Ø1.0 &Ø1.5 : NORMAL point) 含钴高速钢直柄, 分离式钻尖(Ø1.0 & Ø1.5 : 普通钻尖)	1.0-10.0x0.5mm step	19 pcs
D2GP191SET2	HSSCo8 Straight Shank, Split Point (Ø1.0 &Ø1.5 : NORMAL point) 含钴高速钢直柄, 分离式钻尖(Ø1.0 & Ø1.5 : 普通钻尖)	1.0-13.0x0.5mm step	25 pcs

GOLD-P DRILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

D1GP103, D1GP123, D2GP191 SERIES

HSS & HSSCo8 GOLD-P DRILLS
HSS & HSSCo8 GOLD-P 钻头

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 1.0	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 2.0	3.0	4.0	6.0	8.0	10.0	13.0
P	1	Non-alloy steel	28	RPM	8910	40	RPM	6370	4240	3180	2120	1590	1270	980
				FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24
	2		25	RPM	7960	35	RPM	5570	3710	2790	1860	1390	1110	860
				FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24
	3		20	RPM	6370	30	RPM	4770	3180	2390	1590	1190	950	730
				FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24
	4		15	RPM	4770	20	RPM	3180	2120	1590	1060	800	640	490
				FEED	0.01-0.02		FEED	0.02-0.05	0.02-0.06	0.04-0.08	0.04-0.10	0.06-0.12	0.08-0.14	0.12-0.18
	6	Low alloy steel	25	RPM	7960	35	RPM	5570	3710	2790	1860	1390	1110	860
				FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24
	7		20	RPM	6370	30	RPM	4770	3180	2390	1590	1190	950	730
				FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24
	8		20	RPM	6370	30	RPM	4770	3180	2390	1590	1190	950	730
				FEED	0.01-0.02		FEED	0.02-0.05	0.02-0.06	0.04-0.08	0.04-0.10	0.06-0.12	0.08-0.14	0.12-0.18
	10	High alloyed steel, and tool steel	15	RPM	4770	20	RPM	3180	2120	1590	1060	800	640	490
				FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24
M	12	Stainless steel	18	RPM	5730	25	RPM	3980	2650	1990	1330	990	800	610
				FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24
	13		15	RPM	4770	20	RPM	3180	2120	1590	1060	800	640	490
				FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24
	14		10	RPM	3180	15	RPM	2390	1590	1190	800	600	480	370
				FEED	0.01-0.02		FEED	0.02-0.05	0.02-0.06	0.04-0.08	0.04-0.10	0.06-0.12	0.08-0.14	0.12-0.18
K	15	Grey cast iron	28	RPM	8910	40	RPM	6370	4240	3180	2120	1590	1270	980
				FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24
	16		25	RPM	7960	35	RPM	5570	3710	2790	1860	1390	1110	860
				FEED	0.01-0.02		FEED	0.02-0.05	0.02-0.06	0.04-0.08	0.04-0.10	0.06-0.12	0.08-0.14	0.12-0.18
	17	Nodular cast iron	28	RPM	8910	40	RPM	6370	4240	3180	2120	1590	1270	980
				FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24
	18		20	RPM	6370	30	RPM	4770	3180	2390	1590	1190	950	730
				FEED	0.01-0.02		FEED	0.02-0.05	0.02-0.06	0.04-0.08	0.04-0.10	0.06-0.12	0.08-0.14	0.12-0.18
	19	Malleable cast iron	25	RPM	7960	35	RPM	5570	3710	2790	1860	1390	1110	860
				FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24
	20		20	RPM	6370	30	RPM	4770	3180	2390	1590	1190	950	730
				FEED	0.01-0.02		FEED	0.02-0.05	0.02-0.06	0.04-0.08	0.04-0.10	0.06-0.12	0.08-0.14	0.12-0.18
N	21	Aluminum-wrought alloy	45	RPM	14320	65	RPM	10350	6900	5170	3450	2590	2070	1590
				FEED	0.02-0.05		FEED	0.05-0.09	0.07-0.11	0.12-0.16	0.12-0.18	0.14-0.20	0.16-0.22	0.22-0.28
	22		45	RPM	14320	65	RPM	10350	6900	5170	3450	2590	2070	1590
				FEED	0.02-0.05		FEED	0.05-0.09	0.07-0.11	0.12-0.16	0.12-0.18	0.14-0.20	0.16-0.22	0.22-0.28
	23	Aluminum-cast, alloyed	35	RPM	11140	50	RPM	7960	5310	3980	2650	1990	1590	1220
				FEED	0.02-0.05		FEED	0.05-0.09	0.07-0.11	0.12-0.16	0.12-0.18	0.14-0.20	0.16-0.22	0.22-0.28
	29	Non Metallic Materials	20	RPM	6370	30	RPM	4770	3180	2390	1590	1190	950	730
				FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24
S	36	Titanium Alloys	15	RPM	4770	20	RPM	3180	2120	1590	1060	800	640	490
				FEED	0.01-0.02		FEED	0.02-0.05	0.02-0.06	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.13	0.08-0.14



Leading Through Innovation

SUPER HSS

SUPER-GP DRILLS

- All Applications Regardless of Machining Conditions; Good or Poor
- 广泛使用无论加工条件: 好或差

SELECTION GUIDE
选用指南

HOLEMAKING TOOLS

SERIES 系列	DSH101
STANDARD 标准	JIS
LENGTH 牙长	REGULAR 常规
SIZE MIN 最小尺寸	D2.0
SIZE MAX 最大尺寸	D13.0
PAGE 页数	A205
SURFACE TREATMENT 表面处理	Steam Tempered

SUPER HSS
SUPER-GP DRILLS

All Applications Regardless of Machining Conditions; Good or Poor

广泛使用无论加工条件: 好或差



Please visit 请访问 globalyg1.com/mat for material search 查看产品材料

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工条件) : p. A207

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB 布氏硬度	HRc 硬度	
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	

SUPER-GP DRILLS

DSH101 SERIES

SUPER HSS, SUPER-GP DRILLS
高级高速钢，SUPER-GP钻头

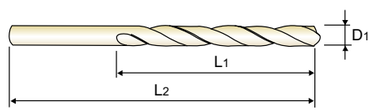
REGULAR 常规

- ▶ Surface treatment: Steam Tempered (Black Oxide Finish)
- ▶ Excellent tool performance in steels, cast iron, alloy steels and malleable cast iron.
- ▶ Special HSS improves toughness, wear resistance as well as extends dramatically the tool life.
- ▶ All applications regardless of machine condition: Good or Poor.

- ▶ 表面处理：氧化处理
- ▶ 在加工钢，铸铁，合金钢和可锻铸铁中具有优异的性能
- ▶ 特殊的高速钢改善了韧性，耐磨性，同时极大地提高了刀具寿命
- ▶ 各种加工条件下可广泛使用：好或坏







JIS | SUPER HSS | 30° | h8 | 118° | p. A207

Recommended ToolHolder — Plain Shank — Page — ER COLLET CHUCK — D73 - 115

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
*DSH101020	2.0	29	55
*DSH101021	2.1	29	55
*DSH101022	2.2	33	58
*DSH101023	2.3	33	58
*DSH101024	2.4	35	61
*DSH101025	2.5	35	61
*DSH101026	2.6	37	64
*DSH101027	2.7	37	64
*DSH101028	2.8	39	67
*DSH101029	2.9	42	71
*DSH101030	3.0	42	71
*DSH101031	3.1	42	71
*DSH101032	3.2	42	71
*DSH101033	3.3	45	73
*DSH101034	3.4	45	73
*DSH101035	3.5	45	73
*DSH101036	3.6	48	76
*DSH101037	3.7	48	76
*DSH101038	3.8	48	76
*DSH101039	3.9	51	79
*DSH101040	4.0	54	83
*DSH101041	4.1	54	83
*DSH101042	4.2	54	83
*DSH101043	4.3	54	83
*DSH101044	4.4	56	86
*DSH101045	4.5	56	86
*DSH101046	4.6	56	86
*DSH101047	4.7	59	89

EDP No. 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
*DSH101048	4.8	59	89
*DSH101049	4.9	62	92
*DSH101050	5.0	62	92
*DSH101051	5.1	62	92
*DSH101052	5.2	64	95
*DSH101053	5.3	64	95
*DSH101054	5.4	64	95
*DSH101055	5.5	64	95
*DSH101056	5.6	67	98
*DSH101057	5.7	67	98
*DSH101058	5.8	67	98
*DSH101059	5.9	67	98
*DSH101060	6.0	70	102
*DSH101061	6.1	70	102
*DSH101062	6.2	70	102
*DSH101063	6.3	70	102
*DSH101064	6.4	73	105
*DSH101065	6.5	73	105
*DSH101066	6.6	73	105
*DSH101067	6.7	73	105
*DSH101068	6.8	73	105
*DSH101069	6.9	73	105
*DSH101070	7.0	73	105
*DSH101071	7.1	75	108
*DSH101072	7.2	75	108
*DSH101073	7.3	75	108
*DSH101074	7.4	78	111
*DSH101075	7.5	78	111

*10pcs per package

**5pcs per package

▶ 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
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	○	○	○						○							○					

SUPER-GP DRILLS

DSH101 SERIES

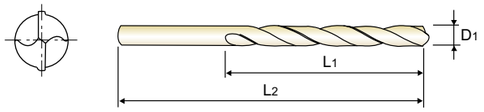
SUPER HSS, SUPER-GP DRILLS
高级高速钢，SUPER-GP钻头

REGULAR
常规

- ▶ Surface treatment: Steam Tempered (Black Oxide Finish)
- ▶ Excellent tool performance in steels, cast iron, alloy steels and malleable cast iron.
- ▶ Special HSS improves toughness, wear resistance as well as extends dramatically the tool life.
- ▶ All applications regardless of machine condition: Good or Poor.

- ▶ 表面处理：氧化处理
- ▶ 在加工钢，铸铁，合金钢和可锻铸铁中具有优异的性能
- ▶ 特殊的高速钢改善了韧性，耐磨性，同时极大地提高了刀具寿命
- ▶ 各种加工条件下可广泛使用：好或坏





JIS | SUPER HSS | 30° | h8 | 118°

p. A207

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73 - 115

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
*DSH101076	7.6	78	111
*DSH101077	7.7	81	114
*DSH101078	7.8	81	114
*DSH101079	7.9	81	114
*DSH101080	8.0	81	114
*DSH101081	8.1	84	117
*DSH101082	8.2	84	117
*DSH101083	8.3	84	117
**DSH101084	8.4	87	121
**DSH101085	8.5	87	121
**DSH101086	8.6	87	121
**DSH101087	8.7	87	121
**DSH101088	8.8	89	124
**DSH101089	8.9	89	124
**DSH101090	9.0	89	124
**DSH101091	9.1	89	124
**DSH101092	9.2	92	127
**DSH101093	9.3	92	127
**DSH101094	9.4	92	127
**DSH101095	9.5	92	127
**DSH101096	9.6	95	130
**DSH101097	9.7	95	130
**DSH101098	9.8	95	130
**DSH101099	9.9	95	130
**DSH101100	10.0	95	130
**DSH101101	10.1	98	133
**DSH101102	10.2	98	133
**DSH101103	10.3	98	133

EDP No. 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
**DSH101104	10.4	98	133
**DSH101105	10.5	100	137
**DSH101106	10.6	100	137
**DSH101107	10.7	100	137
**DSH101108	10.8	103	140
**DSH101109	10.9	103	140
**DSH101110	11.0	103	140
**DSH101111	11.1	103	140
**DSH101112	11.2	106	143
**DSH101113	11.3	106	143
**DSH101114	11.4	106	143
**DSH101115	11.5	106	143
**DSH101116	11.6	109	146
**DSH101117	11.7	109	146
**DSH101118	11.8	109	146
**DSH101119	11.9	109	146
**DSH101120	12.0	111	149
**DSH101121	12.1	111	149
**DSH101122	12.2	111	149
**DSH101123	12.3	111	149
**DSH101124	12.4	114	152
**DSH101125	12.5	114	152
**DSH101126	12.6	114	152
**DSH101127	12.7	114	152
**DSH101128	12.8	114	152
**DSH101129	12.9	114	152
**DSH101130	13.0	114	152

*10pcs per package
** 5pcs per package

◎ : 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	○	○	○						○							○					

SUPER-GP DRILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

DSH101 SERIES

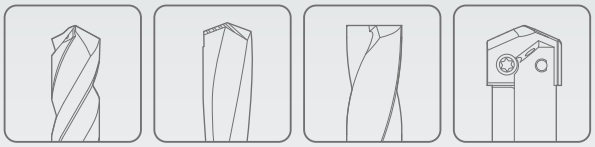
SUPER HSS, SUPER-GP DRILLS
高级高速钢钻头-SUPE-GP

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 2.0	3.0	4.0	6.0	8.0	10.0	13.0
P	1	Non-alloy steel	30	RPM	4770	3180	2390	1590	1190	950	730
				FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17
	2		25	RPM	3980	2650	1990	1330	990	800	610
				FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17
	3		20	RPM	3180	2120	1590	1060	800	640	490
				FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17
	4		20	RPM	3180	2120	1590	1060	800	640	490
				FEED	0.01-0.02	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.06	0.04-0.10
	6	Low alloy steel	25	RPM	3980	2650	1990	1330	990	800	610
				FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17
	7		20	RPM	3180	2120	1590	1060	800	640	490
				FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17
	8		20	RPM	3180	2120	1590	1060	800	640	490
				FEED	0.01-0.02	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.06	0.04-0.10
	10	High alloyed steel, and tool steel	15	RPM	2390	1590	1190	800	600	480	370
				FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17
M	12	Stainless steel	20	RPM	3180	2120	1590	1060	800	640	490
				FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17
	13		15	RPM	2390	1590	1190	800	600	480	370
				FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17
	14		10	RPM	1590	1060	800	530	400	320	240
				FEED	0.01-0.02	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.06	0.04-0.10
K	15	Grey cast iron	30	RPM	4770	3180	2390	1590	1190	950	730
				FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17
	16		25	RPM	3980	2650	1990	1330	990	800	610
				FEED	0.01-0.02	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.06	0.04-0.10
	17	Nodular cast iron	30	RPM	4770	3180	2390	1590	1190	950	730
				FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17
	19	Malleable cast iron	25	RPM	3980	2650	1990	1330	990	800	610
				FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17
N	21	Aluminum-wrought alloy	55	RPM	8750	5840	4380	2920	2190	1750	1350
				FEED	0.03-0.06	0.05-0.09	0.07-0.11	0.12-0.16	0.12-0.18	0.14-0.20	0.16-0.22
	22		55	RPM	8750	5840	4380	2920	2190	1750	1350
				FEED	0.03-0.06	0.05-0.09	0.07-0.11	0.12-0.16	0.12-0.18	0.14-0.20	0.16-0.22
	23	Aluminum-cast, alloyed	40	RPM	6370	4240	3180	2120	1590	1270	980
				FEED	0.03-0.06	0.05-0.09	0.07-0.11	0.12-0.16	0.12-0.18	0.14-0.20	0.16-0.22
	29	Non Metallic Materials	20	RPM	3180	2120	1590	1060	800	640	490
				FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17
S	36	Titanium Alloys	10	RPM	1590	1060	800	530	400	320	240
				FEED	0.01-0.03	0.02-0.04	0.03-0.05	0.04-0.07	0.05-0.08	0.05-0.09	0.06-0.10

CARBIDE
HSS
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

Global Cutting Tool Leader **YG-1**



HOLEMAKING

Leading Through Innovation





HSS-E

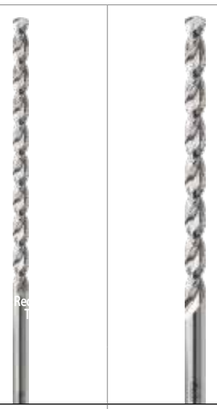
WORM PATTERN DRILLS

- DH100-For Deep hole drilling in general steels
- DH100-为了在普通钢上深孔

SELECTION GUIDE
选用指南

HOLEMAKING TOOLS

SERIES 系列	DL600	DL126
STANDARD 标准	DIN1869/1	-
LENGTH 长度	EXTRA LONG 超长	
SIZE MIN 最小尺寸	D2.0	D2.0
SIZE MAX 最大尺寸	D12.0	D12.0
PAGE 页数	A211	A212
SURFACE TREATMENT 表面处理	Bright	



HSS-E
WORM PATTERN DRILLS

DH100-For Deep hole drilling in general steels
DH100-为了在普通钢上深孔

Please visit 请访问 globalyg1.com/mat for material search 查看产品材料

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工条件) : p. A213

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB 布氏硬度	HRc 硬度	DL600	DL126
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		

WORM PATTERN DRILLS

DL600 SERIES

HSS-E, STRAIGHT SHANK DRILLS for DEEP HOLES, FORM C — EXTRA LONG
HSS-E, 深孔用直柄麻花钻头 — 超长

▶ **Application** : Drilling deep holes in non alloy steels, alloy steels, grey cast iron, malleable cast iron, special aluminum or magnesium alloys.

▶ 应用：适用于非合金钢, 合金钢, 灰铸铁, 可锻铸铁, 特殊铝和镁合金的深孔钻削.



Only available till stock runs out
尽在库存用完之前可用

▶ DH100
worm pattern drills 蜗式钻头

DIN 1869/1 | HSS-E | 38° | h8 | 130°

p. A213

Recommended ToolHolder — Plain Shank: ER COLLET CHUCK — Page: D73-115

Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
▲ DL600020	2.0	85	125
▲ DL600922	2.25	90	135
▲ DL600025	2.5	95	140
▲ DL600927	2.75	100	150
▲ DL600030	3.0	100	150
▲ DL600035	3.5	115	165
▲ DL600040	4.0	120	175
▲ DL600942	4.25	120	175
▲ DL600045	4.5	125	185
▲ DL600947	4.75	125	185
▲ DL600050	5.0	135	195
▲ DL600952	5.25	135	195
▲ DL600055	5.5	140	205
▲ DL600060	6.0	140	205

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
▲ DL600065	6.5	150	215
▲ DL600972	7.25	155	225
▲ DL600075	7.5	155	225
▲ DL600080	8.0	165	240
▲ DL600982	8.25	165	240
▲ DL600085	8.5	165	240
▲ DL600987	8.75	175	250
▲ DL600090	9.0	175	250
▲ DL600992	9.25	175	250
▲ DL600095	9.5	175	250
▲ DL600997	9.75	185	265
▲ DL600110	11.0	195	280
▲ DL600115	11.5	195	280
▲ DL600120	12.0	205	295

▶ TiN(DN600), TiCN(DX600) and TiAlN(DT600) are available on your request.
TiN(DN600), TiCN(DX600), TiAlN(DT600) 可根据客户需求进行加工.

▲ : Only available till stock runs out 尽在库存用完之前可用

◎ : Excellent (优秀) ○ : Good (良好)

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

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

WORM PATTERN DRILLS

DL126 SERIES

HSS-E, STRAIGHT SHANK DRILLS for DEEP HOLES, FORM C *EXTRA LONG*

HSS-E, 深孔用直柄麻花钻头 超长

▶**Application** : Drilling deep holes in non alloy steels, alloy steels, grey cast iron, malleable cast iron or magnesium alloys.

▶ 应用：适用于非合金钢, 合金钢, 灰铸铁, 可锻铸铁, 和镁合金的深 孔钻削.

Only available till stock runs out
尽在库存用完之前可用



▶ DH100
worm pattern drills 蜗式钻头

HSS-E | 38° | h8 | 130° | p. A213

Recommended ToolHolder — Plain Shank: ER COLLET CHUCK — Page: D73 - 115

Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
▲ DL126220	2.0	75	100
▲ DL126230	3.0	75	100
▲ DL126335	3.5	100	150
▲ DL126340	4.0	100	150
▲ DL126350	5.0	100	150
▲ DL126360	6.0	100	150
▲ DL126460	6.0	150	200
▲ DL126462	6.2	150	200
▲ DL126475	7.5	150	200

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
▲ DL126540	4.0	200	250
▲ DL126555	5.5	200	250
▲ DL126585	8.5	200	250
▲ DL126655	5.5	200	300
▲ DL126660	6.0	200	300
▲ DL126595	9.5	200	250
▲ DL126805	10.5	200	250
▲ DL126820	12.0	200	250
▲ DL126665	6.5	200	300

▲ : Only available till stock runs out 尽在库存用完之前可用

◎ : Excellent (优秀) ○ : Good (良好)

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

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

WORM PATTERN DRILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

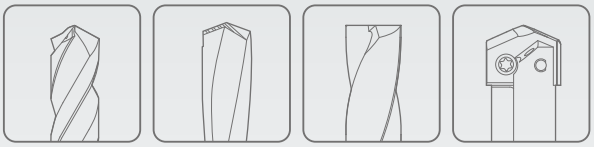
DL600, DL126 SERIES

HSS-E, STRAIGHT SHANK DRILL for DEEP HOLES
HSS-E，深孔用直柄麻花钻头

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 2.0	3.0	4.0	6.0	8.0	10.0	12.0
P	1	Non-alloy steel	30	RPM	4770	3180	2390	1590	1190	950	730
				FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17
	2		25	RPM	3980	2650	1990	1330	990	800	610
				FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17
	3		20	RPM	3180	2120	1590	1060	800	640	490
				FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17
	4		20	RPM	3180	2120	1590	1060	800	640	490
				FEED	0.01-0.02	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.06	0.04-0.10
	6	Low alloy steel	25	RPM	3980	2650	1990	1330	990	800	610
				FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17
	7		20	RPM	3180	2120	1590	1060	800	640	490
				FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17
	8		20	RPM	3180	2120	1590	1060	800	640	490
				FEED	0.01-0.02	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.06	0.04-0.10
	10	High alloyed steel, and tool steel	15	RPM	2390	1590	1190	800	600	480	370
				FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17
K	15	Grey cast iron	30	RPM	4770	3180	2390	1590	1190	950	730
				FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17
	16		25	RPM	3980	2650	1990	1330	990	800	610
				FEED	0.01-0.02	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.06	0.04-0.10
	17	Nodular cast iron	30	RPM	4770	3180	2390	1590	1190	950	730
				FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17
	18		20	RPM	3180	2120	1590	1060	800	640	490
				FEED	0.01-0.02	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.06	0.04-0.10
	19	Malleable cast iron	25	RPM	3980	2650	1990	1330	990	800	610
				FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17
	20		20	RPM	3180	2120	1590	1060	800	640	490
				FEED	0.01-0.02	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.06	0.04-0.10

Global Cutting Tool Leader **YG-1**



HOLEMAKING

Leading Through Innovation



HSS & HSSCo8

STRAIGHT SHANK DRILLS

- For General Purpose (Soft &Tough Materials)
- 一般用途 (软&硬材料)

SELECTION GUIDE
选用指南

HOLEMAKING TOOLS

SERIES 系列	D2101	D1101	D1102	D1104
STANDARD 标准	JIS	JIS	-	DIN340
LENGTH 长度	REGULAR 常规	REGULAR 常规	LONG 长	LONG 长
SIZE MIN 最小尺寸	D2.0	D1.0	D2.0	D1.0
SIZE MAX 最大尺寸	D13.0	D13.0	D13.0	D17.5
PAGE 页数	A217	S219	A221	A227
SURFACE TREATMENT 表面处理	Gold Coloring	Steam	Homo	Bright



HSS & HSSCo8
STRAIGHT SHANK DRILLS

For General Purpose (Soft &Tough Materials)
一般用途 (软&硬材料)

Please visit 请访问 globalyg1.com/mat for material search 查看产品材料

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工条件) : p. A229

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB 布氏硬度	HRc 硬度	D2101	D1101	D1102	D1104
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				

CARBIDE
HSS
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

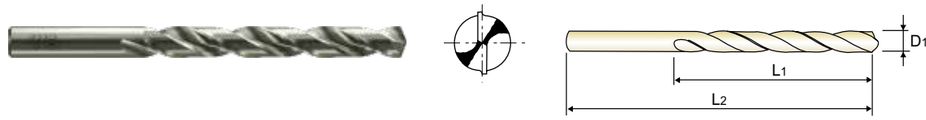
STRAIGHT SHANK DRILLS

D2101 SERIES

HSSCo8, STRAIGHT SHANK TWIST DRILLS — REGULAR
HSSCo8, 直柄麻花钻头 — 常规

▶ **Surface treatment**: Coloring(Gold Color)
▶ **Application** : Drilling in stainless steels, materials of difficult machining.

▶ 表面处理：着色 (金黄色)
▶ 应用 ：适用于不锈钢, 钛和镍铬合金等难加工材料.



HSS Co8 | 33° | h8 | 135°

p. A229-A230

Recommended ToolHolder — Plain Shank — Page
ER COLLET CHUCK — D73-115

Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2	EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D2101020	2.0	29	55	D2101049	4.9	62	92
D2101021	2.1	29	55	D2101050	5.0	62	92
D2101022	2.2	33	58	D2101051	5.1	62	92
D2101023	2.3	33	58	D2101052	5.2	64	95
D2101024	2.4	35	61	D2101053	5.3	64	95
D2101025	2.5	35	61	D2101054	5.4	64	95
D2101026	2.6	37	64	D2101055	5.5	64	95
D2101027	2.7	37	64	D2101056	5.6	67	98
D2101028	2.8	39	67	D2101057	5.7	67	98
D2101029	2.9	42	71	D2101058	5.8	67	98
D2101030	3.0	42	71	D2101059	5.9	67	98
D2101031	3.1	42	71	D2101060	6.0	70	102
D2101032	3.2	42	71	D2101061	6.1	70	102
D2101033	3.3	45	73	D2101062	6.2	70	102
D2101034	3.4	45	73	D2101063	6.3	70	102
D2101035	3.5	45	73	D2101064	6.4	73	105
D2101036	3.6	48	76	D2101065	6.5	73	105
D2101037	3.7	48	76	D2101066	6.6	73	105
D2101038	3.8	48	76	D2101067	6.7	73	105
D2101039	3.9	51	79	D2101068	6.8	73	105
D2101040	4.0	54	83	D2101069	6.9	73	105
D2101041	4.1	54	83	D2101070	7.0	73	105
D2101042	4.2	54	83	D2101071	7.1	75	108
D2101043	4.3	54	83	D2101072	7.2	75	108
D2101044	4.4	56	86	D2101073	7.3	75	108
D2101045	4.5	56	86	D2101074	7.4	78	111
D2101046	4.6	56	86	D2101075	7.5	78	111
D2101047	4.7	59	89	D2101076	7.6	78	111
D2101048	4.8	59	89	D2101077	7.7	81	114

▶ The TiN(D4101), TiCN(D7101) or TiAlN(DQ101) is available on your request.
TiN(D4101), TiCN(D7101), TiAlN(DQ101) 可根据客户需求进行加工.

▶ 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
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	○	○	○						○							○					

STRAIGHT SHANK DRILLS

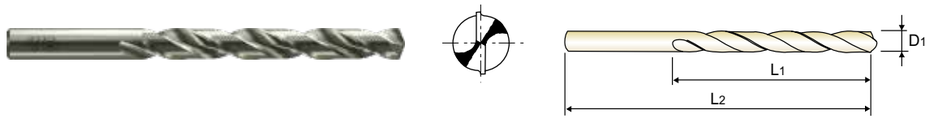
D2101 SERIES

HSSCo8, STRAIGHT SHANK TWIST DRILLS — *REGULAR*

HSSCo8, 直柄麻花钻头 — 常规

▶**Surface treatment** : Coloring (Gold Color)
▶**Application** : Drilling in stainless steels, materials of difficult machining such as titanium and inconel.

▶表面处理：着色（金黄色）
▶应用 ：适用于不锈钢, 钛和镍铬合金等难加工材料.



HSS Co8 | 33° | h8 | 135° p. A229-A230

Recommended ToolHolder — Plain Shank: ER COLLET CHUCK — Page: D73-115

Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D2101078	7.8	81	114
D2101079	7.9	81	114
D2101080	8.0	81	114
D2101081	8.1	84	117
D2101082	8.2	84	117
D2101083	8.3	84	117
D2101084	8.4	87	121
D2101085	8.5	87	121
D2101086	8.6	87	121
D2101087	8.7	87	121
D2101088	8.8	89	124
D2101089	8.9	89	124
D2101090	9.0	89	124
D2101091	9.1	89	124
D2101092	9.2	92	127
D2101093	9.3	92	127
D2101094	9.4	92	127
D2101095	9.5	92	127
D2101096	9.6	95	130
D2101097	9.7	95	130
D2101098	9.8	95	130
D2101099	9.9	95	130
D2101100	10.0	95	130
D2101101	10.1	98	133
D2101102	10.2	98	133
D2101103	10.3	98	133
D2101104	10.4	98	133

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D2101105	10.5	100	137
D2101106	10.6	100	137
D2101107	10.7	100	137
D2101108	10.8	103	140
D2101109	10.9	103	140
D2101110	11.0	103	140
D2101111	11.1	103	140
D2101112	11.2	106	143
D2101113	11.3	106	143
D2101114	11.4	106	143
D2101115	11.5	106	143
D2101116	11.6	109	146
D2101117	11.7	109	146
D2101118	11.8	109	146
D2101119	11.9	109	146
D2101120	12.0	111	149
D2101121	12.1	111	149
D2101122	12.2	111	149
D2101123	12.3	111	149
D2101124	12.4	114	152
D2101125	12.5	114	152
D2101126	12.6	114	152
D2101127	12.7	114	152
D2101128	12.8	114	152
D2101129	12.9	114	152
D2101130	13.0	114	152

▶ The TiN(D4101), TiCN(D7101) or TiAlN(DQ101) is available on your request.
TiN(D4101), TiCN(D7101), TiAlN(DQ101) 可根据客户需求进行加工.

◎ : 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	○	○	○						○							○					

STRAIGHT SHANK DRILLS

D1101 SERIES

HSS, STRAIGHT SHANK TWIST DRILLS — *REGULAR*

HSS, 直柄麻花钻头 — 常规

▶ **Surface treatment** : Steam Homo (Black Oxide Finish) Bright Finish under 2mm
▶ **Application** : Drilling in steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron

▶ 表面处理：氧化发黑处理, 2mm以下无着色
▶ 应用 ：适用于钢, 铸钢合金和非合金钢, 灰铸铁,可锻铸铁的深 孔钻削和石墨的加工.



HSS | 20~30° | h8 | 118° p. A229-A230

Recommended ToolHolder — Plain Shank: ER COLLET CHUCK — Page: D73-115

Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
* D1101010	1.0	18	40
* D1101011	1.1	20	42
* D1101012	1.2	20	42
* D1101013	1.3	22	45
* D1101014	1.4	23	48
* D1101015	1.5	23	48
* D1101016	1.6	25	50
* D1101017	1.7	25	50
* D1101018	1.8	28	52
* D1101019	1.9	28	52
D1101020	2.0	29	55
D1101021	2.1	29	55
D1101022	2.2	33	58
D1101023	2.3	33	58
D1101024	2.4	35	61
D1101025	2.5	35	61
D1101026	2.6	37	64
D1101027	2.7	37	64
D1101028	2.8	39	67
D1101029	2.9	42	71
D1101030	3.0	42	71
D1101031	3.1	42	71
D1101032	3.2	42	71
D1101033	3.3	45	73
D1101034	3.4	45	73
D1101035	3.5	45	73
D1101036	3.6	48	76
D1101037	3.7	48	76
D1101038	3.8	48	76
D1101039	3.9	51	79

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D1101040	4.0	54	83
D1101041	4.1	54	83
D1101042	4.2	54	83
D1101043	4.3	54	83
D1101044	4.4	56	86
D1101045	4.5	56	86
D1101046	4.6	56	86
D1101047	4.7	59	89
D1101048	4.8	59	89
D1101049	4.9	62	92
D1101050	5.0	62	92
D1101051	5.1	62	92
D1101052	5.2	64	95
D1101053	5.3	64	95
D1101054	5.4	64	95
D1101055	5.5	64	95
D1101056	5.6	67	98
D1101057	5.7	67	98
D1101058	5.8	67	98
D1101059	5.9	67	98
D1101060	6.0	70	102
D1101061	6.1	70	102
D1101062	6.2	70	102
D1101063	6.3	70	102
D1101064	6.4	73	105
D1101065	6.5	73	105
D1101066	6.6	73	105
D1101067	6.7	73	105
D1101068	6.8	73	105
D1101069	6.9	73	105

* Bright Finish / 光亮色

▶ 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
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	○	○	○						○							○					

STRAIGHT SHANK DRILLS

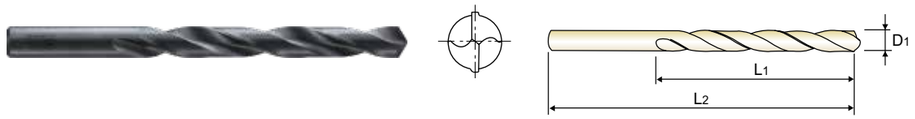
D1101 SERIES

HSS, STRAIGHT SHANK TWIST DRILLS — *REGULAR*

HSS, 直柄麻花钻头 — 常规

▶ **Surface treatment** : Steam Homo (Black Oxide Finish)
▶ **Application** : Drilling in steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron

▶表面处理：氧化发黑处理
▶应用 ：适用于钢, 铸钢合金和非合金钢, 灰铸铁,可锻铸铁的深孔钻削和石墨的加工.



HSS | 20~30° | h8 | 118° | p. A229-A230

Recommended ToolHolder — Plain Shank: ER COLLET CHUCK — Page: D73-115

Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D1101070	7.0	73	105
D1101071	7.1	75	108
D1101072	7.2	75	108
D1101073	7.3	75	108
D1101074	7.4	78	111
D1101075	7.5	78	111
D1101076	7.6	78	111
D1101077	7.7	81	114
D1101078	7.8	81	114
D1101079	7.9	81	114
D1101080	8.0	81	114
D1101081	8.1	84	117
D1101082	8.2	84	117
D1101083	8.3	84	117
D1101084	8.4	87	121
D1101085	8.5	87	121
D1101086	8.6	87	121
D1101087	8.7	87	121
D1101088	8.8	89	124
D1101089	8.9	89	124
D1101090	9.0	89	124
D1101091	9.1	89	124
D1101092	9.2	92	127
D1101093	9.3	92	127
D1101094	9.4	92	127
D1101095	9.5	92	127
D1101096	9.6	95	130
D1101097	9.7	95	130
D1101098	9.8	95	130
D1101099	9.9	95	130
D1101100	10.0	95	130

EDP No 型号 TiAlN	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D1101101	10.1	98	133
D1101102	10.2	98	133
D1101103	10.3	98	133
D1101104	10.4	98	133
D1101105	10.5	100	137
D1101106	10.6	100	137
D1101107	10.7	100	137
D1101108	10.8	103	140
D1101109	10.9	103	140
D1101110	11.0	103	140
D1101111	11.1	103	140
D1101112	11.2	106	143
D1101113	11.3	106	143
D1101114	11.4	106	143
D1101115	11.5	106	143
D1101116	11.6	109	146
D1101117	11.7	109	146
D1101118	11.8	109	146
D1101119	11.9	109	146
D1101120	12.0	111	149
D1101121	12.1	111	149
D1101122	12.2	111	149
D1101123	12.3	111	149
D1101124	12.4	114	152
D1101125	12.5	114	152
D1101126	12.6	114	152
D1101127	12.7	114	152
D1101128	12.8	114	152
D1101129	12.9	114	152
D1101130	13.0	114	152

◎ : 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		
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	○	○	○						○							○					

STRAIGHT SHANK DRILLS

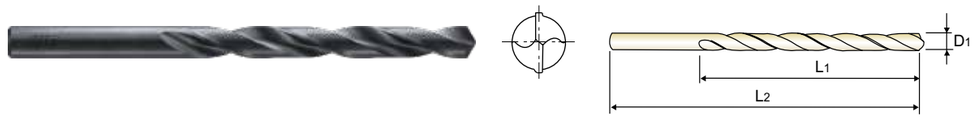
D1102 SERIES

HSS, STRAIGHT SHANK DRILLS — *LONG*

HSS, 直柄钻头 — 长

▶**Surface treatment**: Steam Homo (Black Oxide Finish)
▶**Application** : Designed for drilling deep holes or deeply located holes. Drills in steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron

▶表面处理：氧化发黑处理
▶应用 ：设计用于深孔加工或深定位孔加工. 适用于钢, 铸钢合 金和非合金钢, 灰铸铁, 可锻铸铁的深孔钻削和石墨的 加工.



HSS | 20~30° | h8 | 118° | p. A229-A230

Recommended ToolHolder — Plain Shank: ER COLLET CHUCK — Page: D73-115

Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D1102220	2.0	75	100
D1102221	2.1	75	100
D1102222	2.2	75	100
D1102223	2.3	75	100
D1102224	2.4	75	100
D1102225	2.5	75	100
D1102226	2.6	75	100
D1102228	2.8	75	100
D1102230	3.0	75	100
D1102231	3.1	75	100
D1102232	3.2	75	100
D1102233	3.3	75	100
D1102234	3.4	75	100
D1102235	3.5	75	100
D1102236	3.6	75	100
D1102237	3.7	75	100
D1102238	3.8	75	100
D1102240	4.0	75	100
D1102241	4.1	75	100
D1102242	4.2	75	100
D1102243	4.3	75	100
D1102244	4.4	75	100
D1102245	4.5	75	100
D1102246	4.6	75	100
D1102248	4.8	75	100
D1102250	5.0	75	100
D1102252	5.2	75	100
D1102254	5.4	75	100
D1102255	5.5	75	100

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D1102320	2.0	100	150
D1102321	2.1	100	150
D1102322	2.2	100	150
D1102323	2.3	100	150
D1102324	2.4	100	150
D1102325	2.5	100	150
D1102326	2.6	100	150
D1102327	2.7	100	150
D1102328	2.8	100	150
D1102329	2.9	100	150
D1102330	3.0	100	150
D1102331	3.1	100	150
D1102332	3.2	100	150
D1102333	3.3	100	150
D1102334	3.4	100	150
D1102335	3.5	100	150
D1102336	3.6	100	150
D1102337	3.7	100	150
D1102338	3.8	100	150
D1102339	3.9	100	150
D1102340	4.0	100	150
D1102341	4.1	100	150
D1102342	4.2	100	150
D1102343	4.3	100	150
D1102344	4.4	100	150
D1102345	4.5	100	150
D1102346	4.6	100	150
D1102347	4.7	100	150
D1102348	4.8	100	150

▶ 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		
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	○	○	○						○							○					

STRAIGHT SHANK DRILLS

D1102 SERIES

HSS, STRAIGHT SHANK DRILLS

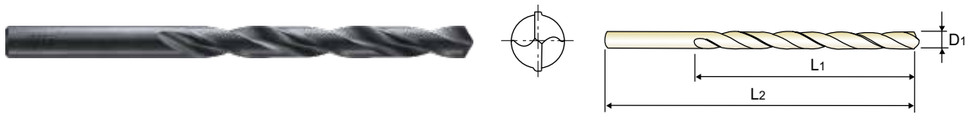
LONG

HSS, 直柄钻头

长

▶**Surface treatment**: Steam Homo (Black Oxide Finish)
▶**Application** : Designed for drilling deep holes or deeply located holes. Drills in steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron

▶表面处理: 氧化发黑处理
▶应用 : 设计用于深孔加工或深定位孔加工. 适用于钢, 铸钢合金和非合金钢, 灰铸铁, 可锻铸铁的深孔钻削和石墨的 加工.



HSS | 20~30° | h8 | 118° | p. A229-A230

Recommended ToolHolder — Plain Shank: ER COLLET CHUCK — Page: D73-115

Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D1102349	4.9	100	150
D1102350	5.0	100	150
D1102351	5.1	100	150
D1102352	5.2	100	150
D1102353	5.3	100	150
D1102354	5.4	100	150
D1102355	5.5	100	150
D1102356	5.6	100	150
D1102357	5.7	100	150
D1102358	5.8	100	150
D1102359	5.9	100	150
D1102360	6.0	100	150
D1102361	6.1	100	150
D1102362	6.2	100	150
D1102363	6.3	100	150
D1102364	6.4	100	150
D1102365	6.5	100	150
D1102366	6.6	100	150
D1102367	6.7	100	150
D1102368	6.8	100	150
D1102369	6.9	100	150
D1102370	7.0	100	150
D1102371	7.1	100	150
D1102372	7.2	100	150
D1102373	7.3	100	150
D1102374	7.4	100	150
D1102375	7.5	100	150
D1102376	7.6	100	150
D1102377	7.7	100	150

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D1102378	7.8	100	150
D1102379	7.9	100	150
D1102380	8.0	100	150
D1102382	8.2	100	150
D1102384	8.4	100	150
D1102385	8.5	100	150
D1102386	8.6	100	150
D1102388	8.8	100	150
D1102390	9.0	100	150
D1102392	9.2	100	150
D1102394	9.4	100	150
D1102395	9.5	100	150
D1102396	9.6	100	150
D1102398	9.8	100	150
D1102600	10.0	100	150
D1102602	10.2	100	150
D1102604	10.4	100	150
D1102605	10.5	100	150
D1102606	10.6	100	150
D1102608	10.8	100	150
D1102610	11.0	100	150
* D1102420	2.0	150	200
* D1102422	2.2	150	200
* D1102424	2.4	150	200
* D1102425	2.5	150	200
* D1102427	2.7	150	200
* D1102428	2.8	150	200
* D1102429	2.9	150	200
* D1102430	3.0	150	200

* Bright Finish / 光亮色

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO / Material Description	P: Non-alloy steel					P: Low alloy steel				P: High alloyed steel, and tool steel		M: Stainless steel			K: Grey cast iron		K: Nodular cast iron		K: Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	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 / Material Description	N: Aluminum-wrought alloy		N: Aluminum-cast, alloyed			N: Copper and Copper Alloys (Bronze / Brass)			N: Non Metallic Materials		S: Heat Resistant Super Alloys					S: Titanium Alloys		H: Hardened steel		H: Chilled Cast Iron	H: Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	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
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

STRAIGHT SHANK DRILLS

D1102 SERIES

HSS, STRAIGHT SHANK DRILLS

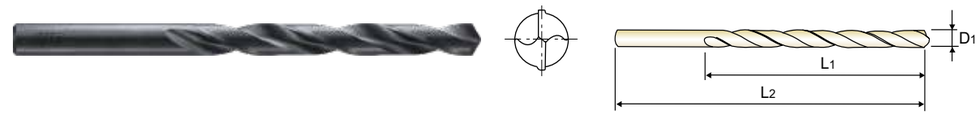
LONG

HSS, 直柄钻头

长

▶**Surface treatment**: Steam Homo (Black Oxide Finish)
▶**Application** : Designed for drilling deep holes or deeply located holes. Drills in steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron

▶表面处理: 氧化发黑处理
▶应用 : 设计用于深孔加工或深定位孔加工. 适用于钢, 铸钢合 金和非合金钢, 灰铸铁, 可锻铸铁的深孔钻削和石墨的 加工.



HSS | 20~30° | h8 | 118° | p. A229-A230

Recommended ToolHolder — Plain Shank: ER COLLET CHUCK — Page: D73-115

Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
* D1102432	3.2	150	200
* D1102434	3.4	150	200
* D1102435	3.5	150	200
* D1102436	3.6	150	200
* D1102437	3.7	150	200
* D1102438	3.8	150	200
* D1102439	3.9	150	200
D1102440	4.0	150	200
D1102441	4.1	150	200
D1102442	4.2	150	200
D1102443	4.3	150	200
D1102444	4.4	150	200
D1102445	4.5	150	200
D1102446	4.6	150	200
D1102447	4.7	150	200
D1102448	4.8	150	200
D1102449	4.9	150	200
D1102450	5.0	150	200
D1102451	5.1	150	200
D1102452	5.2	150	200
D1102453	5.3	150	200
D1102454	5.4	150	200
D1102455	5.5	150	200
D1102456	5.6	150	200
D1102457	5.7	150	200
D1102458	5.8	150	200
D1102459	5.9	150	200
D1102460	6.0	150	200
D1102461	6.1	150	200

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D1102462	6.2	150	200
D1102463	6.3	150	200
D1102464	6.4	150	200
D1102465	6.5	150	200
D1102466	6.6	150	200
D1102467	6.7	150	200
D1102468	6.8	150	200
D1102469	6.9	150	200
D1102470	7.0	150	200
D1102471	7.1	150	200
D1102472	7.2	150	200
D1102473	7.3	150	200
D1102474	7.4	150	200
D1102475	7.5	150	200
D1102476	7.6	150	200
D1102477	7.7	150	200
D1102478	7.8	150	200
D1102479	7.9	150	200
D1102480	8.0	150	200
D1102481	8.1	150	200
D1102482	8.2	150	200
D1102483	8.3	150	200
D1102484	8.4	150	200
D1102485	8.5	150	200
D1102486	8.6	150	200
D1102487	8.7	150	200
D1102488	8.8	150	200
D1102489	8.9	150	200
D1102490	9.0	150	200

* Bright Finish / 光亮色

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO / Material Description	P: Non-alloy steel					P: Low alloy steel				P: High alloyed steel, and tool steel		M: Stainless steel			K: Grey cast iron		K: Nodular cast iron		K: Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	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 / Material Description	N: Aluminum-wrought alloy		N: Aluminum-cast, alloyed			N: Copper and Copper Alloys (Bronze / Brass)			N: Non Metallic Materials		S: Heat Resistant Super Alloys					S: Titanium Alloys		H: Hardened steel		H: Chilled Cast Iron	H: Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	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	○	○	○						○							○					

STRAIGHT SHANK DRILLS

D1102 SERIES

HSS, STRAIGHT SHANK DRILLS

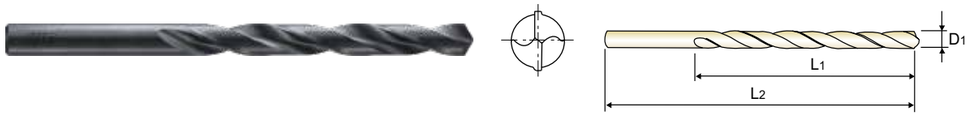
LONG

HSS, 直柄钻头

长

▶**Surface treatment**: Steam Homo (Black Oxide Finish)
▶**Application** : Designed for drilling deep holes or deeply located holes. Drills in steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron

▶表面处理: 氧化发黑处理
▶应用 : 设计用于深孔加工或深定位孔加工. 适用于钢, 铸钢合金和非合金钢, 灰铸铁, 可锻铸铁的深孔钻削和石墨的 加工.



HSS | 20~30° | h8 | 118° | p. A229-A230

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73-115

Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D1102491	9.1	150	200
D1102492	9.2	150	200
D1102493	9.3	150	200
D1102494	9.4	150	200
D1102495	9.5	150	200
D1102496	9.6	150	200
D1102497	9.7	150	200
D1102498	9.8	150	200
D1102499	9.9	150	200
D1102700	10.0	150	200
D1102702	10.2	150	200
D1102704	10.4	150	200
D1102705	10.5	150	200
D1102706	10.6	150	200
D1102708	10.8	150	200
D1102710	11.0	150	200
D1102712	11.2	150	200
D1102714	11.4	150	200
D1102715	11.5	150	200
D1102716	11.6	150	200
D1102718	11.8	150	200
D1102720	12.0	150	200
D1102722	12.2	150	200
D1102724	12.4	150	200
D1102725	12.5	150	200
D1102726	12.6	150	200
D1102728	12.8	150	200
D1102730	13.0	150	200
* D1102536	3.6	200	250

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D1102540	4.0	200	250
D1102544	4.4	200	250
D1102545	4.5	200	250
D1102546	4.6	200	250
D1102548	4.8	200	250
D1102550	5.0	200	250
D1102551	5.1	200	250
D1102552	5.2	200	250
D1102553	5.3	200	250
D1102554	5.4	200	250
D1102555	5.5	200	250
D1102556	5.6	200	250
D1102558	5.8	200	250
D1102560	6.0	200	250
D1102561	6.1	200	250
D1102562	6.2	200	250
D1102563	6.3	200	250
D1102564	6.4	200	250
D1102565	6.5	200	250
D1102566	6.6	200	250
D1102567	6.7	200	250
D1102568	6.8	200	250
D1102569	6.9	200	250
D1102570	7.0	200	250
D1102571	7.1	200	250
D1102572	7.2	200	250
D1102573	7.3	200	250
D1102574	7.4	200	250
D1102575	7.5	200	250

* Bright Finish / 光亮色

▶ 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			
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
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

STRAIGHT SHANK DRILLS

D1102 SERIES

HSS, STRAIGHT SHANK DRILLS

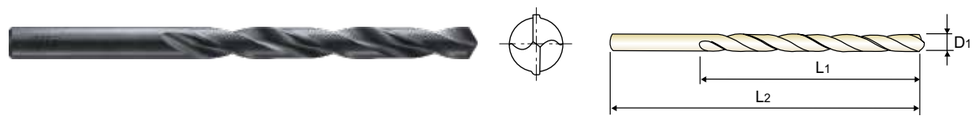
LONG

HSS, 直柄钻头

长

▶**Surface treatment**: Steam Homo (Black Oxide Finish)
▶**Application** : Designed for drilling deep holes or deeply located holes. Drills in steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron

▶表面处理: 氧化发黑处理
▶应用 : 设计用于深孔加工或深定位孔加工. 适用于钢, 铸钢合金和非合金钢, 灰铸铁, 可锻铸铁的深孔钻削和石墨的 加工.



HSS | 20~30° | h8 | 118° | p. A229-A230

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73-115

Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D1102576	7.6	200	250
D1102577	7.7	200	250
D1102578	7.8	200	250
D1102579	7.9	200	250
D1102580	8.0	200	250
D1102581	8.1	200	250
D1102582	8.2	200	250
D1102583	8.3	200	250
D1102584	8.4	200	250
D1102585	8.5	200	250
D1102586	8.6	200	250
D1102587	8.7	200	250
D1102588	8.8	200	250
D1102589	8.9	200	250
D1102590	9.0	200	250
D1102591	9.1	200	250
D1102592	9.2	200	250
D1102593	9.3	200	250
D1102594	9.4	200	250
D1102595	9.5	200	250
D1102596	9.6	200	250
D1102597	9.7	200	250
D1102598	9.8	200	250
D1102599	9.9	200	250
D1102800	10.0	200	250
D1102801	10.1	200	250
D1102802	10.2	200	250
D1102803	10.3	200	250
D1102804	10.4	200	250

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D1102805	10.5	200	250
D1102806	10.6	200	250
D1102807	10.7	200	250
D1102808	10.8	200	250
D1102809	10.9	200	250
D1102810	11.0	200	250
D1102811	11.1	200	250
D1102812	11.2	200	250
D1102813	11.3	200	250
D1102814	11.4	200	250
D1102815	11.5	200	250
D1102816	11.6	200	250
D1102817	11.7	200	250
D1102818	11.8	200	250
D1102819	11.9	200	250
D1102820	12.0	200	250
D1102821	12.1	200	250
D1102822	12.2	200	250
D1102823	12.3	200	250
D1102824	12.4	200	250
D1102825	12.5	200	250
D1102826	12.6	200	250
D1102827	12.7	200	250
D1102828	12.8	200	250
D1102829	12.9	200	250
D1102830	13.0	200	250
D1102654	5.4	200	300
D1102655	5.5	200	300
D1102656	5.6	200	300

▶ 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			
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	○	○	○						○							○					

STRAIGHT SHANK DRILLS

D1102 SERIES

HSS, STRAIGHT SHANK DRILLS

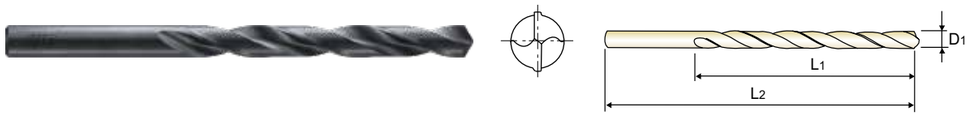
LONG

HSS, 直柄钻头

长

▶**Surface treatment**: Steam Homo (Black Oxide Finish)
▶**Application** : Designed for drilling deep holes or deeply located holes. Drills in steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron

▶表面处理：氧化发黑处理
▶应用 ： 设计用于深孔加工或深定位孔加工. 适用于钢, 铸钢合金和非合金钢, 灰铸铁, 可锻铸铁的深孔钻削和石墨的 加工.



HSS | 20~30° | h8 | 118° | p. A229-A230

Recommended ToolHolder — Plain Shank: ER COLLET CHUCK — Page: D73-115

Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D1102660	6.0	200	300
D1102662	6.2	200	300
D1102664	6.4	200	300
D1102665	6.5	200	300
D1102666	6.6	200	300
D1102670	7.0	200	300
D1102672	7.2	200	300
D1102674	7.4	200	300
D1102675	7.5	200	300
D1102676	7.6	200	300
D1102678	7.8	200	300
D1102680	8.0	200	300
D1102682	8.2	200	300
D1102684	8.4	200	300
D1102685	8.5	200	300
D1102686	8.6	200	300
D1102688	8.8	200	300
D1102690	9.0	200	300
D1102692	9.2	200	300
D1102694	9.4	200	300
D1102695	9.5	200	300
D1102696	9.6	200	300
D1102698	9.8	200	300
D1102900	10.0	200	300
D1102901	10.1	200	300
D1102902	10.2	200	300
D1102903	10.3	200	300
D1102904	10.4	200	300

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D1102905	10.5	200	300
D1102906	10.6	200	300
D1102907	10.7	200	300
D1102908	10.8	200	300
D1102909	10.9	200	300
D1102910	11.0	200	300
D1102911	11.1	200	300
D1102912	11.2	200	300
D1102913	11.3	200	300
D1102914	11.4	200	300
D1102915	11.5	200	300
D1102916	11.6	200	300
D1102917	11.7	200	300
D1102918	11.8	200	300
D1102919	11.9	200	300
D1102920	12.0	200	300
D1102921	12.1	200	300
D1102922	12.2	200	300
D1102923	12.3	200	300
D1102924	12.4	200	300
D1102925	12.5	200	300
D1102926	12.6	200	300
D1102927	12.7	200	300
D1102928	12.8	200	300
D1102929	12.9	200	300
D1102930	13.0	200	300
D1102A20	12.0	250	350
D1102A30	13.0	250	350

◎ : 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	○	○	○						○							○					

STRAIGHT SHANK DRILLS

D1104 SERIES

HSS, STRAIGHT SHANK DRILLS

LONG

HSS, 直柄钻头

长

▶**Surface treatment** : Bright Finish
▶ **Application** : Drilling stainless steels and difficult - to - cut materials

▶ 表面处理：光亮处理
▶ 应用 ： 适用于加工不锈钢, 及钛, 镍铬合金等难加工材料.

Only available till stock runs out
尽在库存用完之前可用



DIN 340 | HSS | N 20~30° | h8 | 118° | p. A229-A230

Recommended ToolHolder — Plain Shank: ER COLLET CHUCK — Page: D73-115

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
▲ D1104010	1.0	33	56
▲ D1104011	1.1	37	60
▲ D1104012	1.2	41	65
▲ D1104013	1.3	41	65
▲ D1104014	1.4	45	70
▲ D1104015	1.5	45	70
▲ D1104016	1.6	50	76
▲ D1104017	1.7	50	76
▲ D1104018	1.8	53	80
▲ D1104019	1.9	53	80
▲ D1104020	2.0	56	85
▲ D1104021	2.1	56	85
▲ D1104022	2.2	59	90
▲ D1104023	2.3	59	90
▲ D1104024	2.4	62	95
▲ D1104025	2.5	62	95
▲ D1104026	2.6	62	95
▲ D1104027	2.7	66	100
▲ D1104028	2.8	66	100
▲ D1104029	2.9	66	100
▲ D1104030	3.0	66	100
▲ D1104031	3.1	69	106
▲ D1104032	3.2	69	106
▲ D1104033	3.3	69	106
▲ D1104034	3.4	73	112
▲ D1104035	3.5	73	112
▲ D1104036	3.6	73	112
▲ D1104037	3.7	73	112
▲ D1104038	3.8	78	119
▲ D1104039	3.9	78	119

EDP No. 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
▲ D1104040	4.0	78	119
▲ D1104041	4.1	78	119
▲ D1104042	4.2	78	119
▲ D1104043	4.3	82	126
▲ D1104044	4.4	82	126
▲ D1104045	4.5	82	126
▲ D1104046	4.6	82	126
▲ D1104047	4.7	82	126
▲ D1104048	4.8	87	132
▲ D1104049	4.9	87	132
▲ D1104050	5.0	87	132
▲ D1104051	5.1	87	132
▲ D1104052	5.2	87	132
▲ D1104053	5.3	87	132
▲ D1104054	5.4	91	139
▲ D1104055	5.5	91	139
▲ D1104056	5.6	91	139
▲ D1104057	5.7	91	139
▲ D1104058	5.8	91	139
▲ D1104059	5.9	91	139
▲ D1104060	6.0	91	139
▲ D1104061	6.1	97	148
▲ D1104062	6.2	97	148
▲ D1104063	6.3	97	148
▲ D1104064	6.4	97	148
▲ D1104065	6.5	97	148
▲ D1104066	6.6	97	148
▲ D1104067	6.7	97	148
▲ D1104068	6.8	102	156
▲ D1104069	6.9	102	156

▲ : Only available till stock runs out 尽在库存用完之前可用

▶ 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
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	○	○	○						○							○					

STRAIGHT SHANK DRILLS

D1104 SERIES

HSS, STRAIGHT SHANK DRILLS

HSS, 直柄钻头

LONG

长

▶**Surface treatment** : Bright Finish
▶**Application** : Drilling stainless steels and difficult - to - cut materials

▶ 表面处理：光亮处理
▶ 应用 ：适用于加工不锈钢, 及钛, 镍铬合金等难加工材料.



DIN 340 | HSS | N 20~30° | h8 | 118° | p. A229-A230

Recommended ToolHolder — Plain Shank: ER COLLET CHUCK — Page: D73 - 115

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
▲ D1104070	7.0	102	156
▲ D1104071	7.1	102	156
▲ D1104072	7.2	102	156
▲ D1104073	7.3	102	156
▲ D1104074	7.4	102	156
▲ D1104075	7.5	102	156
▲ D1104076	7.6	109	165
▲ D1104077	7.7	109	165
▲ D1104078	7.8	109	165
▲ D1104079	7.9	109	165
▲ D1104080	8.0	109	165
▲ D1104081	8.1	109	165
▲ D1104082	8.2	109	165
▲ D1104083	8.3	109	165
▲ D1104084	8.4	109	165
▲ D1104085	8.5	109	165
▲ D1104086	8.6	115	175
▲ D1104087	8.7	115	175
▲ D1104088	8.8	115	175
▲ D1104089	8.9	115	175
▲ D1104090	9.0	115	175
▲ D1104091	9.1	115	175
▲ D1104092	9.2	115	175
▲ D1104093	9.3	115	175
▲ D1104094	9.4	115	175
▲ D1104095	9.5	115	175
▲ D1104096	9.6	121	184

EDP No. 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
▲ D1104097	9.7	121	184
▲ D1104098	9.8	121	184
▲ D1104099	9.9	121	184
▲ D1104100	10.0	121	184
▲ D1104101	10.1	121	184
▲ D1104102	10.2	121	184
▲ D1104103	10.3	121	184
▲ D1104105	10.5	121	184
▲ D1104106	10.6	121	184
▲ D1104107	10.7	128	195
▲ D1104108	10.8	128	195
▲ D1104110	11.0	128	195
▲ D1104115	11.5	128	195
▲ D1104117	11.7	128	195
▲ D1104118	11.8	128	195
▲ D1104119	11.9	134	205
▲ D1104120	12.0	134	205
▲ D1104125	12.5	134	205
▲ D1104127	12.7	134	205
▲ D1104130	13.0	134	205
▲ D1104135	13.5	140	214
▲ D1104140	14.0	140	214
▲ D1104145	14.5	144	220
▲ D1104150	15.0	144	220
▲ D1104160	16.0	149	227
▲ D1104165	16.5	154	235
▲ D1104175	17.5	158	241

▲ : Only available till stock runs out 尽在库存用完之前可用

◎ : 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	○	○	○						○							○					

STRAIGHT SHANK DRILLS

RECOMMENDED CUTTING CONDITIONS

推荐加工条件

D2101, D1101, D1102, D1104 SERIES

HSS & HSSCo8 STRAIGHT SHANK DRILLS

HSS & HSSCo8, 直柄钻头

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 1.0	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 2.0	3.0	4.0	6.0	8.0	10.0
P	1	Non-alloy steel	25	RPM	7960	30	RPM	4770	3180	2390	1590	1190	950
				FEED	0.01-0.03		FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15
	2		20	RPM	6370	25	RPM	3980	2650	1990	1330	990	800
				FEED	0.01-0.03		FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15
	3		15	RPM	4770	20	RPM	3180	2120	1590	1060	800	640
				FEED	0.01-0.03		FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15
	4		15	RPM	4770	20	RPM	3180	2120	1590	1060	800	640
				FEED	0.01-0.02		FEED	0.01-0.02	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.06
	6	Low alloy steel	20	RPM	6370	25	RPM	3980	2650	1990	1330	990	800
				FEED	0.01-0.03		FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15
	7		15	RPM	4770	20	RPM	3180	2120	1590	1060	800	640
				FEED	0.01-0.03		FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15
	8		15	RPM	4770	20	RPM	3180	2120	1590	1060	800	640
				FEED	0.01-0.02		FEED	0.01-0.02	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.06
	10	High alloyed steel, and tool steel	10	RPM	3180	15	RPM	2390	1590	1190	800	600	480
				FEED	0.01-0.03		FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15
M	12	Stainless steel	15	RPM	4770	20	RPM	3180	2120	1590	1060	800	640
				FEED	0.01-0.03		FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15
	13		10	RPM	3180	15	RPM	2390	1590	1190	800	600	480
				FEED	0.01-0.03		FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15
	14		8	RPM	2550	10	RPM	1590	1060	800	530	400	320
				FEED	0.01-0.02		FEED	0.01-0.02	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.06
K	15	Grey cast iron	25	RPM	7960	30	RPM	4770	3180	2390	1590	1190	950
				FEED	0.01-0.03		FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15
	16		20	RPM	6370	25	RPM	3980	2650	1990	1330	990	800
				FEED	0.01-0.02		FEED	0.01-0.02	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.06
	17	Nodular cast iron	25	RPM	7960	30	RPM	4770	3180	2390	1590	1190	950
				FEED	0.01-0.03		FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15
	19	Malleable cast iron	20	RPM	6370	25	RPM	3980	2650	1990	1330	990	800
				FEED	0.01-0.03		FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15
N	21	Aluminum-wrought alloy	45	RPM	14320	55	RPM	8750	5840	4380	2920	2190	1750
				FEED	0.02-0.04		FEED	0.03-0.06	0.05-0.09	0.07-0.11	0.12-0.16	0.12-0.18	0.14-0.20
	22		45	RPM	14320	55	RPM	8750	5840	4380	2920	2190	1750
				FEED	0.02-0.04		FEED	0.03-0.06	0.05-0.09	0.07-0.11	0.12-0.16	0.12-0.18	0.14-0.20
	23	Aluminum-cast, alloyed	30	RPM	9550	40	RPM	6370	4240	3180	2120	1590	1270
				FEED	0.02-0.04		FEED	0.03-0.06	0.05-0.09	0.07-0.11	0.12-0.16	0.12-0.18	0.14-0.20
	29	Non Metallic Materials	15	RPM	4770	20	RPM	3180	2120	1590	1060	800	640
				FEED	0.01-0.03		FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15
S	36	Titanium Alloys	7	RPM	2230	10	RPM	1590	1060	800	530	400	320
				FEED	0.01-0.03		FEED	0.01-0.03	0.02-0.04	0.03-0.05	0.04-0.07	0.05-0.08	0.05-0.09

▶ NEXT PAGE 下页

STRAIGHT SHANK DRILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

D2101, D1101, D1102, D1104 SERIES

HSS & HSSCo8 STRAIGHT SHANK DRILLS
HSS & HSSCo8, 直柄钻头

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)				
					13.0	16.0	18.0	20.0	30.0
P	1	Non-alloy steel	30	RPM	730	600	530	480	320
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
	2		25	RPM	610	500	440	400	270
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
	3		20	RPM	490	400	350	320	210
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
	4		20	RPM	490	400	350	320	210
				FEED	0.04-0.10	0.06-0.12	0.08-0.14	0.10-0.16	0.12-0.18
	6	Low alloy steel	25	RPM	610	500	440	400	270
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
	7		20	RPM	490	400	350	320	210
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
	8		20	RPM	490	400	350	320	210
				FEED	0.04-0.10	0.06-0.12	0.08-0.14	0.10-0.16	0.12-0.18
	10	High alloyed steel, and tool steel	15	RPM	370	300	270	240	160
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
M	12	Stainless steel	20	RPM	490	400	350	320	210
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
	13		15	RPM	370	300	270	240	160
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
	14		10	RPM	240	200	180	160	110
				FEED	0.04-0.10	0.06-0.12	0.08-0.14	0.10-0.16	0.12-0.18
K	15	Grey cast iron	30	RPM	730	600	530	480	320
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
	16		25	RPM	610	500	440	400	270
				FEED	0.04-0.10	0.06-0.12	0.08-0.14	0.10-0.16	0.12-0.18
	17	Nodular cast iron	30	RPM	730	600	530	480	320
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
	19	Malleable cast iron	25	RPM	610	500	440	400	270
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
N	21	Aluminum-wrought alloy	55	RPM	1350	1090	970	880	580
				FEED	0.16-0.22	0.18-0.24	0.20-0.28	0.20-0.30	0.28-0.38
	22		55	RPM	1350	1090	970	880	580
				FEED	0.16-0.22	0.18-0.24	0.20-0.28	0.20-0.30	0.28-0.38
	23	Aluminum-cast, alloyed	40	RPM	980	800	710	640	420
				FEED	0.16-0.22	0.18-0.24	0.20-0.28	0.20-0.30	0.28-0.38
	29	Non Metallic Materials	20	RPM	490	400	350	320	210
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
S	36	Titanium Alloys	10	RPM	240	200	180	160	110
				FEED	0.06-0.10	0.05-0.11	0.06-0.12	0.09-0.13	0.12-0.18

Leading Through Innovation



HSS, HSS-E & HSS-Co8

MORSE TAPER SHANK DRILLS

- Morse Taper Shank Drills for Wide Applications
- 莫氏锥柄麻花钻头

SELECTION GUIDE
选用指南

YG HOLEMAKING TOOLS

HSS, HSS-E & HSSCo8
MORSE TAPER SHANK DRILLS

Morse Taper Shank Drills for Wide Applications
莫氏锥柄麻花钻头

Please visit 请访问 globalyg1.com/mat for material search 查看产品材料

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工条件) : p. A244

SERIES 系列	D1201	D1203	D1202
STANDARD 标准	KS	KS	KS
LENGTH 长度	REGULAR 常规	LONG 长	LONG 长
SIZE MIN 最小尺寸	D13.0	D14.0	D14.0
SIZE MAX 最大尺寸	D60.0	D23.0	D32.0
PAGE 页数	A234	A236	A237
SURFACE TREATMENT 表面处理	Steam Tempered		



ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB 布氏硬度	HRc 硬度			
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	D1204	D1208	D1207	D2201	D2203	D2202	D2204	D2208	DN221
STANDARD 标准	KS	KS	KS	KS	KS	KS	KS	KS	-
LENGTH 长度	LONG 长	LONG 长	LONG 长	REGULAR 常规	LONG 长	LONG 长	LONG 长	LONG 长	SHORT 短
SIZE MIN 最小尺寸	D14.5	D14.5	D14.5	D13.0	D16.0	D18.0	D20.0	D20.0	D13.0
SIZE MAX 最大尺寸	D50.0	D50.0	D50.0	D47.0	D22.0	D30.0	D20.0	D30.0	D32.0
PAGE 页数	A238	A239	A240	A241	A242	A242	A242	A242	A243
SURFACE TREATMENT 表面处理	Steam Tempered								TiN



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CARBIDE
HSS
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

MORSE TAPER SHANK DRILLS

D1201 SERIES

HSS, MORSE TAPER SHANK DRILLS

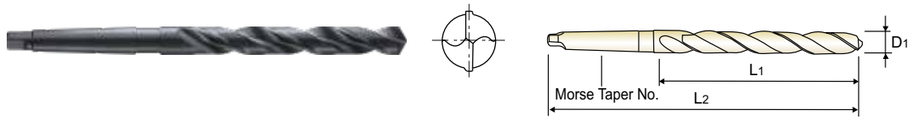
REGULAR

HSS, 莫氏锥柄麻花钻头

常规

▶**Surface treatment** : Steam Homo (Black Oxide Finish)
▶**Application** : Drilling into steel, cast steel alloyed and non-alloyed, grey cast iron, melleable cast iron

▶表面处理：氧化发黑处理
▶应用 ：适用于钢, 铸钢合金和非合金钢, 灰铸铁, 可锻铸铁, 石 墨的加工



HSS | N 30° | 1 ~ 5 | h8 | 118° | p. A244

Recommended ToolHolder — Plain Shank — MORSE TAPER ARBOR — Page D177 - 181

Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2	No.of Morse Taper 莫氏锥度号
D1201130	13.0	115	198	1
D1201132	13.2	118	202	1
D1201135	13.5	118	202	1
D1201138	13.8	122	205	1
D1201140	14.0	122	205	1
D1201145	14.5	122	222	2
D1201150	15.0	125	225	2
D1201155	15.5	128	228	2
D1201160	16.0	130	230	2
D1201165	16.5	132	232	2
D1201170	17.0	135	235	2
D1201175	17.5	140	240	2
D1201180	18.0	140	240	2
D1201185	18.5	145	245	2
D1201190	19.0	145	245	2
D1201195	19.5	150	250	2
D1201200	20.0	150	250	2
D1201205	20.5	155	255	2

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2	No.of Morse Taper 莫氏锥度号
D1201210	21.0	155	255	2
D1201215	21.5	160	260	2
D1201220	22.0	160	260	2
D1201225	22.5	165	265	2
D1201230	23.0	165	265	2
D1201235	23.5	165	285	3
D1201240	24.0	165	285	3
D1201245	24.5	165	285	3
D1201250	25.0	165	285	3
D1201255	25.5	165	285	3
D1201260	26.0	165	285	3
D1201265	26.5	170	290	3
D1201270	27.0	170	290	3
D1201275	27.5	175	295	3
D1201280	28.0	175	295	3
D1201285	28.5	180	300	3
D1201290	29.0	180	300	3
D1201295	29.5	185	305	3

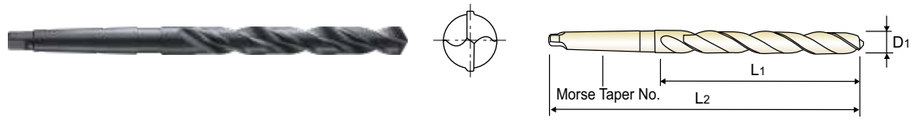
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◎ : Excellent (优秀) ○ : Good (良好)

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	○	○	○						○							○					

MORSE TAPER SHANK DRILLS
D1201 SERIES
HSS, MORSE TAPER SHANK DRILLS
REGULAR
HSS, 莫氏锥柄麻花钻头
常规
▶Surface treatment : Steam Homo (Black Oxide Finish)
▶Application : Drilling into steel, cast steel alloyed and non-alloyed, grey cast iron, melleable cast iron
▶表面处理：氧化发黑处理
▶应用 ：适用于钢, 铸钢合金和非合金钢, 灰铸铁, 可锻铸铁, 石 墨的加工



HSS | N 30° | 1 ~ 5 | h8 | 118° | p. A244
Recommended ToolHolder — Plain Shank — MORSE TAPER ARBOR — Page D177 - 181
Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2	No.of Morse Taper 莫氏锥度号
D1201300	30.0	185	305	3
D1201305	30.5	190	310	3
D1201310	31.0	190	310	3
D1201315	31.5	195	315	3
D1201320	32.0	195	315	3
D1201330	33.0	200	345	4
D1201340	34.0	205	350	4
D1201350	35.0	205	350	4
D1201360	36.0	210	355	4
D1201370	37.0	210	355	4
D1201380	38.0	215	360	4
D1201390	39.0	215	360	4
D1201400	40.0	220	365	4
D1201410	41.0	220	365	4
D1201420	42.0	225	370	4
D1201430	43.0	225	370	4
D1201440	44.0	230	375	4

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2	No.of Morse Taper 莫氏锥度号
D1201450	45.0	230	375	4
D1201460	46.0	235	380	4
D1201470	47.0	235	380	4
D1201480	48.0	240	385	4
D1201490	49.0	240	385	4
D1201500	50.0	245	390	4
D1201510	51.0	245	425	5
D1201520	52.0	250	430	5
D1201530	53.0	250	430	5
D1201540	54.0	255	435	5
D1201550	55.0	255	435	5
D1201560	56.0	260	440	5
D1201570	57.0	260	440	5
D1201580	58.0	265	445	5
D1201590	59.0	265	445	5
D1201600	60.0	270	450	5

◎ : 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	○	○	○						○							○					

MORSE TAPER SHANK DRILLS

D1203 SERIES

HSS, MORSE TAPER SHANK DRILLS

LONG

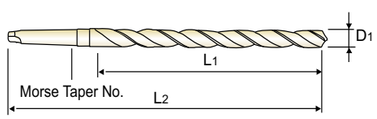
HSS, 莫氏锥柄麻花钻头

长

▶**Surface treatment** : Steam Homo (Black Oxide Finish)
▶**Application** : Designed for drilling deep hole or deeply located hole.
Drilling into steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron, Spheroidal graphite cast iron, sintered iron, aluminium and aluminium alloy.

