

刀片式枪钻 Indexable gundrill

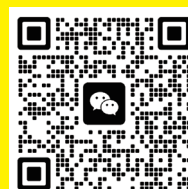


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2024-2025样本



方瀚工具源头生产厂家

上海方瀚精密工具有限公司
Shanghai Fonhae Precision Tools Co., Ltd.



精密刀具，尤其是非标订制刀具

- 小孔镗刀
- 切槽刀
- 螺纹刀
- 订制轮廓成型刀
- 其他订制刀具

Precision tools, especially special customized tools

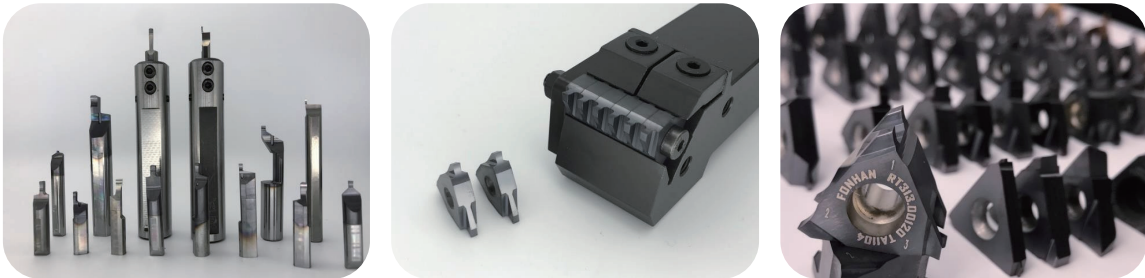
- Boring tools
- Grooving
- Threading
- Customized Contour forming tools
- Other customized tools

应用领域

- 汽车精密零部件：动力系统，传动系统，转向系统，控制系统。
- 消费电子：手机，手表精密部件。
- 航空航天：发动机部件，燃油喷射部件。
- 气动液压：液压阀，泵等精密部件。
- 其他精密零部件。

Application area

- Automotive precision components: power system, transmission system, steering system, control system.
- Consumer electronics: precision components for mobile phones and watches.
- Aerospace: engine components, fuel injection components.
- Pneumatic hydraulic: precision components such as hydraulic valves and pumps.
- Other precision components.

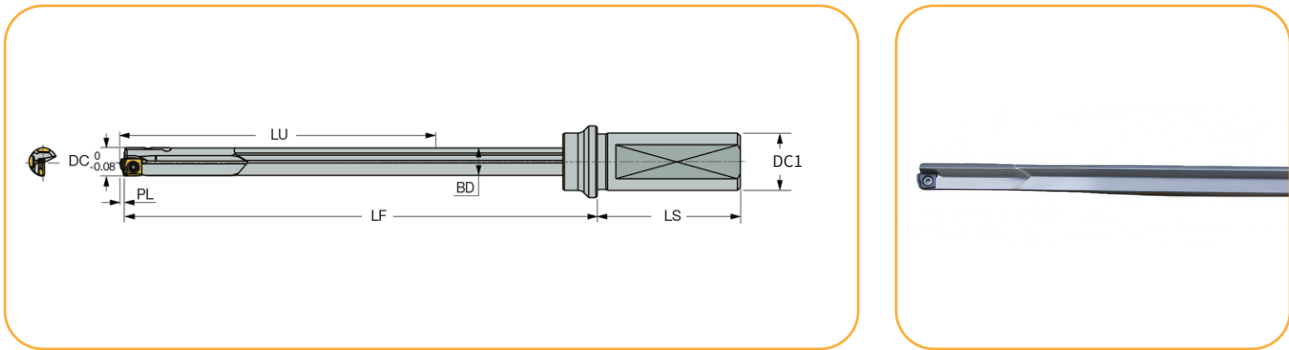


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刀片式枪钻/Indexable gundrill（10.00-11.50）

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带有ZSGT可转位刀片的枪钻，具有分屑功能的单切削刃刀片，可以取得良好的孔表面质量。钻头有15、20和25种钻长径比可供选择，可转位刀片带有分屑切削刃。
(Gundrills Carrying Indexable inserts with Single Chip Splitting Cutting edge and wiper for high hole Surface quality)



注意：刀片和导条需单独订购（不包含在刀具中）
notice: Insert and Guide pad need to be ordered separately（not included in the cutting tools）

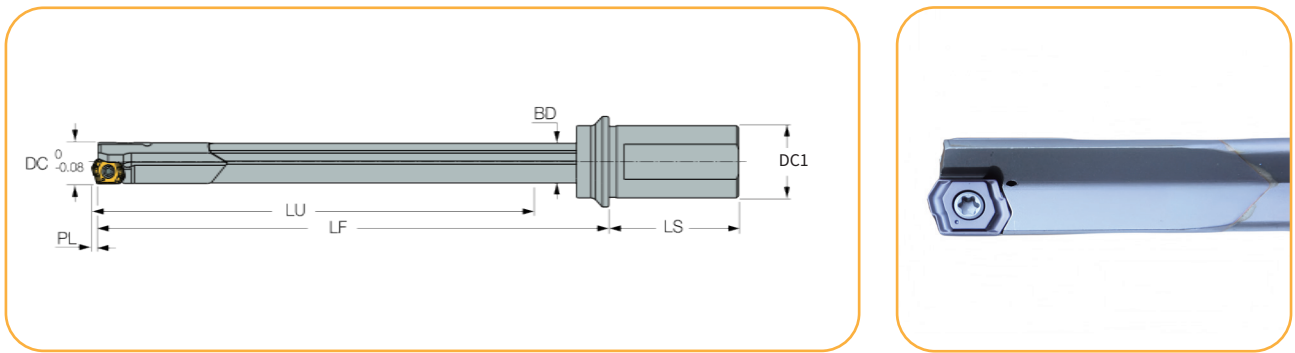
▪ 配套刀片导条型号（Spare parts）

直径范围 Diameter		刀片 Insert	刀片螺钉 Insert Screw	扳手 Wrench	导条 Guide Pad	导条螺钉 Guide Pad screw	扳手 Wrench
10.00	10.99	ZSGT060204 HF MA5015	M2.5X4	T7	GP04-045	M2*3.5	T6
11.00	11.49			T7	GP04-050	M2*3.5	T6
11.50	11.99	LOGT060204 HF MA5015	M2.5X4.5	T8	GP04-055	M2*3.7	T6

刀片式枪钻/Indexable gundrill（12-13.5）

FONHAE方瀚

刀片式枪钻，安装LOGT两刃锯齿状刀片，有修光刃可获得优异的表面加工质量。可提供15，20，25倍径钻杆（-）刀片式枪钻。
(Gundrills Carrying indexable inserts with 2 Chip Splitting Cutting edges and Wiper for High hole Surface Quality)



注意：以上钻杆可接受非标定制 非标定制钻杆最长可达2400mm
刀片和导条需单独订购（不包含在刀具中）
notice: Non standard customization is acceptable for drill pipes Non standard custom drill pipes can reach a maximum length of 2400mm
Insert and Guide pad need to be ordered separately（not included in the cutting tools）

特别提醒：不要使用加工转速进入引导孔，需放慢至50-100rpm
Special reminder: Do not use machining speed to enter the guide hole, slow down to 50-100rpm

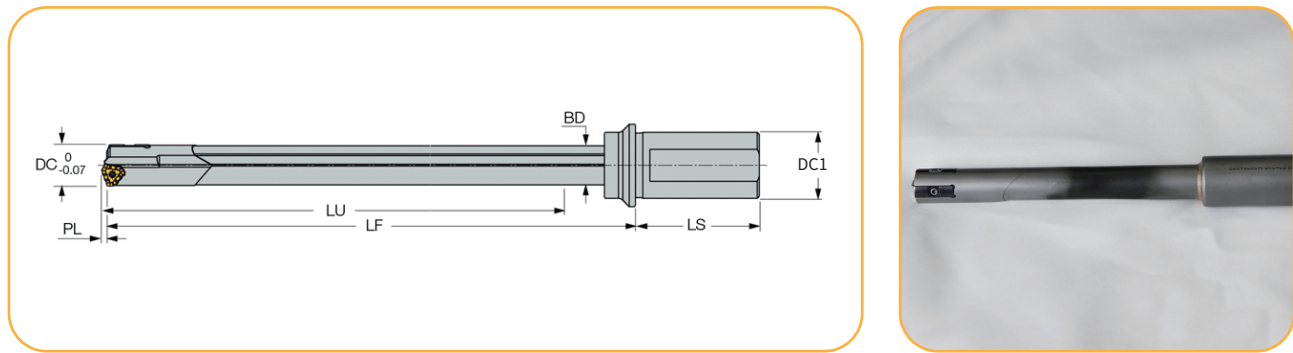
▪ 配套刀片导条型号（Spare parts）

直径范围 Diameter	刀片 Insert	刀片螺钉 Insert Screw	导条 Guide Pad	导条螺钉 Guide Pad screw	扳手 wrench
12.00-12.49	LOGT060204 HF MA5015	M2.5x4.5	GP04-055	M2x3.7	T6/T8
12.50-13.99	LOGT060204 HF MA5015	M2.5x5	GP04-055	M2x3.7	T6/T8

刀片式枪钻/Indexable gundrill (14.00-33.50)

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刀片式枪钻，安装TOGT三角形锯齿状刀片，有修光刃可获得优异的表面加工质量和高进给。可提供10，15，25倍径钻杆
(-) 刀片式枪钻，安装三角形锯齿状刀片，有修光刃可获得优异的表面加工质量 (+)
Gundrills Carrying Triangular Inserts with 3 Chip Splitting Cutting Edges and a Wiper for High Hole Surface Quality



注意：以上钻杆可接受非标定制 非标定制钻杆最长可达2400mm
刀片和导条需单独订购（不包含在刀具中）
notice: Non standard customization is acceptable for drill pipes Non standard custom drill pipes can reach a maximum length of 2400mm
Insert and Guide pad need to be ordered separately（not included in the cutting tools）

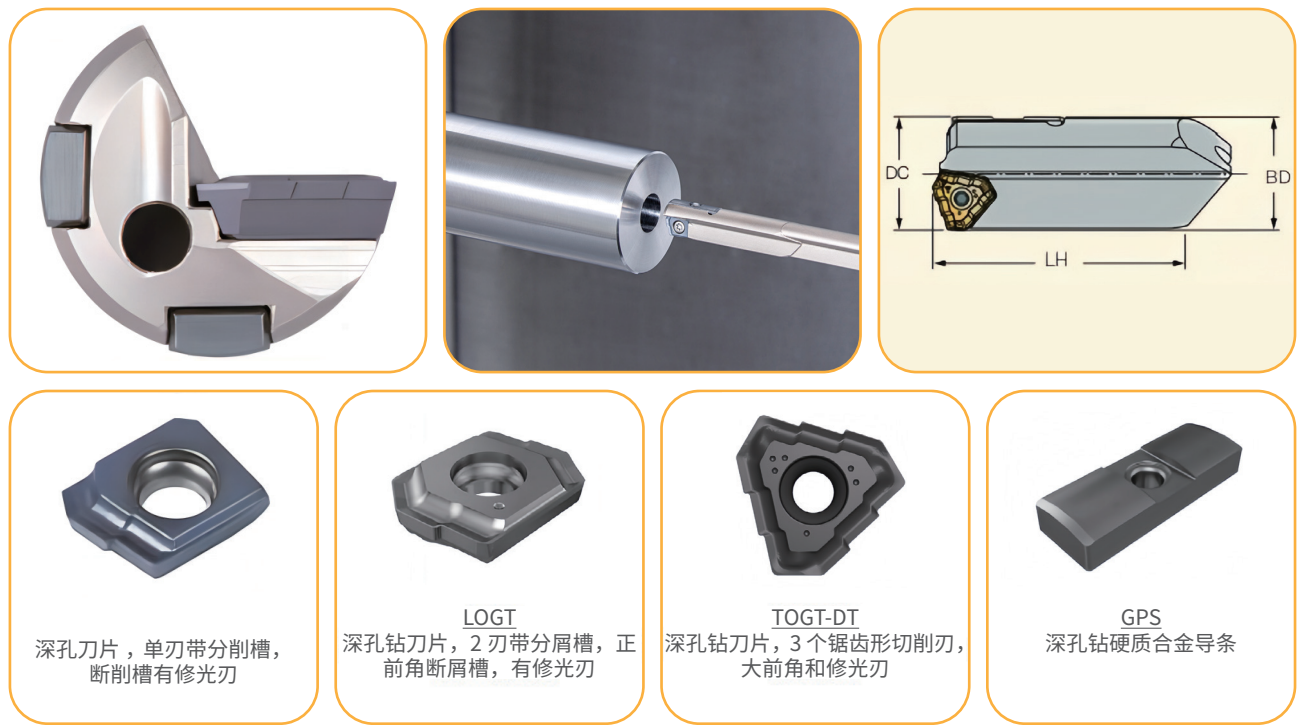
特别提醒：不要使用加工转速进入引导孔，需放慢至50-100rpm
Special reminder: Do not use machining speed to enter the guide hole, slow down to 50-100rpm

