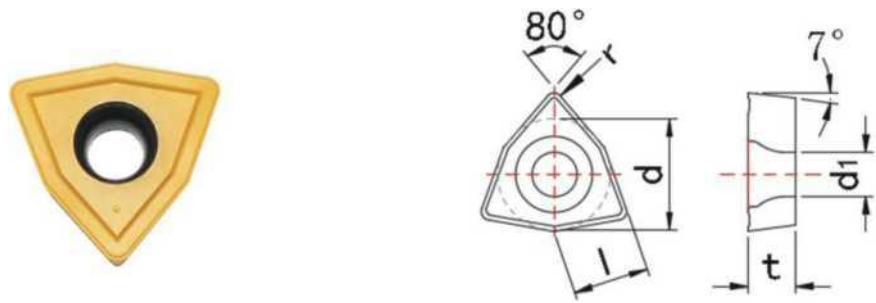


Insert

WCMX 刀片

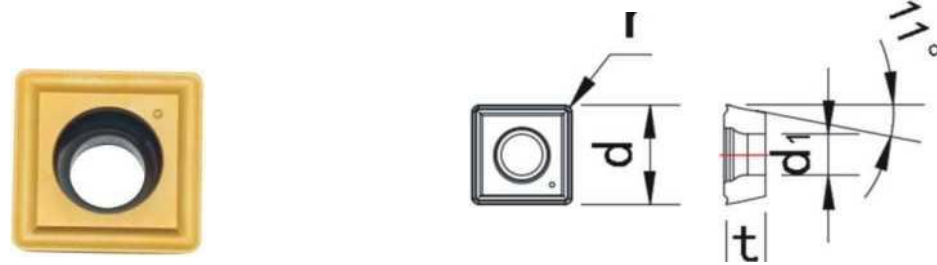
WCMX Insert



型号 Code No	尺寸 Size					螺钉 Clamp screw	扳手 Wrench
	l	d	t	r	dl		
WCMX030208	3.8	5.56	2.38	0.8	2.8	M2.5X6	T8
WCMX040208	4.3	6.35	2.38	0.8	2.8	M2.5X6	T8
WCMT050308	5.4	7.94	3.18	0.8	3.3	M3X8	T8
WCMT06T308	6.54	9.525	3.97	0.8	3.8	M3.5X10	T15
WCMT080412	8.74	12.7	4.76	1.2	4.3	M4X10	T15

SPMG 刀片

SPMG Insert



型号 Code No	尺寸 Size				螺钉 Clamp screw	扳手 Wrench
	d	t	r	dl		
SPMT04T102	4	1.98	0.2	2	M1.8X4	T6
SPMG050204	5	2.38	0.4	2.25	M2.2X5	T6
SPMG060204	6	2.38	0.4	2.61	M2.2X6	T7
SPMG07T308	7.94	3.97	0.8	2.85	M2.5X8	T8
SPMG090408	9.8	4.3	0.8	4.05	M3.5X10	T15
SPMG110408	11.5	4.8	0.8	4.45	M4X10	T15
SPMG140512	14.3	5.2	1.2	5.75	M5X12	T20

钻头特性 Bit features

钻头特性

Bit features

排屑槽 Chip removal tank



创新的螺旋槽设计，内外槽比例 6:4，排屑更好。
Innovative spiral groove design, inside and outside groove ratio 6:4, better chip removal.

刀杆刚性 Tool rod rigid



边缘倒角更小，提高刀杆刚性，拥抱式排屑有效保护刀体磨损。
The edge chamfer is smaller, improve the rigidity of the cutter bar, and embrace chip discharge effectively protects the cutter body from wear.

车床油冷接口 Cold connection for lathe oil



刀柄尾部带管牙螺丝，方便车床接油冷使用。
Handle tail with tube screw, easy to use lathe oil cold.

刀片位 The blade position



平整的刀片位，与刀片贴合更好，有效提高切削效果。
Flat blade position, better fit with the blade, effectively improve the cutting effect.

油冷系统 Oil cooling system



油冷水孔加大 1.5 倍，冷却更好，排屑更快。
Increase oil cold water hole 1.5 times, better cooling, faster chip removal.

优秀的断屑控制 Excellent chip breaking control



更新后的刀片位角度，断屑更优秀。
Updated blade Angle, better cutting.

铲钻

可换钻尖钻

组合钻

带定心U钻

大钻头

模块系统

铲钻

可换钻尖钻

组合钻

带定心U钻

大钻头

模块系统

A 安装与使用

Installation and use

钻头侧固式刀柄的安装方式

Installation of the bit side - grip



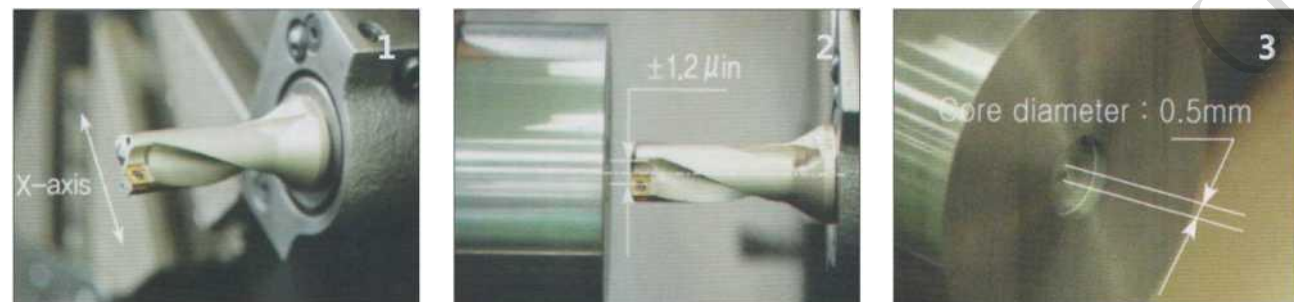
1. 插入钻头时，钻头的侧固面方向和刀柄螺丝方向一致。
2. 将钻头装入刀柄，钻头法兰面与刀柄安装面紧密贴合。
3. 首先拧紧 1 号螺栓。
4. 下一步拧紧 2 号螺栓。

1. Insert the bit in the same direction as the shank screw.
2. Install the drill bit into the tool holder, and the flange surface of the drill bit is closely attached to the mounting surface of the tool holder.
3. Tighten bolt No. 1 first.
4. Next, tighten bolt No. 2.



钻头在车床上的安装方式

The way in which the drill bit is mounted on the lathe



*请确认侧固位置，它可能因机床不同而差异。

1. 外刃刀片切削与 X 轴平行（以侧固面为基准）。
 2. 如果钻孔 5mm 后，核心部分有直径 0.5mm 的痕迹表面安装正确。
 3. 建议外刃的安装朝向应使外刃面朝向操作者（图 1）（但也可逆向 180° 使用）
- 另外，当车床上有上下两个转塔时，当需要将钻头安装在下转塔上时，则外刃面一定要朝向操作者。（此时也可逆向 180° 使用）

1. The cutting of the outer edge blade is parallel to the X axis (based on the side solid surface).
 2. If the core part has traces with a diameter of 0.5mm after drilling 5mm, the surface is correctly installed.
 3. It is recommended that the mounting orientation of the outer edge should be towards the operator (Fig. 1) (But can also be reversed 180° use)
- In addition, when there are two turrets on the lathe, when it is necessary to install the drill bit on the lower turret, The outer edge must face the operator. (This can also be used in reverse 180°)

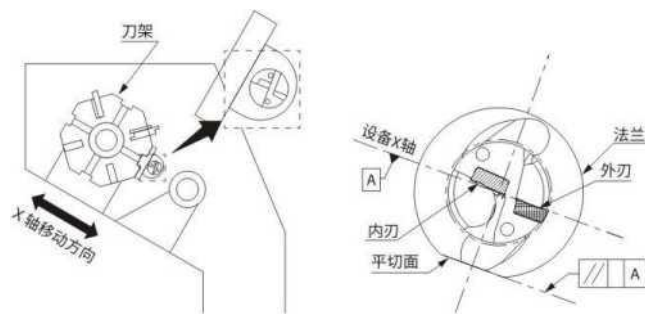


图 1 安装到车床上的状态
FIG. 1 Mounting state on lathe

加工径的调整方法

Adjustment method of machining diameter

加工径的调整方法 Adjustment method of machining diameter

1. 通过移动 X 轴来调整，浩由的移动方向取决于刀杆的安装方向。
2. 通过向外刃方向移动 X 轴扩大孔径。（图 2,图 3）孔径的缩小调整请向反方向移动 X 轴。（这种轴的移动叫「偏心」）但是如果加工孔径比钻头径小 0.2mm 以上时，刀杆本体的外周部会与加工孔干涉。（图 4）

例) 使用①20 的钻头时，孔径不能小于①19.8。

1. Adjust by moving the X axis. The moving direction of the X axis depends on the installation direction of the knife rod.
2. Enlarge the aperture by moving the X axis toward the outer edge. (FIG. 2, FIG. 3) For aperture reduction adjustment, please move the X axis in the opposite direction. (This axis movement is called "eccentricity.")

However, if the machining aperture is more than 0.2mm smaller than the bit diameter, the outer circumference of the cutter shank body will interfere with the machining hole, (figure 4) When using a 中 20 drill bit, the hole diameter should not be less than (p 19.8.

加工径的偏心值 Eccentric value of machining diameter

关于加工径的偏心参数，根据实际操作调，原则上刀杆本体不能与外周干涉即可。

例) 020 的钻头，”半径方向的可偏心范围”为+0.55mm,通过偏心设置，最大可以扩孔至 421.1。

The eccentric parameters of machining diameter can be adjusted according to the actual operation. In principle, the cutter bar body can not interfere with the periphery.

Example) (p 20 drill, "radius of eccentricity range" is +0.55mm, through the eccentric setting, the maximum hole reaming to (p 21.1.

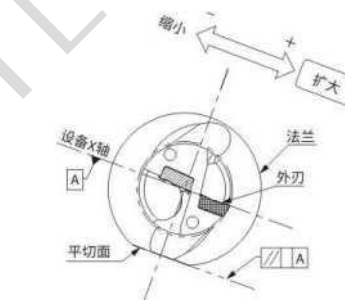


图 2 外刃表面上向上时
FIG. 2 When the outer edge surface is upward

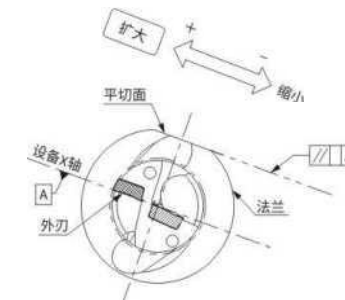


图 3 外刃表面向下时
FIG. 3 When the outer edge surface is downward

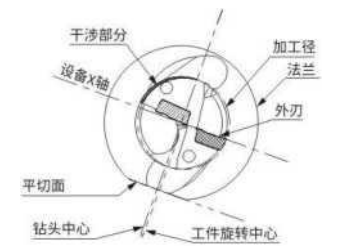


图 4 孔径过时
FIG. 4 Aperture obsolescence

中心高的调整方法

Adjustment method of center height

关于内刃的中心高 Center height of inner edge

如图 1 所示安装时，内刃中心高设定低于中心 0.05mm 左右。（图 2）此为标准中心高，设计•制造时，钻头自身的内刃比中心高降低 0.05mm 左右。但是’车床的转塔与主轴中心偏移不准的时候，中心太高或太低的情况也是有的。

为了稳定加工确认内刃中心高是很重要的。

As shown in Figure 1, the center height of the inner edge was set about 0.05mm lower than the center during installation. (FIG. 2) This is the standard center height. During design and manufacture, the inner edge of the bit itself is about 0.05mm lower than the center height. However, the lathe turret and spindle center deviation is not accurate, the center is too high or too low. It is important to confirm the inner edge center height for stable machining.

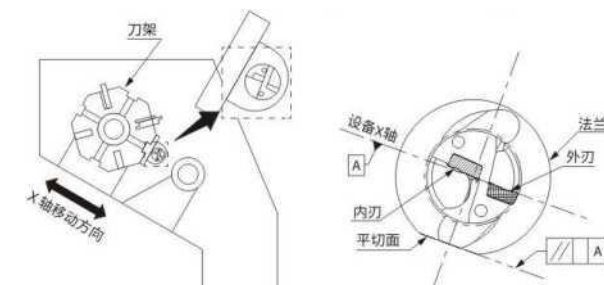


图 1 安装到车床上的状态
FIG. 1 Mounting state on lathe

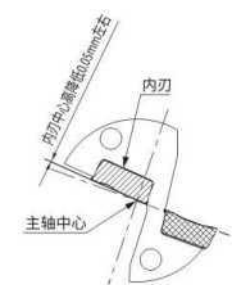


图 2 钻头正面图
FIG. 2 Front view of the bit

A 安装与使用

Installation and use

□内刃中心高的确认方法 Confirmation method of inner edge center height

可以通过盲孔内端面中心部残留的芯核来确认内刃中心高设置是否合理。如果残留着直径 0.5mm 前后的芯核、中心高的设定是合适的。(图 3) 直径 1mm 以上的大芯核残留的话,有必要对中心高进行调整。

※确认用的盲孔请使用 0.1mm/rev 以下的低进给、深度 10mm 左右进行加工。

The core core left at the center of the inner end face of the blind hole can be used to confirm whether the setting of the inner edge center height is reasonable. If there is a residual 0.5mm diameter before and after the core, center height setting is appropriate, (figure 3) It is necessary to adjust the center height if there is a large core with a diameter of more than 1mm.

The blind hole used for confirmation should be processed with a low feed below 0.1mm/REV and a depth of about 10mm.



图 3 中心芯核
FIG. 3. Core core

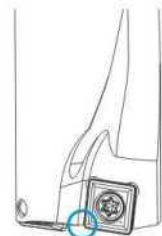


图 4 内刃的钻头中心部附近的崩损
FIG. 4 Collapse near the center of the bit at the inner edge

内刃中心高的调整方法 Adjustment method of inner edge center height

a) 完全没有芯核, 内刃的钻头中心部位附近产生崩损。
No core at all, collapse near the center of the inner edge of the bit.

这是内刃中心高过高的状态。必须进行调整。(图 4)
This is the state where the inner edge center is too high. Adjustments must be made, (figure 4)

调整方法

请将钻头本体旋转 180° 安装。
很多问题通过此方法改善。(图 5)

Please install the bit body by rotating it 180°.
Many problems can be solved by this method, (figure 5)

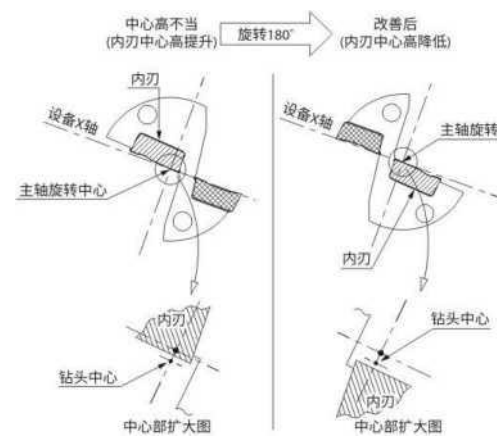


图 5 FIG. 5

调整方法

上述调整后加工的芯核径如果变得过大, 如图 6 右图所示将刀杆本体旋转 90°, 将外刃靠下侧安装 随着设备 X 轴的移动来调整中心高。

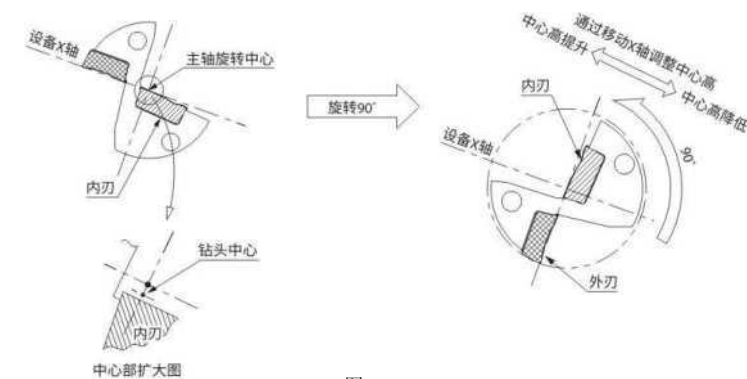
(但是无法调整加工径(偏心)) 另外, 请注意与图反方向例刃靠上侧) 安装时, 加工径会变小、刀杆本体可能会与孔发生干涉。根本来说需要对转塔本身的中心高进行调整。

If the core diameter processed after the above adjustment becomes too large, see Fig.6As shown in the picture on the right, rotate the tool holder body 90° and put the outer edge to the lower side The mounting adjusts the center height as the device moves along the X axis.

(But can not adjust the machining diameter (eccentric))

In addition, please note that when it is installed in the opposite direction (outer edge on the upper side) The machining diameter will be smaller and the tool holder body may interfere with the hole.

Basically, the center height of the turret itself needs to be adjusted.



调整 A 后内刃中心高降低量变大的状态

图 6 FIG. 6

Installation and use

b) 芯核过大时 (直径 1mm 以上)

When the core is too large (diameter above 1mm)

这是内刃的中为降低方向大幅度偏离的状态。此时会对排屑性能有害、请务必进行调整。

This is the condition in which the center height and lowering direction of the inner edge deviate greatly. At this time, it will be harmful to the chip removal performance, please be sure to adjust.

调整方法

如图 7 右图所示将刀杆本体旋转 90°, 将外刃靠上侧安装, 随着设备 X 轴的移动来调整中心高。

(但是无法调整加工径(偏心))

另外, 请注意与图反方向(外刃靠下侧) 安装时、加工径会变小、刀杆本体可能会与孔发生干涉。根本来说需要对转塔本身的中心高进行调整。

As shown in figure 7 on the right, rotate the tool rod body 90°, install the outer edge on the upper side, and adjust the center height as the X axis of the equipment moves.

(But can not adjust the machining diameter (eccentric))

In addition, please note that when it is installed in the opposite direction (the outer edge is on the lower side), the machining diameter will be smaller and the tool holder body may interfere with the hole.

Basically, the center height of the turret itself needs to be adjusted.

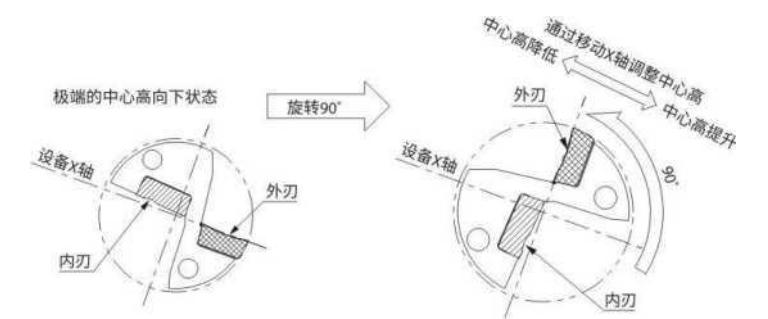
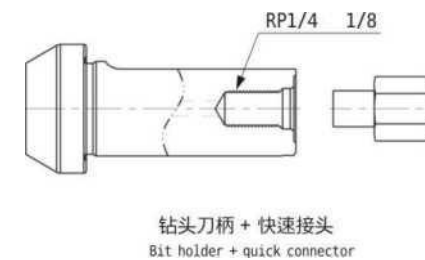


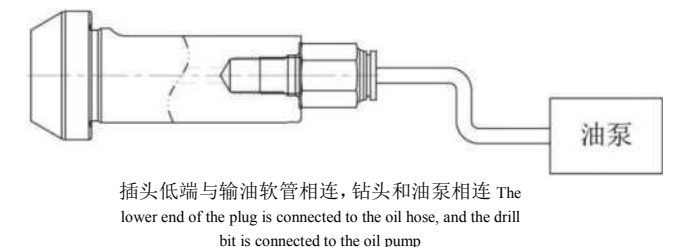
图 7 FIG. 7

车床使用内冷安装方式

The lathe is installed with internal cooling



钻头刀柄 + 快速接头
Bit holder + quick connector



插头低端与输油软管相连, 钻头和油泵相连 The lower end of the plug is connected to the oil hose, and the drill bit is connected to the oil pump

1. 钻头刀柄、快速接头、输油软管、油泵链接起来可以实现内冷。
2. 拔出插头后, 可在铁床上使用。

1. Internal cooling can be realized by connecting the drill shank, quick connector, oil hose and oil pump.
2. After pulling out the plug, it can be used in milling machine.

A 参数计算

Calculation method of parameters

高效率可转位快速钻加工相关参数计算方法

Related to the processing parameters of shallow hole drilling method of calculation

切削速度 (Vc)

$$Vc = \frac{De \times n}{1000}$$

Vc(m/min): 切削速度
De (mm): 钻头直径
n (rev/min): 转速

实例
主轴转速为 1600rev/min, 钻头直径为 20mm, 其切削速度为:

$$Vc = \frac{20 \times 1600}{1000} = 32 \text{ (m/min)}$$

进给速度

$$Vf = fr \times n$$

Vf(m/min): 切削速度
Fr(mm/rev): 每转进给量
n (rev/min): 主轴转速

实例
主轴转速为 1500rev/min, 每转进给量为 0.1mm/rev, 其进给速度为:

$$Vf = 0.1 \times 1500 = 150 \text{ (mm/min)}$$

孔加工时间

$$Tc = \frac{Ld \times i}{n \times f}$$

Tc (min): 加工时间
Ld (mm): 钻孔深
n (rev/min): 主轴转速
f (mm/rev): 每转进给量
i: 孔数量

实例
钻一个 20mm 深, 40mm 的孔, 切削速度为 100m/min, 每转进给量为 0.1mm/rev, 求钻削时间。

$$n = \frac{Vc \times 1000}{De} = \frac{100 \times 1000}{20} = 5000 \text{ (rev/min)}$$

$$Tc = \frac{40 \times 1}{5000 \times 0.1} = 0.008 \text{ (min)}$$

金属去除率

$$Q = \frac{Vf \times n \times De}{4 \times 1000}$$

Q(cm³/min): 金属去除率
De (mm): 钻头直径
Vf (mm/min): 进给速度

实例
一个 20mm 的钻头, 加工时的进给速度为 160mm/rev, 其金属去除率为:

$$Q = \frac{160 \times 160 \times 20}{4 \times 1000} = 128 \text{ (cm}^3\text{/min)}$$

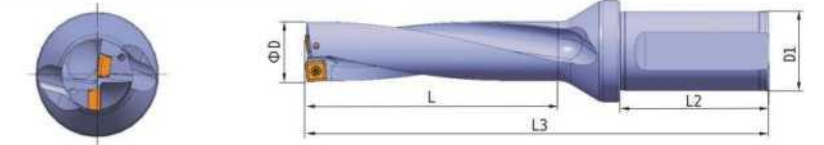
> 钻头参数

Drilling parameters

钻头公差和孔径公差

Bit tolerance and aperture tolerance

SP系列钻头公差和孔径公差 SP series drill tolerance and aperture tolerance

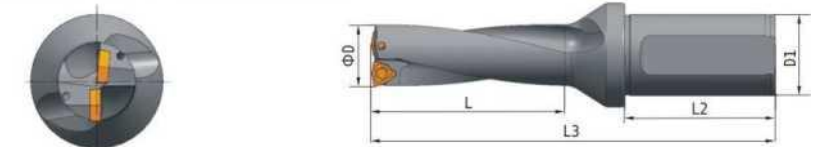


钻头直径		①10~Ⅲ 2	<P12.5~0) 21.5	① 22~633.5	① 34~(P50.5	①51~中 60
2D ~3D	钻头公差(μ)	0.00~0.20	0.00~0.20	0.00~0.20	0.00~0.25	0.00~0.30
	钻孔公差	+0.10~0.20	+0.10~0.20	+0.10~0.20	+0.10~0.25	+0.10~0.35
4D ~5D	钻头公差(①D)	0.00~0.20	0.00~0.25	0.00~0.25	0.00~0.30	0.00~0.30
	钻孔公差	+0.10~0.25	+0.10~0.25	+0.10~0.25	+0.10~0.35	+0.10~0.35

1. 川山甲刀具有限公司实际公差为图标数据 2. 钻头长度, 被加工工件种类, 机床稳定性以及切削条件都会影响公差

1. The actual tolerance of Chuanshanjia Tool Co., LTD is the data of the icon
2. Length of drill bit, Type of workpiece to be processed, Both machine tool stability and cutting conditions affect tolerances

SD系列钻头公差和孔径公差 SD series drill tolerance and aperture tolerance



钻头直径		(P14	少 14.5~0) 23.5	① 24~630.5	0) 31~0) 41.5	①51~中 60
2D ~3D	钻头公差(μ)	+0.10~0.20	0.00~0.20	0.00~0.20	0.00~0.25	0.00~0.30
	钻孔公差	+0.05~0.25	+0.10~0.25	+0.10~0.25	+0.10~0.25	+0.10~0.35
4D ~5D	钻头公差(①D)	+0.05~0.25	0.00~0.25	0.00~0.25	0.00~0.25	0.00~0.30
	钻孔公差	+0.05~0.30	+0.10~0.30	+0.10~0.30	+0.10~0.35	+0.10~0.35

1. 川山甲刀具有限公司实际公差为图标数据 2. 钻头长度, 被加工工件种类, 机床稳定性以及切削条件都会影响公差

1. The actual tolerance of Chuanshanjia Tool Co., LTD is the data of the icon
2. Length of drill bit, Type of workpiece to be processed, Both machine tool stability and cutting conditions affect tolerances

SP系列刀片和配件 SP series blades and accessories

钻头直径	外刃刀片	内刃刀片	螺丝	螺丝头大小	锥度	扳手
010-0)12	SPMT04T102	SPMT04T102	M1.8X4	2.4	60	T6
012.5-015.5	SPMG050204	SPMG050204	M2.2X5	2.7	60	T6
016-021.5	SPMG060204	SPMG060204	M2.2X6	3	60	T7
022-027.5	SPMG07T308	SPMG07T308	M2.5X8	3.6	60	T8
028-033.5	SPMG090408	SPMG090408	M3.5X10	5.2	48	T15
0) 34-041.5	SPMG110408	SPMG110408	M4X10	5.7	60	T15
042-050	SPMG140512	SPMG140512	M5X12	6.8	60	T20

Q SD系列刀片和配件 SD series blades and accessories

钻头直径	外刃刀片	内刃刀片	螺丝	螺丝头大小	锥度	扳手
014	WCMX030208	WCMX030208	M2.5X5	3.6	60	T8
014.5-019.5	WCMX030208	WCMX030208	M2.5X6	3.6	60	T8
20-023.5	WCMX040208	WCMX040208	M2.5X6	3.6	60	T8
024-030.5	WCMT050308	WCMT050308	M3X8	4	60	T8
031-041.5	WCMT06T308	WCMT06T308	M3.5X10	5.2	48	T15
① 42-660	WCMT080412	WCMT080412	M4X10	5.7	60	T15