▶表面处理：氧化发黑处理
▶应用 ：设计用于深孔加工或深定位孔加工.
适用于钢, 铸钢合金和非合金钢, 灰铸铁, 可锻铸铁, 球状石墨铸铁, 烧结铁, 铝和铝合金的深孔和深定位孔的钻削.





HSS | N 30° | 1~2 | h8 | 118° | p. A244

Recommended ToolHolder — Plain Shank — MORSE TAPER ARBOR — Page D177-181

Overall Length : 300mm

Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2	No.of Morse Taper 莫氏锥度号
D1203140	14.0	200	300	1
D1203145	14.5	175	300	2
D1203150	15.0	175	300	2
D1203155	15.5	175	300	2
D1203160	16.0	175	300	2
D1203165	16.5	175	300	2
D1203170	17.0	175	300	2
D1203175	17.5	175	300	2
D1203180	18.0	175	300	2
D1203185	18.5	175	300	2

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2	No.of Morse Taper 莫氏锥度号
D1203190	19.0	175	300	2
D1203195	19.5	175	300	2
D1203200	20.0	175	300	2
D1203205	20.5	175	300	2
D1203210	21.0	175	300	2
D1203215	21.5	175	300	2
D1203220	22.0	175	300	2
D1203225	22.5	175	300	2
D1203230	23.0	175	300	2

◎ : 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	○	○	○						○							○					

MORSE TAPER SHANK DRILLS

D1202 SERIES

HSS, MORSE TAPER SHANK DRILLS

LONG

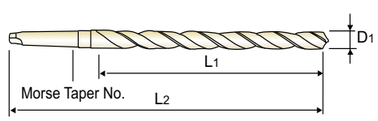
HSS, 莫氏锥柄麻花钻头

长

▶**Surface treatment** : Steam Homo (Black Oxide Finish)
▶**Application** : Designed for drilling deep hole or deeply located hole.
Drilling into steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron, Spheroidal graphite cast iron, sintered iron, aluminium and aluminium alloy.

▶表面处理：氧化发黑处理
▶应用 ：设计用于深孔加工或深定位孔加工.
适用于钢, 铸钢合金和非合金钢, 灰铸铁, 可锻铸铁, 球 状石墨铸铁, 烧结铁, 铝和铝合金的深孔和深定位孔的钻削.





HSS | N 30° | 1~3 | h8 | 118° | p. A244

Recommended ToolHolder — Plain Shank — MORSE TAPER ARBOR — Page D177-181

Overall Length : 350mm

Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2	No.of Morse Taper 莫氏锥度号
D1202140	14.0	225	350	1
D1202145	14.5	225	350	2
D1202150	15.0	225	350	2
D1202155	15.5	225	350	2
D1202160	16.0	225	350	2
D1202165	16.5	225	350	2
D1202170	17.0	225	350	2
D1202175	17.5	225	350	2
D1202180	18.0	225	350	2
D1202185	18.5	225	350	2
D1202190	19.0	225	350	2
D1202195	19.5	225	350	2
D1202200	20.0	225	350	2
D1202205	20.5	225	350	2
D1202210	21.0	225	350	2
D1202215	21.5	225	350	2
D1202220	22.0	225	350	2
D1202225	22.5	225	350	2
D1202230	23.0	225	350	2

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2	No.of Morse Taper 莫氏锥度号
D1202235	23.5	200	350	3
D1202240	24.0	200	350	3
D1202245	24.5	200	350	3
D1202250	25.0	200	350	3
D1202255	25.5	200	350	3
D1202260	26.0	200	350	3
D1202265	26.5	200	350	3
D1202270	27.0	200	350	3
D1202275	27.5	200	350	3
D1202280	28.0	200	350	3
D1202285	28.5	200	350	3
D1202290	29.0	200	350	3
D1202295	29.5	200	350	3
D1202300	30.0	200	350	3
D1202305	30.5	200	350	3
D1202310	31.0	200	350	3
D1202315	31.5	200	350	3
D1202320	32.0	200	350	3

◎ : 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	○	○	○						○							○					

MORSE TAPER SHANK DRILLS

D1204 SERIES

HSS, MORSE TAPER SHANK DRILLS

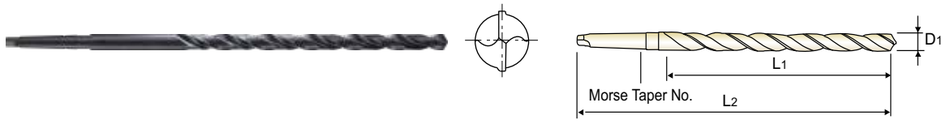
LONG

HSS, 莫氏锥柄麻花钻头

长

▶**Surface treatment** : Steam Homo (Black Oxide Finish)
▶**Application** : Designed for drilling deep hole or deeply located hole.
Drilling into steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron, Spheroidal graphite cast iron, sintered iron, aluminium and aluminium alloy.

▶表面处理：氧化发黑处理
▶应用 ：设计用于深孔加工或深定位孔加工.
适用于钢, 铸钢合金和非合金钢, 灰铸铁, 可锻铸铁, 球状石墨铸铁, 烧结铁, 铝和铝合金的深孔和深定位孔的钻削.



HSS | N 30° | 2~4 | h8 | 118° | p. A244

Recommended ToolHolder — Plain Shank — MORSE TAPER ARBOR — Page D177-181

Overall Length : 400mm

Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2	No.of Morse Taper 莫氏锥度号
D1204145	14.5	250	400	2
D1204150	15.0	250	400	2
D1204155	15.5	250	400	2
D1204160	16.0	250	400	2
D1204165	16.5	250	400	2
D1204170	17.0	250	400	2
D1204175	17.5	250	400	2
D1204180	18.0	250	400	2
D1204185	18.5	250	400	2
D1204190	19.0	250	400	2
D1204195	19.5	250	400	2
D1204200	20.0	250	400	2
D1204205	20.5	250	400	2
D1204210	21.0	250	400	2
D1204215	21.5	250	400	2
D1204220	22.0	250	400	2
D1204225	22.5	250	400	2
D1204230	23.0	250	400	2
D1204235	23.5	250	400	3
D1204240	24.0	250	400	3
D1204245	24.5	250	400	3
D1204250	25.0	250	400	3
D1204255	25.5	250	400	3
D1204260	26.0	250	400	3
D1204265	26.5	250	400	3
D1204270	27.0	250	400	3
D1204275	27.5	250	400	3

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2	No.of Morse Taper 莫氏锥度号
D1204280	28.0	250	400	3
D1204285	28.5	250	400	3
D1204290	29.0	250	400	3
D1204295	29.5	250	400	3
D1204300	30.0	250	400	3
D1204305	30.5	250	400	3
D1204310	31.0	250	400	3
D1204315	31.5	250	400	3
D1204320	32.0	250	400	3
D1204330	33.0	250	400	4
D1204340	34.0	250	400	4
D1204350	35.0	250	400	4
D1204360	36.0	250	400	4
D1204370	37.0	250	400	4
D1204380	38.0	250	400	4
D1204390	39.0	250	400	4
D1204400	40.0	250	400	4
D1204410	41.0	250	400	4
D1204420	42.0	250	400	4
D1204430	43.0	250	400	4
D1204440	44.0	250	400	4
D1204450	45.0	250	400	4
D1204460	46.0	250	400	4
D1204470	47.0	250	400	4
D1204480	48.0	250	400	4
D1204490	49.0	250	400	4
D1204500	50.0	250	400	4

◎ : 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	○	○	○						○							○					

MORSE TAPER SHANK DRILLS

D1208 SERIES

HSS, MORSE TAPER SHANK DRILLS

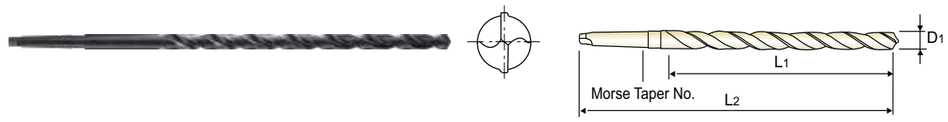
LONG

HSS, 莫氏锥柄麻花钻头

长

▶**Surface treatment** : Steam Homo (Black Oxide Finish)
▶**Application** : Designed for drilling deep hole or deeply located hole.
Drilling into steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron, Spheroidal graphite cast iron, sintered iron, aluminium and aluminium alloy.

▶表面处理：氧化发黑处理
▶应用 ：设计用于深孔加工或深定位孔加工.
适用于钢, 铸钢合金和非合金钢, 灰铸铁, 可锻铸铁, 球状石墨铸铁, 烧结铁, 铝和铝合金的深孔和深定位孔的钻削.



HSS | N 30° | 2~4 | h8 | 118° | p. A244

Recommended ToolHolder — Plain Shank — MORSE TAPER ARBOR — Page D177-181

Overall Length : 450mm

Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2	No.of Morse Taper 莫氏锥度号
D1208145	14.5	300	450	2
D1208150	15.0	300	450	2
D1208155	15.5	300	450	2
D1208160	16.0	300	450	2
D1208165	16.5	300	450	2
D1208170	17.0	300	450	2
D1208175	17.5	300	450	2
D1208180	18.0	300	450	2
D1208185	18.5	300	450	2
D1208190	19.0	300	450	2
D1208195	19.5	300	450	2
D1208200	20.0	300	450	2
D1208205	20.5	300	450	2
D1208210	21.0	300	450	2
D1208215	21.5	300	450	2
D1208220	22.0	300	450	2
D1208225	22.5	300	450	2
D1208230	23.0	300	450	2
D1208235	23.5	300	450	3
D1208240	24.0	300	450	3
D1208245	24.5	300	450	3
D1208250	25.0	300	450	3
D1208255	25.5	300	450	3
D1208260	26.0	300	450	3
D1208265	26.5	300	450	3
D1208270	27.0	300	450	3
D1208275	27.5	300	450	3

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2	No.of Morse Taper 莫氏锥度号
D1208280	28.0	300	450	3
D1208285	28.5	300	450	3
D1208290	29.0	300	450	3
D1208295	29.5	300	450	3
D1208300	30.0	300	450	3
D1208305	30.5	300	450	3
D1208310	31.0	300	450	3
D1208315	31.5	300	450	3
D1208320	32.0	300	450	3
D1208330	33.0	300	450	4
D1208340	34.0	300	450	4
D1208350	35.0	300	450	4
D1208360	36.0	300	450	4
D1208370	37.0	300	450	4
D1208380	38.0	300	450	4
D1208390	39.0	300	450	4
D1208400	40.0	300	450	4
D1208410	41.0	300	450	4
D1208420	42.0	300	450	4
D1208430	43.0	300	450	4
D1208440	44.0	300	450	4
D1208450	45.0	300	450	4
D1208460	46.0	300	450	4
D1208470	47.0	300	450	4
D1208480	48.0	300	450	4
D1208490	49.0	300	450	4
D1208500	50.0	300	450	4

◎ : 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	○	○	○						○							○					

MORSE TAPER SHANK DRILLS

D1207 SERIES

HSS, MORSE TAPER SHANK DRILLS — *LONG*

HSS, 莫氏锥柄麻花钻头 — 长

▶**Surface treatment** : Steam Homo (Black Oxide Finish)
▶**Application** : Designed for drilling deep hole or deeply located hole.
Drilling into steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron, Spheroidal graphite cast iron, sintered iron, aluminium and aluminium alloy.

▶表面处理：氧化发黑处理
▶应用 ：设计用于深孔加工或深定位孔加工.
适用于钢, 铸钢合金和非合金钢, 灰铸铁, 可锻铸铁, 球状石墨铸铁, 烧结铁, 铝和铝合金的深孔和深定位孔的钻削.



HSS | N 30° | 2~4 | h8 | 118° | p. A244

Recommended ToolHolder — Plain Shank — MORSE TAPER ARBOR — Page D177-181

Overall Length : 500mm

Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2	No.of Morse Taper 莫氏锥度号
D1207145	14.5	350	500	2
D1207150	15.0	350	500	2
D1207155	15.5	350	500	2
D1207160	16.0	350	500	2
D1207165	16.5	350	500	2
D1207170	17.0	350	500	2
D1207175	17.5	350	500	2
D1207180	18.0	350	500	2
D1207185	18.5	350	500	2
D1207190	19.0	350	500	2
D1207195	19.5	350	500	2
D1207200	20.0	350	500	2
D1207205	20.5	350	500	2
D1207210	21.0	350	500	2
D1207215	21.5	350	500	2
D1207220	22.0	350	500	2
D1207225	22.5	350	500	2
D1207230	23.0	350	500	2
D1207235	23.5	350	500	3
D1207240	24.0	350	500	3
D1207245	24.5	350	500	3
D1207250	25.0	350	500	3
D1207255	25.5	350	500	3
D1207260	26.0	350	500	3
D1207265	26.5	350	500	3
D1207270	27.0	350	500	3
D1207275	27.5	350	500	3

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2	No.of Morse Taper 莫氏锥度号
D1207280	28.0	350	500	3
D1207285	28.5	350	500	3
D1207290	29.0	350	500	3
D1207295	29.5	350	500	3
D1207300	30.0	350	500	3
D1207305	30.5	350	500	3
D1207310	31.0	350	500	3
D1207315	31.5	350	500	3
D1207320	32.0	350	500	3
D1207330	33.0	350	500	4
D1207340	34.0	350	500	4
D1207350	35.0	350	500	4
D1207360	36.0	350	500	4
D1207370	37.0	350	500	4
D1207380	38.0	350	500	4
D1207390	39.0	350	500	4
D1207400	40.0	350	500	4
D1207410	41.0	350	500	4
D1207420	42.0	350	500	4
D1207430	43.0	350	500	4
D1207440	44.0	350	500	4
D1207450	45.0	350	500	4
D1207460	46.0	350	500	4
D1207470	47.0	350	500	4
D1207480	48.0	350	500	4
D1207490	49.0	350	500	4
D1207500	50.0	350	500	4

◎ : 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	○	○	○						○							○					

MORSE TAPER SHANK DRILLS

D2201 SERIES

HSSCo8, MORSE TAPER SHANK DRILLS — *REGULAR*

HSSCo8, 莫氏锥柄麻花钻头 — 常规

▶**Surface treatment** : Steam Homo (Black Oxide Finish)
▶**Application** : Cobalt 8% high speed steel-higher speed and feed, longer service life than HSS.
Drilling in steel, cast steel alloyed and unalloyed grey cast iron, malleable cast iron

▶表面处理：氧化发黑处理
▶应用 ：适用于钢, 铸钢合金, 非合金灰铸件, 可锻适铸件和石墨等材料的加工 含8% 钴高速钢材料, 大大优越于一般高速钢.



Only available till stock runs out
尽在库存用完之前可用

HSS Co8 | N 30° | 1~5 | h8 | 118° | p. A244

Recommended ToolHolder — Plain Shank — MORSE TAPER ARBOR — Page D177-181

Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2	No.of Morse Taper 莫氏锥度号
▲ D2201130	13.0	115	198	1
▲ D2201135	13.5	118	202	1
▲ D2201138	13.8	122	205	1
▲ D2201140	14.0	122	205	1
▲ D2201145	14.5	122	222	2
▲ D2201150	15.0	125	225	2
▲ D2201155	15.5	128	228	2
▲ D2201160	16.0	130	230	2
▲ D2201165	16.5	132	232	2
▲ D2201170	17.0	135	235	2
▲ D2201175	17.5	140	240	2
▲ D2201180	18.0	140	240	2
▲ D2201185	18.5	145	245	2
▲ D2201190	19.0	145	245	2
▲ D2201195	19.5	150	250	2
▲ D2201200	20.0	150	250	2
▲ D2201205	20.5	155	255	2
▲ D2201210	21.0	155	255	2
▲ D2201215	21.5	160	260	2
▲ D2201220	22.0	160	260	2
▲ D2201225	22.5	165	265	2
▲ D2201230	23.0	165	265	2
▲ D2201235	23.5	165	285	3
▲ D2201240	24.0	165	285	3

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2	No.of Morse Taper 莫氏锥度号
▲ D2201245	24.5	165	285	3
▲ D2201250	25.0	165	285	3
▲ D2201255	25.5	165	285	3
▲ D2201260	26.0	165	285	3
▲ D2201265	26.5	170	290	3
▲ D2201270	27.0	170	290	3
▲ D2201275	27.5	175	295	3
▲ D2201280	28.0	175	295	3
▲ D2201285	28.5	180	300	3
▲ D2201290	29.0	180	300	3
▲ D2201295	29.5	185	305	3
▲ D2201300	30.0	185	305	3
▲ D2201310	31.0	190	310	3
▲ D2201315	31.5	195	315	3
▲ D2201320	32.0	195	315	3
▲ D2201340	34.0	205	350	4
▲ D2201350	35.0	205	350	4
▲ D2201360	36.0	210	355	4
▲ D2201380	38.0	215	360	4
▲ D2201400	40.0	220	365	4
▲ D2201420	42.0	225	370	4
▲ D2201450	42.0	230	375	4
▲ D2201520	52.0	250	430	5
▲ D2201570	47.0	260	440	5

▲ : Only available till stock runs out

◎ : 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	○	○	○						○							○					

MORSE TAPER SHANK DRILLS

D2203 SERIES | D2204 SERIES | D2202 SERIES | D2208 SERIES

HSSCo8, MORSE TAPER SHANK DRILLS — LONG

HSSCo8, 莫氏锥柄麻花钻头 — 长

▶**Surface treatment** : Steam Homo (Black Oxide Finish)
▶**Application** : Cobalt 8% high speed steel-higher speed and feed, longer service life than HSS. Drilling in steel, cast steel alloyed and non-alloyed grey cast iron, malleable cast iron

▶表面处理：氧化发黑处理
▶应 用 ：适用于钢, 铸钢合金, 非合金灰铸件, 可锻适铸件和石墨 等材料的加工 含8% 钴高速钢材料, 大大优越于一般高速钢.



Only available till stock runs out
尽在库存用完之前可用

HSS Co8 | N 30° | 2~3 | h8 | 118° | p. A244

Recommended ToolHolder — Plain Shank: MORSE TAPER ARBOR — Page: D177 - 181

D2203

Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2	No.of Morse Taper 莫氏锥度号
▲ D2203160	16.0	175	300	2
▲ D2203180	18.0	175	300	2
▲ D2203220	22.0	175	300	2

▲ : Only available till stock runs out

D2202

Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2	No.of Morse Taper 莫氏锥度号
▲ D2202180	18.0	225	350	2
▲ D2202240	24.0	200	350	3
▲ D2202280	28.0	200	350	3
▲ D2202300	30.0	200	350	3

▲ : Only available till stock runs out

D2204

Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2	No.of Morse Taper 莫氏锥度号
▲ D2204200	20.0	250	400	2

▲ : Only available till stock runs out

D2208

Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2	No.of Morse Taper 莫氏锥度号
▲ D2208200	20.0	300	450	2
▲ D2208300	30.0	300	450	3

▲ : Only available till stock runs out

◎ : 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	○	○	○						○							○					

MORSE TAPER SHANK DRILLS

DN221 SERIES

HSS-E, MORSE TAPER SHANK TWIST DRILLS — SHORT

HSS-E, 莫氏锥柄麻花钻 — 短

▶**Application** : Short length - designed for high speed drilling in wide rarge of materials like carbon steels, stainless steels and aluminum.

▶应用： 短长度设计适合在碳钢, 不锈钢, 铝等多种材料上进行高速 钻削.



Only available till stock runs out
尽在库存用完之前可用

HSS-E | N 30° | 1~3 | h8 | 135° | p. A245

Recommended ToolHolder — Plain Shank: MORSE TAPER ARBOR — Page: D177 - 181

Unit(单位) : mm

EDP No 型号 TiN	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2	No.of Morse Taper 莫氏锥度号
▲ DN221130	13.0	65.5	146.5	1
▲ DN221135	13.5	69.5	150.5	1
▲ DN221140	14.0	69.5	150.5	1
▲ DN221145	14.5	73	171	2
▲ DN221155	15.5	77	175	2
▲ DN221160	16.0	77	175	2
▲ DN221170	17.0	80.5	178.5	2
▲ DN221175	17.5	83.5	181.5	2
▲ DN221185	18.5	86.5	184.5	2
▲ DN221195	19.5	90	188	2
▲ DN221200	20.0	90	188	2
▲ DN221210	21.0	93	191	2
▲ DN221215	21.5	95.5	193.5	2
▲ DN221220	22.0	95.5	193.5	2
▲ DN221225	22.5	99.5	197.5	2

EDP No 型号 TiN	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2	No.of Morse Taper 莫氏锥度号
▲ DN221235	23.5	102.5	223.5	3
▲ DN221240	24.0	102.5	223.5	3
▲ DN221245	24.5	102.5	223.5	3
▲ DN221250	25.0	102.5	223.5	3
▲ DN221255	25.5	105	226	3
▲ DN221260	26.0	105	226	3
▲ DN221265	26.5	105	226	3
▲ DN221275	27.5	108.5	229.5	3
▲ DN221280	28.0	108.5	229.5	3
▲ DN221285	28.5	111	232	3
▲ DN221295	29.5	111	232	3
▲ DN221300	30.0	111	232	3
▲ DN221310	31.0	114	235	3
▲ DN221320	32.0	114	235	3

▲ : Only available till stock runs out

◎ : 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	○	○	○													○					

MORSE TAPER SHANK DRILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

D1201, D1203, D1202, D1204, D1208, D1207, D2201, D2203, D2202, D2204, D2208 SERIES

HSS & HSSCo8, MORSE TAPER SHANK DRILLS
HSS & HSSCO8, 莫氏锥柄麻花钻头

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)							
					13.0	16.0	18.0	20.0	30.0	40.0	50.0	60.0
P	1	Non-alloy steel	30	RPM	730	600	530	480	320	240	190	160
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.36-0.40
	2		25	RPM	610	500	440	400	270	200	160	130
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.36-0.40
	3		20	RPM	490	400	350	320	210	160	130	110
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.36-0.40
	4		15	RPM	370	300	270	240	160	120	100	80
				FEED	0.04-0.10	0.06-0.12	0.08-0.14	0.10-0.16	0.12-0.18	0.14-0.20	0.16-0.22	0.18-0.24
	6	Low alloy steel	25	RPM	610	500	440	400	270	200	160	130
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.36-0.40
	7		20	RPM	490	400	350	320	210	160	130	110
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.36-0.40
	8		15	RPM	370	300	270	240	160	120	100	80
				FEED	0.04-0.10	0.06-0.12	0.08-0.14	0.10-0.16	0.12-0.18	0.14-0.20	0.16-0.22	0.18-0.24
	10	High alloyed steel, and tool steel	15	RPM	370	300	270	240	160	120	100	80
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.36-0.40
M	12	Stainless steel	20	RPM	490	400	350	320	210	160	130	110
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.36-0.40
	13		15	RPM	370	300	270	240	160	120	100	80
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.36-0.40
K	15	Grey cast iron	30	RPM	730	600	530	480	320	240	190	160
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.36-0.40
	16		25	RPM	610	500	440	400	270	200	160	130
				FEED	0.04-0.10	0.06-0.12	0.08-0.14	0.10-0.16	0.12-0.18	0.14-0.20	0.16-0.22	0.18-0.24
	17	Nodular cast iron	30	RPM	730	600	530	480	320	240	190	160
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.36-0.40
	18		20	RPM	490	400	350	320	210	160	130	110
				FEED	0.04-0.10	0.06-0.12	0.08-0.14	0.10-0.16	0.12-0.18	0.14-0.20	0.16-0.22	0.18-0.24
	19	Malleable cast iron	25	RPM	610	500	440	400	270	200	160	130
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.36-0.40
	20		20	RPM	490	400	350	320	210	160	130	110
				FEED	0.04-0.10	0.06-0.12	0.08-0.14	0.10-0.16	0.12-0.18	0.14-0.20	0.16-0.22	0.18-0.24
N	21	Aluminum-wrought alloy	55	RPM	1350	1090	970	880	580	440	350	290
				FEED	0.16-0.22	0.18-0.24	0.20-0.28	0.20-0.30	0.28-0.38	0.32-0.42	0.36-0.46	0.40-0.50
	22		55	RPM	1350	1090	970	880	580	440	350	290
				FEED	0.16-0.22	0.18-0.24	0.20-0.28	0.20-0.30	0.28-0.38	0.32-0.42	0.36-0.46	0.40-0.50
	23	Aluminum-cast, alloyed	40	RPM	980	800	710	640	420	320	250	210
				FEED	0.16-0.22	0.18-0.24	0.20-0.28	0.20-0.30	0.28-0.38	0.32-0.42	0.36-0.46	0.40-0.50
	29	Non Metallic Materials	20	RPM	490	400	350	320	210	160	130	110
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.36-0.40
S	36	Titanium Alloys	10	RPM	240	200	180	160	110	80	60	50
				FEED	0.06-0.10	0.05-0.11	0.06-0.12	0.09-0.13	0.12-0.18	0.14-0.20	0.16-0.22	0.18-0.24

MORSE TAPER SHANK DRILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

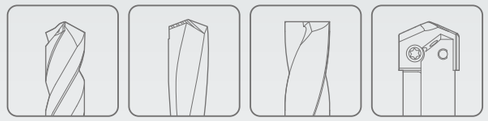
DN221 SERIES

HSS-E, MORSE TAPER SHANK DRILLS
HSS-E, 莫氏锥柄麻花钻头

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)				
					13.0	16.0	18.0	20.0	30.0
P	1	Non-alloy steel	40	RPM	980	800	710	640	420
				FEED	0.16-0.22	0.17-0.23	0.19-0.25	0.24-0.30	0.27-0.33
	2		30	RPM	730	600	530	480	320
				FEED	0.16-0.22	0.17-0.23	0.19-0.25	0.24-0.30	0.27-0.33
	3		25	RPM	610	500	440	400	270
				FEED	0.16-0.22	0.17-0.23	0.19-0.25	0.24-0.30	0.27-0.33
	4		20	RPM	490	400	350	320	210
				FEED	0.09-0.15	0.11-0.17	0.13-0.19	0.15-0.21	0.17-0.23
	6	Low alloy steel	30	RPM	730	600	530	480	320
				FEED	0.16-0.22	0.17-0.23	0.19-0.25	0.24-0.30	0.27-0.33
	7		25	RPM	610	500	440	400	270
				FEED	0.16-0.22	0.17-0.23	0.19-0.25	0.24-0.30	0.27-0.33
	8		20	RPM	490	400	350	320	210
				FEED	0.09-0.15	0.11-0.17	0.13-0.19	0.15-0.21	0.17-0.23
	10	High alloyed steel, and tool steel	20	RPM	490	400	350	320	210
				FEED	0.16-0.22	0.17-0.23	0.19-0.25	0.24-0.30	0.27-0.33
K	15	Grey cast iron	40	RPM	980	800	710	640	420
				FEED	0.16-0.22	0.17-0.23	0.19-0.25	0.24-0.30	0.27-0.33
	16		30	RPM	730	600	530	480	320
				FEED	0.09-0.15	0.11-0.17	0.13-0.19	0.15-0.21	0.17-0.23
	17	Nodular cast iron	40	RPM	980	800	710	640	420
				FEED	0.16-0.22	0.17-0.23	0.19-0.25	0.24-0.30	0.27-0.33
	18		25	RPM	610	500	440	400	270
				FEED	0.09-0.15	0.11-0.17	0.13-0.19	0.15-0.21	0.17-0.23
	19	Malleable cast iron	30	RPM	730	600	530	480	320
				FEED	0.16-0.22	0.17-0.23	0.19-0.25	0.24-0.30	0.27-0.33
	20		25	RPM	610	500	440	400	270
				FEED	0.09-0.15	0.11-0.17	0.13-0.19	0.15-0.21	0.17-0.23
N	21	Aluminum-wrought alloy	60	RPM	1470	1190	1060	950	640
				FEED	0.21-0.27	0.23-0.29	0.25-0.33	0.25-0.35	0.33-0.43
	22		60	RPM	1470	1190	1060	950	640
				FEED	0.21-0.27	0.23-0.29	0.25-0.33	0.25-0.35	0.33-0.43
	23	Aluminum-cast, alloyed	45	RPM	1100	900	800	720	480
				FEED	0.21-0.27	0.23-0.29	0.25-0.33	0.25-0.35	0.33-0.43
S	36	Titanium Alloys	15	RPM	370	300	270	240	160
				FEED	0.06-0.10	0.05-0.11	0.06-0.12	0.09-0.13	0.12-0.18

Global Cutting Tool Leader **YG-1**



HOLEMAKING

Leading Through Innovation



HSSCo8

NC-SPOTTING DRILLS

- For Centering and Chamfering of Holes
- 定中心和倒角

SELECTION GUIDE
选用指南

HOLEMAKING TOOLS

SERIES 选用指南	D2306 D2307	D2320 D2323
POINT ANGLE 钻尖角度	90°/120°	142°
SIZE MIN 最小尺寸	D3.0	D3.0 / D6.0
SIZE MAX 最大尺寸	D20.0	D20.0 / D12.0
PAGE 页数	A249	A250
SURFACE TREATMENT 表面处理	Bright	



HSSCo8
NC-SPOTTING DRILLS

For Centering and Chamfering of Holes
定中心和倒角

Please visit 请访问 globalyg1.com/mat for material search 查看产品材料

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工条件) : p. A251

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB 布氏硬度	HRc 硬度	D2306 D2307	D2320 D2323
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		

NC-SPOTTING DRILLS

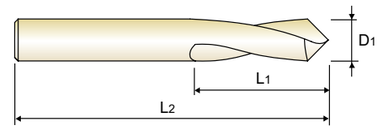
90° D2306 SERIES
120° D2307 SERIES

HSSCo8, NC-SPOTTING DRILLS 90°/120°
HSSCo8, 定心钻头 90°/120°

▶**Surface treatment** : Bright Finish
▶ **Application**: For more precise centering work on NC/CNC Machines. The large diameter of the tool permits chamfering work after centering continuously.

▶ 表面处理：光亮处理
▶ 应用：用于NC/CNC机床上的高精密中心孔加工, 大的产品直径允许 在中心孔加工后继续进行倒角工作.





NC | HSS Co8 | h6 | h6 | 90° | 120° | p. A251

Recommended ToolHolder

	Plain Shank	Page
◎	NC DRILL CHUCK & OTHER TOOL HOLDERS	D247 - 256
○	ER COLLET CHUCK	D73 - 115

Point Angle 90°

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D2306030	3.0	12	46
D2306040	4.0	12	55
D2306050	5.0	15	60
D2306060	6.0	20	66
D2306080	8.0	25	79
D2306100	10.0	25	89
D2306120	12.0	30	102
D2306160	16.0	35	115
D2306200	20.0	40	131

Point Angle 120°

EDP No. 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D2307030	3.0	12	46
D2307040	4.0	12	55
D2307050	5.0	15	60
D2307060	6.0	20	66
D2307080	8.0	25	79
D2307100	10.0	25	89
D2307120	12.0	30	102
D2307160	16.0	35	115
D2307200	20.0	40	131

▶ TiN, TiCN and TiAlN are available on your request. / TiN, TiCN, TiAlN 可根据客户需求进行加工.

◎ : 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	○	○	○																		

NC-SPOTTING DRILLS

D2320 SERIES
D2323 SERIES

HSSCo8, NC-SPOTTING DRILLS 142°
HSSCo8, 定心钻头 142°

▶**Surface treatment** : Bright Finish
▶ **Application**: For more precise centering work on NC/CNC Machines. The large diameter of the tool permits chamfering work after centering continuously.

▶ 表面处理：光亮处理
▶ 应用：用于NC/CNC机床上的高精密中心孔加工, 大的产品直径允许 在中心孔加工后继续进行倒角工作.



NC | HSS Co8 | h6 | h6 | 142° | p. A251

Recommended ToolHolder

	Plain Shank	Page
◎	NC DRILL CHUCK & OTHER TOOL HOLDERS	D247 - 256
○	ER COLLET CHUCK	D73 - 115

LONG LENGTH

Unit(单位) : mm

EDP No. 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D2320030	3.0	12	46
D2320040	4.0	12	55
D2320050	5.0	15	60
D2320060	6.0	20	66
D2320080	8.0	25	79
D2320100	10.0	25	89
D2320120	12.0	30	102
D2320160	16.0	35	115
D2320200	20.0	40	131

EDP No. 型号	Drill Diameter 刃径 D1	Flute Length 槽长 L1	Overall Length 全长 L2
D2323060	6.0	20	140
D2323080	8.0	25	140
D2323100	10.0	25	170
D2323120	12.0	30	170

▶ TiN, TiCN and TiAlN are available on your request. / TiN, TiCN, TiAlN 可根据客户需求进行加工.

◎ : 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	○	○	○																		

NC-SPOTTING DRILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

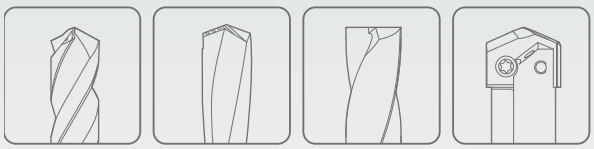
D2306, D2307, D2320, D2323 SERIES

HSSCo8, NC-SPOTTING DRILLS
HSSCo8, 定心钻头

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 2.0	3.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0
P	1	Non-alloy steel	25	RPM	3980	2650	1990	1330	990	800	660	500	400
				FEED	0.02-0.04	0.04-0.06	0.05-0.08	0.07-0.10	0.08-0.12	0.09-0.14	0.11-0.17	0.13-0.19	0.15-0.21
	2		25	RPM	3980	2650	1990	1330	990	800	660	500	400
				FEED	0.02-0.04	0.04-0.06	0.05-0.08	0.07-0.10	0.08-0.12	0.09-0.14	0.11-0.17	0.13-0.19	0.15-0.21
	3		15	RPM	2390	1590	1190	800	600	480	400	300	240
				FEED	0.01-0.03	0.03-0.05	0.04-0.07	0.05-0.08	0.07-0.10	0.08-0.12	0.09-0.14	0.11-0.17	0.13-0.19
	6	Low alloy steel	20	RPM	3180	2120	1590	1060	800	640	530	400	320
				FEED	0.02-0.04	0.04-0.06	0.05-0.08	0.07-0.10	0.08-0.12	0.09-0.14	0.11-0.17	0.13-0.19	0.15-0.21
	7		15	RPM	2390	1590	1190	800	600	480	400	300	240
				FEED	0.01-0.03	0.03-0.05	0.04-0.07	0.05-0.08	0.07-0.10	0.08-0.12	0.09-0.14	0.11-0.17	0.13-0.19
M	12	Stainless steel	15	RPM	2390	1590	1190	800	600	480	400	300	240
				FEED	0.02-0.04	0.04-0.06	0.05-0.08	0.07-0.10	0.08-0.12	0.09-0.14	0.11-0.17	0.13-0.19	0.15-0.21
K	15	Grey cast iron	30	RPM	4770	3180	2390	1590	1190	950	800	600	480
				FEED	0.03-0.05	0.05-0.07	0.06-0.09	0.08-0.11	0.10-0.13	0.12-0.16	0.15-0.2	0.18-0.24	0.22-0.28
	16		25	RPM	3980	2650	1990	1330	990	800	660	500	400
				FEED	0.01-0.03	0.03-0.05	0.04-0.07	0.05-0.08	0.07-0.10	0.08-0.12	0.09-0.14	0.11-0.17	0.13-0.19
	17	Nodular cast iron	30	RPM	4770	3180	2390	1590	1190	950	800	600	480
				FEED	0.03-0.05	0.05-0.07	0.06-0.09	0.08-0.11	0.10-0.13	0.12-0.16	0.15-0.2	0.18-0.24	0.22-0.28
	19	Malleable cast iron	20	RPM	3180	2120	1590	1060	800	640	530	400	320
				FEED	0.03-0.05	0.05-0.07	0.06-0.09	0.08-0.11	0.10-0.13	0.12-0.16	0.15-0.2	0.18-0.24	0.22-0.28
N	21	Aluminum-wrought alloy	65	RPM	10350	6900	5170	3450	2590	2070	1720	1290	1030
				FEED	0.04-0.06	0.06-0.09	0.08-0.11	0.10-0.13	0.12-0.15	0.15-0.19	0.18-0.23	0.21-0.27	0.25-0.31
	22		60	RPM	9550	6370	4770	3180	2390	1910	1590	1190	950
				FEED	0.04-0.06	0.06-0.09	0.08-0.11	0.10-0.13	0.12-0.15	0.15-0.19	0.18-0.23	0.21-0.27	0.25-0.31
	23	Aluminum-cast, alloyed	50	RPM	7960	5310	3980	2650	1990	1590	1330	990	800
				FEED	0.04-0.06	0.06-0.09	0.08-0.11	0.10-0.13	0.12-0.15	0.15-0.19	0.18-0.23	0.21-0.27	0.25-0.31

Global Cutting Tool Leader **YG-1**



HOLEMAKING



Leading Through Innovation

HSS-E

CENTER DRILLS

- General Purpose
- 普通用途

SELECTION GUIDE
选用指南

HOLEMAKING TOOLS

SERIES 系列	DV304	DV305	DV301
DRILLING DEPTH 钻销深度	-	-	-
LENGTH 长度	EXTRA LONG 超长	EXTRA LONG 超长	-
SIZE MIN 最小尺寸	D1.0	D1.5	D1.0
SIZE MAX 最大尺寸	D5.0	D5.0	D6.0
PAGE 页数	A255	A255	A256
SURFACE TREATMENT 表面处理	Bright		



HSS-E
CENTER DRILLS

General Purpose
普通用途

Please visit 请访问 globalyg1.com/mat for material search 查看产品材料

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工条件) : p. A257

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB 布氏硬度	HRc 硬度	DV304	DV305	DV301
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			

CARBIDE
HSS
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

CENTER DRILLS

100mm DV304 SERIES
150mm DV305 SERIES

HSS-E, CENTER DRILLS
HSS-E, 中心钻

EXTRA LONG
超长

▶ **Application** : Center Drills suitable for center drilling and chamfering in general materials.
Excellent performance with High Vanadium HSS-E and YG-1's unique design technology.

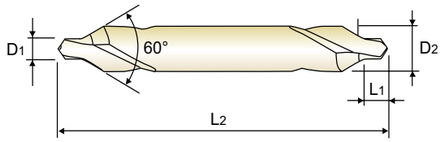
▶ 应用：适用于一般材料的定心孔加工和倒角加工. 采用含钴高速钢材料和YG1独特的设计技术, 具有卓越的加工性能



Overall Length 100mm



Overall Length 150mm



HSS-E | h8 | k12 | 120°

p. A257

Recommended ToolHolder

Plain Shank	Page
NC DRILL CHUCK & OTHER TOOL HOLDERS	D247 - 256
ER COLLET CHUCK	D73 - 115

DV304 : 100mm

EDP No 型号	Drill Diameter 刃径 D1	Shank Diameter 柄径 D2	Pilot Length 槽长 L1	Overall Length 全长 L2
DV304010	1.0	4.0	1.0	100
DV304012	1.2	5.0	1.2	100
DV304015	1.5	5.0	1.5	100
DV304020	2.0	6.0	2.0	100
DV304025	2.5	8.0	2.5	100
DV304030	3.0	8.0	3.0	100
DV304032	3.2	8.0	3.0	100
DV304040	4.0	10.0	4.5	100
DV304050	5.0	12.0	5.5	100

DV305 : 150mm

Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径 D1	Shank Diameter 柄径 D2	Pilot Length 槽长 L1	Overall Length 全长 L2
DV305015	1.5	5.0	1.9	150
DV305020	2.0	6.0	2.5	150
DV305025	2.5	8.0	3.1	150
DV305030	3.0	10.0	3.7	150
DV305040	4.0	10.0	5.0	150
DV305050	5.0	12.0	6.3	150

◎ : 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																					

CENTER DRILLS

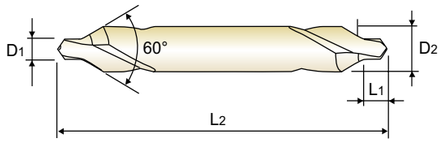
DV301 SERIES

HSS-E, CENTER DRILLS
HSS-E, 中心钻

▶ **Application** : Center Drills suitable for center drilling and chamfering in general materials.
Excellent performance with High Vanadium HSS-E and YG-1's unique design technology.

▶ 应用：适用于一般材料的定心孔加工和倒角加工. 采用含钴高速钢材料和YG1独特的设计技术, 具有卓越的加工性能





HSS-E | h8 | k12 | 120°

p. A257

Recommended ToolHolder

Plain Shank	Page
NC DRILL CHUCK & OTHER TOOL HOLDERS	D247 - 256
ER COLLET CHUCK	D73 - 115

FORM A (60°)

Unit(单位) : mm

EDP No 型号	Drill Diameter 刃径 D1	Shank Diameter 柄径 D2	Pilot Length 槽长 L1	Overall Length 全长 L2
DV301010	1.0	4.0	1.0	35
DV301015	1.5	5.0	1.5	40
DV301020	2.0	6.0	2.0	45
DV301025	2.5	7.7	2.5	50
DV301904	2.5	8.0	2.5	50
DV301030	3.0	7.7	3.0	55
DV301901	3.0	8.0	3.0	55
DV301040	4.0	10.0	4.5	65
DV301050	5.0	11.0	5.5	78
DV301060	6.0	12.0	7.0	95

◎ : 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																					

CENTER DRILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

DV304, DV305, DV301 SERIES

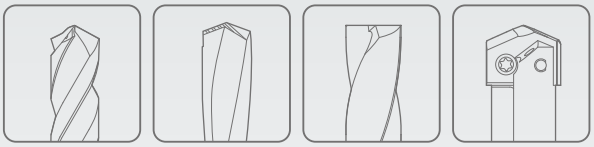
HSS-E, CENTER DRILLS
HSS-E, 中心钻

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 0.5	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 1.0	Drill Diameter 刃径 (mm) 2.0
P	1	Non-alloy steel	30	RPM	19100	40	RPM	12730	6370
				FEED	0.01-0.03		FEED	0.02-0.04	0.03-0.06
	2		25	RPM	15920	35	RPM	9550	4770
				FEED	0.01-0.03		FEED	0.02-0.04	0.03-0.06
	3		20	RPM	12730	25	RPM	7960	3980
				FEED	0.005-0.02		FEED	0.01-0.03	0.01-0.035
	6	Low alloy steel	25	RPM	15920	30	RPM	9550	4770
				FEED	0.01-0.03		FEED	0.02-0.04	0.03-0.06
	7		15	RPM	9550	20	RPM	6370	3180
				FEED	0.005-0.02		FEED	0.01-0.03	0.01-0.035
M	12	Stainless steel	8	RPM	5090	10	RPM	3180	1590
				FEED	0.005-0.02		FEED	0.01-0.03	0.01-0.035
K	15	Grey cast iron	30	RPM	19100	40	RPM	12730	6370
				FEED	0.01-0.03		FEED	0.02-0.04	0.03-0.06
	16		25	RPM	15920	30	RPM	9550	4770
				FEED	0.005-0.02		FEED	0.01-0.03	0.01-0.035
	17	Nodular cast iron	30	RPM	19100	40	RPM	12730	6370
				FEED	0.01-0.03		FEED	0.02-0.04	0.03-0.06
	19	Malleable cast iron	20	RPM	12730	25	RPM	7960	3980
				FEED	0.01-0.03		FEED	0.02-0.04	0.03-0.06

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm) 3.0	4.0	5.0	6.0	8.0	10.0
P	1	Non-alloy steel	40	RPM	4240	3180	2550	2120	1590	1270
				FEED	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.12	0.09-0.15	0.12-0.18
	2		35	RPM	3180	2390	1910	1590	1190	950
				FEED	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.12	0.09-0.15	0.12-0.18
	3		25	RPM	2650	1990	1590	1330	990	800
				FEED	0.015-0.05	0.02-0.06	0.03-0.07	0.04-0.08	0.06-0.12	0.08-0.14
	6	Low alloy steel	30	RPM	3180	2390	1910	1590	1190	950
				FEED	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.12	0.09-0.15	0.12-0.18
	7		20	RPM	2120	1590	1270	1060	800	640
				FEED	0.015-0.05	0.02-0.06	0.03-0.07	0.04-0.08	0.06-0.12	0.08-0.14
M	12	Stainless steel	10	RPM	1060	800	640	530	400	320
				FEED	0.015-0.05	0.02-0.06	0.03-0.07	0.04-0.08	0.06-0.12	0.08-0.14
K	15	Grey cast iron	40	RPM	4240	3180	2550	2120	1590	1270
				FEED	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.12	0.09-0.15	0.12-0.18
	16		30	RPM	3180	2390	1910	1590	1190	950
				FEED	0.015-0.05	0.02-0.06	0.03-0.07	0.04-0.08	0.06-0.12	0.08-0.14
	17	Nodular cast iron	40	RPM	4240	3180	2550	2120	1590	1270
				FEED	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.12	0.09-0.15	0.12-0.18
	19	Malleable cast iron	25	RPM	2650	1990	1590	1330	990	800
				FEED	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.12	0.06-0.12	0.12-0.18

Global Cutting Tool Leader **YG-1**



HOLEMAKING



Leading Through Innovation

INSERTS & HOLDERS

SPADE DRILLS

- For General Machines and Drilling Large Diameters
  Longer Tool Life and High Productivity

- 普通机械和钻头用直径，工具寿命延长及高生产率

SELECTION GUIDE
选用指南

YG HOLEMAKING TOOLS

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Please visit 请访问 globalyg1.com/mat for material search 查看产品材料

◎ : Excellent (优秀) ○ : Good (良好) Recommended cutting conditions (推荐加工条件) : p. A365

SERIES 系列	1~8	Y,Z,0,1~4
TOOL MATERIAL 刀具材料	HSS M4	SUPER HSS T15
POINT 钻顶	STANDARD	STANDARD
SIZE MIN 最小尺寸	Ø17.86(#1)	Ø9.5(#Y)
SIZE MAX 最大尺寸	Ø114.3(#8)	Ø65.09(#4)
PAGE 页数	A264	A270
SURFACE TREATMENT 表面处理	TiN / TiCN / TiAlN	



ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB 布氏硬度	HRc 硬度		
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		

Coating	Characteristics
H	-First choice for excellent wear resistance and toughness -Preventive of chipping due to cold welding -Achieve high penetration rates even in deep holes with reliable tool life -Coefficient of friction against steel : 0.25 -Color : Bronze
TiN	-Increased tool life over non-coating -Improved wear resistance and high hardness -For normal applications -Coefficient of friction against steel : 0.4 -Color : Gold

Y,Z,0,1,2	Y,Z,0,1,2	Y,Z,0,1~3	Y,Z,0,1~3	1~3	Y,Z,0,1~3
PREMIUM HSS M48	CARBIDE K10	CARBIDE K20	CARBIDE P40	HSS M4	SUPER HSS T15
STANDARD	STANDARD	STANDARD	STANDARD	SM-POINT	SM-POINT
Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)	Ø17.86(#1)	Ø9.5(#Y)
Ø35(#2)	Ø35(#2)	Ø47.63(#3)	Ø47.63(#3)	Ø47.63(#3)	Ø47.63(#3)
A275	A278	A281	A285	A290	A293
TiN / TiCN / TiAlN					



◎		○	◎	○	◎	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	
○		◎	○	◎	○	22		
						23		
						24		
						25		
						26		
○		◎	○	◎	○	27		
						28		
						29		
						30		
◎		◎	○		◎	31	S	
◎		◎	○		○	32		
◎		◎	○		○	33		
◎		◎	○		○	34		
◎		◎	○		○	35		
						36		
						37		
◎		○	◎		○	38	H	
						39		
						40		
						41		

TiCN	-Maximum working temperature up to 400°c -Better wear resistance over non-coating -Coefficient of friction against steel : 0.4 -Color : Blue-Grey
TiAlN	-Maximum working temperature up to 800°c -Excellent heat and oxidation resisance -Coefficient of friction against steel : 0.4 -Color : Violet-Grey
Hardslick	-Better chip evauation for tapping and drilling -High hardness and improved lubrication -Coefficient of friction against steel : 0.2 -Color : Black-Gery

CARBIDE

HSS

i-ONE DRILLS

i-DREAM DRILLS

DREAM DRILLS -PRO

DREAM DRILLS -GENERAL

DREAM DRILLS -SOFT

DREAM DRILLS -HIGH FEED

DREAM DRILLS -FLAT BOTTOM

DREAM DRILLS -INOX

DREAM DRILLS -ALU

DREAM DRILLS -CFRP

DREAM DRILLS -MQL

DREAM DRILLS for HIGH HARDENED STEELS

GENERAL CARBIDE DRILLS

MULTI-1 DRILLS

GOLD-P DRILLS

SUPER-GP DRILLS

WORM PATTERN DRILLS

STRAIGHT SHANK DRILLS

TAPER SHANK DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

SPADE DRILLS

REAMERS

COUNTER SINKS

COUNTER BORES

TECHNICAL DATA

SELECTION GUIDE
选用指南

HOLEMAKING TOOLS

INSERTS & HOLDERS
SPADE DRILLS

For General Machines and Drilling Large Diameters
Longer Tool Life and High Productivity
普通机械和钻头用直径，工具寿命延长及高生产率

Please visit 请访问 globalyg1.com/mat for material search 查看产品材料

◎ : Excellent (优秀) ○ : Good (良好) Recommended cutting conditions (推荐加工条件) : p. A365

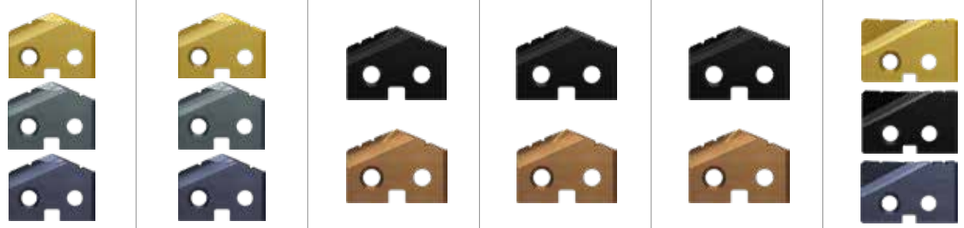
	SERIES 系列	Y,Z,0,1,2	Y,Z,0,1,2
	TOOL MATERIAL 刀具材料	PREMIUM HSS M48	CARBIDE K10
	POINT 钻顶	SM-POINT	SM-POINT
	SIZE MIN 最小尺寸	Ø9.5(#Y)	Ø9.5(#Y)
	SIZE MAX 最大尺寸	Ø35(#2)	Ø35(#2)
	PAGE 页数	A297	A300
	SURFACE TREATMENT 表面处理	TiN / TiCN / TiAlN	



ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB 布氏硬度	HRc 硬度		
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		

TAPER SHANK		TAPER SHANK HOLDERS - INCH/METRIC 锥柄刀杆	A364
FLANGED SHANK		FLANGED STRAIGHT SHANK HOLDERS - INCH/METRIC 凸缘直柄刀杆	A364
STRAIGHT SHANK		STRAIGHT SHANK HOLDERS - INCH 直柄刀杆	A382

	Y,Z,0,1~3	Y,Z,0,1~3	Y,Z,0,1~8	Y,Z,0,1~8	Y,Z,0,1~3	Y,Z,0,1,2
	CARBIDE K20	CARBIDE P40	SUPER COBALT T15	PREMIUM COBALT M48	C5 P40	SUPER COBALT T15
	SM-POINT	SM-POINT	SV-POINT	SV-POINT	SV-POINT	FALT BOTTOM
	Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)
	Ø47.63(#3)	Ø47.63(#3)	Ø114.3(#3)	Ø114.3(#3)	Ø47.63(#2)	Ø35(#2)
	A303	A307	A312	A323	A334	A339
	TiN / TiCN / TiAlN		Hardslick / H-Coating			TiN / Hardslick / TiAlN



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	
22	◎	○	○	○	○	○		
23								
24								
25								
26								
27	◎	○	○	○	○	○		
28								
29								
30								
31	◎	○	◎	◎	◎	◎	S	
32	◎	○	○	○	○	○		
33	◎	○	○	○	○	○		
34	◎	○	○	○	○	○		
35	◎	○	○	○	○	○		
36								
37								
38	○	◎	○	○	○	○	H	
39								
40								
41								

CARBIDE

HSS

i-ONE DRILLS

i-DREAM DRILLS

DREAM DRILLS -PRO

DREAM DRILLS -GENERAL

DREAM DRILLS -SOFT

DREAM DRILLS -HIGH FEED

DREAM DRILLS -FLAT BOTTOM

DREAM DRILLS -INOX

DREAM DRILLS -ALU

DREAM DRILLS -CFRP

DREAM DRILLS -MQL

DREAM DRILLS for HIGH HARDENED STEELS

GENERAL CARBIDE DRILLS

MULTI-1 DRILLS

GOLD-P DRILLS

SUPER-GP DRILLS

WORM PATTERN DRILLS

STRAIGHT SHANK DRILLS

TAPER SHANK DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

SPADE DRILLS

REAMERS

COUNTER SINKS

COUNTER BORES

TECHNICAL DATA

SPADE DRILLS

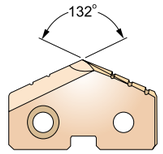
SERIES 1, 2

SPADE DRILL INSERTS - HSS M4
铲钻刀片-HSS M4

- ▶ For general use in steels and cast irons.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于钢和铸铁的普通用途.
- ▶ 在设备上能够简单地更换刀片可以减少调试时间.
- ▶ 各种非标准尺寸均可进行生产.





Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK		D73 - 115	

切削条件 / cutting conditions : p. A366

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	HSS M4 TiN	HSS M4 TiCN	HSS M4 TiAlN
1 Ø17.53 (.690) to Ø24.38 (.960)	45/64	17.86	.7031	4.0 (5/32)	S1405045	S1410045	S1415045
		18.00	.7087		S1455180	S1460180	S1465180
	23/32	18.26	.7188		S1405046	S1410046	S1415046
		18.50	.7283		S1455185	S1460185	S1465185
	47/64	18.65	.7344		S1405047	S1410047	S1415047
		19.00	.7480		S1455190	S1460190	S1465190
	3/4	19.05	.7500		S1405048	S1410048	S1415048
	49/64	19.45	.7656		S1405049	S1410049	S1415049
		19.50	.7677		S1455195	S1460195	S1465195
	25/32	19.84	.7813		S1405050	S1410050	S1415050
		20.00	.7874		S1455200	S1460200	S1465200
	51/64	20.24	.7969		S1405051	S1410051	S1415051
		20.50	.8071		S1455205	S1460205	S1465205
	13/16	20.64	.8125		S1405052	S1410052	S1415052
		21.00	.8268		S1455210	S1460210	S1465210
	27/32	21.43	.8438		S1405054	S1410054	S1415054
	55/64	21.83	.8594		S1405055	S1410055	S1415055
		22.00	.8661		S1455220	S1460220	S1465220
	7/8	22.23	.8750		S1405056	S1410056	S1415056
	57/64	22.62	.8906		S1405057	S1410057	S1415057
		23.00	.9055		S1455230	S1460230	S1465230
	29/32	23.02	.9063		S1405058	S1410058	S1415058
	59/64	23.42	.9219		S1405059	S1410059	S1415059
	15/16	23.81	.9375		S1405060	S1410060	S1415060
		24.00	.9449		S1455240	S1460240	S1465240
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	S1405062	S1410062	S1415062
	63/64	25.00	.9843		S1455250	S1460250	S1465250
	1	25.40	1.0000		S1405100	S1410100	S1415100
	1-1/64	25.80	1.0156		S1405101	S1410101	S1415101
		26.00	1.0236		S1455260	S1460260	S1465260
	1-1/32	26.19	1.0313		S1405102	S1410102	S1415102
	1-3/64	26.59	1.0469		S1405103	S1410103	S1415103
	1-1/16	26.99	1.0625		S1405104	S1410104	S1415104
		27.00	1.0630		S1455270	S1460270	S1465270

◎ : 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	10	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	◎	◎					◎														

SPADE DRILLS

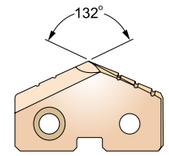
SERIES 2, 3

SPADE DRILL INSERTS - HSS M4
铲钻刀片-HSS M4

- ▶ For general use in steels and cast irons.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于钢和铸铁的普通用途.
- ▶ 在设备上能够简单地更换刀片可以减少调试时间.
- ▶ 各种非标准尺寸均可进行生产.





Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK		D73 - 115	

切削条件 / cutting conditions : p. A366

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	HSS M4 TiN	HSS M4 TiCN	HSS M4 TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	1-3/32	27.78	1.0938	4.8 (3/16)	S1405106	S1410106	S1415106
		28.00	1.1024		S1455280	S1460280	S1465280
	1-7/64	28.18	1.1094		S1405107	S1410107	S1415107
	1-1/8	28.58	1.1250		S1405108	S1410108	S1415108
		29.00	1.1417		S1455290	S1460290	S1465290
	1-5/32	29.37	1.1563		S1405110	S1410110	S1415110
		30.00	1.1811		S1455300	S1460300	S1465300
	1-3/16	30.16	1.1875		S1405112	S1410112	S1415112
	1-7/32	30.96	1.2188		S1405114	S1410114	S1415114
		31.00	1.2205		S1455310	S1460310	S1465310
	1-1/4	31.75	1.2500		S1405116	S1410116	S1415116
		32.00	1.2598		S1455320	S1460320	S1465320
	1-9/32	32.54	1.2813		S1405118	S1410118	S1415118
		33.00	1.2992		S1455330	S1460330	S1465330
	1-5/16	33.34	1.3125		S1405120	S1410120	S1415120
		34.00	1.3386		S1455340	S1460340	S1465340
	1-11/32	34.13	1.3438		S1405122	S1410122	S1415122
	1-3/8	34.93	1.3750		S1405124	S1410124	S1415124
		35.00	1.3780		S1455350	S1460350	S1465350
3 Ø34.37 (1.353) to Ø47.80 (1.882)	1-13/32	35.72	1.4063	6.4 (1/4)	S1405126	S1410126	S1415126
		36.00	1.4173		S1455360	S1460360	S1465360
	1-7/16	36.51	1.4375		S1405128	S1410128	S1415128
		37.00	1.4567		S1455370	S1460370	S1465370
	1-15/32	37.31	1.4688		S1405130	S1410130	S1415130
		38.00	1.4961		S1455380	S1460380	S1465380
	1-1/2	38.10	1.5000		S1405132	S1410132	S1415132
	1-17/32	38.89	1.5313		S1405134	S1410134	S1415134
		39.00	1.5354		S1455390	S1460390	S1465390
	1-9/16	39.69	1.5625		S1405136	S1410136	S1415136
		40.00	1.5748		S1455400	S1460400	S1465400
	1-19/32	40.48	1.5938		S1405138	S1410138	S1415138
		41.00	1.6142		S1455410	S1460410	S1465410
	1-5/8	41.28	1.6250		S1405140	S1410140	S1415140
		42.00	1.6535		S1455420	S1460420	S1465420

◎ : 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	10	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
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

SPADE DRILLS

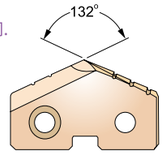
SERIES 3, 4

SPADE DRILL INSERTS - HSS M4
铲钻刀片-HSS M4

▶ For general use in steels and cast irons.
▶ Set up time can be reduced due to changing inserts easily on the machine.
▶ Any non-standard size available.

▶ 用于钢和铸铁的普通用途.
▶ 在设备上能够简单地更换刀片可以减少调试时间.
▶ 各种非标准尺寸均可进行生产.





Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
◎	ER COLLET CHUCK		D73 - 115	

切削条件 / cutting conditions : p. A366

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	HSS M4 TiN	HSS M4 TiCN	HSS M4 TiAlN
3 Ø34.37 (1.353) to Ø47.80 (1.882)	1-21/32	42.07	1.6563	6.4 (1/4)	S1405142	S1410142	S1415142
	1-11/16	42.86	1.6875		S1405144	S1410144	S1415144
		43.00	1.6929		S1455430	S1460430	S1465430
	1-23/32	43.66	1.7188		S1405146	S1410146	S1415146
		44.00	1.7323		S1455440	S1460440	S1465440
	1-3/4	44.45	1.7500		S1405148	S1410148	S1415148
		45.00	1.7717		S1455450	S1460450	S1465450
	1-25/32	45.24	1.7813		S1405150	S1410150	S1415150
		46.00	1.8110		S1455460	S1460460	S1465460
	1-13/16	46.04	1.8125		S1405152	S1410152	S1415152
	1-27/32	46.83	1.8438		S1405154	S1410154	S1415154
		47.00	1.8504		S1455470	S1460470	S1465470
	1-7/8	47.63	1.8750		S1405156	S1410156	S1415156
4 Ø46.99 (1.850) to Ø65.28 (2.570)		48.00	1.8898	7.9 (5/16)	S1455480	S1460480	S1465480
	1-29/32	48.42	1.9063		S1405158	S1410158	S1415158
		49.00	1.9291		S1455490	S1460490	S1465490
	1-15/16	49.21	1.9375		S1405160	S1410160	S1415160
		50.00	1.9685		S1455500	S1460500	S1465500
	1-31/32	50.01	1.9688		S1405162	S1410162	S1415162
	2	50.80	2.0000		S1405200	S1410200	S1415200
		51.00	2.0079		S1455510	S1460510	S1465510
	2-1/32	51.59	2.0313		S1405202	S1410202	S1415202
	2-3/64	52.00	2.0472		S1455520	S1460520	S1465520
	2-1/16	52.39	2.0625		S1405204	S1410204	S1415204
		53.00	2.0866		S1455530	S1460530	S1465530
	2-3/32	53.18	2.0938		S1405206	S1410206	S1415206
	2-1/8	53.98	2.1250		S1405208	S1410208	S1415208
		54.00	2.1260		S1455540	S1460540	S1465540
	2-5/32	54.77	2.1563		S1405210	S1410210	S1415210
		55.00	2.1654		S1455550	S1460550	S1465550
	2-3/16	55.56	2.1875		S1405212	S1410212	S1415212
		56.00	2.2047		S1455560	S1460560	S1465560
	2-7/32	56.36	2.2188		S1405214	S1410214	S1415214
		57.00	2.2441		S1455570	S1460570	S1465570

◎ : 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	◎	◎					◎														

SPADE DRILLS

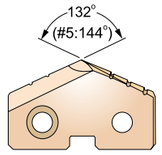
SERIES 4, 5

SPADE DRILL INSERTS - HSS M4
铲钻刀片-HSS M4

▶ For general use in steels and cast irons.
▶ Set up time can be reduced due to changing inserts easily on the machine.
▶ Any non-standard size available.

▶ 用于钢和铸铁的普通用途.
▶ 在设备上能够简单地更换刀片可以减少调试时间.
▶ 各种非标准尺寸均可进行生产.





Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
◎	ER COLLET CHUCK		D73 - 115	

切削条件 / cutting conditions : p. A366

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	HSS M4 TiN	HSS M4 TiCN	HSS M4 TiAlN
4 Ø46.99 (1.850) to Ø65.28 (2.570)	2-1/4	57.15	2.2500	7.9 (5/16)	S1405216	S1410216	S1415216
	2-9/32	57.94	2.2813		S1405218	S1410218	S1415218
		58.00	2.2835		S1455580	S1460580	S1465580
	2-5/16	58.74	2.3125		S1405220	S1410220	S1415220
		59.00	2.3228		S1455590	S1460590	S1465590
	2-11/32	59.53	2.3438		S1405222	S1410222	S1415222
		60.00	2.3622		S1455600	S1460600	S1465600
	2-3/8	60.33	2.3750		S1405224	S1410224	S1415224
		61.00	2.4016		S1455610	S1460610	S1465610
	2-13/32	61.12	2.4063		S1405226	S1410226	S1415226
	2-7/16	61.91	2.4375		S1405228	S1410228	S1415228
		62.00	2.4409		S1455620	S1460620	S1465620
	2-15/32	62.71	2.4688		S1405230	S1410230	S1415230
		63.00	2.4803		S1455630	S1460630	S1465630
	2-1/2	63.50	2.5000		S1405232	S1410232	S1415232
		64.00	2.5197		S1455640	S1460640	S1465640
	2-17/32	64.29	2.5313		S1405234	S1410234	S1415234
		65.00	2.5591		S1455650	S1460650	S1465650
	2-9/16	65.09	2.5625		S1405236	S1410236	S1415236
5 Ø62.38 (2.456) to Ø76.20 (3.000)	2-1/2	63.50	2.5000	11.1 (7/16)	S14052D2	S14102D2	S14152D2
		64.00	2.5197		S145564A	S146064A	S146564A
	2-17/32	64.29	2.5313		S14052D4	S14102D4	S14152D4
	2-9/16	65.09	2.5625		S14052D6	S14102D6	S14152D6
	2-19/32	65.88	2.5938		S1405238	S1410238	S1415238
		66.00	2.5984		S1455660	S1460660	S1465660
	2-5/8	66.68	2.6250		S1405240	S1410240	S1415240
	2-21/32	67.47	2.6563		S1405242	S1410242	S1415242
		68.00	2.6772		S1455680	S1460680	S1465680
	2-11/16	68.26	2.6875		S1405244	S1410244	S1415244
	2-23/32	69.05	2.7188		S1405246	S1410246	S1415246
	2-3/4	69.85	2.7500		S1405248	S1410248	S1415248
		70.00	2.7559		S1455700	S1460700	S1465700
	2-25/32	70.64	2.7813		S1405250	S1410250	S1415250
	2-13/16	71.44	2.8125		S1405252	S1410252	S1415252

◎ : 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
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

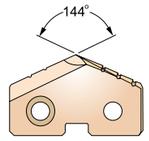
SPADE DRILLS

SERIES 5, 6, 7

SPADE DRILL INSERTS - HSS M4
铲钻刀片-HSS M4

- ▶ For general use in steels and cast irons.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于钢和铸铁的普通用途.
- ▶ 在设备上能够简单地更换刀片可以减少调试时间.
- ▶ 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A366

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
◎	ER COLLET CHUCK		D73 - 115	

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	HSS M4 TiN	HSS M4 TiCN	HSS M4 TiAlN
5 Ø62.38 (2.456) to Ø76.20 (3.000)		72.00	2.8346	11.1 (7/16)	S1455720	S1460720	S1465720
	2-27/32	72.23	2.8438		S1405254	S1410254	S1415254
	2-7/8	73.03	2.8750		S1405256	S1410256	S1415256
	2-29/32	73.82	2.9063		S1405258	S1410258	S1415258
		74.00	2.9134		S1455740	S1460740	S1465740
	2-15/16	74.61	2.9375		S1405260	S1410260	S1415260
	2-31/32	75.41	2.9688		S1405262	S1410262	S1415262
		76.00	2.9921		S1455760	S1460760	S1465760
	3	76.20	3.0000		S1405300	S1410300	S1415300
	3-1/32	76.99	3.0313		S1405302	S1410302	S1415302
	3-1/16	77.79	3.0625		S1405304	S1410304	S1415304
		78.00	3.0709		S1455780	S1460780	S1465780
	3-3/32	78.58	3.0938		S1405306	S1410306	S1415306
	3-1/8	79.38	3.1250		S1405308	S1410308	S1415308
		80.00	3.1496		S1455800	S1460800	S1465800
	3-5/32	80.17	3.1563		S1405310	S1410310	S1415310
6 Ø76.23 (3.001) to Ø89.08 (3.507)	3-3/16	80.96	3.1875	11.1 (7/16)	S1405312	S1410312	S1415312
	3-7/32	81.76	3.2188		S1405314	S1410314	S1415314
		82.00	3.2283		S1455820	S1460820	S1465820
	3-1/4	82.55	3.2500		S1405316	S1410316	S1415316
	3-9/32	83.34	3.2813		S1405318	S1410318	S1415318
		84.00	3.3071		S1455840	S1460840	S1465840
	3-5/16	84.14	3.3125		S1405320	S1410320	S1415320
	3-11/32	84.93	3.3438		S1405322	S1410322	S1415322
	3-3/8	85.73	3.3750		S1405324	S1410324	S1415324
		86.00	3.3858		S1455860	S1460860	S1465860
	3-13/32	86.52	3.4063		S1405326	S1410326	S1415326
	3-7/16	87.31	3.4375		S1405328	S1410328	S1415328
		88.00	3.4646		S1455880	S1460880	S1465880
	3-15/32	88.11	3.4688		S1405330	S1410330	S1415330
	3-1/2	88.90	3.5000		S1405332	S1410332	S1415332
7	3-17/32	89.69	3.5313	11.1 (7/16)	S1405334	S1410334	S1415334
		90.00	3.5433		S1455900	S1460900	S1465900
	3-9/16	90.49	3.5625		S1405336	S1410336	S1415336

◎ : 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	◎	◎					◎														

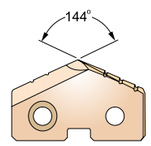
SPADE DRILLS

SERIES 7, 8

SPADE DRILL INSERTS - HSS M4
铲钻刀片-HSS M4

- ▶ For general use in steels and cast irons.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于钢和铸铁的普通用途.
- ▶ 在设备上能够简单地更换刀片可以减少调试时间.
- ▶ 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A366

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
◎	ER COLLET CHUCK		D73 - 115	

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	HSS M4 TiN	HSS M4 TiCN	HSS M4 TiAlN
7 Ø87.76 (3.455) to Ø101.60 (4.000)	3-19/32	91.28	3.5938	11.1 (7/16)	S1405338	S1410338	S1415338
		92.00	3.6221		S1455920	S1460920	S1465920
	3-5/8	92.08	3.6250		S1405340	S1410340	S1415340
	3-21/32	92.87	3.6563		S1405342	S1410342	S1415342
	3-11/16	93.66	3.6875		S1405344	S1410344	S1415344
		94.00	3.7008		S1455940	S1460940	S1465940
	3-23/32	94.46	3.7188		S1405346	S1410346	S1415346
	3-3/4	95.25	3.7500		S1405348	S1410348	S1415348
		96.00	3.7795		S1455960	S1460960	S1465960
	3-25/32	96.04	3.7813		S1405350	S1410350	S1415350
	3-13/16	96.84	3.8125		S1405352	S1410352	S1415352
	3-27/32	97.63	3.8438		S1405354	S1410354	S1415354
		98.00	3.8583		S1455980	S1460980	S1465980
	3-7/8	98.43	3.8750		S1405356	S1410356	S1415356
	3-29/32	99.22	3.9063		S1405358	S1410358	S1415358
		100.00	3.9370		S1455A00	S1460A00	S1465A00
	3-15/16	100.01	3.9375		S1405360	S1410360	S1415360
	3-31/32	100.81	3.9688		S1405362	S1410362	S1415362
	4	101.60	4.0000		S1405400	S1410400	S1415400
8 Ø101.63 (4.001) to Ø114.48 (4.507)	4-1/64	102.00	4.0157	11.1 (7/16)	S1455A20	S1460A20	S1465A20
	4-1/16	103.19	4.0625		S1405404	S1410404	S1415404
	4-3/32	104.00	4.0945		S1455A40	S1460A40	S1465A40
	4-1/8	104.78	4.1250		S1405408	S1410408	S1415408
		106.00	4.1732		S1455A60	S1460A60	S1465A60
	4-3/16	106.36	4.1875		S1405412	S1410412	S1415412
	4-1/4	107.95	4.2500		S1405416	S1410416	S1415416
		108.00	4.2520		S1455A80	S1460A80	S1465A80
	4-5/16	109.54	4.3125		S1405420	S1410420	S1415420
		110.00	4.3307		S1455B00	S1460B00	S1465B00
	4-3/8	111.13	4.3750		S1405424	S1410424	S1415424
		112.00	4.4094		S1455B20	S1460B20	S1465B20
	4-7/16	112.71	4.4375		S1405428	S1410428	S1415428
		114.00	4.4882		S1455B40	S1460B40	S1465B40
	4-1/2	114.30	4.5000		S1405432	S1410432	S1415432

◎ : 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
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

SPADE DRILLS

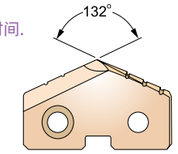
SERIES Y, Z, 0

SPADE DRILL INSERTS - SUPER HSS T15
铲钻刀片-SUPER HSS T15

- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于高镍合金和硬度超过280布氏的材质.
- ▶ 在设备上能够简单地更换刀片可以减少调试时间.
- ▶ 各种非标准尺寸均可进行生产.





Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
◎	ER COLLET CHUCK		D73 - 115	

切削条件 / cutting conditions : p. A365

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	SUPER HSS T15 TiN	SUPER HSS T15 TiCN	SUPER HSS T15 TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)		9.50	.3740	2.4 (3/32)	S1155095	S1160095	S1165095
	3/8	9.53	.3750		S1105024	S1110024	S1115024
		9.80	.3860		S1155098	S1160098	S1165098
	25/64	9.92	.3906		S1105025	S1110025	S1115025
		10.00	.3937		S1155100	S1160100	S1165100
		10.20	.4016		S1155102	S1160102	S1165102
	13/32	10.32	.4063		S1105026	S1110026	S1115026
		10.50	.4134		S1155105	S1160105	S1165105
	27/64	10.72	.4219		S1105027	S1110027	S1115027
		10.80	.4252		S1155108	S1160108	S1165108
		11.00	.4331		S1155110	S1160110	S1165110
Z Ø11.11(.437) to Ø12.95(.510)	7/16	11.11	.4375	2.4 (3/32)	S1105028	S1110028	S1115028
		11.50	.4528		S1155115	S1160115	S1165115
	29/64	11.51	.4531		S1105029	S1110029	S1115029
	15/32	11.91	.4688		S1105030	S1110030	S1115030
		12.00	.4724		S1155120	S1160120	S1165120
	31/64	12.30	.4844		S1105031	S1110031	S1115031
		12.50	.4921		S1155125	S1160125	S1165125
	1/2	12.70	.5000		S1105032	S1110032	S1115032
0 Ø12.98 (.511) to Ø17.65 (.695)		13.00	.5118	3.2 (1/8)	S1155130	S1160130	S1165130
	33/64	13.10	.5156		S1105033	S1110033	S1115033
	17/32	13.49	.5313		S1105034	S1110034	S1115034
		13.50	.5315		S1155135	S1160135	S1165135
	35/64	13.89	.5469		S1105035	S1110035	S1115035
		14.00	.5512		S1155140	S1160140	S1165140
	9/16	14.29	.5625		S1105036	S1110036	S1115036
		14.50	.5709		S1155145	S1160145	S1165145
	37/64	14.68	.5781		S1105037	S1110037	S1115037
		15.00	.5906		S1155150	S1160150	S1165150
	19/32	15.08	.5938		S1105038	S1110038	S1115038
	39/64	15.48	.6094		S1105039	S1110039	S1115039
		15.50	.6102		S1155155	S1160155	S1165155
	5/8	15.88	.6250		S1105040	S1110040	S1115040
		16.00	.6299		S1155160	S1160160	S1165160

◎ : 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	○	○					○				◎	○	○	○	○			○			

SPADE DRILLS

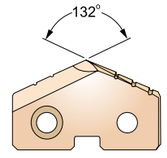
SERIES 0, 1

SPADE DRILL INSERTS - SUPER HSS T15
铲钻刀片-SUPER HSS T15

- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于高镍合金和硬度超过280布氏的材质.
- ▶ 在设备上能够简单地更换刀片可以减少调试时间.
- ▶ 各种非标准尺寸均可进行生产.





Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
◎	ER COLLET CHUCK		D73 - 115	

切削条件 / cutting conditions : p. A365

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	SUPER HSS T15 TiN	SUPER HSS T15 TiCN	SUPER HSS T15 TiAlN
0 Ø12.98 (.511) to Ø17.65 (.695)	41/64	16.27	.6406	3.2 (1/8)	S1105041	S1110041	S1115041
		16.50	.6496		S1155165	S1160165	S1165165
	21/32	16.67	.6563		S1105042	S1110042	S1115042
		17.00	.6693		S1155170	S1160170	S1165170
	43/64	17.07	.6719		S1105043	S1110043	S1115043
	11/16	17.46	.6875		S1105044	S1110044	S1115044
		17.50	.6890		S1155175	S1160175	S1165175
	45/64	17.86	.7031		S1105045	S1110045	S1115045
		18.00	.7087		S1155180	S1160180	S1165180
	23/32	18.26	.7188		S1105046	S1110046	S1115046
		18.50	.7283		S1155185	S1160185	S1165185
	47/64	18.65	.7344		S1105047	S1110047	S1115047
		19.00	.7480		S1155190	S1160190	S1165190
	3/4	19.05	.7500		S1105048	S1110048	S1115048
	49/64	19.45	.7656		S1105049	S1110049	S1115049
		19.50	.7677		S1155195	S1160195	S1165195
	25/32	19.84	.7813		S1105050	S1110050	S1115050
		20.00	.7874		S1155200	S1160200	S1165200
	51/64	20.24	.7969		S1105051	S1110051	S1115051
		20.50	.8071	4.0 (5/32)	S1155205	S1160205	S1165205
	13/16	20.64	.8125		S1105052	S1110052	S1115052
		21.00	.8268		S1155210	S1160210	S1165210
	27/32	21.43	.8438		S1105054	S1110054	S1115054
	55/64	21.83	.8594		S1105055	S1110055	S1115055
		22.00	.8661		S1155220	S1160220	S1165220
	7/8	22.23	.8750		S1105056	S1110056	S1115056
	57/64	22.62	.8906		S1105057	S1110057	S1115057
		23.00	.9055		S1155230	S1160230	S1165230
	29/32	23.02	.9063		S1105058	S1110058	S1115058
	59/64	23.42	.9219		S1105059	S1110059	S1115059
	15/16	23.81	.9375		S1105060	S1110060	S1115060
		24.00	.9449		S1155240	S1160240	S1165240

◎ : 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	○	○					○				◎	○	○	○	○			○			

SPADE DRILLS

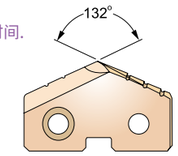
SERIES 2, 3

SPADE DRILL INSERTS - SUPER HSS T15
铲钻刀片-SUPER HSS T15

- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于高镍合金和硬度超过280布氏的材质.
- ▶ 在设备上能够简单地更换刀片可以减少调试时间.
- ▶ 各种非标准尺寸均可进行生产.





Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
◎	ER COLLET CHUCK		D73 - 115	

切削条件 / cutting conditions : p. A365

Series 系列 Min. to Max. mm (inch)	Diameter 直径 Inch (inch)	Metric (mm)	Decimal (inch)	Thick 厚度 Metric (mm, inch)	EDP No. 型号 SUPER HSS T15 TiN	TiCN	TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	S1105062	S1110062	S1115062
	63/64	25.00	.9843		S1155250	S1160250	S1165250
	1	25.40	1.0000		S1105100	S1110100	S1115100
	1-1/64	25.80	1.0156		S1105101	S1110101	S1115101
		26.00	1.0236		S1155260	S1160260	S1165260
	1-1/32	26.19	1.0313		S1105102	S1110102	S1115102
	1-3/64	26.59	1.0469		S1105103	S1110103	S1115103
	1-1/16	26.99	1.0625		S1105104	S1110104	S1115104
		27.00	1.0630		S1155270	S1160270	S1165270
	1-3/32	27.78	1.0938		S1105106	S1110106	S1115106
		28.00	1.1024		S1155280	S1160280	S1165280
	1-7/64	28.18	1.1094		S1105107	S1110107	S1115107
	1-1/8	28.58	1.1250		S1105108	S1110108	S1115108
		29.00	1.1417		S1155290	S1160290	S1165290
	1-5/32	29.37	1.1563		S1105110	S1110110	S1115110
		30.00	1.1811		S1155300	S1160300	S1165300
	1-3/16	30.16	1.1875		S1105112	S1110112	S1115112
	1-7/32	30.96	1.2188		S1105114	S1110114	S1115114
		31.00	1.2205		S1155310	S1160310	S1165310
	1-1/4	31.75	1.2500		S1105116	S1110116	S1115116
		32.00	1.2598		S1155320	S1160320	S1165320
	1-9/32	32.54	1.2813		S1105118	S1110118	S1115118
	1-5/16	33.00	1.2992		S1155330	S1160330	S1165330
		33.34	1.3125		S1105120	S1110120	S1115120
		34.00	1.3386		S1155340	S1160340	S1165340
	1-11/32	34.13	1.3438		S1105122	S1110122	S1115122
	1-3/8	34.93	1.3750		S1105124	S1110124	S1115124
		35.00	1.3780		S1155350	S1160350	S1165350
3 Ø34.37(1.353) to Ø47.80(1.882)	1-13/32	35.72	1.4063	6.4 (1/4)	S1105126	S1110126	S1115126
		36.00	1.4173		S1155360	S1160360	S1165360
	1-7/16	36.51	1.4375		S1105128	S1110128	S1115128
		37.00	1.4567		S1155370	S1160370	S1165370
	1-15/32	37.31	1.4688		S1105130	S1110130	S1115130
		38.00	1.4961		S1155380	S1160380	S1165380

◎ : 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	○	○					○				◎	○	○	○	○			○			

SPADE DRILLS

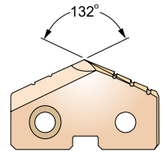
SERIES 3, 4

SPADE DRILL INSERTS - SUPER HSS T15
铲钻刀片-SUPER HSS T15

- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于高镍合金和硬度超过280布氏的材质.
- ▶ 在设备上能够简单地更换刀片可以减少调试时间.
- ▶ 各种非标准尺寸均可进行生产.





Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
◎	ER COLLET CHUCK		D73 - 115	

切削条件 / cutting conditions : p. A365

Series 系列 Min. to Max. mm (inch)	Diameter 直径 Inch (inch)	Metric (mm)	Decimal (inch)	Thick 厚度 Metric (mm, inch)	EDP No. 型号 SUPER HSS T15 TiN	TiCN	TiAlN
3 Ø34.37 (1.353) to Ø47.80 (1.882)	1-1/2	38.10	1.5000	6.4 (1/4)	S1105132	S1110132	S1115132
	1-17/32	38.89	1.5313		S1105134	S1110134	S1115134
		39.00	1.5354		S1155390	S1160390	S1165390
	1-9/16	39.69	1.5625		S1105136	S1110136	S1115136
		40.00	1.5748		S1155400	S1160400	S1165400
	1-19/32	40.48	1.5938		S1105138	S1110138	S1115138
		41.00	1.6142		S1155410	S1160410	S1165410
	1-5/8	41.28	1.6250		S1105140	S1110140	S1115140
		42.00	1.6535		S1155420	S1160420	S1165420
	1-21/32	42.07	1.6563		S1105142	S1110142	S1115142
	1-11/16	42.86	1.6875		S1105144	S1110144	S1115144
		43.00	1.6929		S1155430	S1160430	S1165430
	1-23/32	43.66	1.7188		S1105146	S1110146	S1115146
		44.00	1.7323		S1155440	S1160440	S1165440
	1-3/4	44.45	1.7500		S1105148	S1110148	S1115148
		45.00	1.7717		S1155450	S1160450	S1165450
	1-25/32	45.24	1.7813		S1105150	S1110150	S1115150
		46.00	1.8110		S1155460	S1160460	S1165460
	1-13/16	46.04	1.8125		S1105152	S1110152	S1115152
	1-27/32	46.83	1.8438		S1105154	S1110154	S1115154
		47.00	1.8504		S1155470	S1160470	S1165470
	1-7/8	47.63	1.8750		S1105156	S1110156	S1115156
4 Ø46.99 (1.850) to Ø65.28 (2.570)		48.00	1.8898	7.9 (5/16)	S1155480	S1160480	S1165480
	1-29/32	48.42	1.9063		S1105158	S1110158	S1115158
		49.00	1.9291		S1155490	S1160490	S1165490
	1-15/16	49.21	1.9375		S1105160	S1110160	S1115160
		50.00	1.9685		S1155500	S1160500	S1165500
	1-31/32	50.01	1.9688		S1105162	S1110162	S1115162
	2	50.80	2.0000		S1105200	S1110200	S1115200
		51.00	2.0079		S1155510	S1160510	S1165510
	2-1/32	51.59	2.0313		S1105202	S1110202	S1115202
	2-3/64	52.00	2.0472		S1155520	S1160520	S1165520
	2-1/16	52.39	2.0625		S1105204	S1110204	S1115204
		53.00	2.0866		S1155530	S1160530	S1165530

◎ : 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	○	○					○				◎	○	○	○	○			○			

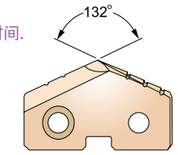
SPADE DRILLS

SERIES 4

SPADE DRILL INSERTS - SUPER HSS T15
铲钻刀片-SUPER HSS T15

▶ For use in high nickel alloys and materials over 280 Brinell.
▶ Set up time can be reduced due to changing inserts easily on the machine.
▶ Any non-standard size available.

▶ 用于高镍合金和硬度超过280布氏的材质.
▶ 在设备上能够简单地更换刀片可以减少调试时间.
▶ 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A365

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK		D73 - 115	

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	SUPER HSS T15 TiN	SUPER HSS T15 TiCN	SUPER HSS T15 TiAlN
4 Ø46.99 (1.850) to Ø65.28 (2.570)	2-3/32	53.18	2.0938	7.9 (5/16)	S1105206	S1110206	S1115206
	2-1/8	53.98	2.1250		S1105208	S1110208	S1115208
		54.00	2.1260		S1155540	S1160540	S1165540
	2-5/32	54.77	2.1563		S1105210	S1110210	S1115210
		55.00	2.1654		S1155550	S1160550	S1165550
	2-3/16	55.56	2.1875		S1105212	S1110212	S1115212
		56.00	2.2047		S1155560	S1160560	S1165560
	2-7/32	56.36	2.2188		S1105214	S1110214	S1115214
		57.00	2.2441		S1155570	S1160570	S1165570
	2-1/4	57.15	2.2500		S1105216	S1110216	S1115216
	2-9/32	57.94	2.2813		S1105218	S1110218	S1115218
		58.00	2.2835		S1155580	S1160580	S1165580
	2-5/16	58.74	2.3125		S1105220	S1110220	S1115220
		59.00	2.3228		S1155590	S1160590	S1165590
	2-11/32	59.53	2.3438		S1105222	S1110222	S1115222
		60.00	2.3622		S1155600	S1160600	S1165600
	2-3/8	60.33	2.3750		S1105224	S1110224	S1115224
		61.00	2.4016		S1155610	S1160610	S1165610
	2-13/32	61.12	2.4063		S1105226	S1110226	S1115226
	2-7/16	61.91	2.4375		S1105228	S1110228	S1115228
		62.00	2.4409		S1155620	S1160620	S1165620
	2-15/32	62.71	2.4688		S1105230	S1110230	S1115230
		63.00	2.4803		S1155630	S1160630	S1165630
	2-1/2	63.50	2.5000		S1105232	S1110232	S1115232
		64.00	2.5197		S1155640	S1160640	S1165640
	2-17/32	64.29	2.5313		S1105234	S1110234	S1115234
		65.00	2.5591		S1155650	S1160650	S1165650
	2-9/16	65.09	2.5625		S1105236	S1110236	S1115236

◎ : 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	○	○					○				◎	○	○	○	○			○			

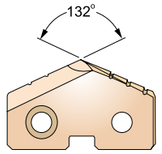
SPADE DRILLS

SERIES Y, Z, 0

SPADE DRILL INSERTS - PREMIUM HSS M48
铲钻刀片-PREMIUM HSS M48

▶ For use in high nickel alloys and materials over 280 Brinell.
▶ Set up time can be reduced due to changing inserts easily on the machine.
▶ Any non-standard size available.

▶ 用于高镍合金和硬度超过280布氏的材质.
▶ 在设备上能够简单地更换刀片可以减少调试时间.
▶ 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A367

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK		D73 - 115	

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	PREMIUM HSS M48 TiN	PREMIUM HSS M48 TiCN	PREMIUM HSS M48 TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)		9.50	.3740	2.4 (3/32)	S1555095	S1560095	S1565095
	3/8	9.53	.3750		S1505024	S1510024	S1515024
		9.80	.3860		S1555098	S1560098	S1565098
	25/64	9.92	.3906		S1505025	S1510025	S1515025
		10.00	.3937		S1555100	S1560100	S1565100
		10.20	.4016		S1555102	S1560102	S1565102
	13/32	10.32	.4063		S1505026	S1510026	S1515026
		10.50	.4134		S1555105	S1560105	S1565105
	27/64	10.72	.4219		S1505027	S1510027	S1515027
		10.80	.4252		S1555108	S1560108	S1565108
		11.00	.4331		S1555110	S1560110	S1565110
Z Ø11.11(.437) to Ø12.95(.510)	7/16	11.11	.4375	2.4 (3/32)	S1505028	S1510028	S1515028
		11.50	.4528		S1555115	S1560115	S1565115
	29/64	11.51	.4531		S1505029	S1510029	S1515029
	15/32	11.91	.4688		S1505030	S1510030	S1515030
		12.00	.4724		S1555120	S1560120	S1565120
	31/64	12.30	.4844		S1505031	S1510031	S1515031
		12.50	.4921		S1555125	S1560125	S1565125
	1/2	12.70	.5000		S1505032	S1510032	S1515032
0 Ø12.98 (.511) to Ø17.65 (.695)		13.00	.5118	3.2 (1/8)	S1555130	S1560130	S1565130
	33/64	13.10	.5156		S1505033	S1510033	S1515033
	17/32	13.49	.5313		S1505034	S1510034	S1515034
		13.50	.5315		S1555135	S1560135	S1565135
	35/64	13.89	.5469		S1505035	S1510035	S1515035
		14.00	.5512		S1555140	S1560140	S1565140
	9/16	14.29	.5625		S1505036	S1510036	S1515036
		14.50	.5709		S1555145	S1560145	S1565145
	37/64	14.68	.5781		S1505037	S1510037	S1515037
		15.00	.5906		S1555150	S1560150	S1565150
	19/32	15.08	.5938		S1505038	S1510038	S1515038
	39/64	15.48	.6094		S1505039	S1510039	S1515039
		15.50	.6102		S1555155	S1560155	S1565155
	5/8	15.88	.6250		S1505040	S1510040	S1515040
		16.00	.6299		S1555160	S1560160	S1565160

◎ : 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	○	○					○				◎	◎	◎	◎	◎			◎			

SPADE DRILLS

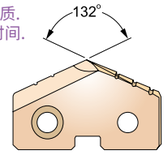
SERIES 0, 1

SPADE DRILL INSERTS - PREMIUM HSS M48
铲钻刀片-PREMIUM HSS M48

- ▶ For use in high temperature alloys and materials with 350~500 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于高温合金和硬度在350-500布氏之间的材质.
- ▶ 在设备上能够简单地更挽刀片可以减少调试时间.
- ▶ 各种非标准尺寸均可进行生产.





Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
◎	ER COLLET CHUCK		D73 - 115	

切削条件 / cutting conditions : p. A367

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	PREMIUM HSS M48 TiN	PREMIUM HSS M48 TiCN	PREMIUM HSS M48 TiAlN
0 Ø12.98(.511) to Ø17.65(.695)	41/64	16.27	.6406	3.2 (1/8)	S1505041	S1510041	S1515041
		16.50	.6496		S1555165	S1560165	S1565165
	21/32	16.67	.6563		S1505042	S1510042	S1515042
		17.00	.6693		S1555170	S1560170	S1565170
	43/64	17.07	.6719		S1505043	S1510043	S1515043
	11/16	17.46	.6875		S1505044	S1510044	S1515044
		17.50	.6890		S1555175	S1560175	S1565175
1 Ø17.53 (.690) to Ø24.38 (.960)	45/64	17.86	.7031	4.0 (5/32)	S1505045	S1510045	S1515045
		18.00	.7087		S1555180	S1560180	S1565180
	23/32	18.26	.7188		S1505046	S1510046	S1515046
		18.50	.7283		S1555185	S1560185	S1565185
	47/64	18.65	.7344		S1505047	S1510047	S1515047
		19.00	.7480		S1555190	S1560190	S1565190
	3/4	19.05	.7500		S1505048	S1510048	S1515048
	49/64	19.45	.7656		S1505049	S1510049	S1515049
		19.50	.7677		S1555195	S1560195	S1565195
	25/32	19.84	.7813		S1505050	S1510050	S1515050
		20.00	.7874		S1555200	S1560200	S1565200
	51/64	20.24	.7969		S1505051	S1510051	S1515051
		20.50	.8071		S1555205	S1560205	S1565205
	13/16	20.64	.8125		S1505052	S1510052	S1515052
		21.00	.8268		S1555210	S1560210	S1565210
	27/32	21.43	.8438		S1505054	S1510054	S1515054
	55/64	21.83	.8594		S1505055	S1510055	S1515055
		22.00	.8661		S1555220	S1560220	S1565220
	7/8	22.23	.8750		S1505056	S1510056	S1515056
	57/64	22.62	.8906		S1505057	S1510057	S1515057
		23.00	.9055		S1555230	S1560230	S1565230
	29/32	23.02	.9063		S1505058	S1510058	S1515058
	59/64	23.42	.9219		S1505059	S1510059	S1515059
	15/16	23.81	.9375		S1505060	S1510060	S1515060
		24.00	.9449		S1555240	S1560240	S1565240

◎ : 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	○	○					○				◎	◎	◎	◎	◎			◎			

SPADE DRILLS

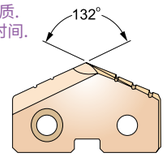
SERIES 2

SPADE DRILL INSERTS - PREMIUM HSS M48
铲钻刀片-PREMIUM HSS M48

- ▶ For use in high temperature alloys and materials with 350~500 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于高温合金和硬度在350-500布氏之间的材质.
- ▶ 在设备上能够简单地更挽刀片可以减少调试时间.
- ▶ 各种非标准尺寸均可进行生产.





Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
◎	ER COLLET CHUCK		D73 - 115	

切削条件 / cutting conditions : p. A367

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	PREMIUM HSS M48 TiN	PREMIUM HSS M48 TiCN	PREMIUM HSS M48 TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	S1505062	S1510062	S1515062
	63/64	25.00	.9843		S1555250	S1560250	S1565250
	1	25.40	1.0000		S1505100	S1510100	S1515100
	1-1/64	25.80	1.0156		S1505101	S1510101	S1515101
		26.00	1.0236		S1555260	S1560260	S1565260
	1-1/32	26.19	1.0313		S1505102	S1510102	S1515102
	1-3/64	26.59	1.0469		S1505103	S1510103	S1515103
	1-1/16	26.99	1.0625		S1505104	S1510104	S1515104
		27.00	1.0630		S1555270	S1560270	S1565270
	1-3/32	27.78	1.0938		S1505106	S1510106	S1515106
		28.00	1.1024		S1555280	S1560280	S1565280
	1-7/64	28.18	1.1094		S1505107	S1510107	S1515107
	1-1/8	28.58	1.1250		S1505108	S1510108	S1515108
		29.00	1.1417		S1555290	S1560290	S1565290
	1-5/32	29.37	1.1563		S1505110	S1510110	S1515110
		30.00	1.1811		S1555300	S1560300	S1565300
	1-3/16	30.16	1.1875		S1505112	S1510112	S1515112
	1-7/32	30.96	1.2188		S1505114	S1510114	S1515114
		31.00	1.2205		S1555310	S1560310	S1565310
	1-1/4	31.75	1.2500		S1505116	S1510116	S1515116
		32.00	1.2598		S1555320	S1560320	S1565320
	1-9/32	32.54	1.2813		S1505118	S1510118	S1515118
		33.00	1.2992		S1555330	S1560330	S1565330
	1-5/16	33.34	1.3125		S1505120	S1510120	S1515120
		34.00	1.3386		S1555340	S1560340	S1565340
	1-11/32	34.13	1.3438		S1505122	S1510122	S1515122
	1-3/8	34.93	1.3750		S1505124	S1510124	S1515124
		35.00	1.3780		S1555350	S1560350	S1565350

◎ : 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	○	○					○				◎	◎	◎	◎	◎			◎			

SPADE DRILLS

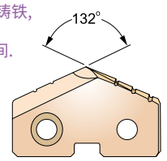
SERIES Y, Z, 0

SPADE DRILL INSERTS for CAST IRON - CARBIDE K10
铸铁用铲钻刀片-硬质合金 K10

- ▶ High performance on Gray cast iron over 220 Brinell, malleable cast iron with short chips, silicon aluminum and copper alloys.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 在超过220布氏的灰铸铁, 可断成短碎片的可锻铸铁, 硅铝 和铜合金上有很高的性能.
- ▶ 在设备上能够简单地更换刀片可以减少调试时间.
- ▶ 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A368

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-
ER COLLET CHUCK	D73 - 115		

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	CARBIDE K10 TiN	CARBIDE K10 TiCN	CARBIDE K10 TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)		9.50	.3740	2.4 (3/32)	S1655095	S1660095	S1665095
	3/8	9.53	.3750		S1605024	S1610024	S1615024
		9.80	.3860		S1655098	S1660098	S1665098
	25/64	9.92	.3906		S1605025	S1610025	S1615025
		10.00	.3937		S1655100	S1660100	S1665100
		10.20	.4016		S1655102	S1660102	S1665102
	13/32	10.32	.4063		S1605026	S1610026	S1615026
		10.50	.4134		S1655105	S1660105	S1665105
	27/64	10.72	.4219		S1605027	S1610027	S1615027
		10.80	.4252		S1655108	S1660108	S1665108
		11.00	.4331		S1655110	S1660110	S1665110
Z Ø11.11(.437) to Ø12.95(.510)	7/16	11.11	.4375	2.4 (3/32)	S1605028	S1610028	S1615028
		11.50	.4528		S1655115	S1660115	S1665115
	29/64	11.51	.4531		S1605029	S1610029	S1615029
	15/32	11.91	.4688		S1605030	S1610030	S1615030
		12.00	.4724		S1655120	S1660120	S1665120
	31/64	12.30	.4844		S1605031	S1610031	S1615031
		12.50	.4921		S1655125	S1660125	S1665125
	1/2	12.70	.5000		S1605032	S1610032	S1615032
0 Ø12.98 (.511) to Ø17.65 (.695)		13.00	.5118	3.2 (1/8)	S1655130	S1660130	S1665130
	33/64	13.10	.5156		S1605033	S1610033	S1615033
	17/32	13.49	.5313		S1605034	S1610034	S1615034
		13.50	.5315		S1655135	S1660135	S1665135
	35/64	13.89	.5469		S1605035	S1610035	S1615035
		14.00	.5512		S1655140	S1660140	S1665140
	9/16	14.29	.5625		S1605036	S1610036	S1615036
		14.50	.5709		S1655145	S1660145	S1665145
	37/64	14.68	.5781		S1605037	S1610037	S1615037
		15.00	.5906		S1655150	S1660150	S1665150
	19/32	15.08	.5938		S1605038	S1610038	S1615038
	39/64	15.48	.6094		S1605039	S1610039	S1615039
		15.50	.6102		S1655155	S1660155	S1665155
	5/8	15.88	.6250		S1605040	S1610040	S1615040
		16.00	.6299		S1655160	S1660160	S1665160

◎ : 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																					

SPADE DRILLS

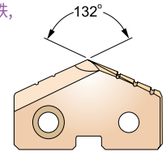
SERIES 0, 1

SPADE DRILL INSERTS for CAST IRON - CARBIDE K10
铸铁用铲钻刀片-硬质合金 K10

- ▶ High performance on Gray cast iron over 220 Brinell, malleable cast iron with short chips, silicon aluminum and copper alloys.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 在超过220布氏的灰铸铁, 可断成短碎片的可锻铸铁, 硅铝 和铜合金上有很高的性能.
- ▶ 在设备上能够简单地更换刀片可以减少调试时间.
- ▶ 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A368

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-
ER COLLET CHUCK	D73 - 115		

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	CARBIDE K10 TiN	CARBIDE K10 TiCN	CARBIDE K10 TiAlN
0 Ø12.98(.511) to Ø17.65(.695)	41/64	16.27	.6406	3.2 (1/8)	S1605041	S1610041	S1615041
		16.50	.6496		S1655165	S1660165	S1665165
	21/32	16.67	.6563		S1605042	S1610042	S1615042
		17.00	.6693		S1655170	S1660170	S1665170
	43/64	17.07	.6719		S1605043	S1610043	S1615043
	11/16	17.46	.6875		S1605044	S1610044	S1615044
		17.50	.6890		S1655175	S1660175	S1665175
1 Ø17.53 (.690) to Ø24.38 (.960)	45/64	17.86	.7031	4.0 (5/32)	S1605045	S1610045	S1615045
		18.00	.7087		S1655180	S1660180	S1665180
	23/32	18.26	.7188		S1605046	S1610046	S1615046
		18.50	.7283		S1655185	S1660185	S1665185
	47/64	18.65	.7344		S1605047	S1610047	S1615047
		19.00	.7480		S1655190	S1660190	S1665190
	3/4	19.05	.7500		S1605048	S1610048	S1615048
	49/64	19.45	.7656		S1605049	S1610049	S1615049
		19.50	.7677		S1655195	S1660195	S1665195
	25/32	19.84	.7813		S1605050	S1610050	S1615050
		20.00	.7874		S1655200	S1660200	S1665200
	51/64	20.24	.7969		S1605051	S1610051	S1615051
		20.50	.8071		S1655205	S1660205	S1665205
	13/16	20.64	.8125		S1605052	S1610052	S1615052
		21.00	.8268		S1655210	S1660210	S1665210
	27/32	21.43	.8438		S1605054	S1610054	S1615054
	55/64	21.83	.8594		S1605055	S1610055	S1615055
		22.00	.8661		S1655220	S1660220	S1665220
	7/8	22.23	.8750		S1605056	S1610056	S1615056
	57/64	22.62	.8906		S1605057	S1610057	S1615057
		23.00	.9055		S1655230	S1660230	S1665230
	29/32	23.02	.9063		S1605058	S1610058	S1615058
	59/64	23.42	.9219		S1605059	S1610059	S1615059
	15/16	23.81	.9375		S1605060	S1610060	S1615060
		24.00	.9449		S1655240	S1660240	S1665240

◎ : 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																					

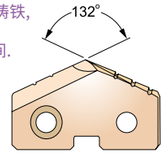
SPADE DRILLS

SERIES 2

SPADE DRILL INSERTS for CAST IRON - CARBIDE K10
铸铁用铲钻刀片-硬质合金 K10

- ▶ High performance on Gray cast iron over 220 Brinell, malleable cast iron with short chips, silicon aluminum and copper alloys.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 在超过220布氏的灰铸铁, 可断成短碎片的可锻铸铁, 硅铝 和铜合金上有很高的性能.
- ▶ 在设备上能够简单地更换刀片可以减少调试时间.
- ▶ 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A368

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-
ER COLLET CHUCK	D73 - 115		

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	CARBIDE K10 TiN	CARBIDE K10 TiCN	CARBIDE K10 TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	S1605062	S1610062	S1615062
	63/64	25.00	.9843		S1655250	S1660250	S1665250
	1	25.40	1.0000		S1605100	S1610100	S1615100
	1-1/64	25.80	1.0156		S1605101	S1610101	S1615101
		26.00	1.0236		S1655260	S1660260	S1665260
	1-1/32	26.19	1.0313		S1605102	S1610102	S1615102
	1-3/64	26.59	1.0469		S1605103	S1610103	S1615103
	1-1/16	26.99	1.0625		S1605104	S1610104	S1615104
		27.00	1.0630		S1655270	S1660270	S1665270
	1-3/32	27.78	1.0938		S1605106	S1610106	S1615106
		28.00	1.1024		S1655280	S1660280	S1665280
	1-7/64	28.18	1.1094		S1605107	S1610107	S1615107
	1-1/8	28.58	1.1250		S1605108	S1610108	S1615108
		29.00	1.1417		S1655290	S1660290	S1665290
	1-5/32	29.37	1.1563		S1605110	S1610110	S1615110
		30.00	1.1811		S1655300	S1660300	S1665300
	1-3/16	30.16	1.1875		S1605112	S1610112	S1615112
	1-7/32	30.96	1.2188		S1605114	S1610114	S1615114
		31.00	1.2205		S1655310	S1660310	S1665310
	1-1/4	31.75	1.2500		S1605116	S1610116	S1615116
		32.00	1.2598		S1655320	S1660320	S1665320
	1-9/32	32.54	1.2813		S1605118	S1610118	S1615118
		33.00	1.2992		S1655330	S1660330	S1665330
	1-5/16	33.34	1.3125		S1605120	S1610120	S1615120
		34.00	1.3386		S1655340	S1660340	S1665340
	1-11/32	34.13	1.3438		S1605122	S1610122	S1615122
	1-3/8	34.93	1.3750		S1605124	S1610124	S1615124
		35.00	1.3780		S1655350	S1660350	S1665350

◎ : 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																					

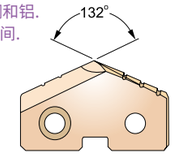
SPADE DRILLS

SERIES Y, Z, 0

SPADE DRILL INSERTS - CARBIDE K20
铲钻刀片-硬质合金 K20

- ▶ For use in Gray cast iron up to 220 Brinell, nonferrous metals, copper, brass and aluminum.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于220布氏以下的灰铸铁, 有色金属, 铜, 黄铜和铝.
- ▶ 在设备上能够简单地更换刀片可以减少调试时间.
- ▶ 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A369

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-
ER COLLET CHUCK	D73 - 115		

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	CARBIDE K20 TiN	CARBIDE K20 TiCN	CARBIDE K20 TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)		9.50	.3740	2.4 (3/32)	S1755095	S1760095	S1765095
	3/8	9.53	.3750		S1705024	S1710024	S1715024
		9.80	.3860		S1755098	S1760098	S1765098
	25/64	9.92	.3906		S1705025	S1710025	S1715025
		10.00	.3937		S1755100	S1760100	S1765100
		10.20	.4016		S1755102	S1760102	S1765102
	13/32	10.32	.4063		S1705026	S1710026	S1715026
		10.50	.4134		S1755105	S1760105	S1765105
	27/64	10.72	.4219		S1705027	S1710027	S1715027
		10.80	.4252		S1755108	S1760108	S1765108
		11.00	.4331		S1755110	S1760110	S1765110
Z Ø11.11(.437) to Ø12.95(.510)	7/16	11.11	.4375	2.4 (3/32)	S1705028	S1710028	S1715028
		11.50	.4528		S1755115	S1760115	S1765115
	29/64	11.51	.4531		S1705029	S1710029	S1715029
	15/32	11.91	.4688		S1705030	S1710030	S1715030
		12.00	.4724		S1755120	S1760120	S1765120
	31/64	12.30	.4844		S1705031	S1710031	S1715031
		12.50	.4921		S1755125	S1760125	S1765125
	1/2	12.70	.5000		S1705032	S1710032	S1715032
0 Ø12.98 (.511) to Ø17.65 (.695)		13.00	.5118	3.2 (1/8)	S1755130	S1760130	S1765130
	33/64	13.10	.5156		S1705033	S1710033	S1715033
	17/32	13.49	.5313		S1705034	S1710034	S1715034
		13.50	.5315		S1755135	S1760135	S1765135
	35/64	13.89	.5469		S1705035	S1710035	S1715035
		14.00	.5512		S1755140	S1760140	S1765140
	9/16	14.29	.5625		S1705036	S1710036	S1715036
		14.50	.5709		S1755145	S1760145	S1765145
	37/64	14.68	.5781		S1705037	S1710037	S1715037
		15.00	.5906		S1755150	S1760150	S1765150
	19/32	15.08	.5938		S1705038	S1710038	S1715038
	39/64	15.48	.6094		S1705039	S1710039	S1715039
		15.50	.6102		S1755155	S1760155	S1765155
	5/8	15.88	.6250		S1705040	S1710040	S1715040
		16.00	.6299		S1755160	S1760160	S1765160

◎ : 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	◎	◎					◎				◎	◎	◎	◎	◎			○			

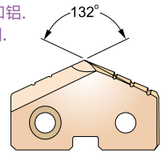
SPADE DRILLS

SERIES 0, 1

SPADE DRILL INSERTS - CARBIDE K20
铲钻刀片-硬质合金 K20

- ▶ For use in Gray cast iron up to 220 Brinell, nonferrous metals, copper, brass and aluminum.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于220布氏以下的灰铸铁, 有色金属, 铜, 黄铜和铝.
- ▶ 在设备上能够简单地更换刀片可以减少调试时间.
- ▶ 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A369

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK	D73 - 115		

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	CARBIDE K20 TiN	CARBIDE K20 TiCN	CARBIDE K20 TiAlN
0 Ø12.98(.511) to Ø17.65(.695)	41/64	16.27	.6406	3.2 (1/8)	S1705041	S1710041	S1715041
		16.50	.6496		S1755165	S1760165	S1765165
	21/32	16.67	.6563		S1705042	S1710042	S1715042
		17.00	.6693		S1755170	S1760170	S1765170
	43/64	17.07	.6719		S1705043	S1710043	S1715043
	11/16	17.46	.6875		S1705044	S1710044	S1715044
		17.50	.6890		S1755175	S1760175	S1765175
1 Ø17.53 (.690) to Ø24.38 (.960)	45/64	17.86	.7031	4.0 (5/32)	S1705045	S1710045	S1715045
		18.00	.7087		S1755180	S1760180	S1765180
	23/32	18.26	.7188		S1705046	S1710046	S1715046
		18.50	.7283		S1755185	S1760185	S1765185
	47/64	18.65	.7344		S1705047	S1710047	S1715047
		19.00	.7480		S1755190	S1760190	S1765190
	3/4	19.05	.7500		S1705048	S1710048	S1715048
	49/64	19.45	.7656		S1705049	S1710049	S1715049
		19.50	.7677		S1755195	S1760195	S1765195
	25/32	19.84	.7813		S1705050	S1710050	S1715050
		20.00	.7874		S1755200	S1760200	S1765200
	51/64	20.24	.7969		S1705051	S1710051	S1715051
		20.50	.8071		S1755205	S1760205	S1765205
	13/16	20.64	.8125		S1705052	S1710052	S1715052
		21.00	.8268		S1755210	S1760210	S1765210
	27/32	21.43	.8438		S1705054	S1710054	S1715054
	55/64	21.83	.8594		S1705055	S1710055	S1715055
		22.00	.8661		S1755220	S1760220	S1765220
	7/8	22.23	.8750		S1705056	S1710056	S1715056
	57/64	22.62	.8906		S1705057	S1710057	S1715057
		23.00	.9055		S1755230	S1760230	S1765230
	29/32	23.02	.9063		S1705058	S1710058	S1715058
	59/64	23.42	.9219		S1705059	S1710059	S1715059
	15/16	23.81	.9375		S1705060	S1710060	S1715060
		24.00	.9449		S1755240	S1760240	S1765240

◎ : 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	◎	◎					◎				◎	◎	◎	◎	◎			○			

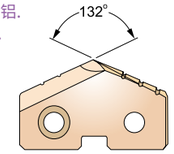
SPADE DRILLS

SERIES 2

SPADE DRILL INSERTS - CARBIDE K20
铲钻刀片-硬质合金 K20

- ▶ For use in Gray cast iron up to 220 Brinell, nonferrous metals, copper, brass and aluminum.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于220布氏以下的灰铸铁, 有色金属, 铜, 黄铜和铝.
- ▶ 在设备上能够简单地更换刀片可以减少调试时间.
- ▶ 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A369

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK	D73 - 115		

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	CARBIDE K20 TiN	CARBIDE K20 TiCN	CARBIDE K20 TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	S1705062	S1710062	S1715062
	63/64	25.00	.9843		S1755250	S1760250	S1765250
	1	25.40	1.0000		S1705100	S1710100	S1715100
	1-1/64	25.80	1.0156		S1705101	S1710101	S1715101
		26.00	1.0236		S1755260	S1760260	S1765260
	1-1/32	26.19	1.0313		S1705102	S1710102	S1715102
	1-3/64	26.59	1.0469		S1705103	S1710103	S1715103
	1-1/16	26.99	1.0625		S1705104	S1710104	S1715104
		27.00	1.0630		S1755270	S1760270	S1765270
	1-3/32	27.78	1.0938		S1705106	S1710106	S1715106
		28.00	1.1024		S1755280	S1760280	S1765280
	1-7/64	28.18	1.1094		S1705107	S1710107	S1715107
	1-1/8	28.58	1.1250		S1705108	S1710108	S1715108
		29.00	1.1417		S1755290	S1760290	S1765290
	1-5/32	29.37	1.1563		S1705110	S1710110	S1715110
		30.00	1.1811		S1755300	S1760300	S1765300
	1-3/16	30.16	1.1875		S1705112	S1710112	S1715112
	1-7/32	30.96	1.2188		S1705114	S1710114	S1715114
		31.00	1.2205		S1755310	S1760310	S1765310
	1-1/4	31.75	1.2500		S1705116	S1710116	S1715116
		32.00	1.2598		S1755320	S1760320	S1765320
	1-9/32	32.54	1.2813		S1705118	S1710118	S1715118
		33.00	1.2992		S1755330	S1760330	S1765330
	1-5/16	33.34	1.3125		S1705120	S1710120	S1715120
		34.00	1.3386		S1755340	S1760340	S1765340
	1-11/32	34.13	1.3438		S1705122	S1710122	S1715122
	1-3/8	34.93	1.3750		S1705124	S1710124	S1715124
		35.00	1.3780		S1755350	S1760350	S1765350

◎ : 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	◎	◎					◎				◎	◎	◎	◎	◎			○			

SPADE DRILLS

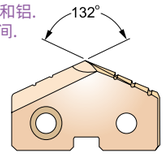
SERIES 3

SPADE DRILL INSERTS - CARBIDE K20
铲钻刀片-硬质合金 K20

▶ For use in Gray cast iron up to 220 Brinell, nonferrous metals, copper, brass and aluminum.
▶ Set up time can be reduced due to changing inserts easily on the machine.
▶ Any non-standard size available.

▶ 用于220布氏以下的灰铸铁, 有色金属, 铜, 黄铜和铝.
▶ 在设备上能够简单地更换刀片可以减少调试时间.
▶ 各种非标准尺寸均可进行生产.





Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245 - 246	-	-
	ER COLLET CHUCK		D73 - 115	

切削条件 / cutting conditions : p. A369

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	CARBIDE K20 TiN	CARBIDE K20 TiCN	CARBIDE K20 TiAlN
3 Ø34.37 (1.353) to Ø47.80 (1.882)	1-13/32	35.72	1.4063	6.4 (1/4)	S1705126	S1710126	S1715126
		36.00	1.4173		S1755360	S1760360	S1765360
	1-7/16	36.51	1.4375		S1705128	S1710128	S1715128
		37.00	1.4567		S1755370	S1760370	S1765370
	1-15/32	37.31	1.4688		S1705130	S1710130	S1715130
		38.00	1.4961		S1755380	S1760380	S1765380
	1-1/2	38.10	1.5000		S1705132	S1710132	S1715132
	1-17/32	38.89	1.5313		S1705134	S1710134	S1715134
		39.00	1.5354		S1755390	S1760390	S1765390
	1-9/16	39.69	1.5625		S1705136	S1710136	S1715136
		40.00	1.5748		S1755400	S1760400	S1765400
	1-19/32	40.48	1.5938		S1705138	S1710138	S1715138
		41.00	1.6142		S1755410	S1760410	S1765410
	1-5/8	41.28	1.6250		S1705140	S1710140	S1715140
		42.00	1.6535		S1755420	S1760420	S1765420
	1-21/32	42.07	1.6563		S1705142	S1710142	S1715142
	1-11/16	42.86	1.6875		S1705144	S1710144	S1715144
		43.00	1.6929		S1755430	S1760430	S1765430
	1-23/32	43.66	1.7188		S1705146	S1710146	S1715146
		44.00	1.7323		S1755440	S1760440	S1765440
	1-3/4	44.45	1.7500		S1705148	S1710148	S1715148
		45.00	1.7717		S1755450	S1760450	S1765450
	1-25/32	45.24	1.7813		S1705150	S1710150	S1715150
		46.00	1.8110		S1755460	S1760460	S1765460
	1-13/16	46.04	1.8125		S1705152	S1710152	S1715152
	1-27/32	46.83	1.8438		S1705154	S1710154	S1715154
		47.00	1.8504		S1755470	S1760470	S1765470
	1-7/8	47.63	1.8750		S1705156	S1710156	S1715156

◎ : 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	◎	◎					◎				◎	◎	◎	◎	◎			○			

SPADE DRILLS

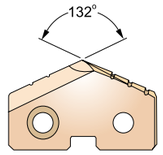
SERIES Y, Z, 0

SPADE DRILL INSERTS - CARBIDE P40
铲钻刀片-硬质合金 P40

▶ For general use in carbon steels and alloy steels.
▶ Set up time can be reduced due to changing inserts easily on the machine.
▶ Any non-standard size available.

▶ 用于碳素钢和合金钢的普通用途.
▶ 在设备上能够简单地更换刀片可以减少调试时间.
▶ 各种非标准尺寸均可进行生产.





Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245 - 246	-	-
	ER COLLET CHUCK		D73 - 115	

切削条件 / cutting conditions : p. A371

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	CARBIDE P40 TiN	CARBIDE P40 TiCN	CARBIDE P40 TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)		9.50	.3740	2.4 (3/32)	S1855095	S1860095	S1865095
	3/8	9.53	.3750		S1805024	S1810024	S1815024
		9.80	.3860		S1855098	S1860098	S1865098
	25/64	9.92	.3906		S1805025	S1810025	S1815025
		10.00	.3937		S1855100	S1860100	S1865100
		10.20	.4016		S1855102	S1860102	S1865102
	13/32	10.32	.4063		S1805026	S1810026	S1815026
		10.50	.4134		S1855105	S1860105	S1865105
	27/64	10.72	.4219		S1805027	S1810027	S1815027
		10.80	.4252		S1855108	S1860108	S1865108
		11.00	.4331		S1855110	S1860110	S1865110
Z Ø11.11(.437) to Ø12.95(.510)	7/16	11.11	.4375	2.4 (3/32)	S1805028	S1810028	S1815028
		11.50	.4528		S1855115	S1860115	S1865115
	29/64	11.51	.4531		S1805029	S1810029	S1815029
	15/32	11.91	.4688		S1805030	S1810030	S1815030
		12.00	.4724		S1855120	S1860120	S1865120
	31/64	12.30	.4844		S1805031	S1810031	S1815031
		12.50	.4921		S1855125	S1860125	S1865125
	1/2	12.70	.5000		S1805032	S1810032	S1815032
0 Ø12.98 (.511) to Ø17.65 (.695)		13.00	.5118	3.2 (1/8)	S1855130	S1860130	S1865130
	33/64	13.10	.5156		S1805033	S1810033	S1815033
	17/32	13.49	.5313		S1805034	S1810034	S1815034
		13.50	.5315		S1855135	S1860135	S1865135
	35/64	13.89	.5469		S1805035	S1810035	S1815035
		14.00	.5512		S1855140	S1860140	S1865140
	9/16	14.29	.5625		S1805036	S1810036	S1815036
		14.50	.5709		S1855145	S1860145	S1865145
	37/64	14.68	.5781		S1805037	S1810037	S1815037
		15.00	.5906		S1855150	S1860150	S1865150
	19/32	15.08	.5938		S1805038	S1810038	S1815038
	39/64	15.48	.6094		S1805039	S1810039	S1815039
		15.50	.6102		S1855155	S1860155	S1865155
	5/8	15.88	.6250		S1805040	S1810040	S1815040
		16.00	.6299		S1855160	S1860160	S1865160

◎ : 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	○	○					○				○	○	○	○	○			◎			

SPADE DRILLS

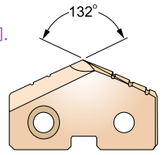
SERIES 0, 1

SPADE DRILL INSERTS - CARBIDE P40
铲钻刀片-硬质合金 P40

- ▶ For general use in carbon steels and alloy steels.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于碳素钢和合金钢的普通用途.
- ▶ 在设备上能够简单地更换刀片可以减少调试时间.
- ▶ 各种非标准尺寸均可进行生





切削条件 / cutting conditions : p. A371

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245 - 246	-	-
	ER COLLET CHUCK		D73 - 115	

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	CARBIDE P40 TiN	CARBIDE P40 TiCN	CARBIDE P40 TiAlN
0 Ø12.98(.511) to Ø17.65(.695)	41/64	16.27	.6406	3.2 (1/8)	S1805041	S1810041	S1815041
		16.50	.6496		S1855165	S1860165	S1865165
	21/32	16.67	.6563		S1805042	S1810042	S1815042
		17.00	.6693		S1855170	S1860170	S1865170
	43/64	17.07	.6719		S1805043	S1810043	S1815043
	11/16	17.46	.6875		S1805044	S1810044	S1815044
		17.50	.6890		S1855175	S1860175	S1865175
	45/64	17.86	.7031		S1805045	S1810045	S1815045
		18.00	.7087		S1855180	S1860180	S1865180
	23/32	18.26	.7188		S1805046	S1810046	S1815046
		18.50	.7283		S1855185	S1860185	S1865185
	47/64	18.65	.7344		S1805047	S1810047	S1815047
		19.00	.7480		S1855190	S1860190	S1865190
	3/4	19.05	.7500		S1805048	S1810048	S1815048
	49/64	19.45	.7656		S1805049	S1810049	S1815049
		19.50	.7677		S1855195	S1860195	S1865195
	25/32	19.84	.7813		S1805050	S1810050	S1815050
		20.00	.7874		S1855200	S1860200	S1865200
	51/64	20.24	.7969		S1805051	S1810051	S1815051
		20.50	.8071		S1855205	S1860205	S1865205
	13/16	20.64	.8125		S1805052	S1810052	S1815052
		21.00	.8268		S1855210	S1860210	S1865210
	27/32	21.43	.8438		S1805054	S1810054	S1815054
	55/64	21.83	.8594		S1805055	S1810055	S1815055
		22.00	.8661		S1855220	S1860220	S1865220
	7/8	22.23	.8750		S1805056	S1810056	S1815056
	57/64	22.62	.8906		S1805057	S1810057	S1815057
		23.00	.9055		S1855230	S1860230	S1865230
	29/32	23.02	.9063		S1805058	S1810058	S1815058
	59/64	23.42	.9219		S1805059	S1810059	S1815059
	15/16	23.81	.9375		S1805060	S1810060	S1815060
		24.00	.9449		S1855240	S1860240	S1865240
1 Ø17.53 (.690) to Ø24.38 (.960)				4.0 (5/32)			

◎ : 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	○	○					○				○	○	○	○	○			◎			

SPADE DRILLS

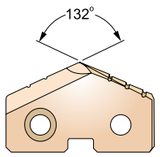
SERIES 2

SPADE DRILL INSERTS - CARBIDE P40
铲钻刀片-硬质合金 P40

- ▶ For general use in carbon steels and alloy steels.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于碳素钢和合金钢的普通用途.
- ▶ 在设备上能够简单地更换刀片可以减少调试时间.
- ▶ 各种非标准尺寸均可进行生





切削条件 / cutting conditions : p. A371

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245 - 246	-	-
	ER COLLET CHUCK		D73 - 115	

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	CARBIDE P40 TiN	CARBIDE P40 TiCN	CARBIDE P40 TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	S1805062	S1810062	S1815062
	63/64	25.00	.9843		S1855250	S1860250	S1865250
	1	25.40	1.0000		S1805100	S1810100	S1815100
	1-1/64	25.80	1.0156		S1805101	S1810101	S1815101
		26.00	1.0236		S1855260	S1860260	S1865260
	1-1/32	26.19	1.0313		S1805102	S1810102	S1815102
	1-3/64	26.59	1.0469		S1805103	S1810103	S1815103
	1-1/16	26.99	1.0625		S1805104	S1810104	S1815104
		27.00	1.0630		S1855270	S1860270	S1865270
	1-3/32	27.78	1.0938		S1805106	S1810106	S1815106
		28.00	1.1024		S1855280	S1860280	S1865280
	1-7/64	28.18	1.1094		S1805107	S1810107	S1815107
	1-1/8	28.58	1.1250		S1805108	S1810108	S1815108
		29.00	1.1417		S1855290	S1860290	S1865290
	1-5/32	29.37	1.1563		S1805110	S1810110	S1815110
		30.00	1.1811		S1855300	S1860300	S1865300
	1-3/16	30.16	1.1875		S1805112	S1810112	S1815112
	1-7/32	30.96	1.2188		S1805114	S1810114	S1815114
		31.00	1.2205		S1855310	S1860310	S1865310
	1-1/4	31.75	1.2500		S1805116	S1810116	S1815116
		32.00	1.2598		S1855320	S1860320	S1865320
	1-9/32	32.54	1.2813		S1805118	S1810118	S1815118
		33.00	1.2992		S1855330	S1860330	S1865330
	1-5/16	33.34	1.3125		S1805120	S1810120	S1815120
		34.00	1.3386		S1855340	S1860340	S1865340
	1-11/32	34.13	1.3438		S1805122	S1810122	S1815122
	1-3/8	34.93	1.3750		S1805124	S1810124	S1815124
		35.00	1.3780		S1855350	S1860350	S1865350

◎ : 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	○	○					○				○	○	○	○	○			◎			

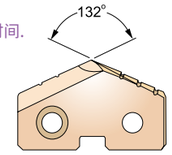
SPADE DRILLS

SERIES 3

SPADE DRILL INSERTS - CARBIDE P40
铲钻刀片-硬质合金 P40

- For general use in carbon steels and alloy steels.
- Set up time can be reduced due to changing inserts easily on the machine.
- Any non-standard size available.

- 用于碳素钢和合金钢的普通用途.
- 在设备上能够简单地更换刀片可以减少调试时间.
- 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A371

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-
ER COLLET CHUCK		D73 - 115	

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	CARBIDE P40 TiN	CARBIDE P40 TiCN	CARBIDE P40 TiAlN
3 Ø34.37 (1.353) to Ø47.80 (1.882)	1-13/32	35.72	1.4063	6.4 (1/4)	S1805126	S1810126	S1815126
		36.00	1.4173		S1855360	S1860360	S1865360
	1-7/16	36.51	1.4375		S1805128	S1810128	S1815128
		37.00	1.4567		S1855370	S1860370	S1865370
	1-15/32	37.31	1.4688		S1805130	S1810130	S1815130
		38.00	1.4961		S1855380	S1860380	S1865380
	1-1/2	38.10	1.5000		S1805132	S1810132	S1815132
	1-17/32	38.89	1.5313		S1805134	S1810134	S1815134
		39.00	1.5354		S1855390	S1860390	S1865390
	1-9/16	39.69	1.5625		S1805136	S1810136	S1815136
		40.00	1.5748		S1855400	S1860400	S1865400
	1-19/32	40.48	1.5938		S1805138	S1810138	S1815138
		41.00	1.6142		S1855410	S1860410	S1865410
	1-5/8	41.28	1.6250		S1805140	S1810140	S1815140
		42.00	1.6535		S1855420	S1860420	S1865420
	1-21/32	42.07	1.6563		S1805142	S1810142	S1815142
	1-11/16	42.86	1.6875		S1805144	S1810144	S1815144
		43.00	1.6929		S1855430	S1860430	S1865430
	1-23/32	43.66	1.7188		S1805146	S1810146	S1815146
		44.00	1.7323		S1855440	S1860440	S1865440
	1-3/4	44.45	1.7500		S1805148	S1810148	S1815148
		45.00	1.7717		S1855450	S1860450	S1865450
	1-25/32	45.24	1.7813		S1805150	S1810150	S1815150
		46.00	1.8110		S1855460	S1860460	S1865460
	1-13/16	46.04	1.8125		S1805152	S1810152	S1815152
	1-27/32	46.83	1.8438		S1805154	S1810154	S1815154
		47.00	1.8504		S1855470	S1860470	S1865470
	1-7/8	47.63	1.8750		S1805156	S1810156	S1815156

◎ : 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	◎	◎	◎	◎		◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

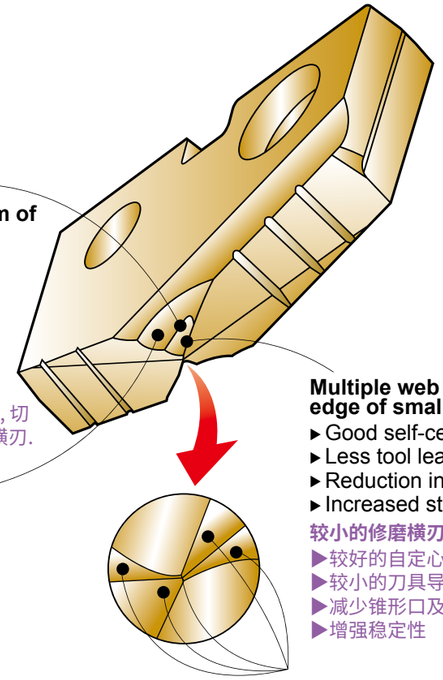
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	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	○	○					○				○	○	○	○	○			◎			

Special features of SM-Point Spade Drill

This new "Hybrid Point" combines the strength of the standard point with additional "Web Thinning".