配套刀片导条型号 (Spare parts)

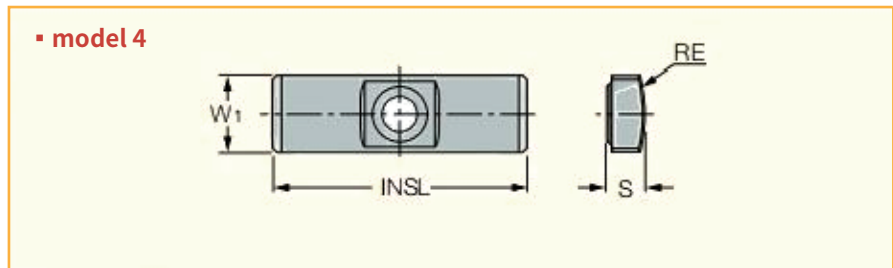
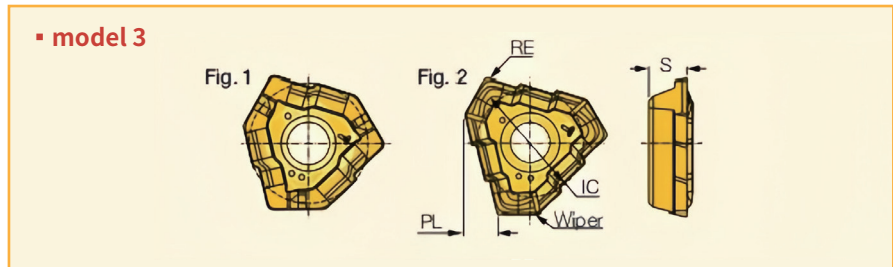
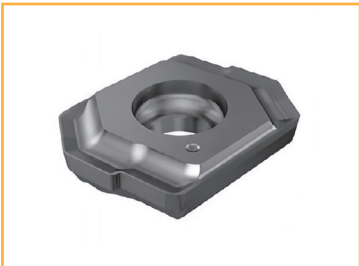
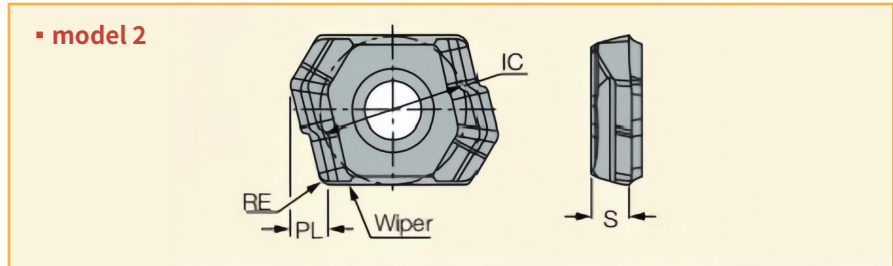
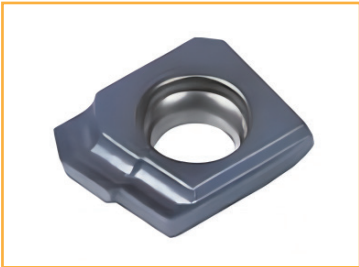
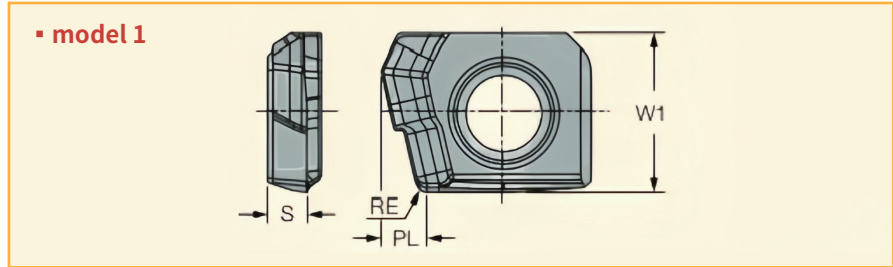
直径范围 Diameter	刀片 Insert	刀片螺钉 Insert Screw	导条 Guide Pad	导条螺钉 Guide Pad screw	扳手 wrench
14.00-14.99	TOGT070304 HF MA5015	M2.5x5	GP05-060	M2.2X4.5	T7/8
15.00-15.99	TOGT070304 HF MA5015	M2.5x6	GP05-060	M2.2X4.5	
16.00-17.99	TOGT080305 HF MA5015	M2.5x6	GP05-075	M2.2X4.5	
18.00-19.99	TOGT090305 HF MA5015	M2.5x6	GP06-085	M2.5X5	T8
20.00-21.00	TOGT100305 HF MA5015	M3X7	GP06-085	M2.5X6	T8/10
21.01-21.99	TOGT100305 HF MA5015		GP06-085		
22.00-24.99	TOGT110405 HF MA5015	M3.5X9	GP06-100	M2.5X6	T8/15
25.01-28.00	TOGT120405 HF MA5015	M4X10	GP06-120	M2.5X6	T8/15
28.01-29.49	TOGT120405 HF MA5015	M4X10	GP06-120	M2.5X6	T8/15
29.52-30.00	TOGT130408 HF MA5015	M5x11	GP07	M3x6.5	T8/T20
30.02-31.99	TOGT130408 HF MA5015	M5x11	GP07	M3x6.5	T8/T20
32.02-33.52	TOGT140510 HF MA5015	M5x13	GP07	M3x6.5	T8/T20

刀片式枪钻/Indexable gundrill (14.00-33.50)

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Deep Driling Inserts with Single Chip Splitting Cutting Edge and a Wiper	Deep Driling Inserts with 2 Chip Spliting Cuting Edges, Positive Rake Chipbreaker and a Wiper	Deep Driling Inserts with 3 Chip Spliting Cuting Edges, a Positive Rake Chipbreaker and a Wiper	guide pad
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型号 (Model) 1	Size			
	W1	RE	PL	S
ZSGT060204 HF MA5015	6.00	0.40	1.800	1.50

型号 (Model) 2	size			
	IC	RE	PL	S
LOGT060204 HF MA5015	7.00	0.40	1.800	2.00

型号 (Model) 3	Size				
	IC	RE	PL	S	Fig
TOGT070304 HF MA5015	7.69	0.40	1.95	2.30	1
TOGT080305 HF MA5015	8.55	0.50	2.20	2.80	1
TOGT090305 HF MA5015	8.32	0.50	3.00	3.00	2
TOGT100305 HF MA5015	9.23	0.50	3.20	3.30	2
TOGT110405 HF MA5015	10.40	0.50	3.40	3.80	2
TOGT120405 HF MA5015	11.59	0.50	3.60	4.30	2
TOGT130408 HF MA5015	12.85	0.80	4.57	4.76	2
TOGT140510 HF MA5015	16.85	1.00	5.43	5.26	2

型号 (Model) 4	Size			
	W1	INSL	S	RE
GP04-045	4.00	16.00	1.80	4.50
GP04-050	4.00	16.00	1.80	5.00
GP04-055	4.00	16.00	2.00	5.50
GP05-060	5.00	18.00	2.50	6.00
GP05-075	5.00	18.00	2.50	7.50
GP06-085	6.00	20.00	3.00	8.50
GP06-100	6.00	20.00	3.00	10.00
GP06-120	6.00	20.00	3.00	12.00
GP07	7.00	20.00	3.50	12.00

刀片式枪钻/Indexable gundrill（14.00-33.50）

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▪ 切削参数（10.00-11.50）Cutting Conditions for（10.00-11.50）

	被加工材料 Material	材料类型 Condition	抗拉强度 Tensile Strength [N/mm2]	硬度 Hardness HB	被加工材料编号 Material Group No. (1)	切削速度 Cutting Speed Vc m/min	ZSGT 06
							进给 Feed [mm/rev]
P	<0.25 %C	退火 anneakd	420	125	1	80-140	0.05-0.08
	>=0.25 %C	退火 annealed	650	190	2		
	非合金钢、铸钢 non-alloy steel and cast <0.55 %C	调质 quenched and tempered	850	250	3		0.05-0.14
	钢，易切削钢 steel, free cutting steel ≥ 0.55%C	退火 annealed	750	220	4		
		调质 quenched and tempered	1000	300	5		
	低合金钢和铸钢（合金元素含量低于 5%） low alloy and cast steel (less than 5%of alloying elements)	退火 annealed	600	200	6		0.05-0.08
		调质 quenched and tempered	930	275	7		
			1000	300	8		
			1200	350	9		
	高合金钢、铸钢和工具钢 high alloyed steel, cast steel and tool steel	退火 annealed	680	200	10	80-120	0.05-0.14
		调质 quenched and tempered	1100	325	11		
	不锈钢和铸铁 stainless steel and cast steel	铁素体 / 马氏体 ferritic/martensitic	680	200	12	60-100	0.05-0.08
		马氏体 martensitic	820	240	13		
M	不锈钢和铸铁 stainless steel and cast steel	奥氏体 austenitic, duplex	600	180	14	60-100	0.05-0.08
K	灰铸铁 grey cast iron（GG）	珠光体 / 铁素体 eritic/pearlitic		180	15	80-140	0.05-0.2
		珠光体 / 马氏体 pearlitic/martensitic		260	16		
	球磨铸铁 nodular cast iron（GGG）	铁素体 ferritic		160	17		
		珠光体 pearitic		250	18		
	可锻铸铁 malleable cast iron	铁素体 ferritic		130	19		
		珠光体 pearitic		230	20		