A 切削参数

Cutting parameters

u 钻 2D

钻头直径建鹤轴		低碳钢 S10C-S25C	中碳钢 SS30C-S50C	结构钢 SS,SM	铸铁 FC,FCD	合金钢 SCr,SCM	工具钢 H13,SKD	不锈钢 SUS	铲 A 金
①10~①12	5.5 千瓦以上	S3000-S2500	S3000-S2500	S2800-S2300	S2800-S2300	S2600-S2100	S2600-S2100	S2500-S2000	S3000-S2500
		Fz 0.02-0.03	Fz 0.02-0.03	Fz 0.02-0.03	Fz 0.02-0.03	Fz 0.02-0.03	Fz 0.02-0.03	Fz 0.02-0.03	Fz 0.02-0.03
012.5-015.5	5.5 千瓦以上	F 40-80	F 40-80	F 35-75	F 35-75	F 35-70	F 35-70	F 30-65	F 50-90
		S1800-S1500	S1800-S1500	S1800-S1500	S2000-S1700	S1500-S1200	S1500-S1200	S1500-S1300	S2000-S1700
		Fz 0.04-0.07	Fz 0.04-0.07	Fz 0.04-0.07	Fz 0.04-0.07	Fz 0.04-0.07	Fz 0.04-0.07	Fz 0.04-0.07	Fz 0.04-0.07
016-018.5	7.5 千瓦以上日丁 40	F 60-90	F 60-90	F 60-90	F 70-140	F 50-90	F 50-90	F 40-80	F 70-140
		S1600-S1300	S1600-S1300	S1600-S1300	S1700-S1500	S1500-S1200	S1500-S1200	S1400-S1200	S1700-S1500
		Fz 0.07-0.1	Fz 0.07-0.1	Fz 0.07-0.1	Fz 0.07-0.1	Fz 0.07-0.1	Fz 0.07-0.1	Fz 0.07-0.1	Fz 0.07-0.1
①19~①21.5	7.5 千瓦以上日丁 40	F 70-100	F 70-100	F 70-100	F 90-160	F 85-120	F 85-120	F 50-90	F 90-160
		S1500-S1200	S1500-S1200	S1500-S1200	S1600-S1300	S1400-S1100	S1400-S1100	S1300-S1100	S1600-S1300
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.07-0.1	Fz 0.07-0.1	Fz 0.07-0.1	Fz 0.1-0.12
①22~①24.5	7.5 千瓦以上日丁 40	F 80-120	F 80-120	F 80-120	F 100-180	F 75-130	F 75-130	F 55-90	F 100-180
		S1400-S1100	S1400-S1100	S1400-S1100	S1500-S1200	S1300-S1000	S1300-S1000	S1200-S1000	S1500-S1200
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.08-0.10	Fz 0.08-0.10	Fz 0.08-0.10	Fz 0.1-0.12
①25~①28.5	7.5 千瓦以上日丁 40	F 90-130	F 90-130	F 90-130	F 100-170	F 80-130	F 80-130	F 55-90	F 100-170
		S1400-S1100	S1400-S1100	S1400-S1100	S1500-S1200	S1300-S1000	S1300-S1000	S1100-S900	S1500-S1200
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12
①29~①30.5	7.5 千瓦以上日丁 40	F 100-140	F 100-140	F 100-140	F 90-160	F 90-120	F 90-120	F 60-100	F 90-160
		S1100-S850	S1100-S850	S1100-S850	S1300-S1000	S1000-S800	S1000-S800	S900-S700	S1300-S1000
		Fz 0.10-0.13	Fz 0.10-0.13	Fz 0.10-0.13	Fz 0.10-0.13	Fz 0.10-0.13	Fz 0.10-0.13	Fz 0.10-0.13	Fz 0.10-0.13
①31~①35.5	11 千瓦以上 BT50 主轴	F 85-140	F 85-140	F 85-140	F 90-150	F 80-100	F 80-100	F 60-90	F 90-150
		S900-S700	S900-S700	S900-S700	S1200-S900	S800-S600	S800-S600	S800-S600	S1200-S900
		Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12
036-039.5	11 千瓦以上 BT50 主轴	F 70-110	F 70-110	F 70-110	F 80-140	F 60-75	F 60-75	F 60-80	F 80-140
		S900-S700	S900-S700	S900-S700	S1000-S700	S700-S600	S700-S600	S800-S600	S1000-S700
		Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12
040-042.5	11 千瓦以上 BT50 主轴	F 70-100	F 70-100	F 70-100	F 70-120	F 60-75	F 60-75	F 50-75	F 70-120
		S850-S650	S850-S650	S850-S650	S1000-S700	S650-S550	S650-S550	S700-S550	S1000-S700
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12
①43~①45.5	15 千瓦以上/带齿轮头	F 65-90	F 65-90	F 65-90	F 65-110	F 55-65	F 55-65	F 45-70	F 65-110
		S700-S600	S700-S600	S700-S600	S900-S600	S650-S550	S650-S550	S650-S550	S900-S600
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12
046-050.5	15 千瓦以上/带齿轮头	F 50-85	F 50-85	F 50-85	F 60-110	F 55-65	F 55-65	F 40-65	F 60-110
		S650-S550	S650-S550	S650-S550	S800-S600	S600-S500	S600-S500	S600-S500	S800-S600
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12
①51~①55.5	15 千瓦以上/带齿轮头	F 50-80	F 50-80	F 50-80	F 60-100	F 40-60	F 40-60	F 40-60	F 60-100
		S650-S500	S650-S500	S650-S500	S700-S500	S550-S500	S550-S500	S550-S500	S700-S500
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12
①56~①60	15 千瓦以上/带齿轮头	F 50-80	F 50-80	F 50-80	F 50-90	F 40-55	F 40-55	F 35-50	F 50-90
		S600-S500	S600-S500	S600-S500	S700-S500	S550-S450	S550-S450	S550-S450	S700-S500
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12

备注: s=转速 Fz=每转进刀量 F=进给

- 初始钻削时, 推荐采用中间范围切削数值, 之后(根据刀具磨损情况)调整切削参数以达到最佳切削效果。
- 上述切削参数, 是针对 2D, 3D 类型而言, 如对 4D 类型的钻削参数应相应降低 15%。
- 冷却方式仅采用外冷时, 切削速度应降低 10%。
- 对于奥氏体不锈钢加工, 必需采用内冷却方式。
- 在斜面上开始钻孔或零件有预钻孔及相贯孔或钻削堆叠的多层板材时, 进给量须减小到推荐值的 1/3 左右。
- Initial drilling, to recommend the use of cutting conditions in the middle range, followed by (in accordance with wear) to adjust the cutting Parameters to achieve the best cutting effect.
- The above cutting parameters is for 3D, 4D drilling tools, the cutting parameters need to decrease 15%.
- Cooling mode using only cold outside, cutting speed should be reduced by 10%.
- It must adopt inner cooling mode for austenitic stainless steel machining.
- Diling on the slope or the parts have pre-drilling hole or intersection hole. The drilling feedrate must decrease to 1/3 of the recommended data.

切削参数

Cutting parameters

U 钻 3D

钻头直径建鹤轴		低碳钢 S10C-S25C	中碳钢 SS30C-S50C	结构钢 SS,SM	铸铁 FC,FCD	合金钢 SCr,SCM	工具钢 H13,SKD	不锈钢 SUS	铝合金
①10~①12	5.5 千瓦以上	S3200-S2600	S3200-S2600	S3000-S2500	S3000-S2500	S2800-S2200	S2800-S2200	S2600-S2000	S3000-S2500
		Fz 0.015-0.02	Fz 0.015-0.02	Fz 0.015-0.02	Fz 0.015-0.02	Fz 0.015-0.02	Fz 0.015-0.02	Fz 0.015-0.02	Fz 0.015-0.02
①12.5~615.5	5.5 千瓦以上	F 40-65	F 40-65	F 35-60	F 35-60	F 30-55	F 30-55	F 30-50	F 40-70
		S1800-S1500	S1800-S1500	S1800-S1500	S2000-S1700	S1400-S1200	S1400-S1200	S1500-S1300	S2000-S1700
		Fz 0.04-0.07	Fz 0.04-0.07	Fz 0.04-0.07	Fz 0.04-0.07	Fz 0.03-0.06	Fz 0.03-0.06	Fz 0.04-0.07	Fz 0.04-0.07
①16~①18.5	7.5 千瓦以上	F 60-90	F 60-90	F 60-90	F 70-140	F 40-90	F 40-90	F 40-80	F 70-140
		S1600-S1300	S1600-S1300	S1600-S1300	S1700-S1500	S1400-S1100	S1400-S1100	S1400-S1200	S1700-S1500
		Fz 0.07-0.1	Fz 0.07-0.1	Fz 0.07-0.1	Fz 0.07-0.1	Fz 0.06-0.1	Fz 0.06-0.1	Fz 0.07-0.1	Fz 0.07-0.1
①19~①21.5	7.5 千瓦以上	F 70-100	F 70-100	F 70-100	F 90-160	F 65-110	F 65-110	F 50-90	F 90-160
		S1500-S1200	S1500-S1200	S1500-S1200	S160G-S1300	S1300-S1000	S1300-S1000	S1300-S1100	S1600-S1300
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.08-0.10	Fz 0.08-0.10	Fz 0.07-0.1	Fz 0.1-0.12
①22~①24.5	7.5 千瓦以上	F 80-120	F 80-120	F 80-120	F 100-180	F 80-100	F 80-100	F 55-90	F 100-180
		S1400-S1100	S1400-S1100	S1400-S1100	S1500-S1200	S1200-S900	S1200-S900	S1200-S1000	S1500-S1200
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.08-0.10	Fz 0.1-0.12
①25~①28.5	7.5 千瓦以上	F 90-130	F 90-130	F 90-130	F 100-170	F 70-90	F 70-90	F 55-90	F 100-170
		S1400-S1100	S1400-S1100	S1400-S1100	S1500-S1200	S1200-S900	S1200-S900	S1100-S900	S1500-S1200
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.08-0.12	Fz 0.08-0.12	Fz 0.1-0.12	Fz 0.1-0.12
①29~①30.5	7.5 千瓦以上	F 100-140	F 100-140	F 100-140	F 90-160	F 72-110	F 72-110	F 60-100	F 90-160
		S1100-S850	S1100-S850	S1100-S850	S1300-S1000	S1000-S800	S1000-S800	S900-S700	S1300-S1000
		Fz 0.10-0.13	Fz 0.10-0.13	Fz 0.10-0.13	Fz 0.10-0.13	Fz 0.1-0.13	Fz 0.1-0.13	Fz 0.10-0.13	Fz 0.10-0.13
①31~①35.5	11 千瓦以上	F 85-140	F 85-140	F 85-140	F 90-150	F 80-100	F 80-100	F 60-90	F 90-150
		S900-S700	S900-S700	S900-S700	S1200-S900	S800-S600	S800-S600	S800-S600	S1200-S900
		Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12
①36~①39.5	11 千瓦以上	F 70-110	F 70-110	F 70-110	F 80-140	F 50-60	F 50-60	F 60-80	F 80-140
		S900-S700	S900-S700	S900-S700	S1000-S700	S700-S600	S700-S600	S800-S600	S1000-S700
		Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12
①40~①42.5	11 千瓦以上	F 70-100	F 70-100	F 70-100	F 70-120	F 50-75	F 50-75	F 50-75	F 70-120
		S850-S650	S850-S650	S850-S650	S1000-S700	S650-S550	S650-S550	S700-S550	S1000-S700
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12
①43~①45.5	15 千瓦以上/带齿轮头	F 65-90	F 65-90	F 65-90	F 65-110	F 50-65	F 50-65	F 45-70	F 65-110
		S700-S600	S700-S600	S700-S600	S900-S600	S650-S550	S650-S550	S650-S550	S900-S600
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12
①46~①50.5	15 千瓦以上/带齿轮头	F 50-85	F 50-85	F 50-85	F 60-110	F 50-65	F 50-65	F 40-65	F 60-110
		S650-S550	S650-S550	S650-S550	S800-S600	S600-S500	S600-S500	S600-S500	S800-S600
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12
051-0)55.5	15 千瓦以上/带齿轮头	F 50-80	F 50-80	F 50-80	F 60-100	F 40-60	F 40-60	F 40-60	F 60-100
		S650-S500	S650-S500	S650-S500	S700-S500	S550-S500	S550-S500	S550-S500	S700-S500
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12
①56~4) 60	15 千瓦以上/带齿轮头	F 50-80	F 50-80	F 50-80	F 50-90	F 40-55	F 40-55	F 35-50	F 50-90
		S600-S500	S600-S500	S600-S500	S700-S500	S550-S450	S550-S450	S550-S450	S700-S500
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12

备注: s=转速 Fz=每转进刀量 F=进给

- 初始钻削时, 推荐采用中间范围切削数值, 之后(根据刀具磨损情况)调整切削参数以达到最佳切削效果。
- 上述切削参数, 是针对 2D, 3D 类型而言, 如对 4D 类型的钻削参数应相应降低 15%。
- 冷却方式仅采用外冷时, 切削速度应降低 10%。
- 对于奥氏体不锈钢加工, 必需采用内冷却方式。
- 在斜面上开始钻孔或零件有

A 切削参数

Cutting parameters

u 钻 4D

钻头直径建鹤轴		低碳钢 S10C-S25C	中碳钢 SS30C-S50C	结构钢 SS,SM	铸铁 FC,FCD	合金钢 SCr,SCM	工具钢 H13,SKD	不锈钢 SUS	铝 A 金	
①10~①12	5.5 千瓦以上	S3500-S2800	S3500-S2800	S3300-S2600	S3300-S2600	S3200-S2500	S3200-S2500	S3000-S2400	S3300-S2600	
		Fz 0.015-0.02	Fz 0.015-0.02	Fz 0.015-0.02	Fz 0.015-0.02	Fz 0.015-0.02	Fz 0.015-0.02	Fz 0.015-0.02	Fz 0.015-0.02	Fz 0.015-0.02
		F 40-65	F 40-65	F 35-60	F 35-60	F 40-60	F 40-60	F 35-50	F 40-60	
012.5-015.5	5.5 千瓦以上	S1800-S1500	S1800-S1500	S1800-S1500	S1800-S1600	S1300-S1200	S1300-S1200	S1300-S1100	S1800-S1600	
		Fz 0.04-0.07	Fz 0.04-0.07	Fz 0.04-0.07	Fz 0.04-0.07	Fz 0.03-0.05	Fz 0.03-0.05	Fz 0.04-0.07	Fz 0.04-0.07	Fz 0.04-0.07
		F 50-80	F 50-80	F 50-80	F 60-120	F 35-60	F 35-60	F 40-80	F 60-120	
016-018.5	7.5 千瓦以上	S1600-S1300	S1600-S1300	S1600-S1300	S1600-S1400	S1300-S1100	S1300-S1100	S1300-S1100	S1600-S1400	
		Fz 0.07-0.1	Fz 0.07-0.1	Fz 0.07-0.1	Fz 0.07-0.1	Fz 0.05-0.07	Fz 0.05-0.07	Fz 0.07-0.1	Fz 0.07-0.1	Fz 0.07-0.1
		F 60-90	F 60-90	F 60-90	F 80-120	F 55-80	F 55-80	F 50-90	F 80-120	
①19~①21.5	7.5 千瓦以上	S1500-S1200	S1500-S1200	S1500-S1200	S1500-S1300	S1200-S900	S1200-S900	S1200-S900	S1500-S1300	
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.07-0.1	Fz 0.07-0.1	Fz 0.07-0.1	Fz 0.1-0.12	
		F 70-110	F 70-110	F 70-110	F 90-130	F 65-90	F 65-90	F 55-85	F 90-130	
①22~①24.5	7.5 千瓦以上	S1400-S1100	S1400-S1100	S1400-S1100	S1500-S1200	S1200-S800	S1200-S800	S1200-S800	S1500-S1200	
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.08-0.10	Fz 0.1-0.12	
		F 80-100	F 80-100	F 80-100	F 90-150	F 65-80	F 65-80	F 55-80	F 90-150	
①25~①28.5	7.5 千瓦以上	S1400-S1100	S1400-S1100	S1400-S1100	S1400-S1200	S1100-S800	S1100-S800	S1000-S800	S1400-S1200	
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.1-0.12	Fz 0.1-0.12	
		F 90-130	F 90-130	F 90-130	F 90-140	F 65-80	F 65-80	F 55-80	F 90-140	
①29~①30.5	7.5 千瓦以上	S1100-S850	S1100-S850	S1100-S850	S1300-S1000	S900-S700	S900-S700	S900-S700	S1300-S1000	
		Fz 0.10-0.13	Fz 0.10-0.13	Fz 0.10-0.13	Fz 0.10-0.13	Fz 0.08-0.10	Fz 0.08-0.10	Fz 0.10-0.13	Fz 0.10-0.13	
		F 80-120	F 80-120	F 80-120	F 90-150	F 65-70	F 65-70	F 60-80	F 90-150	
①31~①35.5	11 千瓦以上	S900-S700	S900-S700	S900-S700	S1200-S1000	S700-S550	S700-S550	S800-S600	S1200-S1000	
		Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.07-0.09	Fz 0.07-0.09	Fz 0.10-0.12	Fz 0.10-0.12	
		F 60-100	F 60-100	F 60-100	F 80-130	F 40-50	F 40-50	F 60-80	F 80-130	
036-039.5	11 千瓦以上	S900-S700	S900-S700	S900-S700	S1100-S900	S700-S500	S700-S500	S800-S600	S1100-S900	
		Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.10-0.12	Fz 0.10-0.12	
		F 60-90	F 60-90	F 60-90	F 70-120	F 40-50	F 40-50	F 50-75	F 70-120	
040-042.5	11 千瓦以上	S850-S650	S850-S650	S850-S650	S900-S700	S650-S550	S650-S550	S700-S550	S900-S700	
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.1-0.12	Fz 0.1-0.12	
		F 55-80	F 55-80	F 55-80	F 60-110	F 45-55	F 45-55	F 45-70	F 60-110	
①43~①45.5	15 千瓦以上/带齿轮头	S700-S600	S700-S600	S700-S600	S800-S600	S650-S550	S650-S550	S650-S550	S800-S600	
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.1-0.12	Fz 0.1-0.12	
		F 50-80	F 50-80	F 50-80	F 55-100	F 45-55	F 45-55	F 40-60	F 55-100	
046-050.5	15 千瓦以上/带齿轮头	S650-S550	S650-S550	S650-S550	S800-S600	S600-S500	S600-S500	S600-S500	S800-S600	
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.1-0.12	Fz 0.1-0.12	
		F 45-70	F 45-70	F 45-70	F 55-90	F 45-50	F 45-50	F 40-50	F 55-90	
①51~①55.5	15 千瓦以上/带齿轮头	S650-S500	S650-S500	S650-S500	S700-S500	S550-S500	S550-S500	S550-S500	S700-S500	
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.1-0.12	Fz 0.1-0.12	
		F 45-70	F 45-70	F 45-70	F 45-80	F 40-50	F 40-50	F 35-50	F 45-80	
①56~①60	15 千瓦以上/带齿轮头	S600-S500	S600-S500	S600-S500	S700-S500	S550-S450	S550-S450	S550-S450	S700-S500	
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.1-0.12	Fz 0.1-0.12	
		F 40-70	F 40-70	F 40-70	F 45-80	F 35-45	F 35-45	F 35-45	F 45-80	

备注: s=转速 Fz=每转进刀量 F=进给

- 初始钻削时, 推荐采用中间范围切削数值, 之后(根据刀具磨损情况)调整切削参数以达到最佳切削效果。
- 冷却方式仅采用外冷时, 切削速度应降低 10%。
- 对于奥氏体不锈钢加工, 必需采用内冷却方式。
- 在斜面上开始钻孔或零件有预钻孔及相贯孔或钻削堆叠的多层板材时, 进给量须减小到推荐值的 1/3 左右。
- Initial drilling, to recommend the use of cutting conditions in the middle range, followed by (in accordance with wear) to adjust the cutting Parameters to achieve the best cutting effect.
- Cooling mode using only cold outside, cutting speed should be reduced by 10%.
- It must adopt inner cooling mode for austenitic stainless steel machining.
- Drilling on the slope or the parts have pre-drilling hole or intersection hole, The drilling feedrate must decrease to 1/3 of the recommended data.

切削参数

Cutting parameters

U 钻 5D

钻头直径建鹤轴		低碳钢 S10C-S25C	中碳钢 SS30C-S50C	结构钢 SS,SM	铸铁 FC,FCD	合金钢 SCr,SCM	工具钢 H13,SKD	不锈钢 SUS	铝合金	
①10~①12	5.5 千瓦以上	S3600-S3000	S3600-S3000	S3500-S3000	S3500-S3000	S3400-S2800	S3400-S2800	S3200-S2800	S3600-S3000	
		Fz 0.01-0.02	Fz 0.01-0.02	Fz 0.01-0.02	Fz 0.01-0.02	Fz 0.01-0.02	Fz 0.01-0.02	Fz 0.01-0.02	Fz 0.01-0.02	Fz 0.01-0.02
		F 30-65	F 30-65	F 30-70	F 30-70	F 30-60	F 25-60	F 25-55	F 30-70	
①12.5~①15.5	5.5 千瓦以上	S1800-S1500	S1800-S1500	S1800-S1500	S1800-S1600	S1300-S1200	S1300-S1200	S1300-S1100	S1800-S1600	
		Fz 0.04-0.07	Fz 0.04-0.07	Fz 0.04-0.07	Fz 0.04-0.07	Fz 0.03-0.05	Fz 0.03-0.05	Fz 0.04-0.07	Fz 0.04-0.07	
		F 50-80	F 50-80	F 50-80	F 60-120	F 35-60	F 35-60	F 40-80	F 60-120	
①16~①18.5	7.5 千瓦以上	S1600-S1300	S1600-S1300	S1600-S1300	S1600-S1400	S1300-S1100	S1300-S1100	S1300-S1100	S1600-S1400	
		Fz 0.07-0.1	Fz 0.07-0.1	Fz 0.07-0.1	Fz 0.07-0.1	Fz 0.05-0.07	Fz 0.05-0.07	Fz 0.07-0.1	Fz 0.07-0.1	
		F 60-90	F 60-90	F 60-90	F 80-120	F 55-80	F 55-80	F 50-90	F 80-120	
①19~①21.5	7.5 千瓦以上	S1500-S1200	S1500-S1200	S1500-S1200	S1500-S1300	S1200-S900	S1200-S900	S1200-S900	S1500-S1300	
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.07-0.1	Fz 0.07-0.1	Fz 0.07-0.1	Fz 0.1-0.12	
		F 70-110	F 70-110	F 70-110	F 90-130	F 65-90	F 65-90	F 55-85	F 90-130	
①22~①24.5	7.5 千瓦以上	S1400-S1100	S1400-S1100	S1400-S1100	S1500-S1200	S1200-S800	S1200-S800	S1200-S800	S1500-S1200	
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.08-0.10	Fz 0.1-0.12	
		F 80-100	F 80-100	F 80-100	F 90-150	F 65-80	F 65-80	F 55-80	F 90-150	
①25~①28.5	7.5 千瓦以上	S1400-S1100	S1400-S1100	S1400-S1100	S1400-S1200	S1100-S800	S1100-S800	S1000-S800	S1400-S1200	
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.1-0.12	Fz 0.1-0.12	
		F 90-130	F 90-130	F 90-130	F 90-140	F 65-80	F 65-80	F 55-80	F 90-140	
①29~①30.5	7.5 千瓦以上	S1100-S850	S1100-S850	S1100-S850	S1300-S1000	S900-S700	S900-S700	S900-S700	S1300-S1000	
		Fz 0.10-0.13	Fz 0.10-0.13	Fz 0.10-0.13	Fz 0.10-0.13	Fz 0.08-0.10	Fz 0.08-0.10	Fz 0.10-0.13	Fz 0.10-0.13	
		F 80-120	F 80-120	F 80-120	F 90-150	F 65-70	F 65-70	F 60-80	F 90-150	
①31~①35.5	11 千瓦以上	S900-S700	S900-S700	S900-S700	S1200-S1000	S700-S550	S700-S550	S800-S600	S1200-S1000	
		Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.07-0.09	Fz 0.07-0.09	Fz 0.10-0.12	Fz 0.10-0.12	
		F 60-100	F 60-100	F 60-100	F 80-130	F 40-50	F 40-50	F 60-80	F 80-130	
①36~①39.5	11 千瓦以上	S900-S700	S900-S700	S900-S700	S1100-S900	S700-S500	S700-S500	S800-S600	S1100-S900	
		Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.10-0.12	Fz 0.10-0.12	
		F 60-90	F 60-90	F 60-90	F 70-120	F 40-50	F 40-50	F 50-75	F 70-120	
①40~①42.5	11 千瓦以上	S850-S650	S850-S650	S850-S650	S900-S700	S650-S550	S650-S550	S700-S550	S900-S700	
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.1-0.12	Fz 0.1-0.12	
		F 55-80	F 55-80	F 55-80	F 60-110	F 45-55	F 45-55	F 45-70	F 60-110	
①43~①45.5	15 千瓦以上/带齿轮头	S700-S600	S700-S600	S700-S600	S800-S600	S650-S550	S650-S550	S650-S550	S800-S600	
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.1-0.12	Fz 0.1-0.12	
		F 50-80	F 50-80	F 50-80	F 55-100	F 45-55	F 45-55	F 40-60	F 55-100	
①46~①50.5	15 千瓦以上/带齿轮头	S650-S550	S650-S550	S650-S550	S800-S600	S600-S500	S600-S500	S600-S500	S800-S600	
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.1-0.12	Fz 0.1-0.12	
		F 45-70	F 45-70	F 45-70	F 55-90	F 45-50	F 45-50	F 40-50	F 55-90	
051-0)55.5	15 千瓦以上/带齿轮头	S650-S500	S650-S500	S650-S500	S700-S500	S550-S500	S550-S500	S550-S500	S700-S500	
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.1-0.12	Fz 0.1-0.12	
		F 45-70	F 45-70	F 45-70	F 45-80	F 40-50	F 40-50	F 35-50	F 45-80	
①56~①60	15 千瓦以上/带齿轮头	S600-S500	S600-S500	S600-S500	S700-S500	S550-S450	S550-S450	S550-S450	S700-S500	
		Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.1-0.12	Fz 0.1-0.12	
		F 40-70	F 40-70	F 40-70	F 45-80	F 35-45	F 35-45	F 35-45	F 45-80	

备注: s=转速 Fz=每转进刀量 F=进给

- 初始钻削时, 推荐采用中间范围切削数值, 之后(根据刀具磨损情况)调整切削参数以达到最佳切削效果。
- 冷却方式仅采用外冷时, 切削速度应降低 10%。
- 对于奥氏体不锈钢加工, 必需采用内冷却方式。
- 在斜面上开始钻孔或零件有预钻孔及相贯孔或钻削堆叠的多层板材时, 进给量须

Processing requirements

Non-standard drill bit customization

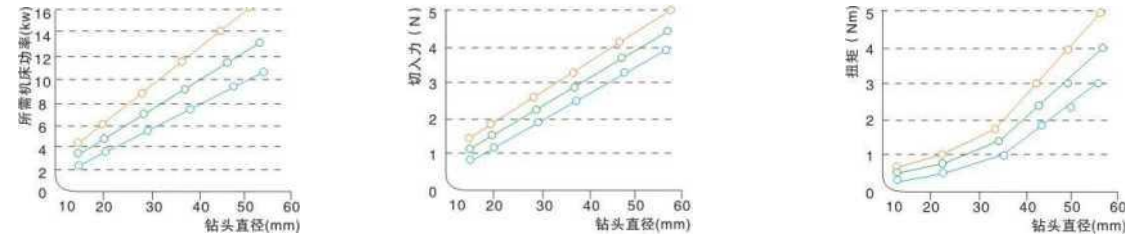
加工功率要求

Machining power requirement

下方图表显示出钻削加工所需的切削力/高刚性高功率机床配合进行加工

- 被加工件: SCM440(240B) 切削条件: $vc(m/min)=100$
- 内冷系统

$f_n(mm/rev)=0.13$ $f_n(mm/rev)=0.10$ $f_n(mm/rev)=0.07$



加工注意事项 Processing considerations

被加工件	加工事项
	加工不规则表面 刀片可能产生崩刃 正常进给减少 25%
	加工凸面 中心刀片先接触被加工表面 降低 50% 进给, 直到内外刀片都进入被加工件
	加工凹面 降低 50% 进给, 直到内外刀片都进入被加工件
	镗孔 正常进给降低 50%
	斜面 正常进给降低 50%
	加工交叉孔 重叠部分进给降低 50%
	加工重叠相交孔 正常进给降低 50%
	加工重叠板 刀片可能产生断裂和崩刃 正常进给降低 25%

