



钻削刀具

D88-浅孔钻
MD-皇冠钻
MDL-自锁式皇冠钻
MDD-大直径模块钻
SD-铲钻
GD-枪钻
ED-喷吸钻



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钻削刀具

DRILLING TOOLS

D88-浅孔钻 D88-Short hole drill

D88-浅孔钻产品介绍

Drilling inserts for product Introduction

钻削刀片

Drilling inserts

可转位刀片钻头D88系列

U-drill D88 Type

D-88技术指南

D88-Technical Guide

MD-皇冠钻 MD-Crown Drill

皇冠钻命名规则

Code Key For Crown Drill

MD-钻尖形式

MD-Drill Tip Forms

MD-皇冠钻刀头系列

MD-Crown Drills-Sword Tooth Series

MD-皇冠钻钻杆系列

MD-Crown Drills-Sword Tooth Series

技术指南

Technical Guide

MDL-自锁式皇冠钻 MDL-Self-locking crown drill

自锁式皇冠钻命名规则

Code Key For Self-locking crown drill

MDL-自锁式皇冠钻刀头系列

MDL-Self-locking crown drill head series

MDL-自锁式皇冠钻钻杆系列

MDL-Self-locking crown drill holder

技术指南

Technical Guide



MDD-大直径模块钻 Big dia. modular tip drills

命名规则

Code Key

MDD-组合式大直径模块钻系列

MDD – Large-Diameter Modular Drill Series

MDD-定心钻

MDD-Pilot drill bit

MDD-连接杆

MDD-Connecting Rod

MDD-延长杆

MDD-Extension Rod

MDD-技术指南

MDD Technical Guide

SD-铲钻 SD-Spade drill

铲钻刀片命名规则

Code Key for Spade Drill Inserts

铲钻刀杆命名规则

Spade Drill –Body

SD-含钴高速钢铲钻刀片

SD-Cobalt high speed steel Of Spade Drill

SD-硬质合金铲钻刀片

SD-carbide Inserts Of Spade Drill

SD-粉末高速钢铲钻刀片

SD-Powder high speed steel Of Spade Drill

SD-侧固柄螺旋槽刀杆

SD-Helical flute holder with one flat shank

SD-莫氏柄螺旋槽刀杆

SD-Morse flute holder with one flat shank

SD-技术指南

Technical Guide

GD-枪钻 GD-Gun Drill

钻头命名规则

Drill Code Key

标准枪钻的钻头刃口角度

Standard Gun Drill Cutting Edge Angles

A 浅孔钻 Short hole drill				
	枪钻钻头规格对应长度 Gun drill carbide tip length	E5	ED-喷吸钻D42.21钻杆 Tubes For D42.21 Ejector Drills	F23
B 皇冠钻 Crown Drill	标准枪钻柄 Standard gun drill shanks	E6	ED-喷吸钻刀片 ED-Ejector Drilling Inserts	F24
	GD-枪钻信息收集表 GD-Gun Drill for Information Collection Form	E9	ED-喷吸钻支撑板 ED-Spray suction drill support plate	F25
	GD-技术指南 GD-Technical Guide	E11	D80深孔钻备件 Spareparts for D80 Drills	F26
ED-喷吸钻 ED-Ejector Drilling			D42深孔钻备件 Spareparts for D42 Drills	F27
C 模块钻 modular tip drills	ED-喷吸钻刀片 ED-Ejector Drilling Inserts	F1	深孔喷吸系统部件 Assembling Parts For Ejector System	F32
	ED-喷吸加工刀具 ED-Ejector Drill Machining Tools	F2	旋转连接器 Rotation Connectors	F34
	喷吸钻和单管钻系统 Ejector And STS System	F4	深孔喷吸系统部件 Assembling Parts For Ejector System	F36
D 铲钻 Spade drill	ED-喷吸钻D80.11 ED-Ejector Drill D80.11	F6	ED-技术指南 ED-Technical Guide	F38
	ED-喷吸钻D80.11钻杆 ED-Tubes For D80.11 Ejector Drills	F8		
	单管钻D80.21 STS Drill D80.21	F9		
E 枪钻 Gun Drill	单管钻D80.11钻杆 Tubes For D80.21 STS Drills	F11		
	ED-喷吸钻刀片 ED-Ejector Drilling Inserts	F12		
	ED-喷吸钻支撑板 ED-Spray suction drill support plate	F15		
F 喷吸钻 Ejector Drilling	ED-喷吸钻D42.11 ED-Ejector Drill D42.11	F16		
	ED-喷吸钻D42.11钻杆 Tubes For D42.11 Ejector Drills	F19		
	单管钻D42.21 STS Drill D42.21	F20		
	ED-喷吸钻D42.21 ED-Ejector Drill D42.21	F22		

D88-Short hole drill

D88-浅孔钻

CoroDrill D88
可转位刀片钻头



应用/Apply

P M K N S

ISO应用范围

公差/Tolerance
2-3×DC

直径范围 Dia (mm)	14.00-44.00	44.00-52.00
孔公差 HoleTolerance (mm)	0/ + 0.25	0/ + 0.30

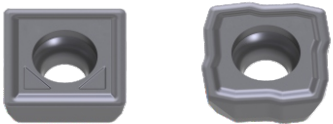
4-5×DC

直径范围 Dia (mm)	14.00-44.00	44.00-52.00
孔公差 HoleTolerance (mm)	0/ + 0.25	0/ + 0.30

产品范围/Product range

- 钻深 Drilling Depth: 2-3倍钻头直径 2D-3D
- 直径范围 Dia: 14.00-52.00mm
- 钻深 Drilling Depth: 4倍钻头直径 4D
- 直径范围 Dia: 14.00-52.00mm
- 钻深 Drilling Depth: 5倍钻头直径 5D
- 直径范围 Dia: 14.00-52.00mm

型号 Inserts Size: 02-09
Dia of drilling Body:
14.00-52.00mm
4个切削刃
4 cutting edges

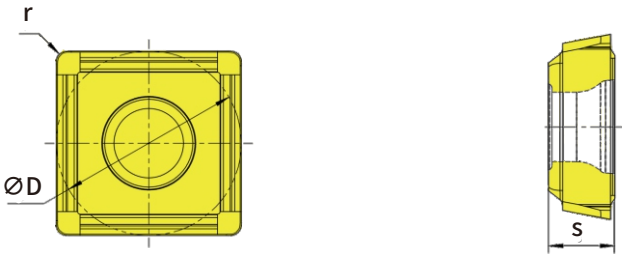


刀片槽型建议
Suggestions for blade slot type

	首选 First Choice	轻型 Lightweight	定义轻 ·低进给 ·需要低切削力的应用场合，例如使用长的钻头，4-5xDc ·韧性好 ·不稳定工况和断续切削 Definition of Lightweight - Low feed rate - Applications requiring low cutting force, such as using long drills (4-5xDc) - Good toughness - Unstable conditions and interrupted cutting
P	LM GR	GM GM	
M	LM/MS***	GM	
K	GR	GM	
N	LM	GM	
S	LM	GM	
H	GM**	GM	

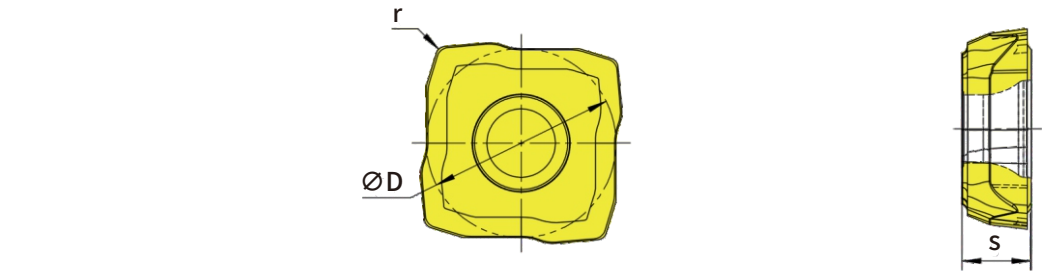
Dc mm 14.00-52.00	-LM	-MS	-GM	-GR
	P M M N S S	P M M N S S	P M K N S H	P K
	长切削材料 中等 ·低至中等进给 ·在加工长屑材料时有良好的切屑控制 ·轻切削 ·大的刀尖圆角 ·LM-长切屑材料的首选 ·MS-为不锈钢材料优化的带锋利切削刃的槽型 Long Chip Materials - Medium - Low to medium feed rates - Excellent chip control when machining long chips - Light cutting - Large nose radius - LM - The first choice for long chip materials - MS - A groove type optimized for stainless steel with a sharp cutting edge		普通材料 中等 ·低至中等进给 ·轻切削 ·短且浅的断屑槽在进给区域提供了杰出的切屑控制 ·小的刀尖圆角半径保证了很低的钻头偏斜 General Materials - Medium - Low to medium feed rates - Light cutting - Short, shallow chip breakers in the feed area provide excellent chip control - Small nose radius ensures minimal drill deflection	普通材料 粗加工 ·低至高进给 ·强，加强型切削刃 ·大的刀尖圆角 ·在高进给区域中良好的切削控制 General Materials - Roughing - Low to high feed rates - Strong, reinforced cutting edge - Large nose radius - Good chip control in high feed rate areas
	-LM	-MS		
刀尖圆弧半径（周边刀片） Nose Radius (Peripheral Inserts)	大 Large	大 Large	中等 Medium	大 Large
断屑槽长度 Chip Breaker Length	长 Long	长 Long	短 Short	中等 Medium
断屑槽深度 Chip Breaker Depth	深 Deep	深 Deep	中等 Medium	中等 Medium
倒棱宽度 Chamfer Width	长 Long	长 Long	短 Short	中等 Medium
倒棱角度 Chamfer Angle	正前角 Positive Rake	正前角 Positive Rake	中性 Neutral	中性 Neutral
刃口半径（ER） Edge Radius（ER）	中等 Medium	小 Small	小 Small	大 Large

Drilling inserts 钻削刀片

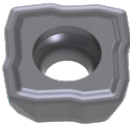


周边刀片/Peripheral inserts

刀片 Insert	型号 Type	size mm	s mm	r mm	D mm	P		M		K		N	S	
						BD6220	BD2220	BD6220	BD2220	BD6220	BD2220	BD2220	BD6220	BD2220
	D88-0202W05H-P-LM	02	2.40	0.50	5.10		★		★		★	☆		★
	D88-0303W05H-P-GM	03	2.60	0.50	6.00		★		★		★	☆		★
	D88-0403W05H-P-GM	04	2.80	0.50	7.40		★		★		★	☆		★
	D88-0403W07H-P-MS	04	2.80	0.70	7.40		★		★		★	☆		★
	D88-0503W05H-P-GM	05	3.00	0.50	8.90		★		★		★	☆		★
	D88-0503W08H-P-MS	05	3.00	0.80	8.90		★		★		★	☆		★
	D88-0604W06H-P-GM	06	3.50	0.60	10.65		★		★		★	☆		★
	D88-0604W10H-P-GR	06	3.50	1.00	10.65		★		★		★	☆		★
	D88-0704W06H-P-GM	07	4.00	0.60	12.65		★		★		★	☆		★
	D88-0704W10H-P-LM	07	4.00	1.00	12.65		★		★		★	☆		★
	D88-0704W12H-P-GR	07	4.00	1.20	12.65		★		★		★	☆		★
	D88-0805W08H-P-GM	08	4.50	0.80	15.45		★		★		★	☆		★
	D88-0805W10H-P-LM	08	4.50	1.00	15.45		★		★		★	☆		★
	D88-0805W12H-P-GR	08	4.50	1.20	15.45		★		★		★	☆		★
	D88-0906W10H-P-LM	09	5.50	1.00	18.60		★		★		★	☆		★
	D88-0906W12H-P-GR	09	5.50	1.20	18.60		★		★		★	☆		★



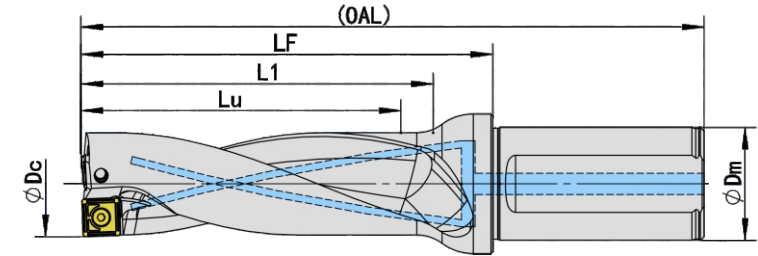
中心刀片/Center inserts

刀片 Insert	型号 Type	size mm	s mm	r mm	D mm	P		M		K		N	S	
						BD6220	BD2220	BD6220	BD2220	BD6220	BD2220	BD2220	BD6220	BD2220
	D88-020204H-C-LM	02	2.40	0.40	4.90		★		★		★	☆		★
	D88-030305H-C-GM	03	2.60	0.50	5.70		★		★		★	☆		★
	D88-040305H-C-GM	04	2.80	0.50	6.80		★		★		★	☆		★
	D88-040305H-C-LM	04	2.80	0.50	6.80		★		★		★	☆		★
	D88-050305H-C-GM	05	3.00	0.50	8.40		★		★		★	☆		★
	D88-050305H-C-LM	05	3.00	0.50	8.40		★		★		★	☆		★
	D88-060406H-C-GM	06	3.50	0.60	10.20		★		★		★	☆		★
	D88-060406H-C-GR	06	3.50	0.60	10.20		★		★		★	☆		★
	D88-070406H-C-GM	07	4.00	0.60	12.35		★		★		★	☆		★
	D88-070406H-C-LM	07	4.00	0.60	12.35		★		★		★	☆		★
	D88-070406H-C-GR	07	4.00	0.60	12.35		★		★		★	☆		★
	D88-080508H-C-GM	08	4.50	0.80	14.85		★		★		★	☆		★
	D88-080508H-C-LM	08	4.50	0.80	14.85		★		★		★	☆		★
	D88-080508H-C-GR	08	4.50	0.80	14.85		★		★		★	☆		★
	D88-090608H-C-LM	09	5.50	0.80	17.90		★		★		★	☆		★
	D88-090608H-C-GR	09	5.50	0.80	17.90		★		★		★	☆		★

U-drill D88 Type

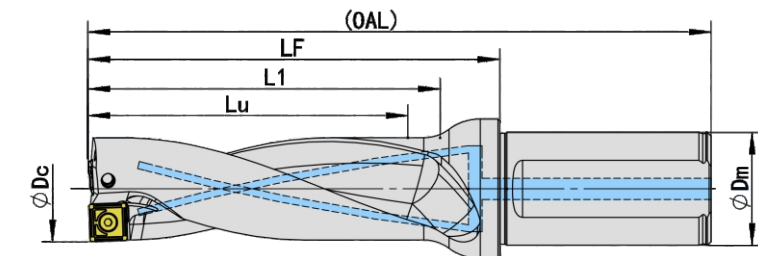
可转位刀片钻头D88系列

直径范围：14.00-52.00mm
Diameter range: 14.00-52.00mm
孔深：2倍径
Hole depth: 2XDc



直径	型号	Dm	Lu	L1	LF	OAL	适用刀片
Dc	Model	mm	mm	mm	mm	mm	
14.00	C20-2D14-31D88-02	20	31	32	47	97	D88-0202
14.50	C20-2D14.5-32D88-02	20	32	33	49	99	
15.00	C20-2D15-33D88-02	20	33	34	50	100	
15.50	C20-2D15.5-34D88-02	20	34	35	51	101	
16.00	C20-2D16-35D88-02	20	35	36	53	103	
16.50	C20-2D16.5-36D88-03	20	36	37	54	104	
17.00	C20-2D17-37D88-03	20	37	38	56	106	D88-0303
17.50	C25-2D17.5-38D88-03	25	38	39	57	113	
18.00	C25-2D18-39D88-03	25	39	40	58	114	
18.50	C25-2D18.5-40D88-03	25	40	41	59	115	
19.00	C25-2D19-41D88-03	25	41	42	61	117	
19.50	C25-2D19.5-42D88-03	25	42	43	62	118	
20.00	C25-2D20-43D88-04	25	43	44	64	120	D88-0403
20.50	C25-2D20.5-44D88-04	25	44	45	65	121	
21.00	C25-2D21-45D88-04	25	45	46	66	122	
21.50	C25-2D21.5-46D88-04	25	46	47	67	123	
22.00	C25-2D22-47D88-04	25	47	48	69	125	
22.50	C25-2D22.5-48D88-04	25	48	49	70	126	
23.00	C25-2D23-49D88-04	25	49	50	71	127	D88-0503
23.50	C25-2D23.5-50D88-04	25	50	51	73	129	
24.00	C25-2D24-51D88-05	25	51	52	74	130	
24.50	C25-2D24.5-52D88-05	25	52	53	75	131	
25.00	C25-2D25-53D88-05	25	53	54	77	133	
25.50	C25-2D25.5-54D88-05	25	54	55	78	134	
26.00	C32-2D26-55D88-05	32	55	56	79	139	D88-0503
26.50	C32-2D26.5-56D88-05	32	56	57	80	140	
27.00	C32-2D27-57D88-05	32	57	58	81	141	
27.50	C32-2D27.5-58D88-05	32	48	59	83	143	
28.00	C32-2D28-59D88-05	32	49	60	84	144	
28.50	C32-2D28.5-60D88-05	32	60	61	86	146	
29.00	C32-2D29-61D88-05	32	61	62	87	147	D88-0503
29.50	C32-2D29.5-62D88-05	32	62	63	88	148	

直径范围：14.00-52.00mm
Diameter range: 14.00-52.00mm
孔深：2倍径
Hole depth: 2XDc

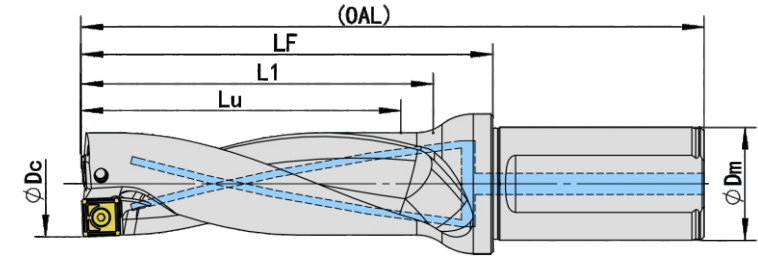


直径	型号	Dm	Lu	L1	LF	OAL	适用刀片
Dc	Model	mm	mm	mm	mm	mm	
30.00	C32-2D30-63D88-06	32	63	64	90	150	D88-0604
30.50	C32-2D30.5-64D88-06	32	64	65	91	151	
31.00	C40-2D31-65D88-06	40	65	66	92	162	
31.50	C40-2D31.5-66D88-06	40	66	67	94	164	
32.00	C40-2D32-67D88-06	40	67	68	95	165	
32.50	C40-2D32.5-68D88-06	40	68	69	96	166	
33.00	C40-2D33-69D88-06	40	69	70	98	168	D88-0704
33.50	C40-2D33.5-70D88-06	40	70	71	99	169	
34.00	C40-2D34-71D88-06	40	71	72	100	170	
34.50	C40-2D34.5-72D88-06	40	72	73	102	172	
35.00	C40-2D35-73D88-06	40	73	74	103	173	
35.50	C40-2D35.5-74D88-06	40	74	75	105	175	
36.00	C40-2D36-75D88-07	40	75	76	106	176	D88-0805
37.00	C40-2D37-77D88-07	40	77	78	108	178	
38.00	C40-2D38-79D88-07	40	79	80	111	181	
39.00	C40-2D39-81D88-07	40	81	82	113	183	
40.00	C40-2D40-83D88-07	40	83	84	116	186	
41.00	C40-2D41-85D88-07	40	88	86	119	189	
42.00	C40-2D42-87D88-07	40	87	88	121	191	D88-0805
43.00	C40-2D43-89D88-07	40	89	90	124	194	
44.00	C40-2D44-91D88-08	50	91	92	127	207	
45.00	C40-2D45-93D88-08	50	93	94	130	210	
46.00	C40-2D46-95D88-08	50	95	96	132	212	
47.00	C40-2D47-97D88-08	50	97	98	135	215	
48.00	C40-2D48-99D88-08	50	99	100	138	218	D88-0805
49.00	C40-2D49-101D88-08	50	101	102	140	220	
50.00	C40-2D50-103D88-08	50	103	104	143	223	
51.00	C40-2D51-105D88-08	50	105	106	146	226	
52.00	C40-2D52-107D88-08	50	107	108	148	228	

U-drill D88 Type

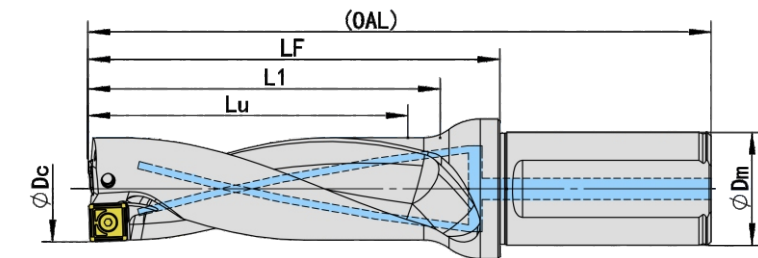
可转位刀片钻头D88系列

直径范围：14.00-52.00mm
Diameter range: 14.00-52.00mm
孔深：3倍径
Hole depth: 3XDc



直径	型号	Dm	Lu	L1	LF	OAL	适用刀片
Dc	Model	mm	mm	mm	mm	mm	
14.00	C20-3D14-45D88-02	20	45	46	61	111	D88-0202
14.50	C20-3D14.5-47D88-02	20	47	48	64	114	
15.00	C20-3D15-48D88-02	20	48	49	65	115	
15.50	C20-3D15.5-50D88-02	20	50	51	67	117	
16.00	C20-3D16-51D88-02	20	51	52	69	119	
16.50	C20-3D16.5-53D88-03	20	53	54	71	121	D88-0303
17.00	C20-3D17-54D88-03	20	54	55	73	123	
17.50	C25-3D17.5-57D88-03	25	55	57	75	131	
18.00	C25-3D18-57D88-03	25	57	58	76	132	
18.50	C25-3D18.5-59D88-03	25	59	60	78	134	
19.00	C25-3D19-60D88-03	25	60	61	80	136	
19.50	C25-3D19.5-62D88-03	25	62	63	82	138	
20.00	C25-3D20-63D88-04	25	63	64	84	140	D88-0403
20.50	C25-3D20.5-65D88-04	25	65	66	86	142	
21.00	C25-3D21-66D88-04	25	69	67	87	143	
21.50	C25-3D21.5-68D88-04	25	68	69	89	145	
22.00	C25-3D22-69D88-04	25	69	70	91	147	
22.50	C25-3D22.5-71D88-04	25	71	72	93	149	
23.00	C25-3D23-72D88-04	25	72	73	94	150	
23.50	C25-3D23.5-74D88-04	25	74	75	97	153	D88-0503
24.00	C25-3D24-75D88-05	25	75	76	98	154	
24.50	C25-3D24.5-77D88-05	25	77	78	100	156	
25.00	C25-3D25-78D88-05	25	78	79	102	158	
25.50	C25-3D25.5-80D88-05	25	80	81	104	160	
26.00	C32-3D26-81D88-05	32	81	82	105	165	
26.50	C32-3D26.5-83D88-05	32	83	84	107	167	
27.00	C32-3D27-84D88-05	32	84	85	108	168	
27.50	C32-3D27.5-86D88-05	32	86	87	111	171	
28.00	C32-3D28-87D88-05	32	87	88	112	172	
28.50	C32-3D28.5-89D88-05	32	89	90	115	175	
29.00	C32-3D29-91D88-05	32	91	91	116	176	
29.50	C32-3D29.5-92D88-05	32	92	93	118	178	

直径范围：14.00-52.00mm
Diameter range: 14.00-52.00mm
孔深：3倍径
Hole depth: 3XDc

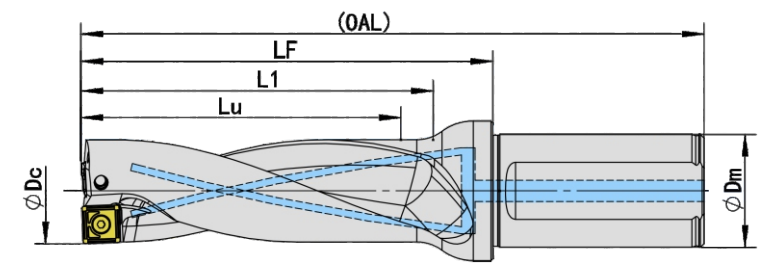


直径	型号	Dm	Lu	L1	LF	OAL	适用刀片
Dc	Model	mm	mm	mm	mm	mm	
30.00	C32-3D30-93D88-06	32	93	94	120	180	D88-0604
30.50	C32-3D30.5-95D88-06	32	95	96	122	182	
31.00	C40-3D31-96D88-06	40	96	97	123	193	
31.50	C40-3D31.5-98D88-06	40	98	99	126	196	
32.00	C40-3D32-99D88-06	40	99	100	127	197	
32.50	C40-3D32.5-101D88-06	40	101	102	129	199	
33.00	C40-3D33-102D88-06	40	102	103	131	201	
33.50	C40-3D33.5-104D88-06	40	104	105	133	203	
34.00	C40-3D34-105D88-06	40	105	106	134	204	
34.50	C40-3D34.5-107D88-06	40	107	108	137	207	
35.00	C40-3D35-108D88-06	40	108	109	138	208	D88-0704
35.50	C40-3D35.5-110D88-06	40	110	111	141	211	
36.00	C40-3D36-111D88-07	40	111	112	142	212	
37.00	C40-3D37-114D88-07	40	114	115	145	215	
38.00	C40-3D38-117D88-07	40	117	118	149	219	
39.00	C40-3D39-120D88-07	40	120	121	152	222	
40.00	C40-3D40-123D88-07	40	123	124	156	226	
41.00	C40-3D41-126D88-07	40	126	127	160	230	
42.00	C40-3D42-129D88-07	40	129	130	163	233	D88-0805
43.00	C40-3D43-132D88-07	40	132	133	167	237	
44.00	C50-3D44-135D88-08	50	135	136	171	251	
45.00	C50-3D45-138D88-08	50	138	139	175	255	
46.00	C50-3D46-141D88-08	50	141	142	178	258	
47.00	C50-3D47-144D88-08	50	144	145	182	262	
48.00	C50-3D48-147D88-08	50	147	148	186	266	
49.00	C50-3D49-150D88-08	50	150	151	189	269	
50.00	C50-3D50-153D88-08	50	153	154	193	273	
51.00	C50-3D51-156D88-08	50	156	157	197	277	
52.00	C50-3D52-159D88-08	50	159	160	200	280	

U-drill D88 Type

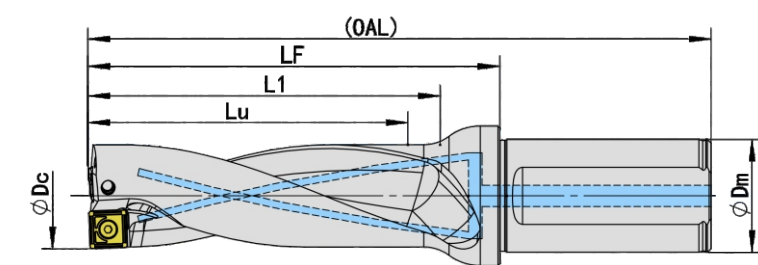
可转位刀片钻头D88系列

直径范围：14.00-52.00mm
Diameter range: 14.00-52.00mm
孔深：4倍径
Hole depth: 4XDc



直径	型号	Dm	Lu	L1	LF	OAL	适用刀片
Dc	Model	mm	mm	mm	mm	mm	
14.00	C20-4D14-59D88-02	20	59	60	75	125	D88-0202
14.50	C20-4D14.5-61D88-02	20	61	62	78	128	
15.00	C20-4D15-63D88-02	20	63	64	80	130	
15.50	C20-4D15.5-65D88-02	20	65	66	82	132	
16.00	C20-4D16-67D88-02	20	67	68	85	135	
16.50	C20-4D16.5-69D88-03	20	69	70	87	137	D88-0303
17.00	C20-4D17-71D88-03	20	71	72	90	140	
17.50	C25-4D17.5-73D88-03	25	73	74	92	148	
18.00	C25-4D18-75D88-03	25	75	76	94	150	
18.50	C25-4D18.5-77D88-03	25	77	78	96	152	
19.00	C25-4D19-79D88-03	25	79	80	99	155	D88-0403
19.50	C25-4D19.5-81D88-03	25	81	82	101	157	
20.00	C25-4D20-83D88-04	25	83	84	104	160	
20.50	C25-4D20.5-85D88-04	25	85	86	106	162	
21.00	C25-4D21-87D88-04	25	87	88	108	164	
21.50	C25-4D21.5-89D88-04	25	89	90	110	166	D88-0503
22.00	C25-4D22-91D88-04	25	91	92	113	169	
22.50	C25-4D22.5-93D88-04	25	93	94	115	171	
23.00	C25-4D23-95D88-04	25	95	96	117	173	
23.50	C25-4D23.5-97D88-04	25	97	98	120	176	
24.00	C25-4D24-99D88-05	25	99	100	122	178	D88-0604
24.50	C25-4D24.5-101D88-05	25	101	102	124	180	
25.00	C25-4D25-103D88-05	25	103	104	127	183	
25.50	C25-4D25.5-105D88-05	25	105	106	129	185	
26.00	C32-4D26-107D88-05	32	107	108	131	191	
27.00	C32-4D27-111D88-05	32	111	112	135	195	D88-0604
28.00	C32-4D28-115D88-05	32	115	116	140	200	
29.00	C32-4D29-119D88-05	32	119	120	145	205	
30.00	C32-4D30-123D88-06	32	123	124	150	210	
31.00	C40-4D31-127D88-06	40	127	128	154	224	
32.00	C40-4D32-131D88-06	40	131	132	159	229	D88-0604
33.00	C40-4D33-135D88-06	40	135	136	164	234	
34.00	C40-4D34-139D88-06	40	139	140	168	238	
35.00	C40-4D35-143D88-06	40	143	144	173	243	

直径范围：14.00-52.00mm
Diameter range: 14.00-52.00mm
孔深：4倍径
Hole depth: 4XDc

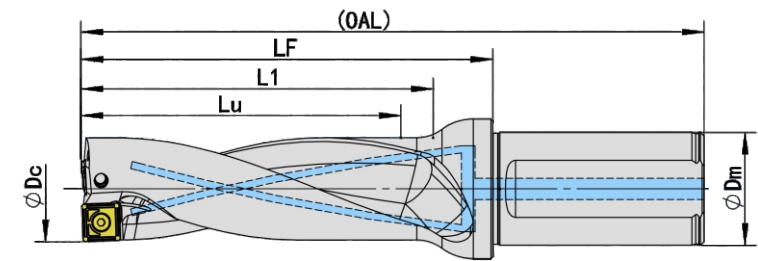


直径	型号	Dm	Lu	L1	LF	OAL	适用刀片
Dc	Model	mm	mm	mm	mm	mm	
36.00	C40-4D36-147D88-07	40	147	148	178	212	D88-0704
37.00	C40-4D37-151D88-07	40	151	152	182	215	
38.00	C40-4D38-155D88-07	40	155	156	187	219	
39.00	C40-4D39-159D88-07	40	159	160	191	222	
40.00	C40-4D40-163D88-07	40	163	164	196	226	
41.00	C40-4D41-167D88-07	40	167	168	201	230	D88-0805
42.00	C40-4D42-171D88-07	40	171	172	205	233	
43.00	C40-4D43-175D88-07	40	175	176	210	237	
44.00	C50-4D44-179D88-08	50	179	180	215	295	
45.00	C50-4D45-183D88-08	50	183	185	221	301	
46.00	C50-4D46-187D88-08	50	187	189	225	305	D88-0805
47.00	C50-4D47-191D88-08	50	191	193	230	310	
48.00	C50-4D48-195D88-08	50	195	197	235	315	
49.00	C50-4D49-199D88-08	50	199	201	239	319	
50.00	C50-4D50-203D88-08	50	203	205	244	324	
51.00	C50-4D51-207D88-08	50	207	209	249	329	D88-0805
52.00	C50-4D52-211D88-08	50	211	213	253	333	

U-drill D88 Type

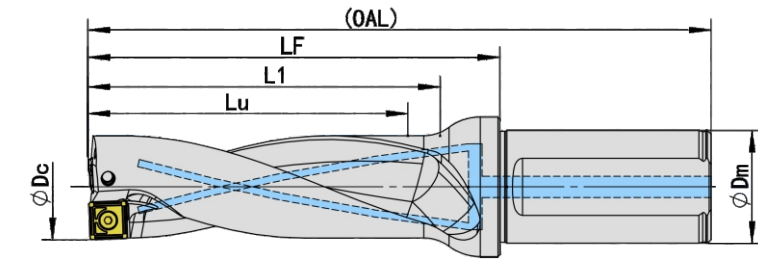
可转位刀片钻头D88系列

直径范围：14.00-52.00mm
Diameter range: 14.00-52.00mm
孔深：5倍径
Hole depth: 5XDc



直径	型号	Dm	Lu	L1	LF	OAL	适用中心刀片
Diameter	Model	mm	mm	mm	mm	mm	
14.00	C20-5D14-73D88-02	20	73	74	89	139	D88-0202
14.50	C20-5D14.5-76D88-02	20	76	77	93	143	
15.00	C20-5D15-78D88-02	20	78	79	95	145	
15.50	C20-5D15.5-81D88-02	20	81	82	98	148	
16.00	C20-5D16-83D88-02	20	83	84	101	151	
16.50	C20-5D16.5-86D88-03	20	86	87	104	154	D88-0303
17.00	C20-5D17-88D88-03	20	88	89	107	157	
17.50	C25-5D17.5-91D88-03	25	91	92	110	166	
18.00	C25-5D18-93D88-03	25	93	94	112	168	
18.50	C25-5D18.5-96D88-03	25	96	97	115	171	
19.00	C25-5D19-98D88-03	25	98	99	118	174	
19.50	C25-5D19.5-101D88-03	25	101	102	121	177	
20.00	C25-5D20-103D88-04	25	103	104	124	180	D88-0403
20.50	C25-5D20.5-106D88-04	25	106	107	127	183	
21.00	C25-5D21-108D88-04	25	108	109	129	185	
21.50	C25-5D21.5-111D88-04	25	111	112	132	188	
22.00	C25-5D22-113D88-04	25	113	114	135	191	
22.50	C25-5D22.5-116D88-04	25	116	117	138	194	
23.00	C25-5D23-118D88-04	25	118	119	140	196	
23.50	C25-5D23.5-121D88-04	25	121	122	144	200	D88-0503
24.00	C25-5D24-123D88-05	25	123	124	146	202	
24.50	C25-5D24.5-126D88-05	25	126	127	149	205	
25.00	C25-5D25-128D88-05	25	128	129	152	208	
25.50	C25-5D25.5-131D88-05	25	131	132	155	211	
26.00	C32-5D26-133D88-05	32	133	134	157	217	
27.00	C32-5D27-138D88-05	32	138	139	162	222	
28.00	C32-5D28-143D88-05	32	143	144	168	228	D88-0604
29.00	C32-5D29-148D88-05	32	148	149	174	234	
30.00	C32-5D30-153D88-06	32	153	154	180	240	
31.00	C40-5D31-158D88-06	40	158	159	185	255	
32.00	C40-5D32-163D88-06	40	163	164	191	261	
33.00	C40-5D33-168D88-06	40	168	169	197	267	
34.00	C40-5D34-173D88-06	40	173	174	202	272	
35.00	C40-5D35-178D88-06	40	178	179	208	278	

直径范围：14.00-52.00mm
Diameter range: 14.00-52.00mm
孔深：5倍径
Hole depth: 5XDc



直径	型号	Dm	Lu	L1	LF	OAL	适用刀片
Diameter	Model	mm	mm	mm	mm	mm	
36.00	C40-5D36-183D88-07	40	183	184	214	284	D88-0704
37.00	C40-5D37-188D88-07	40	188	189	219	289	
38.00	C40-5D38-193SD88-07	40	193	194	225	295	
39.00	C40-5D39-198D88-07	40	198	199	230	300	
40.00	C40-5D40-203D88-07	40	203	204	236	306	
41.00	C40-5D41-208D88-07	40	208	209	242	312	
42.00	C40-5D42-213D88-07	40	213	214	247	317	
43.00	C40-5D43-218D88-07	40	218	219	253	323	D88-0805
44.00	C50-5D44-223D88-08	50	223	224	259	339	
45.00	C50-5D45-228D88-08	50	228	230	266	346	
46.00	C50-5D46-233D88-08	50	233	235	271	351	
47.00	C50-5D47-238D88-08	50	238	240	277	357	
48.00	C50-5D48-243D88-08	50	243	245	283	363	
49.00	C50-5D49-248D88-08	50	248	250	288	368	
50.00	C50-5D50-253D88-08	50	253	255	294	374	D88-0805
51.00	C50-5D51-258D88-08	50	258	260	300	380	
52.00	C50-5D52-263D88-08	50	263	265	305	385	

D88-技术指南

D88-Technical Guide

浅孔钻 D88

Short Hole Dril D88

Drill length 5xD					
牌号	材料	硬度	钻头直径	进给	切削速度
ISO	Material	HB	Dc	fn(mm/rev)	Vc(m/min)
P	非合金钢 Carbon steel 非淬硬 Not-hardended 0.05-0.10%C	80-170	14.0-16.0	0.04-0.06	270 (220-350)
		80-170	17.0-19.0	0.04-0.06	270 (220-350)
		80-170	20.0-22.0	0.04-0.08	270 (220-350)
		80-170	23.0-26.0	0.04-0.08	270 (220-350)
		80-170	27.0-31.0	0.06-0.10	270 (220-350)
		80-170	32.0-36.0	0.06-0.10	270 (220-350)
		80-170	37.0-43.0	0.08-0.12	270 (220-350)
		80-170	44.0-50.0	0.08-0.12	270 (220-350)
P	非淬硬 Not-hardended 0.05-0.25%C	90-200	14.0-16.0	0.06-0.10	260 (180-280)
		90-200	17.0-19.0	0.06-0.10	260 (180-280)
		90-200	20.0-22.0	0.06-0.12	260 (180-280)
		90-200	23.0-26.0	0.06-0.12	260 (180-280)
		90-200	27.0-31.0	0.08-0.14	260 (180-280)
		90-200	32.0-36.0	0.08-0.14	260 (180-280)
		90-200	37.0-43.0	0.08-0.16	260 (180-280)
		90-200	44.0-50.0	0.10-0.16	260 (180-280)
P	非淬硬 Not-hardended 0.25-0.55%C	125-225	14.0-16.0	0.08-0.12	180 (140-240)
		125-225	17.0-19.0	0.08-0.12	180 (140-240)
		125-225	20.0-22.0	0.08-0.16	180 (140-240)
		125-225	23.0-26.0	0.08-0.16	180 (140-240)
		125-225	27.0-31.0	0.10-0.18	180 (140-240)
		125-225	32.0-36.0	0.10-0.18	180 (140-240)
		125-225	37.0-43.0	0.10-0.20	180 (140-240)
		125-225	44.0-50.0	0.10-0.20	180 (140-240)
P	非淬硬 Not-hardended 0.55-0.80%C	150-225	14.0-16.0	0.08-0.12	180 (140-240)
		150-225	17.0-19.0	0.08-0.12	180 (140-240)
		150-225	20.0-22.0	0.08-0.16	180 (140-240)
		150-225	23.0-26.0	0.08-0.16	180 (140-240)
		150-225	27.0-31.0	0.10-0.18	180 (140-240)
		150-225	32.0-36.0	0.10-0.18	180 (140-240)
		150-225	37.0-43.0	0.10-0.20	180 (140-240)
		150-225	44.0-50.0	0.10-0.20	180 (140-240)
P	高碳钢和 碳素工具钢 High carbon steel andcarbon tool steel	180-275	14.0-16.0	0.08-0.12	180 (140-240)
		180-275	17.0-19.0	0.08-0.12	180 (140-240)
		180-275	20.0-22.0	0.08-0.16	180 (140-240)
		180-275	23.0-26.0	0.08-0.16	180 (140-240)
		180-275	27.0-31.0	0.10-0.18	180 (140-240)
		180-275	32.0-36.0	0.10-0.18	180 (140-240)
		180-275	37.0-43.0	0.10-0.20	180 (140-240)
		180-275	44.0-50.0	0.10-0.20	180 (140-240)
P	低合金钢 Low carbon steel 非淬硬 Not-hardended	150-260	14.0-16.0	0.06-0.16	180 (140-240)
		150-260	17.0-19.0	0.06-0.16	180 (140-240)
		150-260	20.0-22.0	0.08-0.20	180 (140-240)
		150-260	23.0-26.0	0.08-0.20	180 (140-240)
		150-260	27.0-31.0	0.08-0.20	180 (140-240)
		150-260	32.0-36.0	0.10-0.22	180 (140-240)
		150-260	37.0-43.0	0.10-0.22	180 (140-240)
		150-260	44.0-50.0	0.10-0.24	180 (140-240)
P	淬硬钢 hardended steel	220-450	14.0-16.0	0.06-0.16	130 (100-180)
		220-450	17.0-19.0	0.06-0.16	130 (100-180)
		220-450	20.0-22.0	0.08-0.20	130 (100-180)
		220-450	23.0-26.0	0.08-0.20	130 (100-180)
		220-450	27.0-31.0	0.08-0.20	130 (100-180)
		220-450	32.0-36.0	0.10-0.22	130 (100-180)
		220-450	37.0-43.0	0.10-0.22	130 (100-180)
		220-450	44.0-50.0	0.10-0.22	130 (100-180)

浅孔钻 D88

Short Hole Dril D88

Drill length 5xD					
牌号	材料	硬度	钻头直径	进给	切削速度
ISO	Material	HB	Dc	fn(mm/rev)	Vc(m/min)
P	高合金钢 High carbon steel 退火 Annealed steel	50-250	14.0-16.0	0.06-0.16	130 (100-180)
		50-250	17.0-19.0	0.06-0.16	130 (100-180)
		50-250	20.0-22.0	0.08-0.20	130 (100-180)
		50-250	23.0-26.0	0.08-0.20	130 (100-180)
		50-250	27.0-31.0	0.08-0.20	130 (100-180)
		50-250	32.0-36.0	0.08-0.22	130 (100-180)
		50-250	37.0-43.0	0.10-0.22	130 (100-180)
		50-250	44.0-50.0	0.10-0.22	130 (100-180)
P	淬硬钢 Hardended	250-450	14.0-16.0	0.06-0.16	130 (100-180)
		250-450	17.0-19.0	0.06-0.16	130 (100-180)
		250-450	20.0-22.0	0.08-0.20	130 (100-180)
		250-450	23.0-26.0	0.08-0.20	130 (100-180)
		250-450	27.0-31.0	0.08-0.20	130 (100-180)
		250-450	32.0-36.0	0.08-0.22	130 (100-180)
		250-450	37.0-43.0	0.10-0.22	130 (100-180)
		250-450	44.0-50.0	0.10-0.22	130 (100-180)
P	钢铸件 Casting steel 非合金 Non-alloy	90-225	14.0-16.0	0.06-0.12	150 (140-200)
		90-225	17.0-19.0	0.06-0.12	150 (140-200)
		90-225	20.0-22.0	0.08-0.16	150 (140-200)
		90-225	23.0-26.0	0.08-0.16	150 (140-200)
		90-225	27.0-31.0	0.08-0.18	150 (140-200)
		90-225	32.0-36.0	0.08-0.20	150 (140-200)
		90-225	37.0-43.0	0.10-0.20	150 (140-200)
		90-225	44.0-50.0	0.10-0.20	150 (140-200)
P	低合金 合金元素≤5% Low alloy(alloy ≤5%)	150-250	14.0-16.0	0.06-0.12	120 (100-160)
		150-250	17.0-19.0	0.06-0.12	120 (100-160)
		150-250	20.0-22.0	0.08-0.16	120 (100-160)
		150-250	23.0-26.0	0.08-0.16	120 (100-160)
		150-250	27.0-31.0	0.08-0.18	120 (100-160)
		150-250	32.0-36.0	0.08-0.20	120 (100-160)
		150-250	37.0-43.0	0.10-0.20	120 (100-160)
		150-250	44.0-50.0	0.10-0.20	120 (100-160)
M	不锈钢 Stainless steel 铁素体 Ferrite 马氏体13-25%Cr Martensite 13-25%Cr	150-270	14.0-16.0	0.06-0.12	180 (150-250)
		150-270	17.0-19.0	0.06-0.12	180 (150-250)
		150-270	20.0-22.0	0.06-0.16	180 (150-250)
		150-270	23.0-26.0	0.06-0.16	180 (150-250)
		150-270	27.0-31.0	0.08-0.18	180 (150-250)
		150-270	32.0-36.0	0.08-0.20	180 (150-250)
		150-270	37.0-43.0	0.10-0.20	180 (150-250)
		150-270	44.0-50.0	0.10-0.20	180 (150-250)
M	奥氏体 Austenitic Ni > 8% 13-25%Cr	150-275	14.0-16.0	0.06-0.12	180 (150-240)
		150-275	17.0-19.0	0.06-0.12	180 (150-250)
		150-275	20.0-22.0	0.06-0.16	180 (150-250)
		150-275	23.0-26.0	0.06-0.16	180 (150-250)
		150-275	27.0-31.0	0.08-0.18	180 (150-250)
		150-275	32.0-36.0	0.08-0.20	180 (150-250)
		150-275	37.0-43.0	0.10-0.20	180 (150-250)
		150-275	44.0-50.0	0.10-0.20	180 (150-250)
M	奥氏体 铁素体（双相） Austenitic-ferrite(duplex)	180-320	14.0-16.0	0.06-0.12	180 (150-250)
		180-320	17.0-19.0	0.06-0.12	180 (150-250)
		180-320	20.0-22.0	0.06-0.16	180 (150-250)
		180-320	23.0-26.0	0.06-0.16	180 (150-250)
		180-320	27.0-31.0	0.08-0.18	180 (150-250)
		180-320	32.0-36.0	0.08-0.20	180 (150-250)
		180-320	37.0-43.0	0.10-0.20	180 (150-250)
		180-320	44.0-50.0	0.10-0.20	180 (150-250)

D88-技术指南

D88-Technical Guide

浅孔钻 D88

Short Hole Dril D88

Drill length 5xD					
牌号	材料	硬度	钻头直径	进给	切削速度
ISO	Material	HB	Dc	fn(mm/rev)	Vc(m/min)
M	不锈钢 Stainless steel 奥氏体 铸件 Austenitic castings	150-250	14.0-16.0	0.06-0.12	180 (150-250)
		150-250	17.0-19.0	0.06-0.12	180 (150-250)
		150-250	20.0-22.0	0.06-0.16	180 (150-250)
		150-250	23.0-26.0	0.06-0.16	180 (150-250)
		150-250	27.0-31.0	0.08-0.18	180 (150-250)
		150-250	32.0-36.0	0.08-0.20	180 (150-250)
		150-250	37.0-43.0	0.10-0.20	180 (150-250)
		150-250	44.0-50.0	0.10-0.20	180 (150-250)
K	可锻铸铁 Malleable iron 铁素体 (短切屑) Ferrite(short chip)	110-145	14.0-16.0	0.08-0.18	220 (160-260)
		110-145	17.0-19.0	0.08-0.18	220 (160-260)
		110-145	20.0-22.0	0.10-0.20	220 (160-260)
		110-145	23.0-26.0	0.10-0.20	220 (160-260)
		110-145	27.0-31.0	0.10-0.20	220 (160-260)
		110-145	32.0-36.0	0.10-0.20	220 (160-260)
		110-145	37.0-43.0	0.10-0.22	220 (160-260)
		110-145	44.0-50.0	0.10-0.22	220 (160-260)
K	珠光体 Pearlite (长切屑) (long chips)	150-270	14.0-16.0	0.08-0.18	180 (160-260)
		150-270	17.0-19.0	0.08-0.18	180 (160-260)
		150-270	20.0-22.0	0.10-0.20	180 (160-260)
		150-270	23.0-26.0	0.10-0.20	180 (160-260)
		150-270	27.0-31.0	0.10-0.20	180 (160-260)
		150-270	32.0-36.0	0.10-0.20	180 (160-260)
		150-270	37.0-43.0	0.10-0.22	180 (160-260)
		150-270	44.0-50.0	0.10-0.22	180 (160-260)
K	灰口铸铁 Grey cast iron 低拉伸强度 Low tensile strength	150-220	14.0-16.0	0.08-0.18	200 (160-260)
		150-220	17.0-19.0	0.08-0.18	200 (160-260)
		150-220	20.0-22.0	0.10-0.20	200 (160-260)
		150-220	23.0-26.0	0.10-0.20	200 (160-260)
		150-220	27.0-31.0	0.10-0.20	200 (160-260)
		150-220	32.0-36.0	0.10-0.20	200 (160-260)
		150-220	37.0-43.0	0.10-0.22	200 (160-260)
		150-220	44.0-50.0	0.10-0.22	200 (160-260)
K	高拉伸强度 High tensile strength	200-330	14.0-16.0	0.08-0.18	190 (160-260)
		200-330	17.0-19.0	0.08-0.18	190 (160-260)
		200-330	20.0-22.0	0.10-0.20	190 (160-260)
		200-330	23.0-26.0	0.10-0.20	190 (160-260)
		200-330	27.0-31.0	0.10-0.20	190 (160-260)
		200-330	32.0-36.0	0.10-0.20	190 (160-260)
		200-330	37.0-43.0	0.10-0.22	190 (160-260)
		200-330	44.0-50.0	0.10-0.22	190 (160-260)
K	球墨铸铁 SG nodular cast iron 铁素体 Ferrite	125-230	14.0-16.0	0.08-0.14	160 (120-220)
		125-230	17.0-19.0	0.08-0.14	160 (120-220)
		125-230	20.0-22.0	0.10-0.16	160 (120-220)
		125-230	23.0-26.0	0.10-0.16	160 (120-220)
		125-230	27.0-31.0	0.10-0.16	160 (120-220)
		125-230	32.0-36.0	0.10-0.18	160 (120-220)
		125-230	37.0-43.0	0.10-0.18	160 (120-220)
		125-230	44.0-50.0	0.10-0.18	160 (120-220)
K	珠光体 Pearlite	200-300	14.0-16.0	0.08-0.14	150 (120-220)
		200-300	17.0-19.0	0.08-0.14	150 (120-220)
		200-300	20.0-22.0	0.10-0.16	150 (120-220)
		200-300	23.0-26.0	0.10-0.16	150 (120-220)
		200-300	27.0-31.0	0.10-0.16	150 (120-220)
		200-300	32.0-36.0	0.10-0.18	150 (120-220)
		200-300	37.0-43.0	0.10-0.18	150 (120-220)
		200-300	44.0-50.0	0.10-0.18	150 (120-220)

浅孔钻 D88

Short Hole Dril D88

Drill length 5xD					
牌号	材料	硬度	钻头直径	进给	切削速度
ISO	Material	HB	Dc	fn(mm/rev)	Vc(m/min)
N	铝合金 Aluminum alloy 锻造或 锻造加时效处理 Forging of forging + aging treatment	50-250	14.0-16.0	0.06-0.15	300 (200-350)
		50-250	17.0-19.0	0.06-0.15	300 (200-350)
		50-250	20.0-22.0	0.08-0.16	300 (200-350)
		50-250	23.0-26.0	0.08-0.16	300 (200-350)
		50-250	27.0-31.0	0.08-0.18	300 (200-350)
		50-250	32.0-36.0	0.08-0.18	300 (200-350)
		50-250	37.0-43.0	0.10-0.18	300 (200-350)
		50-250	44.0-50.0	0.10-0.18	300 (200-350)
N	铸造, 非时效 Casting,non Aging	250-450	14.0-16.0	0.06-0.15	300 (200-350)
		250-450	17.0-19.0	0.06-0.15	300 (200-350)
		250-450	20.0-22.0	0.08-0.16	300 (200-350)
		250-450	23.0-26.0	0.08-0.16	300 (200-350)
		250-450	27.0-31.0	0.08-0.18	300 (200-350)
		250-450	32.0-36.0	0.08-0.18	300 (200-350)
		250-450	37.0-43.0	0.10-0.18	300 (200-350)
		250-450	44.0-50.0	0.10-0.18	300 (200-350)
N	铸造或 铸造加时效处理 Forging of forging + aging treatment	90-225	14.0-16.0	0.06-0.15	300 (200-350)
		90-225	17.0-19.0	0.06-0.15	300 (200-350)
		90-225	20.0-22.0	0.08-0.16	300 (200-350)
		90-225	23.0-26.0	0.08-0.16	300 (200-350)
		90-225	27.0-31.0	0.08-0.18	300 (200-350)
		90-225	32.0-36.0	0.08-0.18	300 (200-350)
		90-225	37.0-43.0	0.10-0.18	300 (200-350)
		90-225	44.0-50.0	0.10-0.18	300 (200-350)
N	铜和铜合金 Coper and coper alloy 易切合金 (Pb≥1%) Easy cutting alloy (Pb≥1%)	150-250	14.0-16.0	0.06-0.15	210 (150-250)
		150-250	17.0-19.0	0.06-0.15	210 (150-250)
		150-250	20.0-22.0	0.08-0.16	210 (150-250)
		150-250	23.0-26.0	0.08-0.16	210 (150-250)
		150-250	27.0-31.0	0.08-0.16	210 (150-250)
		150-250	32.0-36.0	0.08-0.17	210 (150-250)
		150-250	37.0-43.0	0.10-0.18	210 (150-250)
		150-250	44.0-50.0	0.10-0.18	210 (150-250)
N	黄铜与铅青铜 Brass and lead bronze (Pb≤1%)	150-270	14.0-16.0	0.06-0.15	190 (150-250)
		150-270	17.0-19.0	0.06-0.15	190 (150-250)
		150-270	20.0-22.0	0.08-0.16	190 (150-250)
		150-270	23.0-26.0	0.08-0.16	190 (150-250)
		150-270	27.0-31.0	0.08-0.16	190 (150-250)
		150-270	32.0-36.0	0.08-0.17	190 (150-250)
		150-270	37.0-43.0	0.10-0.18	190 (150-250)
		150-270	44.0-50.0	0.10-0.18	190 (150-250)
S	耐热合金 Heat-resisting alloy 镍基 Nickel based	150-275	14.0-16.0	0.05-0.07	40 (30-60)
		150-275	17.0-19.0	0.05-0.08	40 (30-60)
		150-275	20.0-22.0	0.05-0.08	40 (30-60)
		150-275	23.0-26.0	0.05-0.08	40 (30-60)
		150-275	27.0-31.0	0.06-0.09	40 (30-60)
		150-275	32.0-36.0	0.06-0.09	40 (30-60)
		150-275	37.0-43.0	0.06-0.10	40 (30-60)
		150-275	44.0-50.0	0.06-0.10	40 (30-60)
S	钛合金 Titanium alloy α, 近α+β合金 α,close α+β Alloy 退火或时效处理 annealed or aged treatment	180-320	14.0-16.0	0.05-0.08	60 (50-80)
		180-320	17.0-19.0	0.05-0.08	60 (50-80)
		180-320	20.0-22.0	0.06-0.09	60 (50-80)
		180-320	23.0-26.0	0.06-0.09	60 (50-80)
		180-320	27.0-31.0	0.06-0.10	60 (50-80)
		180-320	32.0-36.0	0.06-0.10	60 (50-80)
		180-320	37.0-43.0	0.06-0.10	60 (50-80)
		180-320	44.0-50.0	0.06-0.10	60 (50-80)

MD- Crown Drill

MD-皇冠钻

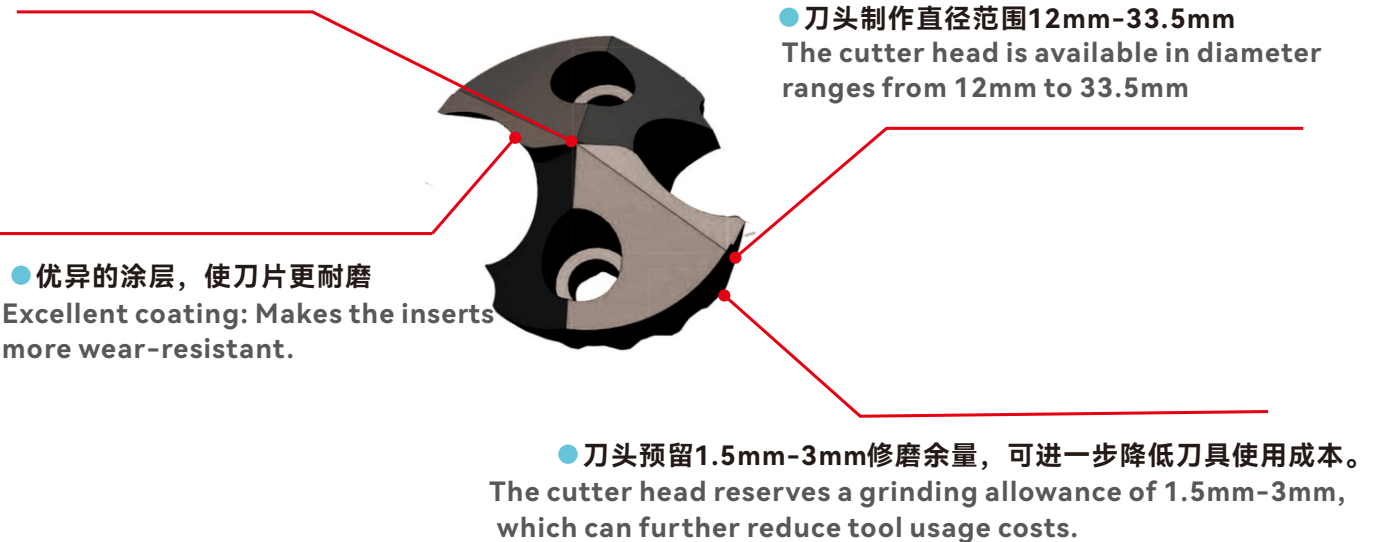
● 钻头命名规则 Drill Code Key

MD	1500	EL
1	2	3

1.钻头系列	2.刀头直径	3.槽型
Tooth System	Tip Diameter	Chip breaker
MD=皇冠钻系列 MD=Tooth System	详见系列表 Please refer to the series list for details	EL: 适用于软钢、灰钢、不锈钢、铸铁,相对于低钢性能设备, 顶角140° EL:Suitable for low steel performance materials, such as mild steel, gray steel, stainless steel and cast iron, with a top angle of 140° TL:适用于一般钢材, 顶角140° TL: Suitable for general steel, top angle 140° FL:平底钻, 顶角180° FL: Flat bottom drilling with top angle 180°

● 特征 FEATURES

- 多种刀头钻尖设计, 针对不同被加工材料
Various cutter head tip designs are available for different work piece materials.