刀片式枪钻/Indexable gundrill（14.00-33.50）

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N	锻造铝合金 aluminum-wrought alloys	未硬化 not hardenable		60	21	100-200	0.05-0.18
		硬化 hardenable		100	22		
	≤ 12%S 铸造铝合金 aluminum-cast alloys	未硬化 not hardenable		75	23		
		硬化 hardenable		90	24		
	>12%Si	高温 high temperature		130	25		
	>1%Pb	易切削 free cutting		110	26		
	铜合金 copper alloys	黄铜 brass		90	27		
		电解铜 electrolitic copper		100	28		
	非金属 non-metallic	高强度塑料，纤维塑料 duroplastics, fiber plastics			29		
		硬橡胶 hard rubber			30		
S	铁基 Fe based	退火 annealed		200	31	20-50	0.04-0.06
		硬化 hardened		280	32		
	高温合金镍基和钴基 high temp.alloys Ni or Co based	退火 annealed		250	33		
		硬化 hardened		350	34		
		铸造 cast		320	35		
	钛合金 titanium alloys	硬化钛合金 alpha+beta alloys hardened	400		36	30-60	0.04-0.1
			1050		37		
H	淬硬钢 hardened steel	淬硬 hardened		55 HRC	38	50-100	0.04-0.06
		淬硬 hardened		60 HRC	39		
	冷硬铸铁 chilled cast iron	铸造 cast		400	40		
	铸铁 cast iron	淬硬 hardened		55 HRC	41		

加工不锈钢冷却液使用建议：
最佳推荐使用机油冷却液，水溶性冷却液需要至少20%的机油浓度
*Coolant recommendations for drilling stainless steel:
-Oil coolant is first priority
-Water soluble coolant requires at least 20% oil concentration

刀片式枪钻/Indexable gundrill（14.00-33.50）



加工建议（12.00-32.00） Machining Recommendations for TRIDEEP Drills（12.00-32.00）

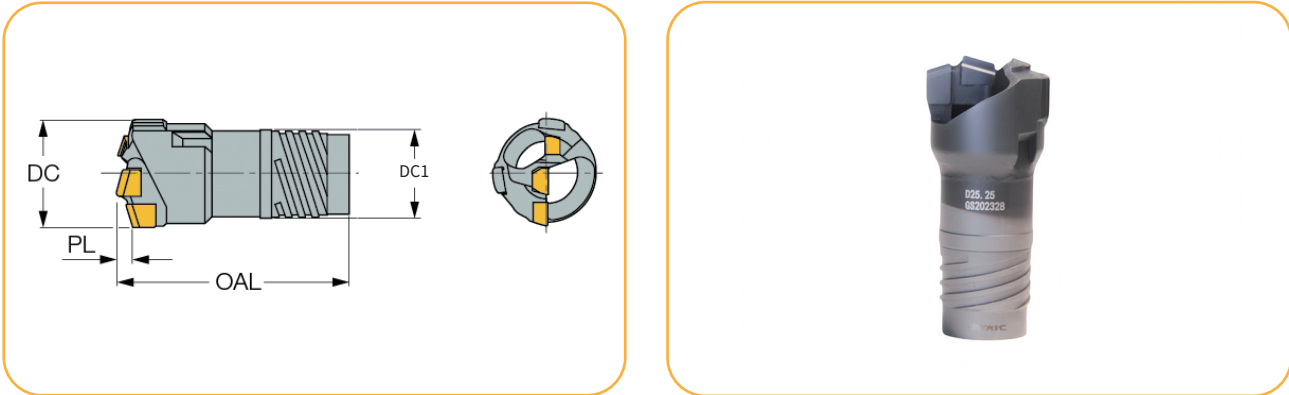
	被加工材料 Material	材料类型 Condition	抗拉强度 Strength [N/mm²]	硬度 Hardness HB	被加工材料 编号 Material Group No.	LOGT/TOGT						
						V _m /min	Feed Per Insert Size & "DT"					
							06 07 08	09	10	11	12	13
P	<0.25 %C ≥ 0.25%C non-alloy steel and cast<0.55 %C steel, free cutting steel ≥ 0.55%C	退火 annealed	420	125		80-120 80-120	0.04-0.08 0.08-0.14	0.04-0.10 0.08-0.16	0.06-0.10 0.08-0.16	0.06-0.10 0.08-0.16	0.06-0.12 0.08-0.18	
		退火 annealed	650	190	2							
		调质 quenched ang tempered	850	250	3							
		退火 annealed	750	220	4							
		调质 quenched and tempereo	1000	300	5							
	低合金钢和铸钢 （合金元素含量低 于 5%） low alloy and cast steel （less than 5%of alloying elements）	退火 annealed	600	200	6		0.04-0.12 0.06-0.20					
		调质 quenched and tempered	930	275	7							
			1000	300	8							
			1200	350	9							
	高合金钢、铸钢和 工具钢 high alloyed steel, cast steel and tool steel	退火 annealed	680	200	10		0.04-0.08 0.08-0.14	0.04-0.10 0.08-0.16	0.06-0.10 0.08-0.16	0.06-0.10 0.08-0.16	0.06-0.12 0.08-0.18	
		调质 quenched and tempered	1100	325	11							
	不锈钢和铸钢 stainless steel and cast steel	铁素体 / 马氏体 ferritic/ martensitic	680	200	12		0.04-0.08 0.08-0.14	0.04-0.10 0.08-0.16	0.06-0.10 0.08-0.16	0.06-0.10 0.08-0.16	0.06-0.12 0.08-0.18	
		马氏体 martensitic	820	240	13							
M	不锈钢和铸钢 stainless steel and cast steel	奥氏体 austenitic, duplex	600	180	14	50-100 50-100	0.02-0.06 0.04-0.12	0.02-0.06 0.04-0.12	0.02-0.06 0.04-0.12	0.02-0.06 0.04-0.12	0.02-0.06 0.04-0.12	
K	灰铸铁 grey cast iron （GG）	铁素体 / 珠光体 ferritic/pearlitic		180	15	50-100 80-120	0.03-0.15 0.08-0.25	0.03-0.15 0.08-0.25	0.05-0.18 0.08-0.25	0.05-0.18 0.08-0.30	0.05-0.18 0.08-0.30	
		珠光体 / 马氏体 pearlitic/ martensitic		260	16							
	球磨铸铁 nodular cast iron （GGG）	铁素体 feritic		160	17							
		珠光体 pearlitic		250	18							
	可锻铸铁 malleable cast iron	铁素体 feritic		130	19							
		珠光体 pearltic		230	20							

刀片式枪钻/Indexable gundrill（14.00-33.50）



N	锻造铝合金 aluminum- wrought alloys	未硬化 not hardenable		60	21	80-160 80-160	0.03-0.15 0.08-0.20	0.03-0.15 0.08-0.20	0.03-0.18 0.08-0.20	0.05-0.18 0.08-0.20	0.05-0.18 0.08-0.20
		硬化 hardenable		100	22						
	铝 aluminum- ≤ 12%Si	未硬化 not hardenable		75	23						
		硬化 hardenable		90	24						
	铸造合金 cast alloys >12%Si	高温 high temperature		130	25						
	>1%Pb	易切削 free cutting		110	26						
S	铜合金 copper alloys	黄铜 brass		90	27	20-50 20-50	0.04-0.08 0.08-0.14	0.04-0.10 0.08-0.16	0.06-0.10 0.08-0.16	0.06-0.10 0.08-0.16	0.06-0.12 0.08-0.18
		电解铜 electrolitic copper		100	28						
	非金属 non metallic	高强度塑料， 纤维塑料 duroplastics fiber plastics			29						
		硬橡胶 hard rubber			30						
	铁基 Fe based	硬化 annealed		200	31						
		硬化 hardened		280	32						
H	高温合金 high temp alloys	硬化 annealed		250	33	20-50 20-50	0.04-0.08 0.08-0.14	0.04-0.10 0.08-0.16	0.06-0.10 0.08-0.16	0.06-0.10 0.08-0.16	0.06-0.12 0.08-0.18
		硬化 hardened		350	34						
	镍基和铬基 Ni or Co based	铸造 cast		320	35						
		钛合金 titanium alloys	硬化钛合金 alpha+beta alloys hardened	400 1050	36 37						
H	淬硬钢 hardened steel	淬硬 hardened 55 HRC			38	20-50 20-50	0.04-0.08 0.08-0.14	0.04-0.10 0.08-0.16	0.06-0.10 0.08-0.16	0.06-0.10 0.08-0.16	0.06-0.12 0.08-0.18
		淬硬 hardened 60 HRC			39						
	冷硬铸铁 chilled cast iron	铸造 cast		400	40						
	铸铁 cast iron	淬硬 hardened 55 HRC			41						

单管钻，2头及4头外连接螺纹，焊接2片或3片刀片。（直径范围12.6-65mm） 每一单项对应着一定的直径范围。
Deep single tube drills with external 2 and 4 start thread connections and 2 or 3 brazed inserts (12.6-65 dia.)

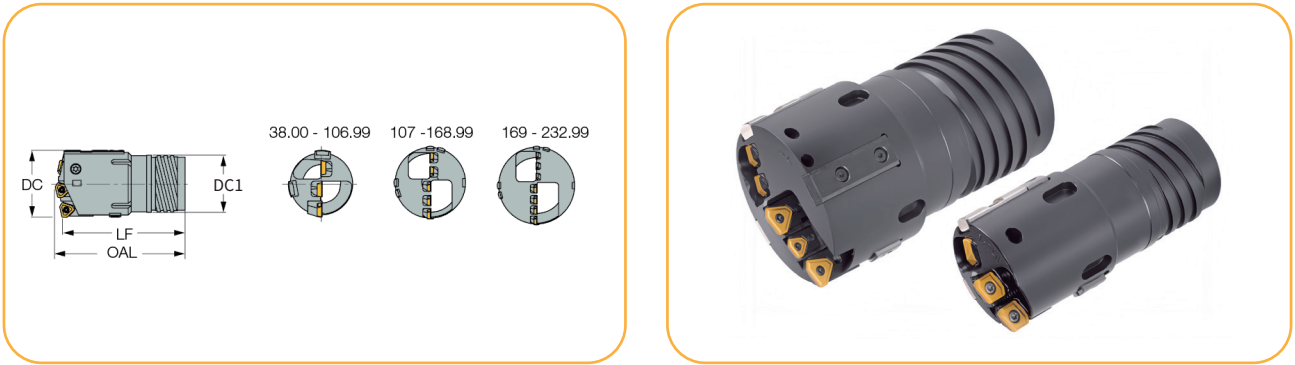


直径范围 Item	DCN 最小切削直径 (Cutting diameter minimum)	DCX 最大切削直径 (Cutting diameter maximum)	OAL 全长	DC1 定位尺寸 Positioning dimensions	PL	螺纹头数 Threads	钻杆直径 Tube designation
UT-DSD-E2 12.60-13.60	12.60	13.60	43.00	9.60	1.100	2	D11
UT-DSD-E2 13.61-14.60	13.61	14.60	43.00	10.60	1.200	2	D12
UT-DSD-E2 14.61-15.59	14.61	15.59	43.00	11.60	1.300	2	D13
UT-DSD-E3 15.60-16.70	15.60	16.70	43.00	12.60	2.700	4	D14
UT-DSD-E3 16.71-17.70	16.71	17.70	43.00	13.60	2.700	4	D15
UT-DSD-E3 17.71-18.40	17.71	18.40	47.00	14.50	2.800	4	D16
UT-DSD-E3 18.41-18.90	18.41	18.90	47.00	14.50	2.800	4	D16
UT-DSD-E3 18.91-20.00	18.91	20.00	47.00	15.50	2.900	4	D17
UT-DSD-E3 20.01-21.80	20.01	21.80	52.50	16.00	3.200	4	D18
UT-DSD-E3 21.81-24.10	21.81	24.10	56.00	18.00	3.200	4	D20
UT-DSD-E3 24.11-26.40	24.11	26.40	57.50	19.50	3.500	4	D22
UT-DSD-E3 26.41-28.70	26.41	28.70	57.50	21.00	3.700	4	D24
UT-DSD-E3 28.71-31.00	28.71	31.00	63.50	23.50	4.000	4	D26
UT-DSD-E3 31.01-33.30	31.01	33.30	63.50	25.50	4.300	4	D28
UT-DSD-E3 33.31-36.20	33.31	36.20	63.50	28.00	4.500	4	D30
UT-DSD-E3 36.21-39.60	36.21	39.60	73.50	30.00	4.800	4	D33
UT-DSD-E3 39.61-43.00	39.61	43.00	73.50	33.00	5.600	4	D36
UT-DSD-E3 43.01-47.00	43.01	47.00	75.00	36.00	5.400	4	D39
UT-DSD-E3 47.01-51.70	47.01	51.70	75.00	39.00	6.100	4	D43
UT-DSD-E3 51.71-56.20	51.71	56.20	82.00	43.00	6.500	4	D47
UT-DSD-E3 56.21-60.60	56.21	60.60	84.00	47.00	6.600	4	D51
UT-DSD-E3 60.61-65.00	60.61	65.00	84.00	47.00	7.000	4	D56