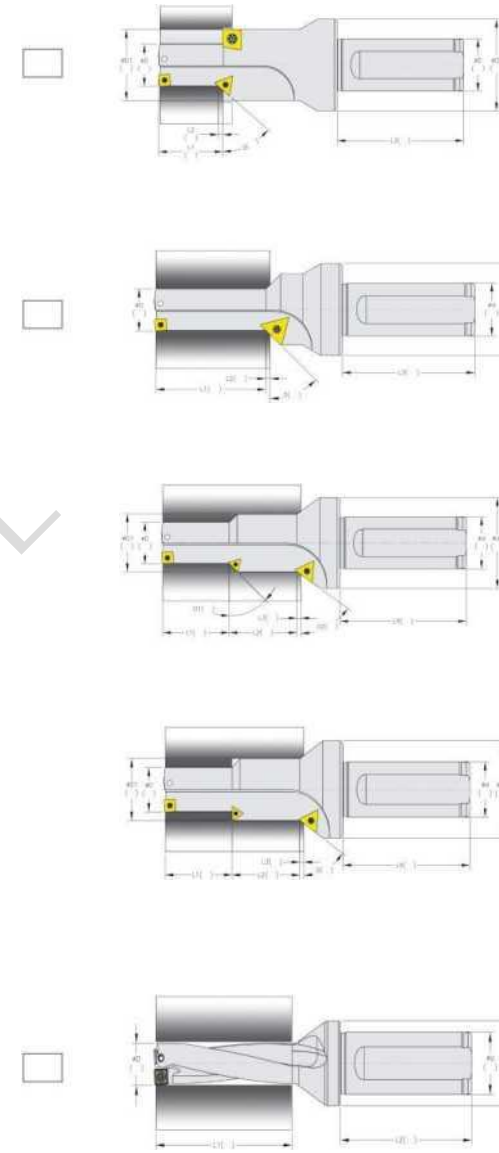
加工问题解决方案 Process problem solution

问题	具体情况	解决方案
加工同一孔时 孔径发生变化	加工同一孔时期孔径发生变化 一底部孔径变大	增强冷却液, 检查冷却液排出情况 更换长径比小的钻头 更改切削条件, 获得更好的切屑控制
孔径变大或变小	孔径变大或变小	段刚 - 增强冷却液 铰削 T 检查冷却液排出情况 车削 - 检查钻头中心及被加工情况
震动	加工震动	更换长径比小的钻头 稳定的夹持力 降低切削速度和进给 检查机床扭矩
排屑不良	长切屑	低碳钢/不锈钢-提高切削速度, 进给以及冷却油压 合金钢/碳钢 T 提高切削速度和进给
表面精度差	短切屑	提高切削速度, 进给以及冷却油压
	加工表面有刀痕	更换切削条件, 获得更好的切屑控制 增加冷却液, 检查冷却液排出情况 降低进给或者提高切削速度 更换长颈比小的钻头, 增大夹紧力
刀片寿命降低	刀片磨损严重或者崩刃	检查切削条件 更换长颈比小的钻头, 增大夹紧力 增加冷却液, 检查冷却液排出情况 更换刀片材质

非标钻头订货单

Non-standard drill bit order

方框内填写



冷却方式 Cooling mode

II 油孔在法兰上 油孔在柄部

钻孔类型 Borehole type

一盲孔加工 有底孔
 通孔加工 无底孔

柄部类型 Handle type

平头型
 韦尔登类型
 惠式哨型

侧面位置 Position of side fixing surface

J 与外刃刀片平行 (标准)
 与外刃刀片呈 90°
 Z 与外刃刀片呈 150°
 与外刃刀片呈 180°

注明:

现在使用的刀具
现在的切削条件
-RPM or $vc(m/min)$
- $vc(mm/min)$ or $f_n(mm/rev)$
-孔深 (mm)

标准刀具寿命使用设备

-加工中心
-普通车床
-CNC 车床

Note:

Knives in use today
Current cutting conditions
-RPM or $vc(m/min)$
- $vc(mm/min)$ or $f_n(mm/rev)$
-Hole depth (mm)
Standard tool life using equipment
-Machining center
-General lathe
-CNC lathe

可换钻头

可换钻头

组合钻

1心U钻

VMD

铲钻

可换钻头

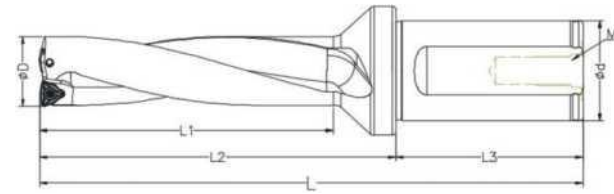
组合钻

带定心U钻

VMD 大钻

模块系统

U 钻 U drill



WC 刀片 2D

型号 Code No	尺寸 Size							刀片 Insert 仁	螺钉 Clamp screw	扳手 Wrench
		L	L1	L2	L3	M	<Pd			
SD14-2D-C25	14	107	30	51	56	G 1/8	25	WCMX 03 02 08	M2.5X5	T8
SD14.5-2D-C25	14.5	108	31	52	56	G 1/8	25	WCMX 03 02 08	M2.5X6	T8
SD15-2D-C25	15	107	32	51	56					
SD15.5-2D-C25	15.5	108	33	52	56					
SD16-2D-C25	16	109	34	53	56					
SD16.5-2D-C25	16.5	110	35	54	56					
SD17-2D-C25	17	111	36	55	56					
SD17.5-2D-C25	17.5	112	37	56	56					
SD18-2D-C25	18	113	38	57	56					
SD18.5-2D-C25	18.5	114	39	58	56	G 1/8	25	WCMX 04 02 08	M2.5X6	T8
SD19-2D-C25	19	113	40	57	56					
SD19.5-2D-C25	19.5	114	41	58	56					
SD20-2D-C25	20	115.5	42	59.5	56					
SD20.5-2D-C25	20.5	117	43	61	56					
SD21-2D-C25	21	118	44	62	56					
SD21.5-2D-C25	21.5	119	45	63	56					
SD22-2D-C25	22	120	46	64	56					
SD22.5-2D-C25	22.5	121	47	65	56	G 1/8	25	WCMX 05 03 08	M3.0X8	T8
SD23-2D-C25	23	122	48	66	56					
SD23.5-2D-C25	23.5	123	49	67	56					
SD24-2D-C25	24	124	50	68	56					
SD24.5-2D-C25	24.5	125	51	69	56					
SD25-2D-C25	25	127	52	71	56					
SD25-2D-C32	25	136	52	76	60					
SD25.5-2D-C32	25.5	137	53	77	60					
SD26-2D-C32	26	138	54	78	60	G 1/4	32	WCMT 05 03 08	M3.0X8	T8
SD26.5-2D-C32	26.5	139	55	79	60					
SD27-2D-C32	27	140	56	80	60					
SD27.5-2D-C32	27.5	141	57	81	60					
SD28-2D-C32	28	142	58	82	60					
SD28.5-2D-C32	28.5	143	59	83	60					
SD29-2D-C32	29	144	60	84	60					
SD29.5-2D-C32	29.5	145	61	85	60					
SD30-2D-C32	30	146	62	86	60	G 1/4	32	WCMT 06 T3 08	M3.5X10	T15
SD30.5-2D-C32	30.5	146	63	86	60					
SD31-2D-C32	31	147	64	87	60					
SD31.5-2D-C32	31.5	147	65	87	60					
SD32-2D-C32	32	149	66	89	60					
SD32.5-2D-C32	32.5	149	67	89	60					
SD33-2D-C32	33	151	68	91	60					
SD33.5-2D-C32	33.5	151	69	91	60					

U 钻 u drill

WC 刀片 2D

型号 Code No	尺寸 Size						M	<Pd	忍 t A	c 螺钉 Clamp screw	扳手 Wrench
	0>D	L	L1	L2	L3						
SD34-2D-C32	34	152	70	92	60	G 1/4	32	WCMT 06 T3 08	M3.5X10	T15	
SD34.5-2D-C32	34.5	152	71	92	60						
SD35-2D-C32	35	155	72	95	60						
SD35.5-2D-C32	35.5	155	73	95	60						
SD36-2D-C32	36	157	74	97	60						
SD36.5-2D-C32	36.5	158	75	98	60						
SD37-2D-C32	37	159	76	99	60						
SD37.5-2D-C32	37.5	161	77	101	60						
SD38-2D-C32	38	158.5	78	98.5	60						
SD38.5-2D-C32	38.5	159.5	79	99.5	60						
SD39-2D-C32	39	162	80	102	60						
SD39.5-2D-C32	39.5	160	81	100	60						
SD40-2D-C32	40	160	82	100	60						
SD40.5-2D-C32	40.5	160	83	100	60						
SD41-2D-C32	41	164	84	104	60	G 1/4	40	WCMT 08 04 12	M4.0X10		
SD41.5-2D-C32	41.5	162	85	102	60						
SD42-2D-C40	42	181	86	111	70						
SD42.5-2D-C40	42.5	182	87	112	70						
SD43-2D-C40	43	183	88	113	70						
SD43.5-2D-C40	43.5	184	89	114	70						
SD44-2D-C40	44	185	90	115	70						
SD44.5-2D-C40	44.5	186	91	116	70						
SD45-2D-C40	45	187	92	117	70						
SD45.5-2D-C40	45.5	188	93	118	70						
SD46-2D-C40	46	189	94	119	70						
SD46.5-2D-C40	46.5	190	95	120	70						
SD47-2D-C40	47	191	96	121	70						
SD47.5-2D-C40	47.5	192	97	122	70						
SD48-2D-C40	48	193	98	123	70	G 1/4	40	WCMT 06 T3 08	M3.5X10	T15	
SD48.5-2D-C40	48.5	194	99	124	70						
SD49-2D-C40	49	195	100	125	70						
SD49.5-2D-C40	49.5	196	101	126	70						
SD50-2D-C40	50	197	102	127	70						
SD50.5-2D-C40	50.5	197	103	127	70						
SD51-2D-C40	51	199	104	129	70						
SD52-2D-C40	52	201	106	131	70						
SD53-2D-C40	53	203	108	133	70						
SD54-2D-C40	54	205	110	135	70						
SD55-2D-C40	55	207	112	137	70						
SD56-2D-C40	56	209	114	139	70						
SD57-2D-C40	57	211	116	141	70						
SD58-2D-C40	58	213	118	143	70						
SD59-2D-C40	59	215	120	145	70						
SD60-2D-C40	60	217	122	147	70						
SD65-2D-C40	65	233.5	132	163.5	70						
SD68-2D-C40	68	240	138	170	70						
SD70-2D-C40	70	232	142	162	70						

铲钻

可换钻尖钻

组合钻

带定心口钻

VMD 大钻

模块系统

铲钻

可换钻尖钻

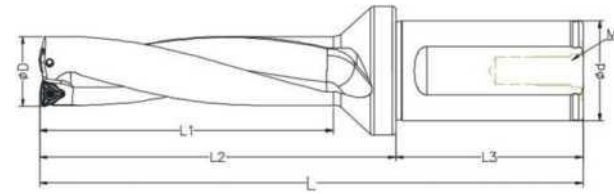
组合钻

带定心口钻

VMD 大钻

模块系统

U 钻 U drill



WC 刀片 3D

型号 Code No	尺寸 Size							刀片 A Insert	螺钉 Clamp screw	扳手 Wrench
	L	L1	L2	L3	M	<Pd				
SD14-3D-C25	14	121	44	65	56	G 1/8	25	WCMX 03 02 08	M2.5X5	T8
SD14.5-3D-C25	14.5	122.5	45.5	66.5	56	G 1/8	25	WCMX 03 02 08	M2.5X6	T8
SD15-3D-C25	15	122	47	66	56					
SD15.5-3D-C25	15.5	123.5	48.5	67.5	56					
SD16-3D-C25	16	125	50	69	56					
SD16.5-3D-C25	16.5	126.5	51.5	70.5	56					
SD17-3D-C25	17	128	53	72	56					
SD17.5-3D-C25	17.5	129.5	54.5	73.5	56					
SD18-3D-C25	18	131	56	75	56					
SD18.5-3D-C25	18.5	132.5	57.5	76.5	56	G 1/8	25	WCMX 04 02 08	M2.5X6	T8
SD19-3D-C25	19	132	59	76	56					
SD19.5-3D-C25	19.5	133.5	60.5	77.5	56					
SD20-3D-C25	20	135.5	62	79.5	56					
SD20.5-3D-C25	20.5	137.5	63.5	81.5	56					
SD21-3D-C25	21	139	65	83	56					
SD21.5-3D-C25	21.5	140.5	66.5	84.5	56					
SD22-3D-C25	22	142	68	86	56					
SD22.5-3D-C25	22.5	143.5	69.5	87.5	56	G 1/8	25	WCMX 05 03 08	M3.0X8	T8
SD23-3D-C25	23	145	71	89	56					
SD23.5-3D-C25	23.5	146.5	72.5	90.5	56					
SD24-3D-C25	24	148	74	92	56					
SD24.5-3D-C25	24.5	149.5	75.5	93.5	56					
SD25-3D-C25	25	152	77	96	56					
SD25-3D-C32	25	161	77	101	60					
SD25.5-3D-C32	25.5	162.5	78.5	102.5	60					
SD26-3D-C32	26	164	80	104	60	G 1/4	32	WCMT 05 03 08	M3.0X8	T8
SD26.5-3D-C32	26.5	165.5	81.5	105.5	60					
SD27-3D-C32	27	167	83	107	60					
SD27.5-3D-C32	27.5	168.5	84.5	108.5	60					
SD28-3D-C32	28	170	86	110	60					
SD28.5-3D-C32	28.5	171.5	87.5	111.5	60					
SD29-3D-C32	29	173	89	113	60					
SD29.5-3D-C32	29.5	174.5	90.5	114.5	60					
SD30-3D-C32	30	176	92	116	60	G 1/4	32	WCMT 06 T3 08	M3.5X10	T15
SD30.5-3D-C32	30.5	176.5	93.5	116.5	60					
SD31-3D-C32	31	178	95	118	60					
SD31.5-3D-C32	31.5	178.5	96.5	118.5	60					
SD32-3D-C32	32	181	98	121	60					
SD32.5-3D-C32	32.5	181.5	99.5	121.5	60					
SD33-3D-C32	33	184	101	124	60					
SD33.5-3D-C32	33.5	184.5	102.5	124.5	60					

U 钻 u drill

WC 刀片 3D

型号 Code No	尺寸 Size							忍 t A	c 螺钉 Clamp screw	扳手 Wrench					
	0>D	L	L1	L2	L3	M	<Pd								
SD34-3D-C32	34	186	104	126	60	G 1/4	32	WCMT 06 T3 08	M3.5X10	T15					
SD34.5-3D-C32	34.5	186.5	105.5	126.5	60										
SD35-3D-C32	35	190	107	130	60										
SD35.5-3D-C32	35.5	190.5	108.5	130.5	60										
SD36-3D-C32	36	193	110	133	60										
SD36.5-3D-C32	36.5	194.5	111.5	134.5	60										
SD37-3D-C32	37	196	113	136	60										
SD37.5-3D-C32	37.5	198.5	114.5	138.5	60										
SD38-3D-C32	38	196.5	116	136.5	60										
SD38.5-3D-C32	38.5	198	117.5	138	60										
SD39-3D-C32	39	197	119	137	60										
SD39.5-3D-C32	39.5	199.5	120.5	139.5	60										
SD40-3D-C32	40	200	122	140	60										
SD40.5-3D-C32	40.5	200.5	123.5	140.5	60										
SD41-3D-C32	41	205	125	145	60										
SD41.5-3D-C32	41.5	203.5	126.5	143.5	60										
SD42-3D-C40	42	223	128	153	70	G 1/4	40	WCMT 08 04 12	M4.0X10						
SD42.5-3D-C40	42.5	224.5	129.5	154.5	70										
SD43-3D-C40	43	226	131	156	70										
SD43.5-3D-C40	43.5	227.5	132.5	157.5	70										
SD44-3D-C40	44	229	134	159	70										
SD44.5-3D-C40	44.5	230.5	135.5	160.5	70										
SD45-3D-C40	45	232	137	162	70										
SD45.5-3D-C40	45.5	233.5	138.5	163.5	70										
SD46-3D-C40	46	235	140	165	70										
SD46.5-3D-C40	46.5	236.5	141.5	166.5	70										
SD47-3D-C40	47	238	143	168	70										
SD47.5-3D-C40	47.5	239.5	144.5	169.5	70										
SD48-3D-C40	48	241	146	171	70										
SD48.5-3D-C40	48.5	242.5	147.5	172.5	70										
SD49-3D-C40	49	244	149	174	70										
SD49.5-3D-C40	49.5	245.5	150.5	175.5	70										
SD50-3D-C40	50	247	152	177	70										
SD50.5-3D-C40	50.5	249	154	179	70										
SD51-3D-C40	51	250	155	180	70										
SD52-3D-C40	52	253	158	183	70										
SD53-3D-C40	53	256	161	186	70										
SD54-3D-C40	54	259	164	189	70										
SD55-3D-C40	55	262	167	192	70										
SD56-3D-C40	56	265	170	195	70										
SD57-3D-C40	57	268	173	198	70										
SD58-3D-C40	58	271	176	201	70										
SD59-3D-C40	59	274	179	204	70										
SD60-3D-C40	60	277	182	207	70						G 1/4	40	WCMT 06 T3 08	M3.5X10	T15
SD65-3D-C40	65	298.5	197	228.5	70										
SD68-3D-C40	68	308	206	238	70										
SD70-3D-C40	70	302	212	232	70										

铲钻

可换钻尖钻

组合钻

带定心口钻

VMD 大钻

模块系统

铲钻

可换钻尖钻

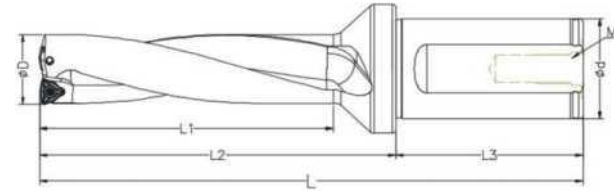
组合钻

带定心口钻

VMD 大钻

模块系统

U 钻 U drill



WC 刀片 4D

型号 Code No	尺寸 Size							刀片 A Insert	螺钉 Clamp screw	扳手 Wrench
		L	L1	L2	L3	M	<Pd			
SD14-4D-C25	14	135	58	79	56	G 1/8	25	WCMX 03 02 08	M2.5X5	T8
SD14.5-4D-C25	14.5	137	60	81	56	G 1/8	25	WCMX 03 02 08	M2.5X6	T8
SD15-4D-C25	15	137	62	81	56					
SD15.5-4D-C25	15.5	139	64	83	56					
SD16-4D-C25	16	141	66	85	56					
SD16.5-4D-C25	16.5	143	68	87	56					
SD17-4D-C25	17	145	70	89	56					
SD17.5-4D-C25	17.5	147	72	91	56					
SD18-4D-C25	18	149	74	93	56					
SD18.5-4D-C25	18.5	151	76	95	56	G 1/8	25	WCMX 04 02 08	M2.5X6	T8
SD19-4D-C25	19	151	78	95	56					
SD19.5-4D-C25	19.5	153	80	97	56					
SD20-4D-C25	20	155.5	82	99.5	56					
SD20.5-4D-C25	20.5	158	84	102	56					
SD21-4D-C25	21	160	86	104	56					
SD21.5-4D-C25	21.5	162	88	106	56					
SD22-4D-C25	22	164	90	108	56					
SD22.5-4D-C25	22.5	166	92	110	56	G 1/8	25	WCMX 05 03 08	M3.0X8	T8
SD23-4D-C25	23	168	94	112	56					
SD23.5-4D-C25	23.5	170	96	114	56					
SD24-4D-C25	24	172	98	116	56					
SD24.5-4D-C25	24.5	174	100	118	56					
SD25-4D-C25	25	177	102	121	56					
SD25-4D-C32	25	186	102	126	60					
SD25.5-4D-C32	25.5	188	104	128	60					
SD26-4D-C32	26	190	106	130	60	G 1/4	32	WCMT 05 03 08	M3.0X8	T8
SD26.5-4D-C32	26.5	192	108	132	60					
SD27-4D-C32	27	194	110	134	60					
SD27.5-4D-C32	27.5	196	112	136	60					
SD28-4D-C32	28	198	114	138	60					
SD28.5-4D-C32	28.5	200	116	140	60					
SD29-4D-C32	29	202	118	142	60					
SD29.5-4D-C32	29.5	204	120	144	60					
SD30-4D-C32	30	206	122	146	60	G 1/4	32	WCMT 06 T3 08	M3.5X10	T15
SD30.5-4D-C32	30.5	207	124	147	60					
SD31-4D-C32	31	209	126	149	60					
SD31.5-4D-C32	31.5	210	128	150	60					
SD32-4D-C32	32	213	130	153	60					
SD32.5-4D-C32	32.5	214	132	154	60					
SD33-4D-C32	33	217	134	157	60					
SD33.5-4D-C32	33.5	218	136	158	60					

U 钻 u drill

WC 刀片 4D

型号 Code No	尺寸 Size						M	<Pd	忍 t A	c 螺钉 Clamp screw	扳手 Wrench
	0>D	L	L1	L2	L3						
SD34-4D-C32	34	220	138	160	60	G 1/4	32	WCMT 06 T3 08	M3.5X10	T15	
SD34.5-4D-C32	34.5	221	140	161	60						
SD35-4D-C32	35	225	142	165	60						
SD35.5-4D-C32	35.5	226	144	166	60						
SD36-4D-C32	36	229	146	169	60						
SD36.5-4D-C32	36.5	231	148	171	60						
SD37-4D-C32	37	233	150	173	60						
SD37.5-4D-C32	37.5	236	152	176	60						
SD38-4D-C32	38	234.5	154	174.5	60						
SD38.5-4D-C32	38.5	236.5	156	176.5	60						
SD39-4D-C32	39	240	158	180	60						
SD39.5-4D-C32	39.5	239	160	179	60						
SD40-4D-C32	40	240	162	180	60						
SD40.5-4D-C32	40.5	241	164	181	60						
SD41-4D-C32	41	246	166	186	60						
SD41.5-4D-C32	41.5	245	168	185	60						G 1/4
SD42-4D-C40	42	265	170	195	70						
SD42.5-4D-C40	42.5	267	172	197	70						
SD43-4D-C40	43	269	174	199	70						
SD43.5-4D-C40	43.5	271	176	201	70						
SD44-4D-C40	44	273	178	203	70						
SD44.5-4D-C40	44.5	275	180	205	70						
SD45-4D-C40	45	277	182	207	70						
SD45.5-4D-C40	45.5	279	184	209	70						
SD46-4D-C40	46	281	186	211	70						
SD46.5-4D-C40	46.5	283	188	213	70						
SD47-4D-C40	47	285	190	215	70						
SD47.5-4D-C40	47.5	287	192	217	70						
SD48-4D-C40	48	289	194	219	70						
SD48.5-4D-C40	48.5	291	196	221	70						
SD49-4D-C40	49	293	198	223	70	G 1/4	40	WCMT 06 T3 08	M3.5X10	T15	
SD49.5-4D-C40	49.5	295	200	225	70						
SD50-4D-C40	50	297	202	227	70						
SD50.5-4D-C40	50.5	299	204	229	70						
SD51-4D-C40	51	301	206	231	70						
SD52-4D-C40	52	305	210	235	70						
SD53-4D-C40	53	309	214	239	70						
SD54-4D-C40	54	313	218	243	70						
SD55-4D-C40	55	317	222	247	70						
SD56-4D-C40	56	321	226	251	70						
SD57-4D-C40	57	325	230	255	70						
SD58-4D-C40	58	329	234	259	70						
SD59-4D-C40	59	333	238	263	70						
SD60-4D-C40	60	337	242	267	70						
SD65-4D-C40	65	363.5	262	293.5	70						
SD68-4D-C40	68	376	274	306	70						
SD70-4D-C40	70	372	282	302	70						

铲钻

可换钻尖钻

组合钻

带定心口钻

VMD 大钻

模块系统

铲钻

可换钻尖钻

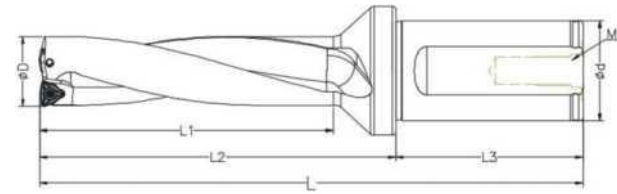
组合钻

带定心口钻

VMD 大钻

模块系统

U 钻 U drill



WC 刀片 5D

型号 Code No	尺寸 Size							刀片 A Insert	螺钉 Clamp screw	扳手 Wrench
		L	L1	L2	L3	M	<Pd			
SD14-5D-C25	14	149	72	93	56	G 1/8	25	WCMX 03 02 08	M2.5X5	T8
SD14.5-5D-C25	14.5	151.5	74.5	95.5	56	G 1/8	25	WCMX 03 02 08	M2.5X6	T8
SD15-5D-C25	15	152	77	96	56					
SD15.5-5D-C25	15.5	154.5	79.5	98.5	56					
SD16-5D-C25	16	157	82	101	56					
SD16.5-5D-C25	16.5	159.5	84.5	103.5	56					
SD17-5D-C25	17	162	87	106	56					
SD17.5-5D-C25	17.5	164.5	89.5	108.5	56					
SD18-5D-C25	18	167	92	111	56					
SD18.5-5D-C25	18.5	169.5	94.5	113.5	56	G 1/8	25	WCMX 04 02 08	M2.5X6	T8
SD19-5D-C25	19	170	97	114	56					
SD19.5-5D-C25	19.5	172.5	99.5	116.5	56					
SD20-5D-C25	20	175.5	102	119.5	56					
SD20.5-5D-C25	20.5	178.5	104.5	122.5	56					
SD21-5D-C25	21	181	107	125	56					
SD21.5-5D-C25	21.5	183.5	109.5	127.5	56					
SD22-5D-C25	22	186	112	130	56					
SD22.5-5D-C25	22.5	188.5	114.5	132.5	56	G 1/8	25	WCMX 05 03 08	M3.0X8	T8
SD23-5D-C25	23	191	117	135	56					
SD23.5-5D-C25	23.5	193.5	119.5	137.5	56					
SD24-5D-C25	24	196	122	140	56					
SD24.5-5D-C25	24.5	198.5	124.5	142.5	56					
SD25-5D-C25	25	202	127	146	56					
SD25-5D-C32	25	211	127	151	60					
SD25.5-5D-C32	25.5	213.5	129.5	153.5	60					
SD26-5D-C32	26	216	132	156	60	G 1/4	32	WCMT 05 03 08	M3.0X8	T8
SD26.5-5D-C32	26.5	218.5	134.5	158.5	60					
SD27-5D-C32	27	221	137	161	60					
SD27.5-5D-C32	27.5	223.5	139.5	163.5	60					
SD28-5D-C32	28	226	142	166	60					
SD28.5-5D-C32	28.5	228.5	144.5	168.5	60					
SD29-5D-C32	29	231	147	171	60					
SD29.5-5D-C32	29.5	233.5	149.5	173.5	60					
SD30-5D-C32	30	236	152	176	60	G 1/4	32	WCMT 06 T3 08	M3.5X10	T15
SD30.5-5D-C32	30.5	237.5	154.5	177.5	60					
SD31-5D-C32	31	240	157	180	60					
SD31.5-5D-C32	31.5	241.5	159.5	181.5	60					
SD32-5D-C32	32	245	162	185	60					
SD32.5-5D-C32	32.5	246.5	164.5	186.5	60					
SD33-5D-C32	33	250	167	190	60					
SD33.5-5D-C32	33.5	251.5	169.5	191.5	60					