This new point increases stability, reduces thrust, improves centering and allows increased speeds and feeds.

新的 “混合式钻尖” 结合标准钻顶角的特征并增加了 “修磨横刃”
新的钻顶增加了稳定性, 减少了推力, 提高了定心力并且允许更高的加工速度和进给



Multiple thinning form at the bottom of the large thinning.
- The optimum thinning for the difference from the cutting speed, the cutting quantity and the cutting load according to the distance from the drill point to the cutting edge.

在宽大的横刃底面有多种横刃方式
▶根据从钻顶到切削刃的距离, 在切削速度, 切削质量和切削负载不同情况下最适宜的横刀.

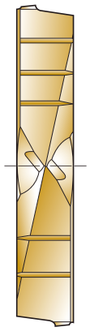
Radius back face
- Wide chip space

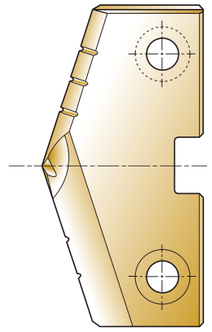
弧形的后刀面
▶较宽的排屑槽

Multiple web thinning with the cutting edge of small web thinning.
- Good self-centering
- Less tool lead off
- Reduction in bell mouthing, thrust
- Increased stability

较小的修磨横刃的刃口具有多种修磨横刃
▶较好的自定心力
▶较小的刀具导向移动
▶减少锥形口及推力
▶增强稳定性

Four-facet point / 具有四个面的钻顶角
- Self-centering / 自定心
- Less thrust force / 较小的推力





SPADE DRILLS

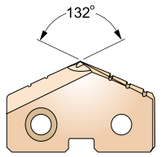
SERIES 1

SM-POINT SPADE DRILL INSERTS - HSS M4
SM-POINT 铲钻刀片-HSS M4

- For general use in steels and cast irons.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.

- 用于钢和铸铁的普通用途
- 通过新开发的钻顶设计增强稳定性和孔的垂直性
- 较小的推力和卓越的自定心功能
- 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A366

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK		D73 - 115	

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	HSS M4 TiN	HSS M4 TiCN	HSS M4 TiAlN
1 Ø17.53 (.690) to Ø24.38 (.960)	45/64	17.86	.7031	4.0 (5/32)	SM405045	SM410045	SM415045
		18.00	.7087		SM455180	SM460180	SM465180
	23/32	18.26	.7188		SM405046	SM410046	SM415046
		18.50	.7283		SM455185	SM460185	SM465185
	47/64	18.65	.7344		SM405047	SM410047	SM415047
		19.00	.7480		SM455190	SM460190	SM465190
	3/4	19.05	.7500		SM405048	SM410048	SM415048
	49/64	19.45	.7656		SM405049	SM410049	SM415049
		19.50	.7677		SM455195	SM460195	SM465195
	25/32	19.84	.7812		SM405050	SM410050	SM415050
		20.00	.7874		SM455200	SM460200	SM465200
	51/64	20.24	.7969		SM405051	SM410051	SM415051
		20.50	.8071		SM455205	SM460205	SM465205
	13/16	20.64	.8125		SM405052	SM410052	SM415052
		21.00	.8268		SM455210	SM460210	SM465210
	27/32	21.43	.8438		SM405054	SM410054	SM415054
	55/64	21.83	.8594		SM405055	SM410055	SM415055
		22.00	.8661		SM455220	SM460220	SM465220
	7/8	22.23	.8750		SM405056	SM410056	SM415056
	57/64	22.62	.8906		SM405057	SM410057	SM415057
		23.00	.9055		SM455230	SM460230	SM465230
	29/32	23.02	.9062		SM405058	SM410058	SM415058
	59/64	23.42	.9219		SM405059	SM410059	SM415059
	15/16	23.81	.9375		SM405060	SM410060	SM415060
		24.00	.9449		SM455240	SM460240	SM465240

◎ : 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	◎	◎					◎														

SPADE DRILLS

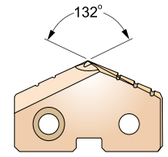
SERIES 2

SM-POINT SPADE DRILL INSERTS - HSS M4
SM-POINT 铲钻刀片-HSS M4

- For general use in steels and cast irons.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.

- 用于钢和铸铁的普通用途
- 通过新开发的钻顶设计增强稳定性和孔的垂直性
- 较小的推力和卓越的自定心功能
- 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A366

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK		D73 - 115	

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	HSS M4 TiN	HSS M4 TiCN	HSS M4 TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	SM405062	SM410062	SM415062
	63/64	25.00	.9843		SM455250	SM460250	SM465250
	1	25.40	1.0000		SM405100	SM410100	SM415100
	1-1/64	25.80	1.0156		SM405101	SM410101	SM415101
		26.00	1.0236		SM455260	SM460260	SM465260
	1-1/32	26.19	1.0312		SM405102	SM410102	SM415102
	1-3/64	26.59	1.0469		SM405103	SM410103	SM415103
	1-1/16	26.99	1.0625		SM405104	SM410104	SM415104
		27.00	1.0630		SM455270	SM460270	SM465270
	1-3/32	27.78	1.0938		SM405106	SM410106	SM415106
		28.00	1.1024		SM455280	SM460280	SM465280
	1-7/64	28.18	1.1094		SM405107	SM410107	SM415107
	1-1/8	28.58	1.1250		SM405108	SM410108	SM415108
		29.00	1.1417		SM455290	SM460290	SM465290
	1-5/32	29.37	1.1562		SM405110	SM410110	SM415110
		30.00	1.1811		SM455300	SM460300	SM465300
	1-3/16	30.16	1.1875		SM405112	SM410112	SM415112
	1-7/32	30.96	1.2188		SM405114	SM410114	SM415114
		31.00	1.2205		SM455310	SM460310	SM465310
	1-1/4	31.75	1.2500		SM405116	SM410116	SM415116
		32.00	1.2598		SM455320	SM460320	SM465320
	1-9/32	32.54	1.2812		SM405118	SM410118	SM415118
		33.00	1.2992		SM455330	SM460330	SM465330
	1-5/16	33.34	1.3125		SM405120	SM410120	SM415120
		34.00	1.3386		SM455340	SM460340	SM465340
	1-11/32	34.13	1.3438		SM405122	SM410122	SM415122
	1-3/8	34.93	1.3750		SM405124	SM410124	SM415124
		35.00	1.3780		SM455350	SM460350	SM465350

◎ : 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	◎	◎					◎														

SPADE DRILLS

SERIES 3

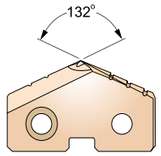
SM-POINT SPADE DRILL INSERTS - HSS M4

SM-POINT 铲钻刀片-HSS M4

- For general use in steels and cast irons.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.

- 用于钢和铸铁的普通用途
- 通过新开发的钻顶设计增强稳定性和孔的垂直性
- 较小的推力和卓越的自定心功能
- 各种非标准尺寸均可进行生产.





Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
◎	ER COLLET CHUCK			D73 - 115

切削条件 / cutting conditions : p. A366

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	HSS M4 TiN	HSS M4 TiCN	HSS M4 TiAlN
3 Ø34.37 (1.353) to Ø47.80 (1.882)	1-13/32	35.72	1.4062	6.4 (1/4)	SM405126	SM410126	SM415126
		36.00	1.4173		SM455360	SM460360	SM465360
	1-7/16	36.51	1.4375		SM405128	SM410128	SM415128
		37.00	1.4567		SM455370	SM460370	SM465370
	1-15/32	37.31	1.4688		SM405130	SM410130	SM415130
		38.00	1.4961		SM455380	SM460380	SM465380
	1-1/2	38.10	1.5000		SM405132	SM410132	SM415132
	1-17/32	38.89	1.5312		SM405134	SM410134	SM415134
		39.00	1.5354		SM455390	SM460390	SM465390
	1-9/16	39.69	1.5625		SM405136	SM410136	SM415136
		40.00	1.5748		SM455400	SM460400	SM465400
	1-19/32	40.48	1.5938		SM405138	SM410138	SM415138
		41.00	1.6142		SM455410	SM460410	SM465410
	1-5/8	41.28	1.6250		SM405140	SM410140	SM415140
		42.00	1.6535		SM455420	SM460420	SM465420
	1-21/32	42.07	1.6562		SM405142	SM410142	SM415142
	1-11/16	42.86	1.6875		SM405144	SM410144	SM415144
		43.00	1.6929		SM455430	SM460430	SM465430
	1-23/32	43.66	1.7188		SM405146	SM410146	SM415146
		44.00	1.7323		SM455440	SM460440	SM465440
	1-3/4	44.45	1.7500		SM405148	SM410148	SM415148
		45.00	1.7717		SM455450	SM460450	SM465450
	1-25/32	45.24	1.7812		SM405150	SM410150	SM415150
		46.00	1.8110		SM455460	SM460460	SM465460
	1-13/16	46.04	1.8125		SM405152	SM410152	SM415152
	1-27/32	46.83	1.8438		SM405154	SM410154	SM415154
		47.00	1.8504		SM455470	SM460470	SM465470
	1-7/8	47.63	1.8750		SM405156	SM410156	SM415156

◎ : 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	◎	◎					◎														

SPADE DRILLS

SERIES Y, Z, 0

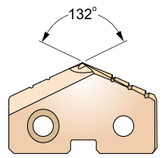
SM-POINT SPADE DRILL INSERTS - SUPER HSS T15

SM-POINT 铲钻刀片-SUPER HSS T15

- For use in high nickel alloys and materials over 280 Brinell.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.

- 用于高镍合金和硬度超过280布氏的材质
- 通过新开发的钻顶设计增强稳定性和孔的垂直性
- 较小的推力和卓越的自定心功能
- 各种非标准尺寸均可进行生产.





Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
◎	ER COLLET CHUCK			D73 - 115

切削条件 / cutting conditions : p. A365

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	SUPER HSS T15 TiN	SUPER HSS T15 TiCN	SUPER HSS T15 TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)		9.50	.3740	2.4 (3/32)	SM155095	SM160095	SM165095
	3/8	9.53	.3750		SM105024	SM110024	SM115024
		9.80	.3858		SM155098	SM160098	SM165098
	25/64	9.92	.3906		SM105025	SM110025	SM115025
		10.00	.3937		SM155100	SM160100	SM165100
		10.20	.4016		SM155102	SM160102	SM165102
	13/32	10.32	.4062		SM105026	SM110026	SM115026
		10.50	.4134		SM155105	SM160105	SM165105
	27/64	10.72	.4219		SM105027	SM110027	SM115027
		10.80	.4252		SM155108	SM160108	SM165108
		11.00	.4331		SM155110	SM160110	SM165110
Z Ø11.11(.437) to Ø12.95(.510)	7/16	11.11	.4375	2.4 (3/32)	SM105028	SM110028	SM115028
		11.50	.4528		SM155115	SM160115	SM165115
	29/64	11.51	.4531		SM105029	SM110029	SM115029
	15/32	11.91	.4688		SM105030	SM110030	SM115030
		12.00	.4724		SM155120	SM160120	SM165120
	31/64	12.30	.4844		SM105031	SM110031	SM115031
		12.50	.4921		SM155125	SM160125	SM165125
	1/2	12.70	.5000		SM105032	SM110032	SM115032
0 Ø12.98 (.511) to Ø17.65 (.695)		13.00	.5118	3.2 (1/8)	SM155130	SM160130	SM165130
	33/64	13.10	.5156		SM105033	SM110033	SM115033
	17/32	13.49	.5312		SM105034	SM110034	SM115034
		13.50	.5315		SM155135	SM160135	SM165135
	35/64	13.89	.5469		SM105035	SM110035	SM115035
		14.00	.5512		SM155140	SM160140	SM165140
	9/16	14.29	.5625		SM105036	SM110036	SM115036
		14.50	.5709		SM155145	SM160145	SM165145
	37/64	14.68	.5781		SM105037	SM110037	SM115037
		15.00	.5906		SM155150	SM160150	SM165150
	19/32	15.08	.5938		SM105038	SM110038	SM115038
	39/64	15.48	.6094		SM105039	SM110039	SM115039
		15.50	.6102		SM155155	SM160155	SM165155
	5/8	15.88	.6250		SM105040	SM110040	SM115040
		16.00	.6299		SM155160	SM160160	SM165160

◎ : 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	○	○					○				◎	○	○	○	○			○			

SPADE DRILLS

SERIES 0, 1

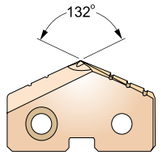
SM-POINT SPADE DRILL INSERTS - SUPER HSS T15

SM-POINT 铲钻刀片-SUPER HSS T15

- For use in high nickel alloys and materials over 280 Brinell.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.

- 用于高镍合金和硬度超过280布氏的材质
- 通过新开发的钻顶设计增强稳定性和孔的垂直性
- 较小的推力和卓越的自定心功能
- 各种非标准尺寸均可进行生产.





Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
◎	ER COLLET CHUCK			D73 - 115

切削条件 / cutting conditions : p. A365

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	SUPER HSS T15 TiN	SUPER HSS T15 TiCN	SUPER HSS T15 TiAlN
0 Ø12.98(.511) to Ø17.65(.695)	41/64	16.27	.6406	3.2 (1/8)	SM105041	SM110041	SM115041
		16.50	.6496		SM155165	SM160165	SM165165
	21/32	16.67	.6562		SM105042	SM110042	SM115042
		17.00	.6693		SM155170	SM160170	SM165170
	43/64	17.07	.6719		SM105043	SM110043	SM115043
	11/16	17.46	.6875		SM105044	SM110044	SM115044
		17.50	.6890		SM155175	SM160175	SM165175
1 Ø17.53 (.690) to Ø24.38 (.960)	45/64	17.86	.7031	4.0 (5/32)	SM105045	SM110045	SM115045
		18.00	.7087		SM155180	SM160180	SM165180
	23/32	18.26	.7188		SM105046	SM110046	SM115046
		18.50	.7283		SM155185	SM160185	SM165185
	47/64	18.65	.7344		SM105047	SM110047	SM115047
		19.00	.7480		SM155190	SM160190	SM165190
	3/4	19.05	.7500		SM105048	SM110048	SM115048
	49/64	19.45	.7656		SM105049	SM110049	SM115049
		19.50	.7677		SM155195	SM160195	SM165195
	25/32	19.84	.7812		SM105050	SM110050	SM115050
		20.00	.7874		SM155200	SM160200	SM165200
	51/64	20.24	.7969		SM105051	SM110051	SM115051
		20.50	.8071		SM155205	SM160205	SM165205
	13/16	20.64	.8125		SM105052	SM110052	SM115052
		21.00	.8268		SM155210	SM160210	SM165210
	27/32	21.43	.8438		SM105054	SM110054	SM115054
	55/64	21.83	.8594		SM105055	SM110055	SM115055
		22.00	.8661		SM155220	SM160220	SM165220
	7/8	22.23	.8750		SM105056	SM110056	SM115056
	57/64	22.62	.8906		SM105057	SM110057	SM115057
		23.00	.9055		SM155230	SM160230	SM165230
	29/32	23.02	.9062		SM105058	SM110058	SM115058
	59/64	23.42	.9219		SM105059	SM110059	SM115059
	15/16	23.81	.9375		SM105060	SM110060	SM115060
		24.00	.9449		SM155240	SM160240	SM165240

◎ : 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	○	○					○				◎	○	○	○	○			○			

SPADE DRILLS

SERIES 2

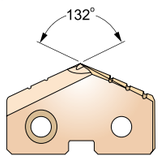
SM-POINT SPADE DRILL INSERTS - SUPER HSS T15

SM-POINT 铲钻刀片-SUPER HSS T15

- For use in high nickel alloys and materials over 280 Brinell.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.

- 用于高镍合金和硬度超过280布氏的材质
- 通过新开发的钻顶设计增强稳定性和孔的垂直性
- 较小的推力和卓越的自定心功能
- 各种非标准尺寸均可进行生产.





Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
◎	ER COLLET CHUCK			D73 - 115

切削条件 / cutting conditions : p. A365

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	SUPER HSS T15 TiN	SUPER HSS T15 TiCN	SUPER HSS T15 TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	SM105062	SM110062	SM115062
	63/64	25.00	.9843		SM155250	SM160250	SM165250
	1	25.40	1.0000		SM105100	SM110100	SM115100
	1-1/64	25.80	1.0156		SM105101	SM110101	SM115101
		26.00	1.0236		SM155260	SM160260	SM165260
	1-1/32	26.19	1.0312		SM105102	SM110102	SM115102
	1-3/64	26.59	1.0469		SM105103	SM110103	SM115103
	1-1/16	26.99	1.0625		SM105104	SM110104	SM115104
		27.00	1.0630		SM155270	SM160270	SM165270
	1-3/32	27.78	1.0938		SM105106	SM110106	SM115106
		28.00	1.1024		SM155280	SM160280	SM165280
	1-7/64	28.18	1.1094		SM105107	SM110107	SM115107
	1-1/8	28.58	1.1250		SM105108	SM110108	SM115108
		29.00	1.1417		SM155290	SM160290	SM165290
	1-5/32	29.37	1.1562		SM105110	SM110110	SM115110
		30.00	1.1811		SM155300	SM160300	SM165300
	1-3/16	30.16	1.1875		SM105112	SM110112	SM115112
	1-7/32	30.96	1.2188		SM105114	SM110114	SM115114
		31.00	1.2205		SM155310	SM160310	SM165310
	1-1/4	31.75	1.2500		SM105116	SM110116	SM115116
		32.00	1.2598		SM155320	SM160320	SM165320
	1-9/32	32.54	1.2812		SM105118	SM110118	SM115118
		33.00	1.2992		SM155330	SM160330	SM165330
	1-5/16	33.34	1.3125		SM105120	SM110120	SM115120
		34.00	1.3386		SM155340	SM160340	SM165340
	1-11/32	34.13	1.3438		SM105122	SM110122	SM115122
	1-3/8	34.93	1.3750		SM105124	SM110124	SM115124
		35.00	1.3780		SM155350	SM160350	SM165350

◎ : 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	○	○					○				◎	○	○	○	○			○			

SPADE DRILLS

SERIES 3

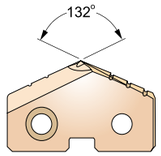
SM-POINT SPADE DRILL INSERTS - SUPER HSS T15

SM-POINT 铲钻刀片-SUPER HSS T15

- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ 用于高镍合金和硬度超过280布氏的材质
- ▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
- ▶ 较小的推力和卓越的自定心功能
- ▶ 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A365

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK			D73 - 115

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	SUPER HSS T15 TiN	SUPER HSS T15 TiCN	SUPER HSS T15 TiAlN
3 Ø34.37 (1.353) to Ø47.80 (1.882)	1-13/32	35.72	1.4062	6.4 (1/4)	SM105126	SM110126	SM115126
		36.00	1.4173		SM155360	SM160360	SM165360
	1-7/16	36.51	1.4375		SM105128	SM110128	SM115128
		37.00	1.4567		SM155370	SM160370	SM165370
	1-15/32	37.31	1.4688		SM105130	SM110130	SM115130
		38.00	1.4961		SM155380	SM160380	SM165380
	1-1/2	38.10	1.5000		SM105132	SM110132	SM115132
	1-17/32	38.89	1.5312		SM105134	SM110134	SM115134
		39.00	1.5354		SM155390	SM160390	SM165390
	1-9/16	39.69	1.5625		SM105136	SM110136	SM115136
		40.00	1.5748		SM155400	SM160400	SM165400
	1-19/32	40.48	1.5938		SM105138	SM110138	SM115138
		41.00	1.6142		SM155410	SM160410	SM165410
	1-5/8	41.28	1.6250		SM105140	SM110140	SM115140
		42.00	1.6535		SM155420	SM160420	SM165420
	1-21/32	42.07	1.6562		SM105142	SM110142	SM115142
	1-11/16	42.86	1.6875		SM105144	SM110144	SM115144
		43.00	1.6929		SM155430	SM160430	SM165430
	1-23/32	43.66	1.7188		SM105146	SM110146	SM115146
		44.00	1.7323		SM155440	SM160440	SM165440
	1-3/4	44.45	1.7500		SM105148	SM110148	SM115148
		45.00	1.7717		SM155450	SM160450	SM165450
	1-25/32	45.24	1.7812		SM105150	SM110150	SM115150
		46.00	1.8110		SM155460	SM160460	SM165460
	1-13/16	46.04	1.8125		SM105152	SM110152	SM115152
	1-27/32	46.83	1.8438		SM105154	SM110154	SM115154
		47.00	1.8504		SM155470	SM160470	SM165470
	1-7/8	47.63	1.8750		SM105156	SM110156	SM115156

◎ : 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	○	○					○				◎	○	○	○	○			○			

SPADE DRILLS

SERIES Y, Z, 0

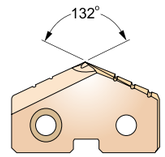
SM-POINT SPADE DRILL INSERTS - PREMIUM HSS M48

SM-POINT 铲钻刀片-PREMIUM HSS M48

- ▶ For use in high temperature alloys and materials with 350~500 Brinell.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ 用于高温合金和硬度在350-500布氏之间的材质
- ▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
- ▶ 较小的推力和卓越的自定心功能
- ▶ 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A367

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK			D73 - 115

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	PREMIUM HSS M48 TiN	PREMIUM HSS M48 TiCN	PREMIUM HSS M48 TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)		9.50	.3740	2.4 (3/32)	SM555095	SM560095	SM565095
	3/8	9.53	.3750		SM505024	SM510024	SM515024
		9.80	.3858		SM555098	SM560098	SM565098
	25/64	9.92	.3906		SM505025	SM510025	SM515025
		10.00	.3937		SM555100	SM560100	SM565100
		10.20	.4016		SM555102	SM560102	SM565102
	13/32	10.32	.4062		SM505026	SM510026	SM515026
		10.50	.4134		SM555105	SM560105	SM565105
	27/64	10.72	.4219		SM505027	SM510027	SM515027
		10.80	.4252		SM555108	SM560108	SM565108
		11.00	.4331		SM555110	SM560110	SM565110
Z Ø11.11(.437) to Ø12.95(.510)	7/16	11.11	.4375	2.4 (3/32)	SM505028	SM510028	SM515028
		11.50	.4528		SM555115	SM560115	SM565115
	29/64	11.51	.4531		SM505029	SM510029	SM515029
	15/32	11.91	.4688		SM505030	SM510030	SM515030
		12.00	.4724		SM555120	SM560120	SM565120
	31/64	12.30	.4844		SM505031	SM510031	SM515031
		12.50	.4921		SM555125	SM560125	SM565125
	1/2	12.70	.5000		SM505032	SM510032	SM515032
0 Ø12.98 (.511) to Ø17.65 (.695)		13.00	.5118	3.2 (1/8)	SM555130	SM560130	SM565130
	33/64	13.10	.5156		SM505033	SM510033	SM515033
	17/32	13.49	.5312		SM505034	SM510034	SM515034
		13.50	.5315		SM555135	SM560135	SM565135
	35/64	13.89	.5469		SM505035	SM510035	SM515035
		14.00	.5512		SM555140	SM560140	SM565140
	9/16	14.29	.5625		SM505036	SM510036	SM515036
		14.50	.5709		SM555145	SM560145	SM565145
	37/64	14.68	.5781		SM505037	SM510037	SM515037
		15.00	.5906		SM555150	SM560150	SM565150
	19/32	15.08	.5938		SM505038	SM510038	SM515038
	39/64	15.48	.6094		SM505039	SM510039	SM515039
		15.50	.6102		SM555155	SM560155	SM565155
	5/8	15.88	.6250		SM505040	SM510040	SM515040
		16.00	.6299		SM555160	SM560160	SM565160

◎ : 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	○	○					○				◎	◎	◎	◎	◎			◎			

SPADE DRILLS

SERIES 0, 1

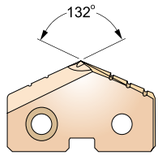
SM-POINT SPADE DRILL INSERTS - PREMIUM HSS M48

SM-POINT 铲钻刀片-PREMIUM HSS M48

- ▶ For use in high temperature alloys and materials with 350~500 Brinell.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ 用于高温合金和硬度在350-500布氏之间的材质
- ▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
- ▶ 较小的推力和卓越的自定心功能
- ▶ 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A367

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
◎	ER COLLET CHUCK			D73 - 115

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	PREMIUM HSS M48 TiN	PREMIUM HSS M48 TiCN	PREMIUM HSS M48 TiAlN
0 Ø12.98(.511) to Ø17.65(.695)	41/64	16.27	.6406	3.2 (1/8)	SM505041	SM510041	SM515041
		16.50	.6496		SM555165	SM560165	SM565165
	21/32	16.67	.6562		SM505042	SM510042	SM515042
		17.00	.6693		SM555170	SM560170	SM565170
	43/64	17.07	.6719		SM505043	SM510043	SM515043
	11/16	17.46	.6875		SM505044	SM510044	SM515044
		17.50	.6890		SM555175	SM560175	SM565175
1 Ø17.53 (.690) to Ø24.38 (.960)	45/64	17.86	.7031	4.0 (5/32)	SM505045	SM510045	SM515045
		18.00	.7087		SM555180	SM560180	SM565180
	23/32	18.26	.7188		SM505046	SM510046	SM515046
		18.50	.7283		SM555185	SM560185	SM565185
	47/64	18.65	.7344		SM505047	SM510047	SM515047
		19.00	.7480		SM555190	SM560190	SM565190
	3/4	19.05	.7500		SM505048	SM510048	SM515048
	49/64	19.45	.7656		SM505049	SM510049	SM515049
		19.50	.7677		SM555195	SM560195	SM565195
	25/32	19.84	.7812		SM505050	SM510050	SM515050
		20.00	.7874		SM555200	SM560200	SM565200
	51/64	20.24	.7969		SM505051	SM510051	SM515051
		20.50	.8071		SM555205	SM560205	SM565205
	13/16	20.64	.8125		SM505052	SM510052	SM515052
		21.00	.8268		SM555210	SM560210	SM565210
	27/32	21.43	.8438		SM505054	SM510054	SM515054
	55/64	21.83	.8594		SM505055	SM510055	SM515055
		22.00	.8661		SM555220	SM560220	SM565220
	7/8	22.23	.8750		SM505056	SM510056	SM515056
	57/64	22.62	.8906		SM505057	SM510057	SM515057
		23.00	.9055		SM555230	SM560230	SM565230
	29/32	23.02	.9062		SM505058	SM510058	SM515058
	59/64	23.42	.9219		SM505059	SM510059	SM515059
	15/16	23.81	.9375		SM505060	SM510060	SM515060
		24.00	.9449		SM555240	SM560240	SM565240

◎ : 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	◎	◎	◎	◎		◎	◎	◎	◎	◎	◎				○	◎	○	◎	○	◎

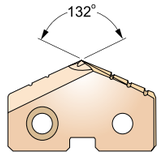
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	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	○	○					○				◎	◎	◎	◎	◎			◎			

SPADE DRILLS

SERIES 2

SM-POINT SPADE DRILL INSERTS - PREMIUM HSS M48
SM-POINT 铲钻刀片-PREMIUM HSS M48
▶ For use in high temperature alloys and materials with 350~500 Brinell.
▶ Improved stability and hole straightness by newly developed thinning design.
▶ Less thrust force and excellent self-centering.
▶ Any non-standard size available.
▶ 用于高温合金和硬度在350-500布氏之间的材质
▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
▶ 较小的推力和卓越的自定心功能
▶ 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A367

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
◎	ER COLLET CHUCK			D73 - 115

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	PREMIUM HSS M48 TiN	PREMIUM HSS M48 TiCN	PREMIUM HSS M48 TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	SM505062	SM510062	SM515062
	63/64	25.00	.9843		SM555250	SM560250	SM565250
	1	25.40	1.0000		SM505100	SM510100	SM515100
	1-1/64	25.80	1.0156		SM505101	SM510101	SM515101
		26.00	1.0236		SM555260	SM560260	SM565260
	1-1/32	26.19	1.0312		SM505102	SM510102	SM515102
	1-3/64	26.59	1.0469		SM505103	SM510103	SM515103
	1-1/16	26.99	1.0625		SM505104	SM510104	SM515104
		27.00	1.0630		SM555270	SM560270	SM565270
	1-3/32	27.78	1.0938		SM505106	SM510106	SM515106
		28.00	1.1024		SM555280	SM560280	SM565280
	1-7/64	28.18	1.1094		SM505107	SM510107	SM515107
	1-1/8	28.58	1.1250		SM505108	SM510108	SM515108
		29.00	1.1417		SM555290	SM560290	SM565290
	1-5/32	29.37	1.1562		SM505110	SM510110	SM515110
		30.00	1.1811		SM555300	SM560300	SM565300
	1-3/16	30.16	1.1875		SM505112	SM510112	SM515112
	1-7/32	30.96	1.2188		SM505114	SM510114	SM515114
		31.00	1.2205		SM555310	SM560310	SM565310
	1-1/4	31.75	1.2500		SM505116	SM510116	SM515116
		32.00	1.2598		SM555320	SM560320	SM565320
	1-9/32	32.54	1.2812		SM505118	SM510118	SM515118
		33.00	1.2992		SM555330	SM560330	SM565330
	1-5/16	33.34	1.3125		SM505120	SM510120	SM515120
		34.00	1.3386		SM555340	SM560340	SM565340
	1-11/32	34.13	1.3438		SM505122	SM510122	SM515122
	1-3/8	34.93	1.3750		SM505124	SM510124	SM515124
		35.00	1.3780		SM555350	SM560350	SM565350

◎ : 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	○	○					○				◎	◎	◎	◎	◎			◎			

SPADE DRILLS

SERIES Y, Z, 0

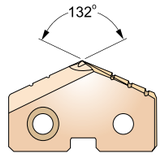
SM-POINT SPADE DRILL INSERTS for CAST IRON - CARBIDE K10

SM-POINT铸铁用铲钻刀片-硬质合金 K10

- ▶ High performance on Gray cast iron over 220 Brinell, malleable cast iron with short chips, silicon aluminum and copper alloys.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ 在超过220布氏的灰铸铁, 可断成短碎片的可锻铸铁, 硅铝和铜合金上有很高的性能
- ▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
- ▶ 较小的推力和卓越的自定心功能
- ▶ 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A368

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK	D73 - 115		

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	CARBIDE K10 TiN	CARBIDE K10 TiCN	CARBIDE K10 TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)		9.50	.3740	2.4 (3/32)	SM655095	SM660095	SM665095
	3/8	9.53	.3750		SM605024	SM610024	SM615024
		9.80	.3858		SM655098	SM660098	SM665098
	25/64	9.92	.3906		SM605025	SM610025	SM615025
		10.00	.3937		SM655100	SM660100	SM665100
		10.20	.4016		SM655102	SM660102	SM665102
	13/32	10.32	.4062		SM605026	SM610026	SM615026
		10.50	.4134		SM655105	SM660105	SM665105
	27/64	10.72	.4219		SM605027	SM610027	SM615027
		10.80	.4252		SM655108	SM660108	SM665108
		11.00	.4331		SM655110	SM660110	SM665110
Z Ø11.11(.437) to Ø12.95(.510)	7/16	11.11	.4375	2.4 (3/32)	SM605028	SM610028	SM615028
		11.50	.4528		SM655115	SM660115	SM665115
	29/64	11.51	.4531		SM605029	SM610029	SM615029
	15/32	11.91	.4688		SM605030	SM610030	SM615030
		12.00	.4724		SM655120	SM660120	SM665120
	31/64	12.30	.4844		SM605031	SM610031	SM615031
		12.50	.4921		SM655125	SM660125	SM665125
	1/2	12.70	.5000		SM605032	SM610032	SM615032
0 Ø12.98 (.511) to Ø17.65 (.695)		13.00	.5118	3.2 (1/8)	SM655130	SM660130	SM665130
	33/64	13.10	.5156		SM605033	SM610033	SM615033
	17/32	13.49	.5312		SM605034	SM610034	SM615034
		13.50	.5315		SM655135	SM660135	SM665135
	35/64	13.89	.5469		SM605035	SM610035	SM615035
		14.00	.5512		SM655140	SM660140	SM665140
	9/16	14.29	.5625		SM605036	SM610036	SM615036
		14.50	.5709		SM655145	SM660145	SM665145
	37/64	14.68	.5781		SM605037	SM610037	SM615037
		15.00	.5906		SM655150	SM660150	SM665150
	19/32	15.08	.5938		SM605038	SM610038	SM615038
	39/64	15.48	.6094		SM605039	SM610039	SM615039
		15.50	.6102		SM655155	SM660155	SM665155
	5/8	15.88	.6250		SM605040	SM610040	SM615040
		16.00	.6299		SM655160	SM660160	SM665160

◎ : 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																					

SPADE DRILLS

SERIES 0, 1

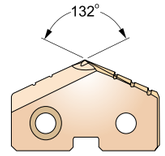
SM-POINT SPADE DRILL INSERTS for CAST IRON - CARBIDE K10

SM-POINT铸铁用铲钻刀片-硬质合金 K10

- ▶ High performance on Gray cast iron over 220 Brinell, malleable cast iron with short chips, silicon aluminum and copper alloys.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ 在超过220布氏的灰铸铁, 可断成短碎片的可锻铸铁, 硅铝和铜合金上有很高的性能
- ▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
- ▶ 较小的推力和卓越的自定心功能
- ▶ 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A368

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK	D73 - 115		

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	CARBIDE K10 TiN	CARBIDE K10 TiCN	CARBIDE K10 TiAlN
0 Ø12.98(.511) to Ø17.65(.695)	41/64	16.27	.6406	3.2 (1/8)	SM605041	SM610041	SM615041
		16.50	.6496		SM655165	SM660165	SM665165
	21/32	16.67	.6562		SM605042	SM610042	SM615042
		17.00	.6693		SM655170	SM660170	SM665170
	43/64	17.07	.6719		SM605043	SM610043	SM615043
	11/16	17.46	.6875		SM605044	SM610044	SM615044
		17.50	.6890		SM655175	SM660175	SM665175
1 Ø17.53 (.690) to Ø24.38 (.960)	45/64	17.86	.7031	4.0 (5/32)	SM605045	SM610045	SM615045
		18.00	.7087		SM655180	SM660180	SM665180
	23/32	18.26	.7188		SM605046	SM610046	SM615046
		18.50	.7283		SM655185	SM660185	SM665185
	47/64	18.65	.7344		SM605047	SM610047	SM615047
		19.00	.7480		SM655190	SM660190	SM665190
	3/4	19.05	.7500		SM605048	SM610048	SM615048
	49/64	19.45	.7656		SM605049	SM610049	SM615049
		19.50	.7677		SM655195	SM660195	SM665195
	25/32	19.84	.7812		SM605050	SM610050	SM615050
		20.00	.7874		SM655200	SM660200	SM665200
	51/64	20.24	.7969		SM605051	SM610051	SM615051
		20.50	.8071		SM655205	SM660205	SM665205
	13/16	20.64	.8125		SM605052	SM610052	SM615052
		21.00	.8268		SM655210	SM660210	SM665210
	27/32	21.43	.8438		SM605054	SM610054	SM615054
	55/64	21.83	.8594		SM605055	SM610055	SM615055
		22.00	.8661		SM655220	SM660220	SM665220
	7/8	22.23	.8750		SM605056	SM610056	SM615056
	57/64	22.62	.8906		SM605057	SM610057	SM615057
		23.00	.9055		SM655230	SM660230	SM665230
	29/32	23.02	.9062		SM605058	SM610058	SM615058
	59/64	23.42	.9219		SM605059	SM610059	SM615059
	15/16	23.81	.9375		SM605060	SM610060	SM615060
		24.00	.9449		SM655240	SM660240	SM665240

◎ : 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																					

SPADE DRILLS

SERIES 2

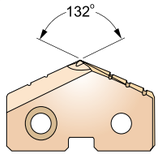
SM-POINT SPADE DRILL INSERTS for CAST IRON - CARBIDE K10

SM-POINT铸铁用铲钻刀片-硬质合金 K10

- ▶ High performance on Gray cast iron over 220 Brinell, malleable cast iron with short chips, silicon aluminum and copper alloys.
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- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ 在超过220布氏的灰铸铁, 可断成短碎片的可锻铸铁, 硅铝和铜合金上有很高的性能
- ▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
- ▶ 较小的推力和卓越的自定心功能
- ▶ 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A368

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK		D73 - 115	

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	CARBIDE K10 TiN	TiCN	TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	SM605062	SM610062	SM615062
	63/64	25.00	.9843		SM655250	SM660250	SM665250
	1	25.40	1.0000		SM605100	SM610100	SM615100
	1-1/64	25.80	1.0156		SM605101	SM610101	SM615101
		26.00	1.0236		SM655260	SM660260	SM665260
	1-1/32	26.19	1.0312		SM605102	SM610102	SM615102
	1-3/64	26.59	1.0469		SM605103	SM610103	SM615103
	1-1/16	26.99	1.0625		SM605104	SM610104	SM615104
		27.00	1.0630		SM655270	SM660270	SM665270
	1-3/32	27.78	1.0938		SM605106	SM610106	SM615106
		28.00	1.1024		SM655280	SM660280	SM665280
	1-7/64	28.18	1.1094		SM605107	SM610107	SM615107
	1-1/8	28.58	1.1250		SM605108	SM610108	SM615108
		29.00	1.1417		SM655290	SM660290	SM665290
	1-5/32	29.37	1.1562		SM605110	SM610110	SM615110
		30.00	1.1811		SM655300	SM660300	SM665300
	1-3/16	30.16	1.1875		SM605112	SM610112	SM615112
	1-7/32	30.96	1.2188		SM605114	SM610114	SM615114
		31.00	1.2205		SM655310	SM660310	SM665310
	1-1/4	31.75	1.2500		SM605116	SM610116	SM615116
		32.00	1.2598		SM655320	SM660320	SM665320
	1-9/32	32.54	1.2812		SM605118	SM610118	SM615118
		33.00	1.2992		SM655330	SM660330	SM665330
	1-5/16	33.34	1.3125		SM605120	SM610120	SM615120
		34.00	1.3386		SM655340	SM660340	SM665340
	1-11/32	34.13	1.3438		SM605122	SM610122	SM615122
	1-3/8	34.93	1.3750		SM605124	SM610124	SM615124
		35.00	1.3780		SM655350	SM660350	SM665350

◎ : 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																					

SPADE DRILLS

SERIES Y, Z, 0

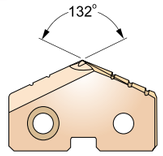
SM-POINT SPADE DRILL INSERTS - CARBIDE K20

SM-POINT 铲钻刀片-硬质合金K20

- ▶ For use in Gray cast iron up to 220 Brinell, nonferrous metals, copper, brass and aluminum.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ 在超过220布氏的灰铸铁, 可断成短碎片的可锻铸铁, 硅铝和铜合金上有很高的性能
- ▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
- ▶ 较小的推力和卓越的自定心功能
- ▶ 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A369

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK		D73 - 115	

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	CARBIDE K20 TiN	TiCN	TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)		9.50	.3740	2.4 (3/32)	SM755095	SM760095	SM765095
	3/8	9.53	.3750		SM705024	SM710024	SM715024
		9.80	.3858		SM755098	SM760098	SM765098
	25/64	9.92	.3906		SM705025	SM710025	SM715025
		10.00	.3937		SM755100	SM760100	SM765100
		10.20	.4016		SM755102	SM760102	SM765102
	13/32	10.32	.4062		SM705026	SM710026	SM715026
		10.50	.4134		SM755105	SM760105	SM765105
	27/64	10.72	.4219		SM705027	SM710027	SM715027
		10.80	.4252		SM755108	SM760108	SM765108
		11.00	.4331		SM755110	SM760110	SM765110
Z Ø11.11(.437) to Ø12.95(.510)	7/16	11.11	.4375	2.4 (3/32)	SM705028	SM710028	SM715028
		11.50	.4528		SM755115	SM760115	SM765115
	29/64	11.51	.4531		SM705029	SM710029	SM715029
	15/32	11.91	.4688		SM705030	SM710030	SM715030
		12.00	.4724		SM755120	SM760120	SM765120
	31/64	12.30	.4844		SM705031	SM710031	SM715031
		12.50	.4921		SM755125	SM760125	SM765125
	1/2	12.70	.5000		SM705032	SM710032	SM715032
0 Ø12.98 (.511) to Ø17.65 (.695)		13.00	.5118	3.2 (1/8)	SM755130	SM760130	SM765130
	33/64	13.10	.5156		SM705033	SM710033	SM715033
	17/32	13.49	.5312		SM705034	SM710034	SM715034
		13.50	.5315		SM755135	SM760135	SM765135
	35/64	13.89	.5469		SM705035	SM710035	SM715035
		14.00	.5512		SM755140	SM760140	SM765140
	9/16	14.29	.5625		SM705036	SM710036	SM715036
		14.50	.5709		SM755145	SM760145	SM765145
	37/64	14.68	.5781		SM705037	SM710037	SM715037
		15.00	.5906		SM755150	SM760150	SM765150
	19/32	15.08	.5938		SM705038	SM710038	SM715038
	39/64	15.48	.6094		SM705039	SM710039	SM715039
		15.50	.6102		SM755155	SM760155	SM765155
	5/8	15.88	.6250		SM705040	SM710040	SM715040
		16.00	.6299		SM755160	SM760160	SM765160

◎ : 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	◎	◎					◎				◎	◎	◎	◎	◎			○			

SPADE DRILLS

SERIES 0, 1

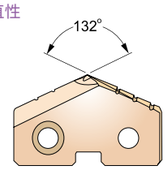
SM-POINT SPADE DRILL INSERTS - CARBIDE K20

SM-POINT 铲钻刀片-硬质合金K20

- ▶ For use in Gray cast iron up to 220 Brinell, nonferrous metals, copper, brass and aluminum.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ 在超过220布氏的灰铸铁, 可断成短碎片的可锻铸铁, 硅铝和铜合金上有很高的性能
- ▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
- ▶ 较小的推力和卓越的自定心功能
- ▶ 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A369

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK		D73 - 115	

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	CARBIDE K20 TiN	CARBIDE K20 TiCN	CARBIDE K20 TiAlN
0 Ø12.98(.511) to Ø17.65(.695)	41/64	16.27	.6406	3.2 (1/8)	SM705041	SM710041	SM715041
		16.50	.6496		SM755165	SM760165	SM765165
	21/32	16.67	.6562		SM705042	SM710042	SM715042
		17.00	.6693		SM755170	SM760170	SM765170
	43/64	17.07	.6719		SM705043	SM710043	SM715043
	11/16	17.46	.6875		SM705044	SM710044	SM715044
		17.50	.6890		SM755175	SM760175	SM765175
	45/64	17.86	.7031		SM705045	SM710045	SM715045
		18.00	.7087		SM755180	SM760180	SM765180
	23/32	18.26	.7188		SM705046	SM710046	SM715046
		18.50	.7283		SM755185	SM760185	SM765185
	47/64	18.65	.7344		SM705047	SM710047	SM715047
		19.00	.7480		SM755190	SM760190	SM765190
	3/4	19.05	.7500		SM705048	SM710048	SM715048
	49/64	19.45	.7656		SM705049	SM710049	SM715049
		19.50	.7677		SM755195	SM760195	SM765195
1 Ø17.53 (.690) to Ø24.38 (.960)	25/32	19.84	.7812	4.0 (5/32)	SM705050	SM710050	SM715050
		20.00	.7874		SM755200	SM760200	SM765200
	51/64	20.24	.7969		SM705051	SM710051	SM715051
		20.50	.8071		SM755205	SM760205	SM765205
	13/16	20.64	.8125		SM705052	SM710052	SM715052
		21.00	.8268		SM755210	SM760210	SM765210
	27/32	21.43	.8438		SM705054	SM710054	SM715054
	55/64	21.83	.8594		SM705055	SM710055	SM715055
		22.00	.8661		SM755220	SM760220	SM765220
	7/8	22.23	.8750		SM705056	SM710056	SM715056
	57/64	22.62	.8906		SM705057	SM710057	SM715057
		23.00	.9055		SM755230	SM760230	SM765230
	29/32	23.02	.9062		SM705058	SM710058	SM715058
	59/64	23.42	.9219		SM705059	SM710059	SM715059
	15/16	23.81	.9375		SM705060	SM710060	SM715060
		24.00	.9449		SM755240	SM760240	SM765240

◎ : 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	◎	◎					◎				◎	◎	◎	◎	◎			○			

SPADE DRILLS

SERIES 2

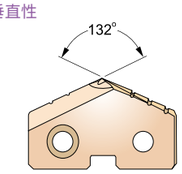
SM-POINT SPADE DRILL INSERTS - CARBIDE K20

SM-POINT 铲钻刀片-硬质合金K20

- ▶ For use in Gray cast iron up to 220 Brinell, nonferrous metals, copper, brass and aluminum.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ 在超过220布氏的灰铸铁, 可断成短碎片的可锻铸铁, 硅铝和铜合金上有很高的性能
- ▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
- ▶ 较小的推力和卓越的自定心功能
- ▶ 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A369

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK		D73 - 115	

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	CARBIDE K20 TiN	CARBIDE K20 TiCN	CARBIDE K20 TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	SM705062	SM710062	SM715062
	63/64	25.00	.9843		SM755250	SM760250	SM765250
	1	25.40	1.0000		SM705100	SM710100	SM715100
	1-1/64	25.80	1.0156		SM705101	SM710101	SM715101
		26.00	1.0236		SM755260	SM760260	SM765260
	1-1/32	26.19	1.0312		SM705102	SM710102	SM715102
	1-3/64	26.59	1.0469		SM705103	SM710103	SM715103
	1-1/16	26.99	1.0625		SM705104	SM710104	SM715104
		27.00	1.0630		SM755270	SM760270	SM765270
	1-3/32	27.78	1.0938		SM705106	SM710106	SM715106
		28.00	1.1024		SM755280	SM760280	SM765280
	1-7/64	28.18	1.1094		SM705107	SM710107	SM715107
	1-1/8	28.58	1.1250		SM705108	SM710108	SM715108
		29.00	1.1417		SM755290	SM760290	SM765290
	1-5/32	29.37	1.1562		SM705110	SM710110	SM715110
		30.00	1.1811		SM755300	SM760300	SM765300
	1-3/16	30.16	1.1875		SM705112	SM710112	SM715112
	1-7/32	30.96	1.2188		SM705114	SM710114	SM715114
		31.00	1.2205		SM755310	SM760310	SM765310
	1-1/4	31.75	1.2500		SM705116	SM710116	SM715116
		32.00	1.2598		SM755320	SM760320	SM765320
	1-9/32	32.54	1.2812		SM705118	SM710118	SM715118
		33.00	1.2992		SM755330	SM760330	SM765330
	1-5/16	33.34	1.3125		SM705120	SM710120	SM715120
		34.00	1.3386		SM755340	SM760340	SM765340
	1-11/32	34.13	1.3438		SM705122	SM710122	SM715122
	1-3/8	34.93	1.3750		SM705124	SM710124	SM715124
		35.00	1.3780		SM755350	SM760350	SM765350

◎ : 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	◎	◎					◎				◎	◎	◎	◎	◎			○			

SPADE DRILLS

SERIES 3

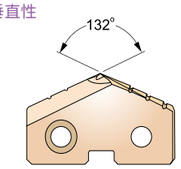
SM-POINT SPADE DRILL INSERTS - CARBIDE K20

SM-POINT 铲钻刀片-硬质合金K20

- ▶ For use in Gray cast iron up to 220 Brinell, nonferrous metals, copper, brass and aluminum.
- ▶ Improved stability and hole straightness by newly developed thinning design.
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- ▶ 在超过220布氏的灰铸铁, 可断成短碎片的可锻铸铁, 硅铝和铜合金上有很高的性能
- ▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
- ▶ 较小的推力和卓越的自定心功能
- ▶ 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A369

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK		D73 - 115	

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	CARBIDE K20 TiN	TiCN	TiAlN
3 Ø34.37 (1.353) to Ø47.80 (1.882)	1-13/32	35.72	1.4062	6.4 (1/4)	SM705126	SM710126	SM715126
		36.00	1.4173		SM755360	SM760360	SM765360
	1-7/16	36.51	1.4375		SM705128	SM710128	SM715128
		37.00	1.4567		SM755370	SM760370	SM765370
	1-15/32	37.31	1.4688		SM705130	SM710130	SM715130
		38.00	1.4961		SM755380	SM760380	SM765380
	1-1/2	38.10	1.5000		SM705132	SM710132	SM715132
	1-17/32	38.89	1.5312		SM705134	SM710134	SM715134
		39.00	1.5354		SM755390	SM760390	SM765390
	1-9/16	39.69	1.5625		SM705136	SM710136	SM715136
		40.00	1.5748		SM755400	SM760400	SM765400
	1-19/32	40.48	1.5938		SM705138	SM710138	SM715138
		41.00	1.6142		SM755410	SM760410	SM765410
	1-5/8	41.28	1.6250		SM705140	SM710140	SM715140
		42.00	1.6535		SM755420	SM760420	SM765420
	1-21/32	42.07	1.6562		SM705142	SM710142	SM715142
	1-11/16	42.86	1.6875		SM705144	SM710144	SM715144
		43.00	1.6929		SM755430	SM760430	SM765430
	1-23/32	43.66	1.7188		SM705146	SM710146	SM715146
		44.00	1.7323		SM755440	SM760440	SM765440
	1-3/4	44.45	1.7500		SM705148	SM710148	SM715148
		45.00	1.7717		SM755450	SM760450	SM765450
	1-25/32	45.24	1.7812		SM705150	SM710150	SM715150
		46.00	1.8110		SM755460	SM760460	SM765460
	1-13/16	46.04	1.8125		SM705152	SM710152	SM715152
	1-27/32	46.83	1.8438		SM705154	SM710154	SM715154
		47.00	1.8504		SM755470	SM760470	SM765470
	1-7/8	47.63	1.8750		SM705156	SM710156	SM715156

◎ : 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	◎	◎					◎				◎	◎	◎	◎	◎			○			

SPADE DRILLS

SERIES Y, Z, 0

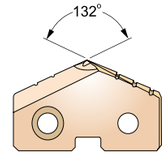
SM-POINT SPADE DRILL INSERTS - CARBIDE P40

SM-POINT 铲钻刀片-硬质合金 P40

- ▶ For general use in carbon steels and alloys steels.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ 用于碳素钢和合金钢的普通用途
- ▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
- ▶ 较小的推力和卓越的自定心功能
- ▶ 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A371

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK		D73 - 115	

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	CARBIDE P40 TiN	TiCN	TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)		9.50	.3740	2.4 (3/32)	SM855095	SM860095	SM865095
	3/8	9.53	.3750		SM805024	SM810024	SM815024
		9.80	.3858		SM855098	SM860098	SM865098
	25/64	9.92	.3906		SM805025	SM810025	SM815025
		10.00	.3937		SM855100	SM860100	SM865100
		10.20	.4016		SM855102	SM860102	SM865102
	13/32	10.32	.4062		SM805026	SM810026	SM815026
		10.50	.4134		SM855105	SM860105	SM865105
	27/64	10.72	.4219		SM805027	SM810027	SM815027
		10.80	.4252		SM855108	SM860108	SM865108
		11.00	.4331		SM855110	SM860110	SM865110
Z Ø11.11(.437) to Ø12.95(.510)	7/16	11.11	.4375	2.4 (3/32)	SM805028	SM810028	SM815028
		11.50	.4528		SM855115	SM860115	SM865115
	29/64	11.51	.4531		SM805029	SM810029	SM815029
	15/32	11.91	.4688		SM805030	SM810030	SM815030
		12.00	.4724		SM855120	SM860120	SM865120
	31/64	12.30	.4844		SM805031	SM810031	SM815031
		12.50	.4921		SM855125	SM860125	SM865125
	1/2	12.70	.5000		SM805032	SM810032	SM815032
0 Ø12.98 (.511) to Ø17.65 (.695)		13.00	.5118	3.2 (1/8)	SM855130	SM860130	SM865130
	33/64	13.10	.5156		SM805033	SM810033	SM815033
	17/32	13.49	.5312		SM805034	SM810034	SM815034
		13.50	.5315		SM855135	SM860135	SM865135
	35/64	13.89	.5469		SM805035	SM810035	SM815035
		14.00	.5512		SM855140	SM860140	SM865140
	9/16	14.29	.5625		SM805036	SM810036	SM815036
		14.50	.5709		SM855145	SM860145	SM865145
	37/64	14.68	.5781		SM805037	SM810037	SM815037
		15.00	.5906		SM855150	SM860150	SM865150
	19/32	15.08	.5938		SM805038	SM810038	SM815038
	39/64	15.48	.6094		SM805039	SM810039	SM815039
		15.50	.6102		SM855155	SM860155	SM865155
	5/8	15.88	.6250		SM805040	SM810040	SM815040
		16.00	.6299		SM855160	SM860160	SM865160

◎ : 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	○	○					○				○	○	○	○	○			◎			

SPADE DRILLS

SERIES 0, 1

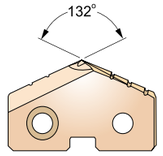
SM-POINT SPADE DRILL INSERTS - CARBIDE P40

SM-POINT 铲钻刀片-硬质合金 P40

- ▶ For general use in carbon steels and alloys steels.
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- ▶ 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A371

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK		D73 - 115	

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	CARBIDE P40 TiN	CARBIDE P40 TiCN	CARBIDE P40 TiAlN
0 Ø12.98(.511) to Ø17.65(.695)	41/64	16.27	.6406	3.2 (1/8)	SM805041	SM810041	SM815041
		16.50	.6496		SM855165	SM860165	SM865165
	21/32	16.67	.6562		SM805042	SM810042	SM815042
		17.00	.6693		SM855170	SM860170	SM865170
	43/64	17.07	.6719		SM805043	SM810043	SM815043
	11/16	17.46	.6875		SM805044	SM810044	SM815044
		17.50	.6890		SM855175	SM860175	SM865175
	45/64	17.86	.7031		SM805045	SM810045	SM815045
		18.00	.7087		SM855180	SM860180	SM865180
	23/32	18.26	.7188		SM805046	SM810046	SM815046
		18.50	.7283		SM855185	SM860185	SM865185
	47/64	18.65	.7344		SM805047	SM810047	SM815047
		19.00	.7480		SM855190	SM860190	SM865190
	3/4	19.05	.7500		SM805048	SM810048	SM815048
	49/64	19.45	.7656		SM805049	SM810049	SM815049
		19.50	.7677		SM855195	SM860195	SM865195
1 Ø17.53 (.690) to Ø24.38 (.960)	25/32	19.84	.7812	4.0 (5/32)	SM805050	SM810050	SM815050
		20.00	.7874		SM855200	SM860200	SM865200
	51/64	20.24	.7969		SM805051	SM810051	SM815051
		20.50	.8071		SM855205	SM860205	SM865205
	13/16	20.64	.8125		SM805052	SM810052	SM815052
		21.00	.8268		SM855210	SM860210	SM865210
	27/32	21.43	.8438		SM805054	SM810054	SM815054
	55/64	21.83	.8594		SM805055	SM810055	SM815055
		22.00	.8661		SM855220	SM860220	SM865220
	7/8	22.23	.8750		SM805056	SM810056	SM815056
	57/64	22.62	.8906		SM805057	SM810057	SM815057
		23.00	.9055		SM855230	SM860230	SM865230
	29/32	23.02	.9062		SM805058	SM810058	SM815058
	59/64	23.42	.9219		SM805059	SM810059	SM815059
	15/16	23.81	.9375		SM805060	SM810060	SM815060
		24.00	.9449		SM855240	SM860240	SM865240

◎ : 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	○	○					○				○	○	○	○	○			◎			

SPADE DRILLS

SERIES 2

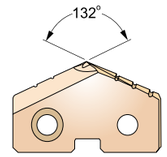
SM-POINT SPADE DRILL INSERTS - CARBIDE P40

SM-POINT 铲钻刀片-硬质合金 P40

- ▶ For general use in carbon steels and alloys steels.
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- ▶ 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A371

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK		D73 - 115	

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	CARBIDE P40 TiN	CARBIDE P40 TiCN	CARBIDE P40 TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	SM805062	SM810062	SM815062
	63/64	25.00	.9843		SM855250	SM860250	SM865250
	1	25.40	1.0000		SM805100	SM810100	SM815100
	1-1/64	25.80	1.0156		SM805101	SM810101	SM815101
		26.00	1.0236		SM855260	SM860260	SM865260
	1-1/32	26.19	1.0312		SM805102	SM810102	SM815102
	1-3/64	26.59	1.0469		SM805103	SM810103	SM815103
	1-1/16	26.99	1.0625		SM805104	SM810104	SM815104
		27.00	1.0630		SM855270	SM860270	SM865270
	1-3/32	27.78	1.0938		SM805106	SM810106	SM815106
		28.00	1.1024		SM855280	SM860280	SM865280
	1-7/64	28.18	1.1094		SM805107	SM810107	SM815107
	1-1/8	28.58	1.1250		SM805108	SM810108	SM815108
		29.00	1.1417		SM855290	SM860290	SM865290
	1-5/32	29.37	1.1562		SM805110	SM810110	SM815110
		30.00	1.1811		SM855300	SM860300	SM865300
	1-3/16	30.16	1.1875		SM805112	SM810112	SM815112
	1-7/32	30.96	1.2188		SM805114	SM810114	SM815114
		31.00	1.2205		SM855310	SM860310	SM865310
	1-1/4	31.75	1.2500		SM805116	SM810116	SM815116
		32.00	1.2598		SM855320	SM860320	SM865320
	1-9/32	32.54	1.2812		SM805118	SM810118	SM815118
		33.00	1.2992		SM855330	SM860330	SM865330
	1-5/16	33.34	1.3125		SM805120	SM810120	SM815120
		34.00	1.3386		SM855340	SM860340	SM865340
	1-11/32	34.13	1.3438		SM805122	SM810122	SM815122
	1-3/8	34.93	1.3750		SM805124	SM810124	SM815124
		35.00	1.3780		SM855350	SM860350	SM865350

◎ : 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	○	○					○				○	○	○	○	○			◎			

SPADE DRILLS

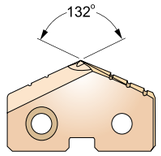
SERIES 3

SM-POINT SPADE DRILL INSERTS - CARBIDE P40
SM-POINT 铲钻刀片-硬质合金 P40

- ▶ For general use in carbon steels and alloys steels.
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- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

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- ▶ 较小的推力和卓越的自定心功能
- ▶ 各种非标准尺寸均可进行生产.