应用参数 Applications	单管焊接 BTA Single Tube System			双管焊接 BTA Double Tube System
	UT-DSD-E0	UT-DSD-E1	UT-DSD-E2/E3	UT-DDD-E3
焊接 BTA Brazed Drill Heads				
钻头直径 Drill Diameter (mm)	08-14.79	012.6-20	012.6-65	018.4-65
单头螺纹连接 External Single-Start Thread	√			
双头螺纹连接 External 2-Start Thread		012.6-15.59 mm	012.6-15.59 mm	
4 头螺纹连接 External 4-Start Thread		015.6-20 mm	015.6-65 mm	√
孔径公差 Hole Tolerance	IT9	T9	T9	T9
表面光洁度 Surface Finish Ra (um)	2	2	2	2
深孔钻机 Deep Hole Drilling Machines	√	√	√	√
数控机床 NC Machines				√
车床 Lathes				√
加工中心 Machining Centers M/C				√
P Steel	●●●	●●●	●●●	
M Stainless	●●●	●●●	●●●	●●●
K Cast Iron	●●●	●●●	●●●	●●●
N Non-Ferrous	●●●	●●●	●●●	●●●
S Superalloys	●	●	●	
H Hard Materials (≥ 40HRC)	●●	●●		●

钎焊硬质合金牌号刀片的钻头，适用于加工的被加工材料在钻头型号中标识出：ISO P, K, M, N 材料组
Brazed carbide grade drill bits with inserts for processing materials, which are identified in the drill bit model as per ISO material groups: P, K, M, N.

单管钻带4头外连接螺纹及刀夹。每一单项对应着一定的直径范围。刀夹式（直径范围38-233mm）
Deep Single Tube Drills with External 4-Start Thread Connection and Cartridges (38-233 dia)

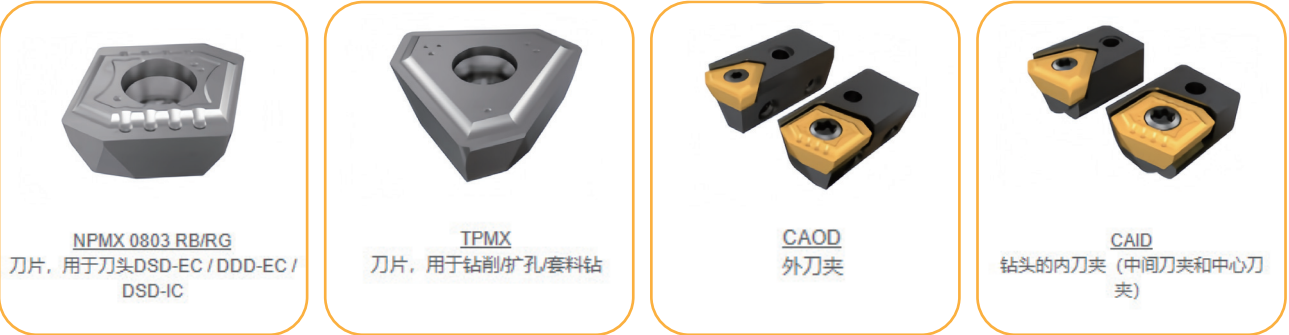


直径范围 Item	DCN 最小切削直径 (Cutting diameter minimum)	DCX 最大切削直径 (Cutting diameter maximum)	全长 OAL	LF	DC1 定位尺寸 Positioning dimensions	钻杆直径 Tube designation
UT-DSD-EC 38.00-39.60	38.00	39.60	90.00	85.00	30.00	D33
UT-DSD-EC 39.61-43.00	39.61	43.00	91.00	85.00	33.00	D36
UT-DSD-EC 43.01-47.00	43.01	47.00	101.00	95.00	36.00	D39
UT-DSD-EC 47.01-51.70	47.01	51.70	102.00	95.00	39.00	D43
UT-DSD-EC 51.71-56.20	51.71	56.20	107.00	100.00	43.00	D47
UT-DSD-EC 56.21-60.60	56.21	60.60	118.00	110.00	47.00	D51
UT-DSD-EC 60.61-64.99	60.61	64.99	119.00	110.00	51.00	D56
UT-DSD-EC 65.00-66.99	65.00	66.99	159.00	150.00	52.00	D56
UT-DSD-EC 67.00-72.99	67.00	72.99	159.00	150.00	58.00	D62
UT-DSD-EC 73.00-79.99	73.00	79.99	160.00	150.00	63.00	D68
UT-DSD-EC 80.00-86.99	80.00	86.99	191.00	180.00	70.00	D75
UT-DSD-EC 87.00-99.99	87.00	99.99	193.00	180.00	77.00	D82
UT-DSD-EC 100.00-106.99	100.00	106.99	193.00	180.00	89.00	D94
UT-DSD-EC 107.00-111.99	107.00	111.99	197.00	180.00	89.00	D94
UT-DSD-EC 112.00-123.99	112.00	123.99	221.00	205.00	101.00	D106
UT-DSD-EC 124.00-135.99	124.00	135.99	222.00	205.00	113.00	D118
UT-DSD-EC 136.00-147.99	136.00	147.99	223.00	205.00	125.00	D130
UT-DSD-EC 148.00-159.99	148.00	159.99	245.00	225.00	137.00	D142
UT-DSD-EC 160.00-168.99	160.00	168.99	246.00	225.00	149.00	D154
UT-DSD-EC 169.00-171.99	169.00	171.99	246.00	225.00	149.00	D154
UT-DSD-EC 172.00-183.99	172.00	183.99	247.00	225.00	161.00	D166
UT-DSD-EC 184.00-195.99	184.00	195.99	267.00	245.00	173.00	D178
UT-DSD-EC 196.00-207.99	196.00	207.99	270.00	245.00	185.00	D190

直径范围 Item	DCN 最小切削直径 (Cutting diameter minimum)	DCX 最大切削直径 (Cutting diameter maximum)	全长 OAL	LF	DC1 定位尺寸 Positioning dimensions	钻杆直径 Tube designation
UT-DSD-EC 208.00-219.99	208.00	219.99	271.00	245.00	197.00	D202
UT-DSD-EC 220.00-231.99	220.00	231.99	293.00	265.00	208.00	D214
UT-DSD-EC 232.00-232.99	232.00	232.99	293.00	265.00	220.00	D226
UT-DSD-EC 233.00-243.99	233.00	243.99	294.00	265.00	220.00	D226
UT-DSD-EC 244.00-255.99	244.00	255.99	294.00	265.00	232.00	D238
UT-DSD-EC 256.00-267.99	256.00	267.99	322.00	290.00	244.00	D250
UT-DSD-EC 268.00-279.99	268.00	279.99	323.00	290.00	256.00	D262
UT-DSD-EC 280.00-291.99	280.00	291.99	325.00	290.00	268.00	D274

重要提示：初始可钻削直径采用原装外刀夹及导条。钻削直径增加，可选用增量外刀夹及增量导条。
Important reminder: The initial drillable diameter is the original outer cartridge and guide pad. The drilling diameter is increased, and the incremental external cartridge and incremental guide pad can be selected.

▪ 示例刀片



Insert for drilling heads DSD-EC Iserts for Drilling/ Counterboring/Trepanning tools Drilling Head Peripheral Cartridge Drilling head Inner Cartridge



Guide pad

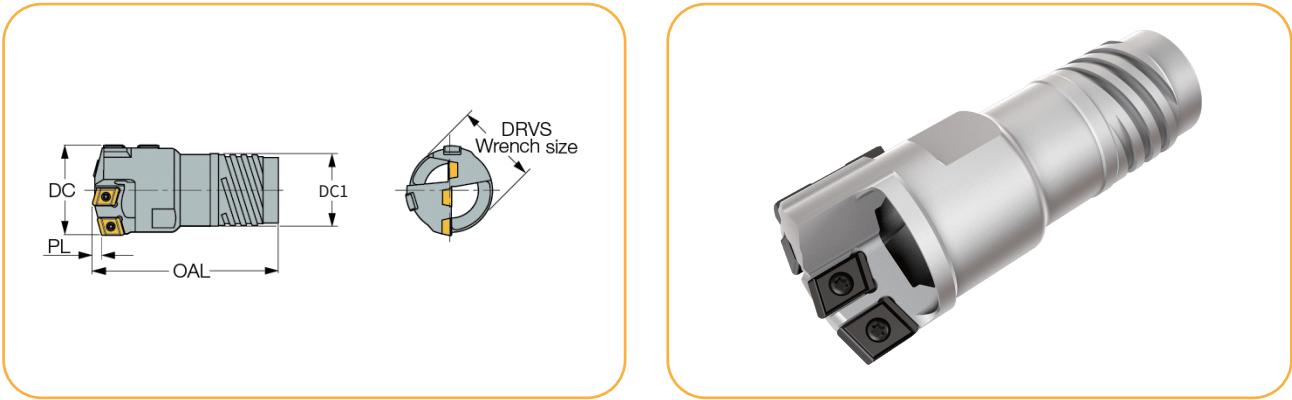
注意：刀片和导条需单独订购（不包含在刀具中）
notice: Insert and Guide pad need to be ordered separately (not included in the cutting tools)

▪ 配套刀片导条 (Spare Parts)