U 钻 u drill

WC 刀片 5D

型号 Code No	尺寸 Size						M	<Pd	忍 t A	c 螺钉 Clamp screw	扳手 Wrench
	0>D	L	L1	L2	L3						
SD34-5D-C32	34	254	172	194	60	G 1/4	32	WCMT 06 T3 08	M3.5X10	T15	
SD34.5-5D-C32	34.5	255.5	174.5	195.5	60						
SD35-5D-C32	35	260	177	200	60						
SD35.5-5D-C32	35.5	261.5	179.5	201.5	60						
SD36-5D-C32	36	265	182	205	60						
SD36.5-5D-C32	36.5	267.5	184.5	207.5	60						
SD37-5D-C32	37	270	187	210	60						
SD37.5-5D-C32	37.5	273.5	189.5	213.5	60						
SD38-5D-C32	38	272.5	192	212.5	60						
SD38.5-5D-C32	38.5	275	194.5	215	60						
SD39-5D-C32	39	279	197	219	60						
SD39.5-5D-C32	39.5	278.5	199.5	218.5	60						
SD40-5D-C32	40	280	202	220	60						
SD40.5-5D-C32	40.5	281.5	204.5	221.5	60						
SD41-5D-C32	41	287	207	227	60	G 1/4	40	WCMT 08 04 12	M4.0X10		
SD41.5-5D-C32	41.5	286.5	209.5	226.5	60						
SD42-5D-C40	42	307	212	237	70						
SD42.5-5D-C40	42.5	309.5	214.5	239.5	70						
SD43-5D-C40	43	312	217	242	70						
SD43.5-5D-C40	43.5	314.5	219.5	244.5	70						
SD44-5D-C40	44	317	222	247	70						
SD44.5-5D-C40	44.5	319.5	224.5	249.5	70						
SD45-5D-C40	45	322	227	252	70						
SD45.5-5D-C40	45.5	324.5	229.5	254.5	70						
SD46-5D-C40	46	327	232	257	70						
SD46.5-5D-C40	46.5	329.5	234.5	259.5	70						
SD47-5D-C40	47	332	137	262	70						
SD47.5-5D-C40	47.5	334.5	239.5	264.5	70						
SD48-5D-C40	48	337	242	267	70						
SD48.5-5D-C40	48.5	339.5	244.5	269.5	70						
SD49-5D-C40	49	342	247	272	70	G 1/4	40	WCMT 06 T3 08	M3.5X10	T15	
SD49.5-5D-C40	49.5	344.5	249.5	274.5	70						
SD50-5D-C40	50	347	252	277	70						
SD50.5-5D-C40	50.5	349.5	254.5	279.5	70						
SD51-5D-C40	51	352	257	282	70						
SD52-5D-C40	52	257	262	287	70						
SD53-5D-C40	53	362	267	292	70						
SD54-5D-C40	54	367	272	297	70						
SD55-5D-C40	55	372	277	302	70						
SD56-5D-C40	56	377	282	307	70						
SD57-5D-C40	57	382	287	312	70						
SD58-5D-C40	58	387	292	317	70						
SD59-5D-C40	59	392	297	322	70						
SD60-5D-C40	60	397	302	327	70						
SD65-5D-C40	65	428.5	327	358.5	70						
SD68-5D-C40	68	444	342	374	70						
SD70-5D-C40	70	442	352	372	70						

铲钻

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模块系统

铲钻

可换钻尖钻

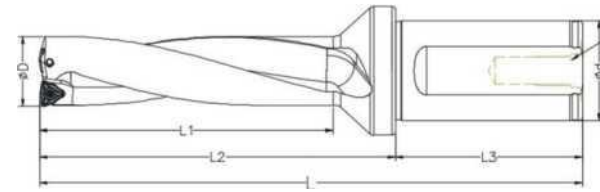
组合钻

带定心口钻

VMD 大钻

模块系统

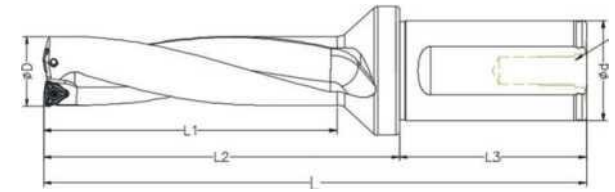
U 钻 U drill



WC 刀片 2D-C20

型号 Code No	尺寸 Size							刀片 A Insert	螺钉 Clamp screw	扳手 Wrench
	0>D	L	L1	L2	L3	M	a) d			
SD14-2D-C20	14	101	30	51	50	G 1/8	20	WCMX 03 02 08	M2.5X5	T8
SD14.5-2D-C20	14.5	102	31	52	50	G 1/8	20			
SD15-2D-C20	15	101	32	51	50					
SD15.5-2D-C20	15.5	102	33	52	50					
SD16-2D-C20	16	103	34	53	50					
SD16.5-2D-C20	16.5	104	35	54	50					
SD17-2D-C20	17	105	36	55	50					
SD17.5-2D-C20	17.5	106	37	56	50					
SD18-2D-C20	18	107	38	57	50					
SD18.5-2D-C20	18.5	108	39	58	50					
SD19-2D-C20	19	107	40	57	50					
SD19.5-2D-C20	19.5	108	41	58	50					
SD20-2D-C20	20	109.5	42	59.5	50	G 1/8	20	WCMX 04 02 08	M2.5X6	T8
SD20.5-2D-C20	20.5	111	43	61	50					
SD21-2D-C20	21	112	44	62	50					
SD21.5-2D-C20	21.5	113	45	63	50					
SD22-2D-C20	22	114	46	64	50					
SD22.5-2D-C20	22.5	115	47	65	50					
SD23-2D-C20	23	116	48	66	50					
SD23.5-2D-C20	23.5	117	49	67	50					

u 钻 u drill



WC 刀片 4D-C20

型号 Code No	尺寸 Size							iSS A	螺钉 Clamp screw	扳手 Wrench
	0>D	L	L1	L2	L3	M	<t) d			
SD14-4D-C20	14	129	58	79	50	G 1/8	20	WCMX 03 02 08	M2.5X5	T8
SD14.5-4D-C20	14.5	131	60	81	50	G 1/8	20			
SD15-4D-C20	15	131	62	81	50					
SD15.5-4D-C20	15.5	133	64	83	50					
SD16-4D-C20	16	135	66	85	50					
SD16.5-4D-C20	16.5	137	68	87	50					
SD17-4D-C20	17	139	70	89	50					
SD17.5-4D-C20	17.5	141	72	91	50					
SD18-4D-C20	18	143	74	93	50					
SD18.5-4D-C20	18.5	145	76	95	50					
SD19-4D-C20	19	145	78	95	50					
SD19.5-4D-C20	19.5	147	80	97	50					
SD20-4D-C20	20	149.5	82	99.5	50	G 1/8	20	WCMX 04 02 08	M2.5X6	T8
SD20.5-4D-C20	20.5	152	84	102	50					
SD21-4D-C20	21	154	86	104	50					
SD21.5-4D-C20	21.5	156	88	106	50					
SD22-4D-C20	22	158	90	108	50					
SD22.5-4D-C20	22.5	160	92	110	50					
SD23-4D-C20	23	162	94	112	50					
SD23.5-4D-C20	23.5	164	96	114	50					

WC 刀片 3D-20

型号 Code No	尺寸 Size							刀片 A Insert 茂 3	螺钉 Clamp screw	扳手 Wrench
	0>D	L	L1	L2	L3	M	<Pd			
SD14-3D-C20	14	115	44	65	50	G 1/8	20	WCMX 03 02 08	M2.5X5	T8
SD14.5-3D-C20	14.5	116.5	45.5	66.5	50	G 1/8	20			
SD15-3D-C20	15	116	47	66	50					
SD15.5-3D-C20	15.5	117.5	48.5	67.5	50					
SD16-3D-C20	16	119	50	69	50					
SD16.5-3D-C20	16.5	120.5	51.5	70.5	50					
SD17-3D-C20	17	122	53	72	50					
SD17.5-3D-C20	17.5	123.5	54.5	73.5	50					
SD18-3D-C20	18	125	56	75	50					
SD18.5-3D-C20	18.5	126.5	57.5	76.5	50					
SD19-3D-C20	19	126	59	76	50					
SD19.5-3D-C20	19.5	127.5	60.5	77.5	50					
SD20-3D-C20	20	129.5	62	79.5	50	G 1/8	20	WCMX 04 02 08	M2.5X6	T8
SD20.5-3D-C20	20.5	131.5	63.5	81.5	50					
SD21-3D-C20	21	133	65	83	50					
SD21.5-3D-C20	21.5	134.5	66.5	84.5	50					
SD22-3D-C20	22	136	68	86	50					
SD22.5-3D-C20	22.5	137.5	69.5	87.5	50					
SD23-3D-C20	23	139	71	89	50					
SD23.5-3D-C20	23.5	140.5	72.5	90.5	50					

WC 刀片 5D-C20

型号 Code No	尺寸 Size							刀片 A Insert	螺钉 Clamp screw	扳手 Wrench
	0>D	L	L1	L2	L3	M	0) d			
SD14-5D-C20	14	143	72	93	50	G 1/8	20	WCMX 03 02 08	M2.5X5	T8
SD14.5-5D-C20	14.5	145.5	74.5	95.5	50	G 1/8	20			
SD15-5D-C20	15	146	77	96	50					
SD15.5-5D-C20	15.5	148.5	79.5	98.5	50					
SD16-5D-C20	16	151	82	101	50					
SD16.5-5D-C20	16.5	153.5	84.5	103.5	50					
SD17-5D-C20	17	156	87	106	50					
SD17.5-5D-C20	17.5	158.5	89.5	108.5	50					
SD18-5D-C20	18	161	92	111	50					
SD18.5-5D-C20	18.5	163.5	94.5	113.5	50					
SD19-5D-C20	19	164	97	114	50					
SD19.5-5D-C20	19.5	166.5	99.5	116.5	50					
SD20-5D-C20	20	169.5	102	119.5	50	G 1/8	20	WCMX 04 02 08	M2.5X6	T8
SD20.5-5D-C20	20.5	172.5	104.5	122.5	50					
SD21-5D-C20	21	175	107	125	50					
SD21.5-5D-C20	21.5	177.5	109.5	127.5	50					
SD22-5D-C20	22	180	112	130	50					
SD22.5-5D-C20	22.5	182.5	114.5	132.5	50					
SD23-5D-C20	23	185	117	135	50					
SD23.5-5D-C20	23.5	187.5	119.5	137.5	50					

铲钻

可换钻尖钻

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带定心口钻

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铲钻

可换钻尖钻

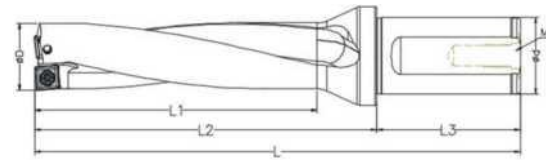
组合钻

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VMD 大钻

模块系统

U 钻 U drill



SP 刀片 2D

型号 Code No	尺寸 Size						兹 Q	螺钉 Clamp screw	扳手 Wrench	
	<PD	L	L1	L2	L3	M				
SP10-2D-C20	10	83	22	33	50	G 1/8	20	SPGT 04 T1 02	M1.8X4	T6
SP10.5-2D-C20	10.5	84	23	34	50					
SP11-2D-C20	11	85	24	35	50					
SP11.5-2D-C20	11.5	86	25	36	50					
SP12-2D-C20	12	87	26	37	50					
SP12.5-2D-C20	12.5	96	27	46	50	G 1/8	20	SPMG 05 02 04	M2.2X5	T6
SP13-2D-C20	13	97	28	47	50					
SP13.5-2D-C20	13.5	98	29	48	50					
SP14-2D-C25	14	107	30	51	56	G 1/8	25	SPMG 06 02 04	M2.2X6	
SP14.5-2D-C25	14.5	108	31	52	56					
SP15-2D-C25	15	109	32	53	56					
SP15.5-2D-C25	15.5	110	33	54	56					
SP16-2D-C25	16	111	34	55	56					
SP16.5-2D-C25	16.5	112	35	56	56	G 1/8	25	SPMG 07 T3 08	M2.5X8	T8
SP17-2D-C25	17	111	36	55	56					
SP17.5-2D-C25	17.5	112	37	56	56					
SP18-2D-C25	18	112	38	56	56					
SP18.5-2D-C25	18.5	113	39	57	56					
SP19-2D-C25	19	113	40	57	56	G 1/8	25	SPMG 07 T3 08	M2.5X8	T8
SP19.5-2D-C25	19.5	114	41	58	56					
SP20-2D-C25	20	117	42	61	56					
SP20.5-2D-C25	20.5	118	43	62	56					
SP21-2D-C25	21	119	44	63	56					
SP21.5-2D-C25	21.5	120	45	64	56	G 1/8	25	SPMG 07 T3 08	M2.5X8	T8
SP22-2D-C25	22	121	46	65	56					
SP22.5-2D-C25	22.5	122	47	66	56					
SP23-2D-C25	23	123	48	67	56					
SP23.5-2D-C25	23.5	124	49	68	56					
SP24-2D-C25	24	125	50	69	56	G 1/4	32	SPMG 09 04 08	M3.5X10	T15
SP24.5-2D-C25	24.5	126	51	70	56					
SP25-2D-C25	25	128	52	72	56					
SP25-2D-C32	25	137	52	77	60					
SP25.5-2D-C32	25.5	138	53	78	60					
SP26-2D-C32	26	139	54	79	60	G 1/4	32	SPMG 09 04 08	M3.5X10	T15
SP26.5-2D-C32	26.5	140	55	80	60					
SP27-2D-C32	27	141	56	81	60					
SP27.5-2D-C32	27.5	142	57	82	60					
SP28-2D-C32	28	143	58	83	60					
SP28.5-2D-C32	28.5	144	59	84	60	G 1/4	32	SPMG 09 04 08	M3.5X10	
SP29-2D-C32	29	145	60	85	60					
SP29.5-2D-C32	29.5	146	61	86	60					

U 钻 u drill

SP 刀片 2D

型号 Code No	尺寸 Size						M	<t>d	蘇 a	c 螺钉 Clamp screw	扳手 Wrench
	<PD	L	L1	L2	L3						
SP30-2D-C32	30	144	62	84	60	G 1/4	32	SPMG 09 04 08	M3.5X10	T15	
SP30.5-2D-C32	30.5	145	63	85	60						
SP31-2D-C32	31	146	64	86	60						
SP31.5-2D-C32	31.5	147	65	87	60						
SP32-2D-C32	32	148	66	88	60						
SP32.5-2D-C32	32.5	149	67	89	60						
SP33-2D-C32	33	150	68	90	60						
SP33.5-2D-C32	33.5	151	69	91	60						
SP34-2D-C32	34	156	70	96	60						
SP34.5-2D-C32	34.5	157	71	97	60						
SP35-2D-C32	35	158	72	98	60	G 1/4	32	SPMG 11 04 08	M4X10	T15	
SP35.5-2D-C32	35.5	159	73	99	60						
SP36-2D-C32	36	160	74	100	60						
SP36.5-2D-C32	36.5	161	75	101	60						
SP37-2D-C32	37	161	76	101	60						
SP37.5-2D-C32	37.5	162	77	102	60						
SP38-2D-C32	38	163	78	103	60						
SP38.5-2D-C32	38.5	164	79	104	60						
SP39-2D-C32	39	165	80	105	60						
SP39.5-2D-C32	39.5	166	81	106	60						
SP40-2D-C32	40	167	82	107	60	G 1/4	40	SPMG 14 05 12	M5X12		
SP40.5-2D-C32	40.5	168	83	108	60						
SP41-2D-C32	41	169	84	109	60						
SP42-2D-C40	42	179	86	109	70						
SP43-2D-C40	43	181	88	111	70						
SP44-2D-C40	44	186	90	116	70						
SP45-2D-C40	45	188	92	118	70						
SP46-2D-C40	46	191	94	121	70						
SP47-2D-C40	47	193	96	123	70						
SP48-2D-C40	48	195	98	125	70						
SP49-2D-C40	49	197	100	127	70	G 1/4	40	SPMG 07 T3 08	M2.5X8	T8	
SP50-2D-C40	50	199	102	129	70						
SP51-2D-C40	51	201	104	131	70						
SP52-2D-C40	52	203	106	133	70						
SP53-2D-C40	53	205	108	135	70						
SP54-2D-C40	54	207	110	137	70	G 1/4	40	SPMG 09 04 08	M3.5X10	T15	
SP55-2D-C40	55	209	112	139	70						
SP56-2D-C40	56	211	114	141	70						
SP57-2D-C40	57	213	116	143	70						
SP58-2D-C40	58	215	118	145	70						
SP59-2D-C40	59	218	120	148	70						
SP60-2D-C40	60	220	122	150	70						

铲钻

可换钻尖钻

组合钻

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模块系统

铲钻

可换钻尖钻

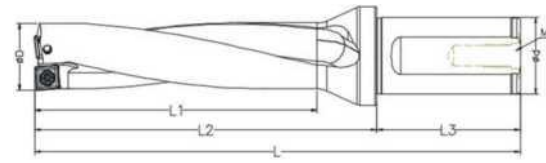
组合钻

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VMD 大钻

模块系统

U 钻 U drill



SP 刀片 3D

型号 Code No	尺寸 Size						兹 Q	螺钉 Clamp screw	扳手 Wrench	
	<PD	L	L1	L2	L3	M				
SP10-3D-C20	10	93	32	43	50	G 1/8	20	SPGT 04 T1 02	M1.8X4	T6
SP10.5-3D-C20	10.5	94.5	33.5	44.5	50					
SP11-3D-C20	11	96	35	46	50					
SP11.5-3D-C20	11.5	97.5	36.5	47.5	50					
SP12-3D-C20	12	99	38	49	50					
SP12.5-3D-C20	12.5	108.5	39.5	58.5	50	G 1/8	20	SPMG 05 02 04	M2.2X5	T6
SP13-3D-C20	13	110	41	60	50					
SP13.5-3D-C20	13.5	111.5	42.5	61.5	50	G 1/8	25	SPMG 06 02 04	M2.2X6	
SP14-3D-C25	14	121	44	65	56					
SP14.5-3D-C25	14.5	122.5	45.5	66.5	56					
SP15-3D-C25	15	124	47	68	56	G 1/8	25	SPMG 07 T3 08	M2.5X8	T8
SP15.5-3D-C25	15.5	125.5	48.5	69.5	56					
SP16-3D-C25	16	127	50	71	56					
SP16.5-3D-C25	16.5	128.5	51.5	72.5	56					
SP17-3D-C25	17	128	53	72	56					
SP17.5-3D-C25	17.5	129.5	54.5	73.5	56					
SP18-3D-C25	18	130	56	74	56					
SP18.5-3D-C25	18.5	131.5	57.5	75.5	56					
SP19-3D-C25	19	132	59	76	56					
SP19.5-3D-C25	19.5	133.5	60.5	77.5	56					
SP20-3D-C25	20	137	62	81	56	G 1/8	25	SPMG 07 T3 08	M2.5X8	T8
SP20.5-3D-C25	20.5	138.5	63.5	82.5	56					
SP21-3D-C25	21	140	65	84	56					
SP21.5-3D-C25	21.5	141.5	66.5	85.5	56					
SP22-3D-C25	22	143	68	87	56					
SP22.5-3D-C25	22.5	144.5	69.5	88.5	56					
SP23-3D-C25	23	146	71	90	56					
SP23.5-3D-C25	23.5	147.5	72.5	91.5	56					
SP24-3D-C25	24	149	74	93	56					
SP24.5-3D-C25	24.5	150.5	75.5	94.5	56					
SP25-3D-C25	25	153	77	97	56	G 1/4	32	SPMG 09 04 08	M3.5X10	T15
SP25-3D-C32	25	162	77	102	60					
SP25.5-3D-C32	25.5	163.5	78.5	103.5	60					
SP26-3D-C32	26	165	80	105	60					
SP26.5-3D-C32	26.5	166.5	81.5	106.5	60					
SP27-3D-C32	27	168	83	108	60	G 1/4	32	SPMG 09 04 08	M3.5X10	T15
SP27.5-3D-C32	27.5	169.5	84.5	109.5	60					
SP28-3D-C32	28	171	86	111	60					
SP28.5-3D-C32	28.5	172.5	87.5	122.5	60	G 1/4	32	SPMG 09 04 08	M3.5X10	T15
SP29-3D-C32	29	174	89	114	60					
SP29.5-3D-C32	29.5	175.5	90.5	115.5	60					

U 钻 u drill

SP 刀片 3D

型号 Code No	尺寸 Size						蘇 a	c 螺钉 Clamp screw	扳手 Wrench						
	<PD	L	L1	L2	L3	M									
SP30-3D-C32	30	174	92	114	60	G 1/4	32	SPMG 09 04 08	M3.5X10	T15					
SP30.5-3D-C32	30.5	175.5	93.5	115.5	60										
SP31-3D-C32	31	177	95	117	60										
SP31.5-3D-C32	31.5	178.5	96.5	118.5	60										
SP32-3D-C32	32	180	98	120	60										
SP32.5-3D-C32	32.5	181.5	99.5	121.5	60										
SP33-3D-C32	33	183	101	123	60										
SP33.5-3D-C32	33.5	184.5	102.5	124.5	60										
SP34-3D-C32	34	191.5	104	131.5	60						G 1/4	32	SPMG 11 04 08	M4X10	T15
SP34.5-3D-C32	34.5	191.5	105.5	131.5	60										
SP35-3D-C32	35	193	107	133	60										
SP35.5-3D-C32	35.5	194.5	108.5	134.5	60										
SP36-3D-C32	36	196	110	136	60										
SP36.5-3D-C32	36.5	197.5	111.5	137.5	60										
SP37-3D-C32	37	198	113	138	60										
SP37.5-3D-C32	37.5	199.5	114.5	139.5	60										
SP38-3D-C32	38	201	116	141	60										
SP38.5-3D-C32	38.5	202.5	117.5	142.5	60										
SP39-3D-C32	39	204	119	144	60	G 1/4	40	SPMG 14 05 12	M5X12						
SP39.5-3D-C32	39.5	205.5	120.5	145.5	60										
SP40-3D-C32	40	207	122	147	60										
SP40.5-3D-C32	40.5	208.5	123.5	148.5	60										
SP41-3D-C32	41	210	125	150	60										
SP42-3D-C40	42	221	128	151	70										
SP43-3D-C40	43	224	131	154	70										
SP44-3D-C40	44	230	134	160	70										
SP45-3D-C40	45	233	137	163	70										
SP46-3D-C40	46	237	140	167	70										
SP47-3D-C40	47	240	143	170	70	G 1/4	40	SPMG 07 T3 08	M2.5X8	T8					
SP48-3D-C40	48	243	146	173	70										
SP49-3D-C40	49	246	149	176	70										
SP50-3D-C40	50	249	152	179	70										
SP51-3D-C40	51	252	155	182	70										
SP52-3D-C40	52	255	158	185	70										
SP53-3D-C40	53	258	161	188	70										
SP54-3D-C40	54	261	164	191	70										
SP55-3D-C40	55	264	167	194	70										
SP56-3D-C40	56	267	170	197	70						G 1/4	40	SPMG 09 04 08	M3.5X10	T15
SP57-3D-C40	57	270	173	200	70										
SP58-3D-C40	58	273	176	203	70										
SP59-3D-C40	59	277	179	207	70										
SP60-3D-C40	60	280	182	210	70										

铲钻

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模块系统

铲钻

可换钻尖钻

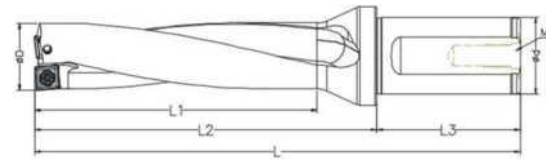
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模块系统

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SP 刀片 4D

型号 Code No	尺寸 Size						兹 Q	螺钉 Clamp screw	扳手 Wrench				
	L	L1	L2	L3	M	<Pd							
SP10-4D-C20	10	103	42	53	50	G 1/8	20	SPGT 04 T1 02	M1.8X4	T6			
SP10.5-4D-C20	10.5	105	44	55	50								
SP11-4D-C20	11	107	46	57	50								
SP11.5-4D-C20	11.5	109	48	59	50								
SP12-4D-C20	12	111	50	61	50								
SP12.5-4D-C20	12.5	121	52	71	50								
SP13-4D-C20	13	123	54	73	50	G 1/8	20	SPMG 05 02 04	M2.2X5	T6			
SP13.5-4D-C20	13.5	125	56	75	50								
SP14-4D-C25	14	135	58	79	56	G 1/8	25				SPMG 06 02 04	M2.2X6	
SP14.5-4D-C25	14.5	137	60	81	56								
SP15-4D-C25	15	139	62	83	56								
SP15.5-4D-C25	15.5	141	64	85	56								
SP16-4D-C25	16	143	66	87	56								
SP16.5-4D-C25	16.5	145	68	89	56								
SP17-4D-C25	17	145	70	89	56								
SP17.5-4D-C25	17.5	147	72	91	56								
SP18-4D-C25	18	148	74	92	56								
SP18.5-4D-C25	18.5	150	76	94	56								
SP19-4D-C25	19	151	78	95	56								
SP19.5-4D-C25	19.5	153	80	97	56								
SP20-4D-C25	20	157	82	101	56								
SP20.5-4D-C25	20.5	159	84	103	56								
SP21-4D-C25	21	161	86	105	56								
SP21.5-4D-C25	21.5	163	88	107	56								
SP22-4D-C25	22	165	90	109	56	G 1/8	25	SPMG 07 T3 08	M2.5X8	T8			
SP22.5-4D-C25	22.5	167	92	111	56								
SP23-4D-C25	23	169	94	113	56								
SP23.5-4D-C25	23.5	171	96	115	56								
SP24-4D-C25	24	173	98	117	56								
SP24.5-4D-C25	24.5	175	100	119	56								
SP25-4D-C25	25	178	102	122	56								
SP25-4D-C32	25	187	102	127	60	G 1/4	32				SPMG 09 04 08	M3.5X10	T15
SP25.5-4D-C32	25.5	189	104	129	60								
SP26-4D-C32	26	191	106	131	60								
SP26.5-4D-C32	26.5	193	108	133	60								
SP27-4D-C32	27	195	110	135	60								
SP27.5-4D-C32	27.5	197	112	137	60								
SP28-4D-C32	28	199	114	139	60								
SP28.5-4D-C32	28.5	201	116	141	60	G 1/4	32						
SP29-4D-C32	29	203	118	143	60								
SP29.5-4D-C32	29.5	205	120	145	60								