切削条件 / cutting conditions : p. A371

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK			D73 - 115

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	CARBIDE P40 TiN	CARBIDE P40 TiCN	CARBIDE P40 TiAlN
3 Ø34.37 (1.353) to Ø47.80 (1.882)	1-13/32	35.72	1.4062	6.4 (1/4)	SM805126	SM810126	SM815126
		36.00	1.4173		SM855360	SM860360	SM865360
	1-7/16	36.51	1.4375		SM805128	SM810128	SM815128
		37.00	1.4567		SM855370	SM860370	SM865370
	1-15/32	37.31	1.4688		SM805130	SM810130	SM815130
		38.00	1.4961		SM855380	SM860380	SM865380
	1-1/2	38.10	1.5000		SM805132	SM810132	SM815132
	1-17/32	38.89	1.5312		SM805134	SM810134	SM815134
		39.00	1.5354		SM855390	SM860390	SM865390
	1-9/16	39.69	1.5625		SM805136	SM810136	SM815136
		40.00	1.5748		SM855400	SM860400	SM865400
	1-19/32	40.48	1.5938		SM805138	SM810138	SM815138
		41.00	1.6142		SM855410	SM860410	SM865410
	1-5/8	41.28	1.6250		SM805140	SM810140	SM815140
		42.00	1.6535		SM855420	SM860420	SM865420
	1-21/32	42.07	1.6562		SM805142	SM810142	SM815142
	1-11/16	42.86	1.6875		SM805144	SM810144	SM815144
		43.00	1.6929		SM855430	SM860430	SM865430
	1-23/32	43.66	1.7188		SM805146	SM810146	SM815146
		44.00	1.7323		SM855440	SM860440	SM865440
	1-3/4	44.45	1.7500		SM805148	SM810148	SM815148
		45.00	1.7717		SM855450	SM860450	SM865450
	1-25/32	45.24	1.7812		SM805150	SM810150	SM815150
		46.00	1.8110		SM855460	SM860460	SM865460
	1-13/16	46.04	1.8125		SM805152	SM810152	SM815152
	1-27/32	46.83	1.8438		SM805154	SM810154	SM815154
		47.00	1.8504		SM855470	SM860470	SM865470
	1-7/8	47.63	1.8750		SM805156	SM810156	SM815156

◎ : 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	○	○					○				○	○	○	○	○			◎			

SPADE DRILLS SV-POINT
铲钻刀片 SV-POINT

Improved stability and hole straightness
改进稳定性和孔的垂直性

H-Coating (Upgraded AlCrN-Based Multi-Layer coating)
H-Coating(基于AlCrN多层涂层)
- Higher wear resistance and reduced material adhesion
  极高的耐磨性和减少附着力
- Higher cutting speeds and feeds
  更快的切削速度和进给速度
- Improved hole quality over conventional spade drills
  提高孔的质量铲钻刀片

- Smooth cutting
  顺畅地切削
- Breaks chips
  断屑
- Low thrust
  稳定扭矩
- Stable torque
  稳定扭矩
- Self centering
  卓越的自定心功能
- Long tool life
  延长刀具寿命



SPADE DRILLS

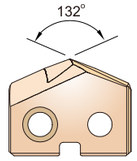
SERIES Y, Z

SV-POINT SPADE DRILL INSERTS - SUPER COBALT T15
SV-POINT 铲钻刀片-超级含钴T15

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性





(Series 5-8 : 144 degree)

切削条件 / cutting conditions : p. A365

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK	D73 - 115		

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	SUPER COBALT T15 Hardslick	SUPER COBALT T15 H-Coating
Y 9.50 (.374) to 11.07 (.436)		9.5	.3740	2.4 [3/32]	SV170095	SV175095
	3/8	9.53	.3750		SV120024	SV125024
		9.8	.3860		SV170098	SV175098
	25/64	9.92	.3906		SV120025	SV125025
		10	.3937		SV170100	SV175100
		10.2	.4016		SV170102	SV175102
	13/32	10.32	.4063		SV120026	SV125026
		10.5	.4134		SV170105	SV175105
	27/64	10.72	.4219		SV120027	SV125027
		10.8	.4252		SV170108	SV175108
		11	.4331		SV170110	SV175110
Z 11.11 (.437) to 12.95 (.510)	7/16	11.11	.4375	2.4 [3/32]	SV120028	SV125028
		11.5	.4528		SV170115	SV175115
	29/64	11.51	.4531		SV120029	SV125029
	15/32	11.91	.4688		SV120030	SV125030
		12	.4724		SV170120	SV175120
	31/64	12.3	.4844		SV120031	SV125031
		12.5	.4921		SV170125	SV175125
	1/2	12.7	.5000		SV120032	SV125032

◎ : 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	○	○					○				○	○	○	○	○			◎			

CARBIDE
HSS
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

SPADE DRILLS

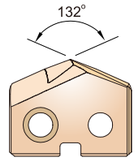
SERIES 0

SV-POINT SPADE DRILL INSERTS - SUPER COBALT T15
SV-POINT 铲钻刀片-超级含钴T15

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性





(Series 5-8 : 144 degree)

切削条件 / cutting conditions : p. A364

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK	D73 - 115		

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	SUPER COBALT T15 Hardslick	SUPER COBALT T15 H-Coating
0 12.98 (.511) to 17.65 (.695)		13	.5118	3.2 [1/8]	SV170130	SV175130
	33/64	13.1	.5156		SV120033	SV125033
	17/32	13.49	.5313		SV120034	SV125034
		13.5	.5315		SV170135	SV175135
	35/64	13.89	.5469		SV120035	SV125035
		14	.5512		SV170140	SV175140
	9/16	14.29	.5625		SV120036	SV125036
		14.5	.5709		SV170145	SV175145
	37/64	14.68	.5781		SV120037	SV125037
		15	.5906		SV170150	SV175150
	19/32	15.08	.5938		SV120038	SV125038
	39/64	15.48	.6094		SV120039	SV125039
		15.5	.6102		SV170155	SV175155
	5/8	15.88	.6250		SV120040	SV125040
		16	.6299		SV170160	SV175160
	41/64	16.27	.6406		SV120041	SV125041
		16.5	.6496		SV170165	SV175165
	21/32	16.67	.6563		SV120042	SV125042
		17	.6693		SV170170	SV175170
	43/64	17.07	.6719		SV120043	SV125043
	11/16	17.46	.6875		SV120044	SV125044

◎ : 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	○	○					○				○	○	○	○	○			◎			

SPADE DRILLS

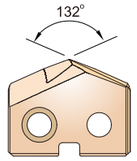
SERIES 1

SV-POINT SPADE DRILL INSERTS - SUPER COBALT T15
SV-POINT 铲钻刀片-超级含钴T15

▶ Sinusoidal thinning edge for smooth cutting
▶ Positive rake angle
▶ Less thrust force and heat generation

▶ 为柔软切削的Sinusoidal刃
▶ 正前角
▶ 较小的推力和发热性





切削条件 / cutting conditions : p. A365

(Series 5-8 : 144 degree)

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK	D73 - 115		

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	SUPER COBALT T15 Hardslick	SUPER COBALT T15 H-Coating
1 17.53 (.690) to 24.38 (.960)	45/64	17.86	.7031	4.0 [5/32]	SV120045	SV125045
		18	.7087		SV170180	SV175180
	23/32	18.26	.7188		SV120046	SV125046
		18.5	.7283		SV170185	SV175185
	47/64	18.65	.7344		SV120047	SV125047
		19	.7480		SV170190	SV175190
	3/4	19.05	.7500		SV120048	SV125048
		19.5	.7677		SV170195	SV175195
	25/32	19.84	.7812		SV120050	SV125050
		20	.7874		SV170200	SV175200
	51/64	20.24	.7969		SV120051	SV125051
		20.5	.8071		SV170205	SV175205
	13/16	20.64	.8125		SV120052	SV125052
		21	.8268		SV170210	SV175210
	27/32	21.43	.8438		SV120054	SV125054
	55/64	21.83	.8594		SV120055	SV125055
		22	.8661		SV170220	SV175220
	7/8	22.23	.8750		SV120056	SV125056
	57/64	22.62	.8906		SV120057	SV125057
		23	.9055		SV170230	SV175230
	29/32	23.02	.9062		SV120058	SV125058
	59/64	23.42	.9219		SV120059	SV125059
	15/16	23.81	.9375		SV120060	SV125060
		24	.9449		SV170240	SV175240

◎ : 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	○	○					○				○	○	○	○	○			◎			

SPADE DRILLS

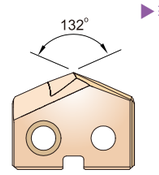
SERIES 2

SV-POINT SPADE DRILL INSERTS - SUPER COBALT T15
SV-POINT 铲钻刀片-超级含钴T15

▶ Sinusoidal thinning edge for smooth cutting
▶ Positive rake angle
▶ Less thrust force and heat generation

▶ 为柔软切削的Sinusoidal刃
▶ 正前角
▶ 较小的推力和发热性





切削条件 / cutting conditions : p. A364

(Series 5-8 : 144 degree)

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK	D73 - 115		

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	SUPER COBALT T15 Hardslick	SUPER COBALT T15 H-Coating
2 24.41 (.961) to 35.05 (1.380)	31/32	24.61	.9688	4.8 [3/16]	SV120062	SV125062
	63/64	25	.9843		SV120063	SV125063
	1	25.4	1.0000		SV120100	SV125100
	1 1/64	25.8	1.0156		SV120101	SV125101
		26	1.0236		SV170260	SV175260
	1 1/32	26.19	1.0312		SV120102	SV125102
	1 3/64	26.59	1.0469		SV120103	SV125103
	1 1/16	26.99	1.0625		SV120104	SV125104
		27	1.0630		SV170270	SV175270
	1 3/32	27.78	1.0938		SV120106	SV125106
		28	1.1024		SV170280	SV175280
	1 7/64	28.18	1.1094		SV120107	SV125107
	1 1/8	28.58	1.1250		SV120108	SV125108
		29	1.1417		SV170290	SV175290
	1 5/32	29.37	1.1562		SV120110	SV125110
		30	1.1811		SV170300	SV175300
	1 3/16	30.16	1.1875		SV120112	SV125112
	1 7/32	30.96	1.2188		SV120114	SV125114
		31	1.2205		SV170310	SV175310
	1 1/4	31.75	1.2500		SV120116	SV125116
		32	1.2598		SV170320	SV175320
	1 9/32	32.54	1.2812		SV120118	SV125118
		33	1.2992		SV170330	SV175330
	1 5/16	33.34	1.3125		SV120120	SV125120
		34	1.3386		SV170340	SV175340
	1 11/32	34.13	1.3438		SV120122	SV125122
	1 3/8	34.93	1.3750		SV120124	SV125124
		35	1.3780		SV170350	SV175350

◎ : 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	○	○					○				○	○	○	○	○			◎			

SPADE DRILLS

SERIES 3

SV-POINT SPADE DRILL INSERTS - SUPER COBALT T15
SV-POINT 铲钻刀片-超级含钴T15

▶ Sinusoidal thinning edge for smooth cutting
▶ Positive rake angle
▶ Less thrust force and heat generation

▶ 为柔软切削的Sinusoidal刃
▶ 正前角
▶ 较小的推力和发热性



Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245 - 246	-	-
	ER COLLET CHUCK		D73 - 115	

切削条件 / cutting conditions : p. A365

(Series 5-8 : 144 degree)

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	SUPER COBALT T15 Hardslick	SUPER COBALT T15 H-Coating
3 34.37 (1.353) to 47.80 (1.882)	1 13/32	35.72	1.4063	6.4 [1/4]	SV120126	SV125126
		36	1.4173		SV170360	SV175360
	1 7/16	36.51	1.4375		SV120128	SV125128
		37	1.4567		SV170370	SV175370
	1 15/32	37.31	1.4688		SV120130	SV125130
		38	1.4961		SV170380	SV175380
	1 1/2	38.1	1.5000		SV120132	SV125132
	1 17/32	38.89	1.5313		SV120134	SV125134
		39	1.5354		SV170390	SV175390
	1 9/16	39.69	1.5625		SV120136	SV125136
		40	1.5748		SV170400	SV175400
	1 19/32	40.48	1.5938		SV120138	SV125138
		41	1.6142		SV170410	SV175410
	1 5/8	41.28	1.6250		SV120140	SV125140
		42	1.6535		SV170420	SV175420
	1 21/32	42.07	1.6563		SV120142	SV125142
	1 11/16	42.86	1.6875		SV120144	SV125144
		43	1.6929		SV170430	SV175430
	1 23/32	43.66	1.7188		SV120146	SV125146
		44	1.7323		SV170440	SV175440
	1 3/4	44.45	1.7500		SV120148	SV125148
		45	1.7717		SV170450	SV175450
	1 25/32	45.24	1.7813		SV120150	SV125150
		46	1.8110		SV170460	SV175460
	1 13/16	46.04	1.8125		SV120152	SV125152
	1 27/32	46.83	1.8438		SV120154	SV125154
		47	1.8504		SV170470	SV175470
	1 7/8	47.63	1.8750		SV120156	SV125156

◎ : 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	○	○					○				○	○	○	○	○			◎			

CARBIDE
HSS
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

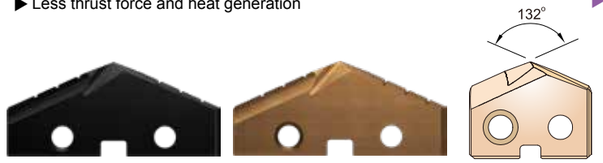
SPADE DRILLS

SERIES 4

SV-POINT SPADE DRILL INSERTS - SUPER COBALT T15
SV-POINT 铲钻刀片-超级含钴T15

▶ Sinusoidal thinning edge for smooth cutting
▶ Positive rake angle
▶ Less thrust force and heat generation

▶ 为柔软切削的Sinusoidal刃
▶ 正前角
▶ 较小的推力和发热性



Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245 - 246	-	-
	ER COLLET CHUCK		D73 - 115	

切削条件 / cutting conditions : p. A364

(Series 5-8 : 144 degree)

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	SUPER COBALT T15 Hardslick	SUPER COBALT T15 H-Coating
4 46.99 (1.850) to 65.28 (2.570)		48	1.8898	7.9 [5/16]	SV170480	SV175480
	1 29/32	48.42	1.9062		SV120158	SV125158
		49	1.9291		SV170490	SV175490
	1 15/16	49.21	1.9375		SV120160	SV125160
		50	1.9685		SV170500	SV175500
	1 31/32	50.01	1.9688		SV120162	SV125162
	2	50.8	2.0000		SV120200	SV125200
		51	2.0079		SV170510	SV175510
	2 1/32	51.59	2.0312		SV120202	SV125202
	2 3/64	51.99	2.0472		SV120203	SV125203
	2 1/16	52.39	2.0625		SV120204	SV125204
		53	2.0866		SV170530	SV175530
	2 3/32	53.18	2.0938		SV120206	SV125206
	2 1/8	53.98	2.1250		SV120208	SV125208
		54	2.1260		SV170540	SV175540
	2 5/32	54.77	2.1562		SV120210	SV125210
		55	2.1654		SV170550	SV175550
	2 3/16	55.56	2.1875		SV120212	SV125212
		56	2.2047		SV170560	SV175560
	2 7/32	56.36	2.2188		SV120214	SV125214
		57	2.2441		SV170570	SV175570
	2 1/4	57.15	2.2500		SV120216	SV125216
	2 9/32	57.94	2.2812		SV120218	SV125218
		58	2.2835		SV170580	SV175580
	2 5/16	58.74	2.3125		SV120220	SV125220
		59	2.3228		SV170590	SV175590
	2 11/32	59.53	2.3438		SV120222	SV125222
		60	2.3622		SV170600	SV175600
	2 3/8	60.33	2.3750		SV120224	SV125224

◎ : 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	○	○					○				○	○	○	○	○			◎			

SPADE DRILLS

SERIES 4

SV-POINT SPADE DRILL INSERTS - SUPER COBALT T15
SV-POINT 铲钻刀片-超级含钴T15

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245 - 246	-	-
	ER COLLET CHUCK		D73 - 115	

切削条件 / cutting conditions : p. A365

(Series 5-8 : 144 degree)

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	SUPER COBALT T15 Hardslick	SUPER COBALT T15 H-Coating
4 46.99 (1.850) to 65.28 (2.570)		61	2.4016	7.9 [5/16]	**SV170610**	**SV175610**
	2 13/32	61.12	2.4062		**SV120226**	**SV125226**
	2 7/16	61.91	2.4375		**SV120228**	**SV125228**
		62	2.4409		**SV170620**	**SV175620**
	2 15/32	62.71	2.4688		**SV120230**	**SV125230**
		63	2.4803		**SV170630**	**SV175630**
	2 1/2	63.5	2.5000		**SV120232**	**SV125232**
		64	2.5197		**SV170640**	**SV175640**
	2 17/32	64.29	2.5312		**SV120234**	**SV125234**
		65	2.5591		**SV170650**	**SV175650**
	2 9/16	65.09	2.5625		**SV120236**	**SV125236**

◎ : 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	○	○					○				○	○	○	○	○			◎			

SPADE DRILLS

SERIES 5

SV-POINT SPADE DRILL INSERTS - SUPER COBALT T15
SV-POINT 铲钻刀片-超级含钴T15

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245 - 246	-	-
	ER COLLET CHUCK		D73 - 115	

切削条件 / cutting conditions : p. A364

(Series 5-8 : 144 degree)

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	SUPER COBALT T15 Hardslick	SUPER COBALT T15 H-Coating
5 62.38 (2.456) to 76.20 (3.000)	2 1/2	63.5	2.5000	11.1 [7/16]	**SV1202D2**	**SV1252D2**
		64	2.5197		**SV170640**	**SV17564A**
	2 17/32	64.29	2.5312		**SV1202D4**	**SV1252D4**
	2 9/16	65.09	2.5625		**SV1202D6**	**SV1252D6**
	2 19/32	65.88	2.5938		**SV120238**	**SV125238**
		66	2.5984		**SV170660**	**SV175660**
	2 5/8	66.68	2.6250		**SV120240**	**SV125240**
	2 21/32	67.47	2.6562		**SV120242**	**SV125242**
		68	2.6772		**SV170680**	**SV175680**
	2 11/16	68.26	2.6875		**SV120244**	**SV125244**
	2 23/32	69.06	2.7188		**SV120246**	**SV125246**
	2 3/4	69.85	2.7500		**SV120248**	**SV125248**
		70	2.7559		**SV170700**	**SV175700**
	2 25/32	70.64	2.7812		**SV120250**	**SV125250**
	2 13/16	71.44	2.8125		**SV120252**	**SV125252**
		72	2.8346		**SV170720**	**SV175720**
	2 27/32	72.23	2.8438		**SV120254**	**SV125254**
	2 7/8	73.03	2.8750		**SV120256**	**SV125256**
	2 29/32	73.82	2.9062		**SV120258**	**SV125258**
		74	2.9134		**SV170740**	**SV175740**
	2 15/16	74.61	2.9375		**SV120260**	**SV125260**
	2 31/32	75.41	2.9688		**SV120262**	**SV125262**
		76	2.9921		**SV170760**	**SV175760**
	3	76.2	3.0000		**SV120300**	**SV125300**

◎ : 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	○	○					○				○	○	○	○	○			◎			

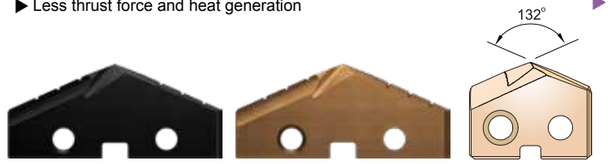
SPADE DRILLS

SERIES 6

SV-POINT SPADE DRILL INSERTS - SUPER COBALT T15
SV-POINT 铲钻刀片-超级含钴T15

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245 - 246	-	-
	ER COLLET CHUCK		D73 - 115	

切削条件 / cutting conditions : p. A365

(Series 5-8 : 144 degree)

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	SUPER COBALT T15 Hardslick	SUPER COBALT T15 H-Coating
6 3.001 (76.23) to 3.507 (89.08)	3 1/32	76.99	3.0312	11.1 [7/16]	SV120302	SV125302
	3 1/16	77.79	3.0625		SV120304	SV125304
		78	3.0709		SV170780	SV175780
	3 3/32	78.58	3.0938		SV120306	SV125306
	3 1/8	79.38	3.1250		SV120308	SV125308
		80	3.1496		SV170800	SV175800
	3 5/32	80.17	3.1562		SV120310	SV125310
	3 3/16	80.96	3.1875		SV120312	SV125312
	3 7/32	81.76	3.2188		SV120314	SV125314
		82	3.2283		SV170820	SV175820
	3 1/4	82.55	3.2500		SV120316	SV125316
	3 9/32	83.34	3.2812		SV120318	SV125318
		84	3.3071		SV170840	SV175840
	3 5/16	84.14	3.3125		SV120320	SV125320
	3 11/32	84.93	3.3438		SV120322	SV125322
	3 3/8	85.73	3.3750		SV120324	SV125324
		86	3.3858		SV170860	SV175860
	3 13/32	86.52	3.4063		SV120326	SV125326
	3 7/16	87.31	3.4375		SV120328	SV125328
		88	3.4646		SV170880	SV175880
	3 15/32	88.11	3.4688		SV120330	SV125330
	3 1/2	88.9	3.5000		SV120332	SV125332

◎ : 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	○	○					○				○	○	○	○	○			◎			

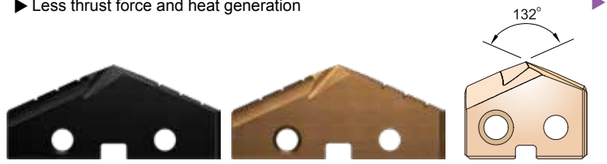
SPADE DRILLS

SERIES 7

SV-POINT SPADE DRILL INSERTS - SUPER COBALT T15
SV-POINT 铲钻刀片-超级含钴T15

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245 - 246	-	-
	ER COLLET CHUCK		D73 - 115	

切削条件 / cutting conditions : p. A364

(Series 5-8 : 144 degree)

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	SUPER COBALT T15 Hardslick	SUPER COBALT T15 H-Coating
7 87.76 (3.455) to 101.60 (4.000)	3 17/32	89.69	3.5312	11.1 [7/16]	SV120334	SV125334
		90	3.5433		SV170900	SV175900
	3 9/16	90.49	3.5625		SV120336	SV125336
	3 19/32	91.28	3.5938		SV120338	SV125338
		92	3.6221		SV170920	SV175920
	3 5/8	92.08	3.6250		SV120340	SV125340
	3 21/32	92.87	3.6562		SV120342	SV125342
	3 11/16	93.66	3.6875		SV120344	SV125344
		94	3.7008		SV170940	SV175940
	3 23/32	94.46	3.7188		SV120346	SV125346
	3 3/4	95.25	3.7500		SV120348	SV125348
		96	3.7795		SV170960	SV175960
	3 25/32	96.04	3.7812		SV120350	SV125350
	3 13/16	96.84	3.8125		SV120352	SV125352
	3 27/32	97.63	3.8438		SV120354	SV125354
		98	3.8583		SV170980	SV175980
	3 7/8	98.43	3.8750		SV120356	SV125356
	3 29/32	99.22	3.9062		SV120358	SV125358
		100	3.9370		SV170A00	SV175A00
	3 15/16	100.01	3.9375		SV120360	SV125360
	3 31/32	100.81	3.9688		SV120362	SV125362
	4	101.6	4.0000		SV120400	SV125400

◎ : 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	○	○					○				○	○	○	○	○			◎			

SPADE DRILLS

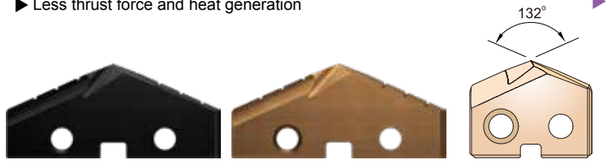
SERIES 8

SV-POINT SPADE DRILL INSERTS - SUPER COBALT T15

SV-POINT 铲钻刀片-超级含钴T15

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A365

(Series 5-8 : 144 degree)

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK	D73 - 115		

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	SUPER COBALT T15 Hardslick	SUPER COBALT T15 H-Coating
8 101.63 (4.001) to 114.48 (4.507)	4 1/64	102	4.0156	11.1 [7/16]	SV120401	SV125401
	4 1/16	103.19	4.0625		SV120404	SV125404
	4 3/32	103.98	4.0945		SV120406	SV125406
	4 1/8	104.78	4.1250		SV120408	SV125408
		106	4.1732		SV170A60	SV175A60
	4 3/16	106.36	4.1875		SV120412	SV125412
	4 1/4	107.95	4.2500		SV120416	SV125416
		108	4.2520		SV170A80	SV175A80
	4 5/16	109.54	4.3125		SV120420	SV125420
		110	4.3307		SV170B00	SV175B00
	4 3/8	111.13	4.3750		SV120424	SV125424
		112	4.4094		SV170B20	SV175B20
	4 7/16	112.71	4.4375		SV120428	SV125428
		114	4.4882		SV170B40	SV175B40
	4 1/2	114.3	4.5000		SV120432	SV125432

◎ : 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	○	○					○				○	○	○	○	○			◎			

SPADE DRILLS

SERIES Y, Z

SV-POINT SPADE DRILL INSERTS - PREMIUM COBALT M48

SV-POINT 铲钻刀片-优质钴 M48

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A367

(Series 5-8 : 144 degree)

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK	D73 - 115		

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	PREMIUM COBALT M48 Hardslick	PREMIUM COBALT M48 H-Coating
Y 9.50 (.374) to 11.07 (.436)		9.5	.3740	2.4 [3/32]	SV570095	SV575095
	3/8	9.53	.3750		SV520024	SV525024
		9.8	.3860		SV570098	SV575098
	25/64	9.92	.3906		SV520025	SV525025
		10	.3937		SV570100	SV575100
		10.2	.4016		SV570102	SV575102
	13/32	10.32	.4063		SV520026	SV525026
		10.5	.4134		SV570105	SV575105
	27/64	10.72	.4219		SV520027	SV525027
		10.8	.4252		SV570108	SV575108
		11	.4331		SV570110	SV575110
Z 11.11 (.437) to 12.95 (.510)	7/16	11.11	.4375	2.4 [3/32]	SV520028	SV525028
		11.5	.4528		SV570115	SV575115
	29/64	11.51	.4531		SV520029	SV525029
	15/32	11.91	.4688		SV520030	SV525030
		12	.4724		SV570120	SV575120
	31/64	12.3	.4844		SV520031	SV525031
		12.5	.4921		SV570125	SV575125
	1/2	12.7	.5000		SV520032	SV525032

◎ : 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	○	○					○				○	○	○	○	○			◎			

SPADE DRILLS

SERIES 0

SV-POINT SPADE DRILL INSERTS - PREMIUM COBALT M48
SV-POINT 铲钻刀片-优质钴 M48

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A367

(Series 5-8 : 144 degree)

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245 - 246	-	-
	ER COLLET CHUCK		D73 - 115	

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	PREMIUM COBALT M48 Hardslick	PREMIUM COBALT M48 H-Coating
0 12.98 (.511) to 17.65 (.695)		13	.5118	3.2 [1/8]	SV570130	SV575130
	33/64	13.1	.5156		SV520033	SV525033
	17/32	13.49	.5313		SV520034	SV525034
		13.5	.5315		SV570135	SV575135
	35/64	13.89	.5469		SV520035	SV525035
		14	.5512		SV570140	SV575140
	9/16	14.29	.5625		SV520036	SV525036
		14.5	.5709		SV570145	SV575145
	37/64	14.68	.5781		SV520037	SV525037
		15	.5906		SV570150	SV575150
	19/32	15.08	.5938		SV520038	SV525038
	39/64	15.48	.6094		SV520039	SV525039
		15.5	.6102		SV570155	SV575155
	5/8	15.88	.6250		SV520040	SV525040
		16	.6299		SV570160	SV575160
	41/64	16.27	.6406		SV520041	SV525041
		16.5	.6496		SV570165	SV575165
	21/32	16.67	.6563		SV520042	SV525042
		17	.6693		SV570170	SV575170
	43/64	17.07	.6719		SV520043	SV525043
	11/16	17.46	.6875		SV520044	SV525044
		17.5	.6890		SV570175	SV575175

◎ : 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	○	○					○				○	○	○	○	○			◎			

SPADE DRILLS

SERIES 1

SV-POINT SPADE DRILL INSERTS - PREMIUM COBALT M48
SV-POINT 铲钻刀片-优质钴 M48

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A367

(Series 5-8 : 144 degree)

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245 - 246	-	-
	ER COLLET CHUCK		D73 - 115	

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	PREMIUM COBALT M48 Hardslick	PREMIUM COBALT M48 H-Coating
1 17.53 (.690) to 24.38 (.960)	45/64	17.86	.7031	4.0 [5/32]	SV520045	SV525045
		18	.7087		SV570180	SV575180
	23/32	18.26	.7188		SV520046	SV525046
		18.5	.7283		SV570185	SV575185
	47/64	18.65	.7344		SV520047	SV525047
		19	.7480		SV570190	SV575190
	3/4	19.05	.7500		SV520048	SV525048
	49/64	19.45	.7656		SV520049	SV525049
		19.5	.7677		SV570195	SV575195
	25/32	19.84	.7812		SV520050	SV525050
		20	.7874		SV570200	SV575200
	51/64	20.24	.7969		SV520051	SV525051
		20.5	.8071		SV570205	SV575205
	13/16	20.64	.8125		SV520052	SV525052
		21	.8268		SV570210	SV575210
	27/32	21.43	.8438		SV520054	SV525054
	55/64	21.83	.8594		SV520055	SV525055
		22	.8661		SV570220	SV575220
	7/8	22.23	.8750		SV520056	SV525056
	57/64	22.62	.8906		SV520057	SV525057
		23	.9055		SV570230	SV575230
	29/32	23.02	.9062		SV520058	SV525058
	59/64	23.42	.9219		SV520059	SV525059
	15/16	23.81	.9375		SV520060	SV525060
		24	.9449		SV570240	SV575240

◎ : 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	○	○					○				○	○	○	○	○			◎			

SPADE DRILLS

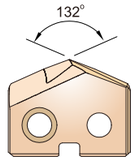
SERIES 2

SV-POINT SPADE DRILL INSERTS - PREMIUM COBALT M48
SV-POINT 铲钻刀片-优质钴 M48

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性





切削条件 / cutting conditions : p. A367

(Series 5-8 : 144 degree)

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245 - 246	-	-
	ER COLLET CHUCK	D73 - 115		

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	PREMIUM COBALT M48 Hardslick	PREMIUM COBALT M48 H-Coating
2 24.41 (.961) to 35.05 (1.380)	31/32	24.61	.9688	4.8 [3/16]	SV520062	SV525062
	63/64	25	.9843		SV520063	SV525063
	1	25.4	1.0000		SV520100	SV525100
	1 1/64	25.8	1.0156		SV520101	SV525101
		26	1.0236		SV570260	SV575260
	1 1/32	26.19	1.0312		SV520102	SV525102
	1 3/64	26.59	1.0469		SV520103	SV525103
	1 1/16	26.99	1.0625		SV520104	SV525104
		27	1.0630		SV570270	SV575270
	1 3/32	27.78	1.0938		SV520106	SV525106
		28	1.1024		SV570280	SV575280
	1 7/64	28.18	1.1094		SV520107	SV525107
	1 1/8	28.58	1.1250		SV520108	SV525108
		29	1.1417		SV570290	SV575290
	1 5/32	29.37	1.1562		SV520110	SV525110
		30	1.1811		SV570300	SV575300
	1 3/16	30.16	1.1875		SV520112	SV525112
	1 7/32	30.96	1.2188		SV520114	SV525114
		31	1.2205		SV570310	SV575310
	1 1/4	31.75	1.2500		SV520116	SV525116
		32	1.2598		SV570320	SV575320
	1 9/32	32.54	1.2812		SV520118	SV525118
		33	1.2992		SV570330	SV575330
	1 5/16	33.34	1.3125		SV520120	SV525120
		34	1.3386		SV570340	SV575340
	1 11/32	34.13	1.3438		SV520122	SV525122
	1 3/8	34.93	1.3750		SV520124	SV525124
		35	1.3780		SV570350	SV575350

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																				
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		M Stainless steel			K Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	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	○	○					○				○	○	○	○	○			◎			

SPADE DRILLS

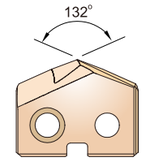
SERIES 3

SV-POINT SPADE DRILL INSERTS - PREMIUM COBALT M48
SV-POINT 铲钻刀片-优质钴 M48

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性





切削条件 / cutting conditions : p. A367

(Series 5-8 : 144 degree)

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245 - 246	-	-
	ER COLLET CHUCK	D73 - 115		

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	PREMIUM COBALT M48 Hardslick	PREMIUM COBALT M48 H-Coating
3 34.37 (1.353) to 47.80 (1.882)	1 13/32	35.72	1.4063	6.4 [1/4]	SV520126	SV525126
		36	1.4173		SV570360	SV575360
	1 7/16	36.51	1.4375		SV520128	SV525128
		37	1.4567		SV570370	SV575370
	1 15/32	37.31	1.4688		SV520130	SV525130
		38	1.4961		SV570380	SV575380
	1 1/2	38.1	1.5000		SV520132	SV525132
	1 17/32	38.89	1.5313		SV520134	SV525134
		39	1.5354		SV570390	SV575390
	1 9/16	39.69	1.5625		SV520136	SV525136
		40	1.5748		SV570400	SV575400
	1 19/32	40.48	1.5938		SV520138	SV525138
		41	1.6142		SV570410	SV575410
	1 5/8	41.28	1.6250		SV520140	SV525140
		42	1.6535		SV570420	SV575420
	1 21/32	42.07	1.6563		SV520142	SV525142
	1 11/16	42.86	1.6875		SV520144	SV525144
		43	1.6929		SV570430	SV575430
	1 23/32	43.66	1.7188		SV520146	SV525146
		44	1.7323		SV570440	SV575440
	1 3/4	44.45	1.7500		SV520148	SV525148
		45	1.7717		SV570450	SV575450
	1 25/32	45.24	1.7813		SV520150	SV525150
		46	1.8110		SV570460	SV575460
	1 13/16	46.04	1.8125		SV520152	SV525152
	1 27/32	46.83	1.8438		SV520154	SV525154
		47	1.8504		SV570470	SV575470
	1 7/8	47.63	1.8750		SV520156	SV525156

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P																				
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		M Stainless steel			K Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	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	○	○					○				○	○	○	○	○			◎			

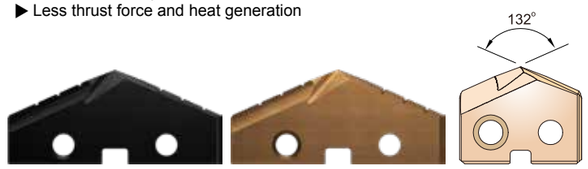
SPADE DRILLS

SERIES 4

SV-POINT SPADE DRILL INSERTS - PREMIUM COBALT M48
SV-POINT 铲钻刀片-优质钴 M48

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A367

(Series 5-8 : 144 degree)

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK		D73 - 115	

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	PREMIUM COBALT M48 Hardslick	PREMIUM COBALT M48 H-Coating
4 46.99 (1.850) to 65.28 (2.570)		48	1.8898	7.9 [5/16]	SV570480	SV575480
	1 29/32	48.42	1.9062		SV520158	SV525158
		49	1.9291		SV570490	SV575490
	1 15/16	49.21	1.9375		SV520160	SV525160
		50	1.9685		SV570500	SV575500
	1 31/32	50.01	1.9688		SV520162	SV525162
	2	50.8	2.0000		SV520200	SV525200
		51	2.0079		SV570510	SV575510
	2 1/32	51.59	2.0312		SV520202	SV525202
	2 3/64	51.99	2.0472		SV520203	SV525203
	2 1/16	52.39	2.0625		SV520204	SV525204
		53	2.0866		SV570530	SV575530
	2 3/32	53.18	2.0938		SV520206	SV525206
	2 1/8	53.98	2.1250		SV520208	SV525208
		54	2.1260		SV570540	SV575540
	2 5/32	54.77	2.1562		SV520210	SV525210
		55	2.1654		SV570550	SV575550
	2 3/16	55.56	2.1875		SV520212	SV525212
		56	2.2047		SV570560	SV575560
	2 7/32	56.36	2.2188		SV520214	SV525214
		57	2.2441		SV570570	SV575570
	2 1/4	57.15	2.2500		SV520216	SV525216
	2 9/32	57.94	2.2812		SV520218	SV525218
		58	2.2835		SV570580	SV575580
	2 5/16	58.74	2.3125		SV520220	SV525220
		59	2.3228		SV570590	SV575590

◎ : 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	○	○					○				○	○	○	○	○			◎			

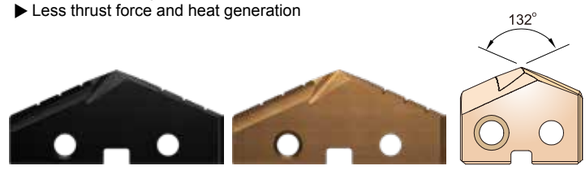
SPADE DRILLS

SERIES 4

SV-POINT SPADE DRILL INSERTS - PREMIUM COBALT M48
SV-POINT 铲钻刀片-优质钴 M48

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A367

(Series 5-8 : 144 degree)

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK		D73 - 115	

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	PREMIUM COBALT M48 Hardslick	PREMIUM COBALT M48 H-Coating
4 46.99 (1.850) to 65.28 (2.570)	2 11/32	59.53	2.3438	7.9 [5/16]	SV520222	SV525222
		60	2.3622		SV570600	SV575600
	2 3/8	60.33	2.3750		SV520224	SV525224
		61	2.4016		SV570610	SV575610
	2 13/32	61.12	2.4062		SV520226	SV525226
	2 7/16	61.91	2.4375		SV520228	SV525228
		62	2.4409		SV570620	SV575620
	2 15/32	62.71	2.4688		SV520230	SV525230
		63	2.4803		SV570630	SV575630
	2 1/2	63.5	2.5000		SV520232	SV525232
		64	2.5197		SV570640	SV575640
	2 17/32	64.29	2.5312		SV520234	SV525234
		65	2.5591		SV570650	SV575650
	2 9/16	65.09	2.5625		SV520236	SV525236
	2 1/2	63.5	2.5000		SV520232	SV525232
		64	2.5197		SV570640	SV575640
	2 17/32	64.29	2.5312		SV520234	SV525234
	2 9/16	65.09	2.5625		SV520236	SV525236

◎ : 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	○	○					○				○	○	○	○	○			◎			

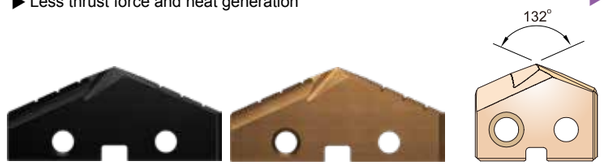
SPADE DRILLS

SERIES 5

SV-POINT SPADE DRILL INSERTS - PREMIUM COBALT M48
SV-POINT 铲钻刀片-优质钴 M48

▶ Sinusoidal thinning edge for smooth cutting
▶ Positive rake angle
▶ Less thrust force and heat generation

▶ 为柔软切削的Sinusoidal刃
▶ 正前角
▶ 较小的推力和发热性



Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245 - 246	-	-
	ER COLLET CHUCK	D73 - 115		

切削条件 / cutting conditions : p. A367

(Series 5-8 : 144 degree)

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	PREMIUM COBALT M48 Hardslick	PREMIUM COBALT M48 H-Coating
5 62.38 (2.456) to 76.20 (3.000)	2 19/32	65.88	2.5938	11.1 [7/16]	SV520238	SV525238
		66	2.5984		SV570660	SV575660
	2 5/8	66.68	2.6250		SV520240	SV525240
	2 21/32	67.47	2.6562		SV520242	SV525242
		68	2.6772		SV570680	SV575680
	2 11/16	68.26	2.6875		SV520244	SV525244
	2 23/32	69.06	2.7188		SV520246	SV525246
	2 3/4	69.85	2.7500		SV520248	SV525248
		70	2.7559		SV570700	SV575700
	2 25/32	70.64	2.7812		SV520250	SV525250
	2 13/16	71.44	2.8125		SV520252	SV525252
		72	2.8346		SV570720	SV575720
	2 27/32	72.23	2.8438		SV520254	SV525254
	2 7/8	73.03	2.8750		SV520256	SV525256
	2 29/32	73.82	2.9062		SV520258	SV525258
		74	2.9134		SV570740	SV575740
	2 15/16	74.61	2.9375		SV520260	SV525260
	2 31/32	75.41	2.9688		SV520262	SV525262
		76	2.9921		SV570760	SV575760
	3	76.2	3.0000		SV520300	SV525300

◎ : 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	○	○					○				○	○	○	○	○			◎			

SPADE DRILLS

SERIES 6

SV-POINT SPADE DRILL INSERTS - PREMIUM COBALT M48
SV-POINT 铲钻刀片-优质钴 M48

▶ Sinusoidal thinning edge for smooth cutting
▶ Positive rake angle
▶ Less thrust force and heat generation

▶ 为柔软切削的Sinusoidal刃
▶ 正前角
▶ 较小的推力和发热性



Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245 - 246	-	-
	ER COLLET CHUCK	D73 - 115		

切削条件 / cutting conditions : p. A367

(Series 5-8 : 144 degree)

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	PREMIUM COBALT M48 Hardslick	PREMIUM COBALT M48 H-Coating
6 76.23 (3.001) to 89.08 (3.507)	3 1/32	76.99	3.0312	11.1 [7/16]	SV520302	SV525302
	3 1/16	77.79	3.0625		SV520304	SV525304
		78	3.0709		SV570780	SV575780
	3 3/32	78.58	3.0938		SV520306	SV525306
	3 1/8	79.38	3.1250		SV520308	SV525308
		80	3.1496		SV570800	SV575800
	3 5/32	80.17	3.1562		SV520310	SV525310
	3 3/16	80.96	3.1875		SV520312	SV525312
	3 7/32	81.76	3.2188		SV520314	SV525314
		82	3.2283		SV570820	SV575820
	3 1/4	82.55	3.2500		SV520316	SV525316
	3 9/32	83.34	3.2812		SV520318	SV525318
		84	3.3071		SV570840	SV575840
	3 5/16	84.14	3.3125		SV520320	SV525320
	3 11/32	84.93	3.3438		SV520322	SV525322
	3 3/8	85.73	3.3750		SV520324	SV525324
		86	3.3858		SV570860	SV575860
	3 13/32	86.52	3.4063		SV520326	SV525326
	3 7/16	87.31	3.4375		SV520328	SV525328
		88	3.4646		SV570880	SV575880
	3 15/32	88.11	3.4688		SV520330	SV525330
	3 1/2	88.9	3.5000		SV520332	SV525332

◎ : 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	○	○					○				○	○	○	○	○			◎			

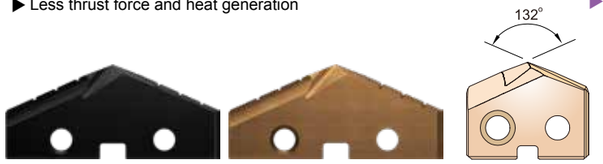
SPADE DRILLS

SERIES 7

SV-POINT SPADE DRILL INSERTS - PREMIUM COBALT M48
SV-POINT 铲钻刀片-优质钴 M48

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A367

(Series 5-8 : 144 degree)

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK	D73 - 115		

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	PREMIUM COBALT M48 Hardslick	PREMIUM COBALT M48 H-Coating
7 87.76 (3.455) to 101.60 (4.000)	3 17/32	89.69	3.5312	11.1 [7/16]	SV520334	SV525334
		90	3.5433		SV570900	SV575900
	3 9/16	90.49	3.5625		SV520336	SV525336
	3 19/32	91.28	3.5938		SV520338	SV525338
		92	3.6221		SV570920	SV575920
	3 5/8	92.08	3.6250		SV520340	SV525340
	3 21/32	92.87	3.6562		SV520342	SV525342
	3 11/16	93.66	3.6875		SV520344	SV525344
		94	3.7008		SV570940	SV575940
	3 23/32	94.46	3.7188		SV520346	SV525346
	3 3/4	95.25	3.7500		SV520348	SV525348
		96	3.7795		SV570960	SV575960
	3 25/32	96.04	3.7812		SV520350	SV525350
	3 13/16	96.84	3.8125		SV520352	SV525352
	3 27/32	97.63	3.8438		SV520354	SV525354
		98	3.8583		SV570980	SV575980
	3 7/8	98.43	3.8750		SV520356	SV525356
	3 29/32	99.22	3.9062		SV520358	SV525358
		100	3.9370		SV570A00	SV575A00
	3 15/16	100.01	3.9375		SV520360	SV525360
	3 31/32	100.81	3.9688		SV520362	SV525362
	4	101.6	4.0000		SV520400	SV525400

◎ : 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	○	○					○				○	○	○	○	○			◎			

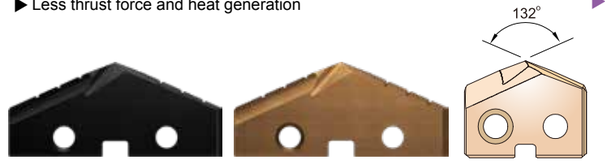
SPADE DRILLS

SERIES 8

SV-POINT SPADE DRILL INSERTS - PREMIUM COBALT M48
SV-POINT 铲钻刀片-优质钴 M48

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A367

(Series 5-8 : 144 degree)

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK	D73 - 115		

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	PREMIUM COBALT M48 Hardslick	PREMIUM COBALT M48 H-Coating
8 101.63 (4.001) to 114.48 (4.507)	4 1/64	102	4.0156	11.1 [7/16]	SV520401	SV525401
	4 1/16	103.19	4.0625		SV520404	SV525404
	4 3/32	103.98	4.0945		SV520406	SV525406
	4 1/8	104.78	4.1250		SV520408	SV525408
		106	4.1732		SV570A60	SV575A60
	4 3/16	106.36	4.1875		SV520412	SV525412
	4 1/4	107.95	4.2500		SV520416	SV525416
		108	4.2520		SV570A80	SV575A80
	4 5/16	109.54	4.3125		SV520420	SV525420
		110	4.3307		SV570B00	SV575B00
	4 3/8	111.13	4.3750		SV520424	SV525424
		112	4.4094		SV570B20	SV575B20
	4 7/16	112.71	4.4375		SV520428	SV525428
		114	4.4882		SV570B40	SV575B40
	4 1/2	114.3	4.5000		SV520432	SV525432

◎ : 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	○	○					○				○	○	○	○	○			◎			

SPADE DRILLS

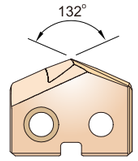
SERIES Y, Z

SV-POINT SPADE DRILL INSERTS - CARBIDE C5 P40
SV-POINT 铲钻刀片-硬质合金 C5 P40

- For general use in carbon steels and alloys steels
- Sinusoidal thinning edge for smooth cutting
- Positive rake angle
- Less thrust force and heat generation

- 用于碳素钢和合金钢的普通用途
- 为柔软切削的Sinusoidal刃
- 正前角
- 较小的推力和发热性





(Series 5-8 : 144 degree)

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK		D73 - 115	

切削条件 / cutting conditions : p. A371

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	C5 P40 Hardslick	C5 P40 H-Coating
Y 9.50 (.374) to 11.07 (.436)		9.5	.3740	2.4 [3/32]	**SV870095**	**SV875095**
	3/8	9.53	.3750		**SV820024**	**SV825024**
		9.8	.3860		**SV870098**	**SV875098**
	25/64	9.92	.3906		**SV820025**	**SV825025**
		10	.3937		**SV870100**	**SV875100**
		10.2	.4016		**SV870102**	**SV875102**
	13/32	10.32	.4063		**SV820026**	**SV825026**
		10.5	.4134		**SV870105**	**SV875105**
	27/64	10.72	.4219		**SV820027**	**SV825027**
		10.8	.4252		**SV870108**	**SV875108**
		11	.4331		**SV870110**	**SV875110**
Z 11.11 (.437) to 12.95 (.510)	7/16	11.11	.4375	2.4 [3/32]	**SV820028**	**SV825028**
		11.5	.4528		**SV870115**	**SV875115**
	29/64	11.51	.4531		**SV820029**	**SV825029**
	15/32	11.91	.4688		**SV820030**	**SV825030**
		12	.4724		**SV870120**	**SV875120**
	31/64	12.3	.4844		**SV820031**	**SV825031**
		12.5	.4921		**SV870125**	**SV875125**
	1/2	12.7	.5000		**SV820032**	**SV825032**

◎ : 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	○	○					○				○	○	○	○	○			◎			

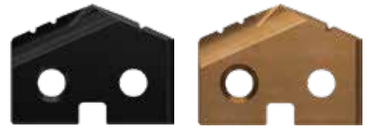
SPADE DRILLS

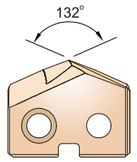
SERIES 0

SV-POINT SPADE DRILL INSERTS - CARBIDE C5 P40
SV-POINT 铲钻刀片-硬质合金 C5 P40

- For general use in carbon steels and alloys steels
- Sinusoidal thinning edge for smooth cutting
- Positive rake angle
- Less thrust force and heat generation

- 用于碳素钢和合金钢的普通用途
- 为柔软切削的Sinusoidal刃
- 正前角
- 较小的推力和发热性





(Series 5-8 : 144 degree)

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK		D73 - 115	

切削条件 / cutting conditions : p. A371

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	C5 P40 Hardslick	C5 P40 H-Coating
0 12.98 (.511) to 17.65 (.695)		13	.5118	3.2 [1/8]	**SV870130**	**SV875130**
	33/64	13.1	.5156		**SV820033**	**SV825033**
	17/32	13.49	.5313		**SV820034**	**SV825034**
		13.5	.5315		**SV870135**	**SV875135**
	35/64	13.89	.5469		**SV820035**	**SV825035**
		14	.5512		**SV870140**	**SV875140**
	9/16	14.29	.5625		**SV820036**	**SV825036**
		14.5	.5709		**SV870145**	**SV875145**
	37/64	14.68	.5781		**SV820037**	**SV825037**
		15	.5906		**SV870150**	**SV875150**
	19/32	15.08	.5938		**SV820038**	**SV825038**
	39/64	15.48	.6094		**SV820039**	**SV825039**
		15.5	.6102		**SV870155**	**SV875155**
	5/8	15.88	.6250		**SV820040**	**SV825040**
		16	.6299		**SV870160**	**SV875160**
	41/64	16.27	.6406		**SV820041**	**SV825041**
		16.5	.6496		**SV870165**	**SV875165**
	21/32	16.67	.6563		**SV820042**	**SV825042**
		17	.6693		**SV870170**	**SV875170**
	43/64	17.07	.6719		**SV820043**	**SV825043**
	11/16	17.46	.6875		**SV820044**	**SV825044**
		17.5	.6890		**SV870175**	**SV875175**

◎ : 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	○	○					○				○	○	○	○	○			◎			

SPADE DRILLS

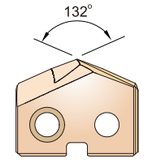
SERIES 1

SV-POINT SPADE DRILL INSERTS - CARBIDE C5 P40
SV-POINT 铲钻刀片-硬质合金 C5 P40

- For general use in carbon steels and alloys steels
- Sinusoidal thinning edge for smooth cutting
- Positive rake angle
- Less thrust force and heat generation

- 用于碳素钢和合金钢的普通用途
- 为柔软切削的Sinusoidal刃
- 正前角
- 较小的推力和发热性





(Series 5-8 : 144 degree)

切削条件 / cutting conditions : p. A371

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-
ER COLLET CHUCK	D73 - 115		

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	C5 P40 Hardslick	C5 P40 H-Coating
1 17.53 (.690) to 24.38 (.960)	45/64	17.86	.7031	4.0 [5/32]	SV820045	SV825045
		18	.7087		SV870180	SV875180
	23/32	18.26	.7188		SV820046	SV825046
		18.5	.7283		SV870185	SV875185
	47/64	18.65	.7344		SV820047	SV825047
		19	.7480		SV870190	SV875190
	3/4	19.05	.7500		SV820048	SV825048
	49/64	19.45	.7656		SV820049	SV825049
		19.5	.7677		SV870195	SV875195
	25/32	19.84	.7812		SV820050	SV825050
		20	.7874		SV870200	SV875200
	51/64	20.24	.7969		SV820051	SV825051
		20.5	.8071		SV870205	SV875205
	13/16	20.64	.8125		SV820052	SV825052
		21	.8268		SV870210	SV875210
	27/32	21.43	.8438		SV820054	SV825054
	55/64	21.83	.8594		SV820055	SV825055
		22	.8661		SV870220	SV875220
	7/8	22.23	.8750		SV820056	SV825056
	57/64	22.62	.8906		SV820057	SV825057
		23	.9055		SV870230	SV875230
	29/32	23.02	.9062		SV820058	SV825058
	59/64	23.42	.9219		SV820059	SV825059
	15/16	23.81	.9375		SV820060	SV825060
		24	.9449		SV870240	SV875240

◎ : 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	◎	◎	◎	◎		◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

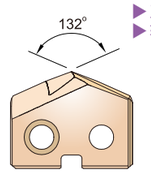
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	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	○	○					○				○	○	○	○	○			◎			

SV-POINT SPADE DRILL INSERTS - CARBIDE C5 P40
SV-POINT 铲钻刀片-硬质合金 C5 P40

- For general use in carbon steels and alloys steels
- Sinusoidal thinning edge for smooth cutting
- Positive rake angle
- Less thrust force and heat generation

- 用于碳素钢和合金钢的普通用途
- 为柔软切削的Sinusoidal刃
- 正前角
- 较小的推力和发热性





(Series 5-8 : 144 degree)

切削条件 / cutting conditions : p. A371

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-
ER COLLET CHUCK	D73 - 115		

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	C5 P40 Hardslick	C5 P40 H-Coating
2 24.41 (.961) to 35.05 (1.380)	31/32	24.61	.9688	4.8 [3/16]	SV820062	SV825062
	63/64	25	.9843		SV820063	SV825063
	1	25.4	1.0000		SV820100	SV825100
	1 1/64	25.8	1.0156		SV820101	SV825101
		26	1.0236		SV870260	SV875260
	1 1/32	26.19	1.0312		SV820102	SV825102
	1 3/64	26.59	1.0469		SV820103	SV825103
	1 1/16	26.99	1.0625		SV820104	SV825104
		27	1.0630		SV870270	SV875270
	1 3/32	27.78	1.0938		SV820106	SV825106
		28	1.1024		SV870280	SV875280
	1 7/64	28.18	1.1094		SV820107	SV825107
	1 1/8	28.58	1.1250		SV820108	SV825108
		29	1.1417		SV870290	SV875290
	1 5/32	29.37	1.1562		SV820110	SV825110
		30	1.1811		SV870300	SV875300
	1 3/16	30.16	1.1875		SV820112	SV825112
	1 7/32	30.96	1.2188		SV820114	SV825114
		31	1.2205		SV870310	SV875310
	1 1/4	31.75	1.2500		SV820116	SV825116
		32	1.2598		SV870320	SV875320
	1 9/32	32.54	1.2812		SV820118	SV825118
		33	1.2992		SV870330	SV875330
	1 5/16	33.34	1.3125		SV820120	SV825120
		34	1.3386		SV870340	SV875340
	1 11/32	34.13	1.3438		SV820122	SV825122
	1 3/8	34.93	1.3750		SV820124	SV825124
		35	1.3780		SV870350	SV875350

◎ : 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	○	○					○				○	○	○	○	○			◎			

SPADE DRILLS

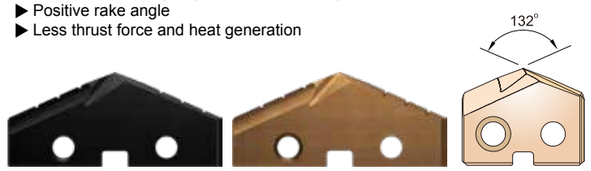
SERIES 3

SV-POINT SPADE DRILL INSERTS - CARBIDE C5 P40

SV-POINT 铲钻刀片-硬质合金 C5 P40

- For general use in carbon steels and alloys steels
- Sinusoidal thinning edge for smooth cutting
- Positive rake angle
- Less thrust force and heat generation

- 用于碳素钢和合金钢的普通用途
- 为柔软切削的Sinusoidal刃
- 正前角
- 较小的推力和发热性



切削条件 / cutting conditions : p. A371

(Series 5-8 : 144 degree)

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK	D73 - 115		

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号	
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	C5 P40 Hardslick	C5 P40 H-Coating
3 34.37 (1.353) to 47.80 (1.882)	1 13/32	35.72	1.4063	6.4 [1/4]	SV820126	SV825126
		36	1.4173		SV870360	SV875360
	1 7/16	36.51	1.4375		SV820128	SV825128
		37	1.4567		SV870370	SV875370
	1 15/32	37.31	1.4688		SV820130	SV825130
		38	1.4961		SV870380	SV875380
	1 1/2	38.1	1.5000		SV820132	SV825132
	1 17/32	38.89	1.5313		SV820134	SV825134
		39	1.5354		SV870390	SV875390
	1 9/16	39.69	1.5625		SV820136	SV825136
		40	1.5748		SV870400	SV875400
	1 19/32	40.48	1.5938		SV820138	SV825138
		41	1.6142		SV870410	SV875410
	1 5/8	41.28	1.6250		SV820140	SV825140
		42	1.6535		SV870420	SV875420
	1 21/32	42.07	1.6563		SV820142	SV825142
	1 11/16	42.86	1.6875		SV820144	SV825144
		43	1.6929		SV870430	SV875430
	1 23/32	43.66	1.7188		SV820146	SV825146
		44	1.7323		SV870440	SV875440
	1 3/4	44.45	1.7500		SV820148	SV825148
		45	1.7717		SV870450	SV875450
	1 25/32	45.24	1.7813		SV820150	SV825150
		46	1.8110		SV870460	SV875460
	1 13/16	46.04	1.8125		SV820152	SV825152
	1 27/32	46.83	1.8438		SV820154	SV825154
		47	1.8504		SV870470	SV875470
	1 7/8	47.63	1.8750		SV820156	SV825156

◎ : 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	○	○					○				○	○	○	○	○			◎			

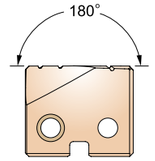
SPADE DRILLS

SERIES Y, Z, 0

SPADE DRILL INSERTS - SUPER COBALT T15 FLAT BOTTOM

SV-POINT 铲钻刀片-超级含钴T15 平底





切削条件 / cutting conditions : p. A370

Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK	D73 - 115		

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
Min. to Max. mm (inch)	Inch (inch)	Metric (mm)	Decimal (inch)	Metric (mm, inch)	SUPER HSS T15 TiN	SUPER HSS T15 Hardslick	SUPER HSS T15 TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)		9.50	.3740	2.4 (3/32)	S2155095	S2170095	S2165095
	3/8	9.53	.3750		S2105024	S2120024	S2115024
		9.80	.3858		S2155098	S2170098	S2165098
	25/64	9.92	.3906		S2105025	S2120025	S2115025
		10.00	.3937		S2155100	S2170100	S2165100
		10.20	.4016		S2155102	S2170102	S2165102
	13/32	10.32	.4062		S2105026	S2120026	S2115026
		10.50	.4134		S2155105	S2170105	S2165105
	27/64	10.72	.4219		S2105027	S2120027	S2115027
		10.80	.4252		S2155108	S2170108	S2165108
		11.00	.4331		S2155110	S2170110	S2165110
Z Ø11.11(.437) to Ø12.95(.510)	7/16	11.11	.4375	2.4 (3/32)	S2105028	S2120028	S2115028
		11.50	.4528		S2155115	S2170115	S2165115
	29/64	11.51	.4531		S2105029	S2120029	S2115029
	15/32	11.91	.4688		S2105030	S2120030	S2115030
		12.00	.4724		S2155120	S2170120	S2165120
	31/64	12.30	.4844		S2105031	S2120031	S2115031
		12.50	.4921		S2155125	S2170125	S2165125
	1/2	12.70	.5000		S2105032	S2120032	S2115032
0 Ø12.98 (.511) to Ø17.65 (.695)		13.00	.5118	3.2 (1/8)	S2155130	S2170130	S2165130
	33/64	13.10	.5156		S2105033	S2120033	S2115033
	17/32	13.49	.5312		S2105034	S2120034	S2115034
		13.50	.5315		S2155135	S2170135	S2165135
	35/64	13.89	.5469		S2105035	S2120035	S2115035
		14.00	.5512		S2155140	S2170140	S2165140
	9/16	14.29	.5625		S2105036	S2120036	S2115036
		14.50	.5709		S2155145	S2170145	S2165145
	37/64	14.68	.5781		S2105037	S2120037	S2115037
		15.00	.5906		S2155150	S2170150	S2165150
	19/32	15.08	.5938		S2105038	S2120038	S2115038
	39/64	15.48	.6094		S2105039	S2120039	S2115039
		15.50	.6102		S2155155	S2170155	S2165155
	5/8	15.88	.6250		S2105040	S2120040	S2115040
		16.00	.6299		S2155160	S2170160	S2165160

◎ : 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	◎	◎	◎	◎		◎	◎	○	○	○	○	○	○	○	○	◎	○	◎	○	◎	

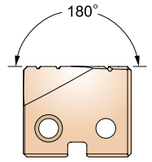
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	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	○	○					○				◎	○	○	○	○			○			

SPADE DRILLS

SERIES 0, 1

SPADE DRILL INSERTS - SUPER COBALT T15 FLAT BOTTOM
SV-POINT 铲钻刀片-超级含钴T15 平底





Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK		D73 - 115	

切削条件 / cutting conditions : p. A370

Series 系列 Min. to Max. mm (inch)	Diameter 直径 Inch (inch)	Metric (mm)	Decimal (inch)	Thick 厚度 Metric (mm, inch)	EDP No. 型号 SUPER HSS T15 TiN	Hardslick	TiAlN
0 Ø12.98(.511) to Ø17.65(.695)	41/64	16.27	.6406	3.2 (1/8)	S2105041	S2120041	S2115041
		16.50	.6496		S2155165	S2170165	S2165165
	21/32	16.67	.6562		S2105042	S2120042	S2115042
		17.00	.6693		S2155170	S2170170	S2165170
	43/64	17.07	.6719		S2105043	S2120043	S2115043
	11/16	17.46	.6875		S2105044	S2120044	S2115044
		17.50	.6890		S2155175	S2170175	S2165175
	45/64	17.86	.7031		S2105045	S2120045	S2115045
		18.00	.7087		S2155180	S2170180	S2165180
	23/32	18.26	.7188		S2105046	S2120046	S2115046
		18.50	.7283		S2155185	S2170185	S2165185
	47/64	18.65	.7344		S2105047	S2120047	S2115047
		19.00	.7480		S2155190	S2170190	S2165190
	3/4	19.05	.7500		S2105048	S2120048	S2115048
	49/64	19.45	.7656		S2105049	S2120049	S2115049
		19.50	.7677		S2155195	S2170195	S2165195
1 Ø17.53 (.690) to Ø24.38 (.960)	25/32	19.84	.7812	4.0 (5/32)	S2105050	S2120050	S2115050
		20.00	.7874		S2155200	S2170200	S2165200
	51/64	20.24	.7969		S2105051	S2120051	S2115051
		20.50	.8071		S2155205	S2170205	S2165205
	13/16	20.64	.8125		S2105052	S2120052	S2115052
		21.00	.8268		S2155210	S2170210	S2165210
	27/32	21.43	.8438		S2105054	S2120054	S2115054
	55/64	21.83	.8594		S2105055	S2120055	S2115055
		22.00	.8661		S2155220	S2170220	S2165220
	7/8	22.23	.8750		S2105056	S2120056	S2115056
	57/64	22.62	.8906		S2105057	S2120057	S2115057
		23.00	.9055		S2155230	S2170230	S2165230
	29/32	23.02	.9062		S2105058	S2120058	S2115058
	59/64	23.42	.9219		S2105059	S2120059	S2115059
	15/16	23.81	.9375		S2105060	S2120060	S2115060
		24.00	.9449		S2155240	S2170240	S2165240

◎ : 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	◎	◎	◎	◎		◎	◎	○	○	○	○	○	○	○	○	◎	○	◎	○	◎

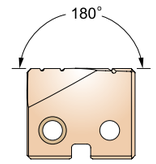
ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	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	○	○					○				◎	○	○	○	○			○			

SPADE DRILLS

SERIES 2

SPADE DRILL INSERTS - SUPER COBALT T15 FLAT BOTTOM
SV-POINT 铲钻刀片-超级含钴T15 平底





Recommended ToolHolder

	Flat Shank	Page	Plain Shank	Page
◎	INDEXABLE DRILL HOLDER	D245 - 246	-	-
○	ER COLLET CHUCK		D73 - 115	

切削条件 / cutting conditions : p. A370

Series 系列 Min. to Max. mm (inch)	Diameter 直径 Inch (inch)	Metric (mm)	Decimal (inch)	Thick 厚度 Metric (mm, inch)	EDP No. 型号 SUPER HSS T15 TiN	Hardslick	TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	S2105062	S2120062	S2115062
	63/64	25.00	.9843		S2105063	S2120063	S2115063
	1	25.40	1.0000		S2105100	S2120100	S2115100
	1-1/64	25.80	1.0156		S2105101	S2120101	S2115101
		26.00	1.0236		S2155260	S2170260	S2165260
	1-1/32	26.19	1.0312		S2105102	S2120102	S2115102
	1-3/64	26.59	1.0469		S2105103	S2120103	S2115103
	1-1/16	26.99	1.0625		S2105104	S2120104	S2115104
		27.00	1.0630		S2155270	S2170270	S2165270
	1-3/32	27.78	1.0938		S2105106	S2120106	S2115106
		28.00	1.1024		S2155280	S2170280	S2165280
	1-7/64	28.18	1.1094		S2105107	S2120107	S2115107
	1-1/8	28.58	1.1250		S2105108	S2120108	S2115108
		29.00	1.1417		S2155290	S2170290	S2165290
	1-5/32	29.37	1.1562		S2105110	S2120110	S2115110
		30.00	1.1811		S2155300	S2170300	S2165300
	1-3/16	30.16	1.1875		S2105112	S2120112	S2115112
	1-7/32	30.96	1.2188		S2105114	S2120114	S2115114
		31.00	1.2205		S2155310	S2170310	S2165310
	1-1/4	31.75	1.2500		S2105116	S2120116	S2115116
		32.00	1.2598		S2155320	S2170320	S2165320
	1-9/32	32.54	1.2812		S2105118	S2120118	S2115118
		33.00	1.2992		S2155330	S2170330	S2165330
	1-5/16	33.34	1.3125		S2105120	S2120120	S2115120
		34.00	1.3386		S2155340	S2170340	S2165340
	1-11/32	34.13	1.3438		S2105122	S2120122	S2115122
	1-3/8	34.93	1.3750		S2105124	S2120124	S2115124
		35.00	1.3780		S2155350	S2170350	S2165350

◎ : 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	◎	◎	◎	◎		◎	◎	○	○	○	○	○	○	○	○	◎	○	◎	○	◎

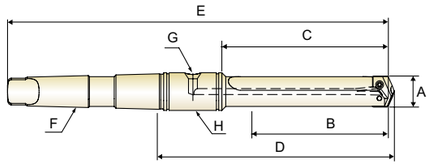
ISO	N										S							H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	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	○	○					○				◎	○	○	○	○			○			

SPADE DRILLS

ZSTSMT** SERIES

TAPER SHANK HOLDERS
锥柄刀杆





SHORT LENGTH - Straight Flute (Inch)
短刃-直槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	莫氏锥度	管用丝锥	旋转冷却油适配器
		A	B	C	D	E	F	G	H
Y	ZY0STSMT02I	3/8 ~ 27/64	1-1/4	2-1/32	3-15/32	6-5/16	#2	1/16	PR110048
Z	ZZ0STSMT02I	7/16 ~ 1/2	1-1/4	2-1/32	3-15/32	6-5/16	#2	1/16	PR110048
0	Z00STSMT02I	33/64 ~ 11/16	1-3/8	2-3/16	3-41/64	6-15/32	#2	1/16	PR110048
0.5	Z05STSMT02I	39/64 ~ 11/16	1-3/8	2-3/16	3-41/64	6-15/32	#2	1/16	PR110048
1	Z10STSMT03I	45/64 ~ 15/16	2-3/4	3-7/8	5-39/64	9-5/32	#3	1/8	PR110100
	Z10STSMT04I	45/64 ~ 15/16	2-3/4	3-7/8	5-43/64	10-5/32	#4	1/8	PR110100
1.5	Z15STSMT03I	55/64 ~ 15/16	2-3/4	3-7/8	5-39/64	9-5/32	#3	1/8	PR110100
	Z15STSMT04I	55/64 ~ 15/16	2-3/4	3-7/8	5-43/64	10-5/32	#4	1/8	PR110100
2	Z20STSMT03I	31/32 ~ 1-3/8	3-3/8	4-1/2	6-15/64	9-25/32	#3	1/8	PR110100
	Z20STSMT04I	31/32 ~ 1-3/8	3-3/8	4-1/2	6-19/64	10-25/32	#4	1/8	PR110100
2.5	Z25STSMT03I	1-3/16 ~ 1-3/8	3-3/8	4-1/2	6-15/64	9-25/32	#3	1/8	PR110100
	Z25STSMT04I	1-3/16 ~ 1-3/8	3-3/8	4-1/2	6-37/64	11-1/16	#4	1/4	PR110116
3	Z30STSMT04I	1-13/32 ~ 1-7/8	4-3/4	6	8-1/8	12-9/16	#4	1/4	PR110116
	Z30STSMT05I	1-13/32 ~ 1-7/8	4-3/4	6	8-1/8	13-13/16	#5	1/4	PR110148
4	Z40STSMT04I	1-29/32 ~ 2-9/16	5-1/8	6-1/2	8-5/8	13-1/16	#4	1/4	PR110116
	Z40STSMT05I	1-29/32 ~ 2-9/16	5-1/8	6-1/2	8-5/8	14-5/16	#5	1/4	PR110148
5	Z50STSMT05I	2-1/2 ~ 3-1/2	6-3/4	8-1/2	11-5/16	16-15/16	#5	1/2	PR110216
7	Z70STSMT05I	3-17/32 ~ 4-1/2	6-3/4	8-7/8	11-11/16	17-5/16	#5	1/2	PR110216

▶ You can also apply **RCA**(**R**otary **C**oolant **A**dapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器) 采用内冷(请看A308页)

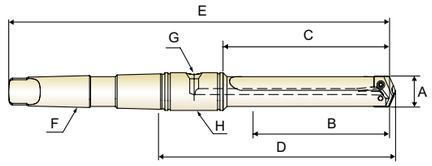
CARBIDE
HSS
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

SPADE DRILLS

ZITSMT SERIES**
ZITHMT SERIES**

TAPER SHANK HOLDERS
锥柄刀杆



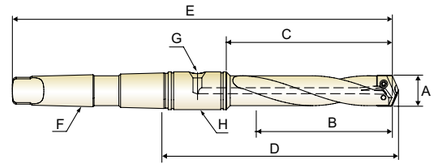


INTERMEDIATE LENGTH - Straight Flute (Inch)
普长刃-直槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	莫氏锥度	管用丝锥	旋转冷却油适配器
		A	B	C	D	E	F	G	H
1	Z10ITSMT03I	45/64 ~ 15/16	4-3/4	5-7/8	7-39/64	11-5/32	#3	1/8	PR110100
1.5	Z15ITSMT03I	55/64 ~ 15/16	4-3/4	5-7/8	7-39/64	11-5/32	#3	1/8	PR110100
2	Z20ITSMT04I	31/32 ~ 1-3/8	5-3/8	6-1/2	8-19/64	12-25/32	#4	1/8	PR110100
2.5	Z25ITSMT04I	1-3/16 ~ 1-3/8	5-3/8	6-1/2	8-37/64	13-1/16	#4	1/4	PR110116
3	Z30ITSMT04I	1-13/32 ~ 1-7/8	6-1/2	7-3/4	9-7/8	14-5/16	#4	1/4	PR110116

▶ You can also apply **RCA**(**R**otary **C**oolant **A**dapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器) 采用内冷(请看A308页)





INTERMEDIATE LENGTH - Helical Flute (Inch)
普长刃-螺旋槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	莫氏锥度	管用丝锥	旋转冷却油适配器
		A	B	C	D	E	F	G	H
1	Z10ITHMT03I	45/64 ~ 15/16	4-3/4	5-7/8	7-39/64	11-5/32	#3	1/8	PR110100
1.5	Z15ITHMT03I	55/64 ~ 15/16	4-3/4	5-7/8	7-39/64	11-5/32	#3	1/8	PR110100
2	Z20ITHMT04I	31/32 ~ 1-3/8	5-3/8	6-1/2	8-19/64	12-25/32	#4	1/8	PR110100
2.5	Z25ITHMT04I	1-3/16 ~ 1-3/8	5-3/8	6-1/2	8-37/64	13-1/16	#4	1/4	PR110116

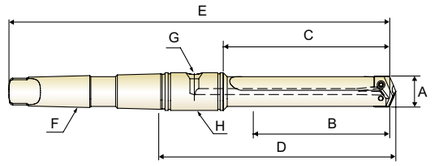
▶ You can also apply **RCA**(**R**otary **C**oolant **A**dapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器) 采用内冷(请看A308页)

SPADE DRILLS

ZSDSMT** SERIES

TAPER SHANK HOLDERS
锥柄刀杆





STANDARD LENGTH - Straight Flute (Inch)
标长刃-直槽 (英制)