Diameter 直径范围	Periheral 外刀夹	Qty	Inner/ Central 中心刀夹	Qty	Guide pad 导条	Qty	Guide Pad Protectors 导向垫保护 块	Qty	SubGuide Pad 导向垫	Qty	PeriheralInsert 外刃刀片	Qty	Inner/Central Insert 中心刀片 / 中间刀片	Qty
38.00-39.99	CAOD-080	1	CAID-080	1	GPS-08-25-155	2	GPP-06	2	SGP-02	1	NPMX 0803RG-MA5015	1	NPMX 0803RG-MA5015	1
			CAID-080	1									NPMX 0803RG-MA5015	1
40.00-44.99	CAOD-0845	1	CAID-08	1	GPS-08-25-155	2	GPP-06	2	SGP-02	1	TPMX 1403RG-MA5015	1	NPMX 0803RG-MA5015	1
			CAID-080	1									NPMX 0803RG-MA5015	1
45.00-47.99	CAOD-0845	1	CAID-080	1	GPS-10-35-200	2	GPP-07	2	SGP-02	1	TPMX 1403RG-MA5015	1	NPMX 0803RG-MA5015	1
			CAID-0845	1									TPMX 1403RG-MA5015	1
48.00-51.99	CAOD-0845	1	CAID-0845	1	GPS-10-35-200	2	GPP-07	2	SGP-02	1	TPMX 1403RG-MA5015	1	TPMX 1403RG-MA5015	1
			CAID-0845	1									TPMX 1403RG-MA5015	1
52.00-54.99	CAOD-103	1	CAID-0845	1	GPS-10-35-200	2	GPP-07	2	SGP-02	1	TPMX 1704RG-MA5015	1	TPMX 1403RG-MA5015	1
			CAID-0845	1									TPMX 1403RG-MA5015	1
55.00-57.99	CAOD-103	1	CAID-0845	1	GPS-10-35-200	2	GPP-07	2	SGP-02	1	TPMX 1704RG-MA5015.	1	TPMX 1403RG-MA5015	1
			CAID-103	1									TPMX 1704RG-MA5015.	1
58.00-59.99	CAOD-103	1	CAID-103	1	GPS-10-35-200	2	GPP-07	2	SGP-02	1	TPMX 1704RG-MA5015.	1	TPMX 1704RG-MA5015.	1
			CAID-103	1									TPMX 1704RG-MA5015.	1
60.00-63.99	CAOD-103	1	CAD-103	1	GPS-14-40-250	2	GPP-08	2	SGP-02	1	TPMX 1704RG-MA5015.	1	TPMX 1704RG-MA5015.	1
			CAID-103	1									TPMX 1704RG-MA5015.	1
64.00-67.99	CAOD-142	1	CAID-103	1	GPS-14-40-250	2	GPP-08	2	SGP-03	1	TPMX 2405RG-MA5015	1	TPMX 1704RG-MA5015.	1
			CAID-103	1									TPMX 1704RG-MA5015.	1
68.00-77.99	CAOD-103	1	CAID-142	1	GPS-14-40-250	2	GPP-08	2	SGP-03	1	TPMX 1704RG-MA5015.	1	TPMX2405RG-MA5015	1
			CAID-142	1									TPMX2405RG-MA5015	1
78.00-84.99	CAOD-142	1	CAID-142	1	GPS-14-40-250	2	GPP-08	2	SGP-03	1	TPMX2405RG-MA5015	1	TPMX2405RG-MA5015	1
			CAID-142	1									TPMX2405RG-MA5015	1
85.00-91.99	CAOD-170	1	CAID-142	1	GPS-14-40-250	2	GPP-08	2	SGP-03	1	TPMX2807RG-MA5015	1	TPMX2405RG-MA5015	1
			CAID-142	1									TPMX2405RG-MA5015	1
92.00-98.99	CAOD-142	1	CAID-170	1	GPS-14-40-250	2	GPP-08	2	SGP-03	1	TPMX2405RG-MA5015	1	TPMX2807RG-MA5015	1
			CAID-170	1									TPMX2807RG-MA5015	1
99.00-106.99	CAOD-170	1	CAID-170	1	GPS-18-40-300	2	GPP-09	2	SGP-04	1	TPMX2807RG-MA5015	1	TPMX2807RG-MA5015	1
			CAID-170	1									TPMX2807RG-MA5015	1

107.00-117.99	CAOD-142	1	CAID-103	3	GPS-18-40-300	2	GPP-09	2	SGP-04	1	TPMX2405RG-MA5015	1	TPMX 1704RG-MA5015.	3
			CAID-142	1									TPMX2405RG-MA5015	1
118.00-135.99	CAOD-142	1	CAID-142	3	GPS-18-40-300	2	GPP-09	2	SGP-04	1	TPMX2405RG-MA5015	1	TPMX2405RG-MA5015	3
			CAID-142	1									TPMX2405RG-MA5015	1
136.00-144.99	CAOD-142	1	CAID-142	3	GPS-18-40-300	4	GPP-09	4	SGP-04	1	TPMX2405RG-MA5015	1	TPMX2405RG-MA5015	3
			CAID-170	1									TPMX2807RG-MA5015	1
145.00-150.99	CAOD-142	1	CAID-142	2	GPS-18-40-300	4	GPP-09	4	SGP-04	1	TPMX2405RG-MA5015	1	TPMX2405RG-MA5015	2
			CAID-170	1									TPMX2807RG-MA5015	1
151.00-156.99	CAOD-170	1	CAID-170	1	GPS-18-40-300	4	GPP-09	4	SGP-04	1	TPMX2807RG-MA5015	1	TPMX2807RG-MA5015	1
			CAID-170	1									TPMX2807RG-MA5015	1
157.00-162.99	CAOD-170	1	CAID-142	1	GPS-18-40-300	4	GPP-09	4	SGP-04	1	TPMX2807RG-MA5015	1	TPMX2405RG-MA5015	1
			CAID-170	2									TPMX2807RG-MA5015	2
163.00-168.99	CAOD-170	1	CAID-170	3	GPS-18-40-300	4	GPP-09	4	SGP-04	1	TPMX2807RG-MA5015	1	TPMX2807RG-MA5015	3
			CAID-170	1									TPMX2807RG-MA5015	1
169.00-188.99	CAOD-142	1	CAID-142	5	GPS-18-40-300	4	GPP-09	4	SGP-04	1	TPMX2405RG-MA5015	1	TPMX2405RG-MA5015	5
			CAID-142	1									TPMX2405RG-MA5015	1
189.00-196.99	CAOD-142	1	CAID-142	5	GPS-18-40-300	4	GPP-09	4	SGP-04	1	TPMX2405RG-MA5015	1	TPMX2405RG-MA5015	5
			CAID-170	1									TPMX2807RG-MA5015	1
197.00-202.99	CAOD-142	1	CAID-142	4	GPS-18-40-300	4	GPP-09	4	SGP-04	1	TPMX2405RG-MA5015	1	TPMX2405RG-MA5015	4
			CAID-170	1									TPMX2807RG-MA5015	1
203.00-208.99	CAOD-142	1	CAID-142	3	GPS-18-40-300	4	GPP-09	4	SGP-04	1	TPMX2405RG-MA5015	1	TPMX2405RG-MA5015	3
			CAID-170	2									TPMX2807RG-MA5015	2
209.00-214.99	CAOD-170	1	CAID-170	3	GPS-18-40-300	4	GPP-09	4	SGP-04	1	TPMX2807RG-MA5015	1	TPMX2405RG-MA5015	3
			CAID-170	2									TPMX2807RG-MA5015	2
			CAID-170	1									TPMX2807RG-MA5015	1

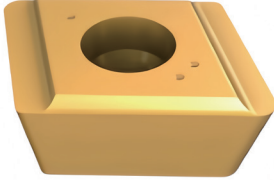
单管钻，4头外连接螺纹。每一单项对应着一定的直径范围（直径范围25-89mm）
Deep Single Tube Drills with External 4-Start Thread Connection for High Feed（25-89 dia）（NEW）



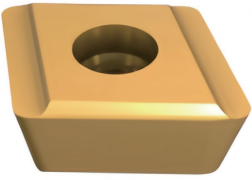
直径范围 Item	DCN 最小切削直径 (Cutting diameter minimum)	DCX 最大切削直径 (Cutting diameter maximum)	全长 OAL	PL	DC1 定位尺寸 Positioning dimensions	扳手尺寸 Wrench size	钻杆直径 Tube designation
UT-DSD-EF-FB 25.00-26.40	25.00	26.40	73.00	3.00	19.50	22.0	D22
UT-DSD-EF-FB 26.41-28.70	26.41	28.70	73.00	3.00	21.00	23.0	D24
UT-DSD-EF-FB 28.71-31.00	28.71	31.00	78.00	3.00	23.50	24.0	D26
UT-DSD-EF-FB 31.01-33.30	31.01	33.30	78.00	3.00	25.50	27.0	D28
UT-DSD-EF-FB 33.31-36.20	33.31	36.20	83.00	3.00	28.00	29.0	D30
UT-DSD-EF-FB 36.21-39.60	36.21	39.60	93.00	3.00	30.00	32.0	D33
UT-DSD-EF-FB 39.61-43.00	39.61	43.00	99.00	4.00	33.00	35.0	D36
UT-DSD-EF-FB 43.01-47.00	43.01	47.00	104.00	4.00	36.00	38.0	D39
UT-DSD-EF-FB 47.01-51.70	47.01	51.70	104.00	4.00	39.00	41.0	D43
UT-DSD-EF-FB 51.71-56.20	51.71	56.20	114.00	4.00	43.00	46.0	D47
UT-DSD-EF-FB 56.21-60.60	56.21	60.60	120.00	5.00	47.00	50.0	D51
UT-DSD-EF-FB 60.61-65.00	60.61	65.00	120.00	5.00	51.00	55.0	D56
UT-DSD-EF-FB 65.01-66.99	65.01	66.99	149.00	8.00	52.00	63.0	D56
UT-DSD-EF-FB 67.00-72.99	67.00	72.99	149.00	8.00	58.00	69.0	D62
UT-DSD-EF-FB 73.00-79.99	73.00	79.99	150.00	9.00	63.00	76.0	D68
UT-DSD-EF-FB 80.00-86.99	80.00	86.99	173.00	9.00	70.00	83.0	D75
UT-DSD-EF-FB 87.00-89.00	87.00	89.00	173.00	9.00	77.00	86.0	D82

钻头直径范围 Diameter	刀片（Insert）									导条（Guide Pad）		
	外刃刀片 Peripheral Insert	Screw	Key	中间刀片 Intermediate Insert	Screw	Key	中心刀片 Central Insert	Screw	Key		Screw	Key
25.00-28.00	NPHT060308R-G-P MA5015	M2.2*6	T7	NPMT050304R-G-I MA5015	M2.2*6	T7	NPMT050308L-G-C MA5015	M2.2*6	T7	GPS-06	M2.5*7	T7
	NPHT060308R- HF-P MA5015	M2.2*6	T7	NPMT050304R-HF-I MA5015	M2.2*6	T7	NPMT050308L- HF-C MA5015	M2.2*6	T7	GPS-06	M2.5*7	T7
28.01-29.99	NPHT060308R-G-P MA5015	M2.2*6	T7	NPMT050304R-G-I MA5015	M2.2*6	T7	NPMT060408L-G-C MA5015	M2.5*7	T8	GPS-06	M2.5*7	T7
	NPHT060308R- HF-P MA5015	M2.2*6	T7	NPMT050304R-HF-I MA5015	M2.2*6	T7	NPMT060408L- HF-C MA5015	M2.5*7	T8	GPS-06	M2.5*7	T7
30.00-35.00	NPHT070408R-G-P MA5015	M2.5*7	T8	NPMT060404R-G-I MA5015	M2.5*7	T8	NPMT060408L-G-C MA5015	M2.5*7	T8	GPS-07	M3*7	T9
	NPHT070408R- HF-P MA5015	M2.5*7	T8	NPMT060404R-HF-I MA5015	M2.5*7	T8	NPMT060408L- HF-C MA5015	M2.5*7	T8	GPS-07	M3*7	T9
35.01-38.00	NPHT070408R-G-P MA5015	M2.5*7	T8	NPMT060404R-G-I MA5015	M2.5*7	T8	NPMT080408L-G-C MA5015	M2.5*7	T8	GPS-07	M3*7	T9
	NPHT070408R- HF-P MA5015	M2.5*7	T8	NPMT060404R-HF-I MA5015	M2.5*7	T8	NPMT080408L- HF-C MA5015	M2.5*7	T8	GPS-07	M3*7	T9
38.01-39.00	NPHT090408R-G-P MA5015	M2.5*7	T8	NPMT060404R-G-I MA5015	M2.5*7	T8	NPMT080408L-G-C MA5015	M2.5*7	T8	GPS-07	M3*7	T9
	NPHT090408R- HF-P MA5015	M2.5*7	T8	NPMT060404R-HF-I MA5015	M2.5*7	T8	NPMT080408L- HF-C MA5015	M2.5*7	T8	GPS-07	M3*7	T9
39.01-41.00	NPHT090408R-G-P MA5015	M2.5*7	T8	NPMT060404R-G-I MA5015	M2.5*7	T8	NPMT080408L-G-C MA5015	M2.5*7	T8	GPS-08	M3*7	T9
	NPHT090408R- HF-P MA5015	M2.5*7	T8	NPMT060404R-G-I MA5015	M2.5*7	T8	NPMT080408L- HF-C MA5015	M2.5*7	T8	GPS-08	M3*7	T9
41.01-44.00	NPHT090408R-G-P MA5015	M2.5*7	T8	NPMT080404R-G-I MA5015	M2.5*7	T8	NPMT080408L-G-C MA5015	M2.5*7	T8	GPS-08	M3*7	T9
	NPHT090408R- HF-P MA5015	M2.5*7	T8	NPMT080404R-HF-I MA5015	M2.5*7	T8	NPMT080408L- HF-C MA5015	M2.5*7	T8	GPS-08	M3*7	T9
44.01-45.00	NPHT090408R-G-P MA5015	M2.5*7	T8	NPMT080404R-G-I MA5015	M2.5*7	T8	NPMT090408L-G-C MA5015	M2.5*7	T8	GPS-08	M3*7	T9
	NPHT090408R- HF-P MA5015	M2.5*7	T8	NPMT080404R-HF-I MA5015	M2.5*7	T8	NPMT090408L- HF-C MA5015	M2.5*7	T8	GPS-08	M3*7	T9
45.01-47.00	NPHT090408R-G-P MA5015	M2.5*7	T8	NPMT080404R-G-I MA5015	M2.5*7	T8	NPMT090408L-G-C MA5015	M2.5*7	T8	GPS-10	M3.5*9	T15
	NPHT090408R- HF-P MA5015	M2.5*7	T8	NPMT080404R-HF-I MA5015	M2.5*7	T8	NPMT090408L- HF-C MA5015	M2.5*7	T8	GPS-10	M3.5*9	T15