● 钻杆命名规则 Crown Drill Code Key

MD	03	120	C16
1	2	3	4

1.钻杆类型	2.倍径比
Shank types	Multiples of diameter
MD=皇冠钻系列 Tooth System	03=有效钻深3倍径 Effective drilling depth 3 times the diameter
3.刀头直径	4.钻杆直径
Insert diameter	Shank Diameter
Insert diameter	侧压柄 Side pressure handle 常用刀柄直径: 16,20,25,32 Common Tool handle diameter: 16,20,25,32

● 特征 FEATURES

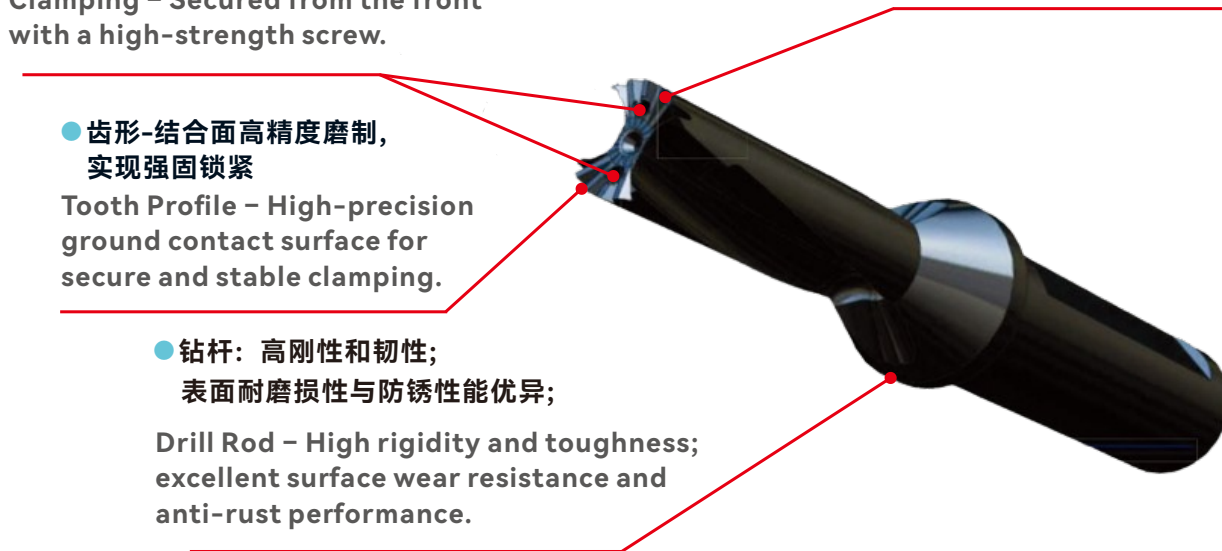
- 锁紧-从前部高强度螺钉锁紧
Clamping – Secured from the front with a high-strength screw.

- 齿形-结合面高精度磨制, 实现坚固锁紧
Tooth Profile – High-precision ground contact surface for secure and stable clamping.

- 钻杆: 高刚性和韧性;
表面耐磨损性与防锈性能优异;

Drill Rod – High rigidity and toughness; excellent surface wear resistance and anti-rust performance.

- 冷却孔-精准正对切削刃和切屑
Coolant Hole – Precisely directed at the cutting edge and chips.



MD-Drill Tip Forms

MD-钻尖形式

TL型 最适宜一般钢的高效加工
TL Type – Optimal for High-Efficiency Machining of General Steel

优势：
1.高刃尖强度：采用较大刃尖处理，可减轻切削刃部分的崩缺。
2.稳定的加工孔精度：采用X型横刃修薄，咬合时的求芯性优异，可实现稳定钻孔。

Advantage:
1. High Cutting Edge Strength: Features a larger cutting edge treatment to reduce chipping at the cutting edge.
2. Stable Hole Accuracy: Utilizes an X-shaped thinning design for superior centering during engagement, ensuring stable drilling performance.



TL型

推荐切削条件(8倍径以下)

ISO	材料	硬度HB	切削速度Vc(m/min)				进给量 (mm/rev)			
			Cutting speed range				Feed rate range			
	Materials	Hardness	Dcφ16	Dcφ20	Dcφ20	Dcφ20	Dcφ16	Dcφ20	DCφ30.8	Dcφ31 ~ φ42.5
P	软钢 Mild steel	~250	80-120			40-120	0.15-0.35	0.15-0.35	0.2-0.35	0.25-0.45
	一般钢 General steel	250-320	70-120			60-120	0.15-0.3	0.15-0.35	0.2-0.35	0.25-0.4
	高硬度材料 High hardness	45HRC	40-90			40-80	0.1-0.2	0.15-0.25	0.15-0.25	0.15-0.3
K	灰铸铁 Gray cast iron	240	50-90	60-100	60-100	50-100	0.2-0.3	0.2-0.35	0.2-0.4	0.25-0.45
	球墨铸铁 SG Nodular cast iron	180	50-80	50-90			0.2-0.3	0.2-0.35	0.25-0.35	0.25-0.35

推荐切削条件(8倍径、12倍径)

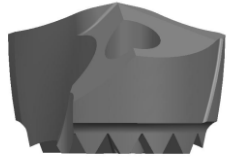
ISO	材料	硬度HB	切削速度Vc(m/min)				进给量 (mm/rev)			
			Cutting speed range				Feed rate range			
	Materials	Hardness	Dcφ16	Dcφ20	Dcφ20	Dcφ20	Dcφ16	Dcφ20	DCφ30.8	Dcφ31 ~ φ42.5
P	软钢 Mild steel	~250	50-80			30-80	0.15-0.35	0.15-0.35	0.2-0.35	0.25-0.45
	一般钢 General steel	250-320	50-80			40-80	0.15-0.3	0.15-0.35	0.2-0.35	0.25-0.4
	高硬度材料 High hardness	45HRC	40-90			40-80	0.1-0.2	0.15-0.25	0.15-0.25	0.15-0.3
K	灰铸铁 Gray cast iron	240	40-80	50-90	50-90	40-90	0.2-0.3	0.2-0.35	0.2-0.4	0.25-0.45
	球墨铸铁 SG Nodular cast iron	180	40-70	40-80		40-70	0.2-0.3	0.2-0.35	0.25-0.35	0.25-0.35

EL型 最适宜与不锈钢等难削材、软钢、灰口铸铁、低刚性设备

EL Type – Ideal for Hard-to-Machine Materials, Soft Steel, Gray Cast Iron, and Low-Rigidity Equipment

优势：
1.对SUS材、软钢等（SS材等）也很优异的刃型：依靠大的横刃修薄角，解决了软钢特有的凸R部的崩缺。
2.改善了铸铁崩边情况：提高了外周部的锋利性，防止铸铁孔出口崩边。

Advantage:
1. Excellent Edge Design for Stainless Steel and Soft Steel; A large thinning angle helps prevent chipping at the convex R-section, a common issue in soft steel.
2. Improved Resistance to Cast Iron Edge Chipping; Enhanced sharpness at the outer periphery prevents chipping at the hole exit in cast iron machining.



EL型

推荐切削条件(8倍径以下)

ISO	材料	硬度HB	切削速度Vc(m/min)			进给量 (mm/rev)		
			Cutting speed range			Feed rate range		
	Materials	Hardness	Dcφ16	Dcφ20	Dcφ30.8	Dcφ16	Dcφ20	DCφ30.8
P	软钢 Mild steel	~250	80-120			0.15-0.35	0.15-0.35	0.2-0.35
	一般钢 General steel	250-320	70-120			0.15-0.3	0.15-0.35	0.2-0.35
K	灰铸铁 Gray cast iron	240	50-90	60-100	60-100	0.2-0.3	0.2-0.35	0.2-0.4
	球墨铸铁 SG Nodular cast iron	180	50-80	50-90		0.2-0.3	0.2-0.35	0.25-0.35
N	铝合金 Aluminium alloy	130	200-260			0.35-0.55	0.35-0.6	0.35-0.6
M	不锈钢	~200	50-80	60-90	60-90	0.1-0.2	0.15-0.25	0.15-0.25

推荐切削条件(8倍径、12倍径)

ISO	材料	硬度HB	切削速度Vc(m/min)			进给量 (mm/rev)		
			Cutting speed range			Feed rate range		
	Materials	Hardness	Dcφ16	Dcφ20	Dcφ30.8	Dcφ16	Dcφ20	DCφ30.8
P	软钢 Mild steel	-250	50-80			0.15-0.35	0.15-0.35	0.2-0.35
	一般钢 General steel	250-320	50-80			0.15-0.3	0.15-0.35	0.2-0.35
K	灰铸铁 Gray cast iron	240	40-80	50-90	50-90	0.2-0.3	0.2-0.35	0.2-0.4
	球墨铸铁 SG Nodular cast iron	180	40-70	40-80		0.2-0.3	0.2-0.35	0.25-0.35
N	铝合金 Aluminium alloy	130	180-240			0.35-0.55	0.35-0.6	0.35-0.6
M	不锈钢	-200	50-60	50-70	50-70	0.1-0.2	0.15-0.25	0.15-0.25

MD-Drill Tip Forms

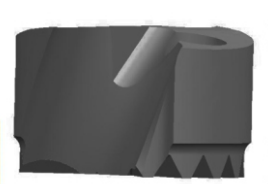
MD-钻尖形式

FL型 可在非平面上钻孔加工、最适于抑制毛刺
FL Type – Suitable for Non-Flat Surface Drilling and Effective in Burr Suppression

- 优势:
- 1.通过前端角180°设计应对各种钻孔：可应对高效铰孔加工、在倾斜面和圆筒面等非平面上钻孔、断续钻孔等。
 - 2.加工的稳定性提高：采用加厚底面的RS横刃修薄，实现了高刚性。

Advantage:

- 1. 180° Tip Angle for Versatile Drilling: Supports high-efficiency counterboring, drilling on inclined and cylindrical surfaces, as well as interrupted cutting.
- 2. Enhanced Machining Stability: Thickened RS-shaped thinning at the chisel edge improves rigidity.



FL型

推荐切削条件
Recommended cutting conditions

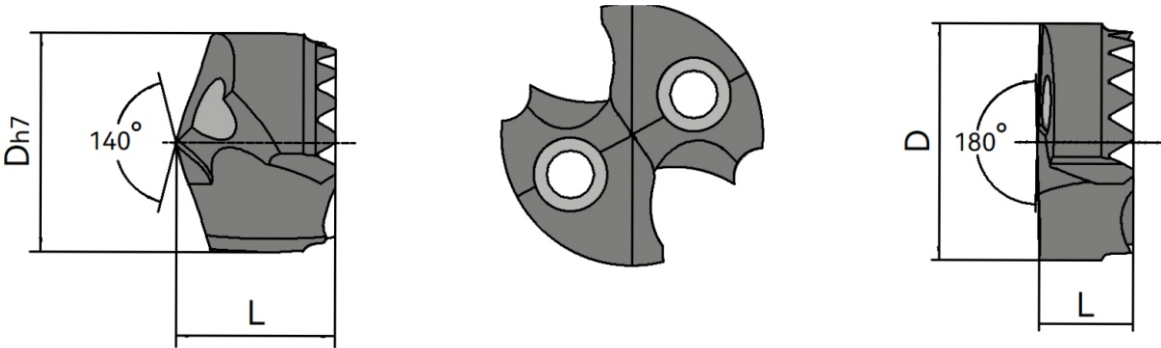
ISO	材料	硬度HB	切削速度Vc(m/min)			进给量 (mm/rev)		
			Cutting speed range			Feed rate range		
	Materials	Hardness	Dcφ16	Dcφ20	Dcφ30.8	Dcφ16	Dcφ20	DCφ30.8
P	软钢 Mild steel	-250	60-120	80-120		0.15-0.35	0.15-0.35	0.2-0.35
	一般钢 General steel	250-320	70-120			0.15-0.3	0.15-0.35	0.2-0.35
	高硬度材料 High hardness	45HRC	40-90			0.1-0.2	0.15-0.25	0.15-0.25
K	灰铸铁 Gray cast iron	240	50-90	60-100	60-100	0.2-0.3	0.2-0.35	0.2-0.4
	球墨铸铁 SG Nodular cast iron	180	50-80	50-90		0.2-0.3	0.2-0.35	0.25-0.35
N	铝合金 Aluminium alloy	130	200-260			0.35-0.55	0.35-0.6	0.35-0.6
M	不锈钢	-200	50-80	60-90	60-90	0.1-0.2	0.15-0.25	0.15-0.25

注：推荐孔深2xDC.倾斜面加工是从工件最上部开始的深度。切削条件是在平面上钻孔时的推荐条件。对倾斜面进行孔加工时请根据倾斜角度调整进给速度。倾斜角度30°以下时， 请将进给速度设定为70%以下。倾斜角度30°时， 请将进给速度设定为50%以下。本产品为钻孔加工用刀具。不能进行横向进给、螺旋等的加工。

Note: Recommended hole depth of 2xDC Sloping surface machining is the depth starting from the top of the workpiece. Cutting conditions are recommended conditions for drilling on a plane. For tiltingPlease adjust the feed rate according to the tilt angle when performing hole processing on the surface. When the tilt angle is below 30 °, please set the feed rate to below 70%. tilt angleWhen the degree is 30 °, please set the feed rate to below 50%. This product is a cutting tool for drilling processing. Cannot perform machining such as horizontal feed and spiral.

MD-Crown Drills-Sword Tooth Series

MD-皇冠钻刀头系列

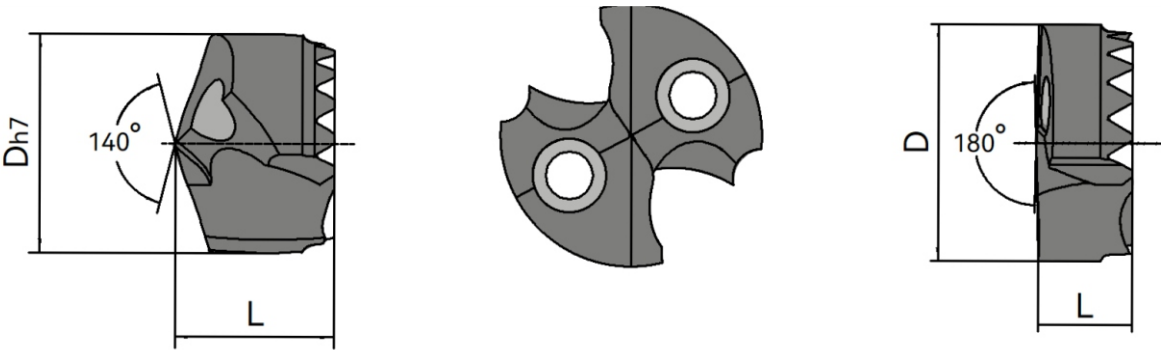


刀头型号及尺寸
Inserts model and size

刃径DC(mm)	型号	型号	L(mm)	型号	L(mm)
Hole diameter DC	Model	Model		Model	
12.00	MD-1200-EL	MD-1200-TL	9.10	MD-1200-FL	7.10
12.50	MD-1250-EL	MD-1250-TL	9.40	MD-1250-FL	7.20
13.00	MD-1300-EL	MD-1300-TL	9.70	MD-1300-FL	7.50
13.50	MD-1350-EL	MD-1350-TL	10.30	MD-1350-FL	7.90
14.00	MD-1400-EL	MD-1400-TL		MD-1400-FL	
14.50	MD-1450-EL	MD-1450-TL		MD-1450-FL	
15.00	MD-1500-EL	MD-1500-TL	11.00	MD-1500-FL	8.30
15.50	MD-1550-EL	MD-1550-TL		MD-1550-FL	
16.00	MD-1600-EL	MD-1600-TL	11.60	MD-1600-FL	8.80
16.50	MD-1650-EL	MD-1650-TL		MD-1650-FL	
17.00	MD-1700-EL	MD-1700-TL	12.30	MD-1700-FL	9.30
17.50	MD-1750-EL	MD-1750-TL		MD-1750-FL	
18.00	MD-1800-EL	MD-1800-TL	12.90	MD-1800-FL	9.80
18.50	MD-1850-EL	MD-1850-TL		MD-1850-FL	
19.00	MD-1900-EL	MD-1900-TL	13.60	MD-1900-FL	10.20
19.50	MD-1950-EL	MD-1950-TL		MD-1950-FL	
20.00	MD-2000-EL	MD-2000-TL	14.10	MD-2000-FL	10.70
20.50	MD-2050-EL	MD-2050-TL		MD-2050-FL	
21.00	MD-2100-EL	MD-2100-TL	14.80	MD-2100-FL	11.20
21.50	MD-2150-EL	MD-2150-TL		MD-2150-FL	
22.00	MD-2200-EL	MD-2200-TL	15.00	MD-2200-FL	
22.50	MD-2250-EL	MD-2250-TL		MD-2250-FL	

MD-Crown Drills-Sword Tooth Series

MD-皇冠钻刀头系列



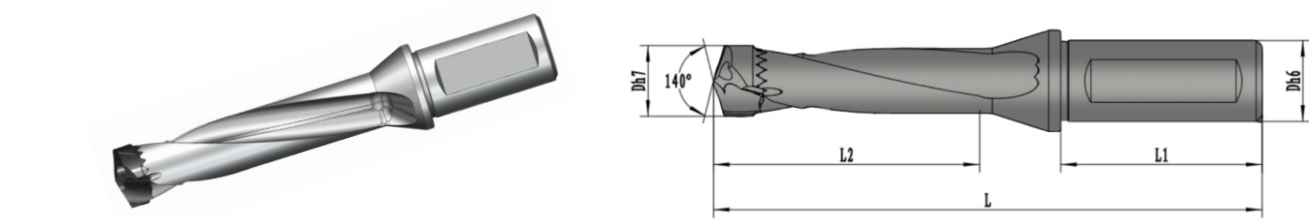
刀头型号及尺寸
Inserts model and size

刃径DC(mm)	型号	型号	L(mm)	型号	L(mm)
Hole diameter DC	Model	Model		Model	
23.00	MD-2300-EL	MD-2300-TL	15.20	MD-2300-FL	11.20
23.50	MD-2350-EL	MD-2350-TL		MD-2350-FL	
24.00	MD-2400-EL	MD-2400-TL	15.40	MD-2400-FL	11.30
24.50	MD-2450-EL	MD-2450-TL		MD-2450-FL	
25.00	MD-2500-EL	MD-2500-TL	15.90	MD-2500-FL	11.70
25.50	MD-2550-EL	MD-2550-TL		MD-2550-FL	
26.00	MD-2600-EL	MD-2600-TL	16.50	MD-2600-FL	12.20
26.50	MD-2650-EL	MD-2650-TL		MD-2650-FL	
27.00	MD-2700-EL	MD-2650-TL	17.20	MD-2700-FL	12.70
27.50	MD-2750-EL	MD-2750-TL		MD-2750-FL	
28.00	MD-2800-EL	MD-2800-TL	17.80	MD-2800-FL	13.20
28.50	MD-2850-EL	MD-2850-TL		MD-2850-FL	
29.00	MD-2900-EL	MD-2900-TL	18.40	MD-2900-FL	13.60
29.50	MD-2950-EL	MD-2950-TL		MD-2950-FL	
30.00	MD-3000-EL	MD-3000-TL	19.00	MD-3000-FL	14.10
30.50	MD-3050-EL	MD-3050-TL		MD-3050-FL	
31.00	MD-3100-EL	MD-3100-TL	21.00		
31.50	MD-3150-EL	MD-3150-TL			
32.00	MD-3200-EL	MD-3200-TL			
32.50	MD-3250-EL	MD-3250-TL			
33.00	MD-3300-EL	MD-3300-TL			
33.50	MD-3350-EL	MD-3350-TL			

MD-Crown Drills-Sword Tooth Series

MD-皇冠钻钻杆系列

钻杆1.5D 3D 5D
Drill body for Sword Tooth Series 1.5D 3D 5D

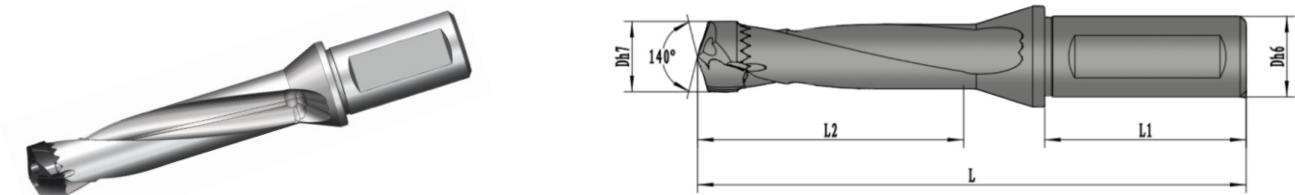


直径范围D	1.5D			3D			5D			刀柄 Shank		螺钉	扳手
Diameter Range	型号	尺寸 Size		型号	尺寸 Size		型号	尺寸 Size		尺寸 Size		Screw	Wrench
	Model	L2	L	Model	L2	L	Model	L2	L	L1	D1		
12.0-12.49	MD1.5-120-C16	28	91	MD3-120-C16	46	107	MD5-120-C16	71	132	48	16	MD-M2.2*8	T6
12.5-13.49	MD1.5-130-C16	30	92	MD3-130-C16	49	112	MD5-130-C16	76	142				
13.50-14.5	MD1.5-140-C16	34	96	MD3-140-C16	55	119	MD5-140-C16	84	149				
14.51-15.5	MD1.5-150-C20	35	100	MD3-150-C20	58	129	MD5-150-C20	89	159	50	20	MD-M2.5*9	T8
15.51-16.5	MD1.5-160-C20	38	103	MD3-160-C20	62	134	MD5-160-C20	95	169				
16.51-17.5	MD1.5-170-C20	39	105	MD3-170-C20	66	140	MD5-170-C20	101	175				
17.51-18.5	MD1.5-180-C20	43	107	MD3-180-C20	70	145	MD5-180-C20	107	180				
18.51-19.5	MD1.5-190-C25	44	115	MD3-190-C25	73	160	MD5-190-C25	112	195	56	25	MD-M3.0*11	T8
19.51-20.5	MD1.5-200-C25	47	118	MD3-200-C25	77	160	MD5-200-C25	118	200				
20.51-21.5	MD1.5-210-C25	48	119	MD3-210-C25	80	160	MD5-210-C25	123	200				
21.51-22.8	MD1.5-220-C25	51	121	MD3-220-C25	84	165	MD5-220-C25	129	205				
22.81-23.8	MD1.5-230-C25	51	122	MD3-230-C25	81	165	MD5-230-C25	134	215	60	32	MD-M3.5*12	T15
23.81-24.8	MD1.5-240-C32	54	129	MD3-240-C32	91	175	MD5-240-C32	140	225				
24.81-25.8	MD1.5-250-C32	54	129	MD3-250-C32	93	175	MD5-250-C32	145	230				
25.81-26.8	MD1.5-260-C32	57	132	MD3-260-C32	97	180	MD5-260-C32	151	235				
26.81-27.8	MD1.5-270-C32	58	133	MD3-270-C32	99	180	MD5-270-C32	156	245				
27.81-28.8	MD1.5-280-C32	60	135	MD3-280-C32	102	185	MD5-280-C32	162	245				
28.81-29.8	MD1.5-290-C32	61	136	MD3-290-C32	105	190	MD5-290-C32	167	150				
29.81-30.8	MD1.5-300-C32	64	139	MD3-300-C32	110	191	MD5-300-C32	173	261				
30.81-32.0				MD3-320-C32	116	201	MD5-320-C32	181	266			MD-M4.5*15	
32.01-33.5				MD3-330-C32	121	206	MD5-330-C32	191	276				

MD-Crown Drills-Sword Tooth Series

MD-皇冠钻钻杆系列

钻杆8D 10D 12D
Drill pipe diameter 8D 10D 12D

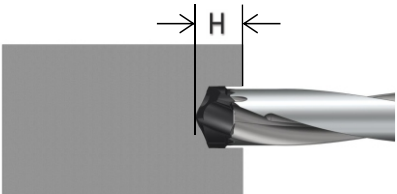


直径范围D	8D			10D			12D			刀柄 Shank		螺钉	扳手
Diameter Range	型号	尺寸 Size		型号	尺寸 Size		型号	尺寸 Size		尺寸 Size		Screw	Wrench
	Model	L2	L	Model	L2	L	Model	L2	L	L1	D1		
12.00-12.49	MD8-120-C16	107	168	MD10-120-C16	-	-	-	-	-	48	16	TC-M2.2*8	T6
12.50-13.49	MD8-130-C16	115	182	MD10-130-C16	-	-	-	-	-				
13.50-14.50	MD8-140-C16	127	194	MD10-140-C16	156.5	220.5	MD12-140-C16	186.5	249.5				
14.51-15.50	MD8-150-C20	136	204	MD10-150-C20	166.7	243.5	MD12-150-C20	198.7	263.7	50	20	TC-M2.5*9	T8
15.51-16.50	MD8-160-C20	144	214	MD10-160-C20	178.5	243.5	MD12-160-C20	211.5	276.5				
16.51-17.50	MD8-170-C20	154	225	MD10-170-C20	188.7	253.7	MD12-170-C20	223.7	288.7				
17.51-18.50	MD8-180-C20	162	230	MD10-180-C20	198.8	264.8	MD12-180-C20	236.8	301.8	56	25	TC-M3.0*11	T8
18.51-19.50	MD8-190-C25	171	255	MD10-190-C25	209.9	280.9	MD12-190-C25	248.9	314.8				
19.51-20.50	MD8-200-C25	179	270	MD10-200-C25	220.5	291.5	MD12-200-C25	261.5	332.5				
20.51-21.50	MD8-210-C25	188	266	MD10-210-C25	230.6	361.6	MD12-210-C25	273.6	344.6	60	32	TC-M3.5*12	T15
21.51-22.80	MD8-220-C25	196	275	MD10-220-C25	244.1	315.1	MD12-220-C25	289.7	360.7				
22.81-23.80	MD8-230-C25	205	285	MD10-230-C25	253.7	324.7	MD12-230-C25	301.3	372.3				
23.81-24.80	MD8-240-C32	213	300	MD10-240-C32	264.9	339.9	MD12-240-C32	264.9	389.5	60	32	TC-M4.0*14	T15
24.81-25.80	MD8-250-C32	222	305	MD10-250-C32	270	350	MD12-250-C32	326.6	401.6				
25.81-26.80	MD8-260-C32	230	315	MD10-260-C32	285.3	360.3	MD12-260-C32	338.9	413.9				
26.81-27.80	MD8-270-C32	239	325	MD10-270-C32	295.3	370.3	MD12-270-C32	350.9	425.9	60	32	TC-M4.5*15	T15
27.81-28.80	MD8-280-C32	247	330	MD10-280-C32	306.2	381.2	MD12-280-C32	363.8	438.8				
28.81-29.80	MD8-290-C32	256	340	MD10-290-C32	316.4	391.4	MD12-290-C32	376	451				
29.81-30.80	MD8-300-C32	265	351	MD10-300-C32	327.9	402.9	MD12-300-C32	389.5	464.5	60	32	TC-M4.5*15	T15
30.81-32.0	MD8-320-C32	276	361	MD10-320-C32	345.9	424.9							
32.01-33.5	MD8-330-C32	291	376	MD10-330-C32	364	443							

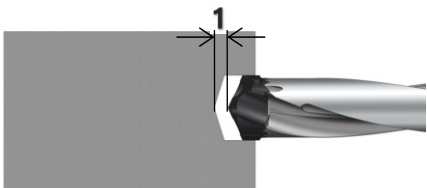
MD-Technical Guide
MD-技术指南

高倍径深孔钻削应用
Guidelines for Using High Aspect Ratio Deep Hole Drills

1、引导孔-使用1.5D或3D的黄冠钻加工；
Guide hole - processed with 1.5D or 3D crown drill.
★引导孔加工用1.5D或3D黄冠钻刀头使用与8倍径及以上相同型号刀头，引导孔深度H为孔径的1-1.5倍；
For pilot hole machining, use a 1.5D or 3D Saber Tooth Drill head of the same model as the 8x diameter or larger drill head. The depth of the pilot hole (H) should be 1-1.5 times the diameter of the hole.



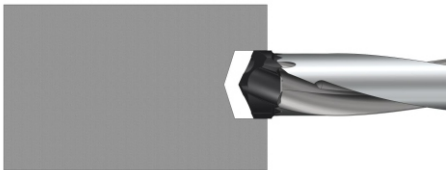
2、在低转速下将8倍径及以上黄冠钻刀杆和刀片插入引导孔内；
Insert the 8x diameter or larger Saber Tooth Drill shank and insert into the pilot hole at low speed.



如果以设定的切削速度插入引导孔，钻头外周跳动可能损伤钻头肩部。插入到离导孔底1mm处。
If inserted into the pilot hole at the set cutting speed, the outer circumference of the drill may vibrate and damage the shoulder of the drill. Insert until 1mm from the bottom of the pilot hole.

★插入到离导孔底1mm处
Insert until 1mm from the bottom of the pilot hole.

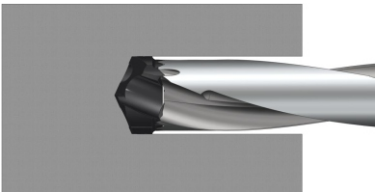
3、把钻速提升到设定转速，开始正常切削；
Increase the drill speed to the set speed and start the cutting feed.



4、加工后，降低转速，从被切削材中拔出
After machining, reduce the speed and withdraw the drill from the material.

推荐参数
★转速:500r/min ★进给速度:1000-200mm/min
Rotating speed:500r/min feed rate :1000-200mm/min

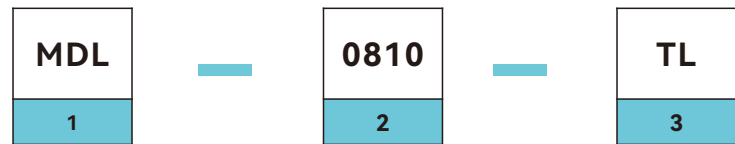
如果在高速旋转时从孔中拔出钻头，可能由于钻头的跳动导致刀片侧面损伤
Withdrawing the drill at high speed can cause insert side damage due to drill vibration.



MDL- Self-locking crown drill

MDL-自锁式皇冠钻

钻头命名规则 Drill Code Key



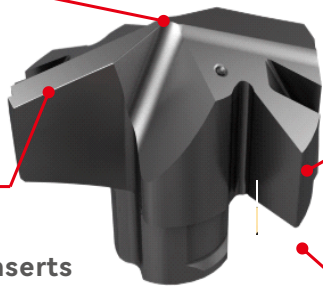
1.自锁式钻头系列	2.刀头直径	3.槽型
Self-locking drill bit series	Tip Diameter	Chip breaker
MDL=自锁式皇冠钻系列 MDL=Tooth System	详见系列表 Please refer to the series list for details	TL: 适用于软钢、灰钢、不锈钢、铸铁,相对于低钢性能设备,顶角140° TL:Suitable for low steel performance materials, such as mild steel, gray steel, stainless steel and cast iron, with a top angle of 140°

特征 FEATURES

● 多种刀头钻尖设计，针对不同被加工材料
Various cutter head tip designs are available for different work piece materials.

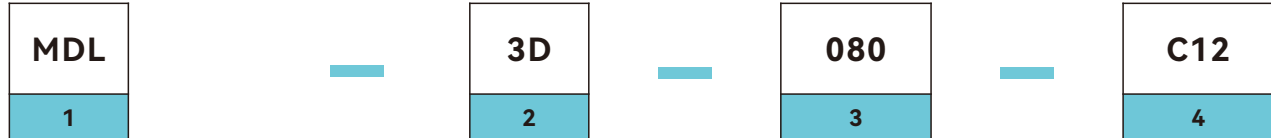
● 刀头制作直径范围8mm-32.9mm
The cutter head is available in diameter ranges from 8mm to 32.9mm

● 优异的涂层，使刀片更耐磨
Excellent coating: Makes the inserts more wear-resistant.



● 刀头预留1.5mm-3mm修磨余量，可进一步降低刀具使用成本。
The cutter head reserves a grinding allowance of 1.5mm-3mm, which can further reduce tool usage costs.

钻杆命名规则 Crown Drill Code Key



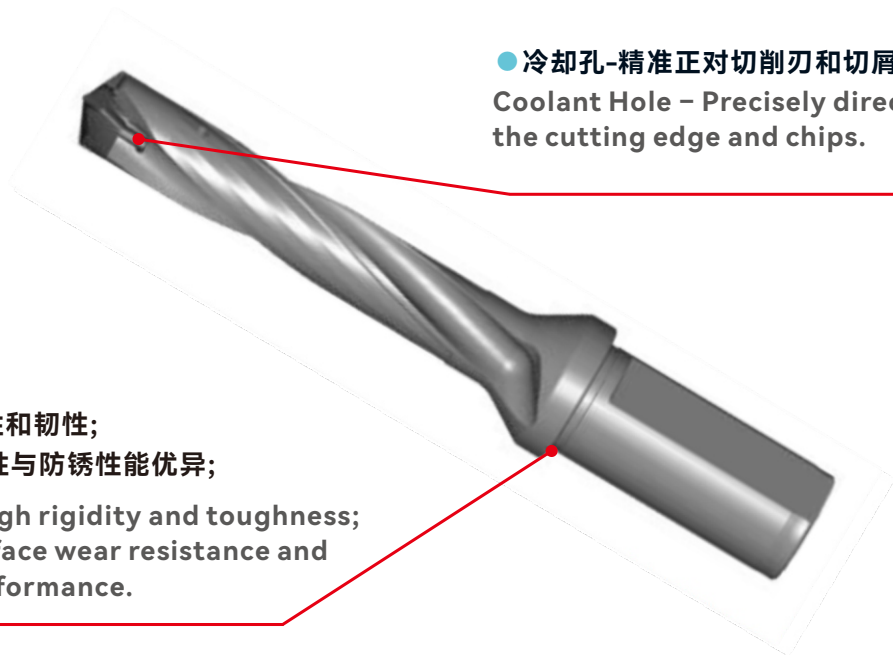
1.钻杆类型	2.倍径比
Shank types	Multiples of diameter
MDL=皇冠钻系列 Tooth System	3D=有效钻深3倍径 Effective drilling depth 3 times the diameter
3.钻杆直径	4.柄部尺寸
Seat size code	Shank Size
080:钻杆直径8mm 080:seat size code	柄部尺寸: 12、16、20、25.... Size:12、16、20、25....

特征 FEATURES

● 冷却孔-精准正对切削刃和切屑
Coolant Hole – Precisely directed at the cutting edge and chips.

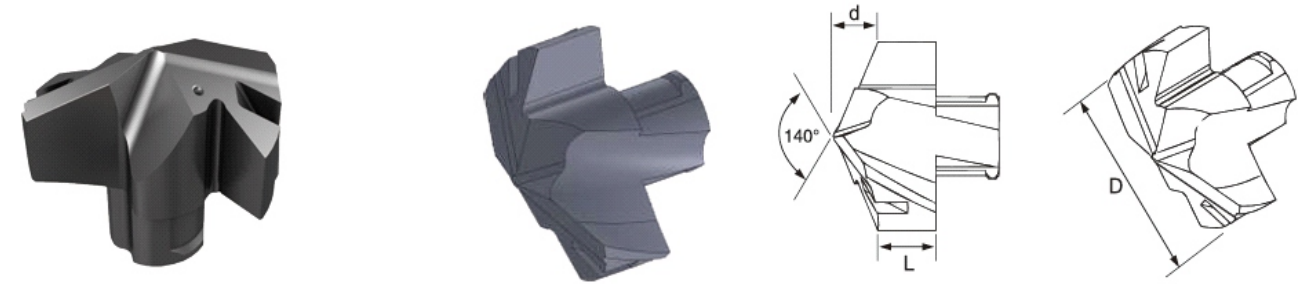
● 钻杆：高刚性和韧性；
表面耐磨损性与防锈性能优异；

Drill Rod – High rigidity and toughness;
excellent surface wear resistance and anti-rust performance.



MDL-Self-locking crown drill head series

MDL-自锁式皇冠钻刀头系列

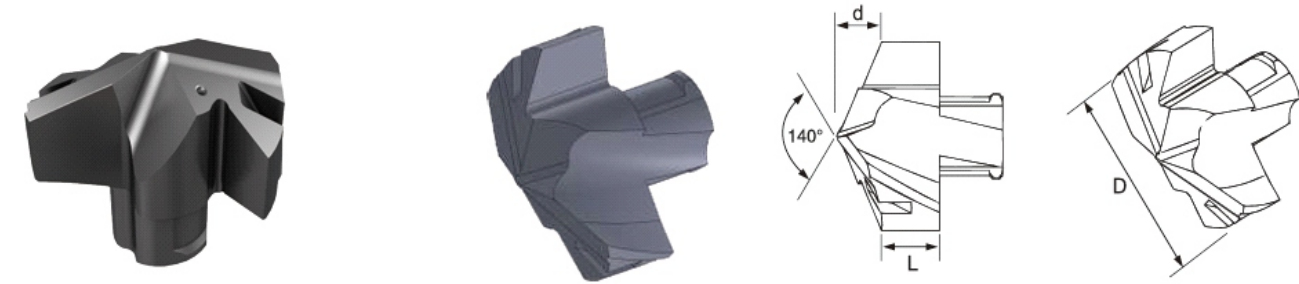


刀头型号及尺寸
Inserts model and size

型号	尺寸 Size			接口编码	型号	尺寸 Size			接口编码
Model	D	d	L	Seat size code	Model	D	d	L	Seat size code
MDL-0800-TL	8	1.2	4.2	8	MDL-1060-TL	10.6	1.61	4.59	10
MDL-0810-TL	8.1	1.22	4.18	8	MDL-1070-TL	10.7	1.63	4.57	10
MDL-0820-TL	8.2	1.24	4.16	8	MDL-1080-TL	10.8	1.65	4.55	10
MDL-0830-TL	8.3	1.25	4.15	8	MDL-1090-TL	10.9	1.66	4.54	10
MDL-0840-TL	8.4	1.27	4.13	8	MDL-1100-TL	11	1.67	4.93	11
MDL-0850-TL	8.5	1.29	4.11	8	MDL-1110-TL	11.1	1.69	4.91	11
MDL-0860-TL	8.6	1.31	4.09	8	MDL-1120-TL	11.2	1.71	4.89	11
MDL-0870-TL	8.7	1.33	4.07	8	MDL-1130-TL	11.3	1.72	4.88	11
MDL-0880-TL	8.8	1.35	4.05	8	MDL-1140-TL	11.4	1.74	4.86	11
MDL-0890-TL	8.9	1.36	4.04	8	MDL-1150-TL	11.5	1.76	4.84	11
MDL-0900-TL	9	1.35	4.45	9	MDL-1160-TL	11.6	1.78	4.82	11
MDL-0910-TL	9.1	1.37	4.43	9	MDL-1170-TL	11.7	1.8	4.8	11
MDL-0920-TL	9.2	1.39	4.41	9	MDL-1180-TL	11.8	1.82	4.78	11
MDL-0930-TL	9.3	1.4	4.4	9	MDL-1190-TL	11.9	1.83	4.77	11
MDL-0940-TL	9.4	1.42	4.38	9	MDL-1200-TL	12	1.82	5.18	12
MDL-0950-TL	9.5	1.44	4.36	9	MDL-1210-TL	12.1	1.84	5.16	12
MDL-0960-TL	9.6	1.46	4.34	9	MDL-1220-TL	12.2	1.86	5.14	12
MDL-0970-TL	9.7	1.48	4.32	9	MDL-1230-TL	12.3	1.87	5.13	12
MDL-0980-TL	9.8	1.5	4.3	9	MDL-1240-TL	12.4	1.89	5.11	12
MDL-0990-TL	9.9	1.51	4.29	9	MDL-1250-TL	12.5	1.91	5.09	12
MDL-1000-TL	10	1.5	4.7	10	MDL-1260-TL	12.6	1.93	5.07	12
MDL-1010-TL	10.1	1.52	4.68	10	MDL-1270-TL	12.7	1.95	5.05	12
MDL-1020-TL	10.2	1.54	4.66	10	MDL-1280-TL	12.8	1.97	5.03	12
MDL-1030-TL	10.3	1.55	4.65	10	MDL-1290-TL	12.9	1.98	5.02	12
MDL-1040-TL	10.4	1.57	4.63	10	MDL-1300-TL	13	1.96	5.64	13
MDL-1050-TL	10.5	1.59	4.61	10	MDL-1310-TL	13.1	1.98	5.62	13

MDL-Self-locking crown drill head series

MDL-自锁式皇冠钻刀头系列

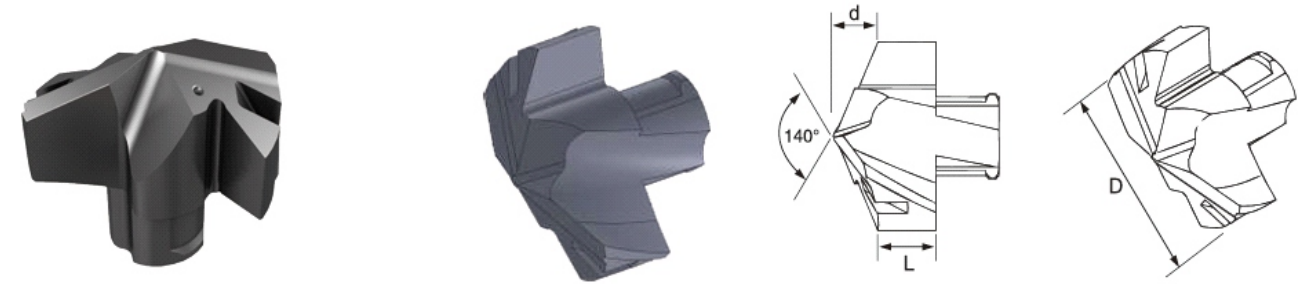


刀头型号及尺寸
Inserts model and size

型号	尺寸 Size			接口编码	型号	尺寸 Size			接口编码
Model	D	d	L	Seat size code	Model	D	d	L	Seat size code
MDL-1320-TL	13.2	2	5.6	13	MDL-1580-TL	15.8	2.42	6.31	15
MDL-1330-TL	13.3	2.01	5.59	13	MDL-1590-TL	15.9	2.43	6.3	15
MDL-1340-TL	13.4	2.03	5.57	13	MDL-1600-TL	16	2.42	6.88	16
MDL-1350-TL	13.5	2.05	5.55	13	MDL-1610-TL	16.1	2.44	6.86	16
MDL-1360-TL	13.6	2.07	5.53	13	MDL-1620-TL	16.2	2.46	6.84	16
MDL-1370-TL	13.7	2.09	5.51	13	MDL-1630-TL	16.3	2.47	6.83	16
MDL-1380-TL	13.8	2.11	5.49	13	MDL-1640-TL	16.4	2.49	6.81	16
MDL-1390-TL	13.9	2.12	5.48	13	MDL-1650-TL	16.5	2.51	6.79	16
MDL-1400-TL	14	2.12	6.03	14	MDL-1660-TL	16.6	2.53	6.77	16
MDL-1410-TL	14.1	2.14	6.01	14	MDL-1670-TL	16.7	2.55	6.75	16
MDL-1420-TL	14.2	2.16	5.99	14	MDL-1680-TL	16.8	2.57	6.73	16
MDL-1430-TL	14.3	2.17	5.98	14	MDL-1690-TL	16.9	2.58	6.72	16
MDL-1440-TL	14.4	2.19	5.96	14	MDL-1700-TL	17	2.59	7.31	17
MDL-1450-TL	14.5	2.21	5.94	14	MDL-1710-TL	17.1	2.61	7.29	17
MDL-1460-TL	14.6	2.23	5.92	14	MDL-1720-TL	17.2	2.63	7.27	17
MDL-1470-TL	14.7	2.25	5.9	14	MDL-1730-TL	17.3	2.64	7.26	17
MDL-1480-TL	14.8	2.27	5.88	14	MDL-1740-TL	17.4	2.66	7.24	17
MDL-1490-TL	14.9	2.28	5.87	14	MDL-1750-TL	17.5	2.68	7.22	17
MDL-1500-TL	15	2.27	6.46	15	MDL-1760-TL	17.6	2.7	7.2	17
MDL-1510-TL	15.1	2.29	6.44	15	MDL-1770-TL	17.7	2.72	7.18	17
MDL-1520-TL	15.2	2.31	6.42	15	MDL-1780-TL	17.8	2.74	7.16	17
MDL-1530-TL	15.3	2.32	6.41	15	MDL-1790-TL	17.9	2.75	7.15	17
MDL-1540-TL	15.4	2.34	6.39	15	MDL-1800-TL	18	2.73	7.77	12
MDL-1550-TL	15.5	2.36	6.37	15	MDL-1810-TL	18.1	2.75	7.75	12
MDL-1560-TL	15.6	2.38	6.35	15	MDL-1820-TL	18.2	2.77	7.73	18
MDL-1570-TL	15.7	2.4	6.33	15	MDL-1830-TL	18.3	2.78	7.72	18