Series 系列	EDP No. 型号	Drill Insert Range 钻头刀片范围	Max. Drill Depth 钻的最大深度	Body Length 主要长度	Ref. Length 参考长度	Overall Length 全长	MT 莫氏锥度	Pipe Tap 管用丝锥	RCA 旋转冷却油适配器
		A	B	C	D	E	F	G	H
Y	**ZY0SDSMT02I**	3/8 ~ 27/64	2-3/8	3-5/32	4-19/32	7-7/16	#2	1/16	PR110048
Z	**ZZ0SDSMT02I**	7/16 ~ 1/2	2-3/8	3-5/32	4-19/32	7-7/16	#2	1/16	PR110048
0	**Z00SDSMT02I**	33/64 ~ 11/16	2-1/2	3-5/16	4-49/64	7-19/32	#2	1/16	PR110048
0.5	**Z05SDSMT02I**	39/64 ~ 11/16	2-1/2	3-5/16	4-49/64	7-19/32	#2	1/16	PR110048
1	**Z10SDSMT03I**	45/64 ~ 15/16	6-3/4	7-7/8	9-39/64	13-5/32	#3	1/8	PR110100
	Z10SDSMT04I	45/64 ~ 15/16	6-3/4	7-7/8	9-43/64	14-5/32	#4	1/8	PR110100
1.5	**Z15SDSMT03I**	55/64 ~ 15/16	6-3/4	7-7/8	9-39/64	13-5/32	#3	1/8	PR110100
	Z15SDSMT04I	55/64 ~ 15/16	6-3/4	7-7/8	9-43/64	14-5/32	#4	1/8	PR110100
2	**Z20SDSMT03I**	31/32 ~ 1-3/8	7-3/8	8-1/2	10-15/64	13-25/32	#3	1/8	PR110100
	Z20SDSMT04I	31/32 ~ 1-3/8	7-3/8	8-1/2	10-19/64	14-25/32	#4	1/8	PR110100
2.5	**Z25SDSMT03I**	1-3/16 ~ 1-3/8	7-3/8	8-1/2	10-15/64	13-25/32	#3	1/8	PR110100
	Z25SDSMT04I	1-3/16 ~ 1-3/8	7-3/8	8-1/2	10-37/64	15-1/16	#4	1/4	PR110116
3	**Z30SDSMT04I**	1-13/32 ~ 1-7/8	8-1/4	9-1/2	11-5/8	16-1/16	#4	1/4	PR110116
	Z30SDSMT05I	1-13/32 ~ 1-7/8	8-1/4	9-1/2	11-5/8	17-5/16	#5	1/4	PR110148
4	**Z40SDSMT04I**	1-29/32 ~ 2-9/16	9-1/8	10-1/2	12-5/8	17-1/16	#4	1/4	PR110116
	Z40SDSMT05I	1-29/32 ~ 2-9/16	9-1/8	10-1/2	12-5/8	18-5/16	#5	1/4	PR110148
5	**Z50SDSMT05I**	2-1/2 ~ 3-1/2	10-3/4	12-1/2	15-5/16	20-15/16	#5	1/2	PR110216
7	**Z70SDSMT05I**	3-17/32 ~ 4-1/2	10-3/4	12-7/8	15-11/16	21-5/16	#5	1/2	PR110216

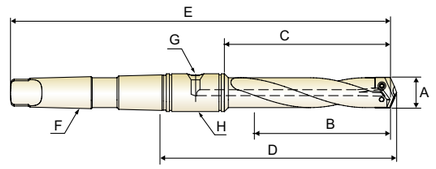
▶ You can also apply **RCA**(**R**otary **C**oolant **A**dapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器) 采用内冷(请看A308页)

SPADE DRILLS

ZSDHMT** SERIES

TAPER SHANK HOLDERS
锥柄刀杆





STANDARD LENGTH - Helical Flute (Inch)
标长刃-螺旋槽 (英制)

Series 系列	EDP No. 型号	Drill Insert Range 钻头刀片范围	Max. Drill Depth 钻的最大深度	Body Length 主要长度	Ref. Length 参考长度	Overall Length 全长	MT 莫氏锥度	Pipe Tap 管用丝锥	RCA 旋转冷却油适配器
		A	B	C	D	E	F	G	H
Y	**ZY0SDHMT02I**	3/8 ~ 27/64	2-3/8	3-5/32	4-19/32	7-7/16	#2	1/16	PR110048
Z	**ZZ0SDHMT02I**	7/16 ~ 1/2	2-3/8	3-5/32	4-19/32	7-7/16	#2	1/16	PR110048
0	**Z00SDHMT02I**	33/64 ~ 11/16	2-1/2	3-5/16	4-49/64	7-19/32	#2	1/16	PR110048
0.5	**Z05SDHMT02I**	39/64 ~ 11/16	2-1/2	3-5/16	4-49/64	7-19/32	#2	1/16	PR110048
1	**Z10SDHMT03I**	45/64 ~ 15/16	6-3/4	7-7/8	9-39/64	13-5/32	#3	1/8	PR110100
	Z10SDHMT04I	45/64 ~ 15/16	6-3/4	7-7/8	9-43/64	14-5/32	#4	1/8	PR110100
1.5	**Z15SDHMT03I**	55/64 ~ 15/16	6-3/4	7-7/8	9-39/64	13-5/32	#3	1/8	PR110100
	Z15SDHMT04I	55/64 ~ 15/16	6-3/4	7-7/8	9-43/64	14-5/32	#4	1/8	PR110100
2	**Z20SDHMT03I**	31/32 ~ 1-3/8	7-3/8	8-1/2	10-15/64	13-25/32	#3	1/8	PR110100
	Z20SDHMT04I	31/32 ~ 1-3/8	7-3/8	8-1/2	10-19/64	14-25/32	#4	1/8	PR110100
2.5	**Z25SDHMT03I**	1-3/16 ~ 1-3/8	7-3/8	8-1/2	10-15/64	13-25/32	#3	1/8	PR110100
	Z25SDHMT04I	1-3/16 ~ 1-3/8	7-3/8	8-1/2	10-37/64	15-1/16	#4	1/4	PR110116

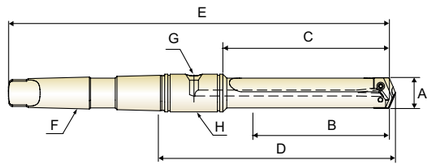
▶ You can also apply **RCA**(**R**otary **C**oolant **A**dapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器) 采用内冷(请看A308页)

SPADE DRILLS

ZEXSMT** SERIES
ZEXHMT** SERIES

TAPER SHANK HOLDERS
锥柄刀杆



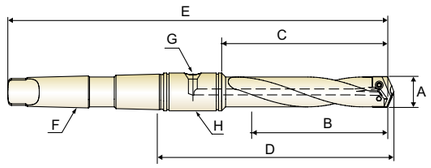


EXTENDED LENGTH - Straight Flute (Inch)
加长刃-直槽 (英制)

Series 系列	EDP No. 型号	Drill Insert Range 钻头刀片范围	Max. Drill Depth 钻的最大深度	Body Length 主要长度	Ref. Length 参考长度	Overall Length 全长	MT 莫氏锥度	Pipe Tap 管用丝锥	RCA 旋转冷却油适配器
		A	B	C	D	E	F	G	H
Y	ZY0EXSMT02I	3/8 ~ 27/64	4-3/8	5-5/32	6-19/32	9-7/16	#2	1/16	PR110048
Z	ZZ0EXSMT02I	7/16 ~ 1/2	4-3/8	5-5/32	6-19/32	9-7/16	#2	1/16	PR110048
0	Z00EXSMT02I	33/64 ~ 11/16	4-1/2	5-5/16	6-49/64	9-19/32	#2	1/16	PR110048
0.5	Z05EXSMT02I	39/64 ~ 11/16	4-1/2	5-5/16	6-49/64	9-19/32	#2	1/16	PR110048
1	Z10EXSMT03I	45/64 ~ 15/16	10-3/4	11-7/8	13-39/64	17-5/32	#3	1/8	PR110100
1.5	Z15EXSMT03I	55/64 ~ 15/16	10-3/4	11-7/8	13-39/64	17-5/32	#3	1/8	PR110100
2	Z20EXSMT04I	31/32 ~ 1-3/8	11-3/8	12-1/2	14-15/64	18-25/32	#4	1/8	PR110100
2.5	Z25EXSMT04I	1-3/16 ~ 1-3/8	11-3/8	12-1/2	14-37/64	19-1/16	#4	1/4	PR110116
3	Z30EXSMT04I	1-13/32 ~ 1-7/8	13-3/4	15	17-1/8	21-9/16	#4	1/4	PR110116
4	Z40EXSMT05I	1-29/32 ~ 2-9/16	16-5/8	18	20-1/8	25-13/16	#5	1/4	PR110148
5	Z50EXSMT05I	2-1/2 ~ 3-1/2	18-1/4	20	22-13/16	28-7/16	#5	1/2	PR110216
7	Z70EXSMT05I	3-17/32 ~ 4-1/2	21-7/8	24	26-13/16	32-7/16	#5	1/2	PR110216

▶ You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器) 采用内冷(请看A308页)





EXTENDED LENGTH - Helical Flute (Inch)
标长刃-螺旋槽 (英制)

Series 系列	EDP No. 型号	Drill Insert Range 钻头刀片范围	Max. Drill Depth 钻的最大深度	Body Length 主要长度	Ref. Length 参考长度	Overall Length 全长	MT 莫氏锥度	Pipe Tap 管用丝锥	RCA 旋转冷却油适配器
		A	B	C	D	E	F	G	H
Y	ZY0EXHMT02I	3/8 ~ 27/64	4-3/8	5-5/32	6-19/32	9-7/16	#2	1/16	PR110048
Z	ZZ0EXHMT02I	7/16 ~ 1/2	4-3/8	5-5/32	6-19/32	9-7/16	#2	1/16	PR110048
0	Z00EXHMT02I	33/64 ~ 11/16	4-1/2	5-5/16	6-49/64	9-19/32	#2	1/16	PR110048
0.5	Z05EXHMT02I	39/64 ~ 11/16	4-1/2	5-5/16	6-49/64	9-19/32	#2	1/16	PR110048
1	Z10EXHMT03I	45/64 ~ 15/16	10-3/4	11-7/8	13-39/64	17-5/32	#3	1/8	PR110100
1.5	Z15EXHMT03I	55/64 ~ 15/16	10-3/4	11-7/8	13-39/64	17-5/32	#3	1/8	PR110100
2	Z20EXHMT04I	31/32 ~ 1-3/8	11-3/8	12-1/2	14-15/64	18-25/32	#4	1/8	PR110100
2.5	Z25EXHMT04	1-3/16 ~ 1-3/8	11-3/8	12-1/2	14-37/64	19-1/16	#4	1/4	PR110116

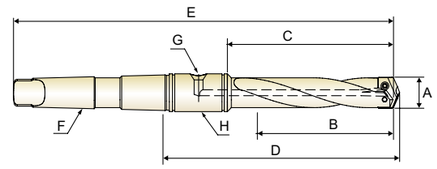
▶ You can also apply **RCA**(**R**otary **C**oolant **A**dapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器) 采用内冷(请看A308页)

SPADE DRILLS

ZLGHMT** SERIES

TAPER SHANK HOLDERS
锥柄刀杆





LONG LENGTH - Helical Flute (Inch)
标长刃-螺旋槽 (英制)

Series 系列	EDP No. 型号	Drill Insert Range 钻头刀片范围	Max. Drill Depth 钻的最大深度	Body Length 主要长度	Ref. Length 参考长度	Overall Length 全长	MT 莫氏锥度	Pipe Tap 管用丝锥	RCA 旋转冷却油适配器
		A	B	C	D	E	F	G	H
0	Z00LGHMT02I	33/64 ~ 11/16	7	7-13/16	9-17/64	12-3/32	#2	1/16	PR110048
0.5	Z05LGHMT02I	39/64 ~ 11/16	7	7-13/16	9-17/64	12-3/32	#2	1/16	PR110048

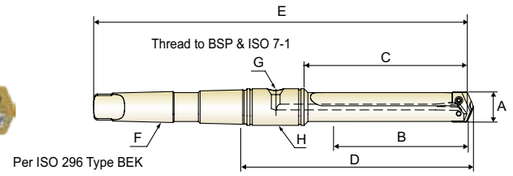
▶ You can also apply **RCA**(**R**otary **C**oolant **A**dapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器) 采用内冷(请看A308页)

SPADE DRILLS

ZSTSMT** SERIES
ZITHMT** SERIES

TAPER SHANK HOLDERS
锥柄刀杆



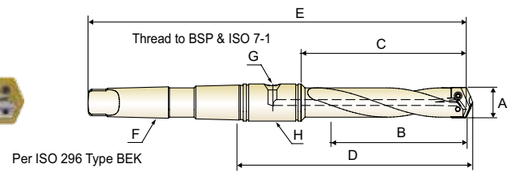


SHORT LENGTH - Straight Flute (Metric)
短刃-直槽 (公制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	莫氏锥度	管用丝锥	旋转冷却油适配器
		A	B	C	D	E	F	G	H
Y	ZY0STSMT02M	9.5 ~ 11.0	31.8	51.5	88.0	160.3	#2	1/16	PR120190
Z	ZZ0STSMT02M	11.5 ~ 12.5	31.8	51.5	88.0	160.3	#2	1/16	PR120190
0	Z00STSMT02M	13.0 ~ 17.5	35.0	55.5	92.4	164.3	#2	1/16	PR120190
0.5	Z05STSMT02M	15.5 ~ 17.5	35.0	55.5	92.4	164.3	#2	1/16	PR120190
1	Z10STSMT03M	18.0 ~ 24.0	69.8	98.4	142.5	232.5	#3	1/8	PR120254
1.5	Z15STSMT03M	22.0 ~ 24.0	69.8	98.4	142.5	232.5	#3	1/8	PR120254
2	Z20STSMT04M	25.0 ~ 35.0	85.7	114.3	160.4	273.8	#4	1/8	PR120254
2.5	Z25STSMT04M	30.0 ~ 35.0	85.7	114.3	167.6	281.0	#4	1/4	PR120317
3	Z30STSMT04M	36.0 ~ 47.0	120.6	152.4	206.4	319.1	#4	1/4	PR120317
4	Z40STSMT05M	48.0 ~ 65.0	130.1	165.1	219.1	363.5	#5	1/4	PR120444
5	Z50STSMT05M	64.0 ~ 88.0	171.5	215.9	287.3	430.2	#5	1/2	PR120571
7	Z70STSMT05M	90.0 ~ 114.0	171.5	225.4	296.8	439.7	#5	1/2	PR120571

▶ You can also apply **RCA**(**R**otary **C**oolant **A**dapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器) 采用内冷(请看A308页)





INTERMEDIATE LENGTH - Helical Flute (Metric)
普长刃-螺旋槽 (公制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	莫氏锥度	管用丝锥	旋转冷却油适配器
		A	B	C	D	E	F	G	H
1	Z10ITHMT03M	18.0 ~ 24.0	120.7	149.2	193.3	283.3	#3	1/8	PR120254
1.5	Z15ITHMT03M	22.0 ~ 24.0	120.7	149.2	193.3	283.3	#3	1/8	PR120254
2	Z20ITHMT04M	25.0 ~ 35.0	136.5	165.1	211.2	324.6	#4	1/8	PR120254
2.5	Z25ITHMT04M	30.0 ~ 35.0	136.5	165.1	218.4	331.8	#4	1/4	PR120317
3	Z30ITHMT04M	36.0 ~ 47.0	165.1	196.9	250.9	363.6	#4	1/4	PR120317

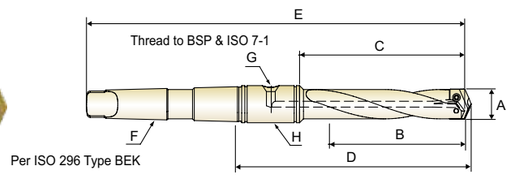
▶ You can also apply **RCA**(**R**otary **C**oolant **A**dapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器) 采用内冷(请看A308页)

SPADE DRILLS

ZSDHMT** SERIES

TAPER SHANK HOLDERS
锥柄刀杆





STANDARD LENGTH - Helical Flute (Metric)
标长刃-螺旋槽 (公制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	莫氏锥度	管用丝锥	旋转冷却油适配器
		A	B	C	D	E	F	G	H
Y	ZY0SDHMT02M	9.5 ~ 11.0	60.3	80.2	116.7	188.9	#2	1/16	PR120190
Z	ZZ0SDHMT02M	11.5 ~ 12.5	60.3	80.2	116.7	188.9	#2	1/16	PR120190
0	Z00SDHMT02M	13.0 ~ 17.5	63.5	84.1	121.0	192.9	#2	1/16	PR120190
0.5	Z05SDHMT02M	15.5 ~ 17.5	63.5	84.1	121.0	192.9	#2	1/16	PR120190
1	Z10SDHMT03M	18.0 ~ 24.0	171.5	200.0	244.1	334.2	#3	1/8	PR120254
1.5	Z15SDHMT03M	22.0 ~ 24.0	171.5	200.0	244.1	334.2	#3	1/8	PR120254
2	Z20SDHMT04M	25.0 ~ 35.0	187.3	215.9	262.0	375.4	#4	1/8	PR120254
2.5	Z25SDHMT04M	30.0 ~ 35.0	187.3	215.9	269.2	382.6	#4	1/4	PR120317
3	Z30SDHMT04M	36.0 ~ 47.0	209.5	241.3	295.3	408.0	#4	1/4	PR120317
4	Z40SDHMT05M	48.0 ~ 65.0	231.8	266.7	320.7	465.1	#5	1/4	PR120444
5	Z50SDHMT05M	64.0 ~ 88.0	273.1	317.5	388.9	531.8	#5	1/2	PR120571
7	Z70SDHMT05M	90.0 ~ 114.0	273.1	327.0	398.5	541.3	#5	1/2	PR120571

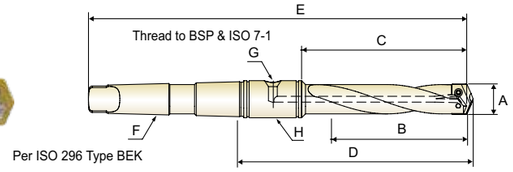
▶ You can also apply **RCA**(**R**otary **C**oolant **A**dapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器) 采用内冷(请看A308页)

SPADE DRILLS

ZEXHMT** SERIES
ZEXSMT** SERIES

TAPER SHANK HOLDERS
锥柄刀杆



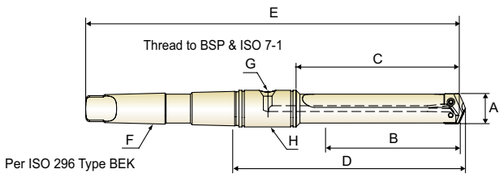


EXTENDED LENGTH - Helical Flute (Metric)
加长刃-螺旋槽 (公制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	莫氏锥度	管用丝锥	旋转冷却油适配器
		A	B	C	D	E	F	G	H
Y	ZY0EXHMT02M	9.5 ~ 11.0	111.1	130.9	167.4	239.7	#2	1/16	PR120190
Z	ZZ0EXHMT02M	11.5 ~ 12.5	111.1	130.9	167.4	239.7	#2	1/16	PR120190
0	Z00EXHMT02M	13.0 ~ 17.5	114.3	135.0	171.8	243.7	#2	1/16	PR120190
0.5	Z05EXHMT02M	15.5 ~ 17.5	114.3	135.0	171.8	243.7	#2	1/16	PR120190
1	Z10EXHMT03M	18.0 ~ 24.0	273.1	301.6	345.7	435.8	#3	1/8	PR120254
1.5	Z15EXHMT03M	22.0 ~ 24.0	273.1	301.6	345.7	435.8	#3	1/8	PR120254
2	Z20EXHMT04M	25.0 ~ 35.0	289.0	317.5	363.6	477.0	#4	1/8	PR120254
2.5	Z25EXHMT04M	30.0 ~ 35.0	289.0	317.5	370.8	484.2	#4	1/4	PR120317

▶ You can also apply **RCA**(**R**otary **C**oolant **A**dapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器) 采用内冷(请看A308页)





EXTENDED LENGTH - Straight Flute (Metric)
加长刃-直槽 (公制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	莫氏锥度	管用丝锥	旋转冷却油适配器
		A	B	C	D	E	F	G	H
3	Z30EXSMT04M	36.0 ~ 47.0	349.3	381.0	435.0	547.7	#4	1/4	PR120317
4	Z40EXSMT05M	48.0 ~ 65.0	422.3	457.2	511.2	655.6	#5	1/4	PR120444
5	Z50EXSMT05M	64.0 ~ 88.0	463.6	508.0	579.4	722.3	#5	1/2	PR120571
7	Z70EXSMT05M	90.0 ~ 114.0	555.6	609.6	681.1	823.9	#5	1/2	PR120571

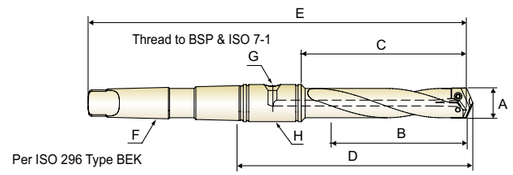
▶ You can also apply **RCA**(**R**otary **C**oolant **A**dapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器) 采用内冷(请看A308页)

SPADE DRILLS

ZLGHMT** SERIES

TAPER SHANK HOLDERS
锥柄刀杆





LONG LENGTH - Helical Flute (Metric)
长刃-螺旋槽 (公制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	莫氏锥度	管用丝锥	旋转冷却油适配器
		A	B	C	D	E	F	G	H
0	Z00LGHMT02M	13.0 ~ 17.5	177.8	198.5	235.3	307.2	#2	1/16	PR120190
0.5	Z05LGHMT02M	15.5 ~ 17.5	177.8	198.5	235.3	307.2	#2	1/16	PR120190

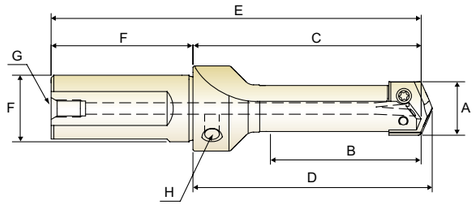
▶ You can also apply **RCA**(**R**otary **C**oolant **A**dapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器) 采用内冷(请看A308页)

SPADE DRILLS

ZSBSF** SERIES
ZSTSF** SERIES

FLANGED STRAIGHT SHANK HOLDERS
凸缘直柄刀杆

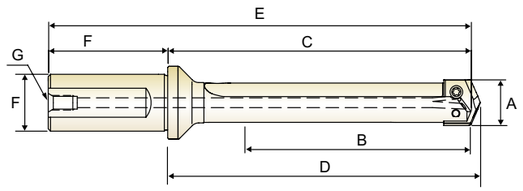




STUB LENGTH - Straight Flute (Inch)
超短刃-直槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap	
							Dia.	Length	Rear	Side
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄		管用丝锥	
							直径	长度	后面	侧面
		A	B	C	D	E	F		G	H
Y	ZY0SBSF063I	3/8 ~ 27/64	3/4	1-7/8	1-31/32	3-3/4	5/8	1-7/8	1/16	1/8
Z	ZZ0SBSF063I	7/16 ~ 1/2	3/4	1-7/8	1-31/32	3-3/4	5/8	1-7/8	1/16	1/8
0	Z00SBSF075I	33/64 ~ 11/16	7/8	1-7/8	1-63/64	3-29/32	3/4	2-1/32	1/8	1/8
0.5	Z05SBSF075I	39/64 ~ 11/16	7/8	1-7/8	1-63/64	3-29/32	3/4	2-1/32	1/8	1/8
1	Z10SBSF100I	45/64 ~ 15/16	1-7/8	2-63/64	3-1/8	5-17/64	1	2-9/32	1/8	1/8
1.5	Z15SBSF100I	55/64 ~ 15/16	2-1/4	3-31/64	3-5/8	5-49/64	1	2-9/32	1/8	1/8
2	Z20SBSF125I	31/32 ~ 1-3/8	2-1/4	3-31/64	3-5/8	5-49/64	1-1/4	2-9/32	1/4	1/8
2.5	Z25SBSF125I	1-3/16 ~ 1-3/8	3-5/8	4-55/64	5	7-9/64	1-1/4	2-9/32	1/4	1/8
3	Z30SBSF150I	1-13/32 ~ 1-7/8	3	4-59/64	5-7/64	7-39/64	1-1/2	2-11/16	1/4	1/4





SHORT LENGTH - Straight Flute (Inch)
短刃- 直槽 (英制)

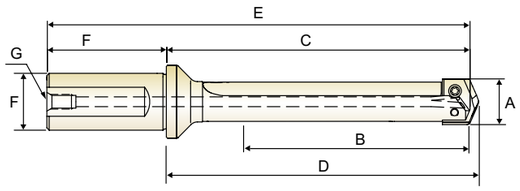
Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄		管用丝锥
							直径	长度	
		A	B	C	D	E	F		G
Y	ZY0STSF075I	3/8 ~ 27/64	1-1/4	2-13/32	2-1/2	4-7/16	3/4	2-1/32	1/8
Z	ZZ0STSF075I	7/16 ~ 1/2	1-1/4	2-13/32	2-1/2	4-7/16	3/4	2-1/32	1/8
0	Z00STSF075I	33/64 ~ 11/16	1-3/8	2-1/2	2-39/64	4-17/32	3/4	2-1/32	1/8
0.5	Z05STSF075I	39/64 ~ 11/16	1-3/8	2-1/2	2-39/64	4-17/32	3/4	2-1/32	1/8
1	Z10STSF100I	45/64 ~ 15/16	2-5/8	4-7/32	4-23/64	6-1/2	1	2-9/32	1/8
1.5	Z15STSF100I	55/64 ~ 15/16	2-5/8	4-7/32	4-23/64	6-1/2	1	2-9/32	1/8
2	Z20STSF125I	31/32 ~ 1-3/8	3-3/8	5-1/16	5-13/64	7-11/32	1-1/4	2-9/32	1/4
2.5	Z25STSF125I	1-3/16 ~ 1-3/8	3-3/8	5-1/16	5-13/64	7-11/32	1-1/4	2-9/32	1/4
3	Z30STSF150I	1-13/32 ~ 1-7/8	4-3/4	6-13/16	7	9-1/2	1-1/2	2-11/16	1/4
4	Z40STSF150I	1-29/32 ~ 2-9/16	5-1/8	7-1/16	7-1/4	9-3/4	1-1/2	2-11/16	1/4

SPADE DRILLS

ZITSF** SERIES
ZITHF** SERIES

FLANGED STRAIGHT SHANK HOLDERS
凸缘直柄刀杆

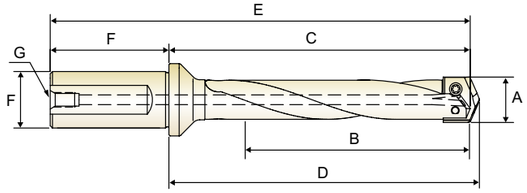




INTERMEDIATE LENGTH - Straight Flute (Inch)
普长刃-直槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄		管用丝锥
							直径	长度	
		A	B	C	D	E	F		G
1	Z10ITSF100I	45/64 ~ 15/16	4-5/8	6-3/32	6-15/64	8-3/8	1	2-9/32	1/8
1.5	Z15ITSF100I	55/64 ~ 15/16	4-5/8	6-3/32	6-15/64	8-3/8	1	2-9/32	1/8
2	Z20ITSF125I	31/32 ~ 1-3/8	5-3/8	7-1/16	7-13/64	9-11/32	1-1/4	2-9/32	1/4
2.5	Z25ITSF125I	1-3/16 ~ 1-3/8	5-3/8	7-1/16	7-13/64	9-11/32	1-1/4	2-9/32	1/4
3	Z30ITSF150I	1-13/32 ~ 1-7/8	6-1/2	8-9/16	8-3/4	11-1/4	1-1/2	2-11/16	1/4





INTERMEDIATE LENGTH - Helical Flute (Inch)
普长刃-螺旋槽 (英制)

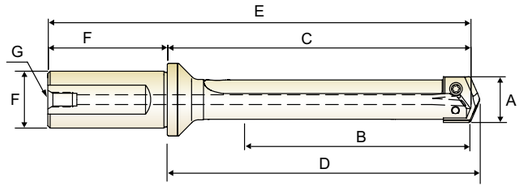
Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄		管用丝锥
							直径	长度	
		A	B	C	D	E	F		G
1	Z10ITHF100I	45/64 ~ 15/16	4-5/8	6-3/32	6-15/64	8-3/8	1	2-9/32	1/8
1.5	Z15ITHF100I	55/64 ~ 15/16	4-5/8	6-3/32	6-15/64	8-3/8	1	2-9/32	1/8
2	Z20ITHF125I	31/32 ~ 1-3/8	5-3/8	7-1/16	7-13/64	9-11/32	1-1/4	2-9/32	1/4
2.5	Z25ITHF125I	1-3/16 ~ 1-3/8	5-3/8	7-1/16	7-13/64	9-11/32	1-1/4	2-9/32	1/4
3	Z30ITHF150I	1-13/32 ~ 1-7/8	6-1/2	8-9/16	8-3/4	11-1/4	1-1/2	2-11/16	1/4

SPADE DRILLS

ZSDSF** SERIES
ZSDHF** SERIES

FLANGED STRAIGHT SHANK HOLDERS
凸缘直柄刀杆

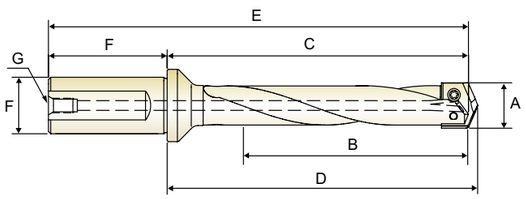




STANDARD LENGTH - Straight Flute (Inch)
标长刃-直槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄 直径	柄 长度	管用丝锥
		A	B	C	D	E	F		G
Y	ZY0SDSF075I	3/8 ~ 27/64	2-3/8	3-17/32	3-5/8	5-9/16	3/4	2-1/32	1/8
Z	ZZ0SDSF075I	7/16 ~ 1/2	2-3/8	3-17/32	3-5/8	5-9/16	3/4	2-1/32	1/8
0	Z00SDSF075I	33/64 ~ 11/16	2-1/2	3-5/8	3-47/64	5-21/32	3/4	2-1/32	1/8
0.5	Z05SDSF075I	39/64 ~ 11/16	2-1/2	3-5/8	3-47/64	5-21/32	3/4	2-1/32	1/8
1	Z10SDSF100I	45/64 ~ 15/16	6-5/8	8-3/32	8-15/64	10-3/8	1	2-9/32	1/8
1.5	Z15SDSF100I	55/64 ~ 15/16	6-5/8	8-3/32	8-15/64	10-3/8	1	2-9/32	1/8
2	Z20SDSF125I	31/32 ~ 1-3/8	7-3/8	9-1/16	9-13/64	11-11/32	1-1/4	2-9/32	1/4
2.5	Z25SDSF125I	1-3/16 ~ 1-3/8	7-3/8	9-1/16	9-13/64	11-11/32	1-1/4	2-9/32	1/4
3	Z30SDSF150I	1-13/32 ~ 1-7/8	8-1/4	10-5/16	10-1/2	13	1-1/2	2-11/16	1/4
4	Z40SDSF150I	1-29/32 ~ 2-9/16	9-1/8	11-1/16	11-1/4	13-3/4	1-1/2	2-11/16	1/4





STANDARD LENGTH - Helical Flute (Inch)
标长刃-螺旋槽 (英制)

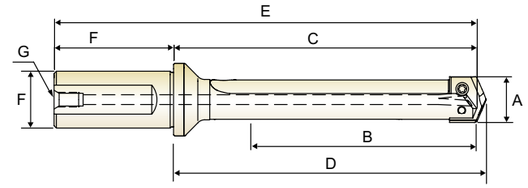
Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄 直径	柄 长度	管用丝锥
		A	B	C	D	E	F		G
Y	ZY0SDHF075I	3/8 ~ 27/64	2-3/8	3-17/32	3-5/8	5-9/16	3/4	2-1/32	1/8
Z	ZZ0SDHF075I	7/16 ~ 1/2	2-3/8	3-17/32	3-5/8	5-9/16	3/4	2-1/32	1/8
0	Z00SDHF075I	33/64 ~ 11/16	2-1/2	3-5/8	3-47/64	5-21/32	3/4	2-1/32	1/8
0.5	Z05SDHF075I	39/64 ~ 11/16	2-1/2	3-5/8	3-47/64	5-21/32	3/4	2-1/32	1/8
1	Z10SDHF100I	45/64 ~ 15/16	6-5/8	8-3/32	8-15/64	10-3/8	1	2-9/32	1/8
1.5	Z15SDHF100I	55/64 ~ 15/16	6-5/8	8-3/32	8-15/64	10-3/8	1	2-9/32	1/8
2	Z20SDHF125I	31/32 ~ 1-3/8	7-3/8	9-1/16	9-13/64	11-11/32	1-1/4	2-9/32	1/4
2.5	Z25SDHF125I	1-3/16 ~ 1-3/8	7-3/8	9-1/16	9-13/64	11-11/32	1-1/4	2-9/32	1/4
3	Z30SDHF150I	1-13/32 ~ 1-7/8	8-1/4	10-5/16	10-1/2	13	1-1/2	2-11/16	1/4
4	Z40SDHF150I	1-29/32 ~ 2-9/16	9-1/8	11-1/16	11-1/4	13-3/4	1-1/2	2-11/16	1/4

SPADE DRILLS

ZEXSF** SERIES
ZEXHF** SERIES

FLANGED STRAIGHT SHANK HOLDERS
凸缘直柄刀杆

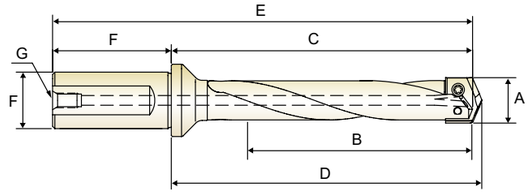




EXTENDED LENGTH - Straight Flute (Inch)
普长刃-直槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄 直径	柄 长度	管用丝锥
		A	B	C	D	E	F		G
Y	ZY0EXSF075I	3/8 ~ 27/64	4-3/8	5-17/32	5-5/8	7-9/16	3/4	2-1/32	1/8
Z	ZZ0EXSF075I	7/16 ~ 1/2	4-3/8	5-17/32	5-5/8	7-9/16	3/4	2-1/32	1/8
0	Z00EXSF075I	33/64 ~ 11/16	4-1/2	5-5/8	5-47/64	7-21/32	3/4	2-1/32	1/8
0.5	Z05EXSF075I	39/64 ~ 11/16	4-1/2	5-5/8	5-47/64	7-21/32	3/4	2-1/32	1/8
1	Z10EXSF100I	45/64 ~ 15/16	10-5/8	12-3/32	12-15/64	14-3/8	1	2-9/32	1/8
1.5	Z15EXSF100I	55/64 ~ 15/16	10-5/8	12-3/32	12-15/64	14-3/8	1	2-9/32	1/8
2	Z20EXSF125I	31/32 ~ 1-3/8	11-3/8	13-1/16	13-13/64	15-11/32	1-1/4	2-9/32	1/4
2.5	Z25EXSF125I	1-3/16 ~ 1-3/8	11-3/8	13-1/16	13-13/64	15-11/32	1-1/4	2-9/32	1/4





EXTENDED LENGTH - Helical Flute (Inch)
加长刃-螺旋槽 (英制)

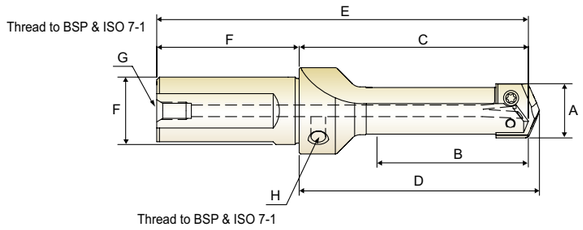
Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄 直径	柄 长度	管用丝锥
		A	B	C	D	E	F		G
Y	ZY0EXHF075I	3/8 ~ 27/64	4-3/8	5-17/32	5-5/8	7-9/16	3/4	2-1/32	1/8
Z	ZZ0EXHF075I	7/16 ~ 1/2	4-3/8	5-17/32	5-5/8	7-9/16	3/4	2-1/32	1/8
0	Z00EXHF075I	33/64 ~ 11/16	4-1/2	5-5/8	5-47/64	7-21/32	3/4	2-1/32	1/8
0.5	Z05EXHF075I	39/64 ~ 11/16	4-1/2	5-5/8	5-47/64	7-21/32	3/4	2-1/32	1/8
1	Z10EXHF100I	45/64 ~ 15/16	10-5/8	12-3/32	12-15/64	14-3/8	1	2-9/32	1/8
1.5	Z15EXHF100I	55/64 ~ 15/16	10-5/8	12-3/32	12-15/64	14-3/8	1	2-9/32	1/8
2	Z20EXHF125I	31/32 ~ 1-3/8	11-3/8	13-1/16	13-13/64	15-11/32	1-1/4	2-9/32	1/4
2.5	Z25EXHF125I	1-3/16 ~ 1-3/8	11-3/8	13-1/16	13-13/64	15-11/32	1-1/4	2-9/32	1/4

SPADE DRILLS

ZSBSF** SERIES
ZSTSF** SERIES

FLANGED STRAIGHT SHANK HOLDERS
凸缘直柄刀杆

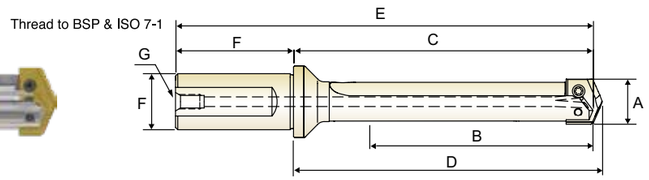




STUB LENGTH - Straight Flute (Metric)
超短刃-直槽 (公制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap	
							Dia.	Length	Rear	Side
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄 直径	柄 长度	管用丝锥 后面	管用丝锥 侧面
		A	B	C	D	E	F		G	H
Y	ZY0SBSF016M	9.5 ~ 11.0	19.1	47.6	50.0	95.6	16.0	48.0	1/16	1/8
Z	ZZ0SBSF016M	11.5 ~ 12.5	19.1	47.6	50.0	95.6	16.0	48.0	1/16	1/8
0	Z00SBSF020M	13.0 ~ 17.5	22.2	47.6	50.4	97.6	20.0	50.0	1/8	1/8
0.5	Z05SBSF020M	15.5 ~ 17.5	22.2	47.6	50.4	97.6	20.0	50.0	1/8	1/8
1	Z10SBSF025M	18.0 ~ 24.0	47.6	75.8	79.4	131.8	25.0	56.0	1/8	1/8
1.5	Z15SBSF025M	22.0 ~ 24.0	57.2	88.5	92.1	144.5	25.0	56.0	1/8	1/8
2	Z20SBSF032M	25.0 ~ 35.0	57.2	88.5	92.1	148.5	32.0	60.0	1/4	1/8
2.5	Z25SBSF032M	30.0 ~ 35.0	92.1	123.4	127.0	183.4	32.0	60.0	1/4	1/8
3	Z30SBSF040M	36.0 ~ 47.0	76.2	125.0	129.8	195.0	40.0	70.0	1/4	1/4





SHORT LENGTH - Straight Flute (Metric)
标短刃-螺旋槽 (公制)

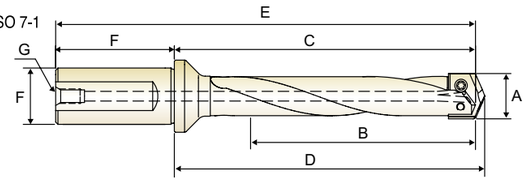
Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄 直径	柄 长度	管用丝锥
		A	B	C	D	E	F		G
Y	ZY0STSF020M	9.5 ~ 11.0	31.8	61.1	63.5	111.1	20.0	50.0	1/8
Z	ZZ0STSF020M	11.5 ~ 12.5	31.8	61.1	63.5	111.1	20.0	50.0	1/8
0	Z00STSF020M	13.0 ~ 17.5	34.9	63.5	66.3	113.5	20.0	50.0	1/8
0.5	Z05STSF020M	15.5 ~ 17.5	34.9	63.5	66.3	113.5	20.0	50.0	1/8
1	Z10STSF025M	18.0 ~ 24.0	66.7	107.2	110.7	163.2	25.0	56.0	1/8
1.5	Z15STSF025M	22.0 ~ 24.0	66.7	107.2	110.7	163.2	25.0	56.0	1/8
2	Z20STSF032M	25.0 ~ 35.0	85.7	128.6	132.2	188.6	32.0	60.0	1/4
2.5	Z25STSF032M	30.0 ~ 35.0	85.7	128.6	132.2	188.6	32.0	60.0	1/4
3	Z30STSF040M	36.0 ~ 47.0	120.7	173.0	177.8	243.0	40.0	70.0	1/4
4	Z40STSF040M	48.0 ~ 65.0	130.2	179.4	184.0	249.4	40.0	70.0	1/4

SPADE DRILLS

ZITHF** SERIES
ZSDHF** SERIES

FLANGED STRAIGHT SHANK HOLDERS
凸缘直柄刀杆

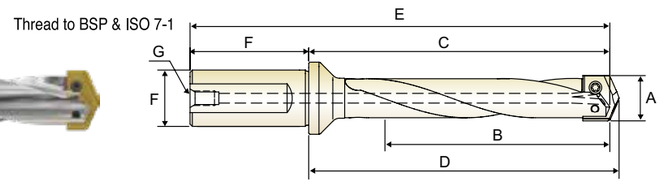




INTERMEDIATE LENGTH - Helical Flute (Metric)
普长刃-螺旋槽 (公制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄 直径	柄 长度	管用丝锥
		A	B	C	D	E	F		G
1	Z10ITHF025M	18.0 ~ 24.0	117.5	154.8	158.4	210.8	25.0	56.0	1/8
1.5	Z15ITHF025M	22.0 ~ 24.0	117.5	154.8	158.4	210.8	25.0	56.0	1/8
2	Z20ITHF032M	25.0 ~ 35.0	136.5	179.4	183.0	239.4	32.0	60.0	1/4
2.5	Z25ITHF032M	30.0 ~ 35.0	136.5	179.4	183.0	239.4	32.0	60.0	1/4
3	Z30ITHF040M	36.0 ~ 47.0	165.1	217.5	222.3	287.5	40.0	70.0	1/4





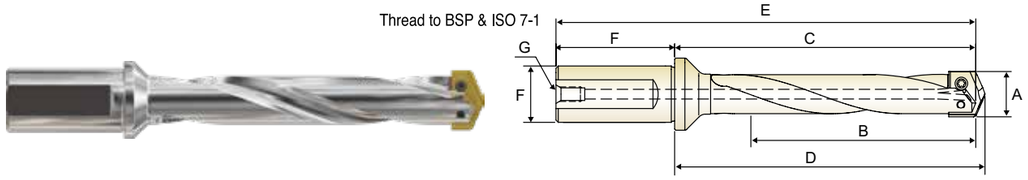
STANDARD LENGTH - Helical Flute (Metric)
标长刃-螺旋槽 (公制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄 直径	柄 长度	管用丝锥
		A	B	C	D	E	F		G
Y	ZY0SDHF020M	9.5 ~ 11.0	60.3	89.7	92.1	139.7	20.0	50.0	1/8
Z	ZZ0SDHF020M	11.5 ~ 12.5	60.3	89.7	92.1	139.7	20.0	50.0	1/8
0	Z00SDHF020M	13.0 ~ 17.5	63.5	92.1	94.9	142.1	20.0	50.0	1/8
0.5	Z05SDHF020M	15.5 ~ 17.5	63.5	92.1	94.9	142.1	20.0	50.0	1/8
1	Z10SDHF025M	18.0 ~ 24.0	168.3	205.6	209.2	261.6	25.0	56.0	1/8
1.5	Z15SDHF025M	22.0 ~ 24.0	168.3	205.6	209.2	261.6	25.0	56.0	1/8
2	Z20SDHF032M	25.0 ~ 35.0	187.3	230.2	233.8	290.2	32.0	60.0	1/4
2.5	Z25SDHF032M	30.0 ~ 35.0	187.3	230.2	233.8	290.2	32.0	60.0	1/4
3	Z30SDHF040M	36.0 ~ 47.0	209.6	261.9	266.7	331.9	40.0	70.0	1/4
4	Z40SDHF040M	48.0 ~ 65.0	231.8	281.0	285.8	351.0	40.0	70.0	1/4

SPADE DRILLS

Z**EXHF SERIES
Z**EXSF SERIES

FLANGED STRAIGHT SHANK HOLDERS
凸缘直柄刀杆



EXTENDED LENGTH - Helical Flute (Metric)
加长刃-螺旋槽 (公制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄		管用丝锥
							直径	长度	
		A	B	C	D	E	F		G
Y	ZY0EXHF020M	9.5 ~ 11.0	111.1	140.5	142.9	190.5	20.0	50.0	1/8
Z	ZZ0EXHF020M	11.5 ~ 12.5	111.1	140.5	142.9	190.5	20.0	50.0	1/8
0	Z00EXHF020M	13.0 ~ 17.5	114.3	142.9	145.7	192.9	20.0	50.0	1/8
0.5	Z05EXHF020M	15.5 ~ 17.5	114.3	142.9	145.7	192.9	20.0	50.0	1/8
1	Z10EXHF025M	18.0 ~ 24.0	269.9	307.2	310.8	363.2	25.0	56.0	1/8
1.5	Z15EXHF025M	22.0 ~ 24.0	269.9	307.2	310.8	363.2	25.0	56.0	1/8
2	Z20EXHF032M	25.0 ~ 35.0	288.9	331.8	335.4	391.8	32.0	60.0	1/4
2.5	Z25EXHF032M	30.0 ~ 35.0	288.9	331.8	335.4	391.8	32.0	60.0	1/4



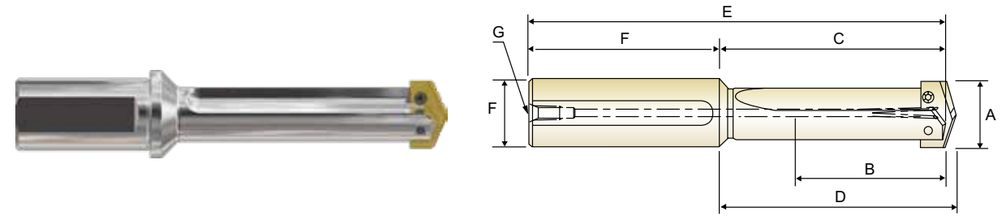
EXTENDED LENGTH - Straight Flute (Metric)
加长刃-直槽 (公制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄		管用丝锥
							直径	长度	
		A	B	C	D	E	F		G
3	Z30EXSF040M	36.0 ~ 47.0	349.3	401.6	406.4	471.6	40.0	70.0	1/4
4	Z40EXSF040M	48.0 ~ 65.0	422.3	471.5	476.3	541.5	40.0	70.0	1/4

SPADE DRILLS

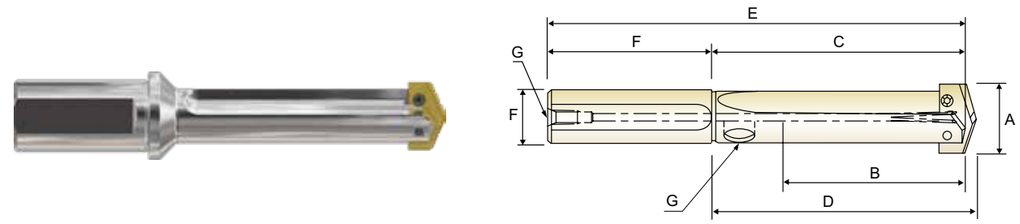
Z**STSS SERIES

FLANGED STRAIGHT SHANK HOLDERS
凸缘直柄刀杆



SHORT LENGTH - Straight Flute (Inch)
短刃-直槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄		管用丝锥
							直径	长度	
		A	B	C	D	E	F		G
Y	ZY0STSS075I	3/8 ~ 27/64	1-1/4	2-1/32	2-1/8	4-13/32	3/4	2-3/8	1/8
Z	ZZ0STSS075I	7/16 ~ 1/2	1-1/4	2-1/32	2-1/8	4-13/32	3/4	2-3/8	1/8
0	Z00STSS075I	33/64 ~ 11/16	1-3/8	2-3/16	2-19/64	4-9/16	3/4	2-3/8	1/8
0.5	Z05STSS075I	39/64 ~ 11/16	1-3/8	2-3/16	2-19/64	4-9/16	3/4	2-3/8	1/8



SHORT LENGTH - Straight Flute (Inch)
短刃-直槽 (英制)

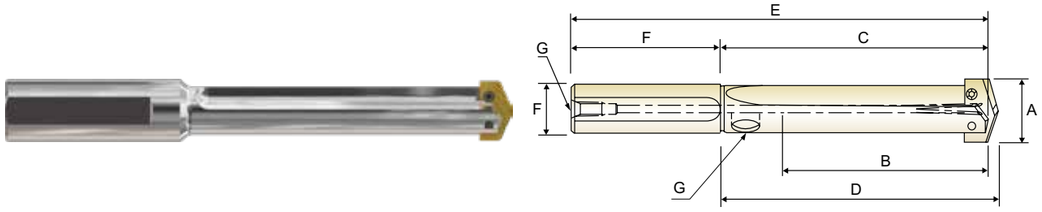
Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄		管用丝锥
							直径	长度	
		A	B	C	D	E	F		G
▲1	Z10STSS075I	45/64 ~ 15/16	2-5/8	3-7/8	4-1/64	6-7/8	3/4	3	1/8
	Z10STSS100I	45/64 ~ 15/16	2-5/8	3-7/8	4-1/64	6-7/8	1	3	1/8
▲1.5	Z15STSS075I	55/64 ~ 15/16	2-5/8	3-7/8	4-1/64	6-7/8	3/4	3	1/8
	Z15STSS100I	55/64 ~ 15/16	2-5/8	3-7/8	4-1/64	6-7/8	1	3	1/8
2	Z20STSS100I	31/32 ~ 1-3/8	3-3/8	4-1/2	4-41/64	8	1	3-1/2	1/8
	Z20STSS125I	31/32 ~ 1-3/8	3-3/8	4-1/2	4-41/64	8	1-1/4	3-1/2	1/8
▲2.5	Z25STSS100I	1-3/16 ~ 1-3/8	3-3/8	4-1/2	4-41/64	8	1	3-1/2	1/8
	Z25STSS125I	1-3/16 ~ 1-3/8	3-3/8	4-1/2	4-41/64	8	1-1/4	3-1/2	1/8
3	Z30STSS125I	1-13/32 ~ 1-7/8	4-3/4	6	6-3/16	10	1-1/4	4	1/4
	Z30STSS150I	1-13/32 ~ 1-7/8	4-3/4	6	6-3/16	10	1-1/2	4	1/4
4	Z40STSS150I	1-29/32 ~ 2-9/16	5-1/8	6-1/2	6-11/16	10-1/2	1-1/2	4	1/4
	Z40STSS175I	1-29/32 ~ 2-9/16	5-1/8	6-1/2	6-11/16	10-1/2	1-3/4	4	1/4
5	Z50STSS200I	2-1/2 ~ 3-1/2	6-3/4	8-1/2	8-3/4	12-1/2	2	4	1/2

▲ : Flanged Type

SPADE DRILLS

ZITSS** SERIES

STRAIGHT SHANK HOLDERS
直柄刀杆



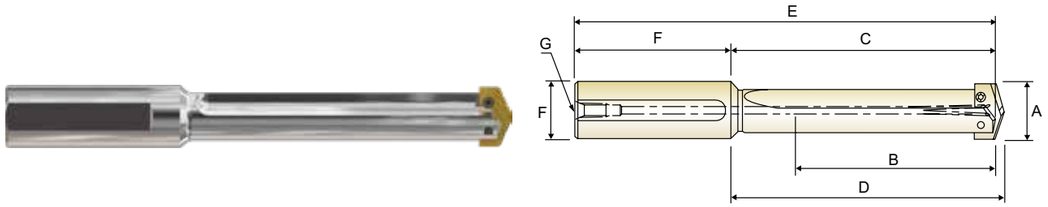
INTERMEDIATE LENGTH - Straight Flute (Inch)
普长刃-直槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄 直径	柄 长度	管用丝锥
		A	B	C	D	E	F		G
1	Z10ITSS100I	45/64 ~ 15/16	4-5/8	5-7/8	6-1/64	8-7/8	1	3	1/8
1.5	Z15ITSS100I	55/64 ~ 15/16	4-5/8	5-7/8	6-1/64	8-7/8	1	3	1/8
2	Z20ITSS125I	31/32 ~ 1-3/8	5-3/8	6-1/2	6-41/64	10	1-1/4	3-1/2	1/8
2.5	Z25ITSS125I	1-3/16 ~ 1-3/8	5-3/8	6-1/2	6-41/64	10	1-1/4	3-1/2	1/8
3	Z30ITSS150I	1-13/32 ~ 1-7/8	6-1/2	7-3/4	7-15/16	11-3/4	1-1/2	4	1/4

SPADE DRILLS

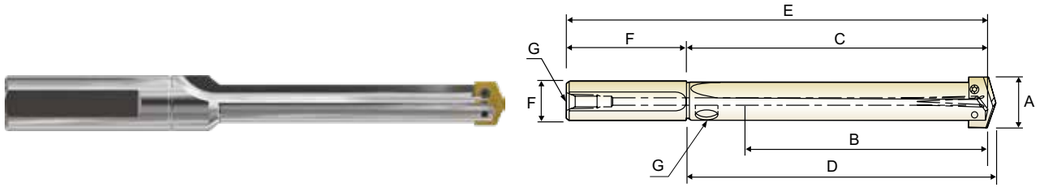
ZSDSS** SERIES

STRAIGHT SHANK HOLDERS
直柄刀杆



STANDARD LENGTH - Straight Flute (Inch)
标长刃-直槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄 直径	柄 长度	管用丝锥
		A	B	C	D	E	F		G
Y	ZY0SDSS075I	3/8 ~ 27/64	2-3/8	3-5/32	3-1/4	5-17/32	3/4	2-3/8	1/8
Z	ZZ0SDSS075I	7/16 ~ 1/2	2-3/8	3-5/32	3-1/4	5-17/32	3/4	2-3/8	1/8
0	Z00SDSS075I	33/64 ~ 11/16	2-1/2	3-5/16	3-27/64	5-11/16	3/4	2-3/8	1/8
0.5	Z05SDSS075I	39/64 ~ 11/16	2-1/2	3-5/16	3-27/64	5-11/16	3/4	2-3/8	1/8



STANDARD LENGTH - Straight Flute (Inch)
标长刃-直槽 (英制)

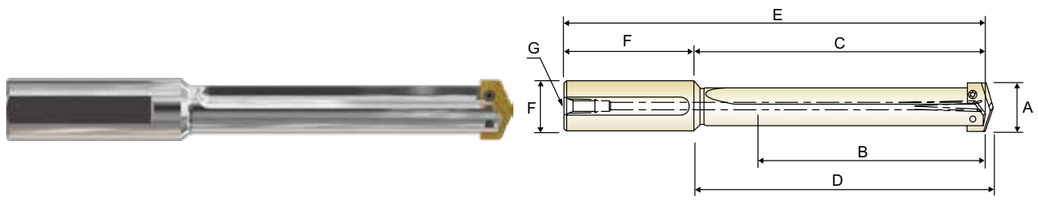
Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄 直径	柄 长度	管用丝锥
		A	B	C	D	E	F		G
▲1	Z10SDSS075I	45/64 ~ 15/16	6-5/8	7-7/8	8-1/64	10-7/8	3/4	3	1/8
	Z10SDSS100I	45/64 ~ 15/16	6-5/8	7-7/8	8-1/64	10-7/8	1	3	1/8
▲1.5	Z15SDSS075I	55/64 ~ 15/16	6-5/8	7-7/8	8-1/64	10-7/8	3/4	3	1/8
	Z15SDSS100I	55/64 ~ 15/16	6-5/8	7-7/8	8-1/64	10-7/8	1	3	1/8
2	Z20SDSS100I	31/32 ~ 1-3/8	7-3/8	8-1/2	8-41/64	12	1	3-1/2	1/8
	Z20SDSS125I	31/32 ~ 1-3/8	7-3/8	8-1/2	8-41/64	12	1-1/4	3-1/2	1/8
▲2.5	Z25SDSS100I	1-3/16 ~ 1-3/8	7-3/8	8-1/2	8-41/64	12	1	3-1/2	1/8
	Z25SDSS125I	1-3/16 ~ 1-3/8	7-3/8	8-1/2	8-41/64	12	1-1/4	3-1/2	1/8
3	Z30SDSS125I	1-13/32 ~ 1-7/8	8-1/4	9-1/2	9-11/16	13-1/2	1-1/4	4	1/4
	Z30SDSS150I	1-13/32 ~ 1-7/8	8-1/4	9-1/2	9-11/16	13-1/2	1-1/2	4	1/4
4	Z40SDSS150I	1-29/32 ~ 2-9/16	9-1/8	10-1/2	10-11/16	14-1/2	1-1/2	4	1/4
	Z40SDSS175I	1-29/32 ~ 2-9/16	9-1/8	10-1/2	10-11/16	14-1/2	1-3/4	4	1/4
5	Z50SDSS200I	2-1/2 ~ 3-1/2	10-3/4	12-1/2	12-3/4	16-1/2	2	4	1/2
7	Z70SDSS300I	3-17/32 ~ 4-1/2	10-3/4	12-7/8	13-1/8	17-7/8	3	5	1/2

▲ : Flanged Type

SPADE DRILLS

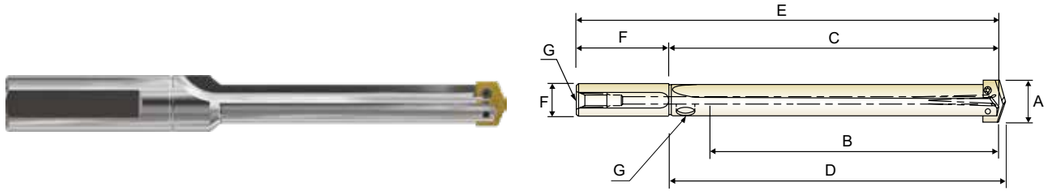
ZEXSS SERIES**

STRAIGHT SHANK HOLDERS
直柄刀杆



EXTENDED LENGTH - Straight Flute (Inch)
加长刃-直槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄 直径	柄 长度	管用丝锥
		A	B	C	D	E	F		G
Y	ZY0EXSS075I	3/8 ~ 27/64	4-3/8	5-5/32	5-1/4	7-17/32	3/4	2-3/8	1/8
Z	ZZ0EXSS075I	7/16 ~ 1/2	4-3/8	5-5/32	5-1/4	7-17/32	3/4	2-3/8	1/8
0	Z00EXSS075I	33/64 ~ 11/16	4-1/2	5-5/16	5-27/64	7-11/16	3/4	2-3/8	1/8
0.5	Z05EXSS075I	39/64 ~ 11/16	4-1/2	5-5/16	5-27/64	7-11/16	3/4	2-3/8	1/8



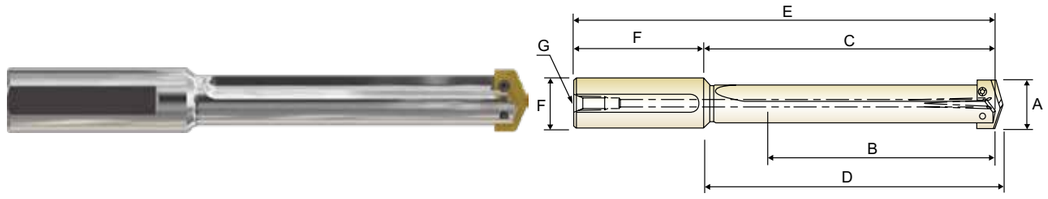
EXTENDED LENGTH - Straight Flute (Inch)
加长刃-直槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄 直径	柄 长度	管用丝锥
		A	B	C	D	E	F		G
1	Z10EXSS100I	45/64 ~ 15/16	10-5/8	11-7/8	12-1/64	14-7/8	1	3	1/8
1.5	Z15EXSS100I	55/64 ~ 15/16	10-5/8	11-7/8	12-1/64	14-7/8	1	3	1/8
2	Z20EXSS125I	31/32 ~ 1-3/8	11-3/8	12-1/2	12-41/64	16	1-1/4	3-1/2	1/8
2.5	Z25EXSS125I	1-3/16 ~ 1-3/8	11-3/8	12-1/2	12-41/64	16	1-1/4	3-1/2	1/8
3	Z30EXSS125I	1-13/32 ~ 1-7/8	13-3/4	15	15-3/16	19	1-1/4	4	1/4
4	Z40EXSS150I	1-29/32 ~ 2-9/16	16-5/8	18	18-3/16	22	1-1/2	4	1/4
5	Z50EXSS200I	2-1/2 ~ 3-1/2	18-1/4	20	20-1/4	24	2	4	1/2
7	Z70EXSS300I	3-17/32 ~ 4-1/2	21-7/8	24	24-1/4	29	3	5	1/2

SPADE DRILLS

ZLGSS SERIES**

STRAIGHT SHANK HOLDERS
直柄刀杆



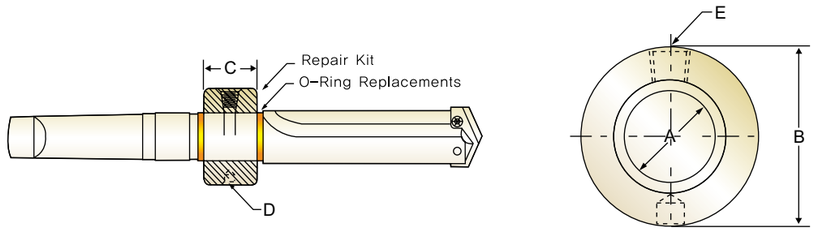
LONG LENGTH - Straight Flute (Inch)
长刃-直槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄 直径	柄 长度	管用丝锥
		A	B	C	D	E	F		G
0	Z00LGSS075I	33/64 ~ 11/16	7	7-13/16	7-59/64	10-3/16	3/4	2-3/8	1/8
0.5	Z05LGSS075I	39/64 ~ 11/16	7	7-13/16	7-59/64	10-3/16	3/4	2-3/8	1/8

SPADE DRILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

HOLDER ACCESSORIES
刀柄附件



Inch 英制

Item No. 项目	I.D. 内部直径 A	O.D. 外部直径 B	Length 长 C	Thread for Driving Rod 传动杆螺纹 D	Pipe Tap 管用丝锥 E	RCA Repair Kit Item No. 旋转式冷却适配器项目	RCA O-Ring Replacements Item No. O型垫圈项目
PR110048	3/4	1-3/4	7/8	5/16-NC	◈1/8	PR210048	PR310048
PR110100	1	2-1/8	1-1/8	5/16-NC	◈1/8	PR210100	PR310100
PR110116	1-1/4	2-1/2	1-3/8	3/8-NC	◈1/4	PR210116	PR310116
PR110148	1-3/4	3	1-3/8	3/8-NC	◈1/4	PR210148	PR310148
PR110216	2-1/4	3-3/4	1-3/4	1/2-NC	◈1/2	PR210216	PR310216

Metric 公制

Item No. 项目	I.D. 内部直径 A	O.D. 外部直径 B	Length 长 C	Thread for Driving Rod 传动杆螺纹 D	Pipe Tap 管用丝锥 E	RCA Repair Kit Item No. 旋转式冷却适配器项目	RCA O-Ring Replacements Item No. O型垫圈项目
PR120190	19.05	44.45	22.23	M8 ×1.25	◈1/8	PR220190	PR320190
PR120254	25.40	53.97	28.57	M8 ×1.25	◈1/8	PR220254	PR320254
PR120317	31.75	63.50	34.92	M10 ×1.5	◈1/4	PR220317	PR320317
PR120444	44.45	76.20	34.92	M10 ×1.5	◈1/4	PR220444	PR320444
PR120571	57.15	95.27	44.45	M12 ×1.75	◈1/2	PR220571	PR320571

◈ Thread to BSP & ISO 7-1

TORX SCREWS TORX螺纹

Holder Series 刀柄系列	Item No. 项目	TORX Hand Driver TORX 手动扳手	Drill Range Used With 钻孔范围 Inch	Metric
Y	J07Y0010	J05Y0070	3/8 ~ 27/64	9.5 mm ~ 11.0 mm
Z	J07Z0110		7/16 ~ 1/2	11.5 mm ~ 12.5 mm
0	J0800210	J0500080	33/64 ~ 11/16	13.0 mm ~ 17.5 mm
0.5	J0805310		39/64 ~ 11/16	15.5 mm ~ 17.5 mm
1	J0910410	J0510090	45/64 ~ 15/16	18.0 mm ~ 24.0 mm
1.5	J0915510		55/64 ~ 15/16	22.0 mm ~ 24.0 mm
2	J1520610	J0520150	31/32 ~ 1-3/8	25.0 mm ~ 35.0 mm
2.5	J1525710		1-3/16 ~ 1-3/8	30.0 mm ~ 35.0 mm
3,4	J2030810	J0530200	1-13/32 ~ 2-9/16	36.0 mm ~ 65.0 mm
5 ~ 8	J2550910	J0550250	2-1/2 ~ 4-1/2	64.0 mm ~ 114.0 mm

** Note : Replacement screws sold in packages(10 screws per package)
注意 : 替换用螺钉成包出售(每包10个)

SPADE DRILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工条件

SPADE DRILL HSS-T15
铲钻刀片 HSS-T15

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc钻销速度(m/min) TiN	TiCN	TiAlN	Feed 进给 (mm/rev) Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35	Ø36-47	Ø48-65	Ø66-114
P	1	Non-alloy steel	54	67	75	0.15	0.22	0.28	0.37	0.46	0.56	0.67
	2		49	58	69	0.13	0.19	0.24	0.34	0.43	0.50	0.57
	3		45	56	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58
	4		45	56	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58
	6	Low alloy steel	45	56	58	0.13	0.20	0.24	0.36	0.42	0.46	0.55
	7		41	50	56	0.13	0.16	0.23	0.35	0.41	0.44	0.55
	8		39	47	53	0.09	0.15	0.22	0.28	0.38	0.41	0.50
	9		36	43	46	0.08	0.15	0.21	0.27	0.38	0.40	0.51
	10	High alloyed steel, and tool steel	25	34	36	0.08	0.17	0.20	0.24	0.30	0.37	0.39
	11		19	27	29	0.08	0.14	0.18	0.19	0.25	0.29	0.34
M	12	Stainless steel	20	23	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46
	13		20	23	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46
	14		24	29	34	0.14	0.20	0.23	0.26	0.36	0.41	0.50
K	15	Grey cast iron	48	58	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
	16		29	35	41	0.10	0.15	0.16	0.23	0.28	0.35	0.40
	17	Nodular cast iron	48	58	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
	18		35	44	52	0.13	0.17	0.23	0.30	0.35	0.43	0.50
	19	Malleable cast iron	52	64	75	0.16	0.30	0.40	0.49	0.59	0.69	0.75
	20		35	44	52	0.13	0.17	0.23	0.30	0.35	0.43	0.50
N	21	Aluminum-wrought alloy	187	229	244	0.19	0.33	0.41	0.50	0.54	0.64	0.70
	22		92	137	137	0.19	0.33	0.41	0.46	0.54	0.64	0.70
	27	Copper and Copper Alloys (Bronze / Brass)	95	128	142	0.19	0.31	0.43	0.53	0.64	0.74	0.79
S	31	Heat Resistant Super Alloys	9	11	12	0.08	0.17	0.20	0.24	0.30	0.37	0.39
	32		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	33		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	34		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	35		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
H	38	Hardened steel	20	23	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46