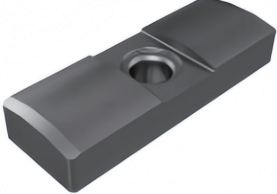
钻头直径范围 Diameter	刀片 (Insert)									导条 (Guide Pad)		
	外周刀片 Peripheral Insert	Screw	Key	中间刀片 Intermediate Insert	Screw	Key	中心刀片 Central Insert	Screw	Key		Screw	Key
47.01-51.00	NPHT110408R-G-P MA5015	M2.5*7	T8	NPMT080404R-G-I MA5015	M2.5*7	T8	NPMT090408L-G-C MA5015	M2.5*7	T8	GPS-10	M3.5*9	T15
	NPHT110408R- HF-P MA5015	M2.5*7	T8	NPMT080404R-HF-I MA5015	M2.5*7	T8	NPMT090408L- HF-C MA5015	M2.5*7	T8	GPS-10	M3.5*9	T15
51.01-54.00	NPHT110408R-G-P MA5015	M2.5*7	T8	NPMT090404R-G-I MA5015	M2.5*7	T8	NPMT090408L-G-C MA5015	M2.5*7	T8	GPS-10	M3.5*9	T15
	NPHT110408R- HF-P MA5015	M2.5*7	T8	NPMT090404R-HF-I MA5015	M2.5*7	T8	NPMT090408L- HF-C MA5015	M2.5*7	T8	GPS-10	M3.5*9	T15
54.01-57.00	NPHT110408R-G-P MA5015	M2.5*7	T8	NPMT090404R-G-I MA5015	M2.5*7	T8	NPMT120408L-G-C MA5015	M2.5*7	T8	GPS-10	M3.5*9	T15
	NPHT110408R- HF-P MA5015	M2.5*7	T8	NPMT090404R-HF-I MA5015	M2.5*7	T8	NPMT120408L- HF-C MA5015	M2.5*7	T8	GPS-10	M3.5*9	T15
57.01-60.00	NPHT110408R-G-P MA5015	M2.5*7	T8	NPMT090404R-G-I MA5015	M2.5*7	T8	NPMT120408L-G-C MA5015	M2.5*7	T8	GPS-12	M3.5*9	T15
	NPHT110408R- HF-P MA5015	M2.5*7	T8	NPMT090404R-HF-I MA5015	M2.5*7	T8	NPMT120408L- HF-C MA5015	M2.5*7	T8	GPS-12	M3.5*9	T15
60.01-64.00	NPHT130408R-G-P MA5015	M2.5*7	T8	NPMT090404R-G-I MA5015	M2.5*7	T8	NPMT120408L-G-C MA5015	M2.5*7	T8	GPS-12	M3.5*9	T15
	NPHT130408R- HF-P MA5015	M2.5*7	T8	NPMT090404R-HF-I MA5015	M2.5*7	T8	NPMT120408L- HF-C MA5015	M2.5*7	T8	GPS-12	M3.5*9	T15
64.01-65.00	NPHT130408B-G-P MA5015	M2.5*7	T8	NPMT120404R-G-I MA5015	M2.5*7	T8	NPMT120408L-G-C MA5015	M2.5*7	T8	GPS-12	M3.5*9	T15
	NPHT130408R- HF-P MA5015	M2.5*7	T8	NPMT120404R-HF-I MA5015	M2.5*7	T8	NPMT120408L- HF-C MA5015	M2.5*7	T8	GPS-12	M3.5*9	T15



NPMT
内刀片和中心刀片，用于刀头DSD-EF-FB / DDD-EF-FB



NPHT
高精度外周刀片，用于刀头DSD-EF-FB / DDD-EF-FB / DSD-IF-FB

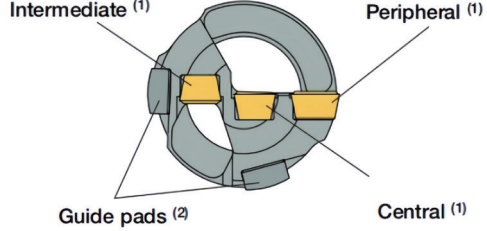
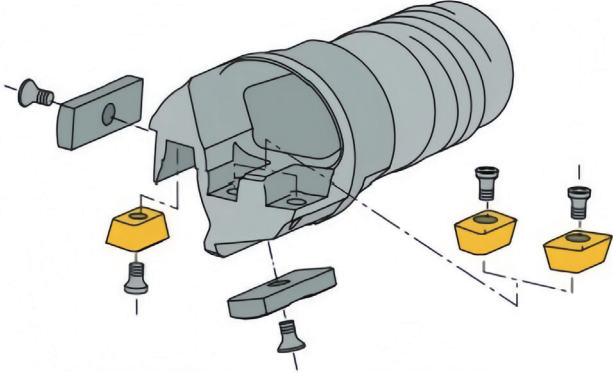


GPS
深孔钻硬质合金导条

Internal and Central Inserts
for Drilling Heads DSD-EF-FB/DDD-EF-FB

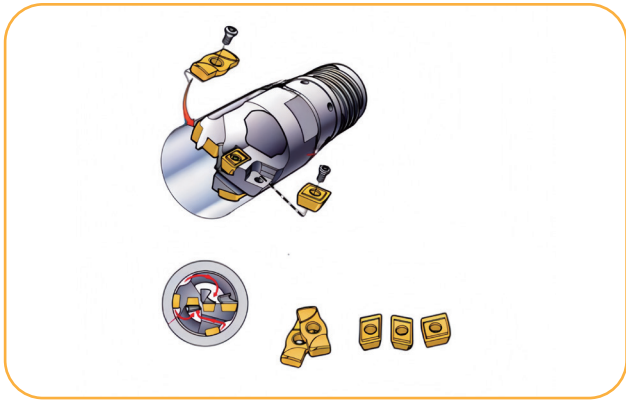
Peripheral Precision Inserts
for Drilling Heads DSD-EF-FB/DDD-EF-FB/DSD-IF-FB

Guide pad



800 系列BTA 单管钻

800 series BTA single tube drill



Diameter 钻头直径	Drill pipe 钻杆规格	Centarl Insert 中心刀片	Screw 螺钉	Inner Insert 中间刀片	Screw 螺钉	Peripheral Insert 周边刀片	Screw 螺钉	Guide pad 导条	Screw 螺钉
25.00-26.40	D22	800-05 03 08M-C-G MA5015	M2.2	800-05 03 08M-I-G MA5015	M2.2	800-06 03 08H-P-G MA5015	M2.2	800-06A	M2.5
26.41-28.70	D24	800-05 03 08M-C-G MA5015	M2.2	800-05 03 08M-I-G MA5015	M2.2	800-06 03 08H-P-G MA5015	M2.2	800-06A	M2.5
28.71-31.00	D26	800-06 T3 08M-C-G MA5015	M2.5	800-05 03 08M-I-G MA5015	W2.2	800-06 03 08H-P-G MA5015	M2.2	800-06A	M2.5
31.01-33.30	D28	800-06 T3 08M-C-G MA5015	M2.5	800-06 03 08M-I-G MA5015	M2.5	800-08 T3 08H-P-G MA5015	M2.5	800-07A	M3
33.31-36.20	D30	800-06 T3 08M-C-G 1MA5015 800-08 T3 08M-C-G 1MA5015	M2.5	800-06 T3 08M-I-G 1MA5015 800-08 T3 08M-I-G 1MA5015	M2.5	800-08 T3 08H-P-G MA5015	M2.5	800-07A	M3
36.21-39.60	D33	800-08 T3 08M-C-G MA5015	M2.5	80909-08 03 08M-I- GMA5015	M2.5	800-08 T3 08H-P-G1 MA5015 800-09 T3 08H-P-G 1MA5015	M2.5	800-07A	M3
39.61-43.00	D36	800-08 T3 08M-C-G MA5015	M2.5	800-08 T3 08M-I-G MA5015	M2.5	800-09 T3 08H-P-G MA5015	M2.5	800-08A	M3.5
43.01-47.00	D39	800-10 T3 08M-C-G MA5015	M2.5	800-08 T3 08M-I-G MA5015	M2.5	800-09 T3 08H-P-G MA5015	M2.5	800-08A	M3.5
47.01-51.70	D43	800-12 T3 08M-C-G1 MA5015 800-10 T3 08M-C-G1 MA5015	M2.5	800-08 T3 08M-I-G MA5015	M2.5	800-09 T3 08H-P-G1 MA5015 800-11 T3 08H-P-G1 MA5015	M2.5	800-10A	M3.5
51.71-56.20	D47	800-10 T3 08M-C-G MA5015	M2.5	800-08 T3 08M-I-G1 MA5015 800-12 T3 08M-I-G1 MA5015	M2.5	800-11 T3 08H-P-G MA5015	M2.5	800-10A1 800-12A1	M3.5
56.21-65.00	D51	800-10 T3 08M-C-G1 MA5015 800-12 T308M-C-G1 MA5015	M2.5	800-12 T3 08M-I-G MA5015	M2.5	800-11 T3 08H-P-G MA5015	M2.5	800-12A	M3.5

标 1 所需钻头直径相匹配的刀片导条 （Mark 1 is the insert and guide pad match to the drill diameter ）							
直径范围 diameter	中心刀片 Central Insert	直径范围 diameter	中间刀 Intermediate Insert	直径范围 diameter	周边刀片 Peripheral Insert	直径范围 diameter	导条 guide pad
25,00-28,70	05 800-05 03 08M-C-G	25,00-31,00	05 800-05 03 08M-I-G	25,00-31,00	06 800-06 03 08H-P-G	25,00-31,00	800-06A
28,71-33,99	06 800-06 T3 08M-C-G	31,01-34,99	06 800-06 T3 08M-I-G	31,01-38,99	08 800-08 T3 08H-P-G	31,01-39,60	800-07A
34,00-43,00	08 800-08 T3 08M-C-G	35,00-54,99	08 800-08 T3 08M-I-G	39,00-49,99	09 800-09 T3 08H-P-G	39,61-47,00	800-08A
43,01-47,00	10 800-10 T3 08M-C-G	55,00-65,00	12 800-12 T3 08M-I-G	50,00-65,00	11 800-11 T3 08H-P-G	47,01-54,99	800-10A
47,01-49,99	12 800-12 T3 08M-C-G					55,00-65,00	800-12A
50,00-57,99	10 800-10 T3 08M-C-G						
58,00-65,00	12 800-12 T3 08M-C-G						