MDL-Self-locking crown drill head series

MDL-自锁式皇冠钻刀头系列

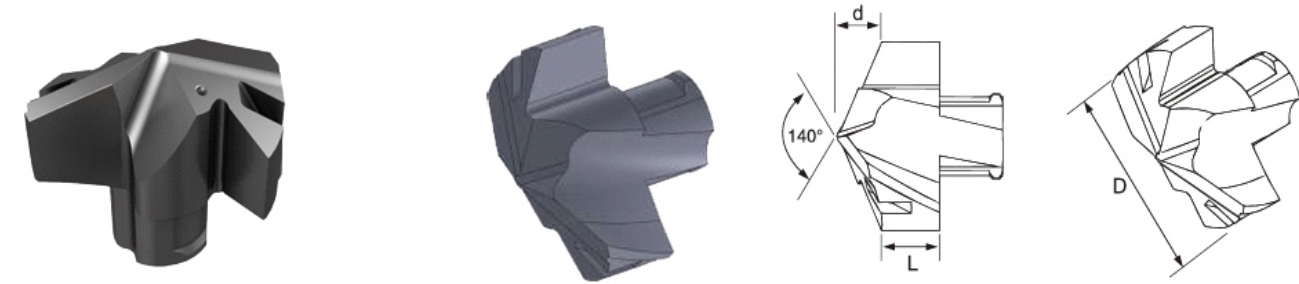


刀头型号及尺寸
Inserts model and size

型号	尺寸 Size			接口编码	型号	尺寸 Size			接口编码
Model	D	d	L	Seat size code	Model	D	d	L	Seat size code
MDL-1840-TL	18.4	2.8	7.7	18	MDL-2100-TL	21	3.17	8.43	21
MDL-1850-TL	18.5	2.82	7.68	18	MDL-2110-TL	21.1	3.18	8.42	21
MDL-1860-TL	18.6	2.84	7.66	18	MDL-2120-TL	21.2	3.18	9	21
MDL-1870-TL	18.7	2.86	7.64	18	MDL-2130-TL	21.3	3.2	8.98	21
MDL-1880-TL	18.8	2.88	7.62	18	MDL-2140-TL	21.4	3.22	8.96	21
MDL-1890-TL	18.9	2.89	7.61	18	MDL-2150-TL	21.5	3.23	8.95	21
MDL-1900-TL	19	2.88	8.12	19	MDL-2160-TL	21.6	3.25	8.93	21
MDL-1910-TL	19.1	2.89	8.11	19	MDL-2170-TL	21.7	3.27	8.91	21
MDL-1920-TL	19.2	2.9	8.1	19	MDL-2180-TL	21.8	3.29	8.89	21
MDL-1930-TL	19.3	2.92	8.08	19	MDL-2190-TL	21.9	3.31	8.87	21
MDL-1940-TL	19.4	2.93	8.07	19	MDL-2200-TL	22	3.33	8.85	21
MDL-1950-TL	19.5	2.93	8.07	19	MDL-2210-TL	22.1	3.34	8.84	22
MDL-1960-TL	19.6	2.95	8.05	19	MDL-2220-TL	22.2	3.32	9.44	22
MDL-1970-TL	19.7	2.97	8.03	19	MDL-2230-TL	22.3	3.34	9.42	22
MDL-1980-TL	19.8	2.99	8.01	19	MDL-2240-TL	22.4	3.36	9.4	22
MDL-1990-TL	19.9	3.01	7.99	19	MDL-2250-TL	22.5	3.37	9.39	22
MDL-2000-TL	20	3.03	7.97	20	MDL-2260-TL	22.6	3.39	9.37	22
MDL-2010-TL	20.1	3.04	7.96	20	MDL-2270-TL	22.7	3.41	9.35	22
MDL-2020-TL	20.2	3.02	8.58	20	MDL-2280-TL	22.8	3.43	9.33	22
MDL-2030-TL	20.3	3.04	8.56	20	MDL-2290-TL	22.9	3.45	9.31	22
MDL-2040-TL	20.4	3.06	8.54	20	MDL-2300-TL	23	3.47	9.29	23
MDL-2050-TL	20.5	3.07	8.53	20	MDL-2310-TL	23.1	3.48	9.28	23
MDL-2060-TL	20.6	3.09	8.51	20	MDL-2320-TL	23.2	3.5	9.83	23
MDL-2070-TL	20.7	3.11	8.49	20	MDL-2330-TL	23.3	3.51	9.82	23
MDL-2080-TL	20.8	3.13	8.47	20	MDL-2340-TL	23.4	3.53	9.8	23
MDL-2090-TL	20.9	3.15	8.45	20	MDL-2350-TL	23.5	3.55	9.78	23

MDL-Self-locking crown drill head series

MDL-自锁式皇冠钻刀头系列

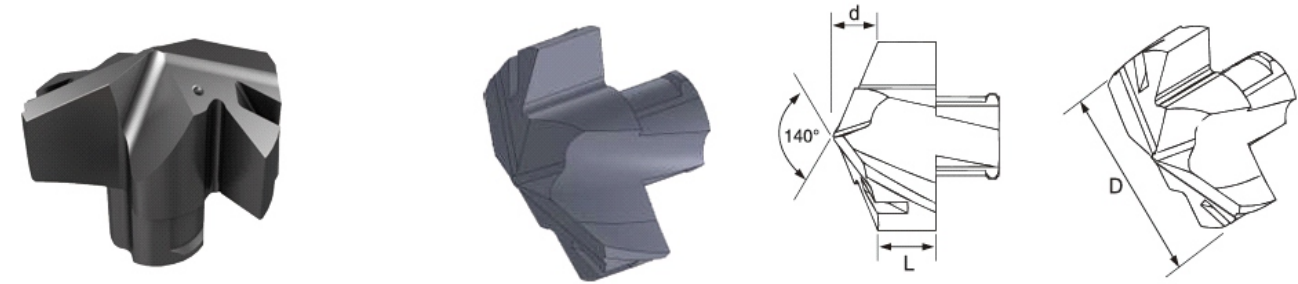


刀头型号及尺寸
Inserts model and size

型号	尺寸 Size			接口编码	型号	尺寸 Size			接口编码
Model	D	d	L	Seat size code	Model	D	d	L	Seat size code
MDL-2360-TL	23.6	3.57	9.76	23	MDL-2620-TL	26.2	3.99	11.08	26
MDL-2370-TL	23.7	3.59	9.74	23	MDL-2630-TL	26.3	4	11.07	26
MDL-2380-TL	23.8	3.61	9.72	23	MDL-2640-TL	26.4	4.02	11.05	26
MDL-2390-TL	23.9	3.62	9.71	23	MDL-2650-TL	26.5	4.04	11.03	26
MDL-2400-TL	24	3.62	10.28	24	MDL-2660-TL	26.6	4.06	11.01	26
MDL-2410-TL	24.1	3.64	10.26	24	MDL-2670-TL	26.7	4.08	11.99	26
MDL-2420-TL	24.2	3.66	10.24	24	MDL-2680-TL	26.8	4.1	11.97	26
MDL-2430-TL	24.3	3.67	10.23	24	MDL-2690-TL	26.9	4.11	11.96	26
MDL-2440-TL	24.4	3.69	10.21	24	MDL-2700-TL	27	4.1	11.55	27
MDL-2450-TL	24.5	3.71	10.19	24	MDL-2710-TL	27.1	4.12	11.53	27
MDL-2460-TL	24.6	3.73	10.17	24	MDL-2720-TL	27.2	4.14	11.51	27
MDL-2470-TL	24.7	3.75	10.15	24	MDL-2730-TL	27.3	4.15	11.51	27
MDL-2480-TL	24.8	3.77	10.13	24	MDL-2740-TL	27.4	4.17	11.48	27
MDL-2490-TL	24.9	3.78	10.12	24	MDL-2750-TL	27.5	4.19	11.46	27
MDL-2500-TL	25	3.8	10.7	25	MDL-2760-TL	27.6	4.21	11.44	27
MDL-2510-TL	25.1	3.82	10.68	25	MDL-2770-TL	27.7	4.23	11.42	27
MDL-2520-TL	25.2	3.84	10.66	25	MDL-2780-TL	27.8	4.25	11.41	27
MDL-2530-TL	25.3	3.85	10.65	25	MDL-2790-TL	27.9	4.26	11.39	27
MDL-2540-TL	25.4	3.87	10.63	25	MDL-2800-TL	28	4.25	11.97	28
MDL-2550-TL	25.5	3.89	10.61	25	MDL-2810-TL	28.1	4.27	11.95	28
MDL-2560-TL	25.6	3.91	10.59	25	MDL-2820-TL	28.2	4.29	11.93	28
MDL-2570-TL	25.7	3.93	10.57	25	MDL-2830-TL	28.3	4.3	11.92	28
MDL-2580-TL	25.8	3.95	10.55	25	MDL-2840-TL	28.4	4.32	11.9	28
MDL-2590-TL	25.9	3.96	10.54	25	MDL-2850-TL	28.5	4.34	11.88	28
MDL-2600-TL	26	3.95	11.12	26	MDL-2858-TL	28.58	4.36	11.86	28
MDL-2610-TL	26.1	3.97	11.1	26	MDL-2860-TL	28.6	4.36	11.86	28

MDL-Self-locking crown drill head series

MDL-自锁式皇冠钻刀头系列

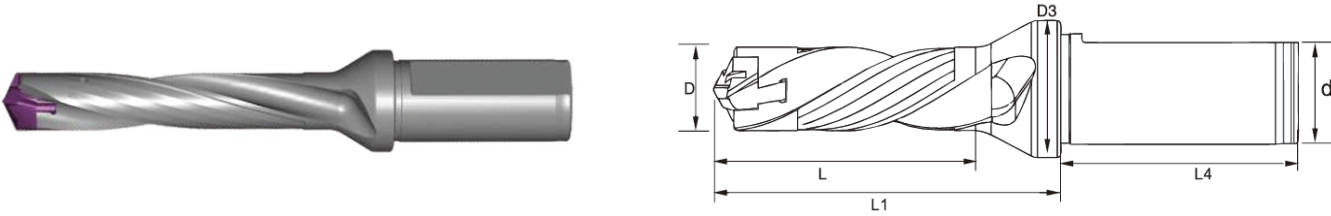


刀头型号及尺寸
Inserts model and size

型号	尺寸 Size			接口编码	型号	尺寸 Size			接口编码
Model	D	d	L	Seat size code	Model	D	d	L	Seat size code
MDL-2870-TL	28.7	4.38	11.84	28	MDL-3130-TL	31.3	4.81	13.15	31
MDL-2880-TL	28.8	4.4	11.82	28	MDL-3140-TL	31.4	4.83	13.13	31
MDL-2890-TL	28.9	4.41	11.81	28	MDL-3150-TL	31.5	4.85	13.11	31
MDL-2900-TL	29	4.43	12.37	29	MDL-3160-TL	31.6	4.87	13.09	31
MDL-2910-TL	29.1	4.45	12.35	29	MDL-3170-TL	31.7	4.89	13.07	31
MDL-2920-TL	29.2	4.47	12.33	29	MDL-3175-TL	31.75	4.9	13.06	31
MDL-2930-TL	29.3	4.48	12.32	29	MDL-3180-TL	31.8	4.91	13.05	31
MDL-2940-TL	29.4	4.5	12.3	29	MDL-3190-TL	31.9	4.92	13.04	31
MDL-2950-TL	29.5	4.52	12.28	29	MDL-3200-TL	32	4.86	13.68	32
MDL-2960-TL	29.6	4.54	12.26	29	MDL-3210-TL	32.1	4.88	13.66	32
MDL-2970-TL	29.7	4.56	12.24	29	MDL-3220-TL	32.2	4.9	13.64	32
MDL-2980-TL	29.8	4.58	12.22	29	MDL-3230-TL	32.3	4.91	13.63	32
MDL-2990-TL	29.9	4.59	12.21	29	MDL-3240-TL	32.4	4.93	13.61	32
MDL-3000-TL	30	4.59	12.79	30	MDL-3250-TL	32.5	4.95	13.59	32
MDL-3010-TL	30.1	4.61	12.77	30	MDL-3260-TL	32.6	4.97	13.57	32
MDL-3020-TL	30.2	4.63	12.75	30	MDL-3270-TL	32.7	4.99	13.55	32
MDL-3030-TL	30.3	4.64	12.74	30	MDL-3280-TL	32.8	5.01	13.53	32
MDL-3040-TL	30.4	4.66	12.72	30	MDL-3290-TL	32.9	5.02	13.52	32
MDL-3050-TL	30.5	4.68	12.7	30					
MDL-3060-TL	30.6	4.7	12.68	30					
MDL-3070-TL	30.7	4.72	12.66	30					
MDL-3080-TL	30.8	4.74	12.64	30					
MDL-3090-TL	30.9	4.75	12.63	30					
MDL-3100-TL	31	4.76	13.2	31					
MDL-3110-TL	31.1	4.78	13.18	31					
MDL-3120-TL	31.2	4.8	13.16	31					

MDL-3D self-locking crown drill holder

MDL-3D自锁式皇冠钻刀杆

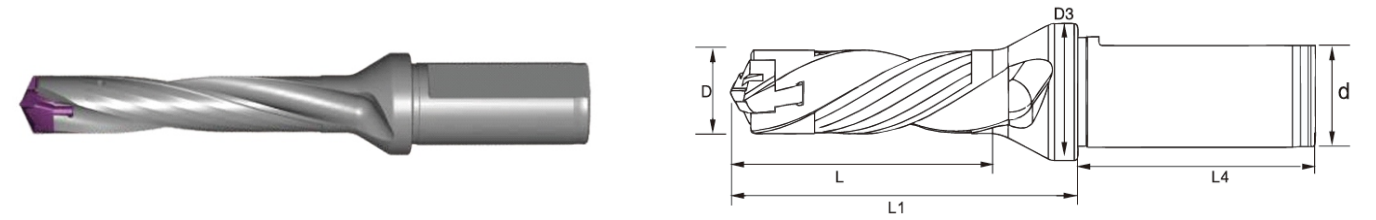


刀头型号及尺寸
Inserts model and size

型号 Model	尺寸 Size								刀片
MDL-3D	最小直径Dmin(1)	最大直径Dmax	L	d	D3	L1	L4	Po.Size	Insert
MDL-3D-080-3D-C12	8.00	8.40	24.0	12.00	16.00	39.4	45.0	8.00	MCD 080-084
MDL-3D-085-3D-C12	8.50	8.90	25.0	12.00	16.00	40.9	45.0	8.50	MCD 085-089
MDL-3D-090-3D-C12	9.00	9.40	27.0	12.00	16.00	42.8	45.0	9.00	MCD 090-094
MDL-3D-095-3D-C16	9.50	9.90	29.0	12.00	16.00	44.3	45.0	9.50	MCD 095-099
MDL-3D-100-3D-C16	10.00	10.40	30.0	16.00	20.00	46.2	48.0	10.00	MCD 100-104
MDL-3D-105-3D-C16	10.50	10.90	32.0	16.00	20.00	47.7	48.0	10.50	MCD 105-109
MDL-3D-110-3D-C16	11.00	11.40	33.0	16.00	20.00	49.6	48.0	11.00	MCD 110-114
MDL-3D-115-3D-C16	11.50	11.90	35.0	16.00	20.00	51.1	48.0	11.50	MCD 115-119
MDL-3D-120-3D-C16	12.00	12.40	38.0	16.00	20.00	53.0	48.0	12.00	MCD 120-124
MDL-3D-125-3D-C16	12.50	12.90	37.0	16.00	20.00	54.5	48.0	12.50	MCD 125-129
MDL-3D-130-3D-C16	13.00	13.40	39.0	16.00	20.00	56.6	48.0	13.00	MCD 130-134
MDL-3D-135-3D-C16	13.50	13.90	41.0	16.00	20.00	58.1	48.0	13.50	MCD 135-139
MDL-3D-140-3D-C16	14.00	14.40	42.0	16.00	20.00	62.1	48.0	14.00	MCD 140-144
MDL-3D-145-3D-C16	14.50	14.90	44.0	16.00	20.00	63.6	48.0	14.50	MCD 145-149
MDL-3D-150-3D-C20	15.00	15.90	45.0	20.00	25.00	68.7	50.0	15.00	MCD 150-159
MDL-3D-160-3D-C20	16.00	16.90	48.0	20.00	25.00	73.3	50.0	16.00	MCD 160-169

MDL-3D self-locking crown drill holder

MDL-3D自锁式皇冠钻刀杆

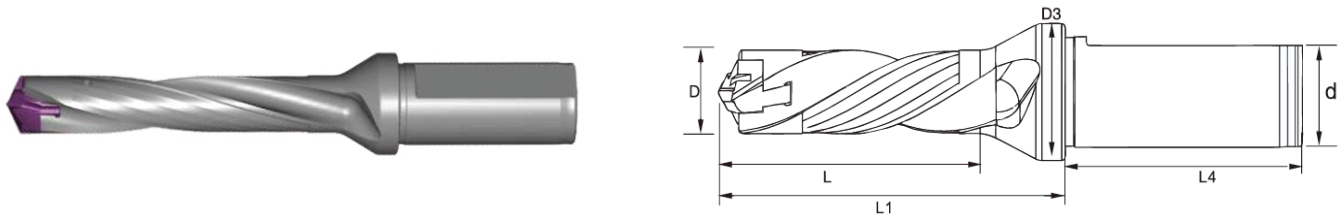


刀头型号及尺寸
Inserts model and size

型号 Model	尺寸 Size								刀片
MDL-3D	最小直径Dmin(1)	最大直径Dmax	L	d	D3	L1	L4	Po.Size	Insert
MDL-3D-170-3D-C20	17.00	17.90	51.0	20.00	25.00	77.9	50.0	17.00	MCD 170-179
MDL-3D-180-3D-C25	18.00	18.90	54.0	25.00	32.00	82.5	56.0	18.00	MCD 180-189
MDL-3D-190-3D-C25	19.00	19.90	57.0	25.00	32.00	87.0	56.0	19.00	MCD 190-199
MDL-3D-200-3D-C25	20.00	20.90	60.0	25.00	32.00	91.6	56.0	20.00	MCD 200-209
MDL-3D-210-3D-C25	21.00	21.90	63.0	25.00	32.00	96.2	56.0	21.00	MCD 210-219
MDL-3D-220-3D-C25	22.00	22.90	66.0	25.00	32.00	100.8	56.0	22.00	MCD 220-229
MDL-3D-230-3D-C32	23.00	23.90	69.0	32.00	42.00	105.4	60.0	23.00	MCD 230-239
MDL-3D-240-3D-C32	24.00	24.90	72.00	32.00	42.00	110.0	60.0	24.00	MCD 240-249
MDL-3D-250-3D-C32	25.00	25.90	75.00	32.00	42.00	114.5	60.0	25.00	MCD 250-259
MDL-3D-260-3D-C32	26.00	26.90	78.00	32.00	42.00	119.0	60.0	26.00	MCD 260-269
MDL-3D-270-3D-C32	27.00	27.90	81.0	32.00	42.00	123.7	60.0	27.00	MCD 270-279
MDL-3D-280-3D-C32	28.00	28.90	84.0	32.00	42.00	128.2	60.0	28.00	MCD 280-289
MDL-3D-290-3D-C32	29.00	29.90	87.0	32.00	42.00	132.8	60.0	29.00	MCD 290-299
MDL-3D-300-3D-C32	30.00	30.90	90.0	32.00	42.00	137.4	60.0	30.00	MCD 300-309
MDL-3D-310-3D-C32	31.00	31.90	93.0	32.00	42.00	142.0	60.0	31.00	MCD 310-319
MDL-3D-320-3D-C32	32.00	32.90	96.0	32.00	42.00	146.5	60.0	32.00	MCD 320-329

MDL-5D self-locking crown drill holder

MDL-5D自锁式皇冠钻刀杆

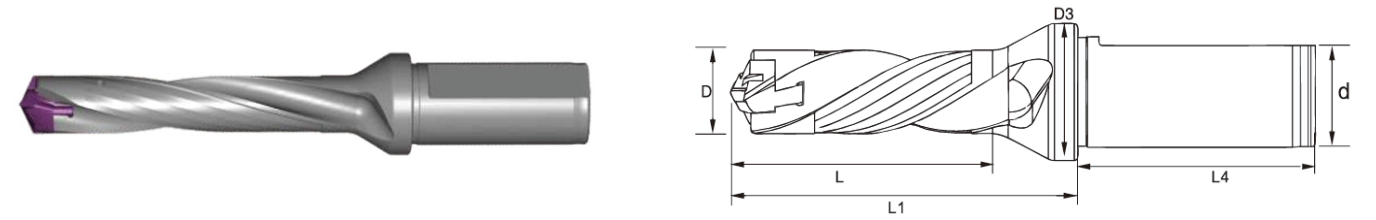


刀头型号及尺寸
Inserts model and size

型号 Model	尺寸 Size								刀片
MDL-5D	最小直径Dmin(1)	最大直径Dmax	L	d	D3	L1	L4	Po.Size	Insert
MDL-5D-080-5D-C12	8.00	8.40	40.0	12.00	16.00	55.4	45.0	8.00	MCD 080-084
MDL-5D-085-5D-C12	8.50	8.90	42.5	12.00	16.00	57.9	45.0	8.50	MCD 085-089
MDL-5D-090-5D-C12	9.00	9.40	45.0	12.00	16.00	60.8	45.0	9.00	MCD 090-094
MDL-5D-095-5D-C16	9.50	9.90	48.0	12.00	16.00	63.3	45.0	9.50	MCD 095-099
MDL-5D-100-5D-C16	10.00	10.40	50.0	16.00	20.00	66.2	48.0	10.00	MCD 100-104
MDL-5D-105-5D-C16	10.50	10.90	53.0	16.00	20.00	68.7	48.0	10.50	MCD 105-109
MDL-5D-110-5D-C16	11.00	11.40	55.0	16.00	20.00	71.6	48.0	11.00	MCD 110-114
MDL-5D-115-5D-C16	11.50	11.90	58.0	16.00	20.00	74.1	48.0	11.50	MCD 115-119
MDL-5D-120-5D-C16	12.00	12.40	60.0	16.00	20.00	77.0	48.0	12.00	MCD 120-124
MDL-5D-125-5D-C16	12.50	12.90	62.0	16.00	20.00	79.5	48.0	12.50	MCD 125-129
MDL-5D-130-5D-C16	13.00	13.40	65.0	16.00	20.00	82.6	48.0	13.00	MCD 130-134
MDL-5D-135-5D-C16	13.50	13.90	68.0	16.00	20.00	85.1	48.0	13.50	MCD 135-139
MDL-5D-140-5D-C16	14.00	14.40	70.0	16.00	20.00	90.2	48.0	14.00	MCD 140-144
MDL-5D-145-5D-C16	14.50	14.90	73.0	16.00	20.00	92.7	48.0	14.50	MCD 145-149
MDL-5D-150-5D-C20	15.00	15.90	75.0	20.00	25.00	98.7	50.0	15.00	MCD 150-159
MDL-5D-160-5D-C20	16.00	16.90	80.0	20.00	25.00	105.3	50.0	16.00	MCD 160-169

MDL-5D self-locking crown drill holder

MDL-5D自锁式皇冠钻刀杆

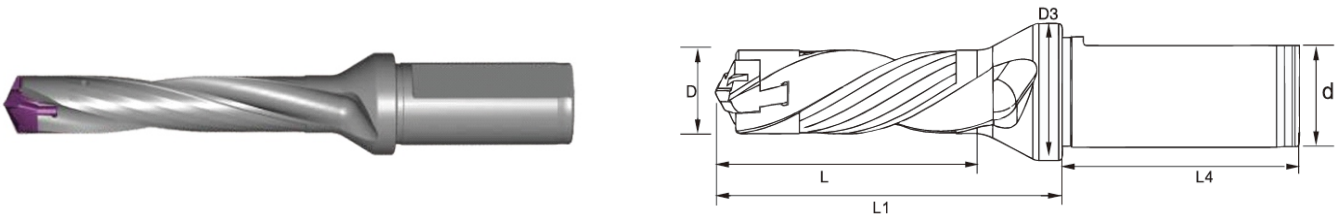


刀头型号及尺寸
Inserts model and size

型号 Model	尺寸 Size								刀片
MDL-5D	最小直径Dmin(1)	最大直径Dmax	L	d	D3	L1	L4	Po.Size	Insert
MDL-5D-170-5D-C20	17.00	17.90	85.0	20.00	25.00	111.9	50.0	17.00	MCD 170-179
MDL-5D-180-5D-C25	18.00	18.90	90.0	25.00	32.00	118.5	56.0	18.00	MCD 180-189
MDL-5D-190-5D-C25	19.00	19.90	95.0	25.00	32.00	125.0	56.0	19.00	MCD 190-199
MDL-5D-200-5D-C25	20.00	20.90	100.0	25.00	32.00	131.6	56.0	20.00	MCD 200-209
MDL-5D-210-5D-C25	21.00	21.90	105.0	25.00	32.00	138.2	56.0	21.00	MCD 210-219
MDL-5D-220-5D-C25	22.00	22.90	110.0	25.00	32.00	144.8	56.0	22.00	MCD 220-229
MDL-5D-230-5D-C32	23.00	23.90	115.0	32.00	42.00	151.4	60.0	23.00	MCD 230-239
MDL-5D-240-5D-C32	24.00	24.90	120.00	32.00	42.00	158.0	60.0	24.00	MCD 240-249
MDL-5D-250-5D-C32	25.00	25.90	125.00	32.00	42.00	164.5	60.0	25.00	MCD 250-259
MDL-5D-260-5D-C32	26.00	26.90	130.00	32.00	42.00	171.0	60.0	26.00	MCD 260-269
MDL-5D-270-5D-C32	27.00	27.90	135.0	32.00	42.00	177.7	60.0	27.00	MCD 270-279
MDL-5D-280-5D-C32	28.00	28.90	140.0	32.00	42.00	184.2	60.0	28.00	MCD 280-289
MDL-5D-290-5D-C32	29.00	29.90	145.0	32.00	42.00	190.8	60.0	29.00	MCD 290-299
MDL-5D-300-5D-C32	30.00	30.90	150.0	32.00	42.00	197.4	60.0	30.00	MCD 300-309
MDL-5D-310-5D-C32	31.00	31.90	155.0	32.00	42.00	204.0	60.0	31.00	MCD 310-319
MDL-5D-320-5D-C32	32.00	32.90	160.0	32.00	42.00	210.5	60.0	32.00	MCD 320-329

MDL-8D self-locking crown drill holder

MDL-8D自锁式皇冠钻刀杆

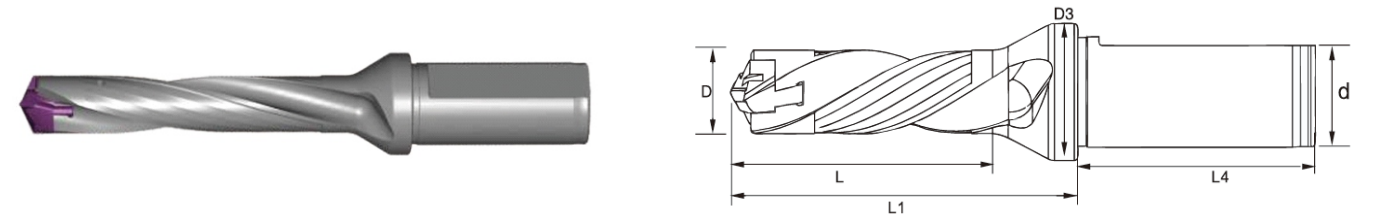


刀头型号及尺寸
Inserts model and size

型号 Model	尺寸 Size								刀片
MDL-8D	最小直径Dmin(1)	最大直径Dmax	L	d	D3	L1	L4	Po.Size	Insert
MDL-8D-080-8D-C12	8.00	8.40	64.0	12.00	16.00	79.4	45.0	8.00	MCD 080-084
MDL-8D-085-8D-C12	8.50	8.90	68.0	12.00	16.00	83.4	45.0	8.50	MCD 085-089
MDL-8D-090-8D-C12	9.00	9.40	72.0	12.00	16.00	87.8	45.0	9.00	MCD 090-094
MDL-8D-095-8D-C16	9.50	9.90	76.0	12.00	16.00	91.8	45.0	9.50	MCD 095-099
MDL-8D-100-8D-C16	10.00	10.40	80.0	16.00	20.00	96.2	48.0	10.00	MCD 100-104
MDL-8D-105-8D-C16	11.00	10.90	84.0	16.00	20.00	100.2	48.0	10.50	MCD 105-109
MDL-8D-110-8D-C16	11.50	11.40	88.0	16.00	20.00	104.6	48.0	11.00	MCD 110-114
MDL-8D-115-8D-C16	12.00	11.90	92.0	16.00	20.00	108.6	48.0	11.50	MCD 115-119
MDL-8D-120-8D-C16	12.50	12.40	96.0	16.00	20.00	113	48.0	12.00	MCD 120-124
MDL-8D-125-8D-C16	13.00	12.90	100.0	16.00	20.00	117	48.0	12.50	MCD 125-129
MDL-8D-130-8D-C16	13.50	13.40	104.0	16.00	20.00	121.6	48.0	13.00	MCD 130-134
MDL-8D-135-8D-C16	14.00	13.90	108.0	16.00	20.00	125.6	48.0	13.50	MCD 135-139
MDL-8D-140-8D-C16	14.50	14.40	112.0	16.00	20.00	132.1	48.0	14.00	MCD 140-144
MDL-8D-145-8D-C16	15.00	14.90	116.0	16.00	20.00	136.2	48.0	14.50	MCD 145-149
MDL-8D-150-8D-C20	15.50	15.90	120.0	20.00	25.00	143.7	50.0	15.00	MCD 150-159
MDL-8D-160-8D-C20	16.00	16.90	128.0	20.00	25.00	153.3	50.0	16.00	MCD 160-169

MDL-8D self-locking crown drill holder

MDL-8D自锁式皇冠钻刀杆

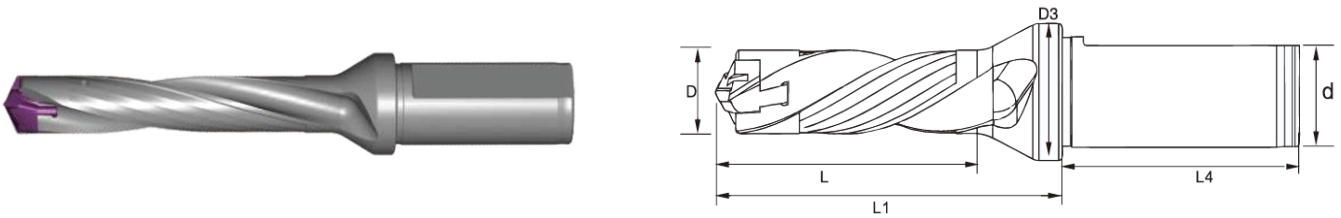


刀头型号及尺寸
Inserts model and size

型号 Model	尺寸 Size								刀片
MDL-8D	最小直径Dmin(1)	最大直径Dmax	L	d	D3	L1	L4	Po.Size	Insert
MDL-8D-170-8D-C20	17.00	17.90	136.0	20.00	25.00	162.9	50.0	17.00	MCD 170-179
MDL-8D-180-8D-C25	18.00	18.90	144.0	25.00	32.00	172.5	56.0	18.00	MCD 180-189
MDL-8D-190-8D-C25	19.00	19.90	152.0	25.00	32.00	182.0	56.0	19.00	MCD 190-199
MDL-8D-200-8D-C25	20.00	20.90	160.0	25.00	32.00	191.6	56.0	20.00	MCD 200-209
MDL-8D-210-8D-C25	21.00	21.90	168.0	25.00	32.00	201.2	56.0	21.00	MCD 210-219
MDL-8D-220-8D-C25	22.00	22.90	176.0	25.00	32.00	210.8	56.0	22.00	MCD 220-229
MDL-8D-230-8D-C32	23.00	23.90	184.0	32.00	42.00	220.4	60.0	23.00	MCD 230-239
MDL-8D-240-8D-C32	24.00	24.90	192.0	32.00	42.00	230.0	60.0	24.00	MCD 240-249
MDL-8D-250-8D-C32	25.00	25.90	200.0	32.00	42.00	239.5	60.0	25.00	MCD 250-259
MDL-8D-260-8D-C32	26.00	26.90	208.0	32.00	42.00	249.3	60.0	26.00	MCD 260-269
MDL-8D-270-8D-C32	27.00	27.90	216.0	32.00	42.00	258.6	60.0	27.00	MCD 270-279
MDL-8D-280-8D-C32	28.00	28.90	224.0	32.00	42.00	268.2	60.0	28.00	MCD 280-289
MDL-8D-290-8D-C32	29.00	29.90	232.0	32.00	42.00	277.8	60.0	29.00	MCD 290-299
MDL-8D-300-8D-C32	30.00	30.90	240.0	32.00	42.00	287.4	60.0	30.00	MCD 300-309
MDL-8D-310-8D-C32	31.00	31.90	248.0	32.00	42.00	297.0	60.0	31.00	MCD 310-319
MDL-8D-320-8D-C32	32.00	32.90	256.0	32.00	42.00	306.5	60.0	32.00	MCD 320-329

MDL-12D self-locking crown drill holder

MDL-12D自锁式皇冠钻刀杆

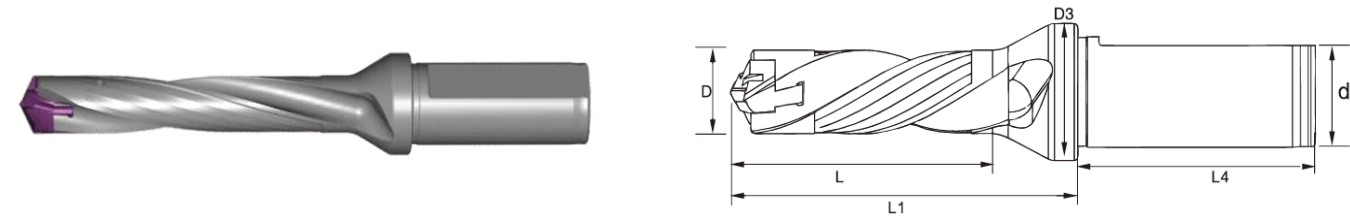


刀头型号及尺寸
Inserts model and size

型号 Model	尺寸 Size								刀片
MDL-12D	最小直径Dmin(1)	最大直径Dmax	L	d	D3	L1	L4	Po.Size	Insert
MDL-12D-080-12D-C12	8.00	8.40	96.0	12.00	16.00	111.4	45.0	8.00	MCD 080-084
MDL-12D-085-12D-C12	8.50	8.90	102.0	12.00	16.00	117.4	45.0	8.50	MCD 085-089
MDL-12D-090-12D-C12	9.00	9.40	108.0	12.00	16.00	123.8	45.0	9.00	MCD 090-094
MDL-12D-095-12D-C12	9.50	9.90	114.0	12.00	16.00	129.8	45.0	9.50	MCD 095-099
MDL-12D-100-12D-C12	10.00	10.40	120.0	16.00	20.00	136.2	48.0	10.00	MCD 100-104
MDL-12D-105-12D-C12	11.00	10.90	126.0	16.00	20.00	142.2	48.0	10.50	MCD 105-109
MDL-12D-110-12D-C12	11.50	11.40	132.0	16.00	20.00	146.6	48.0	11.00	MCD 110-114
MDL-12D-115-12D-C12	12.00	11.90	138.0	16.00	20.00	154.6	48.0	11.50	MCD 115-119
MDL-12D-120-12D-C12	12.50	12.40	144.0	16.00	20.00	161.0	48.0	12.00	MCD 120-124
MDL-12D-125-12D-C12	13.00	12.90	150.0	16.00	20.00	167.0	48.0	12.50	MCD 125-129
MDL-12D-130-12D-C12	13.50	13.40	156.0	16.00	20.00	173.6	48.0	13.00	MCD 130-134
MDL-12D-135-12D-C12	14.00	13.90	162.0	16.00	20.00	179.0	48.0	13.50	MCD 135-139
MDL-12D-140-12D-C12	14.50	14.40	168.0	16.00	20.00	188.0	48.0	14.00	MCD 140-144
MDL-12D-145-12D-C12	15.00	14.90	174.0	16.00	20.00	194.0	48.0	14.50	MCD 145-149
MDL-12D-150-12D-C12	15.50	15.90	180.0	20.00	25.00	210.0	50.0	15.00	MCD 150-159
MDL-12D-160-12D-C12	16.00	16.90	192.0	20.00	25.00	217.3	50.0	16.00	MCD 160-169

MDL-12D self-locking crown drill holder

MDL-12D自锁式皇冠钻刀杆



刀头型号及尺寸

Inserts model and size

型号 Model	尺寸 Size								刀片
MDL-12D	最小直径Dmin(1)	最大直径Dmax	L	d	D3	L1	L4	Po.Size	Insert
MDL-12D-170-12D-C12	17.00	17.90	204.0	20.00	25.00	230.9	50.0	17.00	MCD 170-179
MDL-12D-180-12D-C12	18.00	18.90	216.0	25.00	32.00	244.5	56.0	18.00	MCD 180-189
MDL-12D-190-12D-C12	19.00	19.90	228.0	25.00	32.00	258.0	56.0	19.00	MCD 190-199
MDL-12D-200-12D-C12	20.00	20.90	240.0	25.00	32.00	271.6	56.0	20.00	MCD 200-209
MDL-12D-210-12D-C12	21.00	21.90	252.0	25.00	32.00	285.2	56.0	21.00	MCD 210-219
MDL-12D-220-12D-C12	22.00	22.90	264.0	25.00	32.00	298.8	56.0	22.00	MCD 220-229
MDL-12D-230-12D-C12	23.00	23.90	276.0	32.00	42.00	302.4	60.0	23.00	MCD 230-239
MDL-12D-240-12D-C12	24.00	24.90	288.0	32.00	42.00	326.0	60.0	24.00	MCD 240-249
MDL-12D-250-12D-C12	25.00	25.90	300.0	32.00	42.00	339.5	60.0	25.00	MCD 250-259
MDL-12D-260-12D-C12	26.00	26.90	312.0	32.00	42.00	353.1	60.0	26.00	MCD 260-269
MDL-12D-270-12D-C12	27.00	27.90	324.0	32.00	42.00	366.7	60.0	27.00	MCD 270-279
MDL-12D-280-12D-C12	28.00	28.90	336.0	32.00	42.00	380.2	60.0	28.00	MCD 280-289
MDL-12D-290-12D-C12	29.00	29.90	348.0	32.00	42.00	393.8	60.0	29.00	MCD 290-299
MDL-12D-300-12D-C12	30.00	30.90	360.0	32.00	42.00	407.4	60.0	30.00	MCD 300-309
MDL-12D-310-12D-C12	31.00	31.90	372.0	32.00	42.00	421.0	60.0	31.00	MCD 310-319
MDL-12D-320-12D-C12	32.00	32.90	384.0	32.00	42.00	434.5	60.0	32.00	MCD 320-329

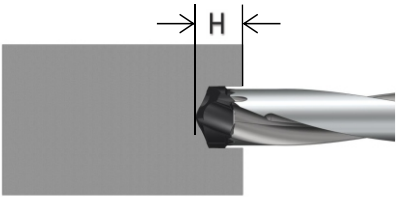
MDL-Technical Guide

MDL-技术指南

高倍径深孔钻削应用

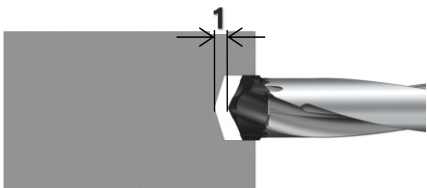
Guidelines for Using High Aspect Ratio Deep Hole Drills

1、引导孔-使用1.5D或3D的黄冠钻加工；
Guide hole - processed with 1.5D or 3D crown drill.
★引导孔加工用1.5D或3D黄冠钻头使用与8倍径及以上相同型号刀头，引导孔深度H为孔径的1-1.5倍；
For pilot hole machining, use a 1.5D or 3D Saber Tooth Drill head of the same model as the 8x diameter or larger drill head. The depth of the pilot hole (H) should be 1-1.5 times the diameter of the hole.



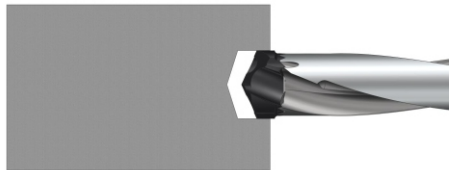
2、在低转速下将8倍径及以上黄冠钻刀杆和刀片插入引导孔内；
Insert the 8x diameter or larger Saber Tooth Drill shank and insert into the pilot hole at low speed.

如果以设定的切削速度插入引导孔，钻头外周跳动可能损伤钻头肩部。插入到离导孔底1mm处。
If inserted into the pilot hole at the set cutting speed, the outer circumference of the drill may vibrate and damage the shoulder of the drill. Insert until 1mm from the bottom of the pilot hole.



★插入到离导孔底1mm处
Insert until 1mm from the bottom of the pilot hole.

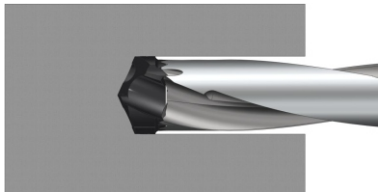
3、把钻速提升到设定转速，开始正常切削；
Increase the drill speed to the set speed and start the cutting feed.



4、加工后，降低转速，从被切削材中拔出
After machining, reduce the speed and withdraw the drill from the material.

推荐参数
★转速:500r/min ★进给速度:1000-200mm/min
Rotating speed:500r/min feed rate :1000-200mm/min

如果在高速旋转时从孔中拔出钻头，可能由于钻头的跳动导致刀片侧面损伤
Withdrawing the drill at high speed can cause insert side damage due to drill vibration.



Big dia. modular tip drills

MDD-大直径模块钻

命名规则

Code Key

MDD	045	050
1	2	3

1.模块钻系列	2.刀头最小可调直径	3.刀头最大可调直径
Modular Drill Series	Minimum Adjustable Diameter of Drill Head	Maximum Adjustable Diameter of Drill Head
MDD=大直径模块钻系列 MDD=Large-Diameter Modular Drill Series	详见系列表 Please refer to the series list for details	详见系列表 Please refer to the series list for details

特征

Characteristic

● 内冷孔设计-冷却更充分，排屑更顺畅
Internal Coolant Hole Design – Improved Cooling and Smoother Chip Evacuation

● 可调刀夹设计-外刀夹尺寸可在0-5mm内调节
Adjustable Tool Holder Design – Outer Tool Holder Size Adjustable Within 0-5mm

● 直线度优异-采用中心导向钻结构，定心更优异
Excellent Straightness – Central Guide Drill Structure for Superior Centering Accuracy

● 经济性优异-内外刀刃采用可替换小刀夹结构设计，避免加工时整支钻头的报废；
High Cost Efficiency – Replaceable Inner and Outer Cutting Edges to Prevent Full Drill Discard During Machining

● 刀头和刀柄采用组合式结构
Modular Structure Design for Drill Head and Shank

Big dia. modular tip drills

MDD-大直径模块钻



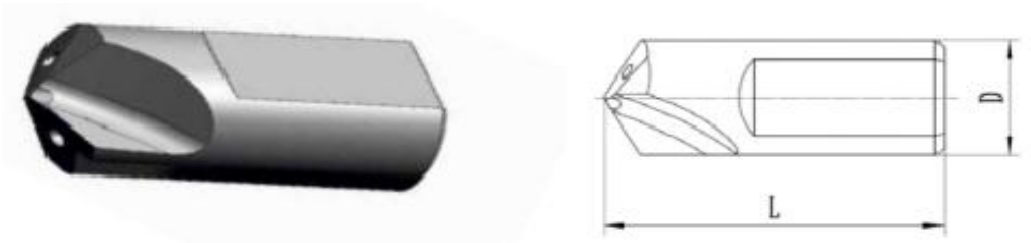
MDD-组合式大直径模块钻系列

MDD – Large-Diameter Modular Drill Series

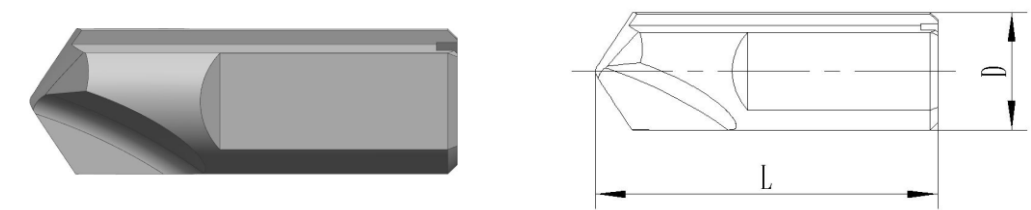
型号	D	DS	D1	L1	L	外刃刀夹	内刃刀夹	适配导向钻	试用刀片	刀刃数
Model						External Clamping	Internal Clamping	Pilot Drill	Insert	Number of cutting edges
MDD-045050	45-50	16	30	60	95	VMC-045050T	VNC-045050N	HPD-1035C-H	WC03	4
MDD-050055	50-55					VMC-050055T	VNC-050055N	HPD-1035C-H	WC04	4
MDD-055060	55-60					VMC-055060T	VNC-055060N	HPD-1238C-H	WC04	4
MDD-060065	60-65	25	45	82	127	VMC-060065T	VNC-060065N	HPD-1238C-H	WC05	4
MDD-065070	65-70					VMC-065070T	VNC-065070N	HPD-1238C-H	WC05	4
MDD-070075	70-75					VMC-070075T	VNC-070075N	HPD-1238C-H	WC06	4
MDD-075080	75-80					VMC-075080T	VNC-075080N	HPD-1645C-H	WC06	4
MDD-080085	80-85	30	50	94	139	VMC-080085T	VNC-080085N	HPD-1645C-H	WC06	4
MDD-085090	85-90					VMC-085090T	VNC-085090N	HPD-1645C-H	WC06	4
MDD-090095	90-95					VMC-090095T	VNC-090095N	HPD-1645C-H	WC06	4
MDD-095100	95-100	32	58	104	154	VMC-095100T	VNC-095100N	HPD-2045C-H	WC06	6
MDD-100105	100-105					VMC-100105T	VNC-100105N	HPD-2045C-H	WC05	6
MDD-105110	105-110					VMC-105110T	VNC-105110N	HPD-2045C-H	WC05	6
MDD-110115	110-115	40	70	104	154	VMC-110115T	VNC-110115N	HPD-2045C-H	WC06	6
MDD-115120	115-120					VMC-115120T	VNC-115120N	HPD-2045C-H	WC06	6
MDD-120125	120-125					VMC-120125T	VNC-120125N	HPD-2556C-H	WC06	6
MDD-125130	125-130					VMC-125130T	VNC-125130N	HPD-2556C-H	WC06	6
MDD-130135	130-135	50	80	116	176	VMC-130135T	VNC-130135N	HPD-2556C-H	WC06	6
MDD-135140	135-140					VMC-135140T	VNC-135140N	HPD-2556C-H	WC06	8
MDD-140145	140-145					VMC-140145T	VNC-140145N	HPD-2556C-H	WC06	8
MDD-145150	145-150	50	80	116	176	VMC-145150T	VNC-145150N	HPD-2556C-H	WC08	6
MDD-150155	150-155					VMC-150155T	VNC-150155N	HPD-2556C-H	WC08	6
MDD-155160	155-160					VMC-155160T	VNC-155160N	HPD-2556C-H	WC08	6
MDD-160165	160-165					VMC-160165T	VNC-160165N	HPD-2556C-H	WC06	10
MDD-165170	165-170					VMC-165170T	VNC-165170N	HPD-2556C-H	WC06	10
MDD-170175	170-175					VMC-170175T	VNC-170175N	HPD-2556C-H	WC08	8
MDD-175180	175-180					VMC-175180T	VNC-175180N	HPD-2556C-H	WC08	8
MDD-180185	180-185					VMC-180185T	VNC-180185N	HPD-2556C-H	WC08	8
MDD-185190	180-190					VMC-185190T	VNC-185190N	HPD-2556C-H	WC08	8
MDD-190195	190-195					VMC-190195T	VNC-190195N	HPD-2556C-H	WC08	8
MDD-195200	195-200					VMC-195200T	VNC-195200N	HPD-2556C-H	WC08	10

MDD-Pilot drill bit

MDD-定心钻



高速钢导向钻型号	D	L
High-speed steel pilot drill bit code		
HPD-1035C-H	10	35
HPD-1238C-H	12	38
HPD-1645C-H	16	45
HPD-2045C-H	20	45
HPD-2556C-H	25	56
HPD-3068C-H	30	68



硬质合金导向钻型号	D	L
Carbide pilot drill bit code		
CPD-1035C-H	10	35
CPD-1238C-H	12	38
CPD-1645C-H	16	45
CPD-2045C-H	20	45
CPD-2556C-H	25	56

Big dia. modular tip drills

MDD-大直径模块钻



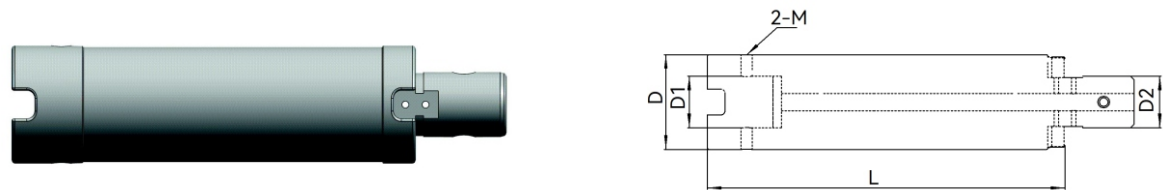
MDD-连接杆

MDD-Connecting Rod

型号	D	D1	D2	L	L1	适用孔径	型号	D	D1	D2	L	L1	适用孔径
Model						Hole diameter	Model						Hole diameter
DXZ-301632100	30	16	32	100	65	φ45-φ55	DXZ-583240100	58	32	40	100	75	φ100-φ110
DXZ-301632150	30	16	32	150	65		DXZ-583240150	58	32	40	150	75	
DXZ-301632200	30	16	32	200	65		DXZ-583240200	58	32	40	200	75	
DXZ-301632250	30	16	32	250	65		DXZ-583240250	58	32	40	250	75	
DXZ-301632300	30	16	32	300	65		DXZ-583240300	58	32	40	300	75	
DXZ-301632350	30	16	32	350	65		DXZ-583240350	58	32	40	350	75	
DXZ-301632400	30	16	32	400	65		DXZ-583240400	58	32	40	400	75	
DXZ-301632450	30	16	32	450	65		DXZ-583240450	58	32	40	450	75	
DXZ-452540100	45	25	40	100	75	φ60-φ80	DXZ-704050100	70	40	50	100	80	φ115-φ135
DXZ-452540150	45	25	40	150	75		DXZ-704050150	70	40	50	150	80	
DXZ-452540200	45	25	40	200	75		DXZ-704050200	70	40	50	200	80	
DXZ-452540250	45	25	40	250	75		DXZ-704050250	70	40	50	250	80	
DXZ-452540300	45	25	40	300	75		DXZ-704050300	70	40	50	300	80	
DXZ-452540350	45	25	40	350	75		DXZ-704050350	70	40	50	350	80	
DXZ-452540400	45	25	40	400	75		DXZ-704050400	70	40	50	400	80	
DXZ-452540450	45	25	40	450	75		DXZ-704050450	70	40	50	450	80	
DXZ-503040100	50	30	40	100	75	φ85-φ95	DXZ-805050100	80	50	50	100	80	φ140-φ195
DXZ-503040150	50	30	40	150	75		DXZ-805050150	80	50	50	150	80	
DXZ-503040200	50	30	40	200	75		DXZ-805050200	80	50	50	200	80	
DXZ-503040250	50	30	40	250	75		DXZ-805050250	80	50	50	250	80	
DXZ-50304300	50	30	40	300	75		DXZ-805050300	80	50	50	300	80	
DXZ-503040350	50	30	40	350	75		DXZ-805050350	80	50	50	350	80	
DXZ-503040400	50	30	40	400	75		DXZ-805050400	80	50	50	400	80	
DXZ-503040450	50	30	40	450	75		DXZ-805050450	80	50	50	450	80	

Big dia. modular tip drills

MDD-大直径模块钻



MDD-延长杆

MDD-Extension Rod

型号 Model	D	D1	L	适用孔径 Hole diameter
YXZ-3016300	30	16	300	φ45-φ55
YXZ-3016400	30	16	400	
YXZ-3016500	30	16	500	
YXZ-4525300	45	25	300	φ60-φ80
YXZ-4525400	45	25	400	
YXZ-4525500	45	25	500	
YXZ-5030300	50	30	300	φ85-φ95
YXZ-5030400	50	30	400	
YXZ-5030500	50	30	500	
YXZ-5832300	58	32	300	φ100-φ110
YXZ-5832400	58	32	400	
YXZ-5832500	58	32	500	
YXZ-7040300	70	40	300	φ115-φ135
YXZ-7040400	70	40	400	
YXZ-7040500	70	40	500	
YXZ-8050300	80	50	300	φ140-φ195
YXZ-8050400	80	50	400	

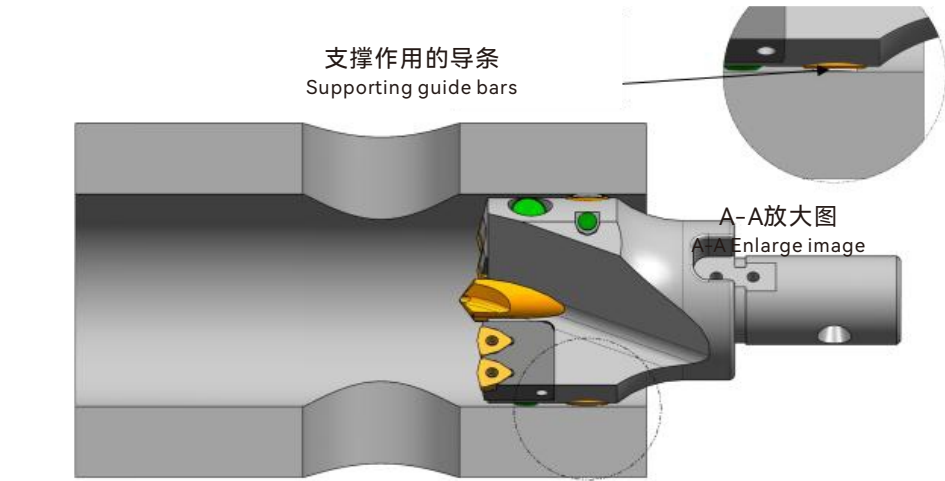
MDD Technical Guide

MDD-技术指南

- 加工案例:
- 加工φ105m、孔深550mm,材42Crmo、HB220
- 在能源行业中使用，应用MDD可转位大钻头可大幅的提高加工效率。

- Processing 105m, hole depth 550mm, material 42Crmo, Hb220
- In the machinery industries such as petroleum and coal mining, large hole processing is becoming more and more common. The application of MDD indexable large drill bits can greatly improve the processing efficiency.