▶ The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.
Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended
▶ 表中推荐的速度, 进给率和其它参数只可用来参考推荐降低速度和进给量(速度降低20%和进给降低10%)

SPADE DRILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

SPADE DRILL HSS-M4
铲钻刀片 HSS-M4

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc钻销速度(m/min)			Feed 进给 (mm/rev)						
			TiN	TiCN	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35	Ø36-47	Ø48-65	Ø66-114
P	1	Non-alloy steel	54	67	75	0.15	0.22	0.28	0.37	0.46	0.56	0.67
	2		49	58	69	0.13	0.19	0.24	0.34	0.43	0.50	0.57
	3		45	56	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58
	4		45	56	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58
	6	Low alloy steel	45	56	58	0.13	0.20	0.24	0.36	0.42	0.46	0.55
	7		41	50	56	0.13	0.16	0.23	0.35	0.41	0.44	0.55
M	12	Stainless steel	20	23	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46
	13		20	23	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46
	14		24	29	34	0.14	0.20	0.23	0.26	0.36	0.41	0.50
K	15	Grey cast iron	48	58	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
	16		29	35	41	0.10	0.15	0.16	0.23	0.28	0.35	0.40
	17	Nodular cast iron	48	58	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
	18		35	44	52	0.13	0.17	0.23	0.3	0.35	0.43	0.50
	19	Malleable cast iron	52	64	75	0.16	0.30	0.40	0.49	0.59	0.69	0.75
	20		35	44	52	0.13	0.17	0.23	0.30	0.35	0.43	0.50
N	21	Aluminum-wrought alloy	187	229	244	0.19	0.33	0.41	0.50	0.54	0.64	0.70
	22		92	137	137	0.19	0.33	0.41	0.46	0.54	0.64	0.70
	27	Copper and Copper Alloys (Bronze / Brass)	95	128	142	0.19	0.31	0.43	0.53	0.64	0.74	0.79

▶ The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.
Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended

▶ 表中推荐的速度, 进给率和其它参数只可用来参考推荐降低速度和进给量(速度降低20%和进给降低10%)

SPADE DRILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工条件

SPADE DRILL HSS-M48
铲钻刀片 HSS-M48

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc钻销速度(m/min)			Feed 进给 (mm/rev)						
			TiN	TiCN	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35	Ø36-47	Ø48-65	Ø66-114
P	1	Non-alloy steel	54	67	75	0.15	0.22	0.28	0.37	0.46	0.56	0.67
	2		49	58	69	0.13	0.19	0.24	0.34	0.43	0.50	0.57
	3		45	56	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58
	4		45	56	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58
	6	Low alloy steel	45	56	58	0.13	0.20	0.24	0.36	0.42	0.46	0.55
	7		41	50	56	0.13	0.16	0.23	0.35	0.41	0.44	0.55
	8		39	47	53	0.09	0.15	0.22	0.28	0.38	0.41	0.50
	9		36	43	46	0.08	0.15	0.21	0.27	0.38	0.40	0.51
	10	High alloyed steel, and tool steel	25	34	36	0.08	0.17	0.20	0.24	0.30	0.37	0.39
	11		19	27	29	0.08	0.14	0.18	0.19	0.25	0.29	0.34
K	15	Grey cast iron	48	58	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
	16		29	35	41	0.10	0.15	0.16	0.23	0.28	0.35	0.40
	17	Nodular cast iron	48	58	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
	18		35	44	52	0.13	0.17	0.23	0.30	0.35	0.43	0.50
	19	Malleable cast iron	52	64	75	0.16	0.30	0.40	0.49	0.59	0.69	0.75
	20		35	44	52	0.13	0.17	0.23	0.30	0.35	0.43	0.50
N	21	Aluminum-wrought alloy	187	229	244	0.19	0.33	0.41	0.50	0.54	0.64	0.70
	22		92	137	137	0.19	0.33	0.41	0.46	0.54	0.64	0.70
	27	Copper and Copper Alloys (Bronze / Brass)	95	128	142	0.19	0.31	0.43	0.53	0.64	0.74	0.79
S	31	Heat Resistant Super Alloys	9	11	12	0.08	0.17	0.20	0.24	0.30	0.37	0.39
	32		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	33		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	34		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	35		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
H	38	Hardened steel	20	23	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46

▶ The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.
Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended

▶ 表中推荐的速度, 进给率和其它参数只可用来参考推荐降低速度和进给量(速度降低20%和进给降低10%)

SPADE DRILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

SPADE DRILL CARBIDE-K10
铲钻刀片 硬质合金-K10

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc钻销速度(m/min)			Feed 进给 (mm/rev)				
			TiN	TiCN	TiAlN	Ø9.5~12.5	Ø13~17.5	Ø18~24	Ø25~35	Ø36~47
K	15	Grey cast iron	95	101	125	0.17	0.26	0.32	0.42	0.53
	16		56	70	79	0.13	0.18	0.23	0.28	0.33
	17	Nodular cast iron	95	101	125	0.17	0.26	0.32	0.42	0.53
	18		66	81	93	0.13	0.15	0.28	0.33	0.37
	19	Malleable cast iron	98	125	137	0.18	0.30	0.37	0.46	0.56
	20		66	81	93	0.13	0.15	0.28	0.33	0.37

▶ The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.
Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended

▶ 表中推荐的速度, 进给率和其它参数只可用来参考推荐降低速度和进给量(速度降低20%和进给降低10%)

SPADE DRILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

SPADE DRILL CARBIDE-K20
铲钻刀片 英制合金-K20

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc钻销速度(m/min)			Feed 进给 (mm/rev)				
			TiN	TiCN	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35	Ø36-47
P	1	Non-alloy steel	94	110	119	0.20	0.24	0.31	0.42	0.46
	2		76	82	96	0.15	0.22	0.29	0.36	0.40
	3		66	70	84	0.15	0.22	0.28	0.36	0.40
	4		66	70	84	0.15	0.22	0.28	0.36	0.40
	6	Low alloy steel	73	81	88	0.15	0.23	0.29	0.38	0.42
	7		66	73	81	0.15	0.21	0.28	0.37	0.41
	8		62	70	78	0.12	0.20	0.27	0.33	0.40
	9		53	58	64	0.10	0.18	0.23	0.30	0.38
	10	High alloyed steel, and tool steel	50	56	67	0.09	0.18	0.22	0.28	0.31
	11		37	46	50	0.09	0.18	0.22	0.28	0.31
M	12	Stainless steel	38	43	47	0.10	0.18	0.20	0.24	0.30
	13		38	43	47	0.10	0.18	0.20	0.24	0.30
	14		43	49	55	0.12	0.20	0.23	0.27	0.35
K	15	Grey cast iron	95	101	125	0.17	0.26	0.32	0.42	0.53
	16		56	70	79	0.13	0.18	0.23	0.28	0.33
	17	Nodular cast iron	95	101	125	0.17	0.26	0.32	0.42	0.53
	18		66	81	93	0.13	0.15	0.28	0.33	0.37
	19	Malleable cast iron	98	125	137	0.18	0.30	0.37	0.46	0.56
	20		66	81	93	0.13	0.15	0.28	0.33	0.37
N	21	Aluminum-wrought alloy	366	396	427	0.24	0.38	0.45	0.50	0.53
	22		244	290	291	0.22	0.33	0.40	0.45	0.48
	27	Copper and Copper Alloys (Bronze / Brass)	136	168	193	0.15	0.24	0.29	0.39	0.47
S	31	Heat Resistant Super Alloys	50	55	62	0.19	0.19	0.21	0.24	0.30
	32		38	44	46	0.15	0.17	0.20	0.21	0.25
	33		38	44	46	0.15	0.17	0.20	0.21	0.25
	34		38	44	46	0.15	0.17	0.20	0.21	0.25
	35		38	44	46	0.15	0.17	0.20	0.21	0.25
H	38	Hardened steel	38	43	47	0.10	0.18	0.20	0.24	0.30

▶ The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.
Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended

▶ 表中推荐的速度, 进给率和其它参数只可用来参考推荐降低速度和进给量(速度降低20%和进给降低10%)

SPADE DRILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

SPADE DRILL FLAT BOTTOM HSS-T15
铲钻刀片 平底钻 HSS-T15

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc钻销速度(m/min)		Feed 进给 (mm/rev)			
			TiN	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35
P	1	Non-alloy steel	54	60	0.12	0.18	0.22	0.30
	2		46	55	0.10	0.15	0.19	0.27
	3		45	50	0.10	0.15	0.18	0.27
	4		42	46	0.08	0.14	0.17	0.22
	6	Low alloy steel	45	46	0.10	0.16	0.19	0.29
	7		40	45	0.10	0.13	0.18	0.28
	8		38	42	0.07	0.12	0.18	0.22
	9		34	37	0.06	0.12	0.17	0.22
	10	High alloyed steel, and tool steel	27	29	0.07	0.12	0.15	0.20
	11		22	23	0.07	0.12	0.15	0.20
M	12	Stainless steel	23	25	0.13	0.15	0.18	0.22
	13		23	25	0.13	0.15	0.18	0.22
	14		26	29	0.17	0.18	0.20	0.23
K	15	Grey cast iron	51	60	0.12	0.21	0.29	0.40
	16		38	48	0.10	0.14	0.20	0.25
	17	Nodular cast iron	51	60	0.12	0.21	0.29	0.40
	18		38	48	0.10	0.14	0.20	0.25
	19	Malleable cast iron	56	66	0.13	0.25	0.35	0.41
	20		38	48	0.10	0.14	0.20	0.25
N	21	Aluminum-wrought alloy	208	213	0.17	0.28	0.36	0.43
	22		112	121	0.17	0.28	0.36	0.41
	27	Copper and Copper Alloys (Bronze / Brass)	48	70	0.15	0.26	0.37	0.45
S	31	Heat Resistant Super Alloys	20	10	0.06	0.14	0.16	0.19
	32		7	9	0.06	0.11	0.14	0.15
	33		7	9	0.06	0.11	0.14	0.15
	34		7	9	0.06	0.11	0.14	0.15
	35		7	9	0.06	0.11	0.14	0.15
H	38	Hardened steel	23	25	0.13	0.15	0.18	0.22

▶ The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.
Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended
▶ 表中推荐的速度, 进给率和其它参数只可用来参考推荐降低速度和进给量(速度降低20%和进给降低10%)

SPADE DRILLS
RECOMMENDED CUTTING CONDITIONS
推荐加工条件

SPADE DRILL CARBIDE-P40
铲钻刀片 硬质合金-P40

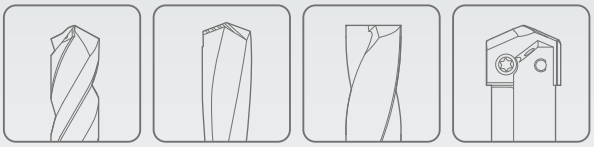
RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc钻销速度(m/min)			Feed 进给 (mm/rev)				
			TiN	TiCN	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35	Ø36-47
P	1	Non-alloy steel	94	110	119	0.20	0.24	0.31	0.42	0.46
	2		76	82	96	0.15	0.22	0.29	0.36	0.40
	3		66	70	84	0.15	0.22	0.28	0.36	0.40
	4		66	70	84	0.15	0.22	0.28	0.36	0.40
	6	Low alloy steel	73	81	88	0.15	0.23	0.29	0.38	0.42
	7		66	73	81	0.15	0.21	0.28	0.37	0.41
	8		62	70	78	0.12	0.20	0.27	0.33	0.40
	9		53	58	64	0.10	0.18	0.23	0.30	0.38
	10	High alloyed steel, and tool steel	50	56	67	0.09	0.18	0.22	0.28	0.31
	11		37	46	50	0.09	0.18	0.22	0.28	0.31
M	12	Stainless steel	38	43	47	0.10	0.18	0.20	0.24	0.30
	13		38	43	47	0.10	0.18	0.20	0.24	0.30
	14		43	49	55	0.12	0.20	0.23	0.27	0.35
K	15	Grey cast iron	95	101	125	0.17	0.26	0.32	0.42	0.53
	16		56	70	79	0.13	0.18	0.23	0.28	0.33
	17	Nodular cast iron	95	101	125	0.17	0.26	0.32	0.42	0.53
	18		66	81	93	0.13	0.15	0.28	0.33	0.37
	19	Malleable cast iron	98	125	137	0.18	0.30	0.37	0.46	0.56
	20		66	81	93	0.13	0.15	0.28	0.33	0.37
N	21	Aluminum-wrought alloy	366	396	427	0.24	0.38	0.45	0.50	0.53
	22		244	290	291	0.22	0.33	0.40	0.45	0.48
	27	Copper and Copper Alloys (Bronze / Brass)	136	168	193	0.15	0.24	0.29	0.39	0.47
S	31	Heat Resistant Super Alloys	50	55	62	0.19	0.19	0.21	0.24	0.30
	32		38	44	46	0.15	0.17	0.20	0.21	0.25
	33		38	44	46	0.15	0.17	0.20	0.21	0.25
	34		38	44	46	0.15	0.17	0.20	0.21	0.25
	35		38	44	46	0.15	0.17	0.20	0.21	0.25
H	38	Hardened steel	38	43	47	0.10	0.18	0.20	0.24	0.30

▶ The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.
Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended
▶ 表中推荐的速度, 进给率和其它参数只可用来参考推荐降低速度和进给量(速度降低20%和进给降低10%)

CARBIDE
HSS
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

Global Cutting Tool Leader **YG-1**



HOLEMAKING



Leading Through Innovation

CARBIDE, HSS & HSS-E

REAMERS

- Carbide NC Machine Reamers
  HSS Hand Reamers, HSS-E Chucking Reamers

- 硬质合金机用铰刀
  HSS手用铰刀，HSS-E机夹铰刀

SELECTION GUIDE
选用指南

HOLEMAKING TOOLS

CARBIDE, HSS & HSS-E REAMERS

Carbide NC Machine Reamers
HSS Hand Reamers, HSS-E Chucking Reamers
硬质合金机用铰刀
HSS手用铰刀, HSS-E机夹铰刀

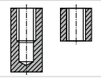
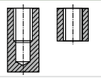
Please visit 请访问 globalyg1.com/mat for material search 查看产品材料

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工条件) : p. A397

SERIES 系列	K4101	K4111
HOLE TYPE 孔类型		
FLUTE TYPE 槽型	Straight 直槽	LH Spiral 左旋槽
SIZE MIN 最小尺寸	D2.0	D2.0
SIZE MAX 最大尺寸	D20.0	D20.0
PAGE 页数	**A376**	**A377**
SURFACE TREATMENT 表面处理	Bright	
		

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB 布氏硬度	HRc 硬度	K4101	K4111
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	K1143	K1153	K2101	K2111	K2121	K2102	K2112	K21B1
HOLE TYPE 孔类型								
FLUTE TYPE 槽型	Straight 直槽	LH Spiral 左旋槽	Straight 直槽	LH Spiral 左旋槽	LH Spiral (Quick Spiral) 左旋槽（快速）	Straight 直槽	LH Spiral 左旋槽	LH Spiral 左旋槽
SIZE MIN 最小尺寸	D2.0	D2.0	D2.0	D2.0	D4.0	D10.0	D10.0	D2.0
SIZE MAX 最大尺寸	D60.0	D60.0	D20.0	D20.0	D20.0	D50.0	D50.0	D20.0
PAGE 页数	**A378**	**A380**	**A382**	**A384**	**A386**	**A387**	**A389**	**A391**
SURFACE TREATMENT 表面处理	Bright							
								

K1143	K1153	K2101	K2111	K2121	K2102	K2112	K21B1		
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		○	○		○	○	○	13	M
		○	○		○	○	○	14	
		○	○		○	○	○	15	
		○	○		○	○	○	16	
		○	○		○	○	○	17	
		○	○		○	○	○	18	K
		○	○		○	○	○	19	
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								29	
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YG REAMERS

K4101 SERIES

CARBIDE, NC MACHINE REAMERS - STRAIGHT FLUTES
硬质合金, 机用铰刀-直槽

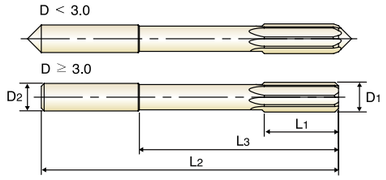
▶ Material - Up to Ø12.0 : Solid Carbide
- Over Ø12.0 : Carbide Head Brazed
▶ Straight Flutes, Right Hand Cut
▶ Unequal Flute Spacing
▶ O.D. Tolerances : DIN 1420 for H7
▶ Shank : DIN 6535-HA
▶ Chamfer Angle - D<3.0 : 15°
- D≥3.0 : 45°

▶ 材料 - Ø12.0以下：整体合金
- Ø12.0以上：头部焊接硬质合金
▶ 左槽，右切
▶ 不等分切削刃
▶ 刃径公差：DIN 1420 H7
▶ 柄：DIN 6535-HA
▶ 倒角铰刀 - D<3.0 : 15°
- D≥3.0 : 45°

Hole type 孔类型







CARBIDE | H7 | 15° | 45° | p. A397
D<3.0 D≥3.0

Recommended Toolholder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	Shank Diameter 柄部直径 D2	Cutting Length 切削长度 L1	Neck Length 颈部长度 L3	Overall Length 全长 L2	No. of Flute 刃数
K410100200	2.0	4	11	20	50	4
K410100250	2.5	4	14	26	57	4
K410100300	3.0	4	15	31	61	6
K410100350	3.5	4	18	36	70	6
K410100400	4.0	4	19	42	75	6
K410100450	4.5	6	21	46	80	6
K410100500	5.0	6	23	51	86	6
K410100550	5.5	6	26	56	93	6
K410100600	6.0	6	26	56	93	6
K410100650	6.5	8	28	62	101	6
K410100700	7.0	8	31	68	109	6
K410100750	7.5	8	31	68	109	6
K410100800	8.0	8	33	74	117	6
K410100850	8.5	10	33	74	117	6
K410100900	9.0	10	36	80	125	6
K410100950	9.5	10	36	80	125	6
K410101000	10.0	10	38	86	133	6
K410101050	10.5	12	38	86	133	6
K410101100	11.0	12	41	95	142	6
K410101200	12.0	12	44	104	151	6
K410101300	13.0	16	44	104	151	6
K410101400	14.0	16	47	108	160	8
K410101500	15.0	16	50	110	162	8
K410101600	16.0	16	52	118	170	8
K410101700	17.0	20	54	121	175	8
K410101800	18.0	20	56	128	182	8
K410101900	19.0	20	58	129	189	8
K410102000	20.0	20	60	135	195	8

◎ : 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	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○		○	○	○													

YG REAMERS

K4111 SERIES

CARBIDE, NC MACHINE REAMERS - LH SPIRAL FLUTES
硬质合金, 机用铰刀-左螺旋槽

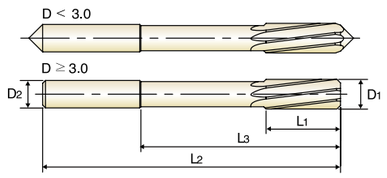
▶ Material - Up to Ø12.0 : Solid Carbide
- Over Ø12.0 : Carbide Head Brazed
▶ Left Spiral Flutes, Right Hand Cut
▶ Unequal Flute Spacing
▶ O.D. Tolerances : DIN 1420 for H7
▶ Shank : DIN 6535-HA
▶ Chamfer Angle - D<3.0 : 15°
- D≥3.0 : 45°

▶ 材料 - Ø12.0以下：整体合金
- Ø12.0以上：头部焊接硬质合金
▶ 左槽，右切
▶ 不等分切削刃
▶ 刃径公差：DIN 1420 H7
▶ 柄：DIN 6535-HA
▶ 倒角铰刀 - D<3.0 : 15°
- D≥3.0 : 45°

Hole type 孔类型







CARBIDE | H7 | LH7° | 15° | 45° | p. A397
D<3.0 D≥3.0

Recommended Toolholder

	Plain Shank	Page
◎	SHRINK FIT HOLDER	D47 - 72
◎	HYDRAULIC CHUCK	D15 - 46
○	ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	Shank Diameter 柄部直径 D2	Cutting Length 切削长度 L1	Neck Length 颈部长度 L3	Overall Length 全长 L2	No. of Flute 刃数
K411100200	2.0	4	11	20	50	4
K411100250	2.5	4	14	26	57	4
K411100300	3.0	4	15	31	61	6
K411100350	3.5	4	18	36	70	6
K411100400	4.0	4	19	42	75	6
K411100450	4.5	6	21	46	80	6
K411100500	5.0	6	23	51	86	6
K411100550	5.5	6	26	56	93	6
K411100600	6.0	6	26	56	93	6
K411100650	6.5	8	28	62	101	6
K411100700	7.0	8	31	68	109	6
K411100750	7.5	8	31	68	109	6
K411100800	8.0	8	33	74	117	6
K411100850	8.5	10	33	74	117	6
K411100900	9.0	10	36	80	125	6
K411100950	9.5	10	36	80	125	6
K411101000	10.0	10	38	86	133	6
K411101050	10.5	12	38	86	133	6
K411101100	11.0	12	41	95	142	6
K411101200	12.0	12	44	104	151	6
K411101300	13.0	16	44	104	151	6
K411101400	14.0	16	47	108	160	8
K411101500	15.0	16	50	110	162	8
K411101600	16.0	16	52	118	170	8
K411101700	17.0	20	54	121	175	8
K411101800	18.0	20	56	128	182	8
K411101900	19.0	20	58	129	189	8
K411102000	20.0	20	60	135	195	8

◎ : 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	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○		○	○	○													

YG REAMERS

K1143 SERIES

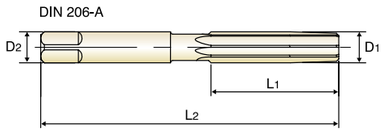
HSS, HAND REAMERS - STRAIGHT FLUTES
高速钢, 手用铰刀-直槽

- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Shank Diameter ≒ Nominal Reamer Diameter
- ▶ Straight Flutes / Right Hand Cut
- ▶ Chamfer Angle - tapered
- ▶ Type of center - Up to Ø3.75 : external centers
  - Over Ø3.75 : internal centers

- ▶ 刃部公差 : DIN 1420 for H7
- ▶ 柄部直径 = 铰刀刃部直径
- ▶ 直槽/右切
- ▶ 倒角-锥形
- ▶ 中心孔类形 - Ø3.75以下 : 凸出中心孔
  - Ø3.75超过 : 内部中心孔

Hole type
孔类型





$D_1=D_2$

HSS | DIN 206 | H7

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73 - 115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D	Flute Length 槽长 L1	Overall Length 全长 L2	No. of Flute 刃数
K114300200	2.0	25	50	4
K114300220	2.2	27	54	4
K114300250	2.5	29	58	4
K114300280	2.8	31	62	4
K114300300	3.0	31	62	6
K114300320	3.2	33	66	6
K114300350	3.5	35	71	6
K114300400	4.0	38	76	6
K114300450	4.5	41	81	6
K114300500	5.0	44	87	6
K114300550	5.5	47	93	6
K114300600	6.0	47	93	6
K114300700	7.0	54	107	6
K114300800	8.0	58	115	6
K114300900	9.0	62	124	6
K114301000	10.0	66	133	6
K114301100	11.0	71	142	6
K114301200	12.0	76	152	6
K114301300	13.0	76	152	6
K114301400	14.0	81	163	8
K114301500	15.0	81	163	8
K114301600	16.0	87	175	8
K114301700	17.0	87	175	8
K114301800	18.0	93	188	8
K114301900	19.0	93	188	8
K114302000	20.0	100	201	8
K114302200	22.0	107	215	8
K114302400	24.0	115	231	8

▶ NEXT PAGE 下页

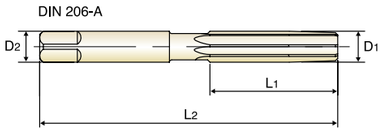
◎ : Excellent (优秀) ○ : Good (良好)

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
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	○	○	○	○		○	○	○													

YG REAMERS
K1143 SERIES
HSS, HAND REAMERS - STRAIGHT FLUTES
高速钢, 手用铰刀-直槽
▶ O.D. Tolerances : DIN 1420 for H7
▶ Shank Diameter ≒ Nominal Reamer Diameter
▶ Straight Flutes / Right Hand Cut
▶ Chamfer Angle - tapered
▶ Type of center - Up to Ø3.75 : external centers
- Over Ø3.75 : internal centers
▶ 刃部公差 : DIN 1420 for H7
▶ 柄部直径 = 铰刀刃部直径
▶ 直槽/右切
▶ 倒角-锥形
▶ 中心孔类形 - Ø3.75以下 : 凸出中心孔
- Ø3.75超过 : 内部中心孔
Hole type
孔类型





$D_1=D_2$
HSS | DIN 206 | H7
Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73 - 115
Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D	Flute Length 槽长 L1	Overall Length 全长 L2	No. of Flute 刃数
K114302500	25.0	115	231	8
K114302600	26.0	115	231	8
K114302700	27.0	124	247	10
K114302800	28.0	124	247	10
K114302900	29.0	124	247	10
K114303000	30.0	124	247	10
K114303100	31.0	133	265	10
K114303200	32.0	133	265	10
K114303300	33.0	133	265	10
K114303400	34.0	142	284	10
K114303500	35.0	142	284	10
K114303600	36.0	142	284	10
K114303700	37.0	142	284	10
K114303800	38.0	152	305	10
K114303810	38.1	152	305	10
K114303900	39.0	152	305	10
K114304000	40.0	152	305	10
K114304100	41.0	152	305	12
K114304200	42.0	152	305	12
K114304300	43.0	163	326	12
K114304400	44.0	163	326	12
K114304500	45.0	163	326	12
K114304600	46.0	163	326	12
K114304700	47.0	163	326	12
K114304800	48.0	174	347	12
K114304900	49.0	174	347	12
K114305200	52.0	174	347	12
K114306000	60.0	184	367	12

◎ : 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	○	○	○	○		○	○	○													

YG REAMERS

K1153 SERIES

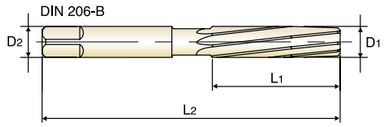
HSS, HAND REAMERS - LH SPIRAL FLUTES
高速钢, 手用铰刀-左向螺旋槽

- ▶ O.D. Tolerances : DIN 1420, H7
- ▶ Shank Diameter ≒ Nominal Reamer Diameter
- ▶ LH Spiral Flutes / Right Hand Cut
- ▶ Chamfer Angle - tapered
- ▶ Type of center - Up to Ø3.75 : external centers
  - Over Ø3.75 : internal centers

- ▶ 刃部公差 : DIN 1420 for H7
- ▶ 柄部直径 = 铰刀刃部直径
- ▶ 直槽/右切
- ▶ 倒角-锥形
- ▶ 中心孔类形 - Ø3.75以下 : 凸出中心孔
  - Ø3.75超过 : 内部中心孔

Hole type 孔类型





D1=D2

HSS | DIN 206 | H7 | LH7°

Recommended ToolHolder — Plain Shank: ER COLLET CHUCK — Page: D73-115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D	Flute Length 槽长 L1	Overall Length 全长 L2	No. of Flute 刃数
K115300200	2.0	25	50	4
K115300220	2.2	27	54	4
K115300250	2.5	29	58	4
K115300280	2.8	31	62	4
K115300300	3.0	31	62	6
K115300320	3.2	33	66	6
K115300350	3.5	35	71	6
K115300400	4.0	38	76	6
K115300450	4.5	41	81	6
K115300500	5.0	44	87	6
K115300550	5.5	47	93	6
K115300600	6.0	47	93	6
K115300700	7.0	54	107	6
K115300800	8.0	58	115	6
K115300900	9.0	62	124	6
K115301000	10.0	66	133	6
K115301100	11.0	71	142	6
K115301200	12.0	76	152	6
K115301300	13.0	76	152	6
K115301400	14.0	81	163	8
K115301500	15.0	81	163	8
K115301600	16.0	87	175	8
K115301700	17.0	87	175	8
K115301800	18.0	93	188	8
K115301900	19.0	93	188	8
K115302000	20.0	100	201	8
K115302200	22.0	107	215	8
K115302400	24.0	115	231	8

▶ 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
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	○	○	○	○		○	○	○													

YG REAMERS

K1153 SERIES

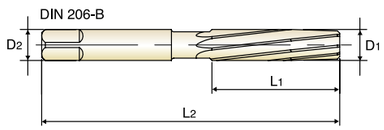
HSS, HAND REAMERS - LH SPIRAL FLUTES
高速钢, 手用铰刀-左向螺旋槽

▶ O.D. Tolerances : DIN 1420, H7
▶ Shank Diameter ≒ Nominal Reamer Diameter
▶ LH Spiral Flutes / Right Hand Cut
▶ Chamfer Angle - tapered
▶ Type of center - Up to Ø3.75 : external centers
- Over Ø3.75 : internal centers

▶ 刃部公差 : DIN 1420 for H7
▶ 柄部直径 = 铰刀刃部直径
▶ 左向螺旋槽/右切
▶ 倒角-锥形
▶ 中心孔类形 - Ø3.75以下 : 凸出中心孔
- Ø3.75超过 : 内部中心孔

Hole type 孔类型





D1=D2

HSS | DIN 206 | H7 | LH7°

Recommended ToolHolder — Plain Shank: ER COLLET CHUCK — Page: D73-115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D	Flute Length 槽长 L1	Overall Length 全长 L2	No. of Flute 刃数
K115302500	25.0	115	231	8
K115302600	26.0	115	231	8
K115302700	27.0	124	247	10
K115302800	28.0	124	247	10
K115302900	29.0	124	247	10
K115303000	30.0	124	247	10
K115303100	31.0	133	265	10
K115303200	32.0	133	265	10
K115303300	33.0	133	265	10
K115303400	34.0	142	284	10
K115303500	35.0	142	284	10
K115303600	36.0	142	284	10
K115303700	37.0	142	284	10
K115303800	38.0	152	305	10
K115303810	38.1	152	305	10
K115303900	39.0	152	305	10
K115304000	40.0	152	305	10
K115304100	41.0	152	305	12
K115304200	42.0	152	305	12
K115304300	43.0	163	326	12
K115304400	44.0	163	326	12
K115304500	45.0	163	326	12
K115304600	46.0	163	326	12
K115304700	47.0	163	326	12
K115304800	48.0	174	347	12
K115304900	49.0	174	347	12
K115305200	52.0	174	347	12
K115306000	60.0	184	367	12

◎ : 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	○	○	○	○		○	○	○													

YG REAMERS

K2101 SERIES

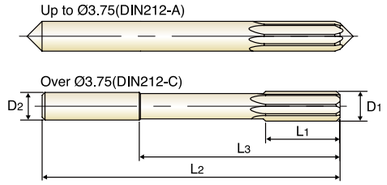
HSS-E, STRAIGHT SHANK CHUCKING REAMERS - STRAIGHT FLUTES
HSS-E, 直柄夹持铰刀-直槽

- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Shank Diameter Tolerances : h8
- ▶ Straight Flute / Right Hand Cut
- ▶ Chamfer Angle - Up to Ø3.75 : 15°
  - Over Ø3.75 : 45°

- ▶ 刃部公差 : DIN 1420 for H7
- ▶ 柄部直径 = h8
- ▶ 直槽/右切
- ▶ 倒角 - Ø3.75以下 : 15°
  - Ø3.75超过 : 45°

Hole type
孔类型





HSS-E | DIN 212 | H7 | 15° | 45° | p. A398

up to Ø3.75 over Ø3.75

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73 - 115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	Shank Diameter 柄部直径 D2	Cutting Length 切削长度 L1	Neck Length 颈部长度 L3	Overall Length 全长 L2	No. of Flute 刃数
K210100200	2.0	2	11	-	49	4
K210100220	2.2	2.2	12	-	53	4
K210100250	2.5	2.5	14	-	57	4
K210100260	2.6	2.6	14	-	57	4
K210100280	2.8	2.8	15	-	61	4
K210100300	3.0	3	15	-	61	6
K210100310	3.1	3.1	16	-	65	6
K210100320	3.2	3.2	16	-	65	6
K210100350	3.5	3.5	18	-	70	6
K210100360	3.6	3.6	18	-	70	6
K210100370	3.7	3.7	18	-	70	6
K210100400	4.0	4	19	42	75	6
K210100430	4.3	4.5	21	46	80	6
K210100450	4.5	4.5	21	46	80	6
K210100460	4.6	4.5	21	46	80	6
K210100500	5.0	5	23	51	86	6
K210100550	5.5	5.6	26	56	93	6
K210100560	5.6	5.6	26	56	93	6
K210100600	6.0	5.6	26	56	93	6
K210100650	6.5	6.3	28	62	101	6
K210100700	7.0	7.1	31	68	109	6
K210100720	7.2	7.1	31	68	109	6
K210100800	8.0	8	33	74	117	6
K210100830	8.3	8	33	74	117	6

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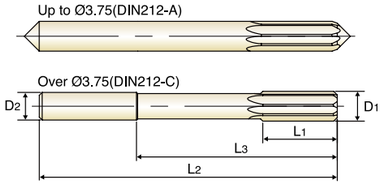
◎ : Excellent (优秀) ○ : Good (良好)

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	○	○	○	○		○	○	○													

YG REAMERS
K2101 SERIES
HSS-E, STRAIGHT SHANK CHUCKING REAMERS - STRAIGHT FLUTES
HSS-E, 直柄夹持铰刀-直槽
▶ O.D. Tolerances : DIN 1420 for H7
▶ Shank Diameter Tolerances : h8
▶ Straight Flute / Right Hand Cut
▶ Chamfer Angle - Up to Ø3.75 : 15°
- Over Ø3.75 : 45°
▶ 刃部公差 : DIN 1420 for H7
▶ 柄部直径 = h8
▶ 直槽/右切
▶ 倒角 - Ø3.75以下 : 15°
- Ø3.75超过 : 45°
Hole type
孔类型





HSS-E | DIN 212 | H7 | 15° | 45° p. A398

up to Ø3.75 over Ø3.75
Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73 - 115
Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	Shank Diameter 柄部直径 D2	Cutting Length 切削长度 L1	Neck Length 颈部长度 L3	Overall Length 全长 L2	No. of Flute 刃数
K210100850	8.5	8	33	74	117	6
K210100900	9.0	9	36	80	125	6
K210100950	9.5	9	36	80	125	6
K210101000	10.0	10	38	86	133	6
K210101050	10.5	10	38	86	133	6
K210101100	11.0	10	41	95	142	6
K210101200	12.0	10	44	104	151	6
K210101300	13.0	10	44	104	151	6
K210101400	14.0	12.5	47	108	160	8
K210101500	15.0	12.5	50	110	162	8
K210101600	16.0	12.5	52	118	170	8
K210101700	17.0	14	54	121	175	8
K210101800	18.0	14	56	128	182	8
K210101900	19.0	16	58	129	189	8
K210102000	20.0	16	60	135	195	8

◎ : 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	○	○	○	○		○	○	○													

REAMERS

K2111 SERIES

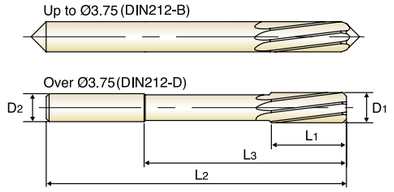
HSS-E, STRAIGHT SHANK CHUCKING REAMERS - LH SPIRAL FLUTES
HSS-E, 直柄夹持铰刀-左向螺旋槽

▶ O.D. Tolerances : DIN 1420 for H7
▶ Shank Diameter Tolerances : h8
▶ LH Spiral Flutes / Right Hand Cut
▶ Chamfer Angle - Up to Ø3.75 : 15°
- Over Ø3.75 : 45°

▶ 刃部公差 : DIN 1420 for H7
▶ 柄部直径 = h8
▶ 左向螺旋槽/右切
▶ 倒角 - Ø3.75以下 : 15°
- Ø3.75超过 : 45°

Hole type
孔类型





HSS-E | DIN 212 | H7 | LH7° | 15° | 45° | 

up to Ø3.75 over Ø3.75

p. A398

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73 - 115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	Shank Diameter 柄部直径 D2	Cutting Length 切削长度 L1	Neck Length 颈部长度 L3	Overall Length 全长 L2	No. of Flute 刃数
K211100200	2.0	2	11	-	49	4
K211100220	2.2	2.2	12	-	53	4
K211100250	2.5	2.5	14	-	57	4
K211100260	2.6	2.6	14	-	57	4
K211100280	2.8	2.8	15	-	61	4
K211100300	3.0	3	15	-	61	6
K211100310	3.1	3.1	16	-	65	6
K211100320	3.2	3.2	16	-	65	6
K211100350	3.5	3.5	18	-	70	6
K211100360	3.6	3.6	18	-	70	6
K211100370	3.7	3.7	18	-	70	6
K211100400	4.0	4	19	42	75	6
K211100430	4.3	4.5	21	46	80	6
K211100450	4.5	4.5	21	46	80	6
K211100460	4.6	4.5	21	46	80	6
K211100500	5.0	5	23	51	86	6
K211100550	5.5	5.6	26	56	93	6
K211100560	5.6	5.6	26	56	93	6
K211100600	6.0	5.6	26	56	93	6
K211100650	6.5	6.3	28	62	101	6
K211100700	7.0	7.1	31	68	109	6
K211100720	7.2	7.1	31	68	109	6
K211100800	8.0	8	33	74	117	6
K211100830	8.3	8	33	74	117	6

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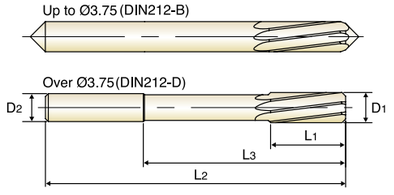
◎ : Excellent (优秀) ○ : Good (良好)

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	○	○	○	○		○	○	○													

REAMERS
K2111 SERIES
HSS-E, STRAIGHT SHANK CHUCKING REAMERS - LH SPIRAL FLUTES
HSS-E, 直柄夹持铰刀-左向螺旋槽
▶ O.D. Tolerances : DIN 1420 for H7
▶ Shank Diameter Tolerances : h8
▶ LH Spiral Flutes / Right Hand Cut
▶ Chamfer Angle - Up to Ø3.75 : 15°
- Over Ø3.75 : 45°
▶ 刃部公差 : DIN 1420 for H7
▶ 柄部直径 = h8
▶ 左向螺旋槽/右切
▶ 倒角 - Ø3.75以下 : 15°
- Ø3.75超过 : 45°
Hole type
孔类型





HSS-E | DIN 212 | H7 | LH7° | 15° | 45° | 

up to Ø3.75 over Ø3.75

p. A398

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73 - 115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	Shank Diameter 柄部直径 D2	Cutting Length 切削长度 L1	Neck Length 颈部长度 L3	Overall Length 全长 L2	No. of Flute 刃数
K211100850	8.5	8	33	74	117	6
K211100900	9.0	9	36	80	125	6
K211100950	9.5	9	36	80	125	6
K211101000	10.0	10	38	86	133	6
K211101050	10.5	10	38	86	133	6
K211101100	11.0	10	41	95	142	6
K211101200	12.0	10	44	104	151	6
K211101300	13.0	10	44	104	151	6
K211101400	14.0	12.5	47	108	160	8
K211101500	15.0	12.5	50	110	162	8
K211101600	16.0	12.5	52	118	170	8
K211101700	17.0	14	54	121	175	8
K211101800	18.0	14	56	128	182	8
K211101900	19.0	16	58	129	189	8
K211102000	20.0	16	60	135	195	8

◎ : 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	○	○	○	○		○	○	○													

YG REAMERS

K2121 SERIES

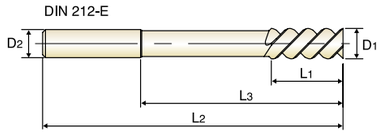
HSS-E, STRAIGHT SHANK CHUCKING REAMERS - LH SPIRAL FLUTES (QUICK SPIRAL)
HSS-E, 直柄夹持铰刀-左向螺旋槽(快速螺旋)

- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Shank Diameter Tolerances : h8
- ▶ Chamfer Angle - tapered
- ▶ LH High Spiral Flutes / Right Hand Cut

- ▶刃部公差 : DIN 1420 for H7
- ▶柄部直径 = h8
- ▶倒角-锥形
- ▶左向高螺旋槽/右切

Hole type 孔类型





HSS-E | DIN 212 | H7 | LH45° | FORM E

p. A399

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73 - 115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	Shank Diameter 柄部直径 D2	Cutting Length 切削长度 L1	Neck Length 颈部长度 L3	Overall Length 全长 L2	No. of Flute 刃数
K212100400	4.0	4	19	42	75	3
K212100450	4.5	4.5	21	46	80	3
K212100500	5.0	5	23	51	86	3
K212100550	5.5	5.6	26	56	93	3
K212100600	6.0	5.6	26	56	93	3
K212100650	6.5	6.3	28	62	101	3
K212100700	7.0	7.1	31	68	109	3
K212100800	8.0	8	33	74	117	3
K212100850	8.5	8	33	74	117	3
K212100900	9.0	9	36	80	125	3
K212100950	9.5	9	36	80	125	3
K212101000	10.0	10	38	86	133	3
K212101100	11.0	10	41	95	142	3
K212101200	12.0	10	44	104	151	3
K212101300	13.0	10	44	104	151	3
K212101400	14.0	12.5	47	108	160	4
K212101500	15.0	12.5	50	110	162	4
K212101600	16.0	12.5	52	118	170	4
K212101700	17.0	14	54	121	175	4
K212101800	18.0	14	56	128	182	4
K212101900	19.0	16	58	129	189	4
K212102000	20.0	16	60	135	195	4

◎ : 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	◎	◎	◎	◎		◎	◎	◎													

YG REAMERS

K2102 SERIES

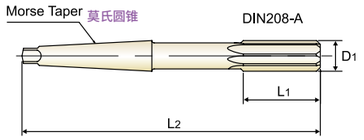
HSS-E, MORSE TAPER SHANK CHUCKING REAMERS - STRAIGHT FLUTES
HSS-E, 锥柄夹持铰刀-直槽

- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Straight Flute / Right Hand Cut
- ▶ Chamfer Angle : 45°

- ▶刃部公差 : DIN 1420 for H7
- ▶直槽/右切
- ▶倒角 - 45°

Hole type 孔类型





HSS-E | DIN 208 | H7 | 45°

p. A398

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73 - 115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	No. of Morse Taper 锥度型号	Cutting Length 切削长度 L1	Overall Length 全长 L2	No. of Flute 刃数
K210201000	10.0	1	38	168	6
K210201100	11.0	1	41	175	6
K210201200	12.0	1	44	182	6
K210201300	13.0	1	44	182	6
K210201400	14.0	1	47	189	8
K210201500	15.0	2	50	204	8
K210201600	16.0	2	52	210	8
K210201700	17.0	2	54	214	8
K210201800	18.0	2	56	219	8
K210201900	19.0	2	58	223	8
K210202000	20.0	2	60	228	8
K210202100	21.0	2	62	232	8
K210202200	22.0	2	64	237	8
K210202300	23.0	2	66	241	8
K210202400	24.0	3	68	268	8
K210202500	25.0	3	68	268	8
K210202600	26.0	3	70	273	8
K210202700	27.0	3	71	277	10
K210202800	28.0	3	71	277	10
K210202900	29.0	3	73	281	10
K210203000	30.0	3	73	281	10
K210203100	31.0	3	75	285	10

▶ 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
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	○	○	○	○		○	○	○													

YG REAMERS

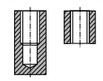
K2102 SERIES

HSS-E, MORSE TAPER SHANK CHUCKING REAMERS - STRAIGHT FLUTES
HSS-E, 锥柄夹持铰刀-直槽

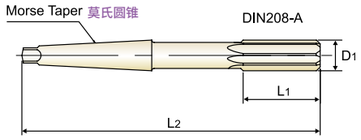
- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Straight Flute / Right Hand Cut
- ▶ Chamfer Angle : 45°

- ▶刃部公差 : DIN 1420 for H7
- ▶直槽/右切
- ▶倒角: 45°

Hole type 孔类型







HSS-E | DIN 208 | H7 | 45° | p. A398

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73 - 115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	No. of Morse Taper 锥度型号	Cutting Length 切削长度 L1	Overall Length 全长 L2	No. of Flute 刀数
K210203200	32.0	4	77	317	10
K210203400	34.0	4	78	321	10
K210203500	35.0	4	78	321	10
K210203600	36.0	4	79	325	10
K210203800	38.0	4	81	329	10
K210204000	40.0	4	81	329	10
K210204100	41.0	4	82	333	12
K210204200	42.0	4	82	333	12
K210204300	43.0	4	83	336	12
K210204400	44.0	4	83	336	12
K210204500	45.0	4	83	336	12
K210204600	46.0	4	84	340	12
K210204700	47.0	4	84	340	12
K210204800	48.0	4	86	344	12
K210205000	50.0	4	86	344	12

◎ : 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	○	○	○	○		○	○	○													

YG REAMERS

K2112 SERIES

HSS-E, MORSE TAPER SHANK CHUCKING REAMERS - LH SPIRAL FLUTES
HSS-E, 锥柄夹持铰刀-左向螺旋槽

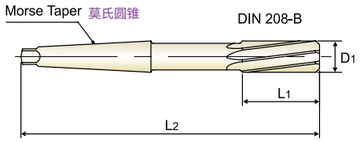
- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ LH Spiral Flutes / Right Hand Cut
- ▶ Chamfer Angle : 45°

- ▶刃部公差 : DIN 1420 for H7
- ▶左向高螺旋槽/右切
- ▶倒角: 45°

Hole type 孔类型







HSS-E | DIN 208 | H7 | LH7° | 45° | p. A398

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73 - 115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	No. of Morse Taper 锥度型号	Cutting Length 切削长度 L1	Overall Length 全长 L2	No. of Flute 刀数
K211201000	10.0	1	38	168	6
K211201100	11.0	1	41	175	6
K211201200	12.0	1	44	182	6
K211201300	13.0	1	44	182	6
K211201400	14.0	1	47	189	8
K211201500	15.0	2	50	204	8
K211201600	16.0	2	52	210	8
K211201700	17.0	2	54	214	8
K211201800	18.0	2	56	219	8
K211201900	19.0	2	58	223	8
K211202000	20.0	2	60	228	8
K211202100	21.0	2	62	232	8
K211202200	22.0	2	64	237	8
K211202300	23.0	2	66	241	8
K211202400	24.0	3	68	268	8
K211202500	25.0	3	68	268	8
K211202600	26.0	3	70	273	8
K211202700	27.0	3	71	277	10
K211202800	28.0	3	71	277	10
K211202900	29.0	3	73	281	10
K211203000	30.0	3	73	281	10
K211203100	31.0	3	75	285	10

▶ 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
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	○	○	○	○		○	○	○													

YG REAMERS

K2112 SERIES

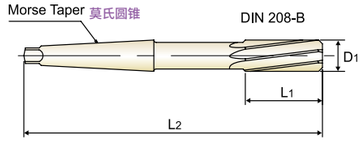
HSS-E, MORSE TAPER SHANK CHUCKING REAMERS - LH SPIRAL FLUTES
HSS-E, 锥柄夹持铰刀-左向螺旋槽

▶ O.D. Tolerances : DIN 1420 for H7
▶ LH Spiral Flutes / Right Hand Cut
▶ Chamfer Angle : 45°

▶ 刃部公差 : DIN 1420 for H7
▶ 左向高螺旋槽/右切
▶ 倒角: 45°

Hole type 孔类型





HSS-E | DIN 208 | H7 | LH7° | 45°

p. A398

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73 - 115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	No. of Morse Taper 锥度型号	Cutting Length 切削长度 L1	Overall Length 全长 L2	No. of Flute 刃数
K211203200	32.0	4	77	317	10
K211203400	34.0	4	78	321	10
K211203500	35.0	4	78	321	10
K211203600	36.0	4	79	325	10
K211203800	38.0	4	81	329	10
K211204000	40.0	4	81	329	10
K211204100	41.0	4	82	333	12
K211204200	42.0	4	82	333	12
K211204300	43.0	4	83	336	12
K211204400	44.0	4	83	336	12
K211204500	45.0	4	83	336	12
K211204600	46.0	4	84	340	12
K211204700	47.0	4	84	340	12
K211204800	48.0	4	86	344	12
K211205000	50.0	4	86	344	12

◎ : 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	○	○	○	○		○	○	○													

YG REAMERS

K21B1 SERIES

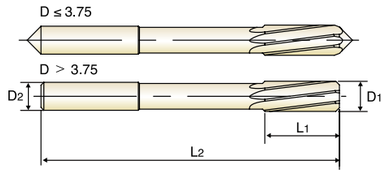
HSS-E, NC MACHINE REAMERS WITH SHANK WHOLE NUMBER
HSS-E, 整数柄机用铰刀

▶ O.D. Tolerances
Whole-number Ø and 1/10 size : DIN 1420 for H7
1/100 size : from Ø2.01 to Ø5.03 : +0.004/-0.000mm
from Ø5.97 to Ø12.03 : +0.005/-0mm
▶ Shank Diameter Tolerances : h6
▶ LH Spiral Flutes / Right Hand Cut
▶ Chamfer Angle - Up to Ø3.75 : 15°
- Over Ø3.75 : 45°

▶ 刃部公差
整数和1/10梯度: DIN 1420 for H7
1/100梯度 : 从Ø2.01至Ø5.03: +0.004/-0.000mm
从Ø5.97至Ø12.03: +0.005/ -0mm
▶ 柄部公差: h6
▶ 左旋/右切
▶ 倒角角度 - 小于 D3.75: 15°
- 大于 D3.75: 45°

Hole type 孔类型





HSS-E | H7 | LH7° | 15° | 45°

up to Ø3.75 over Ø3.75

p. A398

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73 - 115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	Shank Diameter 柄部直径 D2	Flute Length 槽长 L1	Overall Length 全长 L2
K21B100200	2.0	2	11	49
K21B100201	2.01	2	11	49
K21B100202	2.02	2	11	49
K21B100203	2.03	2	11	49
K21B100210	2.1	2	11	49
K21B100220	2.2	3	12	53
K21B100230	2.3	3	12	53
K21B100240	2.4	3	14	57
K21B100247	2.47	3	14	57
K21B100248	2.48	3	14	57
K21B100249	2.49	3	14	57
K21B100250	2.5	3	14	57
K21B100251	2.51	3	14	57
K21B100252	2.52	3	14	57
K21B100253	2.53	3	14	57
K21B100260	2.6	3	14	57
K21B100270	2.7	3	15	61
K21B100280	2.8	3	15	61
K21B100290	2.9	3	15	61
K21B100297	2.97	3	15	61
K21B100298	2.98	3	15	61
K21B100299	2.99	3	15	61
K21B100300	3.0	3	15	61
K21B100301	3.01	4	16	65

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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	○	○	○	○		○	○	○													

YG REAMERS

K21B1 SERIES

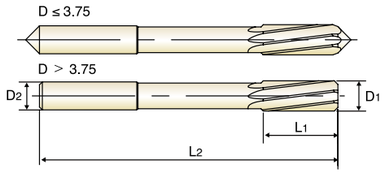
HSS-E, NC MACHINE REAMERS WITH SHANK WHOLE NUMBER
HSS-E, 整数柄机用铰刀

▶ O.D. Tolerances
Whole-number Ø and 1/10 size : DIN 1420 for H7
1/100 size : from Ø2.01 to Ø5.03 : +0.004/-0.000mm
from Ø5.97 to Ø12.03 : +0.005/-0mm
▶ Shank Diameter Tolerances : h6
▶ LH Spiral Flutes / Right Hand Cut
▶ Chamfer Angle - Up to Ø3.75 : 15°
- Over Ø3.75 : 45°

▶ 刃部公差
整数和1/10梯度: DIN 1420 for H7
1/100梯度 : 从Ø2.01至Ø5.03: +0.004/-0.000mm
从Ø5.97至Ø12.03: +0.005/ -0mm
▶ 柄部公差: h6
▶ 左旋/右切
▶ 倒角角度 - 小于 D3.75: 15°
- 大于 D3.75: 45°

Hole type
孔类型





HSS-E | H7 | LH7° | 15° | 45° | p. A398

up to Ø3.75 over Ø3.75

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73 - 115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	Shank Diameter 柄部直径 D2	Flute Length 槽长 L1	Overall Length 全长 L2
K21B100302	3.02	4	16	65
K21B100303	3.03	4	16	65
K21B100310	3.1	4	16	65
K21B100320	3.2	4	16	65
K21B100330	3.3	4	16	65
K21B100340	3.4	4	18	70
K21B100350	3.5	4	18	70
K21B100360	3.6	4	18	70
K21B100370	3.7	4	18	70
K21B100380	3.8	4	19	75
K21B100390	3.9	4	19	75
K21B100397	3.97	4	19	75
K21B100398	3.98	4	19	75
K21B100399	3.99	4	19	75
K21B100400	4.0	4	19	75
K21B100401	4.01	4	19	75
K21B100402	4.02	4	19	75
K21B100403	4.03	4	19	75
K21B100410	4.1	4	19	75
K21B100420	4.2	4	19	75
K21B100430	4.3	5	21	80
K21B100440	4.4	5	21	80
K21B100450	4.5	5	21	80
K21B100460	4.6	5	21	80

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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	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○		○	○	○													

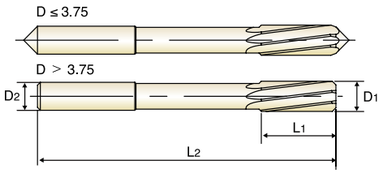
YG REAMERS
K21B1 SERIES
HSS-E, NC MACHINE REAMERS WITH SHANK WHOLE NUMBER
HSS-E, 整数柄机用铰刀

▶ O.D. Tolerances
Whole-number Ø and 1/10 size : DIN 1420 for H7
1/100 size : from Ø2.01 to Ø5.03 : +0.004/-0.000mm
from Ø5.97 to Ø12.03 : +0.005/-0mm
▶ Shank Diameter Tolerances : h6
▶ LH Spiral Flutes / Right Hand Cut
▶ Chamfer Angle - Up to Ø3.75 : 15°
- Over Ø3.75 : 45°

▶ 刃部公差
整数和1/10梯度: DIN 1420 for H7
1/100梯度 : 从Ø2.01至Ø5.03: +0.004/-0.000mm
从Ø5.97至Ø12.03: +0.005/ -0mm
▶ 柄部公差: h6
▶ 左旋/右切
▶ 倒角角度 - 小于 D3.75: 15°
- 大于 D3.75: 45°

Hole type
孔类型





HSS-E | H7 | LH7° | 15° | 45° | p. A398

up to Ø3.75 over Ø3.75

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73 - 115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	Shank Diameter 柄部直径 D2	Flute Length 槽长 L1	Overall Length 全长 L2
K21B100470	4.7	5	21	80
K21B100480	4.8	5	23	86
K21B100490	4.9	5	23	86
K21B100497	4.97	5	23	86
K21B100498	4.98	5	23	86
K21B100499	4.99	5	23	86
K21B100500	5.0	5	23	86
K21B100501	5.01	5	23	86
K21B100502	5.02	5	23	86
K21B100503	5.03	5	23	86
K21B100510	5.1	5	23	86
K21B100520	5.2	5	23	86
K21B100530	5.3	5	23	86
K21B100540	5.4	6	26	93
K21B100550	5.5	6	26	93
K21B100560	5.6	6	26	93
K21B100570	5.7	6	26	93
K21B100580	5.8	6	26	93
K21B100590	5.9	6	26	93
K21B100597	5.97	6	26	93
K21B100598	5.98	6	26	93
K21B100599	5.99	6	26	93
K21B100600	6.0	6	26	93
K21B100601	6.01	6	28	101

▶ 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
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	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○		○	○	○													

YG REAMERS

K21B1 SERIES

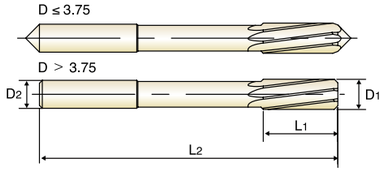
HSS-E, NC MACHINE REAMERS WITH SHANK WHOLE NUMBER
HSS-E, 整数柄机用铰刀

▶ O.D. Tolerances
Whole-number Ø and 1/10 size : DIN 1420 for H7
1/100 size : from Ø2.01 to Ø5.03 : +0.004/-0.000mm
from Ø5.97 to Ø12.03 : +0.005/-0mm
▶ Shank Diameter Tolerances : h6
▶ LH Spiral Flutes / Right Hand Cut
▶ Chamfer Angle - Up to Ø3.75 : 15°
- Over Ø3.75 : 45°

▶ 刃部公差
整数和1/10梯度: DIN 1420 for H7
1/100梯度 : 从Ø2.01至Ø5.03: +0.004/-0.000mm
从Ø5.97至Ø12.03: +0.005/ -0mm
▶ 柄部公差: h6
▶ 左旋/右切
▶ 倒角角度 - 小于 D3.75: 15°
- 大于 D3.75: 45°

Hole type
孔类型





HSS-E | H7 | LH7° | 15° | 45° | up to Ø3.75 | over Ø3.75

p. A398

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73 - 115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	Shank Diameter 柄部直径 D2	Flute Length 槽长 L1	Overall Length 全长 L2
K21B100602	6.02	6	28	101
K21B100603	6.03	6	28	101
K21B100610	6.1	6	28	101
K21B100620	6.2	6	28	101
K21B100630	6.3	6	28	101
K21B100640	6.4	6	28	101
K21B100650	6.5	6	28	101
K21B100660	6.6	6	28	101
K21B100670	6.7	6	28	101
K21B100680	6.8	8	31	109
K21B100690	6.9	8	31	109
K21B100700	7.0	8	31	109
K21B100710	7.1	8	31	109
K21B100720	7.2	8	31	109
K21B100730	7.3	8	31	109
K21B100740	7.4	8	31	109
K21B100750	7.5	8	31	109
K21B100760	7.6	8	33	117
K21B100770	7.7	8	33	117
K21B100780	7.8	8	33	117
K21B100790	7.9	8	33	117
K21B100797	7.97	8	33	117
K21B100798	7.98	8	33	117
K21B100799	7.99	8	33	117

▶ 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
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	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○		○	○	○													

CARBIDE
HSS
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

YG REAMERS

K21B1 SERIES

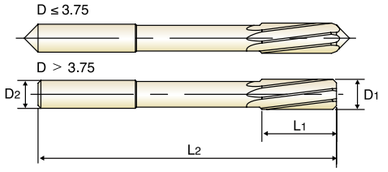
HSS-E, NC MACHINE REAMERS WITH SHANK WHOLE NUMBER
HSS-E, 整数柄机用铰刀

▶ O.D. Tolerances
Whole-number Ø and 1/10 size : DIN 1420 for H7
1/100 size : from Ø2.01 to Ø5.03 : +0.004/-0.000mm
from Ø5.97 to Ø12.03 : +0.005/-0mm
▶ Shank Diameter Tolerances : h6
▶ LH Spiral Flutes / Right Hand Cut
▶ Chamfer Angle - Up to Ø3.75 : 15°
- Over Ø3.75 : 45°

▶ 刃部公差
整数和1/10梯度: DIN 1420 for H7
1/100梯度 : 从Ø2.01至Ø5.03: +0.004/-0.000mm
从Ø5.97至Ø12.03: +0.005/ -0mm
▶ 柄部公差: h6
▶ 左旋/右切
▶ 倒角角度 - 小于 D3.75: 15°
- 大于 D3.75: 45°

Hole type
孔类型





HSS-E | H7 | LH7° | 15° | 45° | up to Ø3.75 | over Ø3.75

p. A398

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73 - 115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	Shank Diameter 柄部直径 D2	Flute Length 槽长 L1	Overall Length 全长 L2
K21B100800	8.0	8	33	117
K21B100801	8.01	8	33	117
K21B100802	8.02	8	33	117
K21B100803	8.03	8	33	117
K21B100810	8.1	8	33	117
K21B100820	8.2	8	33	117
K21B100830	8.3	8	33	117
K21B100840	8.4	8	33	117
K21B100850	8.5	8	33	117
K21B100860	8.6	10	36	125
K21B100870	8.7	10	36	125
K21B100880	8.8	10	36	125
K21B100890	8.9	10	36	125
K21B100900	9.0	10	36	125
K21B100901	9.01	10	36	125
K21B100902	9.02	10	36	125
K21B100903	9.03	10	36	125
K21B100910	9.1	10	36	125
K21B100920	9.2	10	36	125
K21B100930	9.3	10	36	125
K21B100940	9.4	10	36	125
K21B100950	9.5	10	36	125
K21B100960	9.6	10	38	133
K21B100970	9.7	10	38	133

▶ 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
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	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○		○	○	○													

YG REAMERS

K21B1 SERIES

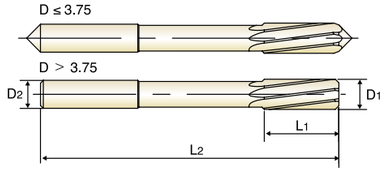
HSS-E, NC MACHINE REAMERS WITH SHANK WHOLE NUMBER
HSS-E, 整数柄机用铰刀

▶ O.D. Tolerances
Whole-number Ø and 1/10 size : DIN 1420 for H7
1/100 size : from Ø2.01 to Ø5.03 : +0.004/-0.000mm
from Ø5.97 to Ø12.03 : +0.005/-0mm
▶ Shank Diameter Tolerances : h6
▶ LH Spiral Flutes / Right Hand Cut
▶ Chamfer Angle - Up to Ø3.75 : 15°
- Over Ø3.75 : 45°

▶ 刃部公差
整数和1/10梯度: DIN 1420 for H7
1/100梯度 : 从Ø2.01至Ø5.03: +0.004/-0.000mm
从Ø5.97至Ø12.03: +0.005/ -0mm
▶ 柄部公差: h6
▶ 左旋/右切
▶ 倒角角度 - 小于 D3.75: 15°
- 大于 D3.75: 45°

Hole type 孔类型





HSS-E | H7 | LH7° | 15° | 45°
up to Ø3.75 over Ø3.75

p. A398

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73 - 115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	Shank Diameter 柄部直径 D2	Flute Length 槽长 L1	Overall Length 全长 L2
K21B100980	9.8	10	38	133
K21B100990	9.9	10	38	133
K21B100997	9.97	10	38	133
K21B100998	9.98	10	38	133
K21B100999	9.99	10	38	133
K21B101000	10.0	10	38	133
K21B101001	10.01	10	38	133
K21B101002	10.02	10	38	133
K21B101003	10.03	10	38	133
K21B101100	11.0	10	41	142
K21B101197	11.97	10	41	151
K21B101198	11.98	10	41	151
K21B101199	11.99	10	41	151
K21B101200	12.0	10	44	151
K21B101201	12.01	10	44	151
K21B101202	12.02	10	44	151
K21B101203	12.03	10	44	151
K21B101300	13.0	10	44	151
K21B101400	14.0	14	47	160
K21B101500	15.0	14	50	162
K21B101600	16.0	14	52	170
K21B101700	17.0	14	54	175
K21B101800	18.0	14	56	182
K21B101900	19.0	16	58	189
K21B102000	20.0	16	60	195

◎ : 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	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○		○	○	○													

CARBIDE
HSS
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

YG REAMERS

K4101, K4111 SERIES

CARBIDE, NC MACHINE REAMERS
硬质合金机用铰刀

Vc (切削速度)= (m/min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Feed 进给 (mm/rev) 2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
P	1	Non-alloy steel	18	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40
	2		17	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40
	3		15	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40
	4		15	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40
	5		15	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40
	6	Low alloy steel	17	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30
	7		14	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30
	8		14	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30
	10	High alloyed steel, and tool steel	13	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30
M	12	Stainless steel	8	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30
	13		7	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30
	14		6	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30
K	15	Grey cast iron	20	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40
	16		15	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40
	17	Nodular cast iron	18	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40
	18		13	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40
	19	Malleable cast iron	18	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40
	20		13	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.2-0.240	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40
N	21	Aluminum-wrought alloy	30	0.10-0.13	0.13-0.16	0.16-0.20	0.20-0.25	0.25-0.30	0.30-0.35	0.35-0.40	0.40-0.45	0.45-0.50
	22		30	0.1-0.130	0.13-0.16	0.16-0.20	0.20-0.25	0.25-0.30	0.30-0.35	0.35-0.40	0.40-0.45	0.45-0.50
	23	Aluminum-cast, alloyed	30	0.10-0.13	0.13-0.16	0.16-0.20	0.20-0.25	0.25-0.30	0.30-0.35	0.35-0.40	0.40-0.45	0.45-0.50
	24		25	0.10-0.13	0.13-0.16	0.16-0.20	0.20-0.25	0.25-0.30	0.30-0.35	0.35-0.40	0.40-0.45	0.45-0.50
	26	Copper and Copper Alloys (Bronze / Brass)	25	0.10-0.13	0.13-0.16	0.16-0.20	0.20-0.25	0.25-0.30	0.30-0.35	0.35-0.40	0.40-0.45	0.45-0.50
	27		22	0.10-0.13	0.13-0.16	0.16-0.20	0.20-0.25	0.25-0.30	0.30-0.35	0.35-0.40	0.40-0.45	0.45-0.50
	28		23	0.10-0.13	0.13-0.16	0.16-0.20	0.20-0.25	0.25-0.30	0.30-0.35	0.35-0.40	0.40-0.45	0.45-0.50

REAMERS

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

K2101, K2111, K21B1, K2102, K2112 SERIES

HSS-E, STRAIGHT & LH SPIRAL FLUTE CHUCKING REAMERS
HSS-E 直槽&左旋槽 机夹铰刀
HSS-E, NC MACHINE REAMERS HSS-E 机用铰刀

Vc (切削速度)= (m/min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Feed 进给 (mm/rev)														
				2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0	24.0	28.0	32.0	36.0	40.0	45.0	50.0
P	1	Non-alloy steel	14	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.32	0.32-0.35	0.35-0.38	0.38-0.41	0.41-0.44	0.44-0.47	0.47-0.50
	2		14	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.32	0.32-0.35	0.35-0.38	0.38-0.41	0.41-0.44	0.44-0.47	0.47-0.50
	3		10	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.13	0.13-0.15	0.15-0.17	0.17-0.19	0.19-0.21	0.21-0.23	0.23-0.25	0.25-0.27	0.27-0.29	0.29-0.31	0.31-0.34	0.34-0.37	0.37-0.40
	4		8	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.13	0.13-0.15	0.15-0.17	0.17-0.19	0.19-0.21	0.21-0.23	0.23-0.25	0.25-0.27	0.27-0.29	0.29-0.31	0.31-0.34	0.34-0.37	0.37-0.40
	6	Low alloy steel	12	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.13	0.13-0.15	0.15-0.17	0.17-0.19	0.19-0.21	0.21-0.23	0.23-0.25	0.25-0.27	0.27-0.29	0.29-0.31	0.31-0.34	0.34-0.37	0.37-0.40
	7		8	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.13	0.13-0.15	0.15-0.17	0.17-0.19	0.19-0.21	0.21-0.23	0.23-0.25	0.25-0.27	0.27-0.29	0.29-0.31	0.31-0.34	0.34-0.37	0.37-0.40
	10	High alloyed steel, and tool steel	6	0.03-0.04	0.04-0.05	0.05-0.06	0.06-0.07	0.07-0.08	0.08-0.10	0.10-0.12	0.12-0.14	0.14-0.16	0.16-0.18	0.18-0.20	0.20-0.22	0.22-0.24	0.24-0.26	0.26-0.28	0.28-0.30
M	12	Stainless steel	6	0.03-0.04	0.04-0.05	0.05-0.06	0.06-0.07	0.07-0.08	0.08-0.10	0.10-0.12	0.12-0.14	0.14-0.16	0.16-0.18	0.18-0.20	0.20-0.22	0.22-0.24	0.24-0.26	0.26-0.28	0.28-0.30
	13		5	0.03-0.04	0.04-0.05	0.05-0.06	0.06-0.07	0.07-0.08	0.08-0.10	0.10-0.12	0.12-0.14	0.14-0.16	0.16-0.18	0.18-0.20	0.20-0.22	0.22-0.24	0.24-0.26	0.26-0.28	0.28-0.30
	14		4	0.03-0.04	0.04-0.05	0.05-0.06	0.06-0.07	0.07-0.08	0.08-0.10	0.10-0.12	0.12-0.14	0.14-0.16	0.16-0.18	0.18-0.20	0.20-0.22	0.22-0.24	0.24-0.26	0.26-0.28	0.28-0.30
K	15	Grey cast iron	14	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.32	0.32-0.35	0.35-0.38	0.38-0.41	0.41-0.44	0.44-0.47	0.47-0.50
	16		11	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.13	0.13-0.15	0.15-0.17	0.17-0.19	0.19-0.21	0.21-0.23	0.23-0.25	0.25-0.27	0.27-0.29	0.29-0.31	0.31-0.34	0.34-0.37	0.37-0.40
	17	Nodular cast iron	12	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.32	0.32-0.35	0.35-0.38	0.38-0.41	0.41-0.44	0.44-0.47	0.47-0.50
	18		10	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.13	0.13-0.15	0.15-0.17	0.17-0.19	0.19-0.21	0.21-0.23	0.23-0.25	0.25-0.27	0.27-0.29	0.29-0.31	0.31-0.34	0.34-0.37	0.37-0.40
	19	Malleable cast iron	12	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.32	0.32-0.35	0.35-0.38	0.38-0.41	0.41-0.44	0.44-0.47	0.47-0.50
	20		10	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.13	0.13-0.15	0.15-0.17	0.17-0.19	0.19-0.21	0.21-0.23	0.23-0.25	0.25-0.27	0.27-0.29	0.29-0.31	0.31-0.34	0.34-0.37	0.37-0.40
N	21	Aluminum-wrought alloy	18	0.10-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37	0.37-0.40	0.40-0.43	0.43-0.46	0.46-0.49	0.49-0.52	0.52-0.56	0.56-0.60
	22		18	0.10-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37	0.37-0.40	0.40-0.43	0.43-0.46	0.46-0.49	0.49-0.52	0.52-0.56	0.56-0.60
	23	Aluminum-cast, alloyed	18	0.10-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37	0.37-0.40	0.40-0.43	0.43-0.46	0.46-0.49	0.49-0.52	0.52-0.56	0.56-0.60
	24		17	0.10-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37	0.37-0.40	0.40-0.43	0.43-0.46	0.46-0.49	0.49-0.52	0.52-0.56	0.56-0.60
	26	Copper and Copper Alloys (Bronze / Brass)	18	0.10-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37	0.37-0.40	0.40-0.43	0.43-0.46	0.46-0.49	0.49-0.52	0.52-0.56	0.56-0.60
	27		16	0.10-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37	0.37-0.40	0.40-0.43	0.43-0.46	0.46-0.49	0.49-0.52	0.52-0.56	0.56-0.60
	28		20	0.10-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37	0.37-0.40	0.40-0.43	0.43-0.46	0.46-0.49	0.49-0.52	0.52-0.56	0.56-0.60

REAMERS
RECOMMENDED CUTTING CONDITIONS
推荐加工条件

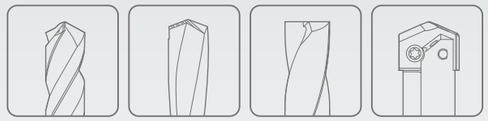
K2121 SERIES

HSS-E, CHUCKING REAMERS - QUICK SPIRAL
HSS-E 夹具绞刀 - 快速螺旋

Vc (切削速度)= (m/min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Feed 进给 (mm/rev)							
				2.0	4.0	8.0	10.0	12.0	14.0	16.0	20.0
P	1	Non-alloy steel	18	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.32	0.32-0.36	0.36-0.40
	2		16	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.32	0.32-0.36	0.36-0.40
	6	Low alloy steel	14	0.10-0.12	0.12-0.14	0.14-0.16	0.16-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30
N	21	Aluminum-wrought alloy	20	0.15-0.20	0.20-0.25	0.25-0.30	0.30-0.36	0.36-0.42	0.42-0.48	0.48-0.54	0.54-0.60
	22		20	0.15-0.20	0.20-0.25	0.25-0.30	0.30-0.36	0.36-0.42	0.42-0.48	0.48-0.54	0.54-0.60
	23	Aluminum-cast, alloyed	20	0.15-0.20	0.20-0.25	0.25-0.30	0.30-0.36	0.36-0.42	0.42-0.48	0.48-0.54	0.54-0.60
	24		18	0.15-0.20	0.20-0.25	0.25-0.30	0.30-0.36	0.36-0.42	0.42-0.48	0.48-0.54	0.54-0.60
	26	Copper and Copper Alloys (Bronze / Brass)	19	0.15-0.20	0.20-0.25	0.25-0.30	0.30-0.36	0.36-0.42	0.42-0.48	0.48-0.54	0.54-0.60
	27		18	0.15-0.20	0.20-0.25	0.25-0.30	0.30-0.36	0.36-0.42	0.42-0.48	0.48-0.54	0.54-0.60
	28		20	0.15-0.20	0.20-0.25	0.25-0.30	0.30-0.36	0.36-0.42	0.42-0.48	0.48-0.54	0.54-0.60

Global Cutting Tool Leader **YG-1**



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COUNTERSINKS

- For Deburring, Chamfering and Countersinking
- 去毛刺, 倒角和深孔

SELECTION GUIDE
选用指南

HOLEMAKING TOOLS

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Recommended cutting conditions (推荐加工条件) : p. A409

SERIES 系列	C1109 C3109	C1119 C3119	C1136 C3136	C1139 C3139	C1132 C3132
STANDARD 标准	YG STD	YG STD	DIN334C	DIN335C	YG STD
POINT ANGLE 钻尖角度	90°	90°	60°	90°	120°
SIZE MIN 最小尺寸	D10.0	D10.0	D6.3	D4.3	D8.0
SIZE MAX 最大尺寸	D50.0	D50.0	D25.0	D31.0	D25.0
PAGE 页数	A404	A405	A406	A407	A408
SURFACE TREATMENT 表面处理	Bright		Bright		







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

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TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

COUNTERSINKS

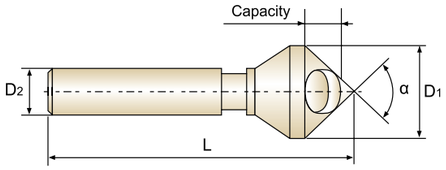
C1109 SERIES
C3109 SERIES

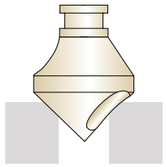
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- ▶ 最好的表面料糙度
- ▶ 加工时没有振动







YG STD

p. A409

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73 - 115

Unit(单位) : mm

EDP No. (uncoating) 型号		Point Angle 钻尖角度	Cutter Diameter 刃部直径	Shank Diameter 柄部直径	Overall Length 全长	Capacity 生产量
HSSCo8	HSS	α	D1	D2	L(±1)	min最小/max最大
C1109100	**C3109100**	90°	**10.0**	6	45	2 - 5
C1109150	**C3109150**	90°	**15.0**	8	55	6 - 14
C1109200	**C3109200**	90°	**20.0**	10	65	8 - 18
C1109250	**C3109250**	90°	**25.0**	12	78	10 - 23
C1109300	**C3109300**	90°	**30.0**	12	88	12 - 28
C1109350	**C3109350**	90°	**35.0**	16	110	14 - 33
C1109400	**C3109400**	90°	**40.0**	16	115	16 - 38
C1109450	**C3109450**	90°	**45.0**	16	120	18 - 43
C1109500	**C3109500**	90°	**50.0**	16	130	20 - 48

▶ TiN & TiCN coating are available on your request.
TiN&TiCN涂层可根据客户要求进行加工.