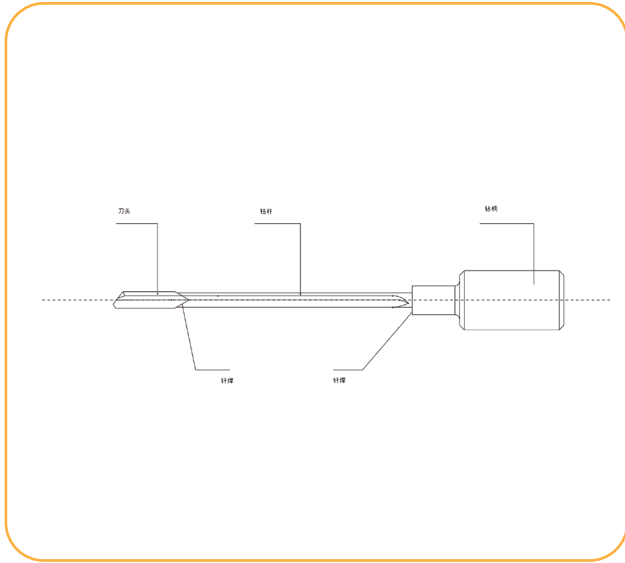
焊接硬质合金单刃枪钻

Single flute gundrill with brazed drill head



此类枪钻头部分通常为整体硬质合金，刀头部分与经热处理的钻杆和钻柄焊接一起。加工时通过刀具的冷却孔，冷却液被供应到切削部位，而冷却液及切屑则通过加工孔与钻杆的V型槽通道排出。从而使孔加工精度高经济性好；切削性能稳定性高中心线偏离小使加工过程可靠性大大提高。

（the head of This type Gundrill is usually made of solid carbide, The head section is brazed to a heat trated tube （flute） section then fitted and brazed to a hardened and ground steel driver.During machining, coolant is supplied to the cutting area through the cooling holes of the cutting tool, while coolant and chips are discharged through the V-shaped groove channels between the machining holes and the drill pipe.This machining method results in high precision and good economy in hole machining; The stability of cutting performance with small deviation from the centerline greatly improves the reliability of the machining process）



焊接硬质合金单刃枪钻

Single flute gundrill with brazed drill head



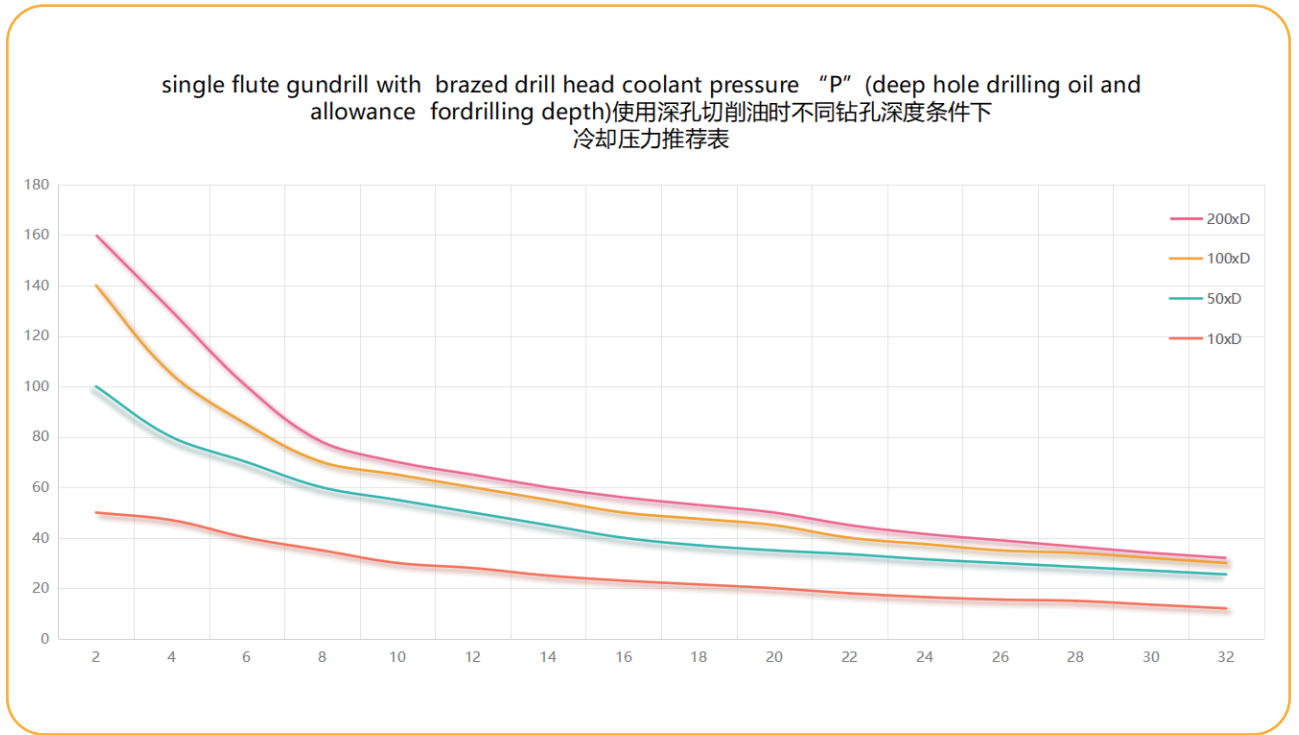
材料 materials groups	不锈钢（铁素体 / 马氏）体 13-25% 铬（硫化） Stainless steel (ferritic/ martensitic) 13-25%Cr (sulphurized)	不锈钢 耐腐蚀耐热钢（奥氏体） 18-25% 铬 镍 >8% Stainless steel corrosion and heat resisting (austenitic) 18-25%Cr Ni>8%	铸铁灰铸铁 <300N/mn ² 球墨铸铁 <400N/mn ² 可锻铸铁 Cast iron Grey cast iron <300 N/mm ² Nodular cast iron <400 N/mm ² Malleable cast iron	铸铁灰铸铁 >300N/mn ² 球墨铸铁 >400N/mn ² 铸钢件 Cast iron Grey cast iron>300 N/mm ² Nodular graphite iron>400 N/mm ² Steel castings	铝 + 铝合金 硅含量 >5% “易加工” Aluminium + Aluminium alloysSi-content>5% “free machining” Aluminium	铝 + 铝合金 硅含量 <5% “未硬化” Aluminium + Aluminium alloysSi-content<5%" not hardened"
切削速度 Cutting speed m/ min	40-80	30-60	70-100	60-90	80-160	100-300
枪钻直径 drill dia	进给范围 Feed rate mm/rev					
3.00-3.49	0.005-0.009	0.006-0.008	0.009-0.035	0.009-0.035	0.006-0.035	0.006-0.010
3.50-3.99	0.007-0.011	0.008-0.009	0.011-0.044	0.011-0.040	0.007-0.050	0.007-0.020
4.00-4.49	0.008-0.012	0.009-0.010	0.012-0.049	0.012-0.045	0.008-0.067	0.008-0.022
4.50-4.99	0.009-0.015	0.010-0.012	0.016-0.055	0.016-0.050	0.009-0.090	0.009-0.027
5.00-5.99	0.013-0.019	0.012-0.014	0.018-0.063	0.018-0.060	0.010-0.106	0.010-0.033
6.00-6.99	0.015-0.023	0.014-0.016	0.024-0.071	0.024-0.070	0.012-0.120	0.012-0.042
7.00-7.99	0.018-0.026	0.016-0.019	0.028-0.080	0.028-0.080	0.018-0.128	0.014-0.048
8.00-8.99	0.020-0.029	0.018-0.021	0.032-0.093	0.032-0.090	0.020-0.140	0.016-0.054
9.00-9.99	0.023-0.032	0.020-0.026	0.036-0.104	0.036-0.100	0.023-0.154	0.018-0.060
10.00-11.99	0.025-0.039	0.025-0.031	0.050-0.118	0.045-0.114	0.025-0.170	0.020-0.072
12.00-13.99	0.030-0.045	0.030-0.037	0.060-0.135	0.051-0.124	0.030-0.180	0.024-0.084
14.00-15.99	0.035-0.052	0.035-0.044	0.070-0.150	0.057-0.136	0.035-0.193	0.028-0.096
16.00-17.99	0.042-0.058	0.041-0.050	0.079-0.168	0.062-0.152	0.050-0.207	0.033-0.108
18.00-19.99	0.045-0.067	0.045-0.060	0.090-0.189	0.066-0.171	0.054-0.223	0.036-0.128
20.00-23.99	0.050-0.077	0.049-0.071	0.106-0.205	0.069-0.188	0.060-0.250	0.040-0.144
24.00-27.99	0.054-0.087	0.052-0.081	0.120-0.219	0.076-0.200	0.072-0.292	0.048-0.168
28.00-31.99	0.059-0.096	0.057-0.089	0.140-0.233	0.079-0.210	0.084-0.358	0.056-0.192
32.00>	0.065-0.105	0.063-0.098	0.160-0.241	0.086-0.220	0.096-0.452	0.064-0.219

焊接硬质合金单刃枪钻

Single flute gundrill with brazed drill head

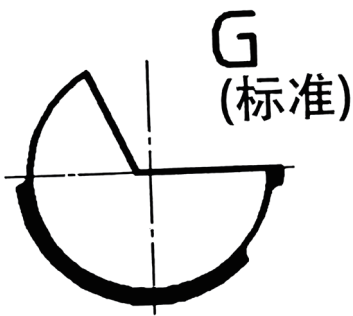


切削速度及进给量通常由刀具长度，冷却液情况及被加工材料决定，同时受钻床及工件安装稳定性的影响。所有这些参数仅为推荐值。
(Cutting speed and feed rate are dependent on tool length, coolant type and material being drilled, as well as the stability of the drilling machine and workpiece clamping.All figures specified are guide values.)