U 钻 u drill

SP 刀片 4D

型号 Code No	尺寸 Size						M	<t>d	蘇 a	c 螺钉 Clamp screw	扳手 Wrench
	<PD	L	L1	L2	L3						
SP30-4D-C32	30	204	122	144	60	G 1/4	32	SPMG 09 04 08	M3.5X10	T15	
SP30.5-4D-C32	30.5	206	124	146	60						
SP31-4D-C32	31	208	126	148	60						
SP31.5-4D-C32	31.5	210	128	150	60						
SP32-4D-C32	32	212	130	152	60						
SP32.5-4D-C32	32.5	214	132	154	60						
SP33-4D-C32	33	216	134	156	60	G 1/4	32	SPMG 11 04 08	M4X10	T15	
SP33.5-4D-C32	33.5	218	136	158	60						
SP34-4D-C32	34	224	138	164	60						
SP34.5-4D-C32	34.5	226	140	166	60						
SP35-4D-C32	35	228	142	168	60						
SP35.5-4D-C32	35.5	230	144	170	60						
SP36-4D-C32	36	232	146	172	60						
SP36.5-4D-C32	36.5	234	148	174	60						
SP37-4D-C32	37	235	150	175	60						
SP37.5-4D-C32	37.5	237	152	177	60						
SP38-4D-C32	38	239	154	179	60						
SP38.5-4D-C32	38.5	241	156	181	60						
SP39-4D-C32	39	243	158	183	60	G 1/4	40	SPMG 14 05 12	M5X12		
SP39.5-4D-C32	39.5	245	160	185	60						
SP40-4D-C32	40	247	162	187	60						
SP40.5-4D-C32	40.5	249	164	189	60						
SP41-4D-C32	41	251	166	191	60						
SP42-4D-C40	42	263	170	193	70						
SP43-4D-C40	43	267	174	197	70	G 1/4	40	SPMG 07 T3 08	M2.5X8	T8	
SP44-4D-C40	44	274	178	204	70						
SP45-4D-C40	45	278	182	208	70						
SP46-4D-C40	46	283	186	213	70						
SP47-4D-C40	47	287	190	217	70						
SP48-4D-C40	48	291	194	221	70						
SP49-4D-C40	49	295	198	225	70	G 1/4	40	SPMG 09 04 08	M3.5X10	T15	
SP50-4D-C40	50	299	202	229	70						
SP51-4D-C40	51	303	206	233	70						
SP52-4D-C40	52	307	210	237	70						
SP53-4D-C40	53	311	214	241	70						
SP54-4D-C40	54	315	218	245	70						
SP55-4D-C40	55	319	222	249	70	G 1/4	40				
SP56-4D-C40	56	323	226	253	70						
SP57-4D-C40	57	327	230	257	70						
SP58-4D-C40	58	331	234	261	70						
SP59-4D-C40	59	336	238	266	70						
SP60-4D-C40	60	340	242	270	70						

铲钻

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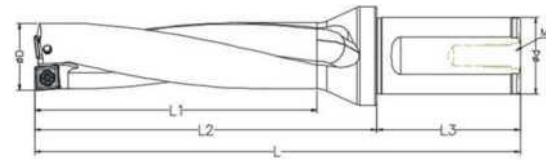
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模块系统

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SP 刀片 5D

型号 Code No	尺寸 Size						兹 Q	螺钉 Clamp screw	扳手 Wrench				
	<PD	L	L1	L2	L3	M				<t>d			
SP12.5-5D-C20	12.5	133.5	64.5	83.5	50	G 1/8	20	SPMG 05 02 04	M2.2X5	T6			
SP13-5D-C20	13	136	67	86	50								
SP13.5-5D-C20	13.5	138.5	69.5	88.5	50								
SP14-5D-C25	14	149	72	93	56	G 1/8	25						
SP14.5-5D-C25	14.5	151.5	74.5	95.5	56								
SP15-5D-C25	15	154	77	98	56								
SP15.5-5D-C25	15.5	156.5	79.5	100.5	56	G 1/8	25				SPMG 06 02 04	M2.2X6	T7
SP16-5D-C25	16	159	82	103	56								
SP16.5-5D-C25	16.5	161.5	84.5	105.5	56								
SP17-5D-C25	17	162	87	106	56								
SP17.5-5D-C25	17.5	164.5	89.5	108.5	56								
SP18-5D-C25	18	166	92	110	56								
SP18.5-5D-C25	18.5	168.5	94.5	112.5	56								
SP19-5D-C25	19	170	97	114	56								
SP19.5-5D-C25	19.5	172.5	99.5	116.5	56								
SP20-5D-C25	20	177	102	121	56								
SP20.5-5D-C25	20.5	179.5	104.5	123.5	56								
SP21-5D-C25	21	182	107	126	56			G 1/8	25	SPMG 07 T3 08			
SP21.5-5D-C25	21.5	184.5	109.5	128.5	56								
SP22-5D-C25	22	187	112	131	56								
SP22.5-5D-C25	22.5	189.5	114.5	133.5	56								
SP23-5D-C25	23	192	117	136	56								
SP23.5-5D-C25	23.5	194.5	119.5	138.5	56								
SP24-5D-C25	24	197	122	141	56								
SP24.5-5D-C25	24.5	199.5	124.5	143.5	56								
SP25-5D-C25	25	203	127	147	56								
SP25-5D-C32	25	212	127	152	60								
SP25.5-5D-C32	25.5	214.5	129.5	154.5	60	G 1/4	32						
SP26-5D-C32	26	217	132	157	60								
SP26.5-5D-C32	26.5	219.5	134.5	159.5	60								
SP27-5D-C32	27	222	137	162	60								
SP27.5-5D-C32	27.5	224.5	139.5	164.5	60								
SP28-5D-C32	28	227	142	167	60								
SP28.5-5D-C32	28.5	229.5	144.5	169.5	60								
SP29-5D-C32	29	232	147	172	60								
SP29.5-5D-C32	29.5	234.5	149.5	174.5	60								
SP30-5D-C32	30	234	152	174	60								
SP30.5-5D-C32	30.5	236.5	154.5	176.5	60								
SP31-5D-C32	31	239	157	179	60			G 1/4	32	SPMG 09 04 08	M3.5X10	T15	
SP31.5-5D-C32	31.5	241.5	159.5	181.5	60								
SP32-5D-C32	32	244	162	184	60								

U 钻 u drill

SP 刀片 5D

型号 Code No	尺寸 Size						蘇 a	c 螺钉 Clamp screw	扳手 Wrench	
	<PD	L	L1	L2	L3	M				<t>d
SP32.5-5D-C32	32.5	246.5	164.5	186.5	60	G 1/4	32	SPMG 09 04 08	M3.5X10	T15
SP33-5D-C32	33	249	167	189	60					
SP33.5-5D-C32	33.5	251.5	169.5	191.5	60					
SP34-5D-C32	34	258	172	198	60	G 1/4	32	SPMG 11 04 08	M4X10	T15
SP34.5-5D-C32	34.5	260.5	174.5	200.5	60					
SP35-5D-C32	35	263	177	203	60					
SP35.5-5D-C32	35.5	265.5	179.5	205.5	60					
SP36-5D-C32	36	268	182	208	60					
SP36.5-5D-C32	36.5	270.5	184.5	210.5	60					
SP37-5D-C32	37	272	187	212	60					
SP37.5-5D-C32	37.5	274.5	189.5	214.5	60					
SP38-5D-C32	38	277	192	217	60					
SP38.5-5D-C32	38.5	279.5	194.5	219.5	60					
SP39-5D-C32	39	282	197	222	60					
SP39.5-5D-C32	39.5	284.5	199.5	224.5	60					
SP40-5D-C32	40	287	202	227	60	G 1/4	40	SPMG 14 05 12	M5X12	T20
SP40.5-5D-C32	40.5	289.5	204.5	229.5	60					
SP41-5D-C32	41	292	207	232	60					
SP42-5D-C40	42	305	212	235	70					
SP43-5D-C40	43	310	217	240	70					
SP44-5D-C40	44	318	222	248	70					
SP45-5D-C40	45	323	227	253	70					
SP46-5D-C40	46	329	232	259	70					
SP47-5D-C40	47	334	237	264	70					
SP48-5D-C40	48	339	242	269	70					
SP49-5D-C40	49	344	247	274	70					
SP50-5D-C40	50	349	252	279	70					
SP51-5D-C40	51	354	257	284	70					
SP52-5D-C40	52	359	262	289	70					
SP53-5D-C40	53	364	267	294	70					
SP54-5D-C40	54	369	272	299	70					
SP55-5D-C40	55	374	277	304	70					
SP56-5D-C40	56	379	282	309	70					
SP57-5D-C40	57	384	287	314	70					
SP58-5D-C40	58	389	292	319	70					
SP59-5D-C40	59	395	297	325	70					
SP60-5D-C40	60	400	302	330	70					

铲钻

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铲钻

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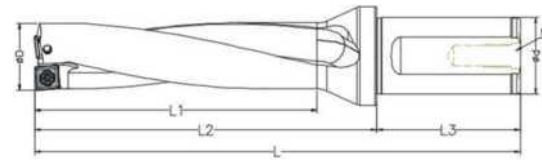
组合钻

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VMD 大钻

模块系统

U 钻 U drill



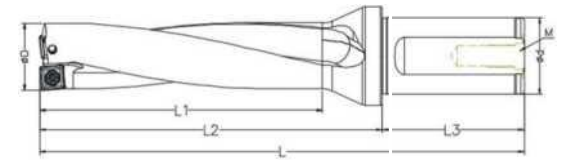
SP 刀片 2D-C20

型号 Code No	尺寸 Size						兹 Q	螺钉 Clamp screw	扳手 Wrench	
	0>D	L	L1	L2	L3	M				a) d
SP14-2D-C20	14	98.5	30	48.5	50	G 1/8	20	SPMG 05 02 04	M2.2X5	T6
SP14.5-2D-C20	14.5	100	31	50	50					
SP15-2D-C20	15	103	32	53	50					
SP15.5-2D-C20	15.5	104	33	54	50					
SP16-2D-C20	16	105	34	55	50	G 1/8	20	SPMG 06 02 04	M2.2X6	
SP16.5-2D-C20	16.5	106	35	56	50					
SP17-2D-C20	17	105	36	55	50					
SP17.5-2D-C20	17.5	106	37	56	50					
SP18-2D-C20	18	106	38	56	50					
SP18.5-2D-C20	18.5	107	39	57	50					
SP19-2D-C20	19	107	40	57	50					
SP19.5-2D-C20	19.5	108	41	58	50					
SP20-2D-C20	20	111	42	61	50					
SP20.5-2D-C20	20.5	112	43	62	50					
SP21-2D-C20	21	113	44	63	50					
SP21.5-2D-C20	21.5	114	45	64	50	G 1/8	20	SPMG 07 T3 08	M2.5X8	
SP22-2D-C20	22	115	46	65	50					
SP22.5-2D-C20	22.5	116	47	66	50					
SP23-2D-C20	23	117	48	67	50					
SP23.5-2D-C20	23.5	118	49	68	50					

SP 刀片 3D-C20

型号 Code No	尺寸 Size						兹 Q	c 螺钉 Clamp screw	扳手 Wrench	
	0>D	L	L1	L2	L3	M				<Pd
SP14-3D-C20	14	112.5	44	62.5	50	G 1/8	20	SPMG 05 02 04	M2.2X5	T6
SP14.5-3D-C20	14.5	114.5	45.5	64.5	50					
SP15-3D-C20	15	118	47	68	50					
SP15.5-3D-C20	15.5	119.5	48.5	69.5	50					
SP16-3D-C20	16	121	50	71	50	G 1/8	20	SPMG 06 02 04	M2.2X6	
SP16.5-3D-C20	16.5	122.5	51.5	72.5	50					
SP17-3D-C20	17	122	53	72	50					
SP17.5-3D-C20	17.5	123.5	54.5	73.5	50					
SP18-3D-C20	18	124	56	74	50					
SP18.5-3D-C20	18.5	125.5	57.5	75.5	50					
SP19-3D-C20	19	126	59	76	50					
SP19.5-3D-C20	19.5	127.5	60.5	77.5	50					
SP20-3D-C20	20	131	62	81	50					
SP20.5-3D-C20	20.5	132.5	63.5	82.5	50					
SP21-3D-C20	21	134	65	84	50					
SP21.5-3D-C20	21.5	135.5	66.5	85.5	50					
SP22-3D-C20	22	137	68	87	50					
SP22.5-3D-C20	22.5	138.5	69.5	88.5	50					
SP23-3D-C20	23	140	71	90	50					
SP23.5-3D-C20	23.5	141.5	72.5	91.5	50					

u 钻 u drill



SP 刀片 4D-C20

型号 Code No	尺寸 Size						兹 Q	螺钉 Clamp screw	扳手 Wrench	
	0>D	L	L1	L2	L3	M				<t) d
SP14-4D-C20	14	126.5	58	76.5	50	G 1/8	20	SPMG 05 02 04	M2.2X5	T6
SP14.5-4D-C20	14.5	129	60	79	50					
SP15-4D-C20	15	133	62	83	50					
SP15.5-4D-C20	15.5	135	64	85	50	G 1/8	20	SPMG 06 02 04	M2.2X6	
SP16-4D-C20	16	137	66	87	50					
SP16.5-4D-C20	16.5	139	68	89	50					
SP17-4D-C20	17	139	70	89	50					
SP17.5-4D-C20	17.5	141	72	91	50					
SP18-4D-C20	18	142	74	92	50					
SP18.5-4D-C20	18.5	144	76	94	50					
SP19-4D-C20	19	145	78	95	50					
SP19.5-4D-C20	19.5	147	80	97	50					
SP20-4D-C20	20	151	82	101	50					
SP20.5-4D-C20	20.5	153	84	103	50					
SP21-4D-C20	21	155	86	105	50					
SP21.5-4D-C20	21.5	157	88	107	50					
SP22-4D-C20	22	159	90	109	50					
SP22.5-4D-C20	22.5	161	92	111	50					
SP23-4D-C20	23	163	94	113	50					
SP23.5-4D-C20	23.5	165	96	115	50					

SP 刀片 5D-C20

型号 Code No	尺寸 Size						兹 Q	c 螺钉 Clamp screw	扳手 Wrench						
	0>D	L	L1	L2	L3	M									
SP14-5D-C20	14	140.5	72	90.5	50	G 1/8	20	SPMG 05 02 04	M2.2X5	T6					
SP14.5-5D-C20	14.5	143.5	74.5	93.5	50										
SP15-5D-C20	15	148	77	98	50										
SP15.5-5D-C20	15.5	150.5	79.5	100.5	50	G 1/8	20	SPMG 06 02 04	M2.2X6						
SP16-5D-C20	16	153	82	103	50										
SP16.5-5D-C20	16.5	155.5	84.5	105.5	50										
SP17-5D-C20	17	156	87	106	50										
SP17.5-5D-C20	17.5	158.5	89.5	108.5	50										
SP18-5D-C20	18	160	92	110	50										
SP18.5-5D-C20	18.5	162.5	94.5	112.5	50										
SP19-5D-C20	19	164	97	114	50										
SP19.5-5D-C20	19.5	166.5	99.5	116.5	50										
SP20-5D-C20	20	171	102	121	50						G 1/8	20	SPMG 07 T3 08	M2.5X8	
SP20.5-5D-C20	20.5	173.5	104.5	123.5	50										
SP21-5D-C20	21	176	107	126	50										
SP21.5-5D-C20	21.5	178.5	109.5	128.5	50										
SP22-5D-C20	22	181	112	131	50										
SP22.5-5D-C20	22.5	183.5	114.5	133.5	50										
SP23-5D-C20	23	186	117	136	50										
SP23.5-5D-C20	23.5	188.5	119.5	138.5	50										

铲钻

可换钻尖钻

组合钻

带定心口钻

VMD 大钻

模块系统

铲钻

可换钻尖钻

组合钻

带定心口钻

VMD 大钻

模块系统

A 铲钻 Shovel drill

铲钻的特征和优势

介绍 Introduction

Characteristics and advantages of shovel drilling

- 铲钻是川山甲新推出的一款可换刀片的机夹式钻头，根据直径、加工深度和材质不同，可以灵活切换。
- 铲钻可以在传统机床和数控机床上使用，在线更换钻尖，方便快捷效率大幅提高。
- 铲钻由刀杆和刀片用螺丝固定而成，刀杆与刀片之间的高精度接口可以确保刀片装夹精度，且刀片更换方便，刀杆采用韧性好、耐磨性高的优质钢材，真空热处理调质加工而成；刀片采用进口高端粉末高速钢和硬质合金制造，切削刃口设计有断屑槽，刀尖有自定心刃口。刀杆采用内冷设计，可连接机床内冷系统。
- 铲钻效率高，操作简单，性价比高，其钻孔综合效率是普通麻花钻的 2~5 倍以上，寿命比普通麻花钻提高 3~5 倍。孔加工精度公差在 +0.05~0.05 范围。加工深度可达 25 倍径。

- Shovel drill is a kind of machine clip drill with replaceable blade, which can be flexibly changed according to diameter, processing depth and material.
- Shovel drill can be used in traditional machine tools and CNC machine tools, on-line replacement drill tip, convenient and efficient greatly improved.
- Shovel drill is composed of knife bar and blade fixed with screws. The high-precision interface between the knife bar and blade can ensure the clamping accuracy of the blade, and the blade is easy to replace. The knife bar is made of high-quality steel with good toughness and high wear resistance, and is processed by vacuum heat treatment and tempering. The blade is made of imported high-end powder high speed steel and hard alloy. The cutting edge is designed with chip breaking groove, and the tip has self-centering edge. The tool rod adopts internal cooling design, which can be connected to the internal cooling system of the machine tool.
- Shovel drilling efficiency is high, the operation is simple, cost-effective, its comprehensive drilling efficiency is more than 2~5 times of ordinary twist drill, life than ordinary twist drill 3~5 times. The tolerance of hole machining accuracy is in the range of +0.05~0.05. Machining depth up to 25 times diameter.

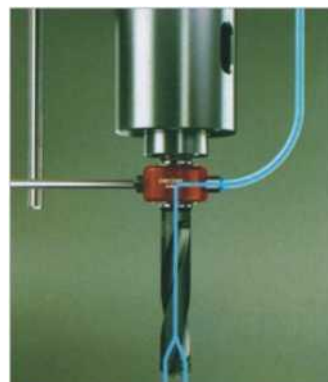
优势 Advantages

- 简单便捷的刀片接口，可在机床上在线更换刀片，节约刃磨时间。
- 刀片多款不同性能的涂层，可覆盖不锈钢、结构钢等各种金属和非金属材料的钻孔加工。
- 刀杆采用内冷却设计，在深孔钻削时也能及时将切屑排出以及良好冷却。
- 铲钻只需 16 个刀杆，就可以满足从 0>9.5mm~φ14mm 的钻孔需求，刀杆柄型有侧固式直柄和锥柄两大系列，通用性强，与各种机床连接方便。
- Simple and convenient blade interface, blade can be replaced online on the machine tool, saving grinding time.
- The blades are coated with different properties, which can cover drilling of various metal and non-metal materials such as stainless steel and structural steel.
- The knife rod adopts internal cooling design, which can discharge chips in time and cool well when drilling deep holes.
- Shovel drill only 16 knife rod, can meet the drilling needs from (p 9.5mm ~ (p 114mm, knife rod handle type has two series of fixed straight handle and taper handle, strong versatility, and convenient connection with a variety of machine tools.

铲钻的选择 Spade drill selection

铲钻由刀杆和刀片组成，刀杆中心采用内冷却设计，一种刀杆规格可适配多个规格刀片，减少刀杆的购置成本。刀片有进口粉末高速钢和进口硬质合金两大系列请根据您的加工工况选择合适的类型。

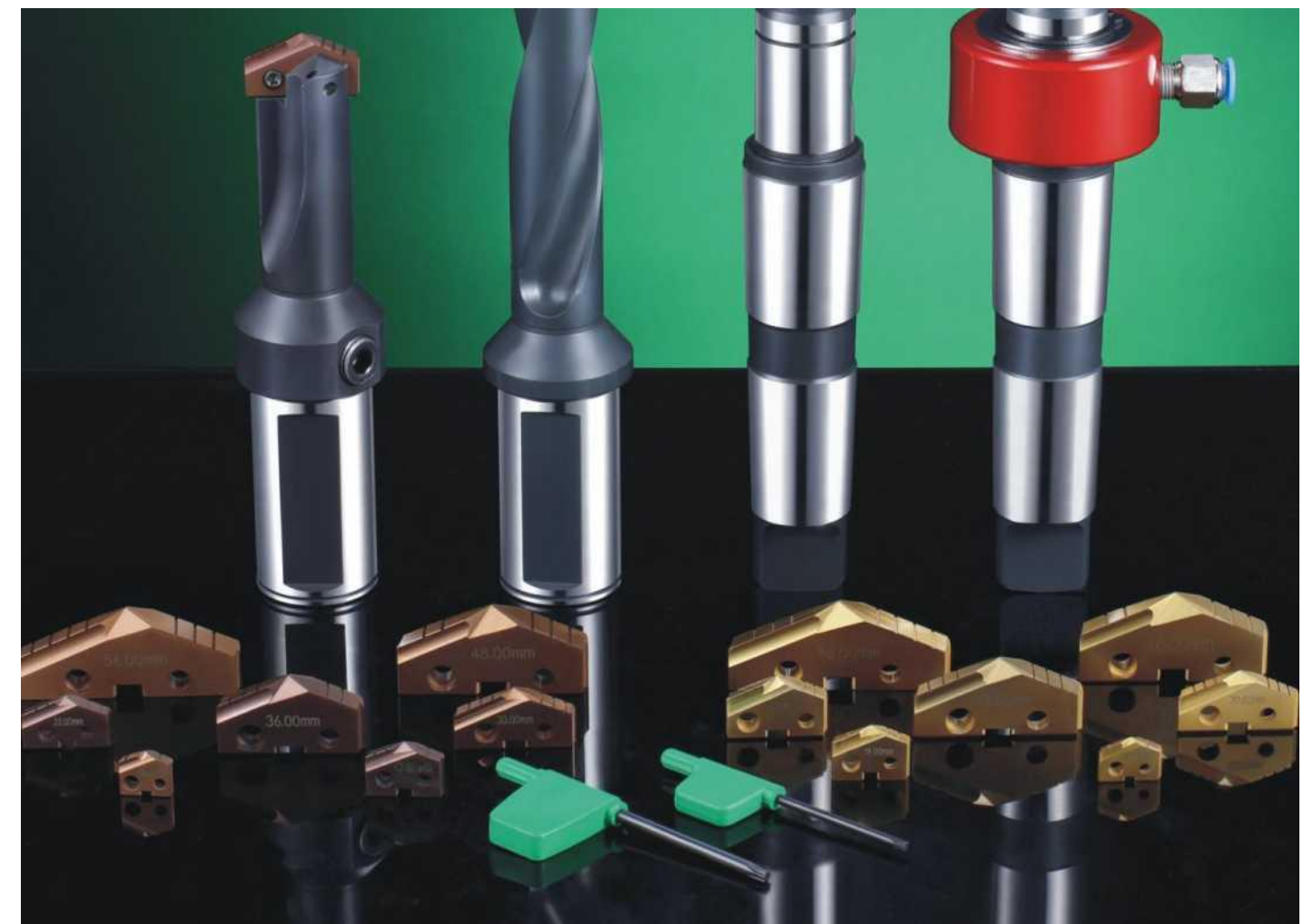
The shovel drill is composed of a cutter bar and a blade. The center of the cutter bar is designed with internal cooling. A cutter bar specification can be adapted to multiple specifications of the blade, reducing the cost of the cutter bar. Blade imported powder HSS and imported hard alloy two series please choose the right type according to your processing conditions.



传统机床，请选择粉末高速钢系列
For traditional machine tools, please choose powder high speed steel series.



CNC 数控机床，中低速钻削时请选择粉末高速钢系列，高速钻削时请选择硬质合金系列。
CNC machine tools, medium and low speed drilling please choose powder high speed steel series, please choose carbide series when high-speed drilling.



铲钻

可换钻尖钻头

组合钻

萤石心钻

VMD 大钻

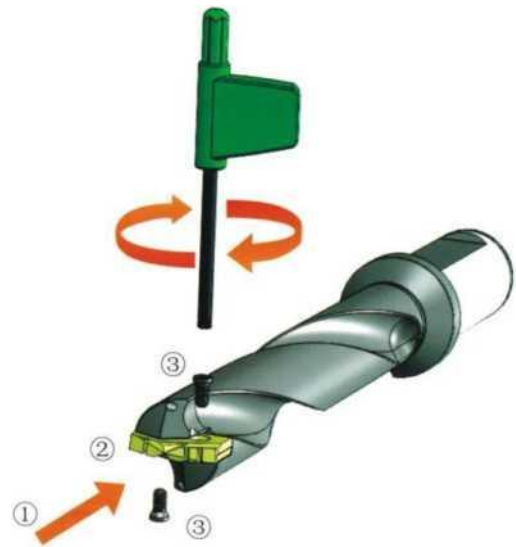
签系统

A 铲钻 Shovel drill

安装示意图

Instllation diagram

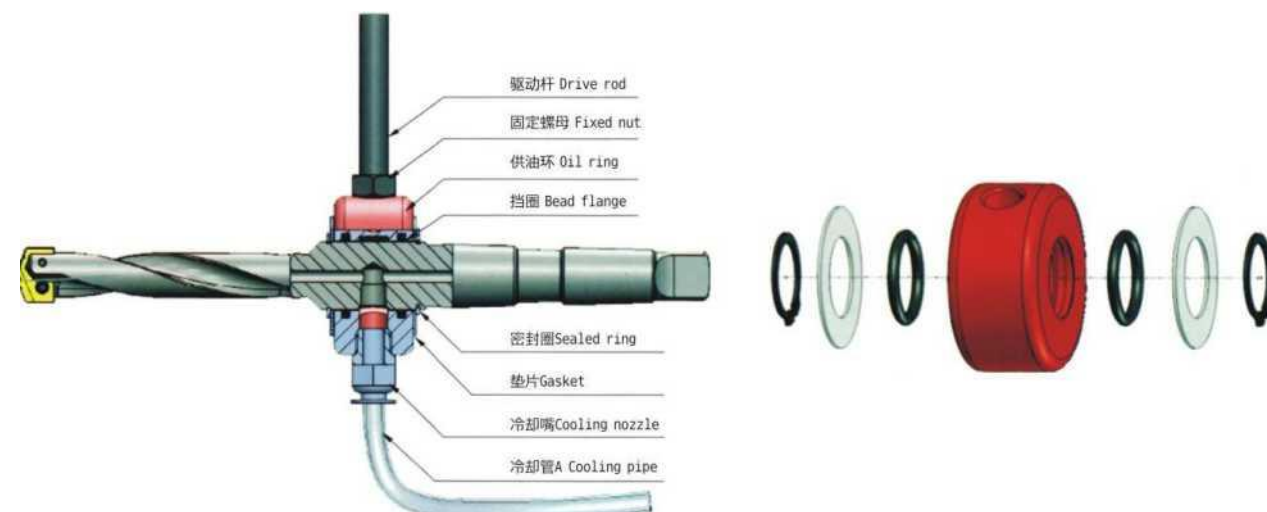
刀片的安装 Installation procedure



直径范围① Range of Diameter cp	拧紧力矩(Nm) Tightening Torque (Nm)	扳手— v Wrench
9.5-12.5	0.5	T7
13.0-17.5	1.0	T8
18.0-24.5	1.8	T9
25.0-35.5	3.5	T15
36.0-65.0	5.0	T20
66.0-114.0	7.0	T25

- ①用压缩空气清洁刀片和刀片槽。
 - ②将刀片插入刀杆安装槽内轻按刀片。
 - ③用紧固螺钉锁紧刀片。有条件的用户推荐采用力矩扳手锁紧，锁紧力矩值如图所示。
- ① First, clean the insert and mounting groove with compressed air.
② Load the insert into the mounting groove in the holder and slightly push the insert.
③ Fix the insert with the fastening bolt, it is recommended that users use a torque wrench as far as possible and the tightening torques are shown in the figure.