Cutter Dia. Tolerance(mm) 刃部直径公差	Shank Dia.Tolerance(mm) 柄部公差	Point Angle Tolerance(°) 钻尖角度公差
+0.3/-0	h9	+0/-1

◎ : 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	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○													

COUNTERSINKS

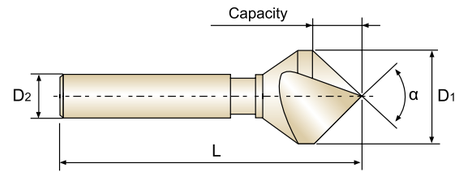
C1119 SERIES
C3119 SERIES

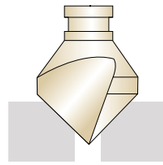
HSS & HSSCo8, SINGLE FLUTE CHAMFERING CUTTERS
HSS & HSSCo8, 单刃倒角刀具

- ▶ For wood and hard plastics.
- ▶ Can drill in sheet materials.
- ▶ Easy to resharp.
- ▶ Works without vibrations.

- ▶ 用于木头和硬塑料
- ▶ 可以在薄板上钻孔
- ▶ 容易再研磨
- ▶ 加工时没有振动







YG STD

p. A409

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73 - 115

Unit(单位) : mm

EDP No. (uncoating) 型号		Point Angle 钻尖角度	Cutter Diameter 刃部直径	Shank Diameter 柄部直径	Overall Length 全长	Capacity 生产量
HSSCo8	HSS	α	D1	D2	L(±1)	min最小/max最大
C1119100	**C3119100**	90°	**10.0**	6	45	1 - 10
C1119150	**C3119150**	90°	**15.0**	8	55	2 - 15
C1119200	**C3119200**	90°	**20.0**	10	65	2 - 20
C1119250	**C3119250**	90°	**25.0**	12	78	3 - 25
C1119300	**C3119300**	90°	**30.0**	12	88	3 - 30
C1119350	**C3119350**	90°	**35.0**	16	110	4 - 35
C1119400	**C3119400**	90°	**40.0**	16	115	5 - 40
C1119450	**C3119450**	90°	**45.0**	16	120	10 - 45
C1119500	**C3119500**	90°	**50.0**	16	130	12 - 50

▶ TiN & TiCN coating are available on your request.
TiN&TiCN涂层可根据客户要求进行加工.

Cutter Dia. Tolerance(mm) 刃部直径公差	Shank Dia.Tolerance(mm) 柄部公差	Point Angle Tolerance(°) 钻尖角度公差
+0.3/-0	h9	+0/-1

◎ : 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	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○													

COUNTERSINKS

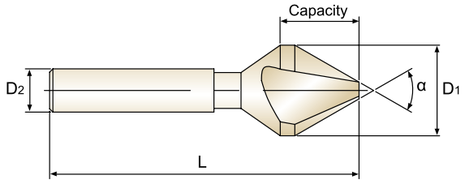
C1136 SERIES
C3136 SERIES

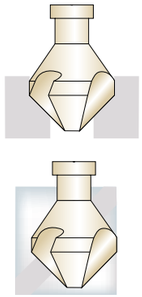
HSS & HSSCo8, THREE FLUTE COUNTERSINKS (60°)
HSS & HSSCo8, 3槽沉孔刀（60°）

- ▶ Self-centering(3 flutes)
- ▶ For deburring, chamfering and countersinking
- ▶ Hand using
- ▶ Longitudinal chamfers and contouring
- ▶ Works without vibrations

- ▶ 自定心（3槽）
- ▶ 去毛刺，倒角和沉孔
- ▶ 手用
- ▶ 倒角和修形
- ▶ 加工时没有振动







DIN 334C p. A410

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73 - 115

Unit(单位) : mm

EDP No. (uncoating) 型号		Point Angle 钻尖角度	Cutter Diameter 刃部直径	Shank Diameter 柄部直径	Overall Length 全长	Capacity 生产量
HSSCo8	HSS	α	D1	D2	L(±1)	min最小/max最大
C1136063	**C3136063**	60°	**6.3**	5	45	1.6~6.3
C1136080	**C3136080**	60°	**8.0**	6	50	2.0~8.0
C1136100	**C3136100**	60°	**10.0**	6	50	2.5~10.0
C1136125	**C3136125**	60°	**12.5**	8	56	3.2~12.5
C1136160	**C3136160**	60°	**16.0**	10	63	4.0~16.0
C1136200	**C3136200**	60°	**20.0**	10	67	5.0~20.0
C1136250	**C3136250**	60°	**25.0**	10	71	6.3~25.0

▶ TiN & TiCN coating are available on your request.
TiN&TiCN涂层可根据客户要求进行加工.

Cutter Dia. Tolerance(mm) 刃部直径公差	Shank Dia.Tolerance(mm) 柄部公差	Point Angle Tolerance(°) 钻尖角度公差
±0.05	h9	+0/-1

◎ : 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	400Rm	1050Rm	550	630	400	550
Recommended	◎	○	○	○	○	○	○	○													

COUNTERSINKS

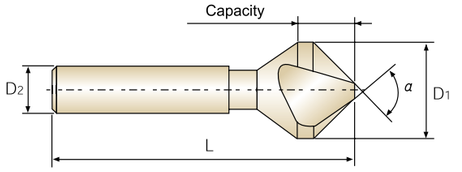
C1139 SERIES
C3139 SERIES

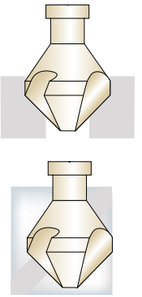
HSS & HSSCo8, THREE FLUTE COUNTERSINKS (90°)
HSS & HSSCo8, 3刃沉孔刀

- ▶ Self-centering(3 flutes).
- ▶ Designed for 90°capscrews countersinking.
- ▶ Hand using.
- ▶ Longitudinal chamfers and contouring.
- ▶ Works without vibrations

- ▶ 自定心 (3槽)
- ▶ 为90° 螺帽钉做埋头孔而设计的
- ▶ 手用
- ▶ 倒角和修形
- ▶ 加工时没有振动







DIN 335C p. A410

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73 - 115

Unit(单位) : mm

EDP No. (uncoating) 型号		Point Angle 钻尖角度	Cutter Diameter 刃部直径	Shank Diameter 柄部直径	Overall Length 全长	Capacity 生产量
HSSCo8	HSS	α	D1	D2	L(±1)	min最小/max最大
C1139043	**C3139043**	90°	**4.3**	4	40	1.3 - 4.3
C1139050	**C3139050**	90°	**5.0**	4	40	1.5 - 5.0
C1139060	**C3139060**	90°	**6.0**	5	45	1.5 - 6.0
C1139063	**C3139063**	90°	**6.3**	5	45	1.5 - 6.3
C1139070	**C3139070**	90°	**7.0**	6	50	1.8 - 7.0
C1139080	**C3139080**	90°	**8.0**	6	50	2.0 - 8.0
C1139083	**C3139083**	90°	**8.3**	6	50	2.0 - 8.3
C1139100	**C3139100**	90°	**10.0**	6	50	2.5 - 10.0
C1139104	**C3139104**	90°	**10.4**	6	50	2.5 - 10.4
C1139115	**C3139115**	90°	**11.5**	8	56	2.8 - 11.5
C1139124	**C3139124**	90°	**12.4**	8	56	2.8 - 12.4
C1139150	**C3139150**	90°	**15.0**	10	60	3.2 - 15.0
C1139165	**C3139165**	90°	**16.5**	10	60	3.2 - 16.5
C1139190	**C3139190**	90°	**19.0**	10	63	3.5 - 19.0
C1139205	**C3139205**	90°	**20.5**	10	63	3.5 - 20.5
C1139230	**C3139230**	90°	**23.0**	10	67	3.8 - 23.0
C1139250	**C3139250**	90°	**25.0**	10	67	3.8 - 25.0
C1139300	**C3139300**	90°	**30.0**	12	71	4.2 - 30.0
C1139310	**C3139310**	90°	**31.0**	12	71	4.2 - 31.0

▶ TiN & TiCN coating are available on your request.
TiN&TiCN涂层可根据客户要求进行加工.

Cutter Dia. Tolerance(mm) 刃部直径公差	Shank Dia.Tolerance(mm) 柄部公差	Point Angle Tolerance(°) 钻尖角度公差
±0.05	h9	+0/-1

◎ : 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	400Rm	1050Rm	550	630	400	550
Recommended	◎	○	○	○	○	○	○	○													

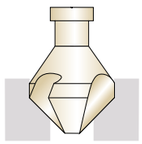
COUNTERSINKS

C1132 SERIES
C3132 SERIES

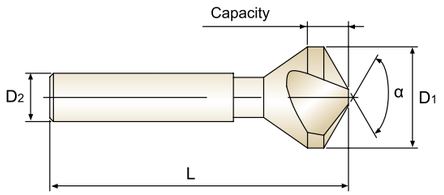
HSS & HSSCo8, THREE FLUTE COUNTERSINKS (120°)
HSS & HSSCo8, 3槽沉孔刀（120°）

- ▶ Self-centering(3 flutes)
- ▶ For deburring, chamfering and countersinking
- ▶ Hand using
- ▶ Longitudinal chamfers and contouring
- ▶ Works without vibrations

- ▶ 自定心（3槽）
- ▶ 去毛刺和小的倒角
- ▶ 手用
- ▶ 倒角和修形
- ▶ 加工时没有振动









YG STD

p. A410

Recommended ToolHolder — Plain Shank: ER COLLET CHUCK — Page: D73 - 115

Unit(单位) : mm

EDP No. (uncoating) 型号		Point Angle 钻尖角度	Cutter Diameter 刃部直径	Shank Diameter 柄部直径	Overall Length 全长	Capacity 生产量
HSSCo8	HSS	α	D_1	D_2	L(±1)	min最小/max最大
C1132080	**C3132080**	120°	**8.0**	6	49	2.0~8.0
C1132125	**C3132125**	120°	**12.5**	8	54	2.8~12.5
C1132160	**C3132160**	120°	**16.0**	10	57	3.2~16.0
C1132200	**C3132200**	120°	**20.0**	10	59	3.5~20.0
C1132250	**C3132250**	120°	**25.0**	10	65	3.8~25.0

▶ TiN & TiCN coating are available on your request.
TiN&TiCN涂层可根据客户要求进行加工.

Cutter Dia. Tolerance(mm) 刃部直径公差	Shank Dia.Tolerance(mm) 柄部公差	Point Angle Tolerance(°) 钻尖角度公差
±0.05	h9	+0/-1

◎ : 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	400Rm	1050Rm	550	630	400	550
Recommended	◎	○	○	○	○	○	○	○													

COUNTERSINKS

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

C1109, C3109, C1119, C3119 SERIES

DEBURRING TOOL with HOLE
1 FLUTE CHAMFERING CUTTERS

Vc (切削速度)= (m/min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Feed 进给 (mm/rev) 10.0	15.0	20.0	25.0	30.0	40.0	50.0
P	1	Non-alloy steel	**40**	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30
	2		**40**	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30
	3		**25**	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27
	4		**18**	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.14	0.14-0.16	0.16-0.18	0.18-0.20
	5		**18**	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.14	0.14-0.16	0.16-0.18	0.18-0.20
M	12	Stainless steel	**8**	0.05-0.07	0.07-0.09	0.07-0.09	0.09-0.11	0.09-0.11	0.11-0.14	0.11-0.14
	13		**7**	0.05-0.07	0.07-0.09	0.07-0.09	0.09-0.11	0.09-0.11	0.11-0.14	0.11-0.14
	14		**6**	0.05-0.07	0.07-0.09	0.07-0.09	0.09-0.11	0.09-0.11	0.11-0.14	0.11-0.14
K	15	Grey cast iron	**28**	0.13-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.34
	16		**24**	0.12-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.33
	17	Nodular cast iron	**24**	0.13-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.34
	18		**20**	0.12-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.33
	19	Malleable cast iron	**24**	0.13-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.34
	20		**20**	0.12-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.33
N	21	Aluminum-wrought alloy	**56**	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.33	0.33-0.36
	22		**56**	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.33	0.33-0.36
	23	Aluminum-cast, alloyed	**54**	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.33	0.33-0.36
	24		**52**	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.33	0.33-0.36
	25		**50**	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.33	0.33-0.36
	26	Copper and Copper Alloys (Bronze / Brass)	**38**	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37
	27		**35**	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37
	28		**25**	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.33	0.33-0.36

COUNTERSINKS

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

C1136, C3136, C1139, C3139, C1132, C3132 SERIES

3 FLUTE COUNTERSINKS

Vc (切削速度)= (m/min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Feed 进给 (mm/rev)							
				5.0	10.0	15.0	20.0	25.0	30.0	40.0	50.0
P	1	Non-alloy steel	20	0.12-0.16	0.16-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.33	0.33-0.37	0.37-0.41
	2		20	0.12-0.16	0.16-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.33	0.33-0.37	0.37-0.41
	3		13	0.10-0.14	0.14-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.31	0.31-0.35	0.35-0.39
	4		10	0.06-0.10	0.10-0.14	0.14-0.17	0.17-0.21	0.21-0.24	0.24-0.27	0.27-0.31	0.31-0.35
	5		10	0.06-0.10	0.10-0.14	0.14-0.17	0.17-0.21	0.21-0.24	0.24-0.27	0.27-0.31	0.31-0.35
M	12	Stainless steel	6	0.06-0.08	0.06-0.08	0.08-0.10	0.08-0.10	0.10-0.12	0.10-0.12	0.12-0.15	0.12-0.15
	13		5	0.06-0.08	0.06-0.08	0.08-0.10	0.08-0.10	0.10-0.12	0.10-0.12	0.12-0.15	0.12-0.15
	14		4	0.06-0.08	0.06-0.08	0.08-0.10	0.08-0.10	0.10-0.12	0.10-0.12	0.12-0.15	0.12-0.15
K	15	Grey cast iron	22	0.09-0.11	0.11-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.32
	16		17	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.31
	17	Nodular cast iron	17	0.09-0.11	0.11-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.32
	18		15	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.31
	19	Malleable cast iron	17	0.09-0.11	0.11-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.32
	20		15	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.31
N	21	Aluminum-wrought alloy	42	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.31	0.31-0.35	0.35-0.40	0.40-0.45
	22		42	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.31	0.31-0.35	0.35-0.40	0.40-0.45
	23	Aluminum-cast, alloyed	39	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.31	0.31-0.35	0.35-0.40	0.40-0.45
	24		37	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.28	0.28-0.32	0.32-0.37	0.37-0.42
	25		35	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.31	0.31-0.35	0.35-0.40	0.40-0.45
	26	Copper and Copper Alloys (Bronze / Brass)	28	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.28	0.28-0.32	0.32-0.37	0.37-0.42
	27		25	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.28	0.28-0.32	0.32-0.37	0.37-0.42
	28		15	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.28	0.28-0.32	0.32-0.37	0.37-0.42



Leading Through Innovation

HSS-E

COUNTERBORES

- For Machining Screw Head Seats
- 用于加工螺钉头座

SELECTION GUIDE
选用指南

HOLEMAKING TOOLS

SERIES 系列	EL950		
TYPE 类型	MEDIUM	FINE	BEOFRE THREADING
PILOT DIA. 导柱直径	3.4~14.0	3.2~13.0	2.5~10.2
CUTTER DIA. 刀部直径	6.0~20.0		
PAGE 页数	A413		
SURFACE TREATMENT 表面处理	Bright		

HSS-E
COUNTERBORES

For Machining Screw Head Seats
用于加工螺钉头座



Please visit 请访问 globalyg1.com/mat for material search 查看产品材料

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工条件) : p. A415

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理		HB 布氏硬度	HRc 硬度	
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	

COUNTERBORES

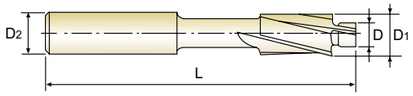
EL950 SERIES

HSS-E, 3 FLUTE COUNTERBORES for 180° CAPSCREW
HSS-E, 平头螺钉(180°)用三刃沉孔锪刀

▶ The counterbores with solid pilot are designed for machining as fillister screw caps or ejector caps in molds.

▶ 带整体导柱锪刀用于模具加工中螺帽或导管安装面的加工.





HSS-E | DIN 373 | 3 | PLAIN

p. A415

Recommended ToolHolder — Plain Shank: ER COLLET CHUCK — Page: D73-115

MEDIUM

Unit(单位) : mm

EDP No. 型号	ITEM No. 系列号	Screw Size 螺丝尺寸	Pilot Diameter 导杆直径	Cutter Diameter 刃部直径	Shank Diameter 柄部直径	Overall Length 全长
PLAIN	PLAIN		D(e8)	D1(z9)	D2(h9)	L
EL950003	YG54M3-M	M3	3.4	6.0	5	71
EL950035	YG54M3.5-M	M3.5	3.9	6.5	5	71
EL950004	YG54M4-M	M4	4.5	8.0	5	71
EL950005	YG54M5-M	M5	5.5	10.0	8	80
EL950006	YG54M6-M	M6	6.6	11.0	8	80
EL950008	YG54M8-M	M8	9.0	15.0	12.5	100
EL950010	YG54M10-M	M10	11.0	18.0	12.5	100
EL950012	YG54M12-M	M12	14.0	20.0	12.5	100

FINE

Unit(单位) : mm

EDP No. 型号	ITEM No. 系列号	Screw Size 螺丝尺寸	Pilot Diameter 导杆直径	Cutter Diameter 刃部直径	Shank Diameter 柄部直径	Overall Length 全长
PLAIN	PLAIN		D(e8)	D1(z9)	D2(h9)	L
EL950901	YG54M3-F	M3	3.2	6.0	5	71
EL950902	YG54M3.5-F	M3.5	3.7	6.5	5	71
EL950903	YG54M4-F	M4	4.3	8.0	5	71
EL950904	YG54M5-F	M5	5.3	10.0	8	80
EL950905	YG54M6-F	M6	6.4	11.0	8	80
EL950906	YG54M8-F	M8	8.4	15.0	12.5	100
EL950907	YG54M10-F	M10	10.5	18.0	12.5	100
EL950908	YG54M12-F	M12	13.0	20.0	12.5	100

▶ 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
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	○	○	○	○																	

COUNTERBORES

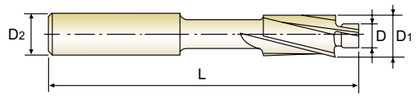
EL950 SERIES

HSS-E, 3 FLUTE COUNTERBORES for 180° CAPSCREW
HSS-E, 平头螺钉(180°)用三刃沉孔锪刀

▶ The counterbores with solid pilot are designed for machining as fillister screw caps or ejector caps in molds.

▶ 带整体导柱锪刀用于模具加工中螺帽或导管安装面的加工.





HSS-E | DIN 373 | 3 | PLAIN

p. A415

Recommended ToolHolder — Plain Shank — ER COLLET CHUCK — Page D73 - 115

BEFORE THREADING

Unit(单位) : mm

EDP No. 型号 PLAIN	ITEM No. 系列号 PLAIN	Screw Size 螺丝尺寸	Pilot Diameter 导杆直径 D(e8)	Cutter Diameter 刃部直径 D1(z9)	Shank Diameter 柄部直径 D2(h9)	Overall Length 全长 L
EL950909	**YG54M3-T**	M3	**2.5**	**6.0**	5	71
EL950910	**YG54M3.5-T**	M3.5	**2.9**	**6.5**	5	71
EL950911	**YG54M4-T**	M4	**3.3**	**8.0**	5	71
EL950912	**YG54M5-T**	M5	**4.2**	**10.0**	8	80
EL950913	**YG54M6-T**	M6	**5.0**	**11.0**	8	80
EL950914	**YG54M8-T**	M8	**6.8**	**15.0**	12.5	100
EL950915	**YG54M10-T**	M10	**8.5**	**18.0**	12.5	100
EL950916	**YG54M12-T**	M12	**10.2**	**20.0**	12.5	100

Tolerances according to DIN 7160 & 7161
DIN 7160 & 7161 规定的精度

Tolerance range in µm / 精度范围单位 Nominal-Diameter in mm / 公称直径单位				
	from 1 to 3 1~3	over 3 to 6 3~6	over 6 to 10 6~10	over 10 to 18 10~18
e8	- 14 - 28	- 20 - 38	- 25 - 47	- 32 - 59
h9	0 - 25	0 - 30	0 - 36	0 - 43

Tolerance range in µm / 精度范围单位 Nominal-Diameter in mm / 公称直径单位				
	from 6 to 10 6~10	over 10 to 14 10~14	over 14 to 18 14~18	over 18 to 24 18~24
z9	+ 78 + 42	+ 93 + 50	+103 + 60	+125 + 73

◎ : 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	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○																	

COUNTERBORES

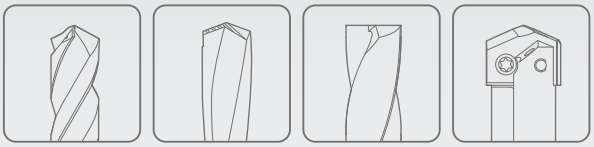
RECOMMENDED CUTTING CONDITIONS
推荐加工条件

EL950 SERIES — HSS-E, 3 FLUTE COUNTERBORES for 180° CAPSCREW

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

ISO 公制	VDI 3323	Material Description 材料描述	Parameter 参数	Cutter Diameter 刃部直径 (Ø) 6.0	6.5	8.0	10.0	11.0	15.0	18.0	20.0
P	1	Non-alloy steel	Vc	25	25	25	25	25	25	25	25
			fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13
			RPM	1326	1224	995	796	723	531	442	398
			FEED	322	297	242	258	234	172	167	150
	2		Vc	24	24	24	24	24	24	24	24
			fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13
			RPM	1273	1175	955	764	694	509	424	382
			FEED	309	286	232	248	225	165	160	144
	3		Vc	18	18	18	18	18	18	18	18
			fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13
			RPM	955	881	716	573	521	382	318	286
			FEED	232	214	174	186	169	124	120	108
	4		Vc	18	18	18	18	18	18	18	18
			fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13
			RPM	955	881	716	573	521	382	318	286
			FEED	232	214	174	186	169	124	120	108
	5		Vc	18	18	18	18	18	18	18	18
			fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13
			RPM	955	881	716	573	521	382	318	286
			FEED	232	214	174	186	169	124	120	108
	6	Low alloy steel	Vc	24	24	24	24	24	24	24	24
			fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13
			RPM	1273	1175	955	764	694	509	424	382
			FEED	309	286	232	248	225	165	160	144
	7		Vc	18	18	18	18	18	18	18	18
			fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13
			RPM	955	881	716	573	521	382	318	286
			FEED	232	214	174	186	169	124	120	108
	8		Vc	18	18	18	18	18	18	18	18
			fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13
			RPM	955	881	716	573	521	382	318	286
			FEED	232	214	174	186	169	124	120	108
	9		Vc	15	15	15	15	15	15	15	15
			fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13
			RPM	796	735	597	477	434	318	265	239
			FEED	193	178	145	155	141	103	100	90
	10	High alloyed steel, and tool steel	Vc	24	24	24	24	24	24	24	24
			fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13
			RPM	1273	1175	955	764	694	509	424	382
			FEED	309	286	232	248	225	165	160	144
	11		Vc	18	18	18	18	18	18	18	18
			fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13
			RPM	955	881	716	573	521	382	318	286
			FEED	232	214	174	186	169	124	120	108
N	21	Aluminum-wrought alloy	Vc	30	30	30	30	30	30	30	30
			fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13
			RPM	1592	1469	1194	955	868	637	531	477
			FEED	382	353	286	315	286	210	207	186
	22		Vc	30	30	30	30	30	30	30	30
			fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13
			RPM	1592	1469	1194	955	868	637	531	477
			FEED	382	353	286	315	286	210	207	186
	23	Aluminum-cast, alloyed	Vc	20	20	20	20	20	20	20	20
			fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13
			RPM	1061	979	796	637	579	424	354	318
			FEED	255	235	191	210	191	140	138	124
	24		Vc	20	20	20	20	20	20	20	20
			fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13
			RPM	1061	979	796	637	579	424	354	318
			FEED	255	235	191	210	191	140	138	124

Global Cutting Tool Leader **YG-1**



HOLEMAKING

Being the best through innovation

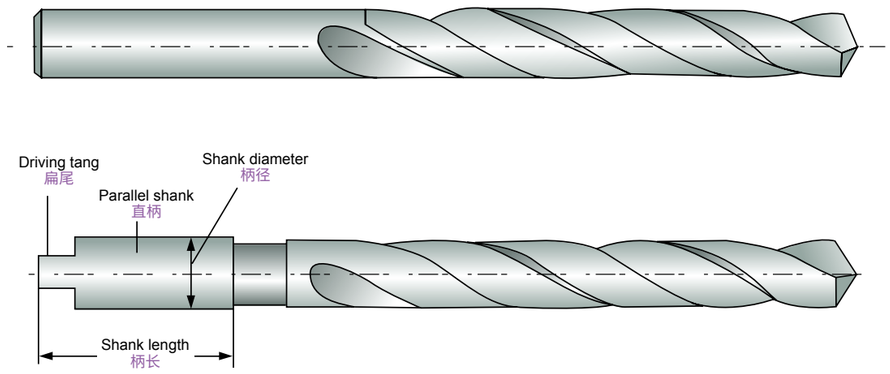


DRILLS

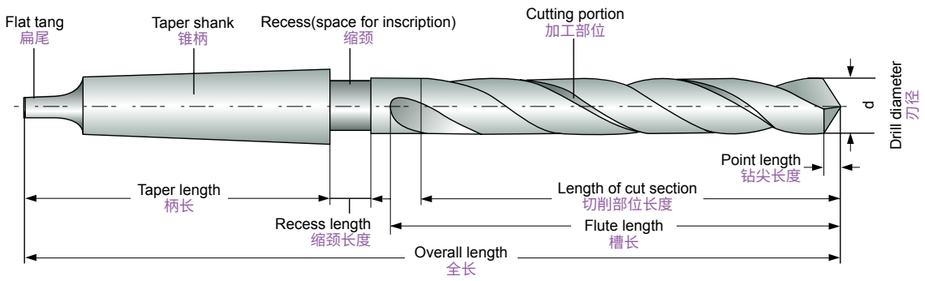
TECHNICAL DATA

TECHNICAL DATA

1 Twist Drill with parallel shank
直柄螺旋槽钻头



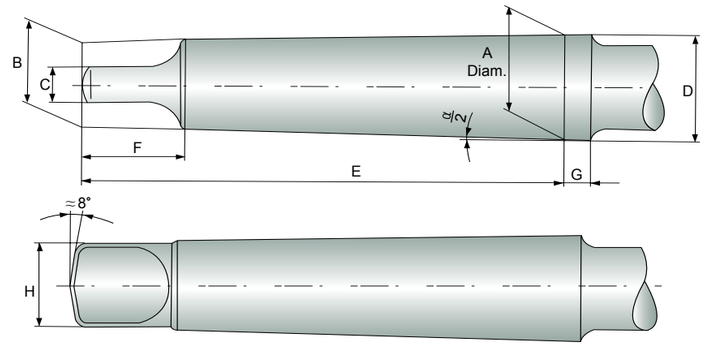
2 Twist Drill with taper shank
锥柄螺旋槽钻头



CARBIDE
HSS
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

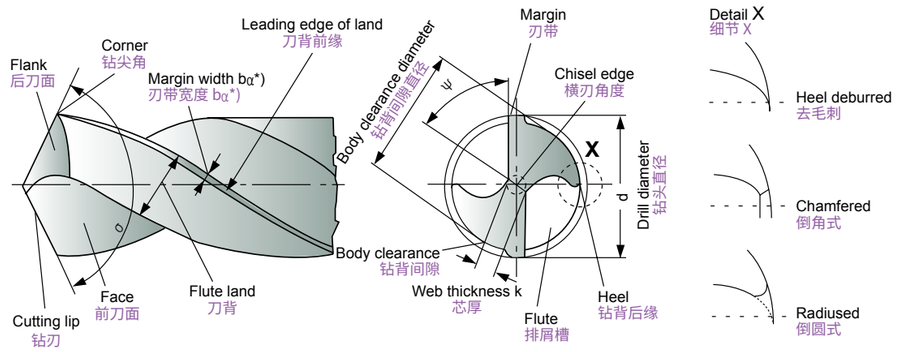
TECHNICAL DATA

3 General dimensions of morse taper shanks
莫氏锥柄一般尺寸



Morse Taper Shank Morsekegelschaft	A mm	B mm	C(h13) mm	D mm	E mm	F(max.) mm	G mm	H(max.) mm	α/2
No.1	12.065	9	5.2	12.2	62	13.5	3.5	8.7	1°25'43"
No.2	17.780	14	6.3	18.0	75	16	5	13.5	1°25'50"
No.3	23.825	19.1	7.9	24.1	94	20	5	18.5	1°26'16"
No.4	31.267	25.2	11.9	31.6	117.5	24	6.5	24.5	1°29'15"
No.5	44.399	36.5	15.9	44.7	149.5	29	6.5	35.7	1°30'26"
No.6	63.348	52.4	19	63.8	210	40	8	51	1°29'36"

4 Cutting portion
切削部位

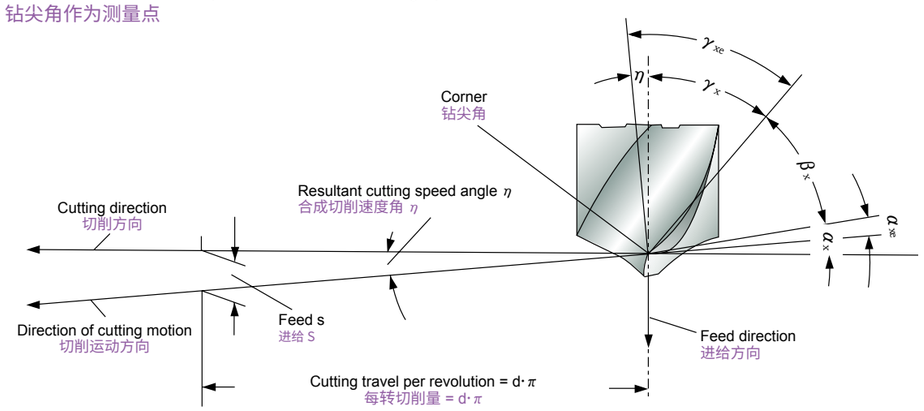


σ = Point angle (sigma) / 钻顶角 (sigma)
Ψ = Chisel edge angle (psi) / 横刃角度 (psi)

In the context of cutting technology, land width b_α is the body clearance land width which is to be by $b_{f\alpha n}$, see DIN 6581.
见DIN 6581，在切削技术资料里， 刃背宽度 bα是钻背间隙宽度bfαn

5 Angle at the cutting edges
切削刃角度

The corner has been adopted as the observed edge point.
钻尖角作为测量点



α_x = Side clearance angle (alpha) / 后角(α)
α_{xe} = Effective side clearance angle / 工作后角
β_x = Side wedge angle (beta) / 楔角(β)
γ_x = Front rake angle (gamma) / 前角(γ)
γ_{xe} = Working front rake angle / 工作前角
η = Resultant cutting speed angle (eta) / 合成切削速度角(η)

Clearance angle **α**, wedge angle **β** and rake angle **γ** are measured in the tool orthogonal plane. For details, see DIN 6581, definitions of metal-cutting technology; geometry at the tool edge.
后角α，楔角β和前角γ测量是在工具正交平面上测量的. 详情请参阅DIN 6581，
金属切削技术的定义;刀具刃的几何形状.

TECHNICAL DATA

6 Resharpening Twist Drills
钻头修磨

(1) Drills are worn off irregularly. It should be sharpened prior to developing into excessive wear.
钻头会不时的磨损，在过度磨损前应该进行修磨.

(2) Resharpening / 再研磨

① Grind the correct point angle to suit your application. (figure 8)
研磨正确的钻顶角，适应实际应用 (图8)
② Check that both cutting lips have the same angle. On a 130° point, each lip should be 65° toward the axis. The point must be on center, i.e., the chisel edge must produce cutting lips of equal length.(figure 8)
检查两个切割刃角度是否相同. 在一个130度的钻顶角，每个切削刃应该相对轴线65度.
钻顶必须在中心，即横刃必须产生等长的切削刃. (图8)
③ Grind Primary relief and Secondary clearance. (figure 9)
研磨第一后角和第二后角 (图9)
④ Grind web thinning. (figure 10)
修磨横刃 (图10)

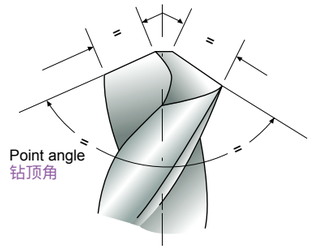


Figure 8
图 8

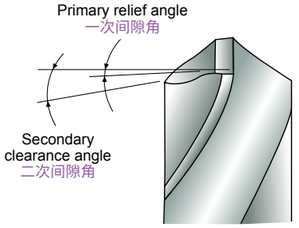


Figure 9
图 9

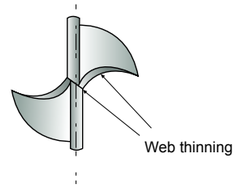
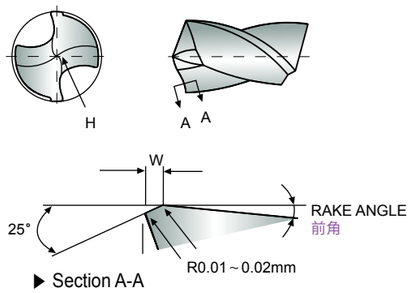


Figure 10
图 10

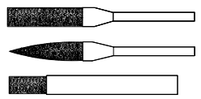
(3) Honing Guide of Dream Drills
梦幻钻头倒棱指导

■ **Dimension of Honing**
倒棱尺寸



▶ Section A-A

■ **Scraper**
金刚锉



for Roughing (#140)
粗磨
for Finishing (#230～#400)
精磨

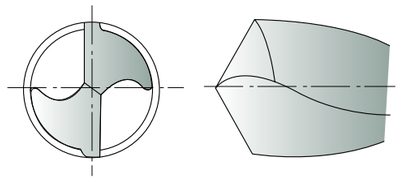
Work Material	Alloy Steels	Mild Steels	Cast Iron
W(mm)	0.15～0.2	0.1～0.15	0.03

▶The dimension W of stocked products is 0.1～0.15.
在库品W 值为 0.1~0.15

Web thinning
横刃修磨

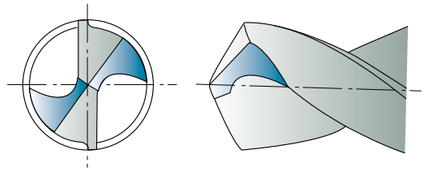
(1) Without thinning
无横刃修磨

Suitable for drill of general purpose.
Thanks to thin web thickness, web thinning is not need.
This without web thinning type is applied to design of drills for mild steels, alloy steels, cast iron, stainless steels, titanium, inconel, etc. and conventional cutting conditons.
适用于一般用途的钻削得益于小的横刃，不需要修磨
这种无横刃修磨的钻头适合于低碳钢，合金钢，铸铁，不锈钢钛合金，镍合金和传统加工方式



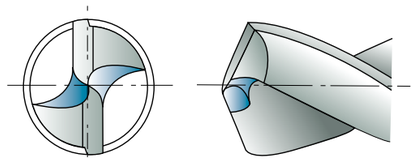
(2) Type C thinning (DIN1412 FORM C, SPLIT POINT)
类型C (DIN1412 FORM C, SPLIT POINT)

Because Split point enables good centering when drilling and breaks the chips, chip removals are easy.
Suitable for drill design in high hardened tough materials, i.e, heat treated steels, titanium alloys, stainless steels, incoroy inconel, nimonic, etc.
因为在钻孔时，C型钻尖能使钻具良好的定心 和断屑，
排屑容易适用于加工高硬化材料，热处理钢，钛合金，
不锈钢，镍合金，镍铬钛合金等的钻头设计



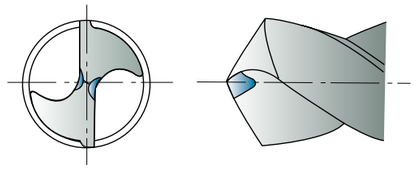
(3) Type R thinning (HELICAL THINNING)
类型R (螺旋横刃修磨)

Helical thinning ensures to frequent chip breaking and removal. The different direction force of cutting edges and helical thinning parts enable that chips curl, break and remove through the flutes. In addition, helical thinning makes the chip room up to center, remove the chisel and enables good centering
螺旋横刃修磨可以确保持续断屑和排屑
在切削刃和螺旋横刃不同方向的切削力可以
使切屑卷曲，断裂和脱落并通过排屑槽排出
此外，螺旋型横刃修磨可以将切屑空间增至中心位置，减小横刃，定心更好



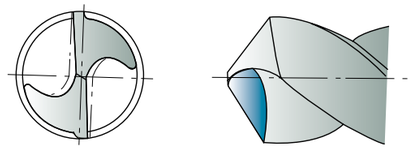
(4) Type A thinning (DIN1412 FORM A)
类型A (DIN1412 FORM A)

A type thinnings makes thin chisel, good chip removal and favorable centering.
This type is the easiest type to grind the thinning. In narrow web and wide fluted drills, keeping of the rigidity and smooth chip removal are possible.
A型横刃修磨使横刃变薄，去屑性好良好的定心.
这种类型是最容易加工的类型.
对于小芯厚，宽超钻头，可以保持刚性和流畅排屑



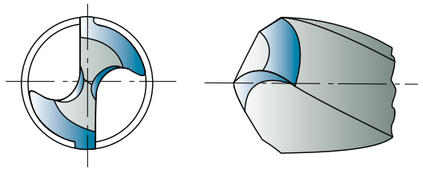
(5) Type B thinning (DIN1412 FORM B)
类型B (DIN 1412 FORM B)

In case of work materials with low cutting resistance and good chip removal, i.e., cast iron, aluminum, plastic etc., B type thinning is suitable.
Especially when drills for high hardended steels are designed, this type is applied to decrease rake angle and avoid chipping of cutting lips.
该类型适合在工件材料具有低切削阻力和排屑良好的情况下使用
如铸铁，铝合金 和塑料凳尤其适合用于加工高硬度钢钻头可以减小前角，避免切削刃崩刃



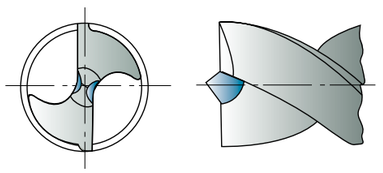
(6) Type D thinning (DIN1412 FORM D)
类型D (DIN1412 FORM D)

Grey cast iron thinning; bevelling of external edges strengthens the cutting edge.
Used for medium to high grey cast iron hardness and for abrasives.
灰铸铁专用研磨；外刃斜面研磨增强切削刃强度
用于中高硬度的灰铸铁和耐磨损性



(7) Type E thinning (DIN1412 FORM E)
类型 E (DIN 1412 FORM E)

Center drill bit thinning; ensures optimal center drilling and does not leave burs in through holes.
As the bit and cutting edges are delicate, this bit should be used far drilling thin sheet metal.
中心钻尖研磨，最佳的定心加工，保证通孔时无毛刺
由于钻尖和切削刃精密的，这种钻尖尤其适合钻金属薄板



Surface Finishes for high speed steels Twist Drills
螺旋槽高速钢钻头表面处理

(1) Bright Finish / 光亮处理

Drills with a bright finish are without surface treatment and ground condition.
Especially bright finished drills are used in machining of non ferrous materials.
钻头光亮处理就是无表面处理，处于磨削状态.
光亮处理的钻头尤其适合加工有色金属

(2) Coloring (Gold color) / 着色 (金色)

The coloring is a thin oxide layer formed on the tool surfaces.
This is often applied to cobalt high speed steels twist drills.
着色是在工具表面形成的薄氧化层
它经常应用于含钴高速钢麻花钻

(3) Steam Tempered (black oxide finish) / 蒸汽回火 (黑色氧化物涂层)

This is a black oxide layer 1-2㎛ formed on the tool surfaces.
Steam Tempered treated drill is the result of a steam tempering operation. Because the oxide layer retains some coolant on the tool surface, and aids chip flow, helps to dissipate heat, steam homo treated drills are recommended for ferrous applications.
这是在工具表面形成的黑色氧化层 (1-2u)
蒸汽回火处理的钻头是蒸汽回火操作的结果. 因为氧化层在工具表面保留了一定的冷却效果
有助于切屑流动，有助于散热，所以蒸汽均匀处理的钻头 推荐加工含铁材料

Coating
涂层

The use of coated cutting tools reduce production costs.
涂层刀具的使用可降低生产成本
For example
例如
- Avoidance of machine downtime due to premature tool wear.
  避免因刀具过早磨损导致停机.
- Higher cutting capabilities to reduce actual machining times.
  更高的切削能力，减少实际加工时间.
- Reproducible tool life.
  稳定的刀具寿命.
- Improvement of component surface quality.
  改善工件表面质量.

TECHNICAL DATA

(1) TiN (Titanium Nitride) coating / TiN 涂层

Titanium Nitride gives the tool a higher performance in comparison to traditional non-coated drills.
TiN coating, with good all-around properties, is recommended for the general application, i.e., attack by abrasive, adhesive and chemical wear in equal proportions.
与传统的无涂层钻头相比，氮化钛赋予该刀具更高的性能.
TiN涂层具有良好的综合性能，建议用于一般应用，兼具耐磨损性，附着性和耐化学性等均衡性能.

(2) TiCN (Titanium Carbon Nitride) coating / TiCN 涂层

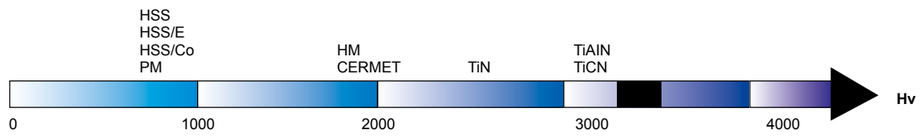
TiCN coating should be employed when severe thermodynamic stress is expected, for example when drilling in high hardened steels or in mild steels with high speed and feed.
当预计会出现严重的热应力时，应采用TiCN涂层，例如在高硬度钢或高速高进给加工低碳钢时.

(3) TiAlN (Titanium Alumium Nitride) coating / TiAlN 涂层

The addition of Aluminum to the Titanium Nitride produces an increase in hardness and an exceptional increase in resistance to oxidation at high temperature.
TiAlN coating is applied to drilling with severe thermal stress on cutting edges when continuous non-step feed, dry cutting or high speed cutting.
在氮化钛中加入铝会增加硬度，并在高温下显著提高抗氧化能力.
TiAlN涂层适用于连续加工，干式切削或高速切削时切削刃上存在严重热应力的钻孔.

(4) Properties of coating / 涂层特性

Properties 特征	TiN	TiCN	TiAlN
Coating color 涂层颜色	gold - yellow 金黄	blue - grey 蓝灰	violet - grey 紫灰
Hardness (Hv 0.05) 硬度 (HV0.005)	2300	3000	3000
Coating thickness(㎛) 涂层厚度 (㎛)	1 ~ 4	1 ~ 4	1 ~ 5
Max. working temperature (˚C) 最大工作温度 (˚C)	600	400	800
Coefficient of friction against steels (dry) 钢的摩擦系数 (干)	0.4	0.4	0.4



CARBIDE
HSS
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

(5) Selection of coating
涂层的选用

Work-material 被加工材料	HSS TWIST DRILLS 高速钢麻花钻	CARBIDE DRILLS 硬质合金钻头
Unalloyed steels 碳素钢	TiCN, TiAlN	TiCN, TiAlN
Steels < 1000 N/mm^2 钢<1000N/mm^2	TiCN, TiAlN	TiCN, TiAlN
Steels > 1000 N/mm^2 刚>1000N/mm^2	TiCN, TiAlN	TiCN, TiAlN
Stainless steels 不锈钢	TiCN, TiAlN	TiCN, TiAlN
Cast iron 铸铁	TiCN, TiAlN	TiAlN
Al-wrought alloys 铝-锻造合金	TiN	TiN
Al-cast alloys 铝-铸件	TiCN	TiCN
Copper (pure) 铜 (纯铜)	CrN	CrN
Brass 黄铜	TiCN	TiCN
Bronze 青铜	TiCN	TiCN

10 Drill sizes before Tapping
螺纹底孔

(1) Metric - ISO threads coarse pitch
公制-ISO 螺纹粗牙

Nominal diameter 螺纹	Drill diameter 钻头直径	Nominal diameter 螺纹	Drill diameter 钻头直径	Nominal diameter 螺纹	Drill diameter 钻头直径	Nominal diameter 螺纹	Drill diameter 钻头直径
		M3	2.5	**M11**	9.5	**M30**	26.5
M1	0.75	**M3.5**	2.9	**M12**	10.2	**M33**	29.5
M1.2	0.95	**M4**	3.3	**M14**	12.0	**M36**	32.0
M1.4	1.1	**M5**	4.2	**M16**	14.0	**M39**	35.0
M1.6	1.25	**M6**	5.0	**M18**	15.5	**M42**	37.5
M1.8	1.45	**M7**	6.0	**M20**	17.5	**M45**	40.5
M2	1.6	**M8**	6.8	**M22**	19.5	**M48**	43.0
M2.2	1.75	**M9**	7.8	**M24**	21.0	**M52**	47.0
M2.5	2.05	**M10**	8.5	**M27**	24.0	**M56**	50.5

(2) Metric ISO threads fine pitch
公制-ISO 螺纹细牙

Nominal diameter 螺纹	Tap Pitch	Drill diameter 钻头直径	Nominal diameter 螺纹	Tap Pitch	Drill diameter 钻头直径
2.5	0.35	2.15	7	0.75	6.2
3	0.35	2.65	8	0.75	7.2
3.5	0.35	3.15	8	1	7
4	0.5	3.5	9	0.75	8.2
4.5	0.5	4	9	1	8
5	0.5	4.5	10	0.75	9.2
5.5	0.5	5	10	1	9
6	0.75	5.2	10	1.25	8.8

Nominal diameter 螺纹	Tap Pitch	Drill diameter 钻头直径	Nominal diameter 螺纹	Tap Pitch	Drill diameter 钻头直径
11	0.75	10.2	30	1	29
11	1	10	30	1.5	28.5
12	1	11	30	2	28
12	1.25	10.8	30	3	27
12	1.5	10.5	32	1.5	30.5
14	1	13	32	2	30
14	1.25	12.8	33	1.5	31.5
14	1.5	12.5	33	2	31
15	1	14	33	3	30
15	1.5	13.5	35	1.5	33.5
16	1	15	36	1.5	34.5
16	1.5	14.5	36	2	34
17	1	16	36	3	33
17	1.5	15.5	38	1.5	36.5
18	1	17	39	1.5	37.5
18	1.5	16.5	39	2	37
18	2	16	39	3	36
20	1	19	40	1.5	38.5
20	1.5	18.5	40	2	38
20	2	18	40	3	37
22	1	21	42	1.5	40.5
22	1.5	20.5	42	2	40
22	2	20	42	3	39
24	1	23	45	1.5	43.5
24	1.5	22.5	45	2	43
24	2	22	45	3	42
25	1	24	48	1.5	46.5
25	1.5	23.5	48	2	46
25	2	23	48	3	45
26	1.5	24.5	50	1.5	48.5
27	1	26	50	2	48
27	1.5	25.5	50	3	47
27	2	25	52	1.5	50.5
28	1	27	52	2	50
28	1.5	26.5	52	3	49
28	2	26			

(3) WITHWORTH pipe threads (BSP)
惠氏管螺纹 (BSP)

Nominal size inches	Drill diameter mm	Nominal size inches	Drill diameter mm
G1/8	8.8	G1 * 1/4	39.5
G1/4	11.8	G1 * 3/8	42.0
G3/8	15.25	G1 * 1/2	45.0
G1/2	19.0	G1 * 3/4	51.0
G5/8	21.0	G2	57.0
G3/4	24.5	G2 * 1/4	63.0
G7/8	28.25	G2 * 1/2	73.0
G1	30.75	G2 * 3/4	79.0
G11/8	35.5	G3	85.0

(4) American unified coarse threads
美制粗牙螺纹

UNC	Drill diameter		UNC	Drill diameter	
	inches	mm		inches	mm
No. 1	53	1.51	**7/16**	U	9.35
No. 2	50	1.78	**1/2**	27/64	10.71
No. 3	47	1.99	**9/16**	31/64	12.30
No. 4	43	2.26	**5/8**	17/32	13.49
No. 5	38	2.58	**3/4**	21/32	16.67
No. 6	36	2.71	**7/8**	49/64	19.44
No. 8	29	3.45	**1**	7/8	22.22
No. 10	25	3.8	**1 ∗ 1/8**	63/64	25.00
No. 12	16	4.5	**1 ∗ 1/4**	1 ∗ 7/64	28.18
1/4	7	5.11	**1 ∗ 3/8**	1 ∗ 7/32	30.95
5/16	F	6.53	**1 ∗ 1/2**	1 ∗ 11/32	34.13
3/8	5/16	7.94			

(5) American unified fine threads
美制细牙螺纹

NF	Drill diameter		NF	Drill diameter	
	inches	mm		inches	mm
No. 0	3/64	1.19	**3/8**	Q	8.43
No. 1	53	1.51	**7/16**	25/64	9.92
No. 2	50	1.78	**1/2**	29/64	11.51
No. 3	45	2.08	**9/16**	33/64	13.10
No. 4	42	2.37	**5/8**	37/64	14.86
No. 5	37	2.64	**3/4**	11/16	17.46
No. 6	33	2.87	**7/8**	13/16	20.64
No. 8	29	3.45	**1**	59/64	23.42
No. 10	21	4.04	**1 ∗ 1/8**	1 ∗ 3/64	26.59
No. 12	14	4.62	**1 ∗ 1/4**	1 ∗ 11/32	29.76
1/4	3	5.41	**1 ∗ 3/8**	1 ∗ 19/32	32.94
5/16	1	6.91	**1 ∗ 1/2**	1 ∗ 27/64	36.11

ISO Tolerance
ISO 公差

㎛=1/1000mm

Diameter / 直径 (mm)	1 - 3 from to	3 - 6 over to	6 - 10 over to	10 - 18 over to	18 - 30 over to	30 - 50 over to
Tolerance range in ㎛ / 公差范围 ㎛						
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 -13	0 -16
h7	0 - 10	0 - 12	0 - 15	0 - 18	0 - 21	0 - 25
h8	0 - 14	0 - 18	0 - 22	0 - 27	0 - 33	0 - 39
m7	+12 + 2	+16 + 4	+ 21 + 6	+ 25 + 7	+ 29 + 8	+ 34 + 9

Trouble Shooting in Drilling
钻孔时的问题答疑

Occurrence of trouble 问题	Cause of trouble 原因	Countermeasures 对策
Drill will not enter work 钻头无法钻进工件	1. Drill is dull. 2. Lip relief too small. 3. Too thick a web. 1. 钻头太顿了 2. 钻尖后角小 3. 芯厚过大	1. Grind lip relief sufficiently. 2. Grind web thinning. 3. Choose a drill with narrow web. 1.研磨至足够大的后角 2. 减下芯厚 3.选用芯厚小的产品
Margin chipping 刃带崩边	1.Oversized jig bushing. 1. 钻套过大	1. Choose the suitable jig bushing for drill diameter 1. 根据钻头直径选用合适的钻套
Cutting lip breaks 钻尖崩刃	1. Lip relief too much. 2. Feed too heavy. 1. 后角过大 2. 进给过快	1. Grind lip relief sufficiently. 2. Decrease feed rate. 1. 合适的后角 2. 减小进给速度
Tang breaks **Bruch der** 扁尾折断	1. Imperfect fit between taper shank and socket. 2. Burred or Badly worn sockets. 1. 钻柄和套筒配合不好 2. 套筒有毛刺或磨损	1. Clean the dirt or chips in sockets. 2. Change the worn sockets to new ones. 1.清理套筒的污垢或切屑 2.更换磨损的套筒
Drill breaks in brass 钻铜折断	1. Unsuitable drill 2. Flutes clogged with chips 1. 使用不合适的钻头 2. 堵屑	1. Choose the suitable drill for work material. 1. 根据工件材料选用合适的钻头
Chipping of drill center 钻尖破损	1. Lip relief too much. 2. Feed too heavy. 1. 后角过大 2. 进给过大	1. Grind lip relief sufficiently. 2. Decrease feed rate. 1. 钻刃充分研磨 2. 减小进给
Hole oversize 孔径过大	1. Unequal angle or length of cutting edges. 2. Loosen spindle. 1. 切削刃不对称或不等长 2. 主轴晃动	1. Resharpening point, choose correct drills. 2. Tighten spindle sufficiently. 1. 重新研磨钻顶角，选择合适的钻头 2. 充分紧固主轴
Outer corners broken down. 钻角破损	1. Cutting speed too high. 2. Hard spots in work material. 3. Flutes clogged with chips. 4. Too wear of drills. 1. 切削速度太高 2. 工件材料有硬点 3. 排屑槽堵塞 4. 钻头过度磨损	1. Grind point to suit work material. 2. Decrease the feed rates. 3. Resharpening early beforce too wear. 1. 根据材料研磨合适的钻顶角 2. 减小进给速度 3. 及时修磨

CARBIDE
HSS
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPER SHANK DRILLS
NC-SPOTTING DRILLS
CENTER DRILLS
SPADE DRILLS
REAMERS
COUNTER SINKS
COUNTER BORES
TECHNICAL DATA

Trouble Shooting in Drilling
钻孔时的问题答疑

Occurrence of trouble 问题	Cause of trouble 原因	Countermeasures 对策
Large chip of one flute and small chip of other flute 一个槽切屑长，一个槽切屑短	1. Improperly ground point. 2. Only one lip doing all the cutting 1. 钻顶角研磨不合适 2. 只有一个刃切削	1. Properly grind point. 2. Grind point with same point angle and length of lip 3. Grind with small lip height. 1. 正确的研磨钻顶角 2. 研磨具有相同角度和切削刃长度的钻顶角 3. 及时修磨
Hole rough 孔粗糙	1. Improperly ground point. 2. Unenough coolant supply 3. Too much feed. 4. Fixture not rigid. 1. 钻顶角研磨不合适 2. 冷却液不充分 3. 进给太大 4. 夹具刚性差	1. Properly grind point. 2. Supply coolant enough. 3. Decrease the feed rate. 4. Tighten the fixture or replace. 1. 正确的研磨钻顶角 2. 提供充足的冷却液 3. 减小进给速度 4. 拧紧夹具或重新安装

13 Characteristic of DREAM DRILLS
梦幻钻特征

- YG-1's Dream Drill Series are suitable for high speed and accurate drilling operations by special design and high quality.
  采用特殊的设计和高品质，YG 的梦幻钻头适合高速和高精度钻孔加工

- Good performance for Steels, Cast Irons, Tool steels, Alloy steels and Stainless steels.
  加工钢，铸铁，工具钢，合金钢和不锈钢具有高性能

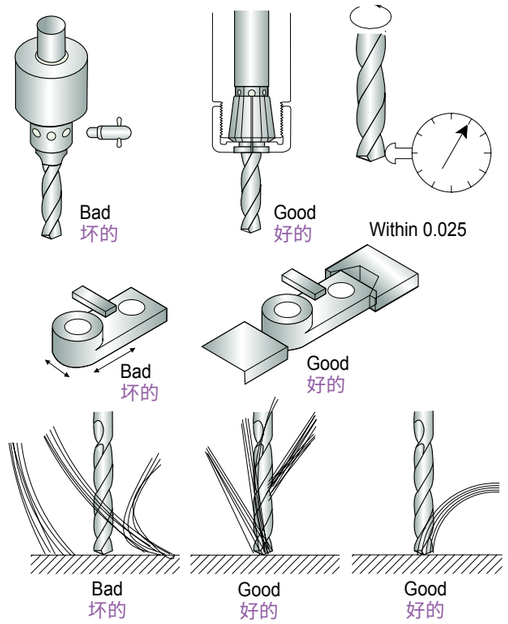
- Rapid chip evacuation and excellent chip breaking can be achived by special designed cutting edges on point and chip breakers on leading edges.
  钻尖采用特殊的设计和断屑，可以确保断屑和快速排屑

- High accuracy and stability.
  高精度和稳定性

- Longer tool life with TiAlN coating.
  采用 TIALN 涂层，确保长刀具寿命

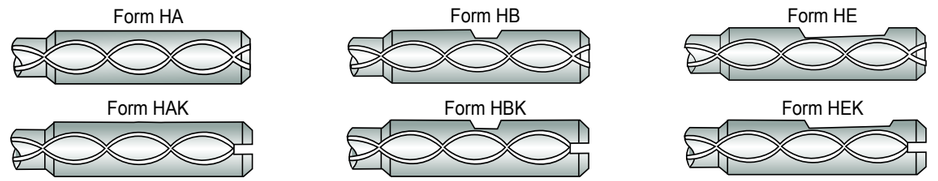
- Self-centering
  自定心

14 Use of DREAM DRILLS
梦幻钻头的使用



- ▶ Chucking with spring collet correctly.
  正确安装
- ▶ Radial run out at cutting lip must not exceed 0.025 mm.
  钻尖跳动不要大于 0.025mm
- ▶ Tighten clamp of work piece.
  工具加紧
- ▶ Supply coolant enoughly to the entrance of hole.
  供应冷却液
- ▶ When using Dream Drills with Coolant holes, Supply high pressure coolant.
  使用高压冷却液

15 Shank Type DREAM DRILLS with Coolant Holes
带内冷梦幻钻头柄部形式



- ▶ Shank Type of stocked products is Form HA.
  在库品采用 HA 类型钻柄
- ▶ If you need other Shank Type, we can supply them.
  其他类型钻柄可定制

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