工艺 Craft	工艺过程 Crafting process	转速 Rotating speed	进给 Feed	加工时间 Processing time	总用时长 Total time
传统工艺 Traditional craft	①φ60麻花钻 φ60 drill bit	80	16	1小时10分钟	150分钟
	②粗镗刀一 Rough boring tool one	200	30	40分钟	
	③粗镗刀二 Rough boring tool two	200	30	40分钟	
新工艺 New craft	MDD可转位大头φ103钻 MDD indexable big head φ103 drill	280	45	18分钟	18分钟



$$S = \frac{V_c \times 1000}{3.14 \times D_c}$$

vc=线速度100m/min
Dc(mm)钻头
s=主轴转速
实例:以钻头直径φ100为例
$$S = \frac{100 \times 1000}{3.14 \times 100} = 318 rev / min$$

钻头速度
Drilling Speed

$$Vf = Fr \times S$$

Vf=进给速度
Fr=每转进给量
S=主轴转速
实例:以钻头直径φ100为例,
每转进给量0.15mm/rev
$$Vf = 0.15 \times 318 = 47.7 mm/min$$

进给速度
Feed Speed

$$T_c = \frac{H}{Vf} \times 60$$

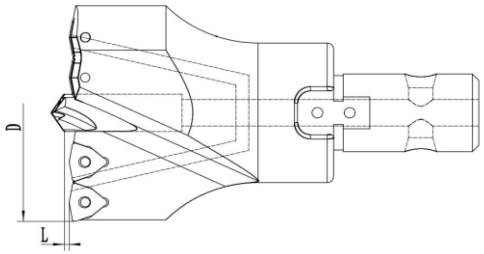
Tc(a):加工时间
H=孔的加工深度
实例:以钻头直径φ100为例,
孔加工深度为100mm
$$T_c = \frac{100 \times 60}{47.7} = 126(s)$$

钻头时间
Drilling Time

MDD-Technical Guide

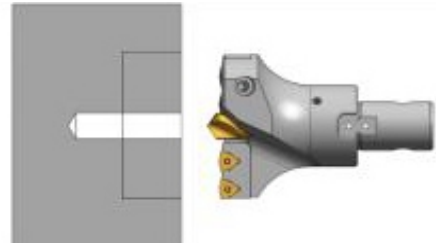
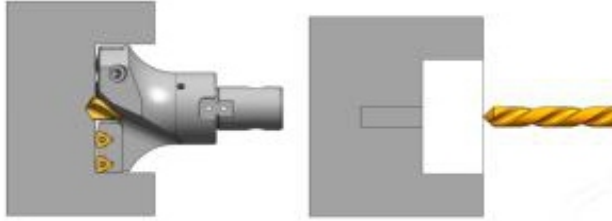
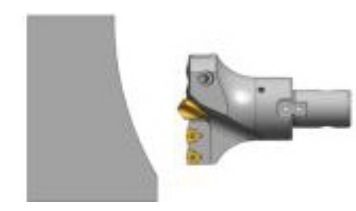
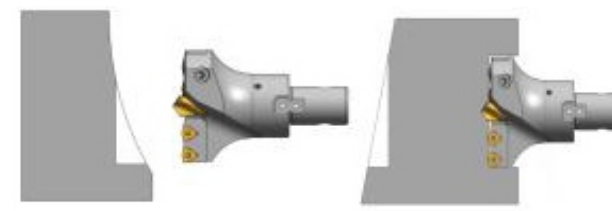
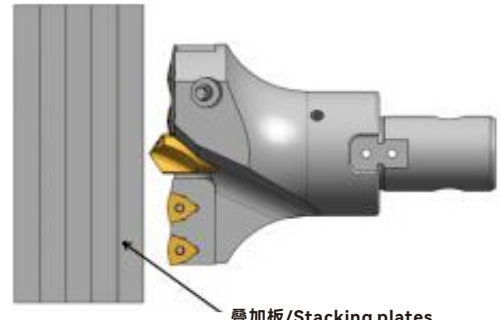
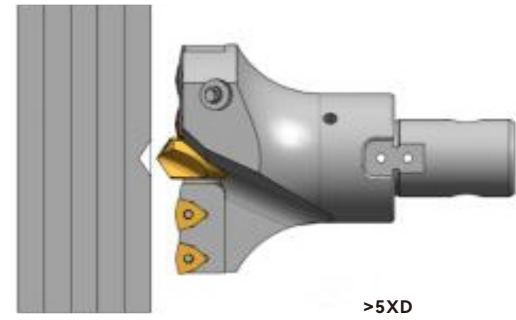
MDD-技术指南

定心钻伸出刀片的距离 Protrusion Distance of the Centering Drill from the Insert

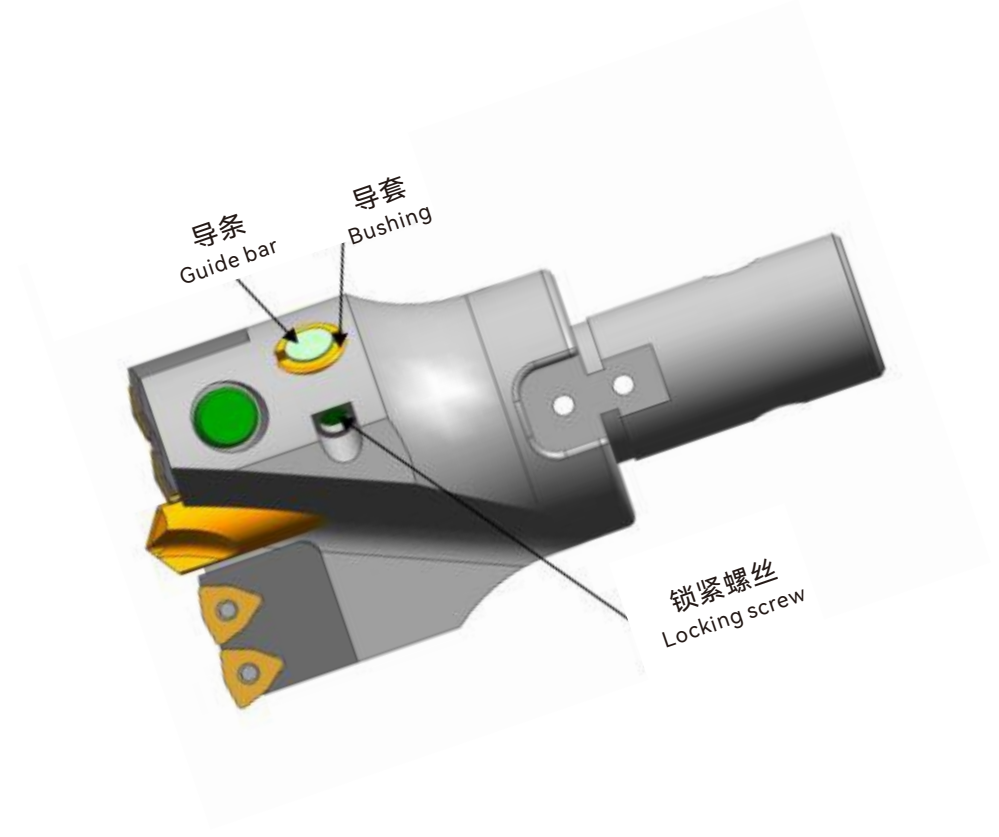


外径/External diameter	L		
	2-4XD	4-6XD	6-8XD
45-55	1.6	1.8	2
55-75	1.8	2	2.2
75-100	2.2	2.5	2.8
100-120	2.4	2.8	3.2
120-170	3.2	3.6	4
170-180	3.5	3.9	4.3

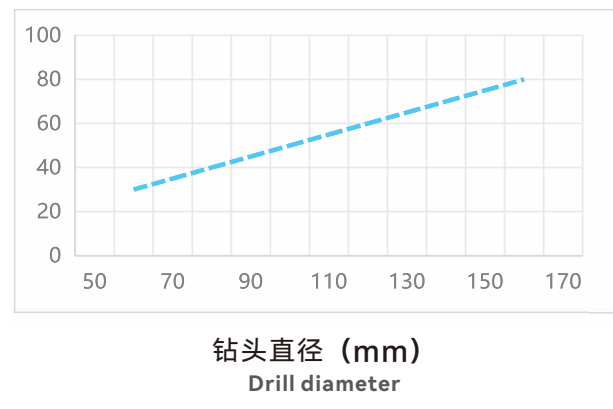
加工方式推荐 Recommended processing methods

不推荐 /No recommended	解决方法 /Solutions
	
	
	 >5XD

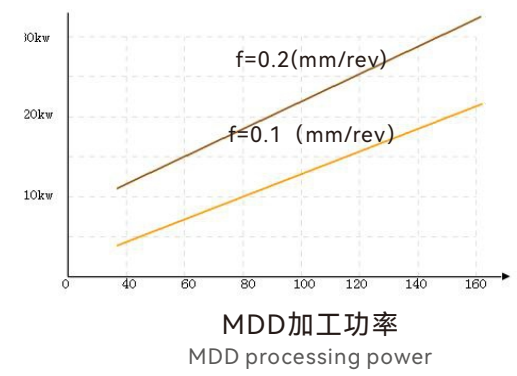
MDD-可转位大头钻头大幅度提高加工功率 MDD indexable big head drill greatly improves processing efficiency



MDD-水流量 MDD- water flow



MDD-加工功率 MDD- processing power



SD-Spade drill

SD-铲钻

铲钻刀片命名规则
Code Key for Spade Drill Insert

SD	Y0	0095	S2	ST	A
1	2	3	4	5	6

1.铲钻系列	2.接口代码		3.刀片直径	4.刀片材质	5.槽型	6.涂层种类		
Spade drill System	Connector code		Insert Diameter	Inserts Material	Geometry	Types of coating		
SD=铲钻系列 SD=Spade drill System	Y0	9.5-11.0	0095=9.5mm 0130=13mm 1100=110mm	S2-含钴高速钢 S2 - Cobalt high speed steel	ST-通用型槽型，首选用于碳钢、模具钢、铸钢等材料首选 Universal chip-breaker, first choice for carbon steel, die steel, cast steel, etc.	A	TiAlN涂层，针对软材、铸铁 TiAlN coating, for soft steel, cast iron.	
	Z0	11.1-12.9						
	00	13.0-15.49		S6-粉末高速钢 S6 - Powder high speed steel		DT-通用型槽型，首选用于软钢，不锈钢，特别是难断屑材料的加工上 DT - Universal chip-breaker + Chamfering, first choice for soft steel, stainless steel, especially for sticky materials.	H	通用型涂层，主要针对不同类型钢件 General coating, for all steel.
	05	15.5-17.5						
	10	17.6-24.4			G2-硬质合金 G2 - Carbide		P	针对不锈钢 Specific for stainless steel.
	15	22.0-24.4						
	20	24.5-35.0						
	25	30.0-35.0						
	30	35.1-47.9						
	35	42.0-47.9						
	40	48.0-65.28						
	45	56.0-65.28						
	50	65.3-89.08						
	70	89.1-114.48						

● 特征 Features

- 分屑槽：减小切屑宽度、易于排屑、减小钻削扭矩

Chip Dividing:Reduce cutting width, Better chip removal,Reduce drilling torque

- 倒角：增加刀片的强度，减少角度磨损，提高工件表面光洁度

Chamfer:Increase the strength of insert,Reduce the weat tear of outer diameter,Improve the smoothness on the surface of workpiece

- 固定螺丝孔：安全可靠的装夹、确保钻削过程中的稳定性

Fix screw holes:Safe and reliable clamping, Ensure the stability during drilling

- 钻芯：钻芯薄，与一般钻头产品相比，降低20%的轴向阻，具有良好的自定心。

XR Chisel edge ergninding: improve the strength of cutting edges increase the stability.

- 断屑槽：折断切屑、易于排屑

ChipBreaker:Broken chips , easy to remove chips.

- 定位槽：保证径向的平衡

Location Graove:Ensure the accuracy of the radial direction

铲钻刀杆命名规则
Spade Drill -Body

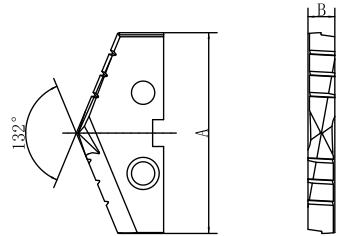
SD	10	H	168	XP	32
1	2	3	4	5	6

1.刀杆类型	2.接口代码		3.刀杆形状刀柄直径	4.有效钻削深度	5.柄部类型	6.柄部尺寸
Shank types	Connector code		Shank Shape & Shank Diameter	Tool Holder Effective Processing Depth	Shank Shape	Shank Size
SD=铲钻刀杆 SD = Spade drill holder	Y0	9.5-11.0	H:螺旋槽 H: Helical groove	如： 118， 168 Example: 118, 168	XP:侧固式 XP: Side lock type	XP: 16,25,32,40,50 MT: 2,3,4,5
	Z0	11.1-12.9				
	00	13.0-15.49	S:直槽 S: Straight groove			
	05	15.5-17.5				
	10	17.6-24.4				
	15	22.0-24.4				
	20	24.5-35.0				
	25	30.0-35.0				
	30	35.1-47.9				
	35	42.0-47.9				
	40	48.0-65.28				
	45	56.0-65.28				
	50	65.3-89.08				
	70	89.1-114.48				

SD-Cobalt high speed steel Of Spade Drill

SD-含钴高速钢铲钻刀片

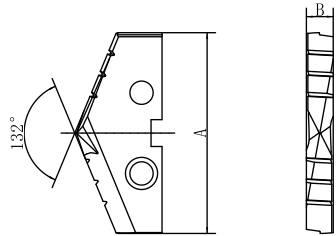
- 刀片直径范围：9.5-114.3mm；
- 钻孔精度：IT10-IT11；
- 高速钢刀片，适用于硬度HB275以下钢件材料
Diameter range:9.5-114.3mm;
Drilling accuracy:IT10-IT11;
Powder HSS for steel with hardness below Hb275



刀片型号	尺寸		接口 CONNECTOR
	A	B	
SDY0-0120-S2STA	12.00	2.38	Y0
SDY0-0125-S2STA	12.50	2.38	Y0
SD00-0130-S2STA	13.00	3.18	00
SD00-0135-S2STA	13.50	3.18	00
SD00-0140-S2STA	14.00	3.18	00
SD00-0145-S2STA	14.50	3.18	00
SD00-0150-S2STA	15.00	3.18	00
SD00-0155-S2STA	15.50	3.18	00
SD00-0160-S2STA	16.00	3.18	00
SD00-0165-S2STA	16.50	3.18	00
SD00-0170-S2STA	17.00	3.18	00
SD00-0175-S2STA	17.50	3.18	00
SD10-0180-S2STA	18.00	3.97	10
SD10-0185-S2STA	18.50	3.97	10
SD10-0190-S2STA	19.00	3.97	10
SD10-0195-S2STA	19.50	3.97	10
SD10-0200-S2STA	20.00	3.97	10
SD10-0205-S2STA	20.50	3.97	10
SD10-0210-S2STA	21.00	3.97	10
SD10-0215-S2STA	21.50	3.97	10
SD10-0220-S2STA	22.00	3.97	10
SD10-0225-S2STA	22.50	3.97	10
SD10-0230-S2STA	23.00	3.97	10
SD10-0235-S2STA	23.50	3.97	10
SD10-0240-S2STA	24.00	3.97	10
SD20-0245-S2STA	24.50	4.76	20
SD20-0250-S2STA	25.00	4.76	20
SD20-0255-S2STA	25.50	4.76	20

刀片型号	尺寸		接口 CONNECTOR
	A	B	
SD20-0260-S2STA	26.00	4.76	20
SD20-0265-S2STA	26.50	4.76	20
SD20-0270-S2STA	27.00	4.76	20
SD20-0275-S2STA	27.50	4.76	20
SD20-0280-S2STA	28.00	4.76	20
SD20-0285-S2STA	28.50	4.76	20
SD20-0290-S2STA	29.00	4.76	20
SD20-0295-S2STA	29.50	4.76	20
SD20-0300-S2STA	30.00	4.76	20
SD20-0305-S2STA	30.50	4.76	20
SD20-0310-S2STA	31.00	4.76	20
SD20-0315-S2STA	31.50	4.76	20
SD20-0320-S2STA	32.00	4.76	20
SD20-0325-S2STA	32.50	4.76	20
SD20-0330-S2STA	33.00	4.76	20
SD20-0335-S2STA	33.50	4.76	20
SD20-0340-S2STA	34.00	4.76	20
SD20-0345-S2STA	34.50.	4.76	20
SD30-0355-S2STA	35.50	6.35	30
SD30-0360-S2STA	36.00	6.35	30
SD30-0365-S2STA	36.50	6.35	30
SD30-0370-S2STA	37.00	6.35	30
SD30-0375-S2STA	37.50	6.35	30
SD30-0380-S2STA	38.00	6.35	30
SD30-0385-S2STA	38.50	6.35	30
SD30-0390-S2STA	39.00	6.35	30
SD30-0395-S2STA	39.50	6.35	30
SD30-0400-S2STA	40.00	6.35	30

- 刀片直径范围：9.5-114.3mm；
- 钻孔精度：IT10-IT11；
- 高速钢刀片，适用于硬度HB275以下钢件材料
Diameter range:9.5-114.3mm;
Drilling accuracy:IT10-IT11;
Powder HSS for steel with hardness below Hb275



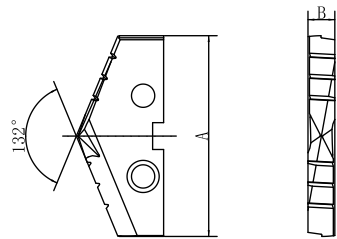
刀片型号	尺寸		接口 CONNECTOR
	A	B	
SD30-0405-S2STA	40.50	6.35	30
SD30-0410-S2STA	41.00	6.35	30
SD30-0415-S2STA	41.50	6.35	30
SD30-0420-S2STA	42.00	6.35	30
SD30-0425-S2STA	42.50	6.35	30
SD30-0430-S2STA	43.00	6.35	30
SD30-0435-S2STA	43.50	6.35	30
SD30-0440-S2STA	44.00	6.35	30
SD30-0445-S2STA	44.50	6.35	30
SD30-0450-S2STA	45.00	6.35	30
SD30-0455-S2STA	45.50	6.35	30
SD30-0460-S2STA	46.00	6.35	30
SD30-0465-S2STA	46.50	6.35	30
SD30-0470-S2STA	47.00	6.35	30
SD30-0475-S2STA	47.50	6.35	30
SD40-0480-S2STA	48.00	7.94	40
SD40-0485-S2STA	48.50	7.94	40
SD40-0490-S2STA	49.00	7.94	40
SD40-0500-S2STA	50.00	7.94	40
SD40-0510-S2STA	51.00	7.94	40
SD40-0520-S2STA	52.00	7.94	40
SD40-0530-S2STA	53.00	7.94	40
SD40-0540-S2STA	54.00	7.94	40
SD40-0550-S2STA	55.00	7.94	40
SD40-0560-S2STA	56.00	7.94	40
SD40-0570-S2STA	57.00	7.94	40
SD40-0580-S2STA	58.00	7.94	40
SD40-0590-S2STA	59.00	7.94	40

刀片型号	尺寸		接口 CONNECTOR
	A	B	
SD40-0600-S2STA	60.00	7.94	40
SD00-0130-S2DTH	13.00	3.18	00
SD00-0135-S2DTH	13.50	3.18	00
SD00-0140-S2DTH	14.00	3.18	00
SD00-0150-S2DTH	15.00	3.18	00
SD00-0155-S2DTH	15.50	3.18	00
SD00-0160-S2DTH	16.00	3.18	00
SD00-0165-S2DTH	16.50	3.18	00
SD00-0170-S2DTH	17.00	3.18	00
SD00-0175-S2DTH	17.50	3.18	00
SD10-0180-S2DTH	18.00	3.97	10
SD10-0185-S2DTH	18.50	3.97	10
SD10-0190-S2DTH	19.00	3.97	10
SD10-0195-S2DTH	19.50	3.97	10
SD10-0200-S2DTH	20.00	3.97	10
SD10-0205-S2DTH	20.50	3.97	10
SD10-0210-S2DTH	21.00	3.97	10
SD10-0215-S2DTH	21.50	3.97	10
SD10-0220-S2DTH	22.00	3.97	10
SD10-0225-S2DTH	22.50	3.97	10
SD10-0230-S2DTH	23.00	3.97	10
SD10-0235-S2DTH	23.50	3.97	10
SD10-0240-S2DTH	24.00	3.97	10
SD20-0245-S2DTH	24.50	4.76	20
SD20-0250-S2DTH	25.00	4.76	20
SD20-0255-S2DTH	25.50	4.76	20
SD20-0260-S2DTH	26.00	4.76	20
SD20-0265-S2DTH	26.50	4.76	20

SD-Cobalt high speed steel Of Spade Drill

SD-含钴高速钢铲钻刀片

- 刀片直径范围：9.5-114.3mm；
- 钻孔精度：IT10-IT11；
- 高速钢刀片，适用于硬度HB275以下钢件材料
Diameter range:9.5-114.3mm;
Drilling accuracy:IT10-IT11;
Powder HSS for steel with hardness below Hb275



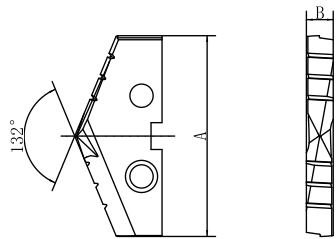
刀片型号	尺寸		接口 CONNECTOR
	A	B	
SD20-0270-S2DTH	27.00	4.76	20
SD20-0275-S2DTH	27.50	4.76	20
SD20-0280-S2DTH	28.00	4.76	20
SD20-0285-S2DTH	28.50	4.76	20
SD20-0290-S2DTH	29.00	4.76	20
SD20-0295-S2DTH	29.50	4.76	20
SD20-0300-S2DTH	30.00	4.76	20
SD20-0305-S2DTH	30.50	4.76	20
SD20-0310-S2DTH	31.00	4.76	20
SD20-0315-S2DTH	31.50	4.76	20
SD20-0320-S2DTH	32.00	4.76	20
SD20-0325-S2DTH	32.50	4.76	20
SD20-0330-S2DTH	33.00	4.76	20
SD20-0335-S2DTH	33.50	4.76	20
SD20-0340-S2DTH	34.00	4.76	20
SD20-0345-S2DTH	34.50	4.76	20
SD30-0355-S2DTH	35.50	6.35	30
SD30-0360-S2DTH	36.00	6.35	30
SD30-0365-S2DTH	36.50	6.35	30
SD30-0370-S2DTH	37.00	6.35	30
SD30-0375-S2DTH	37.50	6.35	30
SD30-0380-S2DTH	38.00	6.35	30
SD30-0390-S2DTH	39.00	6.35	30
SD30-0395-S2DTH	39.50	6.35	30
SD30-0400-S2DTH	40.00	6.35	30
SD30-0410-S2DTH	41.00	6.35	30
SD30-0415-S2DTH	41.50	6.35	30
SD30-0420-S2DTH	42.00	6.35	30

刀片型号	尺寸		接口 CONNECTOR
	A	B	
SD30-0430-S2DTH	43.00	6.35	30
SD30-0435-S2DTH	43.50	6.35	30
SD30-0440-S2DTH	44.00	6.35	30
SD30-0445-S2DTH	44.50	6.35	30
SD30-0450-S2DTH	45.00	6.35	30
SD30-0460-S2DTH	46.00	6.35	30
SD30-0470-S2DTH	47.00	6.35	30
SD30-0475-S2DTH	47.50	6.35	30
SD40-0480-S2DTH	48.00	7.94	40
SD40-0490-S2DTH	49.00	7.94	40
SD40-0500-S2DTH	50.00	7.94	40
SD40-0510-S2DTH	51.00	7.94	40
SD40-0520-S2DTH	52.00	7.94	40
SD40-0530-S2DTH	53.00	7.94	40
SD40-0540-S2DTH	54.00	7.94	40
SD40-0550-S2DTH	55.00	7.94	40
SD40-0560-S2DTH	56.00	7.94	40
SD40-0570-S2DTH	57.00	7.94	40
SD40-0580-S2DTH	58.00	7.94	40
SD40-0590-S2DTH	59.00	7.94	40
SD40-0600-S2DTH	60.00	7.94	40

SD-carbide Insert Of Spade Drill

SD-硬质合金铲钻刀片

- 刀片直径范围：9.5-48mm；
- 钻孔精度：IT10-IT11；
Diameter range:9.5-48mm;
Drilling accuracy:IT10-IT11;



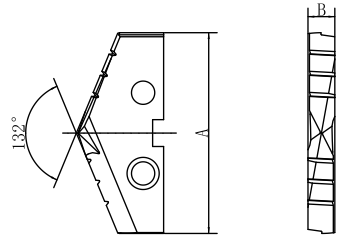
刀片型号	尺寸		接口 CONNECTOR
	A	B	
SDY0-0120-G2STA	12.00	2.38	Y0
SDY0-0125-G2STA	12.50	2.38	Y0
SD00-0130-G2STA	13.00	3.18	00
SD00-0135-G2STA	13.50	3.18	00
SD00-0140-G2STA	14.00	3.18	00
SD00-0145-G2STA	14.50	3.18	00
SD00-0150-G2STA	15.00	3.18	00
SD00-0155-G2STA	15.50	3.18	00
SD00-0160-G2STA	16.00	3.18	00
SD00-0165-G2STA	16.50	3.18	00
SD00-0170-G2STA	17.00	3.18	00
SD00-0175-G2STA	17.50	3.18	00
SD10-0180-G2STA	18.00	3.97	10
SD10-0185-G2STA	18.50	3.97	10
SD10-0190-G2STA	19.00	3.97	10
SD10-0195-G2STA	19.50	3.97	10
SD10-0200-G2STA	20.00	3.97	10
SD10-0205-G2STA	20.50	3.97	10
SD10-0210-G2STA	21.00	3.97	10
SD10-0215-G2STA	21.50	3.97	10
SD10-0220-G2STA	22.00	3.97	10
SD10-0225-G2STA	22.50	3.97	10
SD10-0230-G2STA	23.00	3.97	10
SD10-0235-G2STA	23.50	3.97	10
SD10-0240-G2STA	24.00	3.97	10
SD20-0245-G2STA	24.50	4.76	20
SD20-0250-G2STA	25.00	4.76	20
SD20-0255-G2STA	25.50	4.76	20

刀片型号	尺寸		接口 CONNECTOR
	A	B	
SD20-0260-G2STA	26.00	4.76	20
SD20-0265-G2STA	26.50	4.76	20
SD20-0270-G2STA	27.00	4.76	20
SD20-0275-G2STA	27.50	4.76	20
SD20-0280-G2STA	28.00	4.76	20
SD20-0285-G2STA	28.50	4.76	20
SD20-0290-G2STA	29.00	4.76	20
SD20-0295-G2STA	29.50	4.76	20
SD20-0300-G2STA	30.00	4.76	20
SD20-0305-G2STA	30.50	4.76	20
SD20-0310-G2STA	31.00	4.76	20
SD20-0315-G2STA	31.50	4.76	20
SD20-0320-G2STA	32.00	4.76	20
SD20-0350-G2STA	32.50	4.76	20
SD20-0330-G2STA	33.00	4.76	20
SD20-0335-G2STA	33.50	4.76	20
SD20-0340-G2STA	34.00	4.76	20
SD20-0345-G2STA	34.50	4.76	20
SD30-0355-G2STA	35.50	6.35	30
SD30-0360-G2STA	36.00	6.35	30
SD30-0365-G2STA	36.50	6.35	30
SD30-0370-G2STA	37.00	6.35	30
SD30-0375-G2STA	37.50	6.35	30
SD30-0380-G2STA	38.00	6.35	30
SD30-0385-G2STA	38.50	6.35	30
SD30-0390-G2STA	39.00	6.35	30
SD30-0395-G2STA	39.50	6.35	30
SD30-0400-G2STA	40.00	6.35	30

SD-carbide Insert Of Spade Drill

SD-硬质合金铲钻刀片

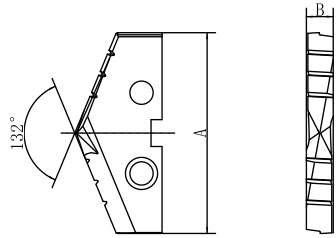
- 刀片直径范围：9.5-48mm；
 - 钻孔精度：IT10-IT11；
- Diameter range:9.5-48mm；
Drilling accuracy:IT10-IT11；



刀片型号	尺寸		接口 CONNECTOR
	A	B	
SD30-0405-G2STA	40.50	6.35	30
SD30-0410-G2STA	41.00	6.35	30
SD30-0415-G2STA	41.50	6.35	30
SD30-0420-G2STA	42.00	6.35	30
SD30-0425-G2STA	42.50	6.35	30
SD30-0430-G2STA	43.00	6.35	30
SD30-0435-G2STA	43.50	6.35	30
SD30-0440-G2STA	44.00	6.35	30
SD30-0445-G2STA	44.50	6.35	30
SD30-0450-G2STA	45.00	6.35	30
SD30-0455-G2STA	45.50	6.35	30
SD30-0460-G2STA	46.00	6.35	30
SD30-0465-G2STA	46.50	6.35	30
SD30-0470-G2STA	47.00	6.35	30
SD30-0475-G2STA	47.50	6.35	30
SD40-0480-G2STA	48.00	7.94	40
SDY0-0120-G2DTH	12.00	2.38	Y0
SD00-0130-G2DTH	13.00	3.18	00
SD00-0135-G2DTH	13.50	3.18	00
SD00-0140-G2DTH	14.00	3.18	00
SD00-0145-G2DTH	14.50	3.18	00
SD00-0150-G2DTH	15.00	3.18	00
SD00-0155-G2DTH	15.50	3.18	00
SD00-0160-G2DTH	16.00	3.18	00
SD00-0165-G2DTH	16.50	3.18	00
SD00-0170-G2DTH	17.00	3.18	00
SD00-0175-G2DTH	17.50	3.18	00
SD10-0180-G2DTH	18.00	3.97	10

刀片型号	尺寸		接口 CONNECTOR
	A	B	
SD10-0185-G2DTH	18.50	3.97	10
SD10-0190-G2DTH	19.00	3.97	10
SD10-0195-G2DTH	19.50	3.97	10
SD10-0200-G2DTH	20.00	3.97	10
SD10-0205-G2DTH	20.50	3.97	10
SD10-0210-G2DTH	21.00	3.97	10
SD10-0215-G2DTH	21.50	3.97	10
SD10-0220-G2DTH	22.00	3.97	10
SD10-0225-G2DTH	22.50	3.97	10
SD10-0230-G2DTH	23.00	3.97	10
SD10-0235-G2DTH	23.50	3.97	10
SD10-0240-G2DTH	24.00	3.97	10
SD20-0245-G2DTH	24.50	4.76	20
SD20-0250-G2DTH	25.00	4.76	20
SD20-0255-G2DTH	25.50	4.76	20
SD20-0260-G2DTH	26.00	4.76	20
SD20-0265-G2DTH	26.50	4.76	20
SD20-0270-G2DTH	27.00	4.76	20
SD20-0275-G2DTH	27.50	4.76	20
SD20-0280-G2DTH	28.00	4.76	20
SD20-0285-G2DTH	28.50	4.76	20
SD20-0290-G2DTH	29.00	4.76	20
SD20-0295-G2DTH	29.50	4.76	20
SD20-0300-G2DTH	30.00	4.76	20
SD20-0305-G2DTH	30.50	4.76	20
SD20-0310-G2DTH	31.00	4.76	20
SD20-0315-G2DTH	31.50	4.76	20
SD20-0320-G2DTH	32.00	4.76	20

- 刀片直径范围：9.5-48mm；
 - 钻孔精度：IT10-IT11；
- Diameter range:9.5-48mm；
Drilling accuracy:IT10-IT11；



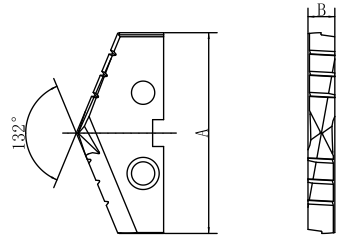
刀片型号	尺寸		接口 CONNECTOR
	A	B	
SD20-0325-G2DTH	32.50	4.76	20
SD20-0330-G2DTH	33.00	4.76	20
SD20-0335-G2DTH	33.50	4.76	20
SD20-0340-G2DTH	34.00	4.76	20
SD20-0345-G2DTH	34.50	4.76	20
SD30-0355-G2DTH	35.50	6.35	30
SD30-0360-G2DTH	36.00	6.35	30
SD30-0365-G2DTH	36.50	6.35	30
SD30-0370-G2DTH	37.00	6.35	30
SD30-0375-G2DTH	37.50	6.35	30
SD30-0380-G2DTH	38.00	6.35	30
SD30-0385-G2DTH	38.50	6.35	30
SD30-0390-G2DTH	39.00	6.35	30
SD30-0395-G2DTH	39.50	6.35	30
SD30-0400-G2DTH	40.00	6.35	30
SD30-0405-G2DTH	40.50	6.35	30
SD30-0410-G2DTH	41.00	6.35	30
SD30-0415-G2DTH	41.50	6.35	30
SD30-0420-G2DTH	42.00	6.35	30
SD30-0425-G2DTH	42.50	6.35	30
SD30-0430-G2DTH	43.00	6.35	30
SD30-0435-G2DTH	43.50	6.35	30
SD30-0440-G2DTH	44.00	6.35	30
SD30-0445-G2DTH	44.50	6.35	30
SD30-0450-G2DTH	45.00	6.35	30
SD30-0455-G2DTH	45.50	6.35	30
SD30-0460-G2DTH	46.00	6.35	30
SD30-0470-G2DTH	47.00	6.35	30

刀片型号	尺寸		接口 CONNECTOR
	A	B	
SD30-0475-G2DTH	47.50	6.35	30
SD40-0480-G2DTH	48.00	7.94	40

SD-Powder high speed steel Of Spade Drill

SD-粉末高速钢铲钻刀片

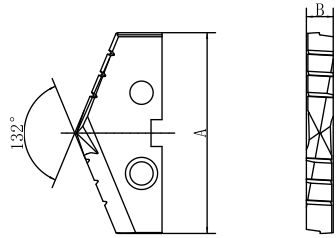
- 刀片直径范围：9.5-114.3mm；
 - 钻孔精度：IT10-IT11；
 - 高速钢刀片，适用于硬度HB275以下钢件材料
- Diameter range:9.5-114.3mm;
Drilling accuracy:IT10-IT11;
Powder HSS for steel with hardness below Hb275



刀片型号	尺寸		接口 CONNECTOR
	A	B	
SDY0-0110-S6STA	11.00	2.38	Y0
SDY0-0115-S6STA	11.50	2.38	Y0
SDY0-0120-S6STA	12.00	2.38	Y0
SDY0-0125-S6STA	12.50	2.38	Y0
SD00-0130-S6STA	13.00	3.18	00
SD00-0135-S6STA	13.50	3.18	00
SD00-0140-S6STA	14.00	3.18	00
SD00-0145-S6STA	14.50	3.18	00
SD00-0150-S6STA	15.00	3.18	00
SD00-0155-S6STA	15.50	3.18	00
SD00-0160-S6STA	16.00	3.18	00
SD00-0165-S6STA	16.50	3.18	00
SD00-0170-S6STA	17.00	3.18	00
SD00-0175-S6STA	17.50	3.18	00
SD10-0180-S6STA	18.00	3.97	10
SD10-0185-S6STA	18.50	3.97	10
SD10-0190-S6STA	19.00	3.97	10
SD10-0195-S6STA	19.50	3.97	10
SD10-0200-S6STA	20.00	3.97	10
SD10-0205-S6STA	20.50	3.97	10
SD10-0210-S6STA	21.00	3.97	10
SD10-0215-S6STA	21.50	3.97	10
SD10-0220-S6STA	22.00	3.97	10
SD10-0225-S6STA	22.50	3.97	10
SD10-0230-S6STA	23.00	3.97	10
SD10-0235-S6STA	23.50	3.97	10
SD10-0240-S6STA	24.00	3.97	10
SD20-0245-S6STA	24.50	4.76	20

刀片型号	尺寸		接口 CONNECTOR
	A	B	
SD20-0250-S6STA	25.00	4.76	20
SD20-0255-S6STA	25.50	4.76	20
SD20-0260-S6STA	26.00	4.76	20
SD20-0265-S6STA	26.50	4.76	20
SD20-0270-S6STA	27.00	4.76	20
SD20-0275-S6STA	27.50	4.76	20
SD20-0280-S6STA	28.00	4.76	20
SD20-0285-S6STA	28.50	4.76	20
SD20-0290-S6STA	29.00	4.76	20
SD20-0295-S6STA	29.50	4.76	20
SD20-0300-S6STA	30.00	4.76	20
SD20-0305-S6STA	30.50	4.76	20
SD20-0310-S6STA	31.00	4.76	20
SD20-0315-S6STA	31.50	4.76	20
SD20-0320-S6STA	32.00	4.76	20
SD20-0325-S6STA	32.50	4.76	20
SD20-0330-S6STA	33.00	4.76	20
SD20-0335-S6STA	33.50	4.76	20
SD20-0340-S6STA	34.00	4.76	20
SD20-0345-S6STA	34.50	4.76	20
SD30-0355-S6STA	35.50	6.35	30
SD30-0360-S6STA	36.00	6.35	30
SD30-0365-S6STA	36.50	6.35	30
SD30-0370-S6STA	37.00	6.35	30
SD30-0375-S6STA	37.50	6.35	30
SD30-0380-S6STA	38.00	6.35	30
SD30-0385-S6STA	38.50	6.35	30
SD30-0390-S6STA	39.00	6.35	30

- 刀片直径范围：9.5-114.3mm；
 - 钻孔精度：IT10-IT11；
 - 高速钢刀片，适用于硬度HB275以下钢件材料
- Diameter range:9.5-114.3mm;
Drilling accuracy:IT10-IT11;
Powder HSS for steel with hardness below Hb275



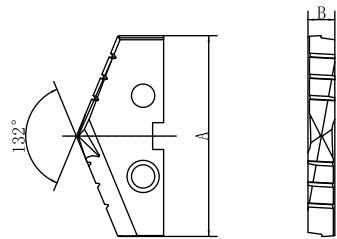
刀片型号	尺寸		接口 CONNECTOR
	A	B	
SD30-0400-S6STA	40.00	6.35	30
SD30-0405-S6STA	40.50	6.35	30
SD30-0410-S6STA	41.00	6.35	30
SD30-0415-S6STA	41.50	6.35	30
SD30-0420-S6STA	42.00	6.35	30
SD30-0425-S6STA	42.50	6.35	30
SD30-0430-S6STA	43.00	6.35	30
SD30-0435-S6STA	43.50	6.35	30
SD30-0440-S6STA	44.00	6.35	30
SD30-0445-S6STA	44.50	6.35	30
SD30-0450-S6STA	45.00	6.35	30
SD30-0455-S6STA	45.50	6.35	30
SD30-0460-S6STA	46.00	6.35	30
SD30-0465-S6STA	46.50	6.35	30
SD30-0470-S6STA	47.00	6.35	30
SD30-0475-S6STA	47.50	6.35	30
SD40-0480-S6STA	48.00	7.94	40
SD40-0490-S6STA	49.00	7.94	40
SD40-0500-S6STA	50.00	7.94	40
SD40-0510-S6STA	51.00	7.94	40
SD40-0520-S6STA	52.00	7.94	40
SD40-0530-S6STA	53.00	7.94	40
SD40-0540-S6STA	54.00	7.94	40
SD40-0550-S6STA	55.00	7.94	40
SD40-0560-S6STA	56.00	7.94	40
SD40-0570-S6STA	57.00	7.94	40
SD40-0580-S6STA	58.00	7.94	40

刀片型号	尺寸		接口 CONNECTOR
	A	B	
SD40-0590-S6STA	59.00	7.94	40
SD40-0600-S6STA	60.00	7.94	40
SDY0-0110-S6DTH	11.00	2.38	Y0
SDY0-0115-S6DTH	11.50	2.38	Y0
SDY0-0120-S6DTH	12.00	2.38	Y0
SDY0-0125-S6DTH	12.50	2.38	Y0
SD00-0130-S6DTH	13.00	3.18	00
SD00-0135-S6DTH	13.50	3.18	00
SD00-0140-S6DTH	14.00	3.18	00
SD00-0145-S6DTH	14.50	3.18	00
SD00-0150-S6DTH	15.00	3.18	00
SD00-0155-S6DTH	15.50	3.18	00
SD00-0160-S6DTH	16.00	3.18	00
SD00-0165-S6DTH	16.50	3.18	00
SD00-0170-S6DTH	17.00	3.18	00
SD00-0175-S6DTH	17.50	3.18	00
SD10-0180-S6DTH	18.00	3.97	10
SD10-0185-S6DTH	18.50	3.97	10
SD10-0190-S6DTH	19.00	3.97	10
SD10-0195-S6DTH	19.50	3.97	10
SD10-0200-S6DTH	20.00	3.97	10
SD10-0205-S6DTH	20.50	3.97	10
SD10-0210-S6DTH	21.00	3.97	10
SD10-0215-S6DTH	21.50	3.97	10
SD10-0220-S6DTH	22.00	3.97	10
SD10-0225-S6DTH	22.50	3.97	10
SD10-0230-S6DTH	23.00	3.97	10
SD10-0235-S6DTH	23.50	3.97	10

SD-Powder high speed steel Of Spade Drill

SD-粉末高速钢铲钻刀片

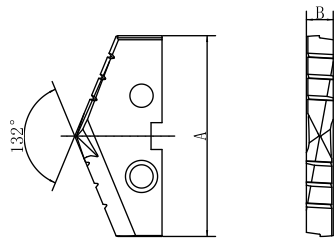
- 刀片直径范围：9.5-114.3mm；
- 钻孔精度：IT10-IT11；
- 高速钢刀片，适用于硬度HB275以下钢件材料
Diameter range:9.5-114.3mm;
Drilling accuracy:IT10-IT11;
Powder HSS for steel with hardness below Hb275



刀片型号	尺寸		接口 CONNECTOR
	A	B	
SD10-0240-S6DTH	24.00	3.97	10
SD20-0245-S6DTH	24.50	4.76	20
SD20-0250-S6DTH	25.00	4.76	20
SD20-0255-S6DTH	25.50	4.76	20
SD20-0260-S6DTH	26.00	4.76	20
SD20-0265-S6DTH	26.50	4.76	20
SD20-0270-S6DTH	27.00	4.76	20
SD20-0275-S6DTH	27.50	4.76	20
SD20-0280-S6DTH	28.00	4.76	20
SD20-0285-S6DTH	28.50	4.76	20
SD20-0290-S6DTH	29.00	4.76	20
SD20-0295-S6DTH	29.50	4.76	20
SD20-0300-S6DTH	30.00	4.76	20
SD20-0305-S6DTH	30.50	4.76	20
SD20-0310-S6DTH	31.00	4.76	20
SD20-0315-S6DTH	31.50	4.76	20
SD20-0320-S6DTH	32.00	4.76	20
SD20-0325-S6DTH	32.50	4.76	20
SD20-0330-S6DTH	33.00	4.76	20
SD20-0335-S6DTH	33.50	4.76	20
SD20-0340-S6DTH	34.00	4.76	20
SD20-0345-S6DTH	34.50	4.76	20
SD30-0355-S6DTH	35.50	6.35	30
SD30-0360-S6DTH	36.00	6.35	30
SD30-0365-S6DTH	36.50	6.35	30
SD30-0370-S6DTH	37.00	6.35	30
SD30-0375-S6DTH	37.50	6.35	30
SD30-0380-S6DTH	38.00	6.35	30

刀片型号	尺寸		接口 CONNECTOR
	A	B	
SD30-0385-S6DTH	38.50	6.35	30
SD30-0390-S6DTH	39.00	6.35	30
SD30-0395-S6DTH	39.50	6.35	30
SD30-0400-S6DTH	40.00	6.35	30
SD30-0405-S6DTH	40.50	6.35	30
SD30-0410-S6DTH	41.00	6.35	30
SD30-0415-S6DTH	41.50	6.35	30
SD30-0420-S6DTH	42.00	6.35	30
SD30-0425-S6DTH	42.50	6.35	30
SD30-0430-S6DTH	43.00	6.35	30
SD30-0435-S6DTH	43.50	6.35	30
SD30-0440-S6DTH	44.00	6.35	30
SD30-0445-S6DTH	44.50	6.35	30
SD30-0450-S6DTH	45.00	6.35	30
SD30-0455-S6DTH	45.50	6.35	30
SD30-0460-S6DTH	46.00	6.35	30
SD30-0465-S6DTH	46.50	6.35	30
SD30-0470-S6DTH	47.00	6.35	30
SD30-0475-S6DTH	47.50	6.35	30
SD40-0480-S6DTH	48.00	7.94	40
SD40-0490-S6DTH	49.00	7.94	40
SD40-0500-S6DTH	50.00	7.94	40
SD40-0510-S6DTH	51.00	7.94	40
SD40-0520-S6DTH	52.00	7.94	40
SD40-0530-S6DTH	53.00	7.94	40
SD40-0540-S6DTH	54.00	7.94	40
SD40-0550-S6DTH	55.00	7.94	40
SD40-0560-S6DTH	56.00	7.94	40

- 刀片直径范围：9.5-114.3mm；
- 钻孔精度：IT10-IT11；
- 高速钢刀片，适用于硬度HB275以下钢件材料
Diameter range:9.5-114.3mm;
Drilling accuracy:IT10-IT11;
Powder HSS for steel with hardness below Hb275



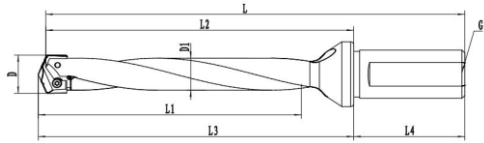
刀片型号	尺寸		接口 COBBECTOR
	A	B	
SD40-0570-S6DTH	57.00	7.94	40
SD40-0580-S6DTH	58.00	7.94	40
SD40-0590-S6DTH	59.00	7.94	40
SD40-0600-S6DTH	60.00	7.94	40

SD-Helical flute holder with one flat shank

SD-侧固柄螺旋槽刀杆

- 刀杆内冷却结构，具有优良的冷却效果与排屑性能
- 可换刀片接口，在线更换刀片

The inner cooling structure of holder has excellent cooling effect and chip removal performance;
Interchangeable insert structure can make inserts replacement on the machine tool directly



型号/Model	接口Connector	匹配刀片直径D	L1	L2	L3	L	D1	G
SDY0H-19-XP16	Y0	Φ9.5-Φ11.0	19	47.6	50	95.6	9.4	G1/16
SDY0H-32-XP20			32	61.1	63.5	111.1	9.4	G1/8
SDY0H-60-XP20			60	89.7	92.1	139.7	9.4	
SDY0H-111-XP20			111	140.5	142.9	190.5	9.4	
SDY0H-222-XP20			222	251.7	254.1	301.7	9.4	
SDY0H-290-XP20			290	319.9	322.3	369.9	9.4	

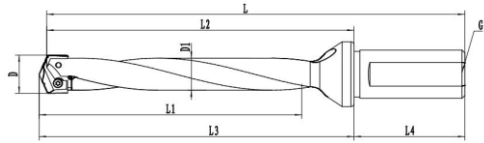
型号/Model	接口Connector	匹配刀片直径D	L1	C	L3	L	D1	G
SD00H-23-XP20	00	Φ13.0-Φ17.5	23	47.6	50.4	97.6	12.4	G1/8
SD00H-35-XP20			35	63.5	66.3	113.5	12.4	
SD00H-64-XP20			64	92.1	94.9	142.1	12.4	
SD00H-114-XP20			114	142.9	145.7	192.9	12.4	
SD00H-178-XP20			178	206.4	209.1	256.4	12.4	
SD00H-240-XP20			240	268.6	271.3	318.6	12.4	
SD00H-295-XP20			295	323.9	326.7	373.9	12.4	
SD00H-387-XP20			387	416	418.8	466	12.4	

型号/Model	接口Connector	匹配刀片直径D	L1	L2	L3	L	D1	G
SD10H-48-XP25	10	Φ17.6-Φ24.4	48	75.8	79.4	131.8	17	G1/8
SD10H-67-XP25			67	107.2	110.7	163.1	17	
SD10H-118-XP25			118	154.8	158.4	210.8	17	
SD10H-168-XP25			168	205.6	209.2	261.6	17	
SD10H-218-XP25			218	255.3	258.9	311.3	17	
SD10H-270-XP25			270	307.2	310.8	363.2	17	
SD10H-365-XP25			365	402.2	405.8	458.2	17	
SD10H-457-XP25			457	494.5	498.1	550.5	17	
SD10H-569-XP25			569	602.5	606.1	658.5	17	

型号/Model	接口Connector	匹配刀片直径D	L1	L2	L3	L	D1	G
SD20H-57-XP32	20	Φ24.5-Φ35.0	57	88.5	92.1	148.5	23.9	G1/4
SD20H-86-XP32			86	128.6	132.2	188.6	23.9	
SD20H-137-XP32			137	179.4	183	239.4	23.9	
SD20H-187-XP32			187	230.2	233.8	290.2	23.9	
SD20H-237-XP32			237	279.9	283.5	339.9	23.9	
SD20H-289-XP32			289	331.8	335.4	391.8	23.9	
SD20H-400-XP32			400	442.8	446.4	502.8	23.9	
SD20H-511-XP32			511	554.1	557.7	614.1	23.9	
SD20H-692-XP32			692	735.1	738.7	795.1	23.9	

- 刀杆内冷却结构，具有优良的冷却效果与排屑性能
- 可换刀片接口，在线更换刀片

The inner cooling structure of holder has excellent cooling effect and chip removal performance;
Interchangeable insert structure can make inserts replacement on the machine tool directly