供油环装配示意图 Schematic diagram of oil ring assembly



A 铲钻 Shovel drill

刀片介绍

Blade introduction

断屑槽 Chip breaker

- 折断切屑、易于排屑
- Broken chips, easy to remove chips

固定螺丝孔 Fix screw holes

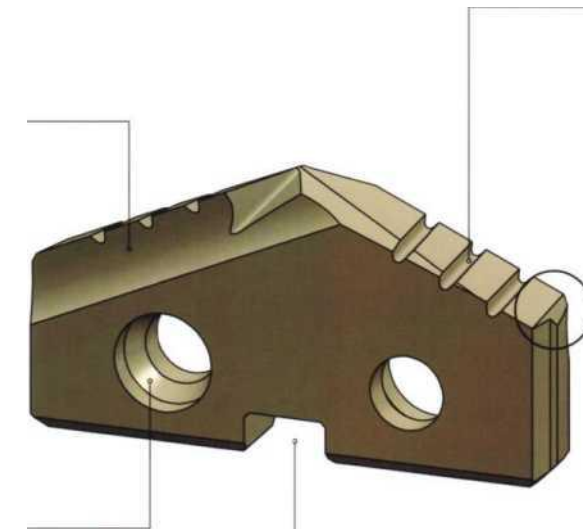
- 安全可靠的装夹、确保钻削过程中的稳定性
- Safe and reliable clamping, Ensure the stability during drilling

钻芯 Core drilling

- 钻芯薄与一般钻头产品相比降低 20% 的轴向阻力
- 良好的自定心
- Thinner core drilling, which reduce 20% axial resistance compared with normal drilling products.
- Better self-centering

XR 型横刃修磨 XR chisel edge regninding

- 提高刃口强度
- 增强稳定性
- Improve the strength of cutting edges
- Increase the stability



分屑槽 Chip dividing groove

- 减小切屑宽度
- 易于排屑
- 减小钻削扭矩
- Reduce cutting width
- Better chip removal
- Reduce drilling torque

倒角 Beveling

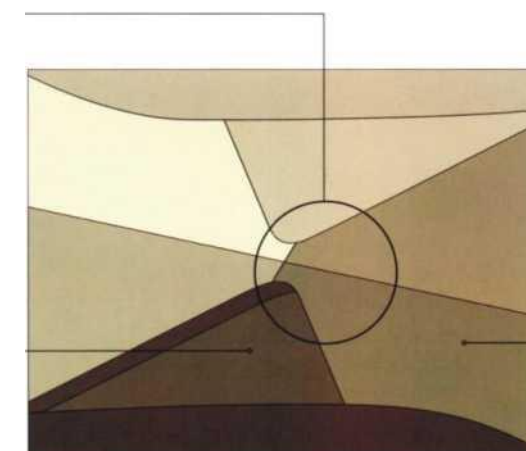
- 增加刀片的强度
- 减少角的磨损
- 提高工件表面光洁度
- Increase the strength of insert
- Reduce the wear & tear of outer diameter
- Improve the smoothness on the surface of workpiece

定位槽 Location groove

- 保证径向的平衡
- Ensure the accuracy of the radial direction

两个后刀面 TWO back flank surface

- 减少与工件的摩擦
- 良好的自定心
- 降低轴向阻力
- Reduce the friction with the workpiece
- Better self-centering
- Reduce the axial resistance



A 铲钻 Shovel drill

铲钻刀片

Spade drill insert

型号编码规则 Model coding rule

SZ2-M0250-15XH

大类 Big type	小类 Small type	接口代码 Connector code			公英制 Metrical and Imperial	刀片直径 Insert diameter	材质 Material	几何 Geometry	涂层 Coating	
		接口 Connector	公制 Metric	英制 Imperia						
s-铲钻	z-刀片	Y	9.50~11.49	0.374"~0.452"	M-公制	M0250-25mm	10-粉末高速钢	X-标准钻尖	H-C500	
		Z	11.50~12.97	0.453"~0.511"	I-英制	10984-0.984"	15-含钴粉末高速钢	V-师角钻尖	A-C300	
		0	12.98~17.85	0.511"~0.703"			25-高钴粉末高速钢			
		1	17.86~24.60	0.703"~0.969"			50-钨合金			
		2	24.61~35.5	0.969"~1.398"						
		3	35.51~47.99	1.398"~1.889"						
		4	48.00~65.00	1.89"-2.559"						
		5	63.50~76.99	2.5"~3.031"						
		6	77.00~89.09	3.031"-3.507"						
		7	89.10~101.60	3.508"~4"						
8	101.61~114.30	4"~4.5"								

A 铲钻 Shovel drill

铲钻刀杆

Spade drill insert

型号编码规则 Model coding rule

SLH20-ML032-187N

大类 Big type	小类 Small type	槽形 Groore spape	接口 代码 Connector code			公英制 Metrical and Imperial	柄部类型 Petiole type	刀柄直径 The handle diameter	长度(LI) Length (L1)	表面处理 Surface treatment
			接口 Connector	公制 Metric	英制 Imperia					
S-铲钻	L-刀杆	H-螺旋槽	Y0	9.50 ~ 1.49	0.374"~0.452"	M-公制	L-侧固式	O16-016mm	实际刃长:	N-黑色
			Z0	11.50~12.97	0.453"~0.511"	I-英制	M-莫氏锥柄	O20-020mm	LI 的尺寸	氧化
			00	12.98 ~ 15.49	0.511"~0.61"			O25-025mm		处理
			05	15.50 ~ 17.85	0.61"~0.703"			O32-032mm		T-银灰色
			10	17.86~21.99	0.703"~0.866"			O40-040mm		电镀
			15	22.00~24.60	0.866"~0.969"			075-3/4"		处理
			20	24.61~29.99	0.969"~1.181"			063-5/8"		
			25	30.00~35.50	1.181"~1.398"			125-1-1/4"		
			30	35.51~41.99	1.398"~1.653"			150-1-1/2"		
			35	42.00~47.99	1.654"~1.889"			MT2-#2		
			40	48.00~55.99	1.89"~2.204"			MT3-#3		
			45	56.00~63.49	2.205" -2.5"			MT4-#4		
			50	63.50~76.99	2.5" -3.031"			MT5-#5		
			60	77.00~89.09	3.031" -3.507"					
			70	89.10 ~ 101.60	3.508"~4"					
			80	101.61~114.30	4" -4.5"					

铲钻

可换钻尖钻

组合钻

带定心钻

WMD 大钻

模块系钻

铲钻

可换钻尖钻

组合钻

带定心钻

WMD 大钻

模块系钻

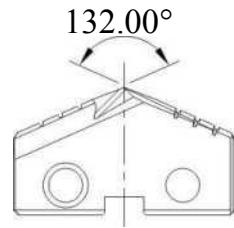
A 铲钻 Shovel drill

粉末高速钢刀片

HSS-PM insert series



HPM10-粉末高速钢, 适用于硬度 HB275 以下的钢材。
Powder high speed steel, apply to process carbon steel with hardness is till Hb275;
HPM15-含钴粉末高速钢, 适用于硬度 HB350 以下的钢、不锈钢、铸铁。
Powder cobalt high speed steel apply to process carbon steel, stainless steel, cast iron and other materials which hardness is ill Hb350;
HPM25-高钴粉末高速钢, 适用于硬度 HB400 以下的钢、不锈钢、铸铁。
Powder cobalt-rich high speed steel, apply to process alloy steel stainless steel, cast iron and other materials which hardness is ill Hb400.

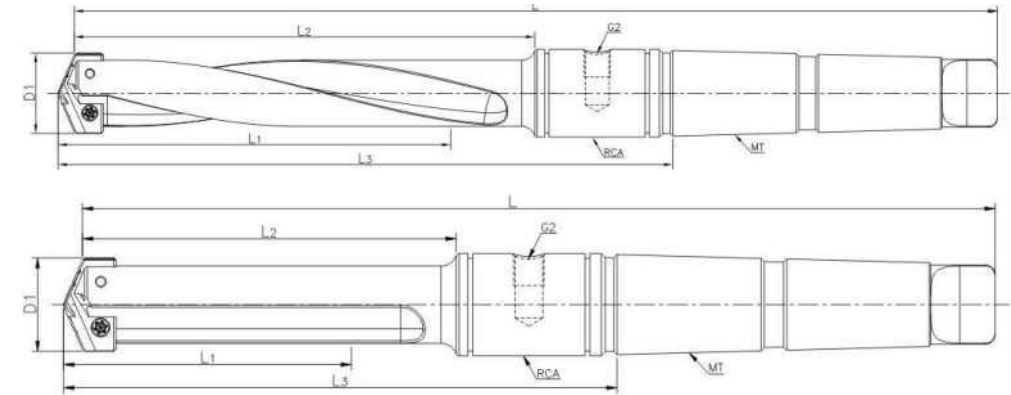


接口 停度 Connector (孺謠)	直径 Diameter			可选刀片材质 Optional blade material			
	mm	Frcationl Equivalent	inch	HPM10	HPM15	HPM25	
Y	2.38 3/32"	9.50		0.374		SZY-M0095-25XH	
		9.53	3/8"	0.375		SZY-I0375-25XH	
		9.80		0.386		SZY-M0098-25XH	
		10.00		0.394		SZY-M0100-25XH	
		10.20		0.402		SZY-M0102-25XH	
		10.50		0.413		SZY-M0105-25XH	
		10.72	27/64"	0.422		SZY-I0421-25XH	
		10.80		0.425		SZY-M0108-25XH	
		11.00		0.433		SZY-M0110-25XH	
Z	2.38 3/32"	11.11	7/16"	0.437		SZY-I0437-25XH	
		11.50		0.453		SZZ-M0115-25XH	
		11.51	29/64"	0.453		SZZ-I0453-25XH	
		12.00		0.472		SZZ-M0120-25XH	
		12.30	31/64"	0.484		SZZ-I0484-25XH	
		12.50		0.492		SZZ-M0125-25XH	
0	3.18 1/8"	12.70	1/2"	0.500		SZZ-I0500-25XH	
		13.00		0.512	SZ0-M0130-10XH	SZ0-M0130-15XH	SZ0-M0130-25XH
		13.50		0.531	SZ0-M0135-10XH	SZ0-M0135-15XH	SZ0-M0135-25XH
		14.00		0.551	SZ0-M0140-10XH	SZ0-M0140-15XH	SZ0-M0140-25XH
		14.29	9/16"	0.563	SZ0-I0562-10XH	SZ0-I0562-15XH	SZ0-I0562-25XH
		14.50		0.571	SZ0-M0145-10XH	SZ0-M0145-15XH	SZ0-M0145-25XH
0	3.18 1/8"	15.00		0.591	SZ0-M0150-10XH	SZ0-M0150-15XH	SZ0-M0150-25XH
		15.50		0.610	SZ0-M0155-10XH	SZ0-M0155-15XH	SZ0-M0155-25XH
		15.88	5/8"	0.625	SZ0-I0625-10XH	SZ0-I0625-15XH	SZ0-I0625-25XH
		16.00		0.630	SZ0-M0160-10XH	SZ0-M0160-15XH	SZ0-M0160-25XH
		16.50		0.650	SZ0-M0165-10XH	SZ0-M0165-15XH	SZ0-M0165-25XH
		17.00		0.669	SZ0-M0170-10XH	SZ0-M0170-15XH	SZ0-M0170-25XH
		17.46	11/16"	0.687	SZ0-I0687-10XH	SZ0-I0687-15XH	SZ0-I0687-25XH
17.50		0.689	SZ0-M0175-10XH	SZ0-M0175-15XH	SZ0-M0175-25XH		

A 铲钻 Shovel drill

锥柄螺旋槽/直槽刀杆

Taper shank spiral groove / straight groove Arbor



型号 Code No	接口 Connector	DI	L1	L2	L3	L	MT	G2	RCA		
SLHY0-MMMT2-32 N	Y0	9.50 ~ 11.49 0.374" ~ 0.452"	32	52	88	160	MT2	1/16"	SH-1905R	M2X4	T7X35
SLSY0-MMMT2-32N			32	52	88	160					
SLHY0-MMMT2-60			60	80	117	189					
SLHY0-MMMT2-111			111	131	167	240					
N											
SLHZ0-MMMT2-32 N	Z0	11.50 ~ 12.97 0.453" ~ 0.511"	32	52	88	160	MT2	1/16"	SH-1905R	M2X4.8	T7X35
SLSZ0-MMMT2-32N			32	52	88	160					
SLHZ0-MMMT2-60			60	80	117	189					
SLHZ0-MMMT2-111			111	131	167	240					
N											
SLH00-MMMT2-35N SLS00-MMMT2-35N	00	12.98 ~ 15.49 0.511" ~ 0.611"	35	56	92	164	MT2	1/16"	SH-1905R	M2.5X5.8	T8X40
SLH00-MMMT2-64N			64	84	121	193					
SLH00-MMMT2-114			114	135	172	244					
SLH00-MMMT2-178			178	199	235	307					
N											
SLH05-MMMT2-35N SLS05-MMMT2-35N	05	15.50 ~ 17.85 0.611" ~ 0.703"	35	56	92	164	MT2	1/16"	SH-1905R	M2.5X7	T8X40
SLH05-MMMT2-64N			64	84	121	193					
SLH05-MMMT2-114			114	135	172	244					
SLH05-MMMT2-178			178	199	235	307					
N											

注: SLH-螺旋槽 SLS-直槽

换钻尖钻

组合钻

带定心钻

YMD 大钻

模块系钻

铲钻

可换钻尖钻

组合钻

带定心钻

YMD 大钻

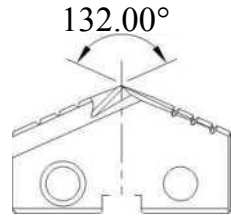
模块系钻

A 铲钻 Shovel drill

粉末高速钢刀片

HSS-PM insert series

- HSS PM HPC
- HPM10-粉末高速钢, 适用于硬度 HB275 以下的钢材。
Powder high speed steel, apply to process carbon steel with hardness is till Hb275;
 - HPM15-含钴粉末高速钢, 适用于硬度 HB350 以下的钢、不锈钢、铸铁。
Powder cobalt high speed steel apply to process carbon steel, stainless steel, cast iron and other materials which hardness is ill Hb350;
 - HPM25-高钴粉末高速钢, 适用于硬度 HB400 以下的钢、不锈钢、铸铁。
Powder cobalt-rich high speed steel, apply to process alloy steel stainless steel, cast iron and other materials which hardness is ill Hb400.

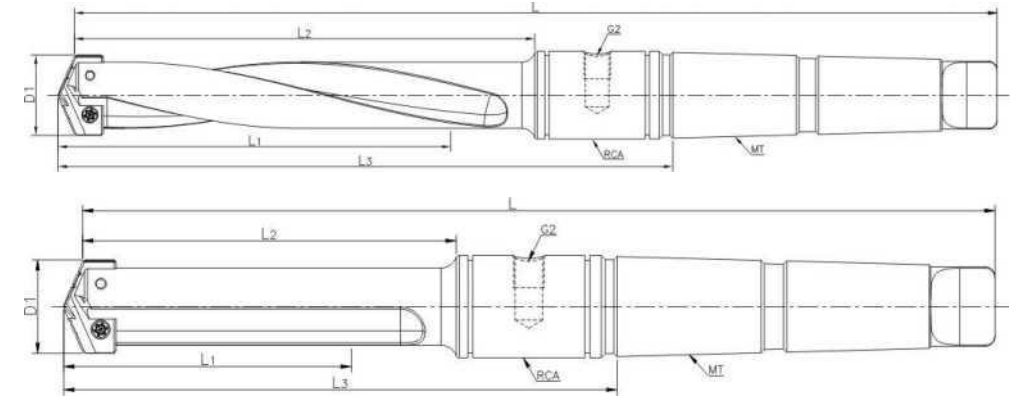


接口 Connector	厚度 (温谣)	直径 Diameter			可选刀片材质 Optional blade material		
		mm	Frcationl Equivalent	inch	HPM10	HPM15	HPM25
1	3.97 5/32"	18.00		0.709	SZ1-M0180-10XH	SZ1-M0180-15XH	SZ1-M0180-25XH
		18.50		0.728	SZ1-M0185-10XH	SZ1-M0185-15XH	SZ1-M0185-25XH
		19.00		0.748	SZ1-M0190-10XH	SZ1-M0190-15XH	SZ1-M0190-25XH
		19.05	3/4"	0.750	SZ1-I0750-10XH	SZ1-I0750-15XH	SZ1-I0750-25XH
		19.50		0.768	SZ1-M0195-10XH	SZ1-M0195-15XH	SZ1-M0195-25XH
		20.00		0.787	SZ1-M0200-10XH	SZ1-M0200-15XH	SZ1-M0200-25XH
		20.50		0.807	SZ1-M0205-10XH	SZ1-M0205-15XH	SZ1-M0205-25XH
		20.64	13/16"	0.813	SZ1-I0812-10XH	SZ1-I0812-15XH	SZ1-I0812-25XH
		21.00		0.827	SZ1-M0210-10XH	SZ1-M0210-15XH	SZ1-M0210-25XH
1	3.97 5/32"	21.50		0.846	SZ1-M0215-10XH	SZ1-M0215-15XH	SZ1-M0215-25XH
		22.00		0.866	SZ1-M0220-10XH	SZ1-M0220-15XH	SZ1-M0220-25XH
		22.23	7/8"	0.875	SZ1-I0875-10XH	SZ1-I0875-15XH	SZ1-I0875-25XH
		23.00		0.906	SZ1-M0230-10XH	SZ1-M0230-15XH	SZ1-M0230-25XH
		23.81	15/16"	0.937	SZ1-I0937-10XH	SZ1-I0937-15XH	SZ1-I0937-25XH
2	4.76 3/16"	24.00		0.945	SZ1-M0240-10XH	SZ1-M0240-15XH	SZ1-M0240-25XH
		25.00		0.984	SZ2-M0250-10XH	SZ2-M0250-15XH	SZ2-M0250-25XH
		25.40	1"	1.000	SZ2-I1000-10XH	SZ2-I1000-15XH	SZ2-I1000-25XH
		26.00		1.024	SZ2-M0260-10XH	SZ2-M0260-15XH	SZ2-M0260-25XH
		26.99	1-1/16"	1.063	SZ2-I1062-10XH	SZ2-I1062-15XH	SZ2-I1062-25XH
		27.00		1.063	SZ2-M0270-10XH	SZ2-M0270-15XH	SZ2-M0270-25XH
		28.00		1.102	SZ2-M0280-10XH	SZ2-M0280-15XH	SZ2-M0280-25XH
2	4.76 3/16"	28.58	1-1/8"	1.125	SZ2-I1125-10XH	SZ2-I1125-15XH	SZ2-I1125-25XH
		29.00		1.142	SZ2-M0290-10XH	SZ2-M0290-15XH	SZ2-M0290-25XH
		30.00		1.181	SZ2-M0300-10XH	SZ2-M0300-15XH	SZ2-M0300-25XH
		30.16	1-3/16"	1.187	SZ2-I1187-10XH	SZ2-I1187-15XH	SZ2-I1187-25XH
		31.00		1.220	SZ2-M0310-10XH	SZ2-M0310-15XH	SZ2-M0310-25XH
		31.75	1-1/4"	1.250	SZ2-I1250-10XH	SZ2-I1250-15XH	SZ2-I1250-25XH
		32.00		1.260	SZ2-M0320-10XH	SZ2-M0320-15XH	SZ2-M0320-25XH
		33.00		1.299	SZ2-M0330-10XH	SZ2-M0330-15XH	SZ2-M0330-25XH
		33.34	1-5/16"	1.313	SZ2-I1312-10XH	SZ2-I1312-15XH	SZ2-I1312-25XH
2	4.76 3/16"	34.00		1.339	SZ2-M0340-10XH	SZ2-M0340-15XH	SZ2-M0340-25XH
		34.13	1-11/32"	1.344	SZ2-I1343-10XH	SZ2-I1343-15XH	SZ2-I1343-25XH
		34.93	1-3/8"	1.375	SZ2-I1375-10XH	SZ2-I1375-15XH	SZ2-I1375-25XH
		35.00		1.378	SZ2-M0350-10XH	SZ2-M0350-15XH	SZ2-M0350-25XH

A 铲钻 Shovel drill

锥柄螺旋槽/直槽刀杆

Taper shank spiral groove / straight groove Arbor



型号 Code No	接口 Connector	D1	L1	L2	L3	L	MT	G2	RCA		
SLH10-MMMT3-70N SLS10-MMMT3-70N SLH10-MMMT3-121 SLH10-MMMT3-172 SLH10-MMMT3-273	10	17.86~21.99 0.703"~0.866"	70 70 121 172 273	98 98 149 200 302	143 143 193 244 346	233 233 283 334 436	MT3	1/8"	SH-2540R	M3X7	T9X40
SLH15-MMMT3-70N SLS15-MMMT3-70N SLH15-MMMT3-121 SLH15-MMMT3-172 SLH15-MMMT3-273	15	22.00~24.60 0.866"~0.969"	70 70 121 172 273	98 98 149 200 302	143 143 193 244 346	233 233 283 334 436	MT3	1/8"	SH-2540R	M3X7	T9X40
SLH20-MMMT4-86N SLS20-MMMT3-86N SLH20-MMMT4-137 SLH20-MMMT4-187 SLH20-MMMT4-289	20	24.61~29.99 0.969"~1.181"	86 86 137 187 289	114 114 165 216 318	160 160 211 262 364	274 274 325 375 477	MT4	1/8"	SH-2540R	M4X10	T15X45
SLH25-MMMT4-86N SLS25-MMMT3-86N SLH25-MMMT4-137 SLH25-MMMT4-187 SLH25-MMMT4-289 SLH25-MMMT4-400	25	30.00~35.50 1.181"~1.398"	86 86 137 187 289 400	114 114 165 216 318 429	168 168 218 269 371 482	281 274 332 383 484 595	MT4	1/4"	SH-3175R	M4X10	T15X45

注: SLH-螺旋槽 SLS-直槽

换钻尖钻

组合钻

带定心钻

YMD大钻

模块系

铲钻

可换钻尖钻

组合钻

带定心钻

YMD大钻

模块系

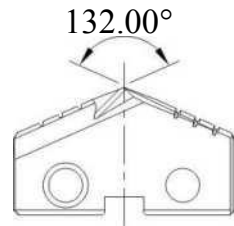
A 铲钻 Shovel drill

粉末高速钢刀片

HSS-PM insert series



HPM10-粉末高速钢, 适用于硬度 HB275 以下的钢材。
Powder high speed steel, apply to process carbon steel with hardness is till Hb275;
HPM15-含钴粉末高速钢, 适用于硬度 HB350 以下的钢、不锈钢、铸铁。
Powder cobalt high speed steel apply to process carbon steel, stainless steel, cast iron and other materials which hardness is ill Hb350;
HPM25-高钴粉末高速钢, 适用于硬度 HB400 以下的钢、不锈钢、铸铁。
Powder cobalt-rich high speed steel, apply to process alloy steel stainless steel, cast iron and other materials which hardness is ill Hb400.

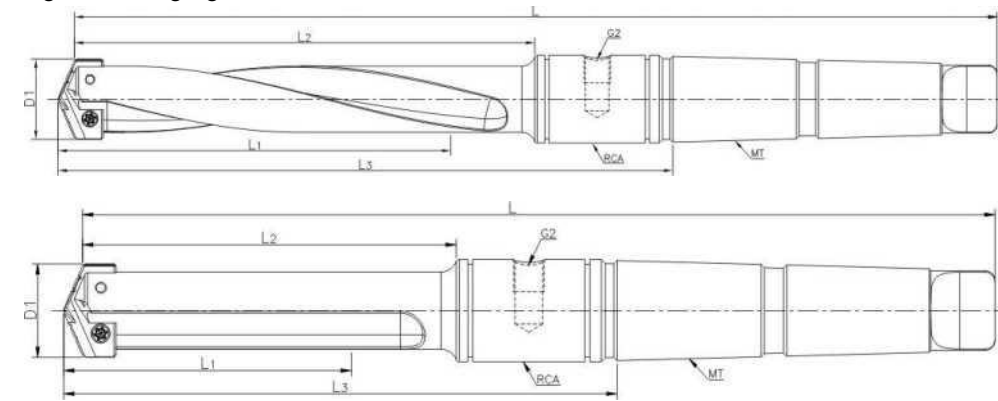


接口 高度 Connector 翻臂)	直径 Diameter			可选刀片材质 Optional blade material			
	mm	Frcationl Equivalent	inch	HPM10	HPM15	HPM25	
3	6.35 1/4"	36.00		1.417	SZ3-M0360-10XH	SZ3-M0360-15XH	SZ3-M0360-25XH
		36.51	1-7/16"	1.437	SZ3-I1437-10XH	SZ3-I1437-15XH	SZ3-I1437-25XH
		37.00		1.457	SZ3-M0370-10XH	SZ3-M0370-15XH	SZ3-M0370-25XH
		38.00		1.496	SZ3-M0380-10XH	SZ3-M0380-15XH	SZ3-M0380-25XH
		38.10	1-1/2"	1.500	SZ3-I1500-10XH	SZ3-I1500-15XH	SZ3-I1500-25XH
		39.00		1.535	SZ3-M0390-10XH	SZ3-M0390-15XH	SZ3-M0390-25XH
		39.69	1-9/16"	1.563	SZ3-I1562-10XH	SZ3-I1562-15XH	SZ3-I1562-25XH
		40.00		1.575	SZ3-M0400-10XH	SZ3-M0400-15XH	SZ3-M0400-25XH
		41.00		1.614	SZ3-M0410-10XH	SZ3-M0410-15XH	SZ3-M0410-25XH
		41.28	1-5/8"	1.625	SZ3-I1625-10XH	SZ3-I1625-15XH	SZ3-I1625-25XH
3	6.35 1/4"	42.00		1.654	SZ3-M0420-10XH	SZ3-M0420-15XH	SZ3-M0420-25XH
		42.86	1-11/16"	1.687	SZ3-I1687-10XH	SZ3-I1687-15XH	SZ3-I1687-25XH
		43.00		1.693	SZ3-M0430-10XH	SZ3-M0430-15XH	SZ3-M0430-25XH
		44.00		1.732	SZ3-M0440-10XH	SZ3-M0440-15XH	SZ3-M0440-25XH
		44.45	1-3/4"	1.750	SZ3-I1750-10XH	SZ3-I1750-15XH	SZ3-I1750-25XH
		45.00		1.772	SZ3-M0450-10XH	SZ3-M0450-15XH	SZ3-M0450-25XH
		46.00		1.811	SZ3-M0460-10XH	SZ3-M0460-15XH	SZ3-M0460-25XH
		46.04	1-13/16"	1.813	SZ3-I1812-10XH	SZ3-I1812-15XH	SZ3-I1812-25XH
		47.00		1.850	SZ3-M0470-10XH	SZ3-M0470-15XH	SZ3-M0470-25XH
		47.63	1-7/8"	1.875	SZ3-I1875-10XH	SZ3-I1875-15XH	SZ3-I1875-25XH

A 铲钻 Shovel drill

锥柄螺旋槽/直槽刀杆

Taper shank spiral groove / straight groove Arbor



型号 Code No	接口 Connector	DI	L1	L2	L3	L	MT	G2	RCA									
SLH30-MMMT4-121 N	30	35.51~41.99 1.398"~1.653"	121	152	206	319	MT4	1/4"	SH-3175R	M5X14	T20X45							
SLS30-MMMT4-121 N			121	152	206	319												
SLH30-MMMT4-165 N			165	197	251	364												
SLH30-MMMT4-210 N			210	241	295	408												
SLH30-MMMT4-349 N			349	381	435	548												
SLS30-MMMT4-349 N			349	381	435	548												
SLS30-MMMT4-559 N			559	591	645	757												
SLS30-MMMT4-787 N			787	819	873	986												
SLH35-MMMT4-121 N			35	42.00~47.99 1.654"~1.899"	121	152						206	319	MT4	1/4"	SH-3175R	M5X14	T20X45
SLS35-MMMT4-121 N					121	152						206	319					
SLH35-MMMT4-165 N	165	197			251	364												
SLH35-MMMT4-210 N	210	241			295	408												
SLH35-MMMT4-349 N	349	381			435	548												
SLS35-MMMT4-349 N	349	381			435	548												
SLS35-MMMT4-559 N	559	591			645	757												
SLS35-MMMT4-787 N	787	819			873	986												

注: SLH-螺旋槽 SLS-直槽

换钻尖钻

组合钻

带定心口钻

大钻

模块系钻

铲钻

可换钻尖钻

组合钻

带定心口钻

大钻

模块系钻

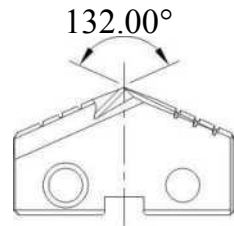
A 铲钻 Shovel drill

粉末高速钢刀片

HSS-PM insert series



HPM10-粉末高速钢, 适用于硬度 HB275 以下的钢材。
Powder high speed steel, apply to process carbon steel with hardness is till Hb275;
HPM15-含钴粉末高速钢, 适用于硬度 HB350 以下的钢、不锈钢、铸铁。
Powder cobalt high speed steel apply to process carbon steel, stainless steel, cast iron and other materials which hardness is ill Hb350;
HPM25-高钴粉末高速钢, 适用于硬度 HB400 以下的钢、不锈钢、铸铁。
Powder cobalt-rich high speed steel, apply to process alloy steel stainless steel, cast iron and other materials which hardness is ill Hb400.