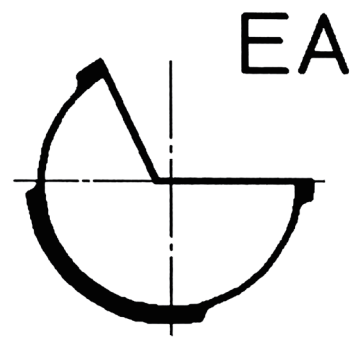


外形轮廓

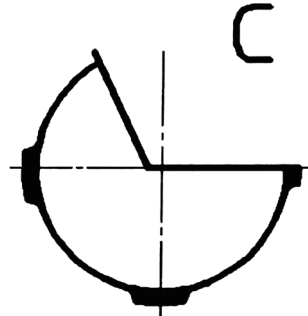
Contour



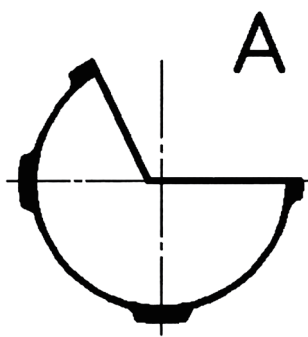
All materials-Suitable for nearly all drilling Close hole tolerance-Minimal drift
适用于所有材料满足大部分钻削要求，尺寸精度高、孔偏斜量最低



Cast iron, malleable materials, crosshole, drilling angular entrance and exit bores
铸铁、可锻材料、交叉孔，可从斜面钻入并钻出



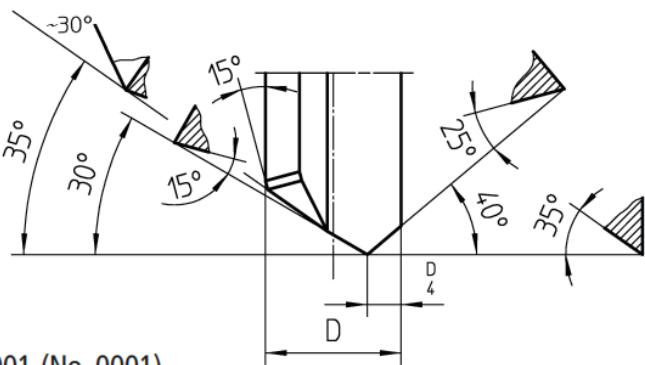
Steel, stainless steel, Not easily machinable materials- Preferred for water soluble (emulsion) coolants
钢、不锈钢、难加工材料 使用水溶性冷却液



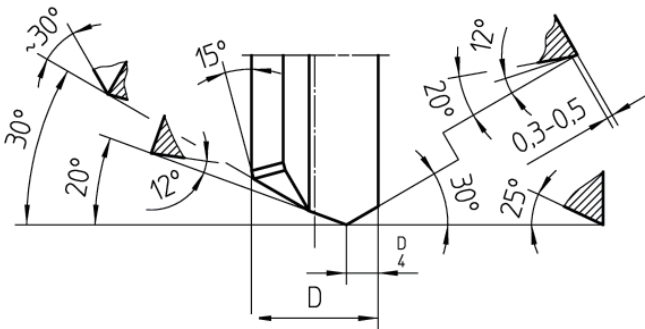
Aluminium-Close hole tolerance
铝铜、尺寸精度高

标准鼻部刃磨几何形状

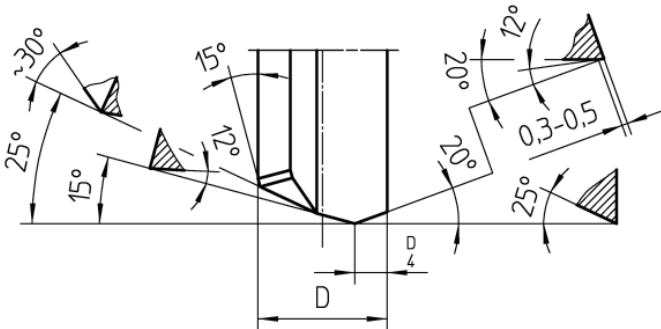
Standard nose grinds



SA-0001 (No. 0001)
Drill-Ø 1.85 - 4.000 mm



SA-0002 (No. 0002)
Drill-Ø 4.001 - 20.000 mm



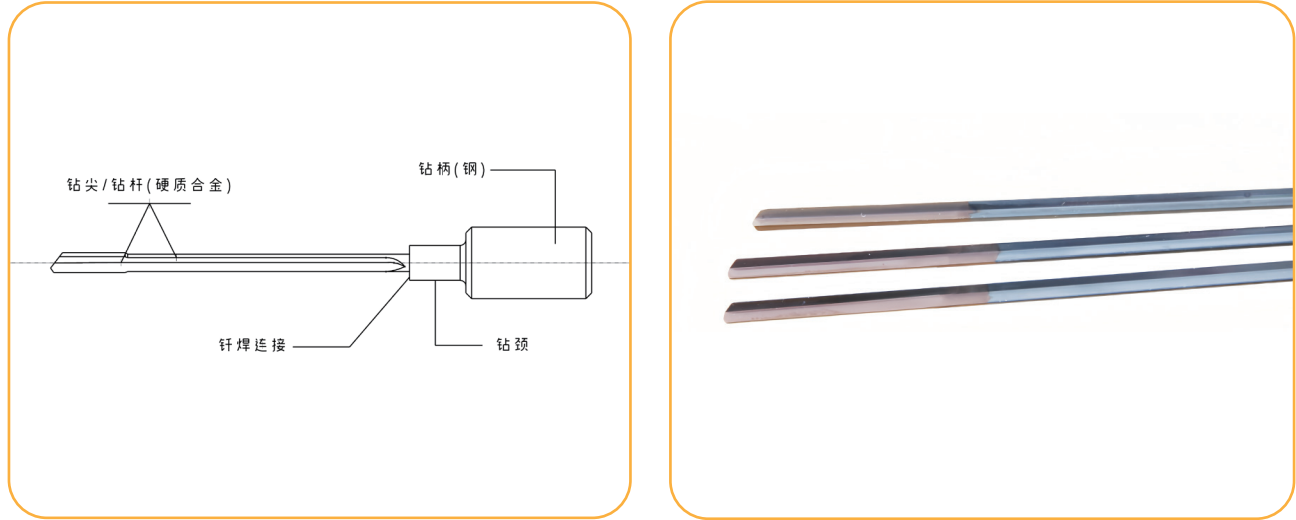
SA-0003 (No. 0003)
Drill-Ø 20.001 - ... mm

整体硬质合金单刃枪钻

Single flute gundrill with solid carbide



枪钻通体用整块的硬质合金制造，这种设计能保证高的可靠性（工序）及切削性能，因而稳定性和效率均优于焊接式枪钻，在加工过程中的径向跳动小和较高的刚性会使刀具的寿命明显延长！
The drill head and shank are made from one carbide. This design ensures high reliability (process) and cutting performance, so stability and efficiency are superior to brazed gun drills. The small radial runout and high rigidity during the machining process will significantly prolong the tool life.



直径范围 (Diameter) : 0.5-12.0mm
长度 (Length) : 标准可达350mm (max)
有效长度80-100倍刀具直径 (Effective length 80-100 times tool diameter)

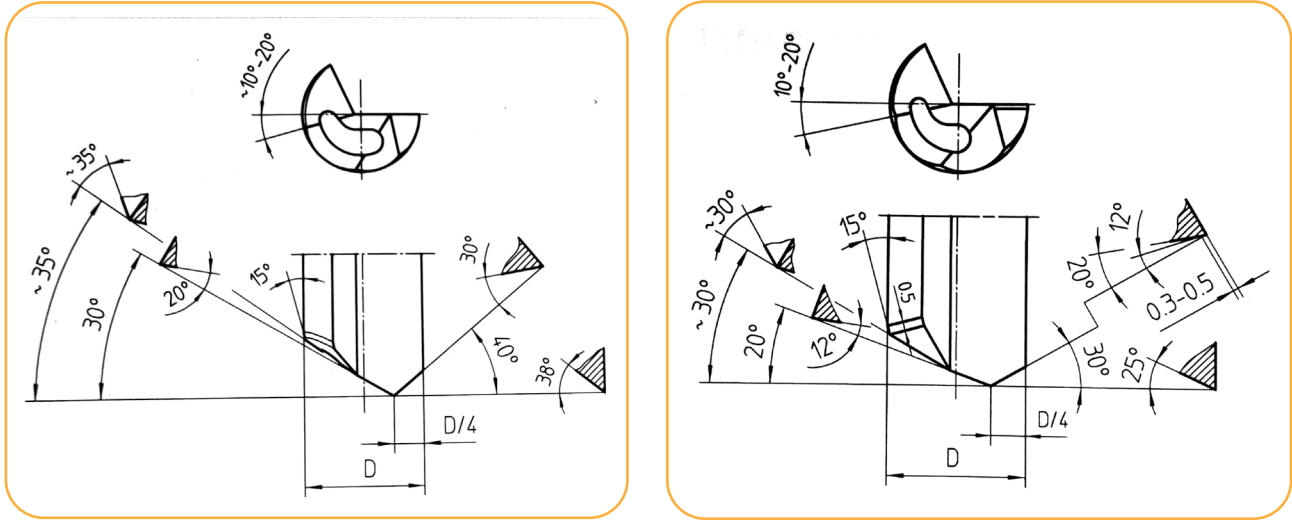
标准鼻部刃磨形状图

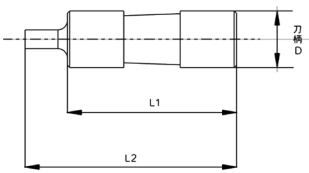
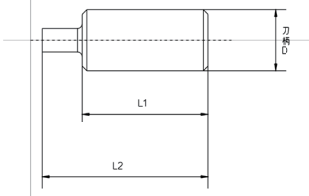
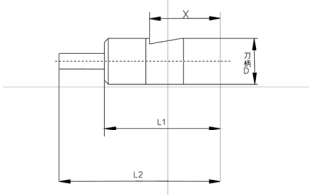
Standard nose grinds

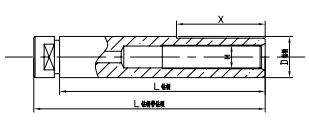
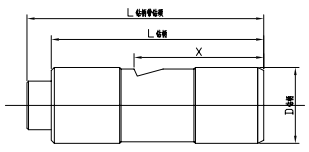
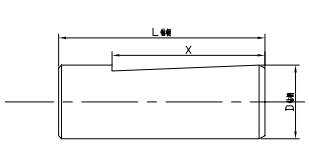
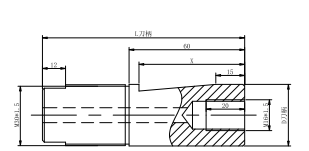
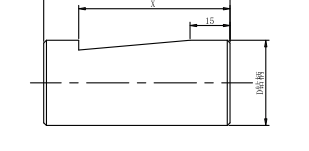


用于钻孔范围：0.500-4.000mm
For drill range: 0.500-4.000mm

用于钻孔范围：4.001-12.000mm
For drill range: 4.001-12.000mm



	直径 diameter	编号 number	钻屑直径范围 Drill dia range (mm) From-to	柄 = 夹 紧区域 Clamping area	钻柄带 钻颈 Driver with pin	削边位置 Notch location	螺纹尺寸 Thread size
	12.7	ZH12.7-01	0.500-6.349	38	48	25.4	
	4	ZH4-08	0.500-5.149	34	46		
	6	ZH6-12	0.500-4.649	36	50		
	10	ZH10-51	0.500-6.349	40	55		
	12	ZH12-27	0.500-6.349	45	60		
	16	ZH16-86	0.500-10.000	48	63		
	6	ZH6-03	0.500-4.649	30	45	17	
	10	ZH10-15	0.500-6.349	55	70		M6*0.5

	D 直径 diameter	编号 number	L 钻柄夹 紧区域 Clamping area	L 钻柄带钻 颈 Driver with pin	X 削边位 置 Notch location	M 螺纹规格 Thread size
	10	ZH10-44	60	68	35	M6*0.5
	10	ZH16-31	80	90	37	M10*1
	25	ZH25-34	100	112	45	M16*1.5
	10	ZH10-00	40		24.0	
	16	ZH16-03	45	53	31.0	
	25	ZH25-00	70	78	34	
	12.7	ZH12.7-00	38.1		25.4	
	19.05	ZH19.05-01	70		45.0	
	25.4	ZH25.4-00	70		57.5	
	31.7	ZH31.7-00	70		57.5	
	38.1	ZH38.1-00	70		57.5	
	32	DH32-01		105		M16*1.5/ M30*1.5
	32	DH32-02		70		