型号/Model	接口Connector	匹配刀片直径D	L1	L2	L3	L	D1	G
SDZ0H-19-XP16	Z0	Φ11.1-Φ12.9	19	47.6	50	95.6	10.4	G1/16
SDZ0H-32-XP20			32	61.1	63.5	111.1	10.4	G1/8
SDZ0H-60-XP20			60	89.7	92.1	139.7	10.4	
SDZ0H-111-XP20			111	140.5	142.9	190.5	10.4	
SDZ0H-222-XP20			222	251.7	254.1	301.7	10.4	
SDZ0H-290-XP20			290	319.9	322.3	369.9	10.4	

型号/Model	接口Connector	匹配刀片直径D	L1	L2	L3	L	D1	G
SD05H-23-XP20	05	Φ15.5-Φ17.5	23	47.6	50.4	97.6	14.7	G1/8
SD05H-35-XP20			35	63.5	66.3	113.5	14.7	
SD05H-64-XP20			64	92.1	94.9	142.1	14.7	
SD05H-114-XP20			114	142.9	145.7	192.9	14.7	
SD05H-178-XP20			178	206.4	209.1	256.4	14.7	
SD05H-240-XP20			240	268.6	271.3	318.6	14.7	
SD05H-295-XP20			295	323.9	326.7	373.9	14.7	
SD05H-387-XP20			387	416	418.8	466	14.7	

型号/Model	接口Connector	匹配刀片直径D	L1	L2	L3	L	D1	G
SD15H-57-XP25	15	Φ22.0-Φ24.4	57	88.5	92.1	144.5	21.2	G1/8
SD15H-67-XP25			67	107.2	110.7	163.1	21.2	
SD15H-118-XP25			118	154.8	158.4	210.8	21.2	
SD15H-168-XP25			168	205.6	209.2	261.6	21.2	
SD15H-218-XP25			218	255.3	258.9	311.3	21.2	
SD15H-270-XP25			270	307.2	310.8	363.2	21.2	
SD15H-365-XP25			365	402	405.8	458.2	21.2	
SD15H-457-XP25			457	494.5	498.1	550.5	21.2	
SD15H-569-XP25			569	602.5	606.1	658.5	21.2	

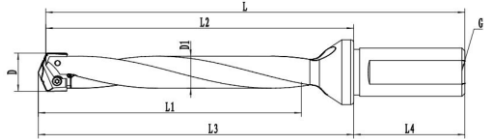
型号/Model	接口Connector	匹配刀片直径D	L1	L2	L3	L	D1	G
SD25H-86-XP32	25	Φ30.0-Φ35.0	92	123.4	127	183.4	29.2	G1/4
SD25H-92-XP32			86	128.6	132.2	188.6	29.2	
SD25H-137-XP32			137	179.4	183	239.4	29.2	
SD25H-187-XP32			187	230.2	233.8	290.2	29.2	
SD25H-237-XP32			237	279.9	283.5	339.9	29.2	
SD25H-289-XP32			289	331.8	335.4	391.8	29.2	
SD25H-400-XP32			400	442.8	446.4	502.8	29.2	
SD25H-511-XP32			511	554.1	557.7	614.1	29.2	

SD-Helical flute holder with one flat shank

SD-侧固柄螺旋槽刀杆

- 刀杆内冷却结构，具有优良的冷却效果与排屑性能
- 可换刀片接口，在线更换刀片

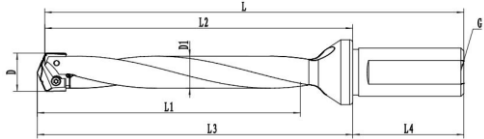
The inner cooling structure of holder has excellent cooling effect and chip removal performance;
Interchangeable insert structure can make inserts replacement on the machine tool directly



型号/Model	接口 Connector	匹配刀片直径 D	L1	L2	L3	L	D1	G
SD30H-76-XP40	30	Φ35.1-Φ47.9	76	125	129.8	195	34.2	G1/4
SD30H-121-XP40			121	173	177.8	243	34.2	
SD30H-165-XP40			165	217.5	222.3	287.5	34.2	
SD30H-210-XP40			210	261.9	266.7	331.9	34.2	
SD30H-260-XP40			260	312.3	317.1	382.3	34.2	
SD30H-349-XP40			349	401.6	406.4	471.6	34.2	
SD30H-450-XP40			450	502.6	507.4	518.6	34.2	
SD30H-559-XP40			559	611.1	615.9	681.1	34.2	
SD30H-787-XP40			787	839.7	844.5	909.7	34.2	
型号/Model	接口 Connector	匹配刀片直径 D	L1	L2	L3	L	D1	G
SD40H-130-XP40	40	Φ48.0-Φ65.28	130	179.4	184.2	249.4	47.2	G1/4
SD40H-232-XP40			232	281	285.8	351	47.2	
SD40H-350-XP40			350	399.2	404	469.2	47.2	
SD40H-422-XP40			422	471.5	476.3	541.5	47.2	
SD40H-525-XP40			525	574.2	579	644.2	47.2	
SD40H-625-XP40			625	674.7	679.5	744.7	47.2	
SD40H-879-XP40			879	928.7	933.5	998.7	47.2	
型号/Model	接口 Connector	匹配刀片直径 D	L1	L2	L3	L	D1	G
SD50H-171-XP50	50	Φ65.3-Φ89.08	171	235	240	315	62.5	G1/4
SD50H-350-XP50			350	414	419	494	62.5	
SD50H-464-XP50			464	528	553	608	62.5	
SD50H-660-XP50			660	724	729	804	62.5	
SD50H-800-XP50			800	984	989	1064	62.5	

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- 可换刀片接口，在线更换刀片

The inner cooling structure of holder has excellent cooling effect and chip removal performance;
Interchangeable insert structure can make inserts replacement on the machine tool directly



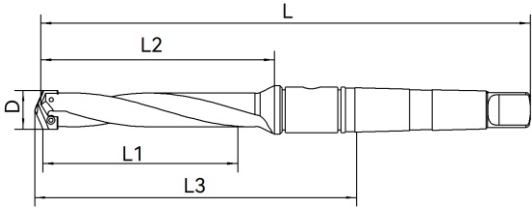
型号/Model	接口 Connector	匹配刀片直径 D	L1	L2	L3	L	D1	G
SD35H-76-XP40	35	Φ42.0-Φ47.9	76	125	129.8	195	41.2	G1/4
SD35H-121-XP40			121	173	177.8	243	41.2	
SD35H-165-XP40			165	217.5	222.3	287.5	41.2	
SD35H-210-XP40			210	261.9	266.7	331.9	41.2	
SD35H-260-XP40			260	312.3	317.1	382.3	41.2	
SD35H-349-XP40			349	401.6	406.4	471.6	41.2	
SD35H-559-XP40			559	611.1	615.9	681.1	41.2	
SD35H-787-XP40			787	839.7	844.5	909.7	41.2	
型号/Model	接口 Connector	匹配刀片直径 D	L1	L2	L3	L	D1	G
SD45H-130-XP40	45	Φ56.0-Φ65.28	130	179.4	184.2	249.4	54.2	G1/4
SD45H-232-XP40			232	281	285.8	351	54.2	
SD45H-350-XP40			350	399.2	404	469.2	54.2	
SD45H-422-XP40			422	471.5	476.3	541.5	54.2	
SD45H-525-XP40			525	574.2	579	644.2	54.2	
SD45H-625-XP40			625	674.7	679.5	744.7	54.2	
SD45H-879-XP40			879	928.7	933.5	998.7	54.2	
型号/Model	接口 Connector	匹配刀片直径 D	L1	L2	L3	L	D1	G
SD70H-200-XP50	70	Φ89.1-Φ114.48	200	275	280	355	87	G1/4
SD70H-400-XP50			400	475	480	555	87	
SD70H-800-XP50			800	875	880	955	87	

SD-Morse flute holder with one flat shank

SD-莫氏柄螺旋槽刀杆

- 刀杆内冷却结构，具有优良的冷却效果与排屑性能
- 可换刀片接口，在线更换刀片

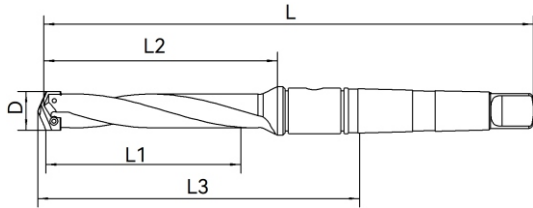
The inner cooling structure of holder has excellent cooling effect and chip removal performance;
Interchangeable insert structure can make inserts replacement on the machine tool directly



型号/Model	接口 Connector	匹配刀片直径 D	L1	L2	L3	L	D1
SDY0S-32-MT2	Y0	φ9.5-φ11.0	32	51.5	88	160.3	9.4
SDYOH-60-MT2			60	80.2	116.7	188.9	9.4
SDYOH-111-MT2			111	130.9	167.4	239.7	9.4
型号/Model	接口 Connector	匹配刀片直径 D	L1	L2	L3	L	D1
SD00H-35-MT2	00	φ13.0-φ17.5	35	55.5	95.4	167.3	12.4
SD00H-63-MT2			63	84.1	124	195.9	12.4
SD00H-114-MT2			114	135	174.8	246.7	12.4
SD00H-178-MT2			178	198.5	238.3	310.2	12.4
型号/Model	接口 Connector	匹配刀片直径 D	L1	L2	L3	L	D1
SD10H-70-MT3	10	φ17.6-φ24.4	48	75.8	79.4	131.8	17
SD10H-121-MT3			67	107.2	110.7	163.1	17
SD10H-171-MT3			118	154.8	158.4	210.8	17
SD10H-222-MT3			168	205.6	209.2	261.6	17
SD10H-273-MT3			218	255.3	258.9	311.3	17
型号/Model	接口 Connector	匹配刀片直径 D	L1	L2	L3	L	D1
SD20H-86-MT4	20	φ24.5-φ35.0	86	114.3	172.9	286.3	23.9
SD20H-137-MT4			137	165.1	223.7	337.1	23.9
SD20H-187-MT4			187	215.9	274.5	387.9	23.9
SD20H-237-MT4			237	265.6	324.2	437.6	23.9
SD20H-289-MT4			289	317.5	376.1	489.5	23.9
SD20H-400-MT4			400	428.5	487.1	600	23.9

- 刀杆内冷却结构，具有优良的冷却效果与排屑性能
- 可换刀片接口，在线更换刀片

The inner cooling structure of holder has excellent cooling effect and chip removal performance;
Interchangeable insert structure can make inserts replacement on the machine tool directly



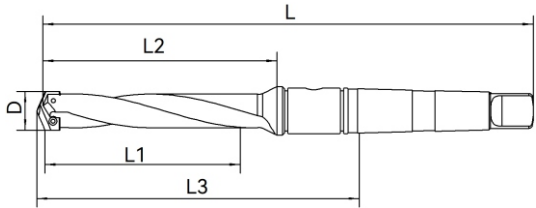
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SDZ0H-32-MT2	Z0	φ11.1-φ12.9	32	51.5	88	160.3	10.4
SDZ0H-60-MT2			60	80.2	116.7	188.9	10.4
SDZ0H-111-MT2			111	130.9	167.4	239.7	10.4
型号/Model	接口 Connector	匹配刀片直径 D	L1	L2	L3	L	D1
SD05H-35-MT2	05	φ15.5-φ17.5	35	55.5	95.4	167.3	14.7
SD05H-63-MT2			63	84.1	124	195.9	14.7
SD05H-114-MT2			114	135	174.8	246.7	14.7
SD05H-178-MT2			178	198.5	238.3	310.2	14.7
型号/Model	接口 Connector	匹配刀片直径 D	L1	L2	L3	L	D1
SD15H-70-MT3	15	φ22.0-φ24.4	70	98.4	149	239	21.2
SD15H-121-MT3			121	149.2	199.8	289.8	21.2
SD15H-171-MT3			171	200	250.6	340.7	21.2
SD15H-222-MT3			222	250.5	301.1	391.2	21.2
SD15H-273-MT3			273	301.6	352.2	442.3	21.2
型号/Model	接口 Connector	匹配刀片直径 D	L1	L2	L3	L	D1
SD25H-86-MT4	25	φ30.0-φ35.0	86	114.3	172.9	286.3	29.2
SD25H-137-MT4			137	165.1	223.7	337.1	29.2
SD25H-187-MT4			187	215.9	274.5	387.9	29.2
SD25H-237-MT4			237	265.6	324.2	437.6	29.2
SD25H-289-MT4			289	317.5	376.1	489.5	29.2
SD25H-400-MT4			400	428.5	487.1	600	29.2

SD-Morse flute holder with one flat shank

SD-莫氏柄螺旋槽刀杆

- 刀杆内冷却结构，具有优良的冷却效果与排屑性能
- 可换刀片接口，在线更换刀片

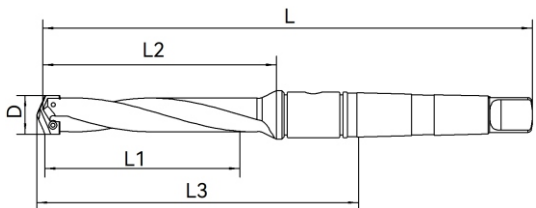
The inner cooling structure of holder has excellent cooling effect and chip removal performance;
Interchangeable insert structure can make inserts replacement on the machine tool directly



型号/Model	接口 Connector	匹配刀片直径 D	L1	L2	L3	L	D1
SD30H-121-MT4	30	φ35.1-φ47.9	121	152.4	211.7	324.4	34.2
SD30H-165-MT4			165	196.9	256.2	368.9	34.2
SD30H-209-MT4			209	241.3	300.6	413.3	34.2
SD30H-260-MT4			260	291.8	351.1	463.8	34.2
SD30H-349-MT4			349	381	440.3	553	34.2
SD30H-559-MT4			559	590.6	649.9	762.5	34.2
SD30H-787-MT4			787	819.2	878.5	991.1	34.2
型号/Model	接口 Connector	匹配刀片直径 D	L1	L2	L3	L	D1
SD40H-130-MT5	40	φ48.0-φ65.28	130	165.1	225	369.4	47.2
SD40H-232-MT5			232	266.7	326.6	471	47.2
SD40H-350-MT5			350	384.9	444.8	589.2	47.2
SD40H-422-MT5			422	457.2	517.1	661.5	47.2
SD40H-625-MT5			625	660.4	720.3	864.7	47.2
SD40H-879-MT5			879	914.4	974.3	1118.7	47.2
型号/Model	接口 Connector	匹配刀片直径 D	L1	L2	L3	L	D1
SD50H-171-MT5	50	φ65.3-φ89.08	171	215.9	287.3	430.2	62.5
SD50H-273-MT5			273	317.5	388.9	531.8	62.5
SD50H-464-MT5			464	508	579.4	722.3	62.5
SD50H-660-MT5			660	704.8	776.2	919.1	62.5
SD50H-889-MT5			889	933.4	1004.8	1147.7	62.5
型号/Model	接口 Connector	匹配刀片直径 D	L1	L2	L3	L	D1
SD70H-171-MT5	70	φ89.1-φ114.48	171	225.4	296.8	439.7	87
SD70H-273-MT5			273	327	398.5	541.3	87
SD70H-556-MT5			556	609.6	681.1	823.9	87
SD70H-685-MT5			685	739.7	811.2	954	87
SD70H-939-MT5			939	993.7	1065.2	1208	87

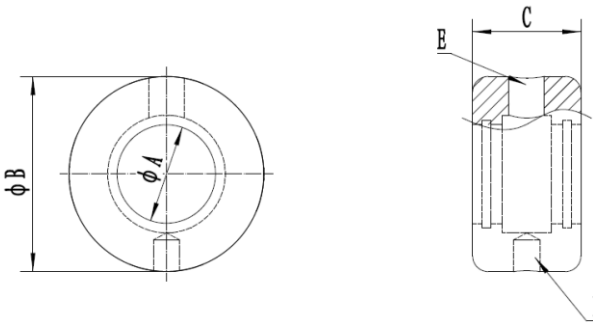
- 刀杆内冷却结构，具有优良的冷却效果与排屑性能
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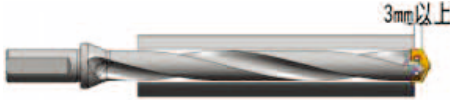
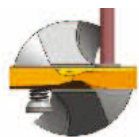
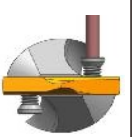
型号/Model	接口 Connector	匹配刀片直径 D	L1	L2	L3	L	D1
SD35H-121-MT4	35	φ42.0-φ47.9	121	152.4	211.7	324.4	41.2
SD35H-165-MT4			165	196.9	256.2	368.9	41.2
SD35H-209-MT4			209	241.3	300.6	413.3	41.2
SD35H-260-MT4			260	291.8	351.1	463.8	41.2
SD35H-349-MT4			349	381	440.3	553	41.2
SD35H-559-MT4			559	590.6	649.9	762.5	41.2
SD35H-787-MT4			787	819.2	878.5	991.1	41.2
型号/Model	接口 Connector	匹配刀片直径 D	L1	L2	L3	L	D1
SD45H-130-MT5	45	φ56.0-φ65.28	130	165.1	225	369.4	54.2
SD45H-232-MT5			232	266.7	326.6	471	54.2
SD45H-350-MT5			350	384.9	444.8	589.2	54.2
SD45H-422-MT5			422	457.2	517.1	661.5	54.2
SD45H-625-MT5			625	660.4	720.3	864.7	54.2
SD45H-879-MT5			879	914.4	974.3	1118.7	54.2

冷却环
RID Insert Model and Size



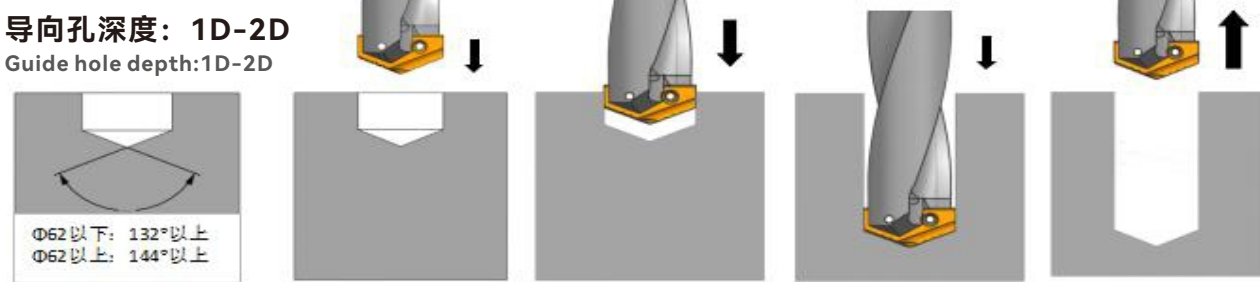
型号	内径 (A)	外径 (B)	厚度(C)	档杆螺纹 (D)	冷却嘴螺纹 (E)	适配刀杆系列
RK-MT2R	19.4	49	22.5	M8*1.25	1/8"	Y0、Z0、00/05
RK-MT3R	25.5	53	30	M8*1.25	1/8"	10、15
RK-MT4R	32.5	63	36	M10*1.5	1/4"	20、25、30、35
RK-MT5R	48.5	76	36	M10*1.5	1/4"	40、45
RK-MT5R2	60.1	95.3	44.5	M12*1.75	1/2"	50、70

SD-技术指南 Technical Guide

深孔加工步骤 Deep Hole Machining Steps				
8倍径及以上刀杆的使用方法(立式、卧式相同) Usage Method for 8x Diameter and Above Shank (Same for Vertical and Horizontal)				
①导向孔加工 Guide Hole Machining			- 使用与深孔相同直径的短刀杆，钻1个深度至少为2倍径深的导向孔 - 使用前端角度和深孔用钻头相同，或者比深孔用钻头角度大的刀片。 - Use a short shank of the same diameter as the deep hole drill to drill a guide hole at least 2x diameter deep. - Use a blade with the same front angle as the deep hole drill, or a larger angle than the deep hole drill.	
②深孔钻头的插入 Inserting the Deep Hole Drill			- 转速最多设定50RPM 进给固定为F=300mm/min,关闭冷却液，以上述条件将深孔钻头定位至距离导向孔末端1~3mm处。 - Set the spindle speed to a maximum of 50 RPM, feed rate fixed at F=300mm/min, and turn off the coolant. Position the deep hole drill to 1-3mm from the end of the guide hole under these conditions.	
③盲孔加工时 Blind Hole Machining			- 速度和进给设定为推荐值100%，请在实施深孔加工的同时，确认切屑排出状态以及机床的负载率。请不要采用分段进给的方法加工。 - Set speed and feed to the recommended 100%. While machining the deep hole, monitor chip evacuation and machine load rate. Do not use the segmented feed method for machining.	
※如果实际加工中，无法分断切屑工况，请采用分段进给的方式加工。分段进给时，以4mm为起始，逐渐增加分段加工长度。 If chip breaking is not possible during actual machining, use the segmented feed method. Start with a 4mm segment length and gradually increase it.				
※如果机床负载率变化剧烈，可能是因为切屑堵塞。为防止钻头损坏，请中断加工，重审切削条件及刀片形状。 If the machine load rate fluctuates significantly, it may indicate chip blockage. To prevent drill damage, interrupt machining and re-evaluate cutting conditions and blade shape.				
④通孔加工时（即将打通之前） Through Hole Machining (Before Breaking Through)			- 钻头尖端露出之前，请设定速度为推荐值的50%,进给为推荐值的75%。 - 打通的地方为斜孔的话，也请在钻头任何一部分露出之前，同与上述相同的设定。 - 钻头刀片的刀刃部分至少要露出3mm以上才可以将钻头退出。 - Before the drill tip breaks through, set speed to 50% of the recommended value and feed to 75% of the recommended value. - For inclined holes, use the same settings before any part of the drill is exposed. - Ensure the blade part of the drill is exposed at least 3mm before withdrawing the drill.	
⑤钻头退出工件的方法 Withdrawing the Drill from the Workpiece			- 钻头退出时，转速最多设定为50RPM - When withdrawing the drill, set the spindle speed to a maximum of 50 RPM.	
铲钻使用注意事项 Spade Drill Usage Precautions				
1、对刀片紧固螺栓左右均的紧固 Secure the inserts fastening bolts evenly on both sides.		请勿单侧先进行紧固 Do not fasten one side first		
			②临时紧固 ④正式紧固 ⑥加强紧固 Temporary fastening formal fastening reinforced fastening	①临时紧固 ③正式紧固 ⑤加强紧固 Temporary fastening formal fastening reinforced fastening
错误方式 Incorrect method			正确方式 correct method	
2、准备工作时请勿碰刀尖。 Avoid touching the drill tip during preparation				
3、请参照铲钻的加工参数表，确认切削速度、切削进给。 Refer to the spade drill machining parameter table to confirm cutting speed and feed rate.				

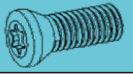
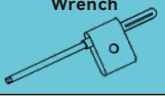
- 8倍径及以上铲钻刀杆使用方法纵型、横型相同
The use of 8x or more diameter spade drill holder is the same for vertical and horizontal types

用短刀杆加工导向孔，使用与8倍径及以上刀杆相同的刀片确认切屑处理。
Use short 8x or more diameter toolholder with suitable insert to machine guide holes
用与导向孔钻头直径相同8倍径及以上刀杆以低旋转、快速进给开启冷却插入导向孔。
Insert the pilot hole by a 8x or more holder at low-speed, rapid feed mode and cooling system
提前1~2mm进行切削旋转，开始进刀切削。
Rotate the cutting 1~2mm in advance to start the feed cutting
切削排出，边确认机械设备的负荷表边进行切削。
Cutting is performed while checking the load on the machine when discharging chips
低速旋转、快速进给回原位置。
Low speed rotation, fast feed back to the original position



※使用8倍径及以上铲钻刀杆时务必钻1D-2D的导向孔。
Be sure to drill 1D-2D guide holes when using 8x or more spade drill holders
※冷却液流量请尽量多。
Please increase the coolant flow as much as possible.
当使用钻头时应注意两快两慢的加工节奏，即:刀片刚接触工件时慢，打通时要慢在正常进给的1/2~1/3左右。
When using the spade drill holder, pls pay attention to the processing rhythm of "two fast and two slow", that is: slow when the drill just contacts workpiece, and slow to about 1/2~1/3 of the normal feed when drilling through.
正常加工进给要快。
Normal processing feed should be fast.
当切削过程中有振动时，可能造成螺栓松动。
When there is vibration during cutting, the bolts may loosen
在开始时候，请对螺栓紧固情况进行检查。
At the beginning, please check the bolt tightness.

- 铲钻配件
Spade Drill Accessories

刀杆系列 Toolholder series	螺丝 Screw 	扳手 Wrench 
YO系列-ZO系列	M2.0*5	T6
00系列-05系列	M2.5*6	T8
10系列-15系列	M3*8	
20系列-25系列	M3.5*10	T15
30系列-35系列	M5*10	T20
40系列-45系列	M5*15	
50系列-70系列	M6*15	T25

SD-技术指南 Technical Guide

高速钢铲钻刀片切削参数推荐

Recommended Cutting Parameters for HSS Spade Drill Inserts

被切削材质 Workpiece Material	硬度(HB)	切削速度 (m/min)		切削进给(mm/rev)						
		TIALN	ALCrN	φ9.5~ φ12.9	φ13.0~ φ17.5	φ17.6~ φ24.4	φ24.5~ φ35.0	φ35.1~ φ47.9	φ48.0~φ 65.28	φ65.3~ φ114.48
易切削钢 Free cutting steel	100~150	55	64	0.12	0.16	0.21	26	0.33	0.38	0.46
	150~200	51	59	0.12	0.16	0.22	0.26	0.33	0.38	0.46
	200~250	47	54	0.1	0.16	0.22	0.26	0.33	0.38	0.46
低碳钢 Low-carbon steel	85~125	49	57	0.1	0.15	0.19	0.25	0.31	0.38	0.45
	125~175	47	54	0.1	0.15	0.19	0.25	0.31	0.34	0.39
	175~225	45	51	0.09	0.13	0.16	0.23	0.3	0.34	0.39
	225~275	42	48	0.09	0.13	0.16	0.23	0.3	0.31	0.36
中碳钢 Medium carbon steel	125~175	47	54	0.1	0.15	0.19	0.25	0.31	0.38	0.45
	175~225	45	51	0.09	0.13	0.16	0.23	0.3	0.34	0.39
	225~275	42	48	0.09	0.13	0.16	0.23	0.3	0.34	0.39
	275~325	38	45	0.06	0.12	0.15	0.19	0.26	0.31	0.36
合金钢 Alloy steel	125~175	42	47	0.1	0.13	0.16	0.23	0.28	0.31	0.36
	175~225	38	45	0.09	0.13	0.16	0.23	0.28	0.31	0.36
	225~275	35	42	0.09	0.12	0.16	0.23	0.28	0.31	0.36
	275~325	34	38	0.06	0.1	0.15	0.19	0.25	0.28	0.33
	325~375	30	35	0.06	0.1	0.15	0.19	0.25	0.28	0.33
高硬度 合金钢 High hardness alloy steel	225~300	22	24	0.09	0.12	0.15	0.16	0.23	0.28	0.33
	300~350	17	19	0.06	0.12	0.15	0.16	0.23	0.28	0.33
	350~400	14	16	0.06	0.1	0.13	0.15	0.19	0.25	0.3
结构钢 Structural Steel	100~150	39	46	0.1	0.16	0.19	0.23	0.3	0.34	0.42
	150~250	26	38	0.09	0.15	0.16	0.19	0.26	0.31	0.39
	250~350	28	31	0.06	0.13	0.15	0.16	0.23	0.28	0.33
高温合金 Superalloy	140~220	8	9	0.06	0.12	0.13	0.16	0.19	0.25	0.28
	220~310	7	8	0.06	0.1	0.12	0.13	0.16	0.19	0.23
不锈钢 Stainless steel	135~185	21	23	0.1	0.13	0.15	0.18	0.23	0.26	0.33
	185~275	18	20	0.09	0.12	0.13	0.16	0.19	0.23	0.3
工具钢 Tool steel	150~200	22	24	0.06	0.1	0.13	0.16	0.19	0.25	0.28
	200~250	18	20	0.06	0.1	0.13	0.16	0.19	0.25	0.28
铝 合金 Aluminium alloy	30	166	-	0.13	0.22	0.26	0.32	0.36	0.42	0.42
	180	89	-	0.13	0.22	0.26	0.3	0.36	0.42	0.42
铸铁 Cast iron	120~150	49	57	0.12	0.19	0.26	0.33	0.39	0.45	0.49
	150~200	45	51	0.1	0.18	0.23	0.3	0.36	0.42	0.46
	150~200	38	45	0.1	0.15	0.19	0.26	0.3	0.34	0.39
	220~260	32	38	0.09	0.12	0.15	0.19	0.23	0.28	0.33
	260~320	26	30	0.06	0.1	0.12	0.15	0.19	0.23	0.26

不同刀杆长度的建议切削条件				Recommended cutting conditions for different shank lengths			
刀片直径 Inserts diameter		倍径 Times diameter					
9.5-24.4		10		17		22	
24.5-65.28		7		1		18	
65.3-114.48		5		7		9	
		建议切削速度*0.85 Recommended cutting speed*0.85		建议切削速度*0.8 Recommended cutting speed*0.8		建议切削速度*0.75 Recommended cutting speed*0.75	
		建议切削进给*0.95 Recommended cutting feed*0.95		建议切削进给*0.9 Recommended cutting feed*0.9		建议切削进给*0.9 Recommended cutting feed*0.9	

硬质合金铲钻刀片切削参数推荐

Recommended Cutting Parameters for Carbide Spade Drill Inserts

被切削材质 Workpiece Material	硬 度 (H B)	切削速度(m/min)		切削进给(mm/rev)				
		TIALN	ALCrN	φ9.5~φ12.9	φ13.0~φ17.5	φ17.6~φ24.4	φ24.5~φ35.0	φ35.1~φ47.9
易切削钢 Free cutting steel	100~150	82	93	0.13	0.19	0.24	0.29	0.34
	150~200	70	80	0.11	0.18	0.22	0.26	0.3
	200~250	67	76	0.1	0.16	0.21	0.24	0.27
低碳钢 Low-carbon steel	85~125	77	87	0.13	0.16	0.21	0.27	0.3
	125~175	67	76	0.11	0.16	0.21	0.26	0.29
	175~225	61	69	0.1	0.14	0.19	0.24	0.27
	225~275	54	60	0.08	0.14	0.19	0.24	0.27
中碳钢 Medium carbon steel	125~175	67	76	0.11	0.16	0.21	0.26	0.29
	175~225	61	69	0.1	0.14	0.19	0.24	0.27
	225~275	54	60	0.1	0.14	0.19	0.24	0.27
	275~325	45	51	0.08	0.13	0.18	0.22	0.26
合金钢 Alloy steel	125~175	64	73	0.11	0.16	0.21	0.26	0.29
	175~225	59	67	0.1	0.14	0.19	0.24	0.27
	225~275	54	60	0.1	0.14	0.19	0.24	0.27
	275~325	49	55	0.08	0.13	0.18	0.22	0.26
	325~375	43	50	0.06	0.11	0.16	0.21	0.24
高硬度合金钢 High hardness alloy steel	225~300	39	46	0.1	0.13	0.16	0.19	0.24
	300~350	35	39	0.08	0.13	0.14	0.14	0.22
	350~400	32	35	0.06	0.11	0.13	0.16	0.19
结构钢 Structural Steel	100~150	61	69	0.13	0.18	0.22	0.26	0.29
	150~250	49	55	0.1	0.16	0.19	0.22	0.26
	250~350	45	51	0.08	0.14	0.18	0.19	0.22
高温合金 Superalloy	140~220	21	22	0.06	0.11	0.14	0.18	0.21
	220~310	17	18	0.06	0.1	0.13	0.16	0.19
不锈钢 Stainless steel	135~185	42	46	0.11	0.14	0.19	0.22	0.26
	185~275	32	35	0.1	0.13	0.18	0.19	0.22
工具钢 Tool steel	150~200	43	50	0.06	0.11	0.14	0.18	0.21
	200~250	34	38	0.06	0.11	0.14	0.18	0.21
铝合金 Aluminium alloy	30	294	—	0.16	0.24	0.29	0.32	0.35
	180	196	—	0.14	0.21	0.26	0.29	0.32
铸铁 Cast iron	120~150	90	97	0.13	0.19	0.24	0.3	
	150~200	78	93	0.11	0.18	0.21	0.27	
	200~220	70	83	0.1	0.14	0.19	0.24	
	220~260	61	72	0.08	0.13	0.18	0.21	
	260~320	54	65	0.08	0.11	0.16	0.18	

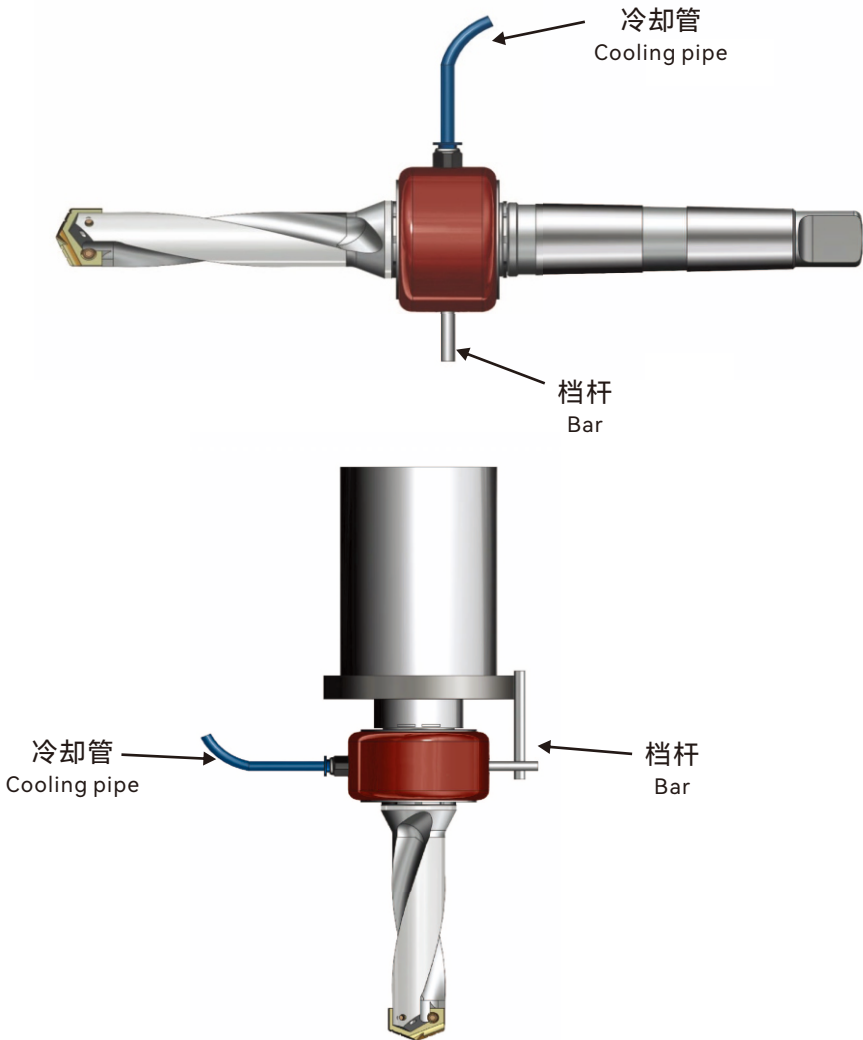
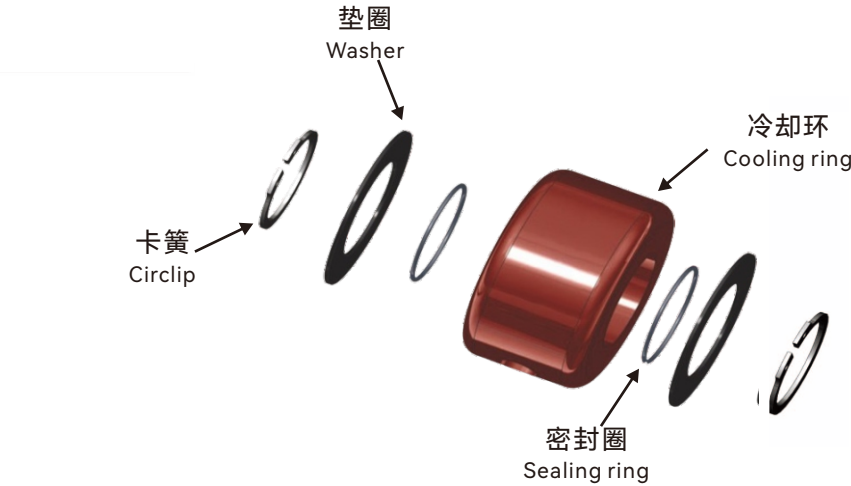
不同刀杆长度的建议切削条件 Recommended cutting conditions for different shank lengths			
刀片直径 Inserts diameter	倍径 Times diameter		
9.5-24.4	10	17	22
24.5-65.28	7	11	18
65.3-114.48	5	7	9
	建议切削速度*0.85 Recommended cutting speed*0.85	建议切削速度*0.8 Recommended cutting speed*0.8	建议切削速度*0.75 Recommended cutting speed*0.75
	建议切削进给*0.95 Recommended cutting feed*0.95	建议切削进给*0.9 Recommended cutting feed*0.9	建议切削进给*0.9 Recommended cutting feed*0.9

需注意的工况和加工方法
Working conditions and processing methods that require attention

以下的应用案例中可能会产生如下问题，敬请注意。 Please note that the following problems may occur in the following application cases.			
应用案例 Applications		问题点 Problems	应对措施 Responses
外部给油 External oil supply	 外部给油加工中纵型1.5D以上、横型3D以上 External oil supply processing medium type 1.5D or more, horizontal type 3D or more	纵型1.5D以上、横型3D以上的加工可能因外部切削液不易进液导致切削堵塞使刀具折损。 For vertical machining over 1.5D and horizontal machining over 3D, the external cutting fluid cannot easily enter, which may cause cutting blockage and tool damage.	在可进行内部给油的设备上使用。 Use on equipment that can be internally lubricated
干式加工 Dry machining		刀尖无冷却、切屑排出不彻底发生堵塞，刀片产生异常磨损，可能导致钻头折损。 The insert is not cooled, the chip discharge is not complete, and the chip is blocked caused the insert abnormally worn, which may cause the drill damage	
雾化加工 Atomization machining			
以下的应对案例可能难以加工标准形状		The following cases may be difficult to process in standard shapes	
应用案例		问题点	应对措施
交叉孔 (含横孔) Cross hole (including horizontal hole)	 交叉孔直径大于刀片边缘支撑长度 Cross hole diameter is larger than insert edge support length	边缘碰到工件情况下,可能产生振动。 且孔翻边刀具可能折损 When the edge hits the workpiece, vibration may occur. And the hole flanging tool may be damaged.	建议做加导条的非标铲钻刀杆 Recommend to make a non-standard spade drill holder with a guide bar
入口处 斜面 Ramp at entrance	 刀片肩部比前端先碰撞工件 The shoulder of the insert hits the workpiece before the front end	边缘支撑单侧碰撞时，可能产生振动。 且孔翻边刀具可能折损 When the edge support collides on one side, vibration may occur. And the hole flanging tool may be broken.	 先用铣刀将加工部位拉直，然后在进行钻头加工 First use the end mill to straighten the processing part, and then use the drill bit to process
出口处 斜面 Ramp at exit	 退刀时倾斜度大，边缘支撑部单侧碰撞 The inclination is large when the tool is retracted, and the edge support part collides on one side	边缘支撑单侧碰撞时,可能生产振动。 且孔翻边刀真可能折损 When the edge support collides on one side, vibration may occur. And the hole flanging cutter may be damaged.	 用铣刀将加工部位拉直再进行钻头加工。 First use the end mill to straighten the processing part, and then use the drill bit to process
偏芯孔 Eccentric core hole	 与底孔的偏移在0.2mm以上时 When the deviation from the bottom hole is more than 0.2 mm		在1D-2D引导孔开好后再加工， 有时可采用平底型刀片加工 After the 1D-2D guide hole is opened, flat-bottomed inserts can sometimes be used for further processing

莫式锥柄冷却环安装示意图
Installation diagram of Morse taper shank cooling ring

冷却环配件
Cooling ring accessories



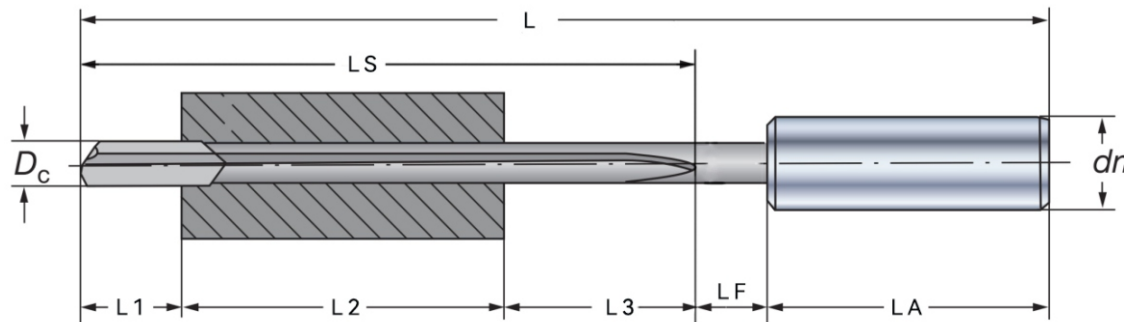
GD-Gun Drill

GD-枪钻

钻头命名规则 Drill Code Key

GD	BS	06600	0600	钻柄类型	T
1	2	3	4	5	6

1.枪钻系列	2.枪钻类型	3.钻头直径	4.枪钻总长度	5.钻柄类型	6.涂层品
Gun Drill System	Gun Drill Type	Drill Diameter	Total Length of Gun Drill	Shank Type (See details below)	Coated products
GD=枪钻系列 GD = Gun Drill Series	BS=焊接单槽硬质合金 CS=整体单槽硬质合金	精确到小数点后三位 accurate to three decimal places		详情见E6 See E6 for details	



标准枪钻长度的计算 Calculation of Standard Gun Drill Length

Dc=钻头直径 Dc = Drill Diameter
L1=合金钻头有效使用长度 L1 = Effective Length of Carbide Tip
L2=加工深度 L2 = Drilling Depth
L3=切削排出预留空间长度(对于深孔钻机床=250mm);
对于加工中心=2XDc (不足15mm时, 取15mm)
L3 = Chip Evacuation Space (250mm for deep-hole drilling machines;
2×Dc for machining centers, minimum 15mm)

LF=10mm
LA=钻柄长度 LA = Shank Length
LS=枪钻排屑槽长度 LS = Chip Flute Length
L=枪钻总长 L = Total Gun Drill Length

实例 Example:
对于直径10*500的深孔加工, 在深孔钻机床上, 采用D25*70钻柄
For a deep hole drilling operation with a diameter of 10mm and a depth of 500mm using a D25x70 shank:
Dc=10 L2=500 LA=70 L3=250
L=L1+L2+L3+LF+LA
L=(35-10)+500+250+10+70=850

E1

- **标准焊接式单槽枪钻:**
由一硬质合金钻头、一细长钻杆和钻柄组成, 切削液通过内冷方式直接冷却至切削刃, 切屑沿着“V”字型排屑槽排出。
Standard Brazed Single-Flute Gun Drill:
 - Composed of a carbide drill tip, a long slender drill rod, and a shank.
 - Cutting fluid is supplied through internal cooling, directly cooling the cutting edge.
 - Chips are evacuated through a "V"-shaped chip flute.

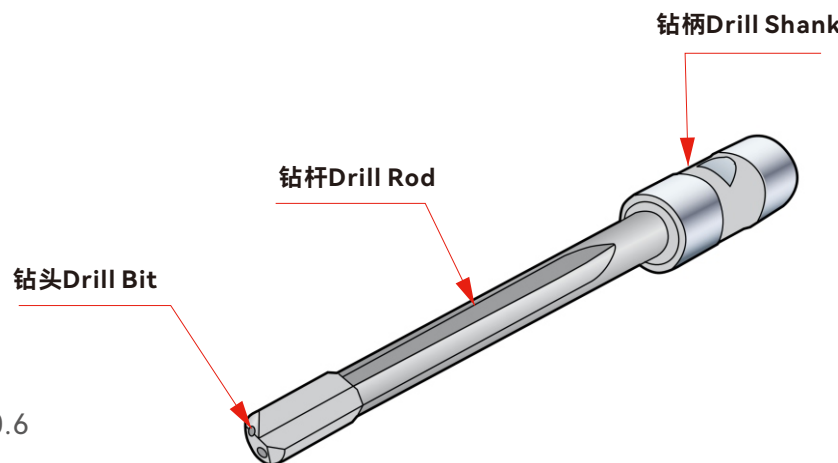
- **标准整体硬质合金单槽枪钻:**
另一种类型枪钻-由一硬质合金钻头、钻杆（两者为整体式）和钢或硬质合金材质的钻柄组成。适用于在普通机床、加工中心和车床上对各种材质进行钻削, 其钻头直径范围D0.9mm-D12mm,有效长度330mm（根据实际规格）, 具有高刚性和排屑顺畅特点, 广泛应用于模具、医疗、航空、机械零件制造等领域。
Standard Solid Carbide Single-Flute Gun Drill:
 - Consists of a carbide drill tip and drill rod (integrated structure), along with a steel or carbide shank.
 - Suitable for drilling various materials on conventional machines, machining centers, and lathes.
 - Available in diameters D0.9mm-D12mm with an effective length of 330mm (depending on specifications).
 - Features high rigidity and smooth chip evacuation, widely used in mold making, medical, aerospace, and precision parts manufacturing.

- **钻头:**
硬质合金钻头长度方向上的锥度设计, 减少了钻头与内孔壁间的摩擦, 其锥度的大小取决于工件的材质, 对于高精度孔加工, 其锥度尽量小。
Drill Tip:
Designed with a taper along its length to minimize friction between the drill and hole wall. The taper size depends on the workpiece material. For high-precision holes, the taper is kept as small as possible.

- **钻杆:**
淬硬钢材质的钻杆, 具有高抗扭曲特性, 钻杆其带与内冷的“V”截面的设计最大程度的优化了钻杆的抗扭曲性、内冷方式和排屑问题的三者之间的关系, 从而为高精度孔加工提供了可靠的保证。
Drill Rod:
Made of hardened steel with high torsional resistance. Features a "V"-shaped cross-section to optimize torsional strength, cooling efficiency, and chip evacuation. Ensures high precision in hole machining.

- **钻柄:**
连接枪钻和机床
Shank:
Connects the gun drill to the machine.
特点:

- 钻孔精度可达IT7-IT9;
 - 卓越的直线度和同轴度;
 - 高精度定心;
 - 钻孔表面质量高, 达Ra0.4-Ra0.6;
 - 不需要镗削工序;
- Gun Drill Features:
-Hole Accuracy: IT7-IT9
-Superior Straightness & Coaxiality
-High-Precision Centering
-Excellent Surface Finish: Ra 0.4 - Ra 0.6
-No Need for Reaming Operations

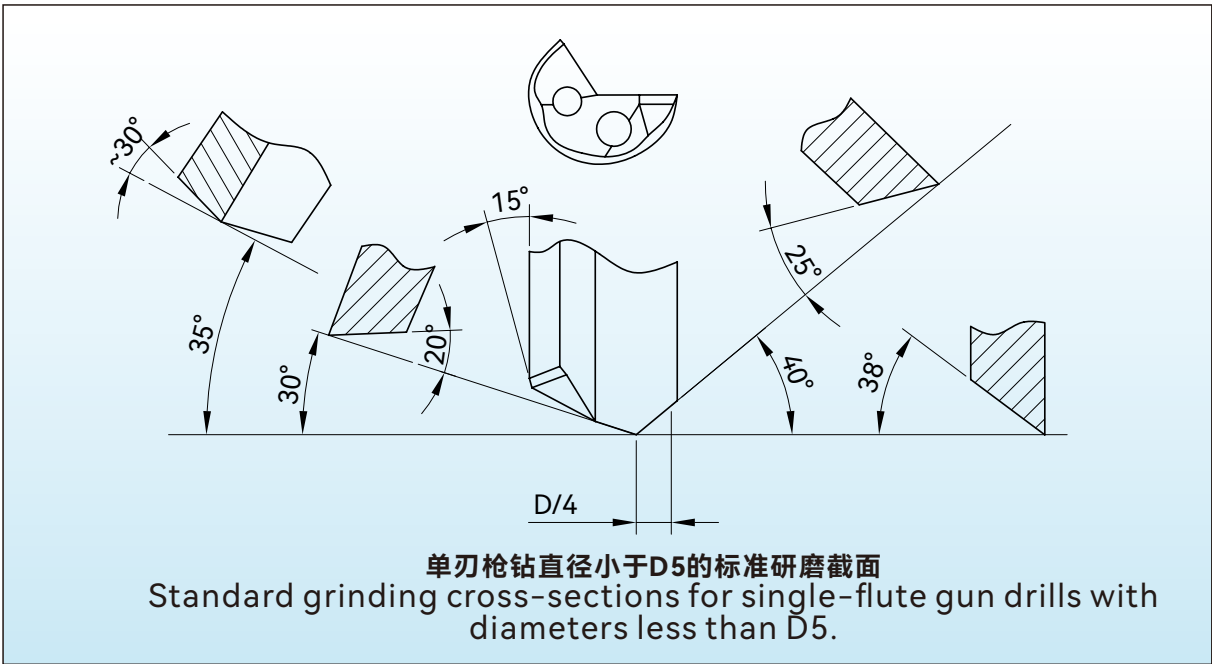
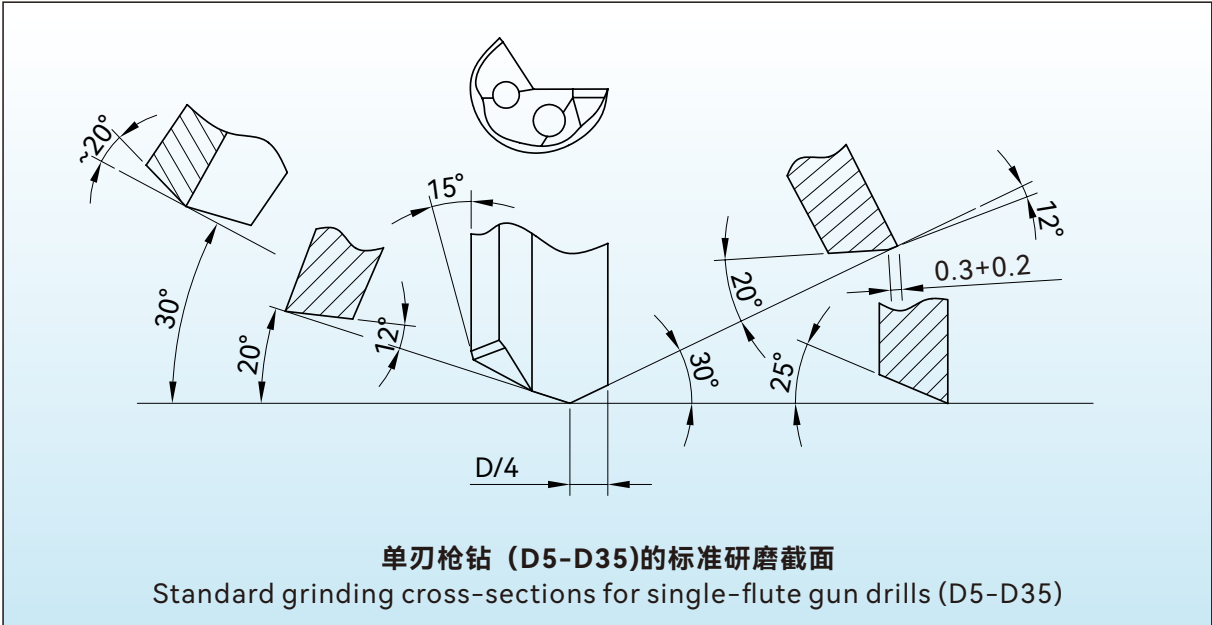


E2

GD-Gun Drill

GD-枪钻

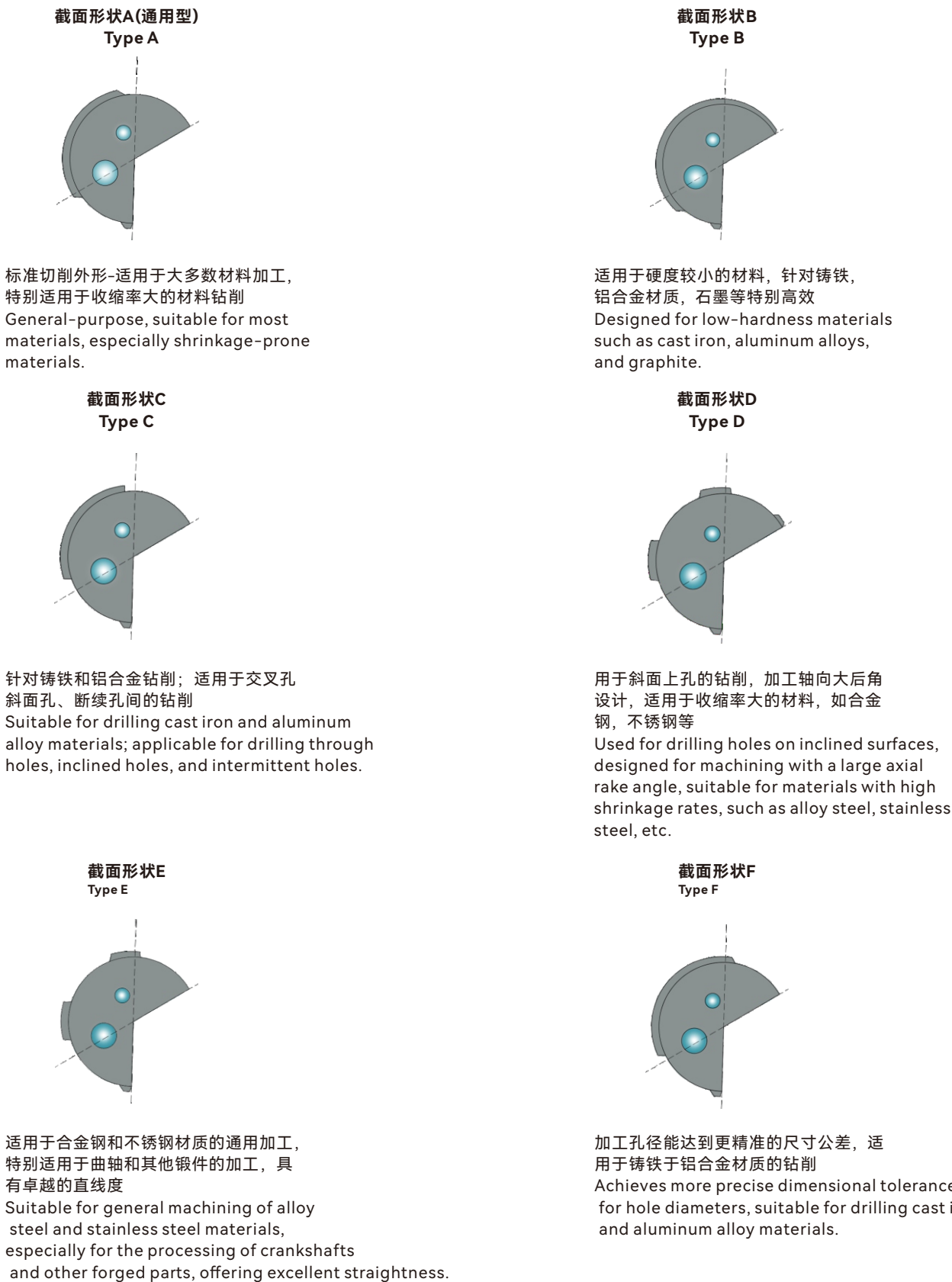
- 标准枪钻的钻头刃口角度** **Standard Gun Drill Cutting Edge Angles**
为达到加工孔径要求、良好的切削性能及排屑顺畅，推荐如下的
钻削角度
To achieve the required hole diameter, good cutting performance, and smooth chip evacuation,
the following angles are recommended.