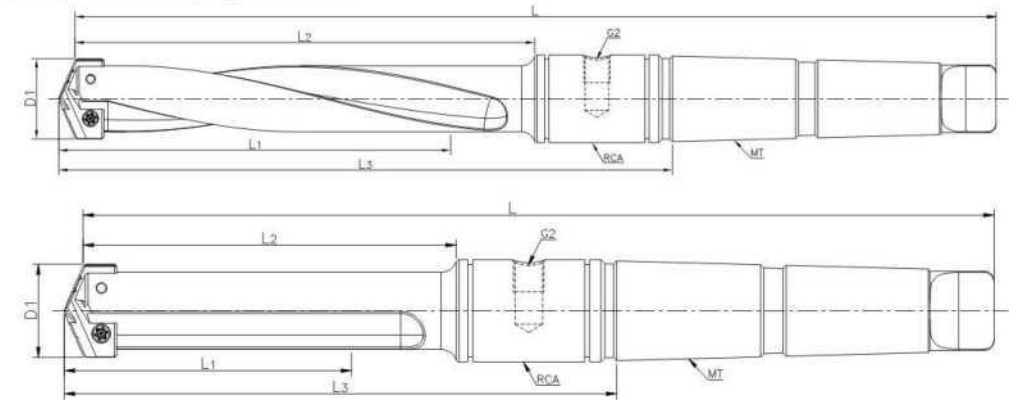


接口 Connector	厚度 Thickness	直径 Diameter			可选刀片材质 Optional blade material		
		mm	Frcationl Equivalent	inch	HPM10	HPM15	HPM25
4	7.94 5/16"	48.00		1.890	SZ4-M0480-10XH	SZ4-M0480-15XH	SZ4-M0480-25XH
		49.21	1-15/16"	1.937	SZ4-I1937-10XH	SZ4-I1937-15XH	SZ4-I1937-25XH
		50.00		1.969	SZ4-M0500-10XH	SZ4-M0500-15XH	SZ4-M0500-25XH
		50.80	2"	2.000	SZ4-I2000-10XH	SZ4-I2000-15XH	SZ4-I2000-25XH
		51.00		2.008	SZ4-M0510-10XH	SZ4-M0510-15XH	SZ4-M0510-25XH
		52.00		2.047	SZ4-M0520-10XH	SZ4-M0520-15XH	SZ4-M0520-25XH
		52.39	2-1/16"	2.063	SZ4-I2062-10XH	SZ4-I2062-15XH	SZ4-I2062-25XH
		53.00		2.087	SZ4-M0530-10XH	SZ4-M0530-15XH	SZ4-M0530-25XH
		53.98	2-1/8"	2.125	SZ4-I2125-10XH	SZ4-I2125-15XH	SZ4-I2125-25XH
		54.00		2.126	SZ4-M0540-10XH	SZ4-M0540-15XH	SZ4-M0540-25XH
		55.00		2.165	SZ4-M0550-10XH	SZ4-M0550-15XH	SZ4-M0550-25XH
		55.56	2-3/16"	2.187	SZ4-I2187-10XH	SZ4-I2187-15XH	SZ4-I2187-25XH
4	7.94 5/16"	56.00		2.205	SZ4-M0560-10XH	SZ4-M0560-15XH	SZ4-M0560-25XH
		57.00		2.244	SZ4-M0570-10XH	SZ4-M0570-15XH	SZ4-M0570-25XH
		57.15	2-1/4"	2.250	SZ4-I2250-10XH	SZ4-I2250-15XH	SZ4-I2250-25XH
		58.00		2.283	SZ4-M0580-10XH	SZ4-M0580-15XH	SZ4-M0580-25XH
		58.74	2-5/16"	2.313	SZ4-I2312-10XH	SZ4-I2312-15XH	SZ4-I2312-25XH
		59.00		2.323	SZ4-M0590-10XH	SZ4-M0590-15XH	SZ4-M0590-25XH
		60.00		2.362	SZ4-M0600-10XH	SZ4-M0600-15XH	SZ4-M0600-25XH
		60.33	2-3/8"	2.375	SZ4-I2375-10XH	SZ4-I2375-15XH	SZ4-I2375-25XH
		61.00		2.402	SZ4-M0610-10XH	SZ4-M0610-15XH	SZ4-M0610-25XH
		61.91	2-7/16"	2.437	SZ4-I2437-10XH	SZ4-I2437-15XH	SZ4-I2437-25XH
		62.00		2.441	SZ4-M0620-10XH	SZ4-M0620-15XH	SZ4-M0620-25XH
		63.00		2.480	SZ4-M0630-10XH	SZ4-M0630-15XH	SZ4-M0630-25XH
63.50	2-1/2"	2.500	SZ4-I2500-10XH	SZ4-I2500-15XH	SZ4-I2500-25XH		
64.00		2.520	SZ4-M0640-10XH	SZ4-M0640-15XH	SZ4-M0640-25XH		
65.00		2.559	SZ4-M0650-10XH	SZ4-M0650-15XH	SZ4-M0650-25XH		
65.09	2-9/16"	2.563	SZ4-I2562-10XH	SZ4-I2562-15XH	SZ4-I2562-25XH		

A 铲钻 Shovel drill

锥柄螺旋槽/直槽刀杆

Taper shank spiral groove / straight groove Arbor



型号 Code No	接口 Connector	D1	L1	L2	L3	L	MT	G2	RCA		
SLH40-MMMT5-130 N SLS40-MMMT5-130 N SLH40-MMMT5-232 N SLH40-MMMT5-350 N SLH40-MMMT5-422 N SLS40-MMMT5-422 N SLS40-MMMT5-625 N SLS40-MMMT5-879 N	40	48.00~55.99 1.89"~2.204"	130 130	165 165	219 219	364 364	MT5	1/4"	SH-4445R	M5X14	T20X45
SLH45-MMMT5-130 N SLS45-MMMT5-130 N SLH45-MMMT5-232 N SLH45-MMMT5-350 N SLH45-MMMT5-422 N SLS45-MMMT5-422 N SLS45-MMMT5-625 N SLS45-MMMT5-879 N	45	56.00~65.19 2.205"~2.563"	130 130	165 165	219 219	364 364	MT5	1/4"	SH-4445R	M5X14	T20X45

注: SLH-螺旋槽 SLS-直槽

钻

铲钻

换钻尖钻

组合钻

带定心口钻

大钻

模块系钻

可换钻尖钻

组合钻

带定心口钻

大钻

模块系钻

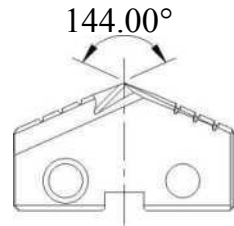
A 铲钻 Shovel drill

粉末高速钢刀片

HSS-PM insert series



HPM10-粉末高速钢, 适用于硬度 HB275 以下的钢材。
Powder high speed steel, apply to process carbon steel with hardness is till Hb275;
HPM15-含钴粉末高速钢, 适用于硬度 HB350 以下的钢、不锈钢、铸铁。
Powder cobalt high speed steel apply to process carbon steel, stainless steel, cast iron and other materials which hardness is ill Hb350;
HPM25-高钴粉末高速钢, 适用于硬度 HB400 以下的钢、不锈钢、铸铁。
Powder cobalt-rich high speed steel, apply to process alloy steel stainless steel, cast iron and other materials which hardness is ill Hb400.

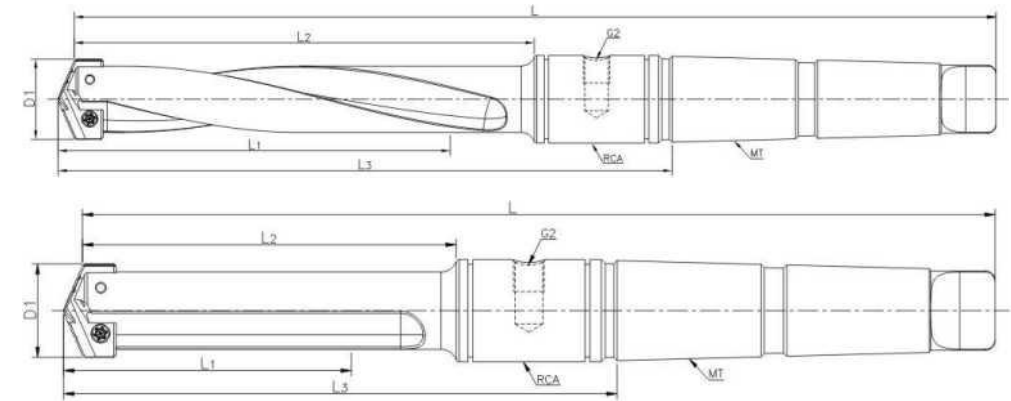


接口 膏度 Connector 副齧)	直径 Diameter			可选刀片材质 Optional blade material			
	mm	Fractionl Equivalent	inch	HPM10	HPM15	HPM25	
5	11.11 7/16"	2-1/2"	63.50	2.500	SZ5-I2500-10XH	SZ5-I2500-15XH	
			64.00	2.520	SZ5-M0640-10XH	SZ5-M0640-15XH	
			65.00	2.559	SZ5-M0650-10XH	SZ5-M0650-15XH	
			65.09	2-9/16"	2.563	SZ5-I2562-10XH	SZ5-I2562-15XH
			66.00	2.598	SZ5-M0660-10XH	SZ5-M0660-15XH	
			66.68	2-5/8"	2.625	SZ5-I2625-10XH	SZ5-I2625-15XH
			68.00	2.677	SZ5-M0680-10XH	SZ5-M0680-15XH	
			70.00	2.756	SZ5-M0700-10XH	SZ5-M0700-15XH	
			71.44	2-13/16"	2.813	SZ5-I2812-10XH	SZ5-I2812-15XH
			72.00	2.835	SZ5-M0720-10XH	SZ5-M0720-15XH	
			73.03	2-7/8"	2.875	SZ5-I2875-10XH	SZ5-I2875-15XH
			74.00	2.913	SZ5-M0740-10XH	SZ5-M0740-15XH	
			74.61	2-15/16"	2.937	SZ5-I2937-10XH	SZ5-I2937-15XH
			76.00	2.992	SZ5-M0760-10XH	SZ5-M0760-15XH	
			76.20	3"	3.000	SZ5-I3000-10XH	SZ5-I3000-15XH
76.99	3-1/32"	3.031	SZ5-I3031-10XH	SZ5-I3031-15XH			
6	11.11 7/16"	3-1/16"	77.00	3.031	SZ6-M0770-10XH	SZ6-M0770-15XH	
			77.79	3.063	SZ6-I3062-10XH	SZ6-I3062-15XH	
			78.00	3.071	SZ6-M0780-10XH	SZ6-M0780-15XH	
			79.38	3-1/8"	3.125	SZ6-I3125-10XH	SZ6-I3125-15XH
			80.00	3.150	SZ6-M0800-10XH	SZ6-M0800-15XH	
			80.96	3-3/16"	3.187	SZ6-I3187-10XH	SZ6-I3187-15XH
			82.00	3.228	SZ6-M0820-10XH	SZ6-M0820-15XH	
			82.55	3-1/4"	3.250	SZ6-I3250-10XH	SZ6-I3250-15XH
			84.00	3.307	SZ6-M0840-10XH	SZ6-M0840-15XH	
			84.14	3-5/16"	3.313	SZ6-I3312-10XH	SZ6-I3312-15XH
			85.73	3-3/8"	3.375	SZ6-I3375-10XH	SZ6-I3375-15XH
			86.00	3.386	SZ6-M0860-10XH	SZ6-M0860-15XH	
			87.31	3-7/16"	3.437	SZ6-I3437-10XH	SZ6-I3437-15XH
			88.00	3.465	SZ6-M0880-10XH	SZ6-M0880-15XH	
			88.90	3-1/2"	3.500	SZ6-I3500-10XH	SZ6-I3500-15XH
89.00	3.504	SZ6-M0890-10XH	SZ6-M0890-15XH				

A 铲钻 Shovel drill

锥柄螺旋槽/直槽刀杆

Taper shank spiral groove / straight groove Arbor



型号 Code No	接口 Connector	DI	L1	L2	L3	L	MT	G2	RCA		
SLH50-MMMT5-172 N SLS50-MMMT5-172 N SLH50-MMMT5-273 N SLS50-MMMT5-368 N SLH50-MMMT5-464 N SLS50-MMMT5-464 N SLS50-MMMT5-660 N SLS50-MMMT5-889 N	50	63.50~76.99 2.5"~3.031"	172 172 273 368 464 464 660 889	216 216 318 413 508 508 705 933	287 287 389 484 579 579 776 1005	430 430 532 627 722 722 919 1148	MT5	1/2"	SH-5715R	M6X19	T25X100
SLH55-MMMT5-172 N SLS55-MMMT5-172 N SLH55-MMMT5-273 N SLH55-MMMT5-464 N SLS55-MMMT5-464 N SLS55-MMMT5-660 N SLS55-MMMT5-889 N	55	77.00~89.09 3.031"~3.507"	172 172 273 464 464 660 889	216 216 318 508 508 705 933	287 287 389 579 579 776 1005	430 430 532 722 722 919 1148	MT5	1/2"	SH-5715R	M6X19	T25X100

注: SLH-螺旋槽 SLS-直槽

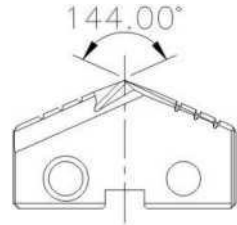
A 铲钻 Shovel drill

粉末高速钢刀片

HSS-PM insert series



HPM10-粉末高速钢, 适用于硬度 HB275 以下的钢材。
Powder high speed steel, apply to process carbon steel with hardness is till Hb275;
HPM15-含钴粉末高速钢, 适用于硬度 HB350 以下的钢、不锈钢、铸铁。
Powder cobalt high speed steel apply to process carbon steel, stainless steel, cast iron and other materials which hardness is ill Hb350;
HPM25-高钴粉末高速钢, 适用于硬度 HB400 以下的钢、不锈钢、铸铁。
Powder cobalt-rich high speed steel, apply to process alloy steel stainless steel, cast iron and other materials which hardness is ill Hb400.

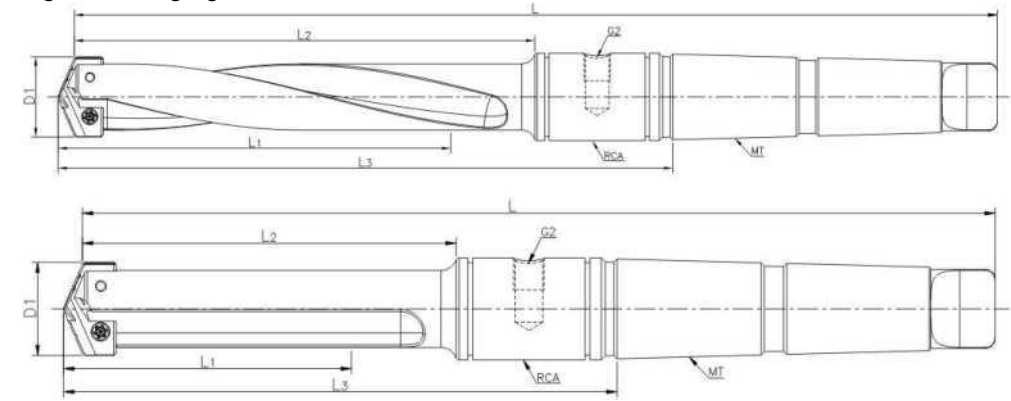


接口 膏度 Connector 翮鶯)	直径 Diameter			可选刀片材质 Optional blade material		
	mm	Frcationl Equivalent	inch	HPM10	HPM15	HPM25
7	11.11 7/16"	89.96	3-17/32"	3.542	SZ7-I3531-10XH	SZ7-I3531-15XH
		90.00		3.543	SZ7-M0900-10XH	SZ7-M0900-15XH
		90.49	3-9/16"	3.563	SZ7-I3562-10XH	SZ7-I3562-15XH
		92.00		3.622	SZ7-M0920-10XH	SZ7-M0920-15XH
		92.08	3-5/8"	3.625	SZ7-I3625-10XH	SZ7-I3625-15XH
		93.66	3-11/16"	3.687	SZ7-I3687-10XH	SZ7-I3687-15XH
		94.00		3.701	SZ7-M0940-10XH	SZ7-M0940-15XH
		95.25	3-3/4"	3.750	SZ7-I3750-10XH	SZ7-I3750-15XH
		96.00		3.780	SZ7-M0960-10XH	SZ7-M0960-15XH
		96.84	3-13/16"	3.813	SZ7-I3812-10XH	SZ7-I3812-15XH
		98.00		3.858	SZ7-M0980-10XH	SZ7-M0980-15XH
		98.43	3-7/8"	3.875	SZ7-I3875-10XH	SZ7-I3875-15XH
		100.00		3.937	SZ7-M1000-10XH	SZ7-M1000-15XH
		100.01	3-15/16"	3.937	SZ7-I3937-10XH	SZ7-I3937-15XH
101.60	4"	4.000	SZ7-I4000-10XH	SZ7-I4000-15XH		
8	11.11 7/16"	102.00		4.016	SZ8-M1020-10XH	SZ8-M1020-15XH
		104.00		4.094	SZ8-M1040-10XH	SZ8-M1040-15XH
		104.78	4-1/8"	4.125	SZ8-I4125-10XH	SZ8-I4125-15XH
		106.00		4.173	SZ8-M1060-10XH	SZ8-M1060-15XH
		107.95	4-1/4"	4.250	SZ8-I4250-10XH	SZ8-I4250-15XH
		108.00		4.252	SZ8-M1080-10XH	SZ8-M1080-15XH
		110.00		4.331	SZ8-M1100-10XH	SZ8-M1100-15XH
		112.00		4.409	SZ8-M1120-10XH	SZ8-M1120-15XH
		114.00		4.488	SZ8-M1140-10XH	SZ8-M1140-15XH
		114.30	4-1/2"	4.500	SZ8-I4500-10XH	SZ8-I4500-15XH

A 铲钻 Shovel drill

锥柄螺旋槽/直槽刀杆

Taper shank spiral groove / straight groove Arbor



型号 Code No	接口 Connector	DI	L1	L2	L3	L	MT	G2	RCA									
SLH70-MMMT5-172 N	70	89.10~101.60 3.508"~4"	172	225	297	440	MT5	1/2"	SH-5715R	M6X19	T25X100							
SLS70-MMMT5-172 N			172	225	297	440												
SLH70-MMMT5-273 N			273	327	399	541												
SLH70-MMMT5-556 N			556	610	681	824												
SLS70-MMMT5-556 N			556	610	681	824												
SLS70-MMMT5-685 N			685	740	811	954												
SLS70-MMMT5-939 N			939	994	1065	1208												
SLH80-MMMT5-172 N			80	101.61-114.30 4"~4.5"	172	225						297	440	MT5	1/2"	SH-5715R	M6X19	T25X100
SLS80-MMMT5-172 N					172	225						297	440					
SLH80-MMMT5-273 N					273	327						399	541					
SLH80-MMMT5-556 N					556	610						681	824					
SLS80-MMMT5-556 N					556	610						681	824					
SLS80-MMMT5-685 N					685	740						811	954					
SLS80-MMMT5-939 N					939	994						1065	1208					

注: SLH-螺旋槽 SLS-直槽

换钻尖钻

组合钻

带定心钻

YMD 大钻

模块系钻

铲钻

可换钻尖钻

组合钻

带定心钻

YMD 大钻

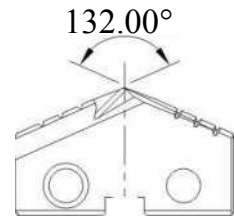
模块系钻

A 铲钻 Shovel drill

粉末高速钢刀片

HSS-PM insert series

HSS PM HPC HPM10-粉末高速钢, 适用于硬度 HB275 以下的钢材。
 Powder high speed steel, apply to process carbon steel with hardness is till Hb275;
 HPM15-含钴粉末高速钢, 适用于硬度 HB350 以下的钢、不锈钢、铸铁。
 Powder cobalt high speed steel apply to process carbon steel, stainless steel, cast iron and other materials which hardness is ill Hb350;
 HPM25-高钴粉末高速钢, 适用于硬度 HB400 以下的钢、不锈钢、铸铁。
 Powder cobalt-rich high speed steel, apply to process alloy steel stainless steel, cast iron and other materials which hardness is ill Hb400.

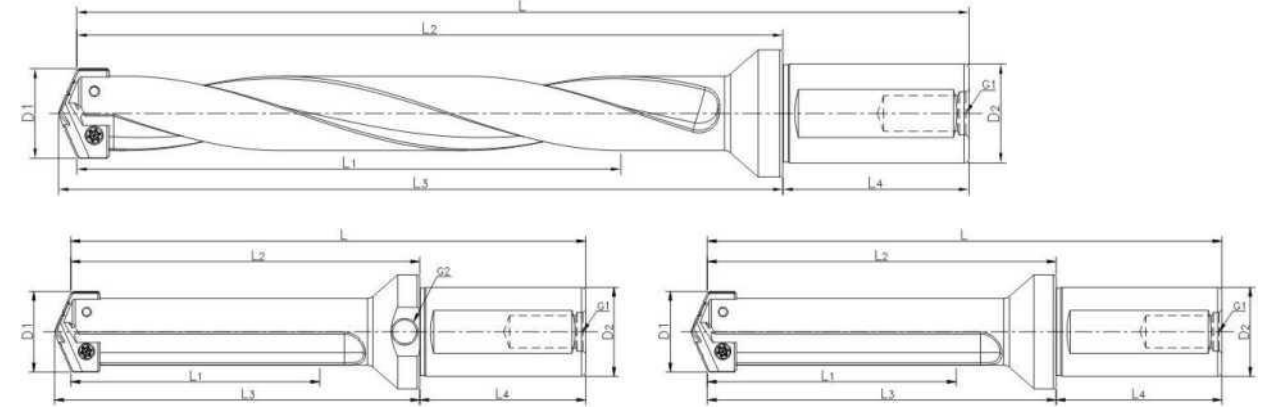


接口 停度 Connector (孺護)	直径 Diameter			可选刀片材质 Optional blade material		
	mm	Frcationl Equivalent	inch	HPM10	HPM15	HPM25
Y 2.38 3/32"	9.50		0.374			SZY-M0095-25XH
	9.53	3/8"	0.375			SZY-10375-25XH
	9.80		0.386			SZY-M0098-25XH
	10.00		0.394			SZY-M0100-25XH
	10.20		0.402			SZY-M0102-25XH
	10.50		0.413			SZY-M0105-25XH
	10.72	27/64"	0.422			SZY-10421-25XH
	10.80		0.425			SZY-M0108-25XH
	11.00		0.433			SZY-M0110-25XH
	11.11	7/16"	0.437			SZY-10437-25XH
Z 2.38 3/32"	11.50		0.453			SZZ-M0115-25XH
	11.51	29/64"	0.453			SZZ-10453-25XH
	12.00		0.472			SZZ-M0120-25XH
	12.30	31/64"	0.484			SZZ-10484-25XH
	12.50		0.492			SZZ-M0125-25XH
	12.70	1/2"	0.500			SZZ-10500-25XH
0 3.18 1/8"	13.00		0.512	SZ0-M0130-10XH	SZ0-M0130-15XH	SZ0-M0130-25XH
	13.50		0.531	SZ0-M0135-10XH	SZ0-M0135-15XH	SZ0-M0135-25XH
	14.00		0.551	SZ0-M0140-10XH	SZ0-M0140-15XH	SZ0-M0140-25XH
	14.29	9/16"	0.563	SZ0-10562-10XH	SZ0-10562-15XH	SZ0-10562-25XH
	14.50		0.571	SZ0-M0145-10XH	SZ0-M0145-15XH	SZ0-M0145-25XH
	15.00		0.591	SZ0-M0150-10XH	SZ0-M0150-15XH	SZ0-M0150-25XH
0 3.18 1/8"	15.50		0.610	SZ0-M0155-10XH	SZ0-M0155-15XH	SZ0-M0155-25XH
	15.88	5/8"	0.625	SZ0-10625-10XH	SZ0-10625-15XH	SZ0-10625-25XH
	16.00		0.630	SZ0-M0160-10XH	SZ0-M0160-15XH	SZ0-M0160-25XH
	16.50		0.650	SZ0-M0165-10XH	SZ0-M0165-15XH	SZ0-M0165-25XH
	17.00		0.669	SZ0-M0170-10XH	SZ0-M0170-15XH	SZ0-M0170-25XH
	17.46	11/16"	0.687	SZ0-10687-10XH	SZ0-10687-15XH	SZ0-10687-25XH
	17.50		0.689	SZ0-M0175-10XH	SZ0-M0175-15XH	SZ0-M0175-25XH

A 铲钻 Shovel drill

侧固式柄螺旋槽/直槽刀杆

Side fixed handle spiral groove / straight groove cutter bar



型号 Code No	接口 Connector	D1	L1	L2	L3	L	D2	L4	G1	G2							
SLSY0-ML016-19N	Y0	9.50~11.49 0.374"~0.452"	19	48	50	96	16	48	1/16"	1/8"	M2X4	T7X35					
SLSY0-ML020-32N			32	61	64	111	20	50	1/8"								
SLHY0-ML020-60N			60	90	92	140	20	50	1/8"								
SLHY0-ML020-111N			111	141	143	191	20	50	1/8"								
SLSY0-ML020-222N			222	252	254	302	20	50	1/8"								
SLSY0-ML020-290N			290	320	322	370	20	50	1/8"								
SLSZ0-ML016-19N			Z0	11.50-12.97 0.453"~0.511"	19	48	50	96	16				48	1/16"	1/8"	M2X4.8	T7X35
SLSZ0-ML020-32N					32	61	64	111	20				50	1/8"			
SLHZ0-ML020-60N					60	90	92	140	20				50	1/8"			
SLHZ0-ML020-111N					111	141	143	191	20				50	1/8"			
SLSZ0-ML020-222N	222	252			254	302	20	50	1/8"								
SLSZ0-ML020-290N	290	320			322	370	20	50	1/8"								
SLS00-ML020-22N	00	12.98~15.49 0.511"~0.61"	22	48	50	98	20	50	1/8"	1/8"	M2.5X5.8	T8X40					
SLS00-ML020-35N			35	64	66	114											
SLH00-ML020-64N			64	92	95	142											
SLH00-ML020-114N			114	143	146	193											
SLH00-ML020-178N			178	206	209	256											
SLS00-ML020-240N			240	268	271	318											
SLS00-ML020-295N			295	324	327	374											
SLS00-ML020-387N			387	416	419	466											
SLS05-ML020-22N	05	15.50~17.85 0.61~0.703	22	48	50	98	20	50	1/8"	1/8"	M2.5X7	T8X40					
SLS05-ML020-35N			35	64	66	114											
SLH05-ML020-64N			64	92	95	142											
SLH05-ML020-114N			114	143	146	193											
SLH05-ML020-178N			178	206	209	256											
SLS05-ML020-240N			240	268	271	318											
SLS05-ML020-295N			295	324	327	374											
SLS05-ML020-387N			387	416	419	466											

注: SLH-螺旋槽 SLS-直槽

换钻尖钻

组合钻

带定心口钻

YMD大钻

模块系钻

铲钻

可换钻尖钻

组合钻

带定心口钻

YMD大钻

模块系钻

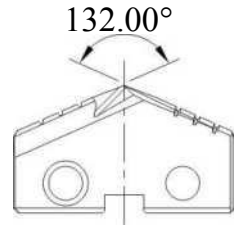
A 铲钻 Shovel drill

粉末高速钢刀片

HSS-PM insert series



HPM10-粉末高速钢, 适用于硬度 HB275 以下的钢材。
Powder high speed steel, apply to process carbon steel with hardness is till Hb275;
HPM15-含钴粉末高速钢, 适用于硬度 HB350 以下的钢、不锈钢、铸铁。
Powder cobalt high speed steel apply to process carbon steel, stainless steel, cast iron and other materials which hardness is ill Hb350;
HPM25-高钴粉末高速钢, 适用于硬度 HB400 以下的钢、不锈钢、铸铁。
Powder cobalt-rich high speed steel, apply to process alloy steel stainless steel, cast iron and other materials which hardness is ill Hb400.