注释：可按用户要求定做非标
Note: Customization is available based on user requirements for non-standard

标准枪钻的钻头截面形状

枪钻-钻头的钻削几何形状决定钻深范围和钻孔表面光洁度；钻外形与其磨削角度必须与加工工件材质相匹配，因此，针对一定的工件材质，钻头的截面形状是一定的；即便可重磨以改变刃口切削几何角度，但钻头截面形状保持不变。
The geometry of the drill tip directly determines the achievable hole depth and surface finish. The external shape and grinding angles must be matched to the workpiece material. Even after regrounding, the cross-sectional shape remains unchanged.

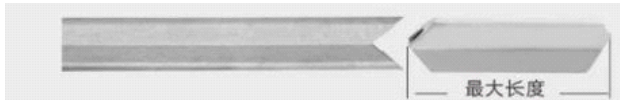


GD-Gun Drill

GD-枪钻

枪钻钻头规格对应长度

Gun drill carbide tip length



规格Dia	最大长度Tip Length
3.02	24.3
3.52	24.3
4.02	24.3
4.52	24.3
5.02	26.2
5.52	26.2
6.02	30.9
6.52	30.9
7.02	34
7.52	34
8.02	37.8
8.52	37.8
9.02	37.8
9.52	37.8
10.02	37.8
10.52	37.8
11.02	37.8
11.52	42.5
12.02	42.5
12.52	42.5
13.02	42.5
13.52	42.5
14.02	42.5
14.52	42.5
15.02	48.6
15.52	48.6
16.02	48.6
16.52	48.6
17.02	48.6
17.52	48.6
18.02	48.6
18.52	48.6
19.02	48.6
19.52	48.6

规格Dia	最大长度Tip Length
20.02	48.6
20.52	48.6
21.02	48.6
21.52	58.4
22.02	58.4
22.52	57.9
23.02	57.9
23.52	59.5
24.02	59.7
24.52	60.88
25.02	60.88
25.52	61.25
26.02	61.25
26.52	61.4
27.02	61.4
27.52	63.41
28.02	63.41
28.52	63.5
29.02	65
29.52	65
30.02	66
31.02	66.3
32.02	67.3
33.02	67.3
34.02	66.8
35.02	66.6
36.02	67
37.02	67
38.02	65
39.02	65
40.02	65
41.02	65
42.02	65
43.02	65

标准枪钻柄

Standard gun drill shanks

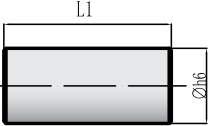
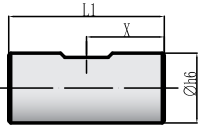
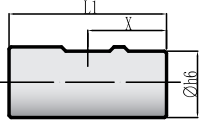
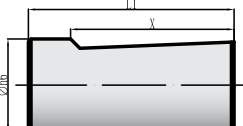
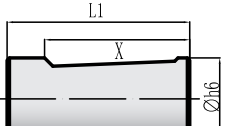
枪钻柄部型式	刀柄规格	通用钻头规格	尺寸 Diagram			钻柄编号
			L1	L2	X	
Drivers for gun drills	Size	Drill range				Driver Dimensions, mm Shank No.
	D16*50	2.00-13.00	50	58	22	001
	D25*70	2.00-20.00	70	78	34	002
	D12.7*38.1	8.00-13.00	38.1	46.1	25.4	003
	D19.05*70	15.00-20.00	70	78	34	004
	D25*70	2.00-20.00	70	78	34	005
	D25.4*70	20.00-25.00	70	78	57.1	006
	D31.75*70	26.00-30.00	70	78	57.1	007
	D38.1*70	30.00-40.00	70	78	57.1	008
	D25*70	2.00-25.00	70	78	57.1	009
	D25*70	3.00-25.00	70	78		010
	D12.7*38.1	2.00-9.00	38.1		25.4	011
	D19.05*70	2.00-15.00	70		44.4	012
	D25*70	2.00-20.00	70		44.4	013
	D10*40	7.00-10.00	40	48	25	014
	D16*45	11.00-15.00	45	53	31	015
	D16*50	11.00-15.00	50	58	32	016
	D16*50	2.00-10.00	50	58	47.5	017
	D25.4*70	2.00-20.00	70		57.1	018
	D31.75*70	2.00-25.00	70		57.1	019
	D38.1*70	2.00-32.00	70		57.1	020
	D25*70	2.00-25.00	70		57.1	021

GD-Gun Drill

GD-枪钻

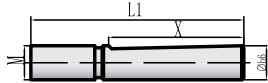
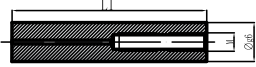
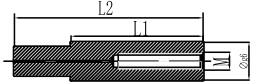
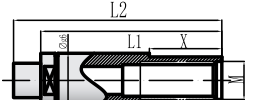
标准枪钻柄

Standard gun drill shanks

枪钻柄部型式	刀柄规格	通用钻头规格	尺寸 Diagram			钻柄编号
Drivers for gun drills	Size	Drill range	L1	L2	X	Driver Dimensions, mm Shank No.
	D10*50	2.00-12.00	50			022-1
	D12*45	2.00-12.00	45			022-2
	D16*48	2.00-12.00	48			022
	D20*50	2.00-15.00	50			023
	D25*70	2.00-20.00	70			024
	D32*60	2.00-26.00	60			025
	D10*40	2.00-7.00	40		20	026
	D12*45	2.00-8.00	45		22.5	027
	D16*48	2.00-12.00	48		24	028
	D20*70	2.00-15.00	50		25	029
	D25*56	2.00-20.00	56		32	030
	D32*60	2.00-26.00	60		36	031
	D40*70	2.00-30.00	70		40	032
	D10*40	2.00-7.00	40		28	033
	D12*45	2.00-8.00	45		33	034
	D16*48	2.00-12.00	48		36	035
	D20*70	2.00-15.00	70		38	036
	D25*56	2.00-20.00	56		44	037
	D32*60	2.00-26.00	60		48	038
	D10*40	2.00-7.00	40		28	039
	D12*45	2.00-8.00	45		33	040
	D16*48	2.00-12.00	48		36	041
	D20*50	2.00-15.00	50		38	042
	D25*56	2.00-20.00	56		44	043

标准枪钻柄

Standard gun drill shanks

枪钻柄部型式	刀柄规格	通用钻头规格	尺寸 Diagram				钻柄编号
Drivers for gun drills	Size	Drill range	L1	L2	X	M	Driver Dimensions, mm Shank No.
	D16*112	2.00-12.00	112		72	TR16x1.5	044
	D20*126	2.00-15.00	126		81	TR20x2	045
	D28*126	2.00-24.00	126		24	TR28x2	046
	D36*162	2.00-27.00	162		25	TR36x2	047
	D10*60	2.00-7.00	60			M6x0.5	048
	D16*80	2.00-12.00	80			M10x1	049
	D25*100	2.00-20.00	100			M16x1.5	050
	D16*80	12.00-15.00	80	100		M10x1	051
	D25*100	2.00-25.00	100	140		M16x1.5	052
	D10*68	2.00-7.00	68		35	M6 x 0.5	053
	D16*90	2.00-12.00	90		37	M10x1	054
	D25*112	2.00-19.00	112		45	M16 x 1.5	055
	D10*68	7.00-10.00	68	81	35	M6 x 0.5	056
	D16*90	12.00-15.00	90	110	37	M10 x1	057
	D25*112	20.00-25.00	112	142	45	M16 x 1.5	058

GD-Gun Drill

GD-枪钻

产品信息收集表

1.刀具选择 Tool Selection

焊接式单刃枪钻：☐常规 ☐平底 ☐球头 ☐锥度 ☐其它非标 是否涂层：☐涂层 ☐不涂层

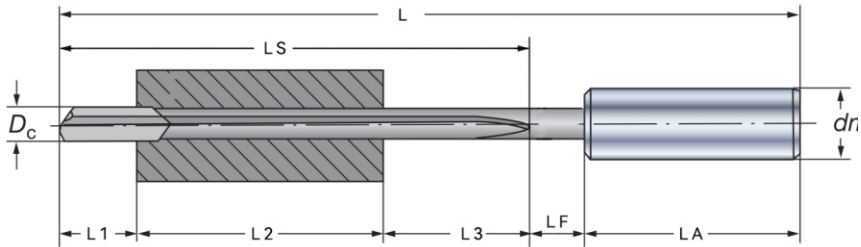
- Brazed Single-Flute Gun Drill:

Type: ☐Standard ☐Flat Bottom ☐Ball Nose ☐Taper ☐Custom Coating: ☐Coated ☐Uncoated

整体硬质合金单刃枪钻：☐常规 ☐平底 ☐球头 ☐锥度 ☐其它非标 是否涂层：☐涂层 ☐不涂层

-Solid Carbide Single-Flute Gun Drill:

Type: ☐Standard ☐Flat Bottom ☐Ball Nose ☐Taper ☐Custom Coating: ☐Coated ☐Uncoated

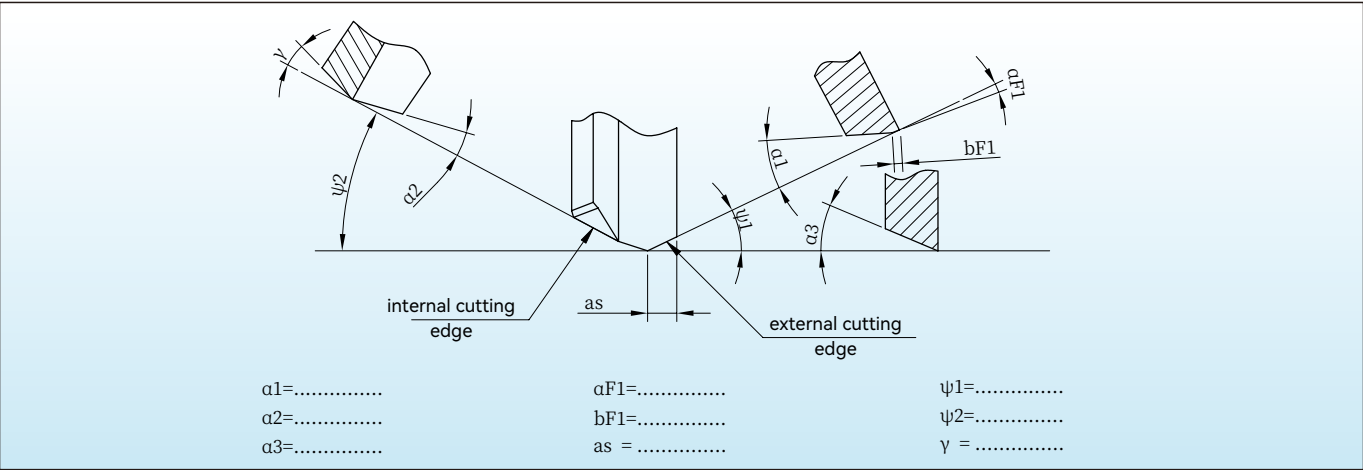


钻头直径Dc	总长L	V槽长度LS	钻柄规格dn	钻柄编号	涂层种类	数量	交期
Drill Diameter	Total Length	V-Groove Length (LS)	Drill Shank Specification (dn)	Drill Shank Numbering	Coating Type	Quantity	Delivery Time

非标磨制-特殊规格（请填写以下尺寸）

Non-Standard Grinding – Special Specifications (Please Fill in the Dimensions Below)

标准（参考p2页）Standard (Refer to Page 2)



涂层牌号 Coating grade

☐TiN ☐TiCN ☐TiN+TiCN ☐TiAlN

类型:

请选择要求的钻头截面形状，相关信息见E4

Type:

Please select the required drill cross-section shape. For related information, see E4.

2.工件 Workpiece

(如可能，请附工件图纸)

(If possible, please attach the workpiece drawing)

2.1 被加工材料 Material to be Machined

倍加工材料名称 Name of Machined Material.....

硬度和特性 Hardness and Characteristics.....

2.2 加工孔的类型Hole Type:

☐盲孔 ☐实心件钻孔 ☐预钻孔的钻削 ☐镗钻 ☐斜面钻入 ☐斜面钻出

☐Blind Hole ☐Solid Material Drilling ☐Pre-Drilled Hole Drilling ☐Boring

☐Inclined Entry Drilling ☐Inclined Exit Drilling

2.3 应用

工件Workpiece ☐静止 Stationary ☐旋转 Rotating

枪钻Gun Drill ☐静止 Stationary ☐旋转 Rotating

3.机床 Machine Tool

3.1 机床信息 Machine Information

机床类型Machine Type.....

功率Power: :

3.2 切削参数Cutting Parameters

切削速度Cutting SpeedVc.....m/min.....

转速Rotational speed per minuteNmin.....RPM.....

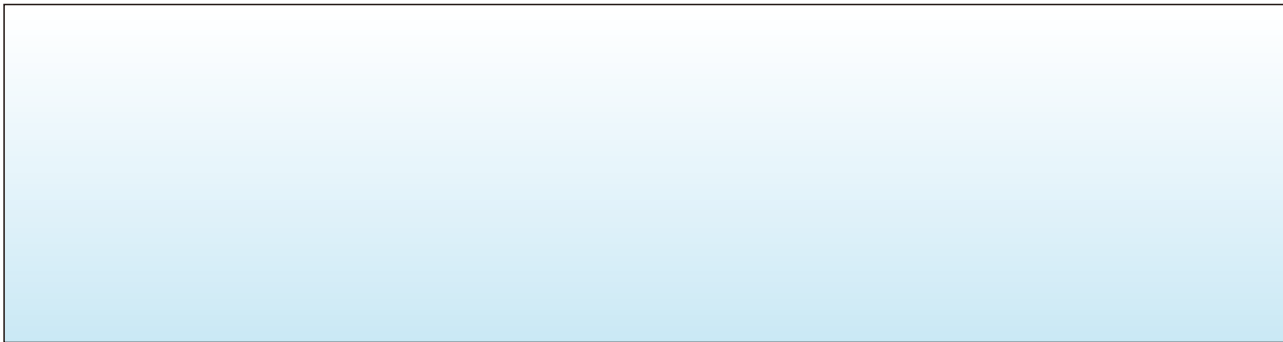
进给Feed RateFmin.....mm/min.....

3.3 冷却液Coolant

☐切削油Cutting Oil ☐乳化液Emulsion ☐其他Other

冷却液压力Coolant Pressure: :Bar.....

孔加工示意图Hole Machining Diagram



注释：基于推荐切削参数，可适当调整

Notes: The recommended cutting parameters can be adjusted as needed.

GD-Technical Guide

GD-技术指南

枪钻加工常见问题与解决方案

Trouble shooting

崩刀断裂 Breakage	初始加工时发生 initial process	1.导套和枪钻的配合是否顺畅，端面贴合工件是否吻合。guing bush and drill bit mismatch
		2.胶套支撑环节是否合适(太松或太紧均不合适)。sleeves supporting loose or tight
		3.机床进刀设置是否合理(勿使产生轻微撞刀)。initial loading parameters wrong setting
		4.工件装夹是否松动。work piece loose on worktable
	正常加工时发生 processing	1.枪钻是否已经磨损未及时修磨导致。gun drill wear without re-sharping
		2.加工参数是否合理(切削量是否过大)均匀。prameter setting like feed rate to high etc.
		3.枪钻加工到一定深度时排屑顺畅否，chip removal not smooth
		4.材料是否杂质多，硬度不均匀。work piece inside material not pure
	破孔或退刀时发生 cross over or return tool	1.是否有降低进给。(破孔时切削量在钻尖部骤增)。not low down feeding
		2.加工孔是否直线度差或孔径收缩，导致退刀时摩擦力增大。straightness or hole diameter accuracy problem
		3.速度过快挂到导套利角。bump with bush edg
寿命短 short tool life	易磨损 易烧刀 abrasive wear	1.加工机床工况是否稳定。machine working conditions stable
		2.进给参数是否合理(详见参数表)。right parameter setting
		3.导套、胶套、轴承是否正常状态(胶套不能太松)。bush,sleeve,bearing matching problem
		4.是否选用合适长度的枪钻及合适的角度及导向条。right tip length and contour design
		5.切削油的选择及油温的控制、过滤适合规格枪钻的油压。cooling oil,filter and related equipments
		6.被加工材质特性及材质均匀、硬度均匀否。pure work piece material
加工精度 accuracy	光洁度不高 roughness	1.参数不合适(一般来说转速降低进给快)。wrong parameter setting(low RPM,fast feed)
		2.机床主轴抖动及枪钻抖动(检查主轴及胶套、枪钻)。machine shaft or gun drll vibration
		3.被加工材料装夹是否紧固，枪钻装夹是否紧固。work piece fix on table,gun drill fix on holder
		4.选择合适的导向条和角度。choose right contour
		5.选择浓度合适的切削液及油压。choose right cooling oil
	直线度差 圆度差 孔径差 straightness, circularity, radius	1.机床稳定性及导套胶套的适配。machine stablity,bush and sleeve
		2.选择合适的加工参数。parameters setting
		3.选择合适的导向条及角度。contour choose
		4.被加工材料是否壁厚太薄或不对称。drill processing on work piece
铁屑处理 chips	不断屑 缠屑堵塞 chips no break	1.油压过小。oil supply too less
		2.切削量过大，不合理。feeding too big
		3.特殊材料选择合适的角度及开断屑槽。special design for chip breaker
		4.枪钻外角是否磨损。gun drill wear pad erosion
		5.枪钻角度端面或刀口面是否有缺口。gun drill breakage
		6.若出现丝状切屑时，加大油压降低进给。low down feed,increase oil

焊接式硬质合金单刃枪钻之标准切削参数

Brazed gun drills cutting parameters

材料种类 material	合金钢 alloyed 调质钢 tempered steel 工具钢 toolsteel(>900N/mm²)	结构钢 structural steel 高碳低合金钢 high carton low aloy 调质钢 machining steel 表面硬化钢 case-hardened steel 工具钢 tool steel(<900N/mm²) 易切削钢 easy processable	不 锈钢 (3 1 6) 及 类 似 材 质 stainless steel(316) and related
线速度 Linear velocity	60-80m	70-100m	40-60m
钻头直径mm Dia	进给速度mm/转 Feed mm/rev		
2.5-3.0	0.0050 ~ 0.0080	0.0050-0.0100	0.0050 ~ 0.0100
3.0-3.5	0.0050-0.0100	0.0070-0.0150	0.0080 ~ 0.0100
3.5-4.0	0.0080-0.0100	0.0090-0.0150	0.0100-0.0150
4.0-4.5	0.0080-0.0150	0.0150-0.0200	0.0100-0.0150
4.5-5.0	0.0100-0.0150	0.0150-0.0200	0.0100-0.0150
5.0-6.0	0.0150-0.0200	0.0150-0.0250	0.0150 ~ 0.0200
6.0-7.0	0.0150 ~ 0.0250	0.0200-0.0300	0.0150 ~ 0.0200
7.0-8.0	0.0200 ~ 0.0250	0.0200-0.0350	0.0150 ~ 0.0200
8.0-9.0	0.0200-0.0300	0.0250-0.0350	0.0200-0.0250
9.0-10.0	0.0250 ~ 0.0350	0.0300-0.0400	0.0200 ~ 0.0300
10.0-12.0	0.0250-0.0400	0.0300-0.0600	0.0250-0.0350
12.0-14.0	0.0300-0.0450	0.0350-0.0600	0.0300-0.0400
14.0-16.0	0.0350-0.0500	0.0400-0.0700	0.0350 ~ 0.0450
16.0-18.0	0.0400-0.0550	0.0500-0.0800	0.0450-0.0500
18.0-20.0	0.0450-0.0600	0.0550-0.0900	0.0450-0.0650
20.0-24.0	0.0500-0.0700	0.0600-0.1100	0.0500-0.0700
24.0-28.0	0.0550 ~ 0.0800	0.0700-0.1200	0.0500 ~ 0.0850
28.0-32.0	0.0600 ~ 0.0850	0.0800-0.1500	0.0600 ~ 0.0900
32.0-40.0	0.0650-0.100	0.0850-0.1600	0.0650-0.100
40.0-45.0	0.0700-0.1100	0.0900-0.1700	0.0700 ~ 0.1100

加工参数根据机床稳定性、冷却介质、刀具长度的不同而有所变化。
以上数据仅供参考交流。

Parameters above are average values as a guide,the seting based on oollength,cooing lubricant,material,machine stablty,workpiece clamping etc.

GD-Technical Guide

GD-技术指南

焊接式硬质合金单刃枪钻之标准切削参数

Brazed gun drills cutting parameters

材料种类 material	铸铁 cast iron 灰口铸铁 grey castiron(<300N/mm²) 球墨铸铁 ductile cast iron (<400N/mm²) 碳钢 general steel 铸件 casting	铝 + 铸 铝 aluminium +cast aluminium 易切削钢 easy processable	弹簧钢 spring steel 钛合金 titanium alloy 高温合金 high-temp steel 铸钢 cast steel
线速度 Linear velocity	60~90m	80~160m	25~60m
钻头直径mm dia	进给速度mm/转 feed mm/rev		
2.5-3.0	0.0080~0.0300	0.0050~0.0250	0.0020 ~ 0.0050
3.0-3.5	0.0100~0.0400	0.0060~0.0400	0.0020~0.0100
3.5-4.0	0.0100~0.0450	0.0070~0.0550	0.0050~0.01000
4.0-4.5	0.0150~0.0500	0.0080~0.0700	0.0080~0.0100
4.5-5.0	0.0150~0.0550	0.0150~0.0200	0.0080 ~ 0.0100
5.0-6.0	0.0200~0.0650	0.0090~0.1000	0.0100~0.0150
6.0-7.0	0.0250~0.0700	0.0150~0.1300	0.0150 ~ 0.0200
7.0-8.0	0.0300~0.0850	0.0200~0.1500	0.0150 ~ 0.0200
8.0-9.0	0.0350~0.0950	0.0200~0.1500	0.0200~0.0250
9.0-10.0	0.0650~0.1750	0.0250~0.1600	0.0200 ~ 0.0300
10.0-12.0	0.0500~0.1300	0.0250~0.1800	0.0250~0.0350
12.0-14.0	0.0550~0.1400	0.0300~0.1800	0.0300~0.0400
14.0-16.0	0.0600~0.1600	0.0350~0.2000	0.0350 ~ 0.0450
16.0-18.0	0.0400~0.0550	0.0500~0.2000	0.0400~0.0450
18.0-20.0	0.0450~0.0600	0.0550~0.2500	0.0450~0.0650
20.0-24.0	0.0700~0.1900	0.0600~0.25000	0.0400~0.0550
24.0-28.0	0.0750~0.2000	0.0700~0.3000	0.0450 ~ 0.0600
28.0-32.0	0.0800~0.2500	0.0850~0.40000	0.0500 ~ 0.0650
32.0-40.0	0.0850~0.2300	0.1000~0.5000	0.0550~0.0650
40.0-45.0	0.0900~0.2400	0.1000~0.5000	0.0550~0.0700

整体硬质合金单刃枪钻标准加工参数

Solid carbide gun drills cutting parameters

材料种类 material	合金钢 alloyed 调质钢tempered steel 工具钢toolsteel (>900N/mm²)	结构钢 structural steel 高碳低合金钢 high carton low aloy 调质钢 machining steel 表面硬化钢 case-hardened steel 工具钢 tool steel(<900N/mm²) 易切削钢 easy processable	不 锈 钢 (3 1 6) 及 类 似 材 质 stainless steel(316) and related
线速度 Linear velocity	65~85m	75~105m	35~70m
钻头直径mm dia	进给速度mm/转 feed mm/rev		
0.9-1.0	0.0010 ~ 0.0020	0.0010~0.0030	0.0015 ~ 0.0020
1.1-1.2	0.0015~0.0025	0.0010~0.0035	0.0016~0.0025
1.2-1.3	0.0015~0.0030	0.0015~0.0040	0.0020~0.0030
1.3-1.4	0.0020~0.0040	0.0020~0.0040	0.0025 ~ 0.0030
1.4-1.5	0.0020~0.0040	0.0020~0.0050	0.0025~0.0035
1.5-1.6	0.0025~0.0050	0.0020~0.0055	0.0025 ~ 0.0035
1.6-1.7	0.0025 ~ 0.0055	0.0020~0.0070	0.0025 ~ 0.0040
1.7-1.8	0.0030~0.0060	0.0030~0.0075	0.0030~0.0050
1.8-1.9	0.0035~0.0075	0.0030~0.0095	0.0040~0.0065
1.9-2.5	0.0035 ~ 0.0085	0.0040~0.0150	0.0050 ~ 0.0075
2.5-3.0	0.0040~0.0100	0.0050~0.0180	0.0060 ~ 0.0095
3.0-3.5	0.0050 ~ 0.0150	0.0080~0.0200	0.0080 ~ 0.0140
3.5-4.0	0.0070~0.0150	0.0090~0.0250	0.0100~0.0150
4.0-4.5	0.0080~0.0200	0.0150~0.0250	0.0100~0.0200
4.5-5.0	0.0100 ~ 0.0250	0.0150~0.0300	0.0150 ~ 0.0250
5.0-6.0	0.0150 ~ 0.0250	0.0150~0.0400	0.0150 ~ 0.0250
6.0-8.0	0.0150~0.0350	0.0200~0.0500	0.0200~0.0300
8.0-12.0	0.0180 ~ 0.0400	0.0200~0.0550	0.0200 ~ 0.0350

GD-Technical Guide

GD-技术指南

材料种类 material	铸铁 cast iron 灰口铸铁 grey castiron(<300N/mm²) 球墨铸铁 ductile cast iron(<400N/mm²) 碳钢 general steel 铸件 casting	铝+铸铝 aluminium+cast aluminium (<900N/mm²)	弹簧钢 spring steel 钛合金 titanium alloy 高温合金 high-temp steel 铸钢 cast steel
线速度 Linear velocity	65-95m	85-165m	30-70m
钻头直径mm dia	进给速度mm/转 feed mm/rev		
0.9-1.0	0.0015~0.0025	0.0020~0.0025	0.0011~0.0025
1.1-1.2	0.0020~0.0030	0.0020~0.0025	0.0015~0.0030
1.2-1.3	0.0025~0.0035	0.0025~0.0030	0.0020~0.0035
1.3-1.4	0.0030~0.0040	0.0025~0.0035	0.0025 ~ 0.0040
1.4-1.5	0.0040~0.0050	0.0025~0.0045	0.0025~0.0040
1.5-1.6	0.0050~0.0060	0.003~0.0055	0.0030~0.0040
1.6-1.7	0.0050~0.0070	0.0035~0.0065	0.0030~0.0045
1.7-1.8	0.0065~0.0095	0.0040~0.0085	0.0035~0.0055
1.8-1.9	0.0070~0.0150	0.0050~0.0100	0.0040~0.0065
1.9-2.5	0.0100~0.0250	0.0050~0.0200	0.0050 ~ 0.0075
2.5-3.0	0.0150~0.0350	0.0060~0.0350	0.0060~0.0095
3.0-3.5	0.0150~0.0400	0.0080~0.0550	0.0080 ~ 0.0100
3.5-4.0	0.0180~0.0500	0.0100~0.0750	0.0090~0.0155
4.0-4.5	0.0200~0.0550	0.0150~0.0950	0.0100~0.0150
4.5-5.0	0.0250~0.0650	0.0150~0.1500	0.0100~0.0180
5.0-6.0	0.0250~0.0750	0.0150~0.1550	0.0150~0.0250
6.0-8.0	0.0300~0.1000	0.0200~0.2000	0.0150~0.0300
8.0-12.0	0.0350~0.1500	0.0200~0.2000	0.0180 ~ 0.0350

加工参数根据机床稳定性、冷却介质、刀具长度的不同而有所变化。
以上数据仅供参考交流。

Parameters above are average values as a guide,the seting based on oollength,cooing lubricant,material,machine stablty,workpiece clamping etc.

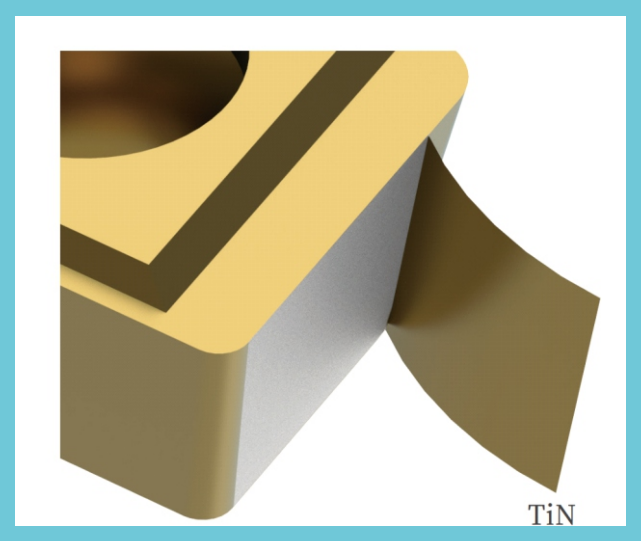
喷吸钻削刀片材质说明

Deep Hole Drilling Inserts Grades Introduction

通用材质

PD25A (P M K S N H)

- PVD 涂层硬质合金牌号
PVD coated grade
- 钻削通用牌号
general purpose drilling grade
- 高金属去除率，
可获得极佳生产效率和刀具使用寿命
High metal removal rate,
achieves high productivity and tool life.



喷吸刀片加工槽型

Deep Hole Drilling Inserts Geometry

用途	断屑槽形状	特征·用途	应用范围
Application	Chip breaker	Features	Application
喷吸钻削 Deep hole drilling	D80-L	·长屑材料首选,轻切削槽型、低切削力 ·First choice for long chip material,light cutting, light cutting corce.	P M K N S H
	D80-G	·通用加工槽型,大部分材料切削中都具有良好的切屑控制,中等到高的进给范围 ·General purpose geometry, having good chip control on most of mactrials, medium to high feed rates.	P M K N S
	424-L	·在大部分材料中都有良好的切削控制，这些材料包括：钢、铸铁、铝和其它有色金属,轻切削槽型、低切削力 机床功率受限时的首选 ·Having good chip control in most of materials, like steel, cast iron, aluminium and other non-ferrous metals, light cutting, light force, first choice for limit machine power.	P M K N S H
	424-G	·长屑材料的首选，这些材料包括：不锈钢、耐热优质合金,在中等速度和进给时具有良好的切屑控制 ·First choice for long chip material, like stainless steel, super alloy. Having good chip control on medium feedrates.	P M K N S H
	TPGX-L	·适用于大多数材料,轻切削槽型、低切削力，低到中等的进给范围 ·Suitable for most of materials. Light cutting, light cutting force, low to medium feed rates.	P M K N S H

ED-Ejector Drill Machining Tools

ED-喷吸加工刀具

D80.11喷吸钻	D80.11 Ejector Drill
φ25.00mm-φ65.00mm	φ5.00mm-φ65.00mm
可转位刀片及支撑板	Indexable inserts & Support pads
最大加工深度100倍径	Max. drilling depth: 100XD
经济型深孔钻削	Economical deep hole drilling
密封性佳	Good sealing system
适用于易断续材料	Suitable for easy chipbreaking materials
适用于各类卧式加工机床	For horizontal machine tool



D80.21单管钻	D80.21 STS drill
φ25.00mm-φ65.00mm	φ25.00mm-φ65.00mm
可转位刀片及支撑板	Indexable inserts & Support pads
最大加工深度150倍径	Max. drilling depth: 150XD
适用于长屑材料	Suitable for long chip materials



D42.11喷吸钻	D42.11 Ejector Drill
φ63.50mm-φ200.00mm	φ63.50mm-φ200.00mm
可转位刀片及支撑板	Indexable inserts & Support pads
最大加工深度100倍径	Max. drilling depth: 100XD
经济型深孔钻削	Economical deep hole drilling
密封性佳	Good sealing system
适用于易断续材料	Suitable for easy chipbreaking materials
适用于各类卧式加工机床	For horizontal machine tool



D42.21单管钻	D42.21 STS drill
φ63.50mm-φ200.00mm	φ63.50mm-φ200.00mm
可转位刀片及支撑板	Indexable inserts & Support pads
最大加工深度150倍径	Max. drilling depth: 150XD
适用于长屑材料	Suitable for long chip materials
适用于大孔径钻削	For hole size bigger than 63.5mm



425.21单管钻	425.21 STS drill
φ48.00mm-φ135.99mm	φ48.00mm-φ135.99mm
可转位刀片及支撑板	Indexable inserts & Support pads
最少化刀片规格	4 Inserts cover very wide range
最大加工深度150倍径	Max. drilling depth: 150XD



适用于长屑材料	Suitable for long chip materials
推镗刀	Push Boring Tool
φ35.00mm-φ450.00mm	φ35.00mm-φ450.00mm
可转位刀片及支撑板	Indexable inserts & Support pads
带辅助支撑板	With additional support pads
最大加工深度150倍径	Max. drilling depth: 150XD
低堵屑风险	Low chip jamming risk
适用推镗工艺中扩孔加工	Suitable for counter boring in push boring process

拉镗刀	Pull Boring Tool
φ65.00mm-φ200.00mm	φ65.00mm-φ200.00mm
可转位刀片及支撑板	Indexable inserts & Support pads
带辅助支撑板	With additional support pads
最大加工深度150倍径	Max. drilling depth: 150XD
低堵屑风险	Low chip jamming risk
适用拉镗工艺中扩孔加工	Suitable for counter boring in pull boring process
直线度好	Good hole straightness

带前导向的推镗刀	Push Boring Tool with Front Pilot
φ35.00mm-φ200.00mm	φ5.00mm-φ200.00mm
可转位刀片及支撑板	Indexable inserts & Support pads
带辅助支撑板	With additional support pads
最大加工深度150倍径	Max. drilling depth: 150XD
适用于各种材料加工	For both short & long chip materials
适用深孔内部阶梯孔	Suitable for composite deep hole machining
同轴度要求高的工艺	Suitable for high axiality request

铰削刀	High Feed Reamer
φ38.00mm-φ305.00mm	φ38.00mm-φ305.00mm
可转位刀片及软支撑板	Indexable inserts & Support pads
最大加工深度150倍径	Max. drilling depth: 150XD
低堵屑风险	Low chip jamming risk
可加工公差正负0.02mm的深孔	Achieve +/-0.02mm hole tolerance
孔壁粗糙度Ra0.4-1.6	Surface finsh Ra0.4-1.6
机械式/液压式	Mechanical / Hydraulic design.

Ejector And STS System

喷吸钻和单管钻系统

● 喷吸钻系统
Ejector system

1	2	3	4	5	6	7	8
							
钻头	外钻管	内钻管	减震器	夹套/连接套管	密封套筒	O形圈	连接器 (旋转/非旋转)
Drill	Drill tube	Inner tube	Vibration damper	Collet/ connecting sleeve	Sealing sleeve	O-ring	Connector (rotating/ non-rotating)

喷吸钻:又名双管钻。其原理为2/3的液体通过内外管间隙流向钻头方向， 1/3的液体从内管上的特殊缝隙中漏出， 从而产生负压吸取液体，并使铁屑从内管中排出。

Ejector drill: alternative name double tube drill.Cutting fluid supply is fed through a connector between the inner tube and the drill tube. Approx.2/3 of the cutting fluid is forced to the drill head,the diverted back remainder is through the inner tube via the venturi inner tube(ejector effect) which creates a vacuum to draw the cutting fluid and chips towards the outlet.

● 单管钻系统
STS system

1	2	3	4	5
				
钻头	钻管	油压头/授油器	减震器	连接夹盘 (旋转/非旋转)
Drill	Drill tube	Inner tube	Vibration damper	Connecting chuck (rotating/ non-rotating)

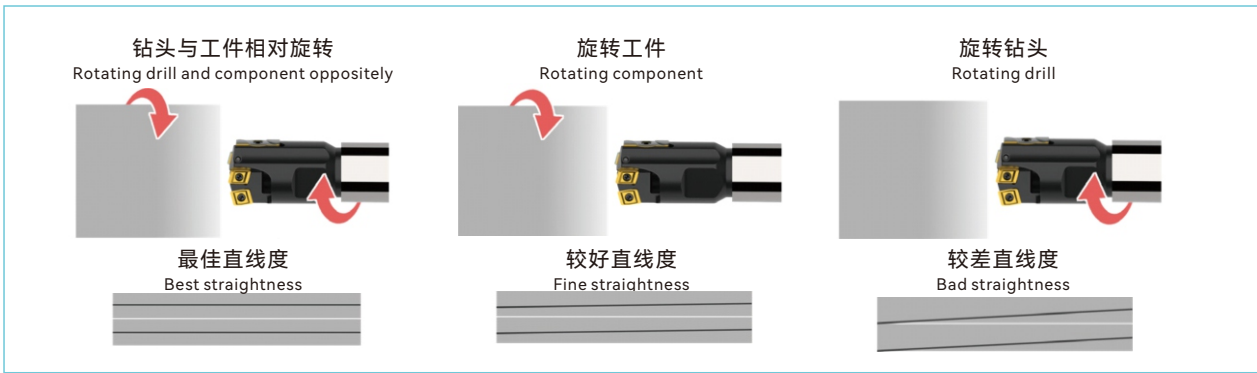
单管钻:油压头/授油器中接入的冷却液直接从钻管及孔壁间隙流向钻头方向， 然后冷却液携带铁屑从钻管中排出。

STS drill:Single tube system.Cutting fluid supply is fed through an oil pressure head between the outsideof the drill tube and the hole wall. Chips and oil exits internally through the drill head and ID of the tube.

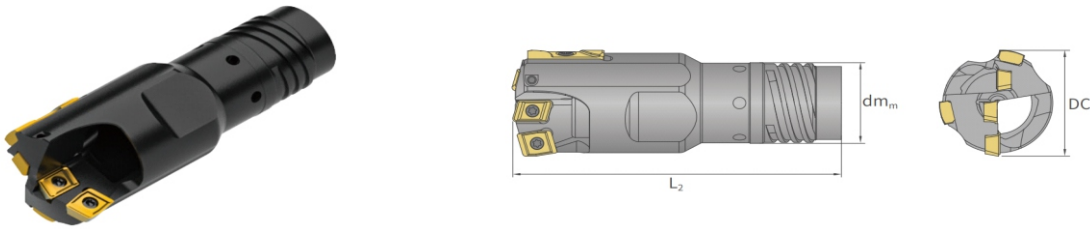
● 系统选择指南
System choice introduction

应用信息	喷吸钻	单管钻
Application information	Ejector drill	STS drill
系统复杂性 Complexity	复杂 High	简单 Low
冷却液压力及流量要求 Coolant pressure and quantity	一般 Normal	高 High
最大加工深度 Max.drilling depth	100倍径 100XDia	150倍径 150XDia.
加工导向 Drilling guiding	预孔/钻套 Pilot hole/bush	预孔/钻套 Pilot hole/bush
孔公差 Hole tolerance	取决于系统精度 Depending on system accuracy	取决于系统精度 Depending on system accuracy
孔直线度 Hole straightness	取决于旋转方式 Depending on raotating way	取决于旋转方式 Depending on raotating way
机床 Machine tool	卧式机床 Horizontal	专机 Special drilling machine
长屑 Long chip materials	次选 Second choice	首选First choice
典型应用零件 Typical component	主阀、模具 Valve\Die & mould	钻挺、船用连杆、管板 Drill collar\Marine connecting rod\Heat exchange plate

● 旋转方式与加工直线度
Rotating way affects hole straightness accuracy



Ejector Drill D80.11
喷吸钻D80.11



直径范围：25.00-65.00mm	Diameter range: 25.00-65.00mm
孔公差：IT10	Hole tolerance: IT10
表面光洁度：Ra 3um	Surface finish: Ra 3um
孔深：100倍径	Hole depth: 100XDia
切削液：纯油或有EP添加剂的乳化液	Cutting fluid: Net oil or EP additive

● 钻管dmt
和钻头dmm一致
dmt is the same as
dmm for the drill

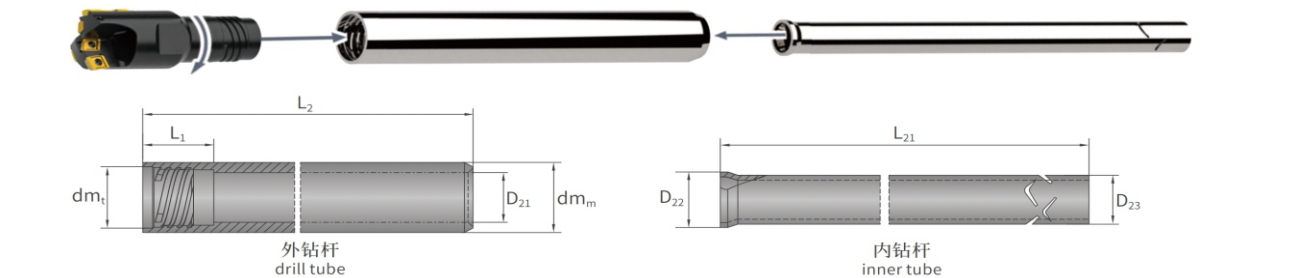
钻头直径范围	钻杆尺寸	订货号	尺寸 mm		刀片			支撑板	数量
Drill dia.range	Tube size	Ordering code	Dimensions		Insert			Pad	Quantity
			dm	≤L2	中心刀片	中间刀片	周边刀片		
Dc(mm)					Central insert	Intermediate insert	Peripheral insert		
25.00-26.40	03	D80.11-03D□□.□□	21.0	75.0	D80-050308M-C-G	D80-050308M-I-G	D80-060308H-P-G	D80-06A	2
26.41-28.70	04	D80.11-04D□□.□□	23.5	78.0	D80-050308M-C-G	D80-050308M-I-G	D80-060308H-P-G	D80-06A	2
28.71-31.00	05	D80.11-05D□□.□□	25.5	80.0	D80-06T308M-C-G	D80-050308M-I-G	D80-060308H-P-G	D80-06A	2
31.01-33.30	06	D80.11-06D□□.□□	28.0	80.0	D80-06T308M-C-G	D80-06T308M-I-G	D80-08T308H-P-G	D80-07A	2
33.31-36.20	07	D80.1107D□□.□□	30.0	90.0	D80-06T308M-C-G	D80-06T308M-I-G	D80-08T308H-P-G	D80-07A	2
					D80-08T308M-C-G	D80-08T308M-I-G			
36.21-39.60	08	D80.1108D□□.□□	33.0	90.0	D80-08T308M-C-G	D80-08T308M-I-G	D80-08T308H-P-G	D80-07A	2
							D80-09T308H-P-G		
39.61-43.00	09	D80.11-09D□□.□□	36.0	95.0	D80-08T308M-C-G	D80-08T308M-I-G	D80-09T308H-P-G	D80-08A	2
43.01-47.00	10	D80.11-10D□□.□□	39.0	100.0	D80-10T308M-C-G	D80-08T308M-I-G	D80-09T308H-P-G	D80-08A	2
47.01-51.70	11	D80.1111D□□.□□	43.0	110.0	D80-12T308M-C-G	D80-08T308M-I-G	D80-09T308H-P-G	D80-10A	2
					D80-10T308M-C-G		D80-11T308H-P-G		
51.71-56.20	12	D80.1112D□□.□□	47.0	115.0	D80-10T308M-C-G	D80-08T308M-I-G	D80-11T308H-P-G	D80-10A	2
						D80-12T308M-I-G		D80-12A	
56.21-65.00	13	D80.1113D□□.□□	51.0	125.0	D80-10T308M-C-G	D80-12T308M-I-G	D80-11T308H-P-G	D80-12A	2
					D80-12T308M-C-G				

● 订购钻头时，需注明钻头直径（□□.□□）
When ordering drill,state drill diameter (□□.□□) in the ordering code
订货示例Ordering example: D80.11-03D25.50

Tubes For D80.11 Ejector Drills

喷吸钻D80.11钻杆

- 直径范围：25.00-65.00mm
Dia.range: 25.00-65.00mm



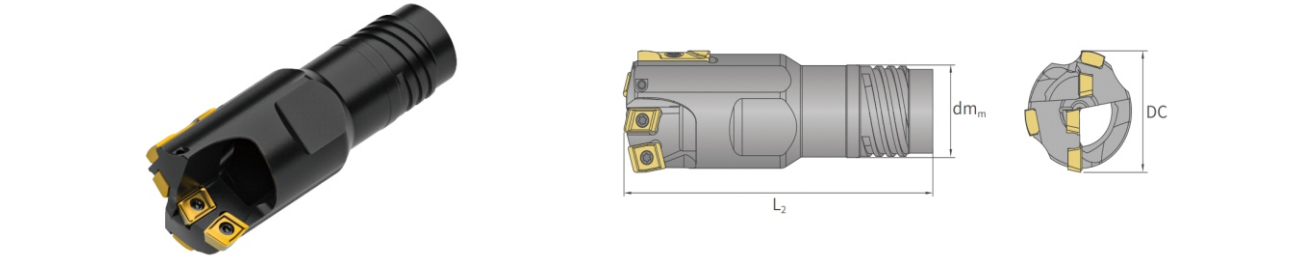
- 钻管dmt和钻头dmm一致
dmt is the same as dmm for the drill

钻头直径范围	钻杆尺寸	订货号（外钻杆）	尺寸 mm				订货号（内钻杆）	尺寸mm	
Drill dia.range	Tube size	Ordering code (drill tube)	Dimensions				Ordering code (inner tube)	Dimensionsv	
			dmm	dmt	D21	I1		D22	D23
25.00-26.40	03	D80.11-003-□□□□	23.5	21.0	16.0	30.0	D80.11-103-□□□□	16.0	14.0
26.41-28.70	04	D80.11-004-□□□□	26.0	23.5	18.0	33.0	D80.11-104-□□□□	18.0	16.0
28.71-31.00	05	D80.11-005-□□□□	28.0	25.5	20.0	33.0	D80.11-105-□□□□	20.0	18.0
31.01-33.30	06	D80.11-006-□□□□	30.5	28.0	22.0	33.0	D80.11-106-□□□□	22.0	20.0
33.31-36.20	07	D80.11-007-□□□□	33.0	30.0	24.0	40.0	D80.11-107-□□□□	24.0	22.0
36.21-39.60	08	D80.11-008-□□□□	35.5	33.0	26.0	40.0	D80.11-108-□□□□	26.0	24.0
39.61-43.00	09	D80.11-009-□□□□	39.0	36.0	29.0	40.0	D80.11-109-□□□□	29.0	27.0
43.01-47.00	10	D80.11-010-□□□□	42.5	39.0	32.0	40.0	D80.11-110-□□□□	32.0	30.0
47.01-51.70	11	D80.11-011-□□□□	46.5	43.0	35.0	44.0	D80.11-111-□□□□	35.0	32.0
51.71-56.20	12	D80.11-012-□□□□	51.0	47.0	39.0	44.0	D80.11-112-□□□□	39.0	36.0
56.21-65.00	13	D80.11-013-□□□□	55.5	51.0	43.0	44.0	D80.11-113-□□□□	43.0	40.0

- 订购钻杆时，需注明钻杆长度L2（□□□□）
When ordering drill tube,state code length L2(□□□□) in the ordering code
- 钻头直径Dc=35.00mm，外钻杆长度为1070mm，内钻杆长度为1100mm的订货示例：
Ordering example for drill tube length 1070mm，inner tube length 1100mm for drill diameter 35.00mm:
- 外钻杆Drill tube:D80.11-007-1070 内钻杆Inner tube:D80.11-107-1100
内钻杆必须比外钻杆长30mm
Inner tube must be 30mm longer than drill tube.
- 外钻杆均不带扳手槽，如需要可定制
Drill tube without spanner slot,please state if needed.

STS Drill D80.21

单管钻D80.21



直径范围：25.00-65.00mm	Diameter range: 25.00-65.00mm
孔公差：IT10	Hole tolerance: IT10
表面光洁度：Ra 3um	Surface finish: Ra 3um
孔深：150倍径	Hole depth: 150XDia
切削液：纯油或有EP添加剂的乳化液	Cutting fluid: Net oil or EP additive

- 钻管dmt和钻头dmm一致
dmt is the same as dmm for the drill

钻头直径范围	钻杆尺寸	订货号	尺寸 mm		刀片			支撑板	数量
Drill dia.range	Tube size	Ordering code	Dimensions		Insert			Pad	Quantity
			dm	≤L2	中心刀片	中间刀片	周边刀片		
Dc(mm)					Central insert	Intermediate insert	Peripheral insert		
25.00-26.40	03	D80.21-03D□□.□□	19.5	75.0	D80-050308M-C-G	D80-050308M-I-G	D80-060308H-P-G	D80-06A	2
26.41-28.70	04	D80.21-04D□□.□□	21.0	78.0	D80-050308M-C-G	D80-050308M-I-G	D80-060308H-P-G	D80-06A	2
28.71-31.00	05	D80.21-05D□□.□□	23.5	80.0	D80-06T308M-C-G	D80-050308M-I-G	D80-060308H-P-G	D80-06A	2
31.01-33.30	06	D80.21-06D□□.□□	25.5	80.0	D80-06T308M-C-G	D80-06T308M-I-G	D80-08T308H-P-G	D80-07A	2
33.31-36.20	07	D80.2107D□□.□□	28.0	80.0	D80-06T308M-C-G	D80-06T308M-I-G	D80-08T308H-P-G	D80-07A	2
36.21-39.60	08	D80.2108D□□.□□	30.0	95.0	D80-08T308M-C-G	D80-08T308M-I-G	D80-08T308H-P-G	D80-07A	2
39.61-43.00	09	D80.21-09D□□.□□	33.0	100.0	D80-08T308M-C-G	D80-08T308M-I-G	D80-09T308H-P-G	D80-08A	2
43.01-47.00	10	D80.21-10D□□.□□	36.0	100.0	D80-10T308M-C-G	D80-08T308M-I-G	D80-09T308H-P-G	D80-08A	2
47.01-51.70	11	D80.21-11D□□.□□	39.0	110.0	D80-12T308M-C-G	D80-08T308M-I-G	D80-09T308H-P-G	D80-10A	2
51.71-56.20	12	D80.21-12D□□.□□	43.0	120.0	D80-10T308M-C-G	D80-08T308M-I-G	D80-11T308H-P-G	D80-10A	2
56.21-65.00	13	D80.21-13D□□.□□	47.0	125.0	D80-10T308M-C-G	D80-12T308M-I-G	D80-11T308H-P-G	D80-12A	2

- 订购钻头时，需注明钻头直径（□□.□□）
When ordering drill,state drill diameter (□□.□□) in the ordering code
订货示例Ordering example: D80.21-03D25.50

STS Drill D80.21

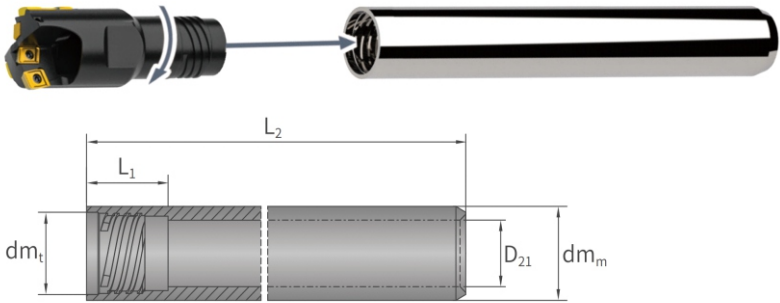
单管钻D80.21

直径范围	中心刀片	直径范围	中间刀片	直径范围	周边刀片	直径范围	支撑板
Diameter range	Central insert	Diameter range	Intermediate insert	Diameter range	Peripheral insert	Diameter range	Support pad
Dc(mm)		Dc(mm)		Dc(mm)		Dc(mm)	
25.00-28.70	D80-050308M-C-G	25.00-31.00	D80-050308M-I-G	25.00-31.00	D80-060308H-P-G	25.00-31.00	D80-06A
28.71-33.99	D80-06T308M-C-G	31.01-34.99	D80-06T308M-I-G	31.01-38.99	D80-08T308H-P-G	31.01-39.60	D80-07A
34.00-43.00	D80-08T308M-C-G	35.00-54.99	D80-08T308M-I-G	39.00-49.99	D80-09T308H-P-G	39.61-47.00	D80-08A
43.01-47.00	D80-10T308M-C-G	55.00-65.00	D80-12T308M-I-G	50.00-65.00	D80-11T308H-P-G	47.01-54.99	D80-10A
47.01-49.99	D80-12T308M-C-G					55.00-65.00	D80-12A
50.00-57.99	D80-10T308M-C-G						
58.00-65.00	D80-12T308M-C-G						

Tubes For D80.21 STS Drills

单管钻D80.11钻杆

- 直径范围：25.00-65.00mm
Dia.range: 25.00-65.00mm



- 钻管dmt和钻头dmm一致
dmt is the same as dmm for the drill

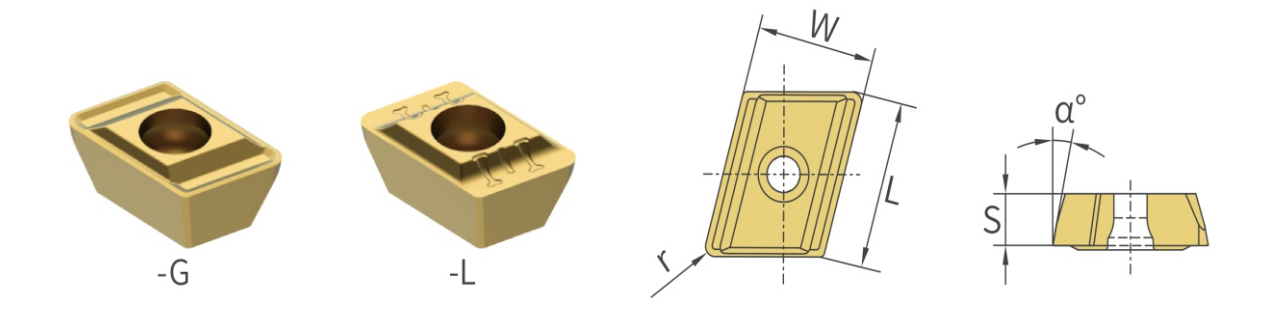
钻头直径范围	钻杆尺寸	订货号	尺寸 mm			
Drill dia.range	Tube size	Ordering code	Dimensions			
			dmm	dmt	I1	D21
25.00-26.40	03	D80.21-003-□□□□	22	19.5	26	15
26.41-28.70	04	D80.21-004-□□□□	24	21	26	16
28.71-31.00	05	D80.21-005-□□□□	26	23.5	29	18
31.01-33.30	06	D80.21-006-□□□□	28	25.5	29	20
33.31-36.20	07	D80.21-007-□□□□	30	28	29	22
36.21-39.60	08	D80.21-008-□□□□	33	30	36	24
39.61-43.00	09	D80.21-009-□□□□	36	33	36	26
43.01-47.00	10	D80.21-010-□□□□	39	36	36	29
47.01-51.70	11	D80.21-011-□□□□	43	39	36	32
51.71-56.20	12	D80.21-012-□□□□	47	43	40	35
56.21-65.00	13	D80.21-013-□□□□	51	47	40	39

- 订购钻杆时，需注明钻杆长度L2 (□□□□)
When ordering drill tube,state code length L2(□□□□) in the ordering code
- 钻头直径Dc=35.00mm，钻杆长度为2600mm的订货示例：
Ordering example for drill tube length 2600mm for drill diameter 35.00mm:D80.21-007-2600
- 外钻杆均不带扳手槽，如需要可定制
Drill tube without spanner slot,please state if needed.

ED-Ejector Drilling Inserts

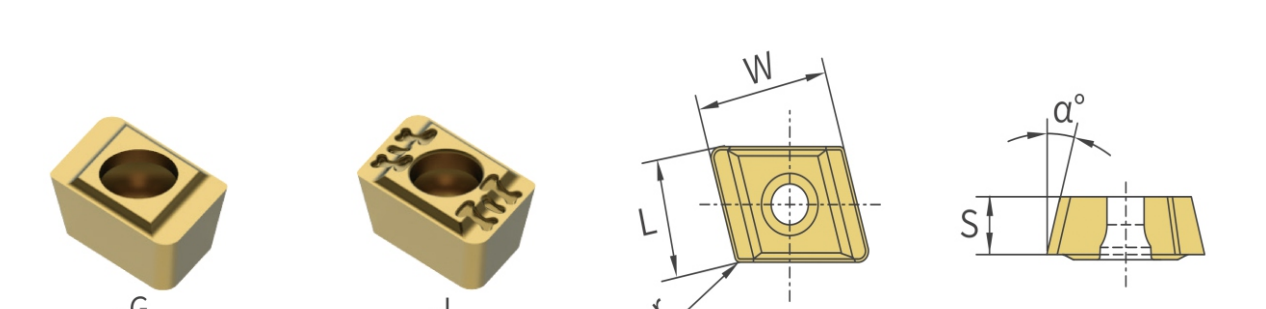
ED-喷吸钻刀片

● 中心刀片
Central insert



订货号	P	M	K	S	N	尺寸(mm, inch)								
Ordering code	PD25A	PD25A	PD25A	PD25A	PD25A	Dimensions								
						R	R"	W	W"	L	L"	S	S"	α°
D80-050308M-C-G	★	★	★	★	★	0.8	.031	8.00	.315	5.56	.218	3.17	.125	11
D80-06T308M-C-G	★	★	★	★	★	0.8	.031	9.87	.389	6.35	.250	3.96	.156	11
D80-08T308M-C-G	★	★	★	★	★	0.8	.031	9.87	.389	7.94	.312	3.96	.156	11
D80-10T308M-C-G	★	★	★	★	★	0.8	.031	9.87	.389	9.53	.376	3.96	.156	11
D80-12T308M-C-G	★	★	★	★	★	0.8	.031	12.7	.500	12.7	.500	3.96	.156	11
D80-050308M-C-L	★	★	★	★	★	0.8	.031	8.00	.315	5.56	.218	3.17	.125	11
D80-06T308M-C-L	★	★	★	★	★	0.8	.031	9.87	.389	6.35	.250	3.96	.156	11
D80-08T308M-C-L	★	★	★	★	★	0.8	.031	9.87	.389	7.94	.312	3.96	.156	11
D80-10T308M-C-L	★	★	★	★	★	0.8	.031	9.87	.389	9.53	.376	3.96	.156	11
D80-12T308M-C-L	★	★	★	★	★	0.8	.031	12.7	.500	12.7	.500	3.96	.156	11

● 中间刀片
Intermediate insert

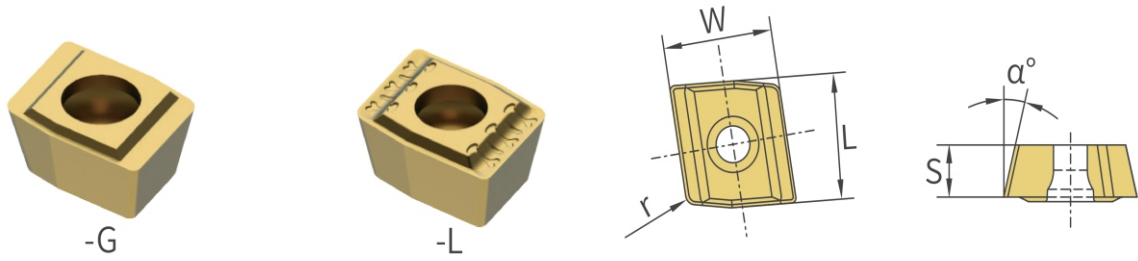


订货号	P	M	K	S	N	尺寸(mm, inch)								
Ordering code	PD25A	PD25A	PD25A	PD25A	PD25A	Dimensions								
						R	R"	W	W"	L	L"	S	S"	α°
D80-050308M-I-G	★	★	★	★	★	0.8	.031	8.00	.314	5.56	.218	3.17	.125	11
D80-06T308M-I-G	★	★	★	★	★	0.8	.031	9.87	.389	6.35	.250	3.96	.156	11
D80-08T308M-I-G	★	★	★	★	★	0.8	.031	9.87	.389	7.94	.312	3.96	.156	11
D80-12T308M-I-G	★	★	★	★	★	0.8	.031	12.7	.500	9.87	.389	3.96	.156	11
D80-050308M-I-L	★	★	★	★	★	0.8	.031	8.00	.314	5.56	.218	3.17	.125	11
D80-06T308M-I-L	★	★	★	★	★	0.8	.031	9.87	.389	6.35	.250	3.96	.156	11
D80-08T308M-I-L	★	★	★	★	★	0.8	.031	9.87	.389	7.94	.312	3.96	.156	11
D80-12T308M-I-L	★	★	★	★	★	0.8	.031	12.7	.500	9.87	.389	3.96	.156	11

ED-Ejector Drilling Inserts

ED-喷吸钻刀片

- 周边刀片
Peripheral insert

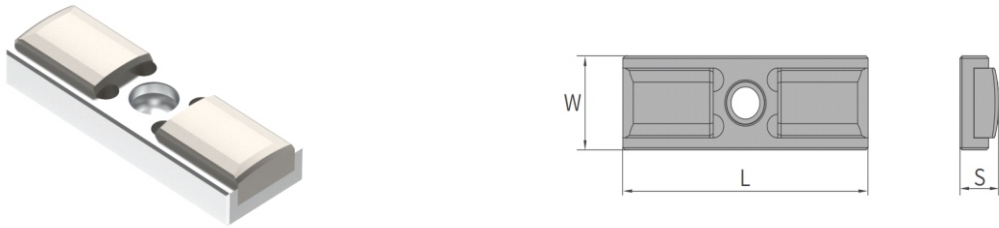


订货号	P	M	K	S	N	尺寸(mm, inch)								
Ordering code	PD25A	PD25A	PD25A	PD25A	PD25A	Dimensions								
						R	R"	W	W"	L	L"	S	S"	α°
D80-060308H-P-G	★	★	★	★	★	0.8	.031	8.00	.314	6.42	.253	3.17	.125	11
D80-08T308H-P-G	★	★	★	★	★	0.8	.031	9.00	.354	8.62	.339	3.96	.156	11
D80-09T308H-P-G	★	★	★	★	★	0.8	.031	9.00	.354	9.63	.379	3.96	.156	11
D80-11T308H-P-G	★	★	★	★	★	0.8	.031	9.00	.354	12.7	.500	3.96	.156	11
D80-060308H-P-L	★	★	★	★	★	0.8	.031	8.00	.314	6.42	.253	3.17	.125	11
D80-08T308H-P-L	★	★	★	★	★	0.8	.031	9.00	.354	8.62	.339	3.96	.156	11
D80-09T308H-P-L	★	★	★	★	★	0.8	.031	9.00	.354	9.63	.379	3.96	.156	11
D80-11T308H-P-L	★	★	★	★	★	0.8	.031	9.00	.354	12.7	.500	3.96	.156	11

Spray suction drill support plate

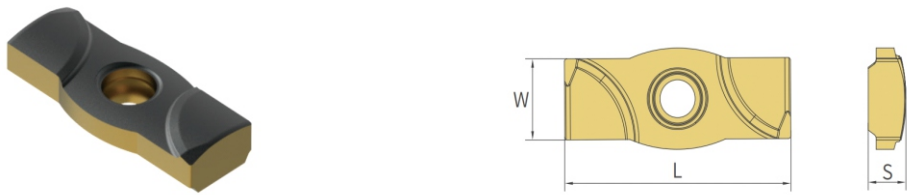
ED-喷吸钻支撑板

- 焊接高精度支撑板
Brazed pads-High precision



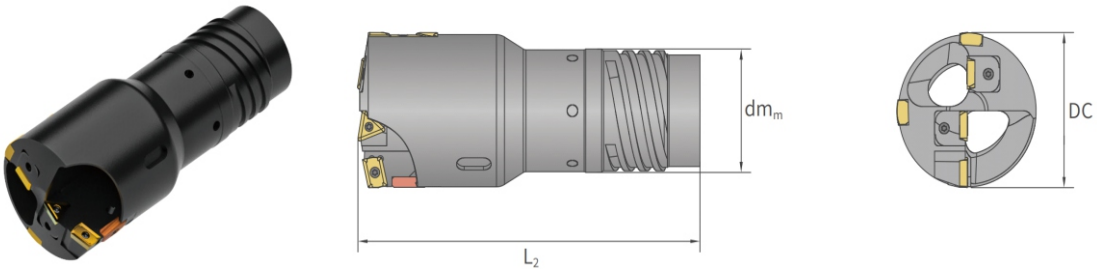
订货号	(mm, inch)					
Ordering code	Dimensions					
	W	W"	L	L"	S	S"
D80-06H	6	.236	18	.709	3.0	.118
D80-07H	7	.276	20	.787	3.5	.138
D80-08H	8	.315	25	.984	4.5	.177
D80-10H	10	.394	30	1.181	4.5	.177
D80-12H	12	.472	35	1.378	5.5	.216

- 压制精磨支撑板
Solid carbide pads-fine grinding



订货号	(mm, inch)					
Ordering code	Dimensions					
	W	W"	L	L"	S	S"
D80-06A	6	.236	18	.709	3.0	.118
D80-07A	7	.276	20	.787	3.5	.138
D80-08A	8	.315	25	.984	4.5	.177
D80-10A	10	.394	30	1.181	4.5	.177
D80-12A	12	.472	35	1.378	5.5	.216

Ejector Drill D42.11
喷吸钻D42.11



直径范围:63.50-200.00mm	Diameter range: 63.50-200.00mm
孔公差: IT10	Hole tolerance: IT10
表面光洁度: Ra 3um	Surface finish: Ra 3um
孔深: 100倍径	Hole depth: 100XDia
切削液: 纯油或有EP添加剂的乳化液	Cutting fluid: Net oil or EP additive

● 钻管dmt
和钻头dmm一致
dmt is the same as
dmm for the drill

● 标准产品
Standard products

钻头直径	钻杆尺寸	订货号	尺寸 mm			刀片						支撑板	数量
Drill diameter	Tube size	Ordering code	Dimensions			Insert						Support pad	Qty.
			dmm	L2	直径调整量	中心刀夹	数量	中间刀夹	数量	周边刀夹	数量		
Dc mm					Dia. adjustable	Central cartridge	Qty.	Intermediate cartridge	Qty.	Peripheral cartridge	Qty.		
63.50	13	D42.11-13D063.50	47	115	+0.5	BL430-C16	1	BR430-I16	1	BR430-P16	1	D80-14D065	2
65.00	13E	D42.11-13ED065.00	51	115	+1.0	BL430-C16	1	BR430-I16	1	BR430-P16	1	D80-14D065	2
65.00	14	D42.11-14D065.00	52	150	+1.0	BL430-C16	1	BR430-I16	1	BR430-P16	1	D80-14D065	2
69.85	15	D42.11-15D069.85	58	150	+0.2	BL430-C16	1	BR430-I16	1	BR430-P16	1	D80-14D065	2
70.00	15	D42.11-15D070.00	58	150	+1.0	BL430-C16	1	BR430-I16	1	BR430-P16	1	D80-14D065	2
71.45	15	D42.11-15D071.45	58	150	+0.5	BL430-C16	1	BR430-I16	1	BR430-P16	1	D80-14D065	2
75.00	16	D42.11-16D075.00	63	160	+1.2	BL430-C16	1	BR430-I16	1	BR430-P22	1	D80-14D065	2
76.20	16	D42.11-16D076.20	63	160	+1.8	BL430-C16	1	BR430-I16	1	BR430-P22	1	D80-14D065	2
80.00	17	D42.11-17D080.00	70	190	+1.0	BL430-C16	1	BR430-I16	1	BR430-P22	1	D80-14D065	2
82.55	17	D42.11-17D082.55	70	190	+0.5	BL430-C16	1	BR430-I16	1	BR430-P22	1	D80-14D065	2
85.00	17	D42.11-17D085.00	70	190	+1.5	BL430-C22	1	BR430-I16	1	BR430-P22	1	D80-14D065	2
88.90	18	D42.11-18D088.99	77	190	+1.0	BL430-C22	1	BR430-I16	1	BR430-P22	1	D80-14D065	2
90.00	18	D42.11-18D090.00	77	190	+1.0	BL430-C22	1	BR430-I16	1	BR430-P22	1	D80-14D065	2

Ejector Drill D42.11
喷吸钻D42.11

钻头直径	钻杆尺寸	订货号	尺寸 mm		刀片							支撑板	数量
Drill diameter	Tube size	Ordering code	Dimensions		Insert							Support pad	Qty.
			dmm	L2	直径调整量	中心刀夹	数量	中间刀夹	数量	周边刀夹	数量		
Dc mm					Dia. adjustable	Central cartridge	Qty.	Intermediate cartridge	Qty.	Peripheral cartridge	Qty.		
95.00	18	D42.11-18D095.00	77	190	+1.0	BL430-C22	1	BR430-I22	1	BR430-P22	1	D80-14D065	2
95.25	18	D42.11-18D095.25	77	190	+1.0	BL430-C22	1	BR430-I22	1	BR430-P22	1	D80-14D065	2
100.00	19	D42.11-19D100.00	89	195	+1.0	BL430-C22	1	BR430-I22	1	BR430-P22	1	D80-16D100	2
101.60	19	D42.11-19D101.60	89	195	+1.0	BL430-C22	1	BR430-I22	1	BR430-P22	1	D80-16D100	2
105.00	19	D42.11-19D105.00	89	195	+0.2	BL430-C22	1	BR430-I22	1	BR430-P22	1	D80-16D100	2
107.95	19	D42.11-19D107.95	89	195	+1.0	BL430-C16	1	BR430-I16	3	BR430-P16	1	D80-16D100	2
110.00	19	D42.11-19D110.00	89	195	+1.0	BL430-C16	1	BR430-I16	3	BR430-P16	1	D80-16D100	2
114.30	20	D42.11-20D114.30	101	220	+1.5	BL430-C16	1	BR430-I16	3	BR430-P16	1	D80-16D100	2
115.00	20	D42.11-20D115.00	101	220	+1.0	BL430-C16	1	BR430-I16	3	BR430-P16	1	D80-16D100	2
120.00	20	D42.11-20D120.00	101	220	+1.0	BL430-C16	1	BR430-I16	3	BR430-P16	1	D80-16D100	2
120.65	20	D42.11-20D120.65	101	220	+1.0	BL430-C16	1	BR430-I16	3	BR430-P22	1	D80-16D100	2
125.00	21	D42.11-21D125.00	113	220	+1.0	BL430-C16	1	BR430-I16	3	BR430-P22	1	D80-16D100	2
127.00	21	D42.11-21D127.00	113	220	+1.0	BL430-C16	1	BR430-I16	3	BR430-P22	1	D80-16D100	2
130.00	21	D42.11-21D130.00	113	220	+0.1	BL430-C16	1	BR430-I16	3	BR430-P22	1	D80-16D100	2

ED-Ejector Drill D42.11

ED-喷吸钻D42.11

定制产品
Tailor made products

钻头直径范围	推荐钻杆尺寸 (可选钻杆尺寸)	订货号	尺寸 mm			刀片						支撑板	数量
Drill dia. range	Recommended Tube size (Optional tube size)	Ordering code	Dimensions			Insert						Support pad	Qty.
			dmm	L2	径向调整量	中心刀夹	数量	中间刀夹	数量	周边刀夹	数量		
Dc(mm)					Dia. adjustable	Central cartridge	Qty.	Intermediate cartridge	Qty.	Peripheral cartridge	Qty.		
63.50-65.00	13	D42.11-13D□□□□.□□	47	115	+0.2	BL430-C16	1	BR430-I16	1	BR430-P16	1	D80-14D065	2
63.50-65.00	13E	D42.11-13ED□□□□.□□	51	115	+0.2	BL430-C16	1	BR430-I16	1	BR430-P16	1	D80-14D065	2
65.00-69.84	14 (13)	D42.11-14(13)D□□□□.□□	52	150	+0.2	BL430-C16	1	BR430-I16	1	BR430-P16	1	D80-14D065	2
69.85-71.99	15 (14)	D42.11-15(14)D□□□□.□□	58	150	+0.2	BL430-C16	1	BR430-I16	1	BR430-P16	1	D80-14D065	2
72.00-79.99	16 (15)	D42.11-16(15)D□□□□.□□	63	160	+0.2	BL430-C16	1	BR430-I16	1	BR430-P22	1	D80-14D065	2
80.00-82.99	17 (16)	D42.11-17(16)D□□□□.□□	70	190	+0.2	BL430-C16	1	BR430-I16	1	BR430-P22	1	D80-14D065	2
83.00-88.89	17 (16)	D42.11-17(16)D□□□□.□□	70	190	+0.2	BL430-C22	1	BR430-I16	1	BR430-P22	1	D80-14D065	2
88.90-91.49	18 (17)	D42.11-18(17)D□□□□.□□	77	190	+0.2	BL430-C22	1	BR430-I16	1	BR430-P22	1	D80-14D065	2
91.50-99.99	18 (17)	D42.11-18(17)D□□□□.□□	77	190	+0.2	BL430-C22	1	BR430-I22	1	BR430-P22	1	D80-14D065	2
100.00-104.99	19 (18)	D42.11-19(18)D□□□□.□□	89	195	+0.2	BL430-C22	1	BR430-I22	1	BR430-P22	1	D80-16D100	2
105.00-114.29	19 (18)	D42.11-19(18)D□□□□.□□	89	195	+0.2	BL430-C16	1	BR430-I16	3	BR430-P16	1	D80-16D100	2
114.30-121.99	20 (19)	D42.11-20(19)D□□□□.□□	101	220	+0.2	BL430-C16	1	BR430-I16	3	BR430-P16	1	D80-16D100	2
122.00-124.99	21 (20)	D42.11-21(20)D□□□□.□□	113	220	+0.2	BL430-C16	1	BR430-I16	3	BR430-P22	1	D80-16D100	2
125.00-135.99	21 (20)	D42.11-21(20)D□□□□.□□	113	220	+0.2	BL430-C16	1	BR430-I16	3	BR430-P22	1	D80-16D100	2
136.00-200.00	22-25	定制Customized design			+0.2								2

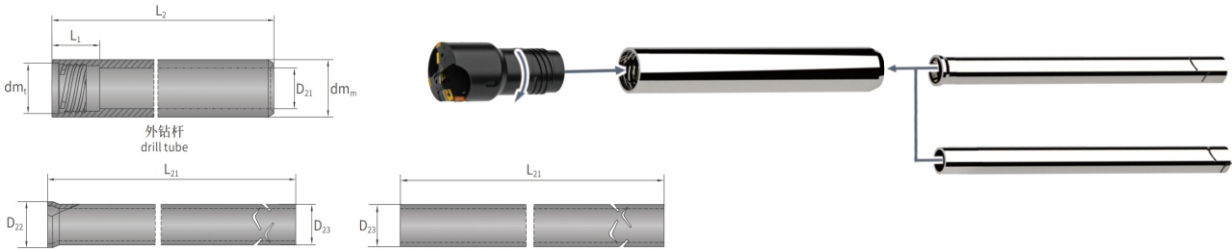
- 订购钻头时，需注明钻头直径（□□□.□□）
When ordering drill,state drill diameter（□□□.□□）in the ordering code
- 订货示例
Ordering example: D42.11-14D068.00

刀片Insert

中心刀卡	刀片	中间刀卡	刀片	周边刀卡	刀片
Central cartridge	Insert	Intermediate cartridge	Insert	Peripheral cartridge	Insert
BL430-C16	TPMT16T312R-L	BR430-I16	TPMT16T312R-L	BR430-P16	424-13T308-L
	TPMT16T312R-G		TPMT16T312R-G		424-13T308-G
BL430-C22	TPMT220612R-L	BR430-I22	TPMT220612R-L	BR430-P22	424-180608-L
	TPMT220612R-G		TPMT220612R-G		424-180608-G

ED-Tubes For D42.11 Ejector Drills

ED-喷吸钻D42.11钻杆

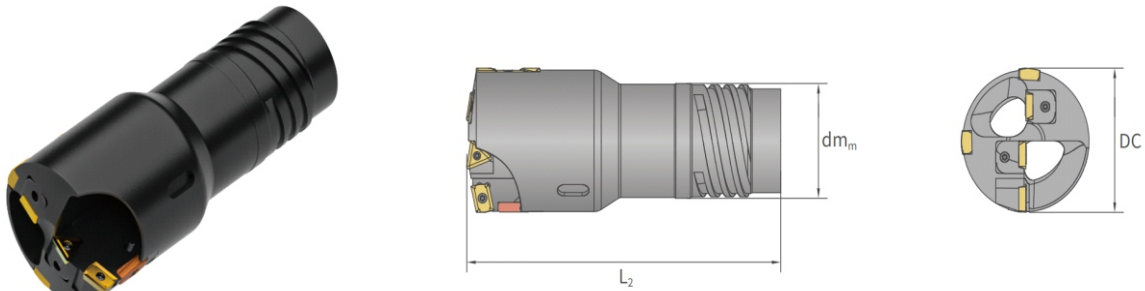


钻头直径	钻杆尺寸	订货号（外钻杆）	尺寸 mm				订货号（内钻杆）	尺寸 mm	
Drill diameter	Tube size	Ordering code (drill tube)	Dimensions				Ordering code (inner tube)	Dimensions	
			dmm	dmt	D21	I1		D22	D23
63.50	13	D80.11-013-□□□□	55.5	47	43	44	D80.11-113-□□□□	43	40
65.00	13E	D80.11-013E-□□□□	56.00	51.00	43.00	44.00	D80.11-113-□□□□	43.00	40.00
65.00	14	D80.11-014-□□□□	56	52	43	75	D80.11-114-□□□□	-	40
69.85	15	D80.11-015-□□□□	62	58	48	75	D80.11-115-□□□□	-	44
70.00									
71.45									
75.00	16	D80.11-016-□□□□	68	63	53	75	D80.11-116-□□□□	-	48
76.20									
80.00	17	D80.11-017-□□□□	75	70	59	97	D80.11-117-□□□□	-	54
82.55									
85.00									
88.90	18	D80.11-018-□□□□	82	77	66	97	D80.11-118-□□□□	-	60
90.00									
95.00									
95.25									
100.00	19	D80.11-019-□□□□	94	89	78	97	D80.11-119-□□□□	-	70
101.60									
105.00									
107.95									
110.00									
114.30	20	D80.11-020-□□□□	106	101	90	118	D80.11-120-□□□□	-	80
115.00									
120.00									
120.65									
125.00	21	D80.11-021-□□□□	118	113	92	118	D80.11-121-□□□□	-	80
127.00									
135.99									
136-200	22-25	定制Customized design							

- 订购钻杆时，需注明钻杆长度L2，L21（□□□□）
When ordering drill tube,state code length L2，L21(□□□□) in the ordering code
- 钻头直径Dc=65.00mm,外钻杆长度为1070mm,内钻杆长度为1260mm的订货示例：
Ordering example for drill tube length 1070mm，inner tube length 1260mm for drill diameter 65.00mm:
外钻杆Drill tube:D80.11-014-1070,内钻杆Inner tube:D80.11-114-1260
- 钻头直径为63.50mm-123.90mm的内钻杆必须比外钻杆长190mm。
For drill diameter 63.50mm-123.90mm:inner tube must be 190mm longer than drill tube.
- 钻头直径为124.00mm-200.00mm的内钻杆必须比外钻杆长220mm
For drill diameter 124.00mm-200.00mm:inner tube must be 220mm longer than drill tube.
- 钻杆均不带扳手槽，如需要可定制。
Drill tube without spanner slot,please state if needed.

STS Drill D42.21

单管钻D42.21



直径范围:63.50-200.00mm	Diameter range: 63.50-200.00mm
孔公差: IT10	Hole tolerance: IT10
表面光洁度: Ra 3um	Surface finish: Ra 3um
孔深:150倍径	Hole depth: 150XDia
切削液: 纯油或有EP添加剂的乳化液	Cutting fluid: Net oil or EP additive

● 钻管dmt
和钻头dmm一致
dmt is the same as
dmm for the drill

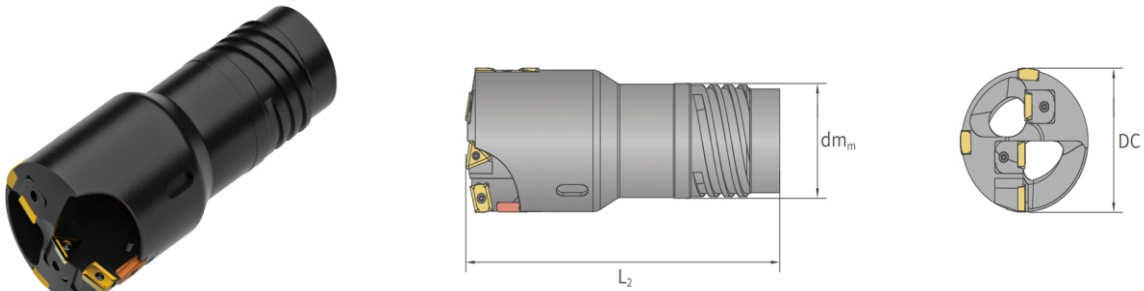
● 标准产品

Standard products

钻头直径	钻杆尺寸	订货号	尺寸 mm			刀片						支撑板	数量
Drill diameter	Tube size	Ordering code	Dimensions			Insert						Support pad	Qty.
			dmm	L2	直径调整量	中心刀夹	数量	中间刀夹	数量	周边刀夹	数量		
Dc mm					Dia. adjustable	Central cartridge	Qty.	Intermediate cartridge	Qty.	Peripheral cartridge	Qty.		
63.50	13	D42.11-13D063.50	47	115	+0.5	BL430-C16	1	BR430-I16	1	BR430-P16	1	D80-14D065	2
65.00	13E	D42.11-13ED065.00	51	115	+1.0	BL430-C16	1	BR430-I16	1	BR430-P16	1	D80-14D065	2
65.00	14	D42.11-14D065.00	52	150	+1.0	BL430-C16	1	BR430-I16	1	BR430-P16	1	D80-14D065	2
69.85	15	D42.11-15D069.85	58	150	+0.2	BL430-C16	1	BR430-I16	1	BR430-P16	1	D80-14D065	2
70.00	15	D42.11-15D070.00	58	150	+1.0	BL430-C16	1	BR430-I16	1	BR430-P16	1	D80-14D065	2
71.45	15	D42.11-15D071.45	58	150	+0.5	BL430-C16	1	BR430-I16	1	BR430-P16	1	D80-14D065	2
75.00	16	D42.11-16D075.00	63	160	+1.2	BL430-C16	1	BR430-I16	1	BR430-P22	1	D80-14D065	2
76.20	16	D42.11-16D076.20	63	160	+1.8	BL430-C16	1	BR430-I16	1	BR430-P22	1	D80-14D065	2
80.00	17	D42.11-17D080.00	70	190	+1.0	BL430-C16	1	BR430-I16	1	BR430-P22	1	D80-14D065	2
82.55	17	D42.11-17D082.55	70	190	+0.5	BL430-C16	1	BR430-I16	1	BR430-P22	1	D80-14D065	2
85.00	17	D42.11-17D085.00	70	190	+1.5	BL430-C22	1	BR430-I16	1	BR430-P22	1	D80-14D065	2
88.90	18	D42.11-18D088.99	77	190	+1.0	BL430-C22	1	BR430-I16	1	BR430-P22	1	D80-14D065	2
90.00	18	D42.11-18D090.00	77	190	+1.0	BL430-C22	1	BR430-I16	1	BR430-P22	1	D80-14D065	2

STS Drills D42.21

单管钻D42.21



直径范围:63.50-200.00mm	Diameter range: 63.50-200.00mm
孔公差: IT10	Hole tolerance: IT10
表面光洁度: Ra 3um	Surface finish: Ra 3um
孔深:150倍径	Hole depth: 150XDia
切削液: 纯油或有EP添加剂的乳化液	Cutting fluid: Net oil or EP additive

● 钻管dmt
和钻头dmm一致
dmt is the same as
dmm for the drill

钻头直径	钻杆尺寸	订货号	尺寸 mm			刀片						支撑板	数量
Drill diameter	Tube size	Ordering code	Dimensions			Insert						Support pad	Qty.
			dmm	L2	直径调整量	中心刀夹	数量	中间刀夹	数量	周边刀夹	数量		
Dc mm					Dia. adjustable	Central cartridge	Qty.	Intermediate cartridge	Qty.	Peripheral cartridge	Qty.		
95.00	18	D42.11-18D095.00	77	190	+1.0	BL430-C22	1	BR430-I22	1	BR430-P22	1	D80-14D065	2
95.25	18	D42.11-18D095.25	77	190	+1.0	BL430-C22	1	BR430-I22	1	BR430-P22	1	D80-14D065	2
100.00	19	D42.11-19D100.00	89	195	+1.0	BL430-C22	1	BR430-I22	1	BR430-P22	1	D80-16D100	2
101.60	19	D42.11-19D101.60	89	195	+1.0	BL430-C22	1	BR430-I22	1	BR430-P22	1	D80-16D100	2
105.00	19	D42.11-19D105.00	89	195	+0.2	BL430-C22	1	BR430-I22	1	BR430-P22	1	D80-16D100	2
107.95	19	D42.11-19D107.95	89	195	+1.0	BL430-C16	1	BR430-I16	3	BR430-P16	1	D80-16D100	2
110.00	19	D42.11-19D110.00	89	195	+1.0	BL430-C16	1	BR430-I16	3	BR430-P16	1	D80-16D100	2
114.30	20	D42.11-20D114.30	101	220	+1.5	BL430-C16	1	BR430-I16	3	BR430-P16	1	D80-16D100	2
115.00	20	D42.11-20D115.00	101	220	+1.0	BL430-C16	1	BR430-I16	3	BR430-P16	1	D80-16D100	2
120.00	20	D42.11-20D120.00	101	220	+1.0	BL430-C16	1	BR430-I16	3	BR430-P16	1	D80-16D100	2
120.65	20	D42.11-20D120.65	101	220	+1.0	BL430-C16	1	BR430-I16	3	BR430-P22	1	D80-16D100	2
125.00	21	D42.11-21D125.00	113	220	+1.0	BL430-C16	1	BR430-I16	3	BR430-P22	1	D80-16D100	2
127.00	21	D42.11-21D127.00	113	220	+1.0	BL430-C16	1	BR430-I16	3	BR430-P22	1	D80-16D100	2
130.00	21	D42.11-21D130.00	113	220	+0.1	BL430-C16	1	BR430-I16	3	BR430-P22	1	D80-16D100	2

ED-Ejector Drill D42.21

ED-喷吸钻D42.21

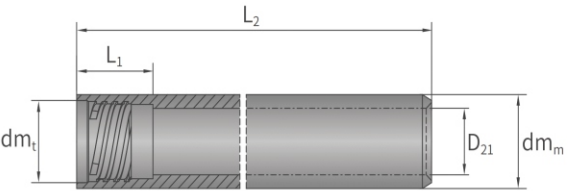
- 定制产品
Tailor made products

钻头直径范围	推荐钻杆尺寸 (可选钻杆尺寸)	订货号	尺寸 mm			刀片						支撑板	数量
Drill dia. range	Recommended Tube size (Optional tube size)	Ordering code	Dimensions			Insert						Support pad	Qty.
			dmm	L2	Dia. adjustable	Central cartridge	Qty.	Intermediate cartridge	Qty.	Peripheral cartridge	Qty.		
63.50-65.00	13	D42.11-13D□□□.□□	47	115	+0.2	BL430-C16	1	BR430-I16	1	BR430-P16	1	D80-14D065	2
63.50-65.00	13E	D42.11-13ED□□□.□□	51	115	+0.2	BL430-C16	1	BR430-I16	1	BR430-P16	1	D80-14D065	2
65.00-69.84	14 (13)	D42.11-14(13)D□□□□.□□	52	150	+0.2	BL430-C16	1	BR430-I16	1	BR430-P16	1	D80-14D065	2
69.85-71.99	15 (14)	D42.11-15(14)D□□□□.□□	58	150	+0.2	BL430-C16	1	BR430-I16	1	BR430-P16	1	D80-14D065	2
72.00-79.99	16 (15)	D42.11-16(15)D□□□□.□□	63	160	+0.2	BL430-C16	1	BR430-I16	1	BR430-P22	1	D80-14D065	2
80.00-82.99	17 (16)	D42.11-17(16)D□□□□.□□	70	190	+0.2	BL430-C16	1	BR430-I16	1	BR430-P22	1	D80-14D065	2
83.00-88.89	17 (16)	D42.11-17(16)D□□□□.□□	70	190	+0.2	BL430-C22	1	BR430-I16	1	BR430-P22	1	D80-14D065	2
88.90-94.00	18 (17)	D42.11-18(17)D□□□□.□□	77	190	+0.2	BL430-C22	1	BR430-I16	1	BR430-P22	1	D80-14D065	2
95.00-99.99	18 (17)	D42.11-18(17)D□□□□.□□	77	190	+0.2	BL430-C22	1	BR430-I22	1	BR430-P22	1	D80-14D065	2
100.00-104.99	19 (18)	D42.11-19(18)D□□□□.□□	89	195	+0.2	BL430-C22	1	BR430-I22	1	BR430-P22	1	D80-16D100	2
105.00-114.29	19 (18)	D42.11-19(18)D□□□□.□□	89	195	+0.2	BL430-C16	1	BR430-I16	3	BR430-P16	1	D80-16D100	2
114.30-121.99	20 (19)	D42.11-20(19)D□□□□.□□	101	220	+0.2	BL430-C16	1	BR430-I16	3	BR430-P16	1	D80-16D100	2
122.00-124.99	21 (20)	D42.11-21(20)D□□□□.□□	101	220	+0.2	BL430-C16	1	BR430-I16	3	BR430-P22	1	D80-16D100	2
125.00-135.99	21 (20)	D42.11-21(20)D□□□□.□□	113	220	+0.2	BL430-C16	1	BR430-I16	3	BR430-P22	1	D80-16D100	2
136.00-200.00	22-25	定制Customized design			+0.2								2

- 订购钻头时，需注明钻头直径 (□□□.□□)
When ordering drill,state drill diameter (□□□.□□) in the ordering code
- 订货示例
Ordering example: D42.11-14D068.00

刀片Insert

中心刀卡	刀片	中间刀卡	刀片	周边刀卡	刀片
Central cartridge	Insert	Intermediate cartridge	Insert	Peripheral cartridge	Insert
BL430-C16	TPMT16T312R-L	BR430-I16	TPMT16T312R-L	BR430-P16	424-13T308-L
	TPMT16T312R-G		TPMT16T312R-G		424-13T308-G
BL430-C22	TPMT220612R-L	BR430-I22	TPMT220612R-L	BR430-P22	424-180608-L
	TPMT220612R-G		TPMT220612R-G		424-180608-G

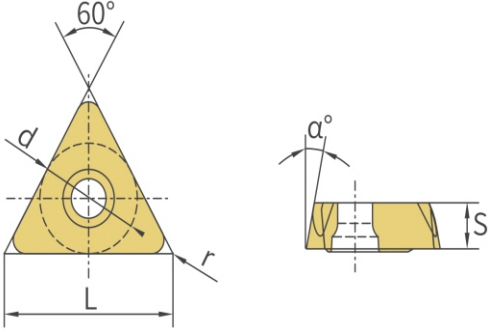
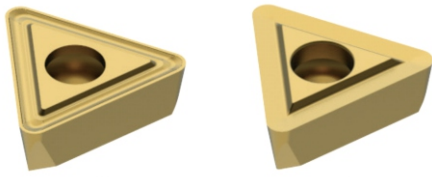


钻头直径	钻杆尺寸	订货号	尺寸 mm			
Drill diameter	Tube size	Ordering code	Dimensions			
			dmm	dmt	l1	D21
63.50	13	D80.21-013-□□□□	51	47	40	39
65.00	13E	D80.21-013E-□□□□	56	51	40	43
65.00	14	D80.21-014-□□□□	56	52	75	43
69.85	15	D80.21-015-□□□□	62	58	75	48
70.00						
74.99						
75.00	16	D80.21-016-□□□□	68	63	75	53
79.99						
80.00	17	D80.21-017-□□□□	75	70	97	59
82.55						
88.89						
88.90	18	D80.21-018-□□□□	82	77	97	66
90.00						
95.00						
99.99						
100.00	19	D80.21-019-□□□□	94	89	97	78
101.60						
105.00						
107.95						
114.29						
114.30	20	D80.21-020-□□□□	106	101	118	90
115.00						
120.00						
124.99						
125.00	21	D80.21-021-□□□□	118	113	118	92
127.00						
135.99						
136-200	22-25					

- 订购钻杆时，需注明钻杆长度L2 (□□□□)
When ordering drill tube,state code length L2(□□□□) in the ordering code
- 钻头直径Dc=35.00mm，钻杆长度为2600mm的订货示例：
Ordering example for drill tube length 2600mm for drill diameter 35.00mm:D80.21-014-2600
- 外钻杆均不带扳手槽，如需要可定制
Drill tube without spanner slot,please state if needed.

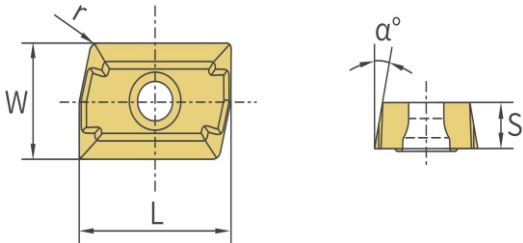
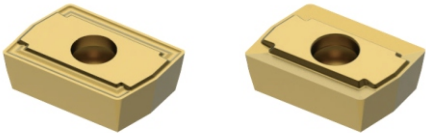
ED-Ejector Drilling Inserts
ED-喷吸钻刀片

- 中心刀片、中间刀片
Central and intermediate insert



订货号	P	M	K	S	N	尺寸(mm, inch)								
Ordering code	PD25A	PD25A	PD25A	PD25A	PD25A	Dimensions								
						R	R''	d	d''	L	L''	S	S''	α°
TPMT 16T312R-L	★	★	★	★	★	1.2	0.047	9.525	0.375	16.5	0.650	3.97	0.156	11°
TPMT 16T312R-G	★	★	★	★	★	1.2	0.047	9.525	0.375	16.5	0.65	3.97	0.156	11°
TPMT 220612R-L	★	★	★	★	★	1.2	0.047	12.7	0.500	22.0	0.866	6.35	0.250	11°
TPMT 220612R-G	★	★	★	★	★	1.2	0.047	12.7	0.500	22.0	0.866	6.35	0.250	11°

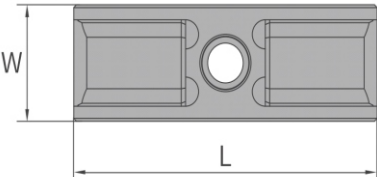
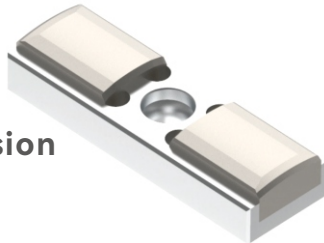
- 周边刀片
Peripheral insert



订货号	P	M	K	S	N	尺寸(mm, inch)								
Ordering code	PD25A	PD25A	PD25A	PD25A	PD25A	Dimensions								
						R	R''	W	W''	L	L''	S	S''	α°
424-13T308-L	★	★	★	★	★	0.8	0.031	10	0.394	14.7	0.579	3.97	0.156	11°
424-13T308-G	★	★	★	★	★	0.8	0.031	10	0.394	14.7	0.579	3.97	0.156	11°
424-180608-L	★	★	★	★	★	0.8	0.031	11.5	0.453	20.6	0.811	6.35	0.250	11°
424-180608-G	★	★	★	★	★	0.8	0.031	11.5	0.453	20.6	0.811	6.35	0.250	11°

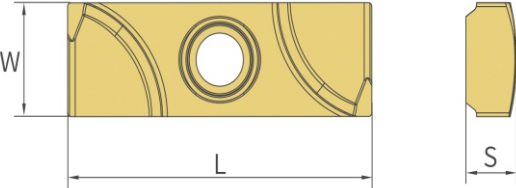
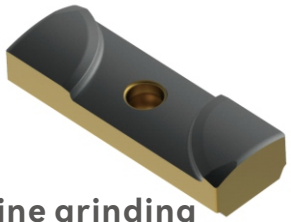
Spray suction drill support plate
ED-喷吸钻支撑板

- 焊接高精度支撑板
Brazed pads-High precision



钻头直径范围	订货号	尺寸(mm, inch)					
Drill dia.range	Ordering code	Dimensions					
Dc(mm,inch)		W	W''	L	L''	S	S''
63.5-74.99(2.480-2.952)	D80-14D065H	14	.551	35	1.379	7.0	.276
75.0-84.99(2.953-3.346)	D80-14D075H	14	.551	35	1.379	7.0	.276
85.0-99.99(3.346-3.936)	D80-14D085H	14	.551	35	1.379	7.0	.276
100-109.99(3.937-4.330)	D80-16D100H	20	.787	50	1.969	8.5	.335
110-119.99(4.331-4.724)	D80-16D110H	20	.787	50	1.969	8.5	.335
120-129.99(4.725-5.118)	D80-16D120H	20	.787	50	1.969	8.5	.335
130-139.99(5.119-5.511)	D80-16D130H	20	.787	50	1.969	8.5	.335
140-149.99(5.512-5.905)	D80-16D140H	20	.787	50	1.969	8.5	.335
150-159.99(5.906-6.298)	D80-16D150H	20	.787	50	1.969	8.5	.335
160-169.99(6.229-6.692)	D80-16D160H	20	.787	50	1.969	8.5	.335
170-179.99(6.693-7.086)	D80-16D170H	20	.787	50	1.969	8.5	.335
180-189.99(7.087-7.497)	D80-16D180H	20	.787	50	1.969	8.5	.335

- 压制精磨支撑板
Solid carbide pads-fine grinding

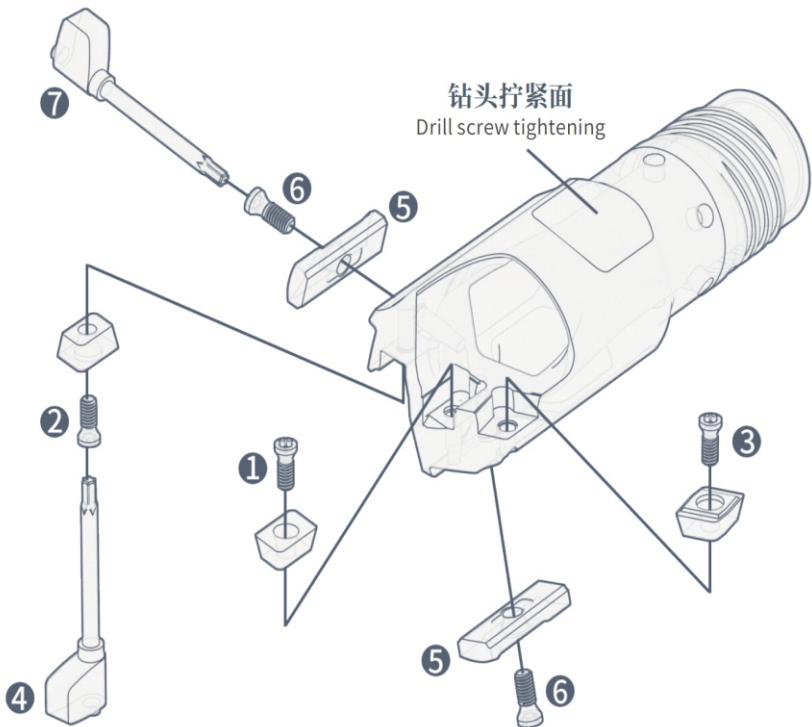


钻头直径范围	订货号	尺寸(mm, inch)					
Drill dia.range	Ordering code	Dimensions					
Dc(mm,inch)		W	W''	L	L''	S	S''
63.5-74.99(2.480-2.952)	D80-14D065H	14	.551	35	1.379	7.0	.276
75.0-84.99(2.953-3.346)	D80-14D075H	14	.551	35	1.379	7.0	.276
85.0-99.99(3.346-3.936)	D80-14D085H	14	.551	35	1.379	7.0	.276
100-109.99(3.937-4.330)	D80-16D100H	20	.787	50	1.969	8.5	.335
110-119.99(4.331-4.724)	D80-16D110H	20	.787	50	1.969	8.5	.335
120-129.99(4.725-5.118)	D80-16D120H	20	.787	50	1.969	8.5	.335
130-139.99(5.119-5.511)	D80-16D130H	20	.787	50	1.969	8.5	.335

- 可根据加工要求定制非标支撑板。
Customized design available

Spareparts for D80 Drills

D80深孔钻备件



钻头直径范围	1	2	3	4	5	6	7
Drill dia.range	中心刀片螺钉	中间刀片螺钉	周边刀片螺钉	扳手	支撑板	螺钉	扳手
Dc mm	Central insert screw	Intermediate insert screw	Peripheral insert screw	Wrench	Support pad	Screw	Wrench
25.00-28.70	B020-05	B020-05	B020-05	S01-107	D80-06..	B020-20	S01-107
28.71-31.00	B020-20	B020-05	B020-05	S01-107	D80-06..	B020-20	S01-107
31.01-39.60	B020-34	B020-34	B020-34	S01-108	D80-07..	B020-24	S01-109
39.61-47.00	B020-34	B020-34	B020-34	S01-108	D80-08..	B020-833	S01-110
47.01-65.00	B020-34	B020-34	B020-34	S01-108	D80-10..-D80-12..	B020-10	S01-115

Spareparts for D80 Drills

D80深孔钻备件

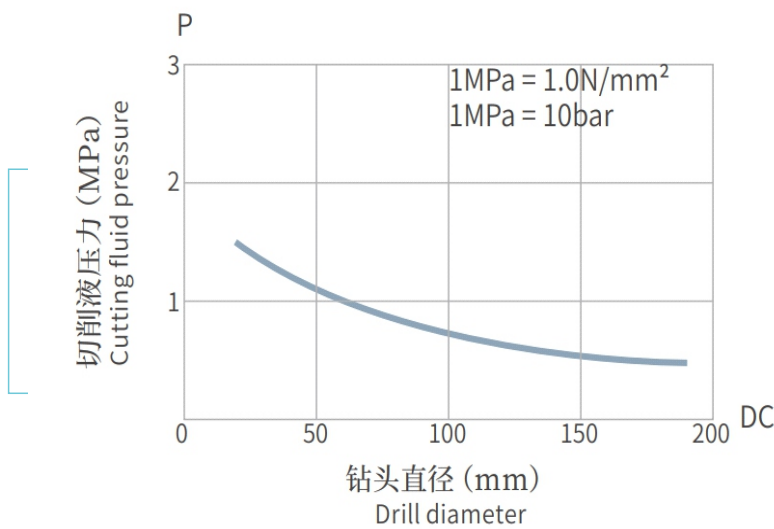
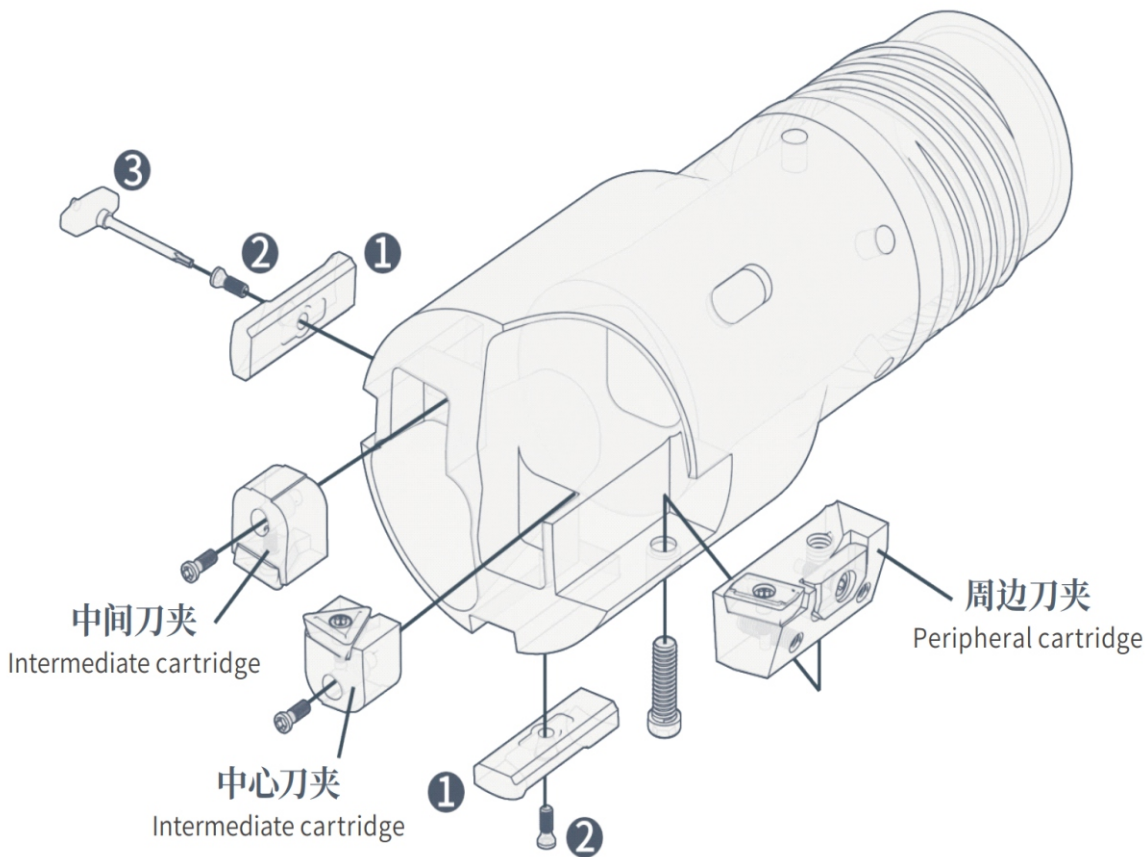
- 钻头拧紧面扳手钳口宽度
Spanner size for drill screw tightening

钻头直径范围	钳口宽度mm	扳手
Drill dia.range	Spanner size	Spanner
Dc mm	mm	
25.00 < -≤27.00	22	W01-220
27.00 < -≤29.00	24	W01-240
29.00 < -≤31.00	26	AW01-260 (*)
31.00 < -≤32.00	27	W01-270
32.00 < -≤35.00	28	W01-280
35.00 < -≤36.20	30	W01-300
36.20 < -≤39.60	32	W01-320
39.60 < -≤43.00	36	W01-360
43.00 < -≤47.00	38	W01-380
47.00 < -≤49.00	41	W01-410
49.00 < -≤51.70	43	AW01-430 (*)
51.70 < -≤54.00	46	W01-460
54.00 < -≤56.20	50	W01-500
56.20 < -≤60.00	50	W01-500
60.00 < -≤61.00	55	W01-550
61.00 < -≤63.00	58	AW01-580 (*)
63.00 < -≤65.00	60	W01-600

- *AW01系列扳手为开口活动扳手
AW01 is adjustable spanner



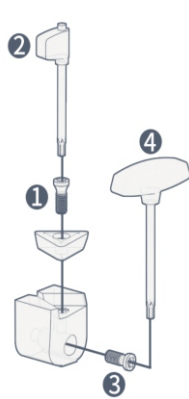
Spareparts for D42 Drills
D42深孔钻备件



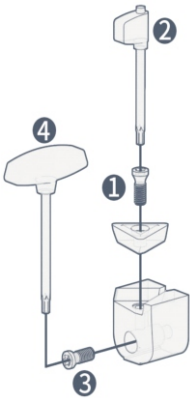
2	3
螺钉	扳手
Screw	Wrench
B020-10	S01-115
B020-07	S01-120

Spareparts for D42 Drills
D42深孔钻备件

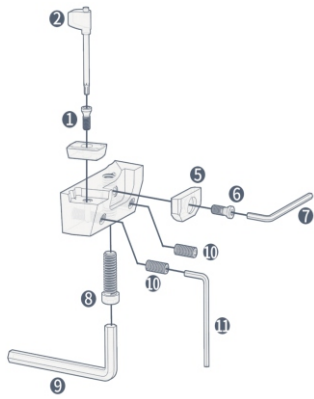
刀夹
Cartridge



中心刀夹
Central cartridge



中间刀夹
Intermediate cartridge

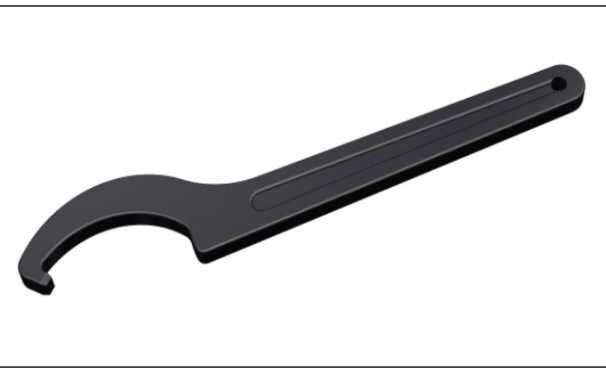


周边刀夹
Peripheral cartridge

中心刀夹	中间刀夹	1	2	3	4
Central cartridge	Intermediate cartridge	螺钉	扳手	螺钉	扳手
		screw	Wrench	Screw	Wrench
BL430-C16	BR430-I16	B020-24	S01-109	B020-26	T01-120
BL430-C22	BR430-I22	B020-25	S01-115	B020-26	T01-120

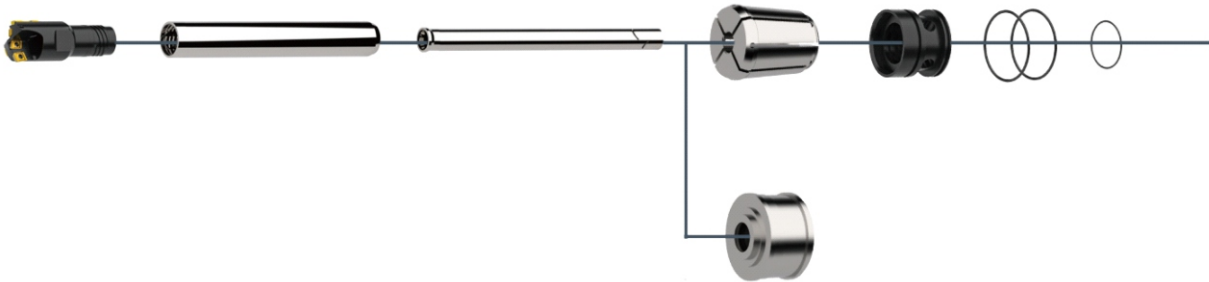
周边刀夹	1	2	5	6	7	8	9	10	11
Peripheral cartridge	螺钉	扳手	刀片保护板	螺钉	扳手	螺钉	扳手	螺钉	扳手
	Screw	Wrench	Pressure pad	Screw	Wrench	Screw	Wrench	Screw	Wrench
BR430-P16	B020-24	S01-109	PB-P16	S03-030 060	L02-0020	S03-060 160	L02-0040	S06-060-100	L02-0030
BR430-P22	B020-25	S01-115	PB-P22	S03-030 060	L02-0020	S03-060 200	L02-0040	S06-060-100	L02-0030

钻头直径范围	月牙扳手型号
Drill dia.range	Hook Wrench
63.50 < -≤72.99	G01-058
73.00 < -≤79.99	G01-068
80.00 < -≤99.99	G01-080
100.00 < -≤111.99	G01-095
112.00 < -≤123.99	G01-110
124.00 < -≤136.00	G01-120



Assembling Parts For Ejector System

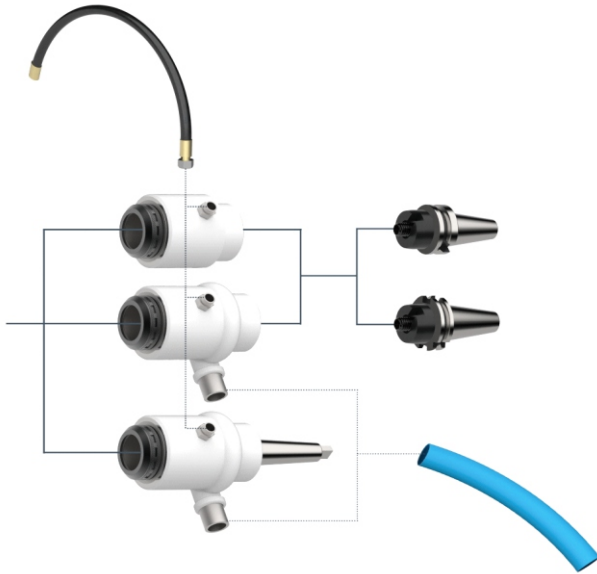
深孔喷吸系统部件



钻头直径范围	钻杆尺寸	喷吸钻头	外钻管	内钻管	ER 夹套	密封套筒	外O型圈(2个)
Drill dia.range	Tube size	Drill head	Drill tube	Inner tube	ER collet	Sealing sleeve	Oring (2PCS)
25.00-26.40	03	D80.11-03DXX.XX	D80.11-003-□□□□	D80.11-103-□□□□	D42-ER03	D42-SS03	EO-0313
26.41-28.70	04	D80.11-04DXX.XX	D80.11-004-□□□□	D80.11-104-□□□□	D42-ER04	D42-SS04	
28.71-31.00	05	D80.11-05DXX.XX	D80.11-005-□□□□	D80.11-105-□□□□	D42-ER05	D42-SS05	
31.01-33.30	06	D80.11-06DXX.XX	D80.11-006-□□□□	D80.11-106-□□□□	D42-ER06	D42-SS06	
33.31-36.20	07	D80.11-07DXX.XX	D80.11-007-□□□□	D80.11-107-□□□□	D42-ER07	D42-SS07	
36.21-39.60	08	D80.11-08DXX.XX	D80.11-008-□□□□	D80.11-108-□□□□	D42-ER08	D42-SS08	
39.61-43.00	09	D80.11-09DXX.XX	D80.11-009-□□□□	D80.11-109-□□□□	D42-ER09	D42-SS09	
43.01-47.00	10	D80.11-10DXX.XX	D80.11-010-□□□□	D80.11-110-□□□□	D42-ER10	D42-SS10	
47.01-51.70	11	D80.11-11DXX.XX	D80.11-011-□□□□	D80.11-111-□□□□	D42-ER11	D42-SS11	
51.71-56.20	12	D80.11-12DXX.XX	D80.11-012-□□□□	D80.11-112-□□□□v	D42-ER12	D42-SS12	
56.21-65.00	13	D80.11-13DXX.XX	D80.11-013-□□□□	D80.11-113-□□□□	D42-ER13	D42-SS13	
63.50-65.00	13	D42.11-13D□□□.□□	D80.11-013-□□□□	D80.11-113-□□□□	D42-ER13	D42-SS13	

ER夹套从锁紧螺母或者密封套筒取出时，建议订购ER夹套拆装器。

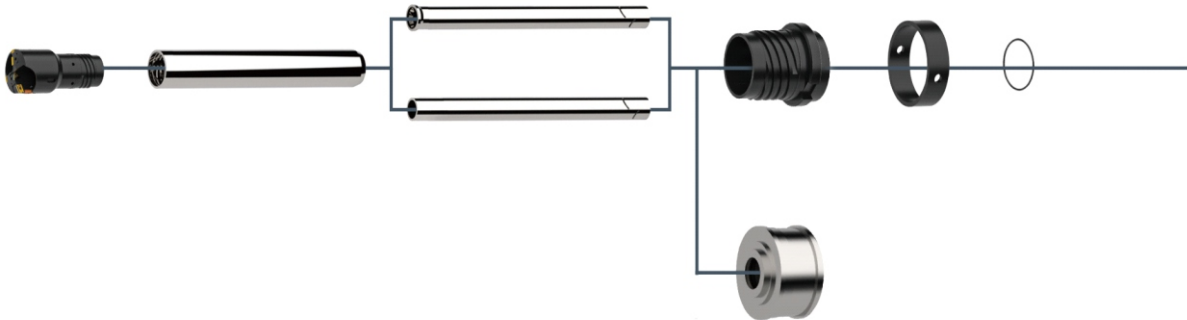
Please order ER hand tool to remove ER collet from nut or sealing sleeve.



内O型圈(1个)	高压冷却液(mm)	冷却液出水管	旋转连接器(1型)	旋转连接器(2型)	Bt机床主刀柄	Jt机床主刀柄
O-ring(1 PCS)	HP coolant hose	Coolant outlet pipe	Rotation connector(Type 1)	Rotation Connector(Type 2)	BT tool holder	Jl tool holder
IO-03	D42HPPL□□□□-1 连接冷却液箱 Connect to the cooler housing	D42-CDL-□□□□-1	D42.1-D19-65-V63 外型较小，不需要冷却液出水管 Smaller size than D42.2-D19-65-V63 coolant outlet pipe unneeded.	D42.2-D19-65-V63 体型稍大 Bigger size than D42.1-D19-65-V63	BT50-V63 仅BT50机床选用 Only for BT50 spinder	JT50-V63 仅JT50机床选用 Only for JT50 spinder
IO-04						
IO-05						
IO-06						
IO-07						
IO-08						
IO-09						
IO-10						
IO-11						
IO-12						
IO-13						

Assembling Parts For Ejector System

深孔喷吸系统部件



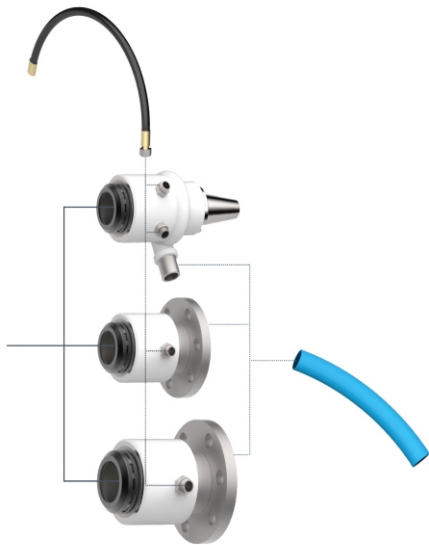
钻头直径范围	钻杆尺寸	喷吸钻头	外钻管	内钻管	连接套
Drill dia.range	Tube size	Drill head	Drill tube	Inner tube	Connecting sleeve
65,00-66,99	14	D42.11-14D□□□.□□	D80.11-014-□□□□	D80.11-114-□□□□	D42-CS14
67,00-72,99	15	D42.11-15D□□□.□□	D80.11-015-□□□□	D80.11-115-□□□□	D42-CS15
73,00-79,99	16	D42.11-16D□□□.□□	D80.11-016-□□□□	D80.11-116-□□□□	D42-CS16
80,00-86,99	17	D42.11-17D□□□.□□	D80.11-017-□□□□	D80.11-117-□□□□	D42-CS17
87,00-99,99	18	D42.11-18D□□□.□□	D80.11-018-□□□□	D80.11-118-□□□□	D42-CS18
100,00-111,99	19	D42.11-19D□□□.□□	D80.11-019-□□□□	D80.11-119-□□□□	D42-CS19
112,00-123,99	20	D42.11-20D□□□.□□	D80.11-020-□□□□	D80.11-120-□□□□	D42-CS20
124,00-135,99	21	D42.11-21D□□□.□□	D80.11-021-□□□□	D80.11-121-□□□□	D42-CS21
136,00-147,99	22	D42.11-22D□□□.□□	D80.11-022-□□□□	D80.11-122-□□□□	D42-CS22
148,00-159,99	23	D42.11-23D□□□.□□	D80.11-023-□□□□	D80.11-123-□□□□	D42-CS23
160,00-171,99	24	D42.11-24D□□□.□□	D80.11-024-□□□□	D80.11-124-□□□□	D42-CS24
172,00-183,90	25	D42.11-25D□□□.□□	D80.11-025-□□□□	D80.11-125-□□□□	D42-CS25

- 选择完整的喷吸钻系统，请咨询技术人员。

Please contact with technical engineer when choose a complete set ejector system.

- 可根据客户机床情况定制减震器，非旋转连接器等其它喷吸钻附件。

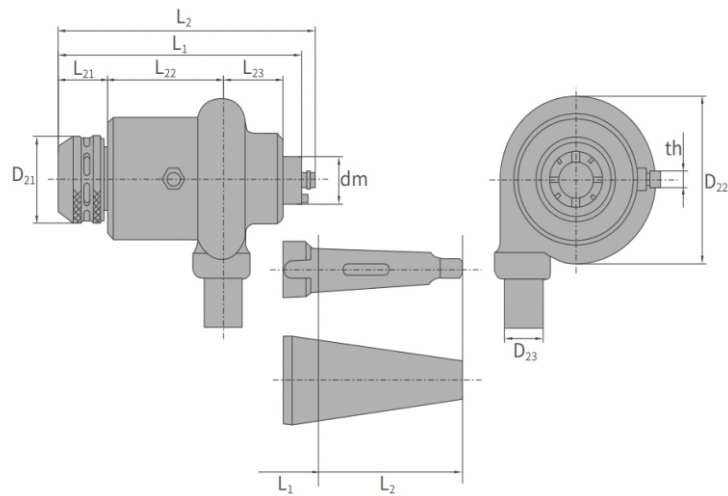
Vibration damper and non-rotating connectors can be tailor made according to fit the machine tool.



密封套筒	O型圈	高压冷却液管(mm)	冷却液出水管	旋转连接器(3型)	旋转连接器(4型&5型)
Sealing sleeve	O-ring	HP coolant hose	Coolant outlet pipe	Rotation connector(Type 3)	Rotation connector(Type 4&5)
D42-SS14	EO-1425	D42-HPPL-□□□□-2 连接冷却液箱 Connect to the cooler housing	D42-CDL-□□□□-2	D42.1-D65-124-BT50 适合较大直径钻头,2个进水口 Suitable for big size drill, 2 water inlets	D42.4-D65-124-FL220 4型 Type4 直接与机床法兰连接 Coonect directly to the machine.
D42-SS15					
D42-SS16					
D42-SS17					
D42-SS18					
D42-SS19					
D42-SS20					
D42-SS21					
D42-SS22				/	D42.5-D124-184-FL290 5型 Type5 直接与机床法兰连接 Coonect directly to the machine.
D42-SS23					
D42-SS24					
D42-SS25					

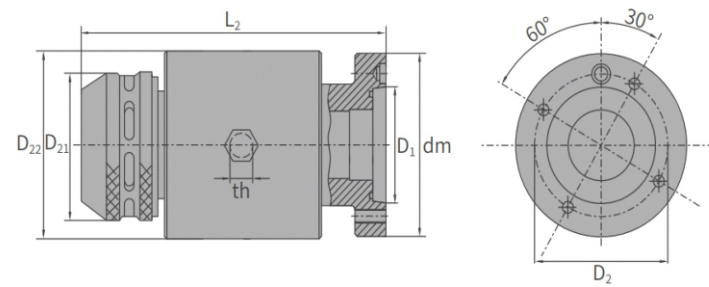
Rotation Connectors

旋转连接器



旋转连接器型式		钻头直径范围	订货号	接口型式
Type of rotation connector		Drill dia.range	Ordering code	Mounting type
		Dc mm		
1型-V63 Type 1-V63		25.00-65.00	D42.1-D19-65-V63	V63
2型-V63 Type 2-V63		25.00-65.00	D42.2-D19-65-V63	V63
3型-BT50 Type 3-BT50		65.00-123.99	D42.1-D65-124-BT50	Bt50
4型-法兰连接 Type 4-Flange mounting		65.00-123.99	D42.4-D65-124-FL220	法兰连接 Flange mounting
5型-法兰连接Type 5- Flange mounting		124.00-183.99	D42.5-D124-184-FL290	法兰连接 Flange mounting
6型-莫氏5号Type 6- Morse MT5		25.00-65.00	D42.2-D19-65-M5	莫氏5号 Morse MT5

- 其他规格，接口的旋转连接器均可根据客户需求进行定制。
Other type rotation connector can be tailor made.

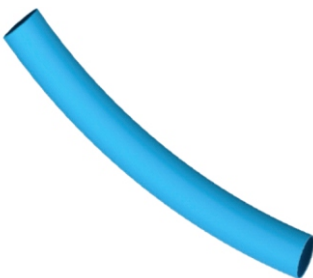


尺寸(mm)												选型指南
Dimensions												Selection guide
dm	D21	D22	D23	D1	D2	L1	L2	L21	L22	L23	th	
63	115	210	-	-	-	305	-	67	135	85	M27X1.5	外型较小，不需要选择冷却液出水管 Smaller size than 424.2-D19-65-V63, coolant outlet pipe unneeded
63	115	210	50	-	-	305	-	67	135	85	M27X1.5	体型稍大 Bigger size than 424.1-D19-65-V63
-	164	312	100	-	-	341	471	61	200	108	M27X1.5	适合较大直径钻头,2个进水口 Suitable for big size drill, 2 water inlets
220	164	225	-	139.7	171.4	-	345	-	-	-	M45X2	直接与机床法兰连接 Coonect directly to the machine
290	244	360	-	196.9	235	-	400	-	-	-	M64X2	直接与机床法兰连接 Coonect directly to the machine
-	115	210	50	-	-	309.5	465	67	135	85	M27X1.5	莫氏接口 Used in Morse mounting machine

Assembling Parts For Ejector System

深孔喷吸系统部件

- 高压冷却液管带接头
High pressure coolant hose with joint
- 冷却液出水管
Coolant outlet pipe



订货号	长度 mm	连接器进水口规格	冷却液箱出水口规格
Ordering code	length	Size for inlet of connector	Size for outlet of cooler housing
D42-HPPL-□□□□-1	□□□□	M27X1.5	NPT 1 1/2"
D42-HPPL-□□□□-2	□□□□	M45X2	NPT2"

订货号	长度 mm	出屑口直径
Ordering code	length	Dia. of chip outlet
D42-CDL-□□□□-1	□□□□	50
D42-CDL-□□□□-2	□□□□	100

- Er夹套拆装器
ER hand tool

订货号	尺寸范围
Ordering code	Size range
ER-DS	ER03-ER13

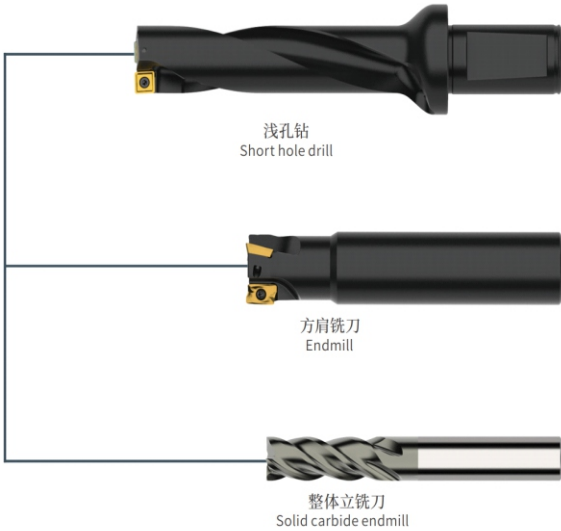
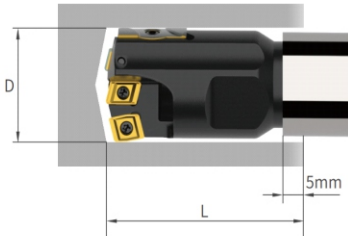


- Er夹套拆装器
ER hand tool

主刀柄型式	订货号
Basic holder type	Ordering code
	BT50-V63
	JT50-V63

Technical Guide

ED-技术指南



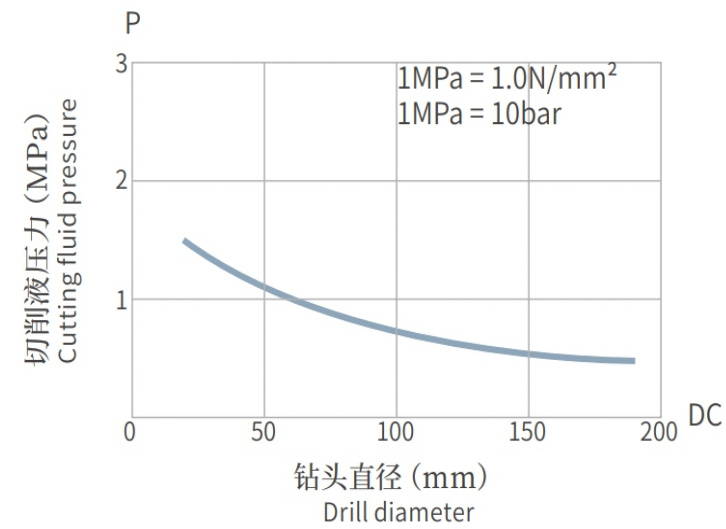
钻头直径范围	钻杆尺寸	引导孔/导向套最短尺寸	引导孔/导向套尺寸
Drill dia.range	Tube size	Min. Pilot Hole /guiding Bush Length	Pilot Hole/guiding Bush Hole Size
Dc mm		L mm	D mm
25.00-26.40	03	70	+0.05/+0.03
26.41-28.70	04	70	+0.05/+0.03
28.71-31.00	05	75	+0.05/+0.03
31.01-33.30	06	75	+0.05/+0.03
33.31-36.20	07	80	+0.05/+0.03
36.21-39.60	08	80	+0.05/+0.03
39.61-43.00	09	85	+0.05/+0.03
43.01-47.00	10	90	+0.07/+0.03
47.01-51.70	11	95	+0.07/+0.03
51.71-56.20	12	100	+0.07/+0.03
56.21-65.00	13	105	+0.07/+0.03
63.50-65.00	13	105	+0.08/+0.03
65.00-66.99	14	110	+0.08/+0.03
67.00-72.99	15	115	+0.08/+0.03
73.00-79.99	16	120	+0.08/+0.03
80.00-86.99	17	130	+0.08/+0.03
87.00-99.99	18	140	+0.08/+0.03
100.00-111.99	19	150	+0.08/+0.03

Technical Guide

ED-技术指南

钻头直径范围	钻杆尺寸	引导孔/导向套最短尺寸	引导孔/导向套尺寸
Drill dia.range	Tube size	Min. Pilot Hole /guiding Bush Length	Pilot Hole/guiding Bush Hole Size
Dc mm		L mm	D mm
112,00-123,99	20	150	+0.08/+0.03
124,00-135,99	21	150	+0.08/+0.03
136,00-147,99	22	150	+0.08/+0.03
148,00-159,99	23	150	+0.08/+0.03
160,00-171,99	24	150	+0.08/+0.03
172,00-183,90	25	150	+0.08/+0.03

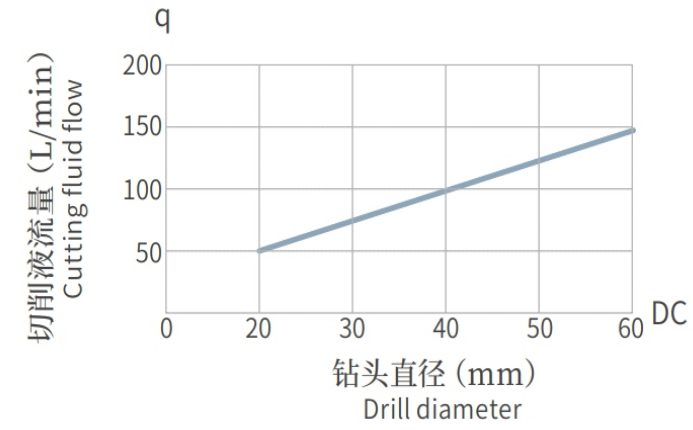
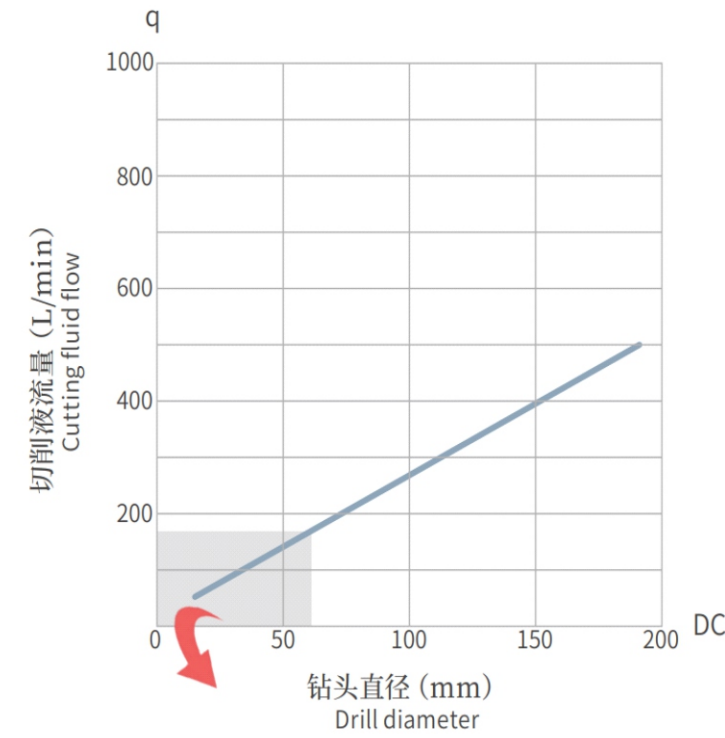
- 喷吸钻系统冷却液流量压力要求
Ejector system coolant quantity and pressure.
- 切削液压力
Cutting fluid pressure



Technical Guide

ED-技术指南

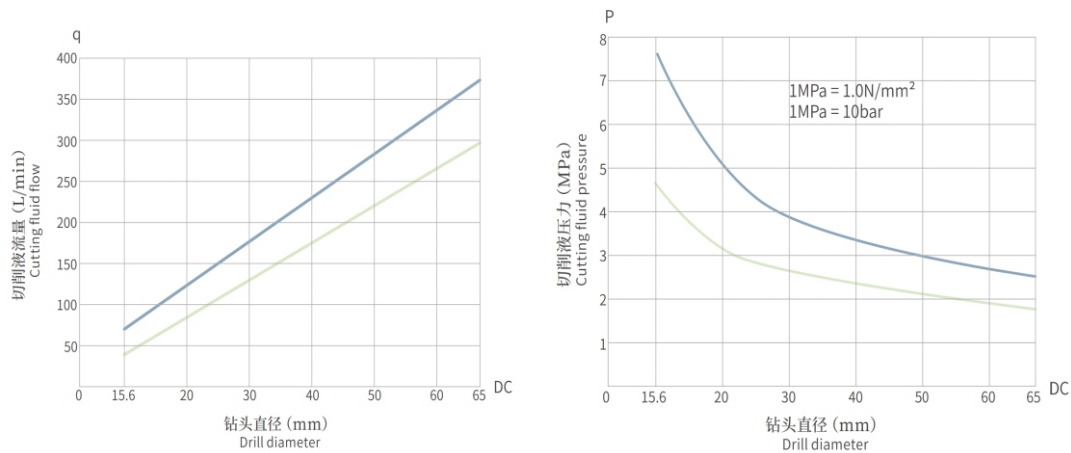
- 切削液流量
Cutting fluid flow



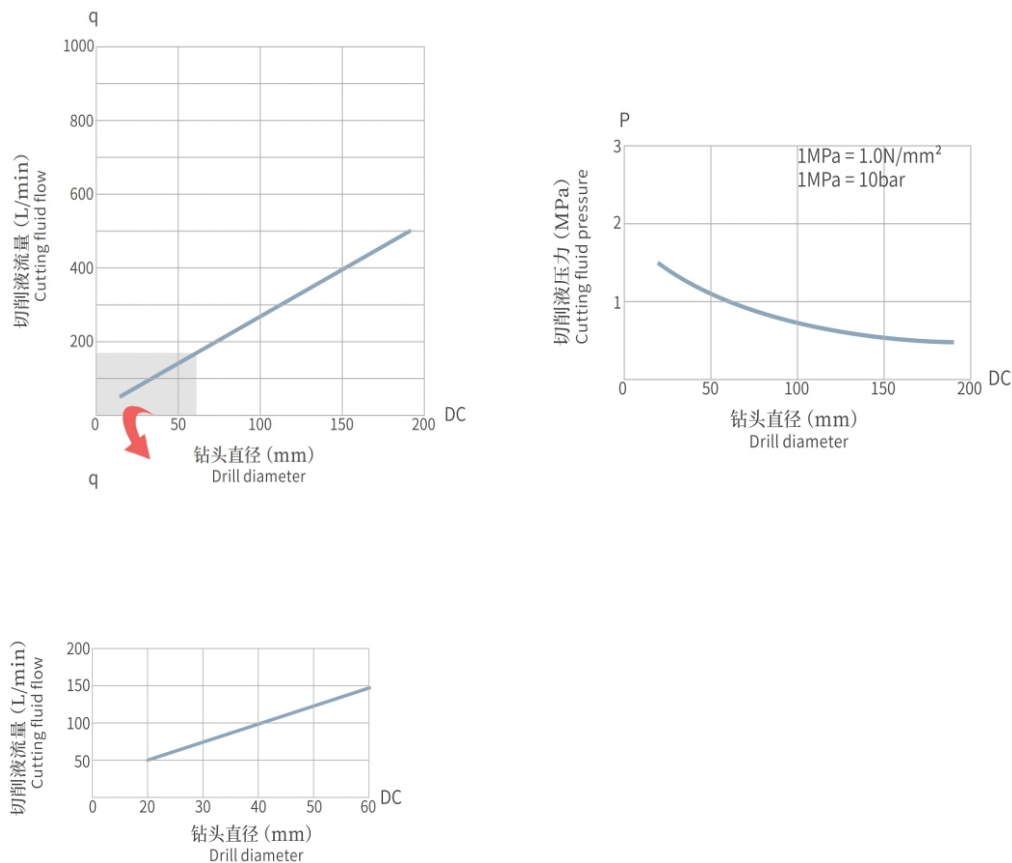
Technical Guide

ED-技术指南

- D80.21单管钻冷却液流量压力
- STS cutting fluid flow and pressure for D80.21.



- D42.21单管钻冷却液流量压力
- STS cutting fluid flow and pressure for D42.21.



Technical Guide

ED-技术指南

ISO	材料	单位切削力Kc	布氏硬度HB	槽型/牌号	进给量 fn(mm/r)	
	Materials	N/mm2		800-G/PD25A	钻头直径	
				vc(m/min)	Drill dia. mm	
					25,00-43,00	43,01-65,00
P	非合金钢 Carbon steel					
	C=0.1-0.25%	1500	125	70-130	0.11-0.25	0.11-0.30
	C=0.25-0.55%	1600	150	70-130	0.11-0.30	0.11-0.30
	C=0.55-0.80%	1700	170	70-130	0.11-0.30	0.11-0.30
	低合金钢（合金元素≤5%） Low alloy steel					
	非淬硬钢 Non-hardened	1700	180	70-120	0.11-0.30	0.16-0.30
	轴承钢 Bearing steel	1800	210	70-120	0.11-0.30	0.16-0.30
	调质 Tempering steel	1850	275	50-110	0.11-0.30	0.16-0.30
	调质 Tempering steel	2050	350	50-110	0.11-0.30	0.16-0.30
	高合金钢（合金元素 > 5%） High alloy steel					
	退火 Anneal	1950	200	50-110	0.11-0.30	0.18-0.35
	淬硬工具钢 Quenched tool steel	3000	325	50-110	0.11-0.30	0.18-0.35
	铸钢 Cast steel					
	非合金 Non-alloy	1550	180	50-110	0.11-0.30	0.18-0.32
	低合金（合金元素≤5%） Low alloy	1600	200	50-110	0.11-0.30	0.18-0.32
	高合金（合金元素 > 5%） High alloy	2050	225	50-90	0.11-0.30	0.18-0.32
M	铁素体/马氏体/棒材/锻件 Ferrite/Martensite forged					
	非淬硬 Non-hardened	1800	200	40-110	0.10-0.30	0.16-0.30
	沉淀硬化 Precipitation hardening	2850	330	40-110	0.10-0.30	0.16-0.30
	淬硬 Hardened	2350	330	40-80	0.10-0.30	0.16-0.30
	奥氏体 棒材/锻件 Austenite forged					
	奥氏体 Austenite	1800	180	40-90	0.10-0.30	0.16-0.30
	沉淀硬化 Precipitation hardening	2850	330	30-70	0.10-0.30	0.16-0.30
	超级奥氏体 Super austenite	2250	200	30-70	0.10-0.30	0.16-0.30
	奥氏体-铁素体（双相）棒材/锻件 Duplex forged					
	不可焊接≥0.05% C Unweldable	2000	230	30-70	0.10-0.30	0.16-0.30
	可焊接 < 0.05% C Welding	2450	260	30-70	0.10-0.30	0.16-0.30
	铁素体/马氏体 铸件 Ferrite/Martensite cast-on					
	非淬硬 Non-hardened	1700	200	30-70	0.10-0.30	0.16-0.30
	沉淀硬化 Precipitation hardening	2450	330	30-70	0.10-0.30	0.16-0.30
	淬硬钢 Hardened	2150	330	30-70	0.10-0.30	0.16-0.30

D80 Drills Cutting Parameters Recommendation

D80系列切削参数推荐

ISO	材料	单位切削力Kc	布氏硬度HB	槽型/牌号	进给量 fn(mm/r)	
	Materials	N/mm2		800-G/PD25A	钻头直径	
				vc(m/min)	Drill dia. mm	
					25,00-43,00	43,01-65,00
M	奥氏体 铸件 Austenite cast-on					
	奥氏体 Austenite	1700	180	30-70	0.10-0.30	0.16-0.30
	沉淀硬化 Precipitation hardening	2450	330	30-70	0.10-0.30	0.16-0.30
	超级奥氏体 Super austenite	2150	200	30-70	0.10-0.30	0.16-0.30
	奥氏体-铁素体（双相）铸件 Duplex cast-on					
	不可焊接≥0.05% C Unweldable	1800	230	30-70	0.10-0.30	0.16-0.30
	可焊接 < 0.05% C Welding	2250	260	30-70	0.10-0.30	0.16-0.30
K	可锻铸铁 Malleable cast-iron					
	铁素体（短切屑）Ferrite (short chip)	790	130	80-120	0.10-0.35	0.16-0.38
	珠光体（长切屑）Pearlite (long chip)	900	230	80-120	0.10-0.35	0.16-0.38
	灰口铸铁 Gray cast iron					
	低抗拉强度 Low tensile strength	890	180	70-120	0.10-0.35	0.16-0.38
	高抗拉强度 高抗拉强度	970	220	70-120	0.10-0.35	0.16-0.38
	球墨铸铁SG Nodular cast iron					
	铁素体 Ferrite	900	160	50-120	0.10-0.35	0.16-0.38
	珠光体 Pearlite	1350	250	50-120	0.10-0.35	0.16-0.38
	马氏体 Martensite	2100	380	50-120	0.10-0.35	0.16-0.38
N	铝合金 Aluminium alloy					
	锻造或锻造+冷作，非时效处理 forged	400	60	65-150	0.09-0.33	0.20-0.35
	锻造或锻造加时效处理 Forging with aging treatment	650	100	65-150	0.09-0.33	0.20-0.35
	铝合金 Aluminium alloy					
	奥氏体 Austenite	600	75	65-150	0.09-0.33	0.20-0.35
	沉淀硬化 Precipitation hardening	700	90	65-150	0.09-0.33	0.20-0.35
	铝合金 Aluminium alloy					
	奥氏体-铁素体（双相）棒材/锻件 Duplex forged	700	130	65-150	0.09-0.33	0.20-0.35
	不可焊接≥0.05% C Unweldable	700	130	65-150	0.09-0.33	0.20-0.35
	铜和铜合金 Copper and copper alloy					
	铁素体/马氏体 铸件 Ferrite/Martensite cast-on	550	110	65-150	0.09-0.33	0.20-0.35
	非淬硬 Non-hardened	550	90	65-150	0.09-0.33	0.20-0.35
	沉淀硬化 Precipitation hardening	1350	100	65-150	0.09-0.33	0.20-0.35

ISO	材料	单位切削力K _c	布氏硬度HB	槽型/牌号	进给量 fn(mm/r)	
	Materials	N/mm2		800-G/PD25A	钻头直径	
				vc(m/min)	Drill dia. mm	
					25,00-43,00	43,01-65,00
S	高温合金 铁基 Superalloy, iron-based					
	退火或固溶处理 Annealing	2400	200	10-55	0.09-0.30	0.20-0.33
	时效处理或固溶处理加时效处理 Aged	2500	280	10-55	0.09-0.30	0.20-0.33
	镍基 Nickel base					
	退火或固溶处理 Annealing	2650	250	10-55	0.09-0.30	0.20-0.33
	时效处理或固溶处理加时效处理 Aged	2900	350	10-55	0.09-0.30	0.20-0.33
	铸造或铸造加时效处理 Cast-on	3000	320	10-55	0.09-0.30	0.20-0.33
	钴基 Cobalt base					
	退火或固溶处理 Annealing	2700	200	10-55	0.09-0.30	0.20-0.33
	固溶处理加时效处理 Aged	3000	300	10-55	0.09-0.30	0.20-0.33
	铸造或铸造加时效处理 Cast-on	3100	320	10-55	0.09-0.30	0.20-0.33
	钛合金2) Titanium alloy		Rm3)			
	商业纯 (99.5% Ti) Unalloyed Titanium	1300	400	20-60	0.09-0.30	0.20-0.33
	α, 近α与α+β合金, 退火 Annealing (α+β)	1400	950	20-60	0.09-0.30	0.20-0.33
	α+β合金时效处理, β合金, 退火或时效处理 Aged (α+β)	1400	1050	20-60	0.09-0.30	0.20-0.33

D42 Drills Cutting Parameters Recommendation

D42系列切削参数推荐

ISO	材料	单位切削力Kc	布氏硬度HB	槽型	切削速度	进给量 fn(mm/r)
	Materials	N/mm2		Geometry	Cutting speed	钻头直径
					vc(m/min)	Drill dia. mm
						≥ 63.50
P	非合金钢 Carbon steel					
	C=0.1-0.25%	1500	125	424-L	80-100	0.18-0.35
	C=0.25-0.55%	1600	150	424-L	80-100	0.18-0.35
	C=0.55-0.80%	1700	170	424-L	80-100	0.18-0.35
	低合金钢（合金元素≤5%） Low alloy steel					
	非淬硬钢 Non-hardened	1700	180	424-L	70-100	0.18-0.35
	轴承钢 Bearing steel	1800	210	424-L	70-100	0.18-0.35
	调质 Tempering steel	1850	275	424-L	60-100	0.16-0.35
	调质 Tempering steel	2050	350	424-L	60-100	0.16-0.35
	高合金钢（合金元素 > 5%） High alloy steel					
	退火 Anneal	1950	200	424-L	50-110	0.16-0.35
	淬硬工具钢 Quenched tool steel	3000	325	424-L	50-110	0.16-0.35
	铸钢 Cast steel					
	非合金 Non-alloy	1550	180	424-L	50-110	0.15-0.35
	低合金（合金元素≤5%） Low alloy	1600	200	424-L	50-110	0.15-0.35
	高合金（合金元素 > 5%） High alloy	2050	225	424-L	50-110	0.15-0.35
M	铁素体/马氏体/棒材/锻件 Ferrite/Martensite forged					
	非淬硬 Non-hardened	1800	200	424-L	50-90	0.16-0.35
	沉淀硬化 Precipitation hardening	2850	330	424-L	50-90	0.16-0.35
	淬硬 Hardened	2350	330	424-L	50-90	0.16-0.35
	奥氏体 棒材/锻件 Austenite forged					
	奥氏体 Austenite	1800	180	424-G	50-90	0.16-0.35
	沉淀硬化 Precipitation hardening	2850	330	424-G	50-90	0.16-0.35
	超级奥氏体 Super austenite	2250	200	424-G	50-90	0.16-0.35
	奥氏体-铁素体（双相）棒材/锻件 Duplex forged					
	不可焊接≥0.05% C Unweldable	2000	230	424-G	50-90	0.16-0.35
	可焊接 < 0.05% C Welding	2450	260	424-G	50-90	0.16-0.35
	铁素体/马氏体 铸件 Ferrite/Martensite cast-on					
	非淬硬 Non-hardened	1700	200	424-G	50-90	0.16-0.35
	沉淀硬化 Precipitation hardening	2450	330	424-G	50-90	0.16-0.35
	淬硬钢 Hardened	2150	330	424-G	50-90	0.16-0.35

ISO	材料	单位切削力Kc	布氏硬度 HB	槽型	切削速度	进给量 fn(mm/r)
	Materials	N/mm2		Geometry	Cutting speed	钻头直径
					vc(m/min)	Drill dia. mm
M	奥氏体 铸件 Austenite cast-on					
	奥氏体 Austenite	1700	180	424-G	50-90	0.16-0.35
	沉淀硬化 Precipitation hardening	2450	330	424-G	50-90	0.16-0.35
	超级奥氏体 Super austenite	2150	200	424-G	50-90	0.16-0.35
	奥氏体-铁素体（双相） 铸件 Duplex cast-on					
	不可焊接≥0.05% C Unweldable	1800	230	424-G	50-90	0.16-0.35
	可焊接 < 0.05% C Welding	2250	260	424-G	50-90	0.16-0.35
K	可锻铸铁 Malleable cast-iron					
	铁素体（短切屑） Ferrite (short chip)	790	130	424-L	80-100	0.18-0.30
	珠光体（长切屑） Pearlite (long chip)	900	230	424-L	80-100	0.18-0.30
	灰口铸铁 Gray cast iron					
	低抗拉强度 Low tensile strength	890	180	424-L	60-100	0.16-0.35
	高抗拉强度 高抗拉强度	970	220	424-L	60-100	0.16-0.35
	球墨铸铁SG Nodular cast iron					
	铁素体 Ferrite	900	160	424-L	50-100	0.16-0.35
	珠光体 Pearlite	1350	250	424-L	50-100	0.16-0.35
	马氏体 Martensite	2100	380	424-L	50-100	0.16-0.35
N	铝合金 Aluminium alloy					
	锻造或锻造+冷作，非时效处理 forged	400	60	424-G	65-130	0.10-0.30
	锻造或锻造加时效处理 Forging with aging treatment	650	100	424-G	65-130	0.10-0.30
	铝合金 Aluminium alloy					
	铸造，非时效 Cast-on, non-aging	600	75	424-G	65-130	0.10-0.30
	铸造或铸造加时效处理Cast on with aging treatment	700	90	424-G	65-130	0.10-0.30
	铝合金 Aluminium alloy					
	铸造，13-15% 硅 Cast-on,13-15% silicon	700	130	424-G	65-130	0.10-0.30
	铸造，16-22% 硅 Cast-on,16-22% silicon	700	130	424-G	65-130	0.10-0.30
	铜和铜合金 Copper and copper alloy					
	易切合金，≥1% 铅 Easy to cut, ≥1% lead	550	110	424-G	65-130	0.10-0.30
	黄铜，铅青铜，≤1%铅 Brass ≤1% lead	550	90	424-G	65-130	0.10-0.30
青铜与无铅铜，包括电解铜 Bronze	1350	100	424-G	65-130	0.10-0.30	
S	高温合金 铁基 Superalloy, iron-based					
	退火或固溶处理 Annealing	2400	200	424-L	20-65	0.15-0.30
	时效处理或固溶处理加时效处理 Aged	2500	280	424-L	20-65	0.15-0.30
	镍基 Nickel base					
	退火或固溶处理 Annealing	2650	250	424-G	20-65	0.15-0.30
	时效处理或固溶处理加时效处理 Aged	2900	350	424-G	20-65	0.15-0.30
	铸造或铸造加时效处理 Cast-on	3000	320	424-G	20-65	0.15-0.30
	钴基 Cobalt base					
	退火或固溶处理 Annealing	2700	200	424-G	20-65	0.15-0.30
	固溶处理加时效处理 Aged	3000	300	424-G	20-65	0.15-0.30
	铸造或铸造加时效处理 Cast-on	3100	320	424-G	20-65	0.15-0.30
	钛合金2) Titanium alloy		Rm3)			
	商业纯（99.5% Ti） Unalloyed Titanium	1300	400	424-G	30-100	0.15-0.30
	α, 近α+α+β合金，退火 Annealing （α+β）	1400	950	424-G	30-100	0.15-0.30
	α+β合金时效处理，β合金，退火或时效处理 Aged （α+β）	1400	1050	424-G	30-100	0.15-0.30