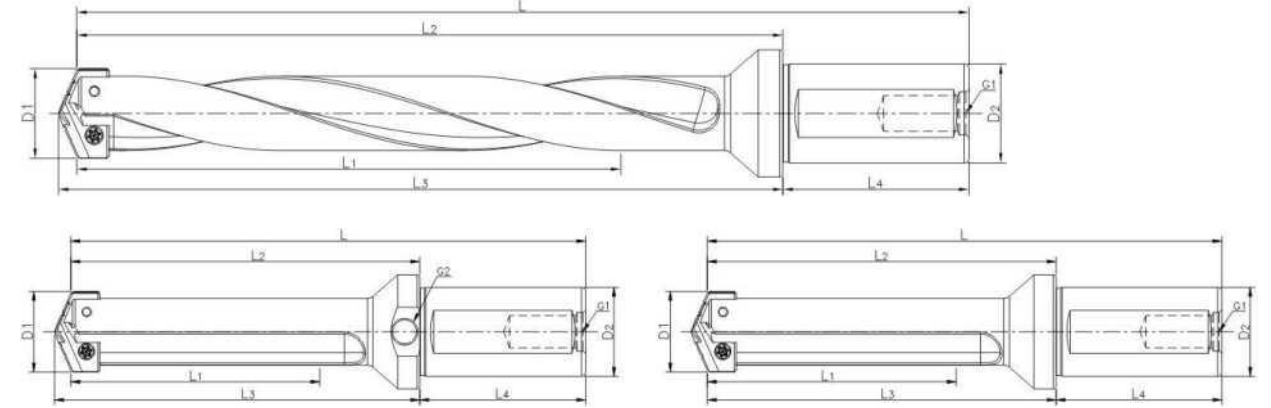


接口 停度 Connector (孺護)	直径 Diameter			可选刀片材质 Optional blade material			
	mm	Frcationl Equivalent	inch	HPM10	HPM15	HPM25	
1	3.97 5/32"	18.00		0.709	SZ1-M0180-10XH	SZ1-M0180-15XH	SZ1-M0180-25XH
		18.50		0.728	SZ1-M0185-10XH	SZ1-M0185-15XH	SZ1-M0185-25XH
		19.00		0.748	SZ1-M0190-10XH	SZ1-M0190-15XH	SZ1-M0190-25XH
		19.05	3/4"	0.750	SZ1-I0750-10XH	SZ1-I0750-15XH	SZ1-I0750-25XH
		19.50		0.768	SZ1-M0195-10XH	SZ1-M0195-15XH	SZ1-M0195-25XH
		20.00		0.787	SZ1-M0200-10XH	SZ1-M0200-15XH	SZ1-M0200-25XH
		20.50		0.807	SZ1-M0205-10XH	SZ1-M0205-15XH	SZ1-M0205-25XH
		20.64	13/16"	0.813	SZ1-I0812-10XH	SZ1-I0812-15XH	SZ1-I0812-25XH
		21.00		0.827	SZ1-M0210-10XH	SZ1-M0210-15XH	SZ1-M0210-25XH
		21.50		0.846	SZ1-M0215-10XH	SZ1-M0215-15XH	SZ1-M0215-25XH
1	3.97 5/32"	22.00		0.866	SZ1-M0220-10XH	SZ1-M0220-15XH	SZ1-M0220-25XH
		22.23	7/8"	0.875	SZ1-I0875-10XH	SZ1-I0875-15XH	SZ1-I0875-25XH
		23.00		0.906	SZ1-M0230-10XH	SZ1-M0230-15XH	SZ1-M0230-25XH
		23.81	15/16"	0.937	SZ1-I0937-10XH	SZ1-I0937-15XH	SZ1-I0937-25XH
		24.00		0.945	SZ1-M0240-10XH	SZ1-M0240-15XH	SZ1-M0240-25XH
		25.00		0.984	SZ2-M0250-10XH	SZ2-M0250-15XH	SZ2-M0250-25XH
2	4.76 3/16"	25.40	1"	1.000	SZ2-I1000-10XH	SZ2-I1000-15XH	SZ2-I1000-25XH
		26.00		1.024	SZ2-M0260-10XH	SZ2-M0260-15XH	SZ2-M0260-25XH
		26.99	1-1/16"	1.063	SZ2-I1062-10XH	SZ2-I1062-15XH	SZ2-I1062-25XH
		27.00		1.063	SZ2-M0270-10XH	SZ2-M0270-15XH	SZ2-M0270-25XH
		28.00		1.102	SZ2-M0280-10XH	SZ2-M0280-15XH	SZ2-M0280-25XH
		28.58	1-1/8"	1.125	SZ2-I1125-10XH	SZ2-I1125-15XH	SZ2-I1125-25XH
		29.00		1.142	SZ2-M0290-10XH	SZ2-M0290-15XH	SZ2-M0290-25XH
		30.00		1.181	SZ2-M0300-10XH	SZ2-M0300-15XH	SZ2-M0300-25XH
2	4.76 3/16"	30.16	1-3/16"	1.187	SZ2-I1187-10XH	SZ2-I1187-15XH	SZ2-I1187-25XH
		31.00		1.220	SZ2-M0310-10XH	SZ2-M0310-15XH	SZ2-M0310-25XH
		31.75	1-1/4"	1.250	SZ2-I1250-10XH	SZ2-I1250-15XH	SZ2-I1250-25XH
		32.00		1.260	SZ2-M0320-10XH	SZ2-M0320-15XH	SZ2-M0320-25XH
		33.00		1.299	SZ2-M0330-10XH	SZ2-M0330-15XH	SZ2-M0330-25XH
		33.34	1-5/16"	1.313	SZ2-I1312-10XH	SZ2-I1312-15XH	SZ2-I1312-25XH
		34.00		1.339	SZ2-M0340-10XH	SZ2-M0340-15XH	SZ2-M0340-25XH
		34.13	1-11/32"	1.344	SZ2-I1343-10XH	SZ2-I1343-15XH	SZ2-I1343-25XH
		34.93	1-3/8"	1.375	SZ2-I1375-10XH	SZ2-I1375-15XH	SZ2-I1375-25XH
		35.00		1.378	SZ2-M0350-10XH	SZ2-M0350-15XH	SZ2-M0350-25XH

A 铲钻 Shovel drill

侧固式柄螺旋槽/直槽刀杆

Side fixed handle spiral groove / straight groove cutter bar



型号 Code No	接口 Connector	D1	L1	L2	L3	L	D2	L4	G1	G2		
SLS10-ML025-48N SLS10-ML025-67N SLH10-ML025-118N SLH10-ML025-168N SLH10-ML025-222N SLH10-ML025-270N SLS10-ML025-365N SLS10-ML025-457N SLS10-ML025-569N	10	17.86~21.99 0.703"~0.866"	48 67 118 168 222 270 365 457 569	76 107 155 206 260 307 402 495 603	79 111 158 209 263 311 406 498 606	132 163 211 262 316 363 458 551 659	25	56	1/8"	1/8"	M3X7	T9X40
SLS15-ML025-48N SLS15-ML025-67N SLH15-ML025-118N SLH15-ML025-168N SLH15-ML025-222N SLH15-ML025-270N SLS15-ML025-365N SLS15-ML025-457N SLS15-ML025-569N	15	22.00~24.60 0.866"~0.969"	48 67 118 168 222 270 365 457 569	76 107 155 206 260 307 402 495 603	79 111 158 209 263 311 406 498 606	132 163 211 262 316 363 458 551 659	25	56	1/8"	1/8"	M3X7	T9X40
SLS20-ML032-57N SLS20-ML032-86N SLH20-ML032-137N SLH20-ML032-187N SLH20-ML032-237N SLH20-ML032-289N SLS20-ML032-400N SLS20-ML032-511N SLS20-ML032-492N	20	24.61~29.99 0.969"~1.181"	57 86 137 187 237 289 400 511 692	89 129 179 230 280 332 443 554 735	92 132 183 234 284 335 446 558 739	149 189 239 290 340 392 503 618 795	32	60	1/4"	1/8"	M4X10	T15X45
SLS25-ML032-57N SLS25-ML032-86N SLH25-ML032-137N SLH25-ML032-187N SLH20-ML032-237N SLH25-ML032-289N SLS25-ML032-400N SLS25-ML032-511N SLS25-ML032-492N	25	30.00~35.50 1.181"~1.398"	57 86 137 187 237 289 400 511 692	89 129 179 230 280 332 443 554 735	92 132 183 234 284 335 446 558 739	149 189 239 290 340 392 503 618 795	32	60	1/4"	1/8"	M4X10	T15X45

注: SLH-螺旋槽 SLS-直槽

钻

铲钻

可换钻尖钻

可换钻尖钻

组合钻

组合钻

带定心口钻

带定心口钻

YMD 大钻

YMD 大钻

模块系钻

模块系钻

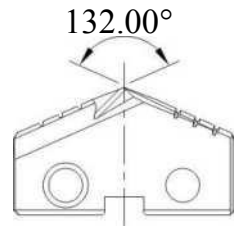
A 铲钻 Shovel drill

粉末高速钢刀片

HSS-PM insert series



HPM10-粉末高速钢, 适用于硬度 HB275 以下的钢材。
Powder high speed steel, apply to process carbon steel with hardness is till Hb275;
HPM15-含钴粉末高速钢, 适用于硬度 HB350 以下的钢、不锈钢、铸铁。
Powder cobalt high speed steel apply to process carbon steel, stainless steel, cast iron and other materials which hardness is ill Hb350;
HPM25-高钴粉末高速钢, 适用于硬度 HB400 以下的钢、不锈钢、铸铁。
Powder cobalt-rich high speed steel, apply to process alloy steel stainless steel, cast iron and other materials which hardness is ill Hb400.

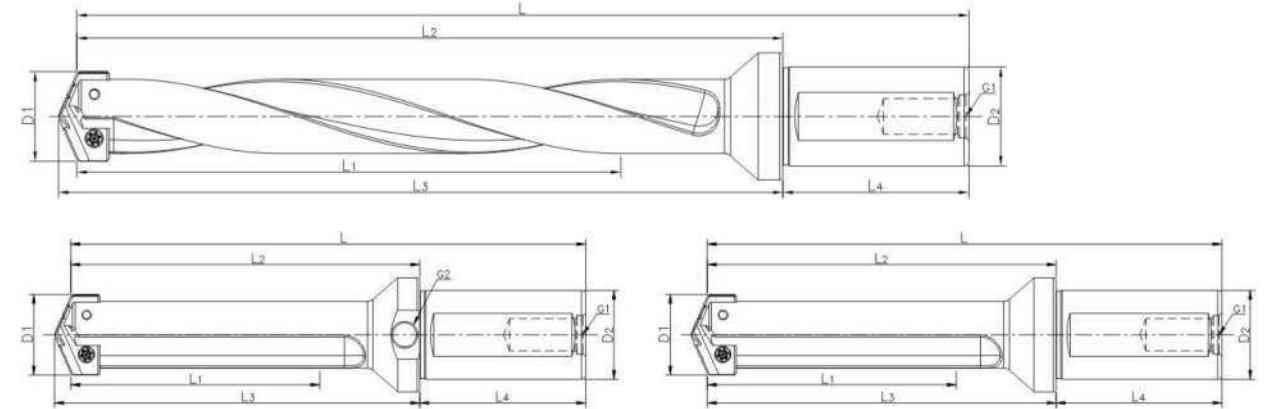


接口	厚度 厚度	直径 Diameter			可选刀片材质 Optional blade material		
		mm	Frcationl Equivalent	inch	HPM10	HPM15	HPM25
3	6.35 1/4"	36.00		1.417	SZ3-M0360-10XH	SZ3-M0360-15XH	SZ3-M0360-25XH
		36.51	1-7/16"	1.437	SZ3-I1437-10XH	SZ3-I1437-15XH	SZ3-I1437-25XH
		37.00		1.457	SZ3-M0370-10XH	SZ3-M0370-15XH	SZ3-M0370-25XH
		38.00		1.496	SZ3-M0380-10XH	SZ3-M0380-15XH	SZ3-M0380-25XH
		38.10	1-1/2"	1.500	SZ3-I1500-10XH	SZ3-I1500-15XH	SZ3-I1500-25XH
		39.00		1.535	SZ3-M0390-10XH	SZ3-M0390-15XH	SZ3-M0390-25XH
		39.69	1-9/16"	1.563	SZ3-I1562-10XH	SZ3-I1562-15XH	SZ3-I1562-25XH
		40.00		1.575	SZ3-M0400-10XH	SZ3-M0400-15XH	SZ3-M0400-25XH
		41.00		1.614	SZ3-M0410-10XH	SZ3-M0410-15XH	SZ3-M0410-25XH
		41.28	1-5/8"	1.625	SZ3-I1625-10XH	SZ3-I1625-15XH	SZ3-I1625-25XH
3	6.35 1/4"	42.00		1.654	SZ3-M0420-10XH	SZ3-M0420-15XH	SZ3-M0420-25XH
		42.86	1-11/16"	1.687	SZ3-I1687-10XH	SZ3-I1687-15XH	SZ3-I1687-25XH
		43.00		1.693	SZ3-M0430-10XH	SZ3-M0430-15XH	SZ3-M0430-25XH
		44.00		1.732	SZ3-M0440-10XH	SZ3-M0440-15XH	SZ3-M0440-25XH
		44.45	1-3/4"	1.750	SZ3-I1750-10XH	SZ3-I1750-15XH	SZ3-I1750-25XH
		45.00		1.772	SZ3-M0450-10XH	SZ3-M0450-15XH	SZ3-M0450-25XH
		46.00		1.811	SZ3-M0460-10XH	SZ3-M0460-15XH	SZ3-M0460-25XH
		46.04	1-13/16"	1.813	SZ3-I1812-10XH	SZ3-I1812-15XH	SZ3-I1812-25XH
		47.00		1.850	SZ3-M0470-10XH	SZ3-M0470-15XH	SZ3-M0470-25XH
		47.63	1-7/8"	1.875	SZ3-I1875-10XH	SZ3-I1875-15XH	SZ3-I1875-25XH

A 铲钻 Shovel drill

侧固式柄螺旋槽/直槽刀杆

Side fixed handle spiral groove / straight groove cutter bar



型号 Code No	接口 Connector	D1	L1	L2	L3	L	D2	L4	G1	G2	y									
SLS30-ML040-76N	30	35.51~41.99 1.398"~1.653"	76	125	130	195	40	70	1/4"	1/4"	M5X14	T20X45								
SLS30-ML040-121N			121	173	178	243														
SLH30-ML040-165N			165	218	222	288														
SLH30-ML040-210N			210	262	267	332														
SLH30-ML040-260N			260	312	317	382														
SLH30-ML040-349N			349	402	406	472														
SLS30-ML040-349N			349	402	406	472														
SLS30-ML040-559N			559	611	616	681														
SLS30-ML040-787N			787	840	845	910														
SLS35-ML040-76N			35	42.00~47.99 1.654"~1.899"	76	125							130	195	40	70	1/4"	1/4"	M5X14	T20X45
SLS35-ML040-121N					121	173							178	243						
SLH35-ML040-165N					165	218							222	288						
SLH35-ML040-210N					210	262							267	332						
SLH35-ML040-260N					260	312							317	382						
SLH35-ML040-349N	349	402			406	472														
SLS35-ML040-349N	349	402			406	472														
SLS35-ML040-559N	559	611			616	681														
SLS35-ML040-787N	787	840			845	910														

注: SLH-螺旋槽 SLS-直槽

可换钻尖钻

组合钻

带定心钻

大钻

模块系

铲钻

可换钻尖钻

组合钻

带定心钻

大钻

模块系

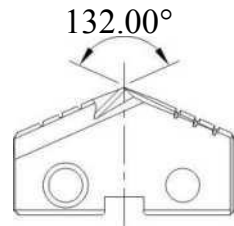
A 铲钻 Shovel drill

粉末高速钢刀片

HSS-PM insert series



HPM10-粉末高速钢, 适用于硬度 HB275 以下的钢材。
Powder high speed steel, apply to process carbon steel with hardness is till Hb275;
HPM15-含钴粉末高速钢, 适用于硬度 HB350 以下的钢、不锈钢、铸铁。
Powder cobalt high speed steel apply to process carbon steel, stainless steel, cast iron and other materials which hardness is ill Hb350;
HPM25-高钴粉末高速钢, 适用于硬度 HB400 以下的钢、不锈钢、铸铁。
Powder cobalt-rich high speed steel, apply to process alloy steel stainless steel, cast iron and other materials which hardness is ill Hb400.

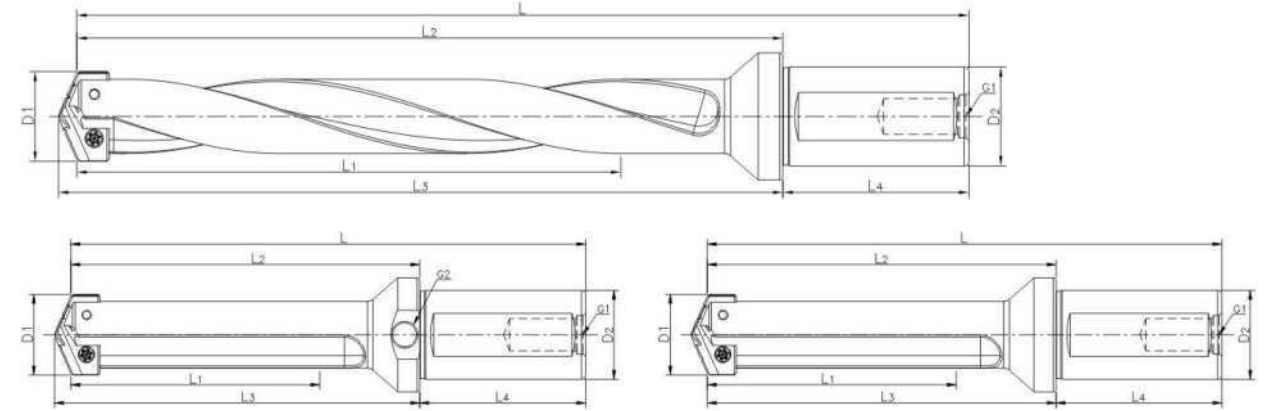


接口 膏度 Connector 翮驚)	直径 Diameter			可选刀片材质 Optional blade material			
	mm	Frcationl Equivalent	inch	HPM10	HPM15	HPM25	
4	7.94 5/16"	48.00		1.890	SZ4-M0480-10XH	SZ4-M0480-15XH	SZ4-M0480-25XH
		49.21	1-15/16 ^h	1.937	SZ4-I1937-10XH	SZ4-I1937-15XH	SZ4-I1937-25XH
		50.00		1.969	SZ4-M0500-10XH	SZ4-M0500-15XH	SZ4-M0500-25XH
		50.80	2"	2.000	SZ4-I2000-10XH	SZ4-I2000-15XH	SZ4-I2000-25XH
		51.00		2.008	SZ4-M0510-10XH	SZ4-M0510-15XH	SZ4-M0510-25XH
		52.00		2.047	SZ4-M0520-10XH	SZ4-M0520-15XH	SZ4-M0520-25XH
		52.39	2-1/16"	2.063	SZ4-I2062-10XH	SZ4-I2062-15XH	SZ4-I2062-25XH
		53.00		2.087	SZ4-M0530-10XH	SZ4-M0530-15XH	SZ4-M0530-25XH
		53.98	2-1/8"	2.125	SZ4-I2125-10XH	SZ4-I2125-15XH	SZ4-I2125-25XH
		54.00		2.126	SZ4-M0540-10XH	SZ4-M0540-15XH	SZ4-M0540-25XH
		55.00		2.165	SZ4-M0550-10XH	SZ4-M0550-15XH	SZ4-M0550-25XH
		55.56	2-3/16"	2.187	SZ4-I2187-10XH	SZ4-I2187-15XH	SZ4-I2187-25XH
4	7.94 5/16"	56.00		2.205	SZ4-M0560-10XH	SZ4-M0560-15XH	SZ4-M0560-25XH
		57.00		2.244	SZ4-M0570-10XH	SZ4-M0570-15XH	SZ4-M0570-25XH
		57.15	2-1/4"	2.250	SZ4-I2250-10XH	SZ4-I2250-15XH	SZ4-I2250-25XH
		58.00		2.283	SZ4-M0580-10XH	SZ4-M0580-15XH	SZ4-M0580-25XH
		58.74	2-5/16"	2.313	SZ4-I2312-10XH	SZ4-I2312-15XH	SZ4-I2312-25XH
		59.00		2.323	SZ4-M0590-10XH	SZ4-M0590-15XH	SZ4-M0590-25XH
		60.00		2.362	SZ4-M0600-10XH	SZ4-M0600-15XH	SZ4-M0600-25XH
		60.33	2-3/8"	2.375	SZ4-I2375-10XH	SZ4-I2375-15XH	SZ4-I2375-25XH
		61.00		2.402	SZ4-M0610-10XH	SZ4-M0610-15XH	SZ4-M0610-25XH
		61.91	2-7/16"	2.437	SZ4-I2437-10XH	SZ4-I2437-15XH	SZ4-I2437-25XH
		62.00		2.441	SZ4-M0620-10XH	SZ4-M0620-15XH	SZ4-M0620-25XH
		63.00		2.480	SZ4-M0630-10XH	SZ4-M0630-15XH	SZ4-M0630-25XH
		63.50	2-1/2"	2.500	SZ4-I2500-10XH	SZ4-I2500-15XH	SZ4-I2500-25XH
		64.00		2.520	SZ4-M0640-10XH	SZ4-M0640-15XH	SZ4-M0640-25XH
		65.00		2.559	SZ4-M0650-10XH	SZ4-M0650-15XH	SZ4-M0650-25XH
65.09	2-9/16"	2.563	SZ4-I2562-10XH	SZ4-I2562-15XH	SZ4-I2562-25XH		

A 铲钻 Shovel drill

侧固式柄螺旋槽/直槽刀杆

Side fixed handle spiral groove / straight groove cutter bar



型号 Code No	接口 Connector	D1	L1	L2	L3	L	D2	L4	G1	G2	y	
SLS40-ML040-130N SLH40-ML040-232N SLH40-ML040-350N SLH40-ML040-422N SLS40-ML040-422N SLS40-ML040-525N SLS40-ML040-625N SLS40-ML040-879N	40	48.00~55.99 1.89"~2.204"		130 232 350 422 422 525 625 879	179 281 399 472 472 575 675 929	184 286 404 476 476 579 680 934	249 351 469 542 542 645 745 999	40	70	1/4 ^h	-	M5X14 T20X45
SLS45-ML040-130N SLH45-ML040-232N SLH45-ML040-350N SLH45-ML040-422N SLS45-ML040-422N SLS45-ML040-525N SLS45-ML040-625N SLS45-ML040-879N	45	56.00~65.09 2.205"~2.563"		130 232 350 422 422 525 625 879	179 281 399 472 472 575 675 929	184 286 404 476 476 579 680 934	249 351 469 542 542 645 745 999	40	70	1/4"	-	M5X14 T20X45

注: SLH-螺旋槽 SLS-直槽

可换钻尖钻

组合钻

带定心口钻

YMD 大钻

模块系钻

铲钻

可换钻尖钻

组合钻

带定心口钻

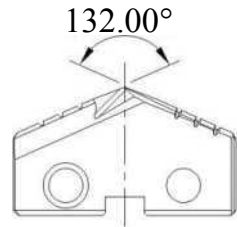
YMD 大钻

模块系钻

A 铲钻 Shovel drill

硬质合金刀片

Carbide inseries

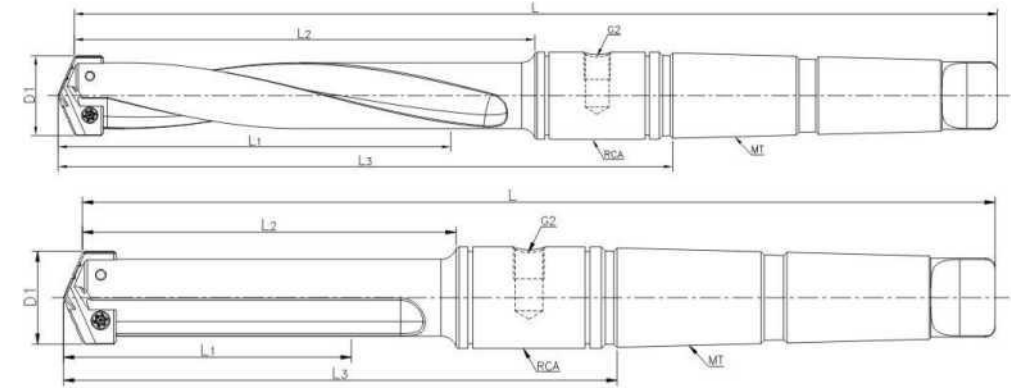


接口 Connector	厚度 (温谣)	直径 Diameter			应用 Application		
		mm	Fractionl Equivalent	inch	P	K	N
Y	2.38 3/32"	9.50		0.374	SZY-M0095-50XH	SZY-M0095-50CH	SZY-M0095-50SC
		9.53	3/8"	0.375	SZY-I0375-50XH	SZY-I0375-50CH	SZY-I0375-50SC
		9.80		0.386	SZY-M0098-50XH	SZY-M0098-50CH	SZY-M0098-50SC
		10.00		0.394	SZY-M0100-50XH	SZY-M0100-50CH	SZY-M0100-50SC
		10.20		0.402	SZY-M0102-50XH	SZY-M0102-50CH	SZY-M0102-50SC
		10.50		0.413	SZY-M0105-50XH	SZY-M0105-50CH	SZY-M0105-50SC
		10.72	27/64"	0.422	SZY-I0421-50XH	SZY-I0421-50CH	SZY-I0421-50SC
		10.80		0.425	SZY-M0108-50XH	SZY-M0108-50CH	SZY-M0108-50SC
		11.00		0.433	SZY-M0110-50XH	SZY-M0110-50CH	SZY-M0110-50SC
Z	2.38 3/32"	11.11	7/16"	0.437	SZY-I0437-50XH	SZY-I0437-50CH	SZY-I0437-50SC
		11.50		0.453	SZZ-M0115-50XH	SZZ-M0115-50CH	SZZ-M0115-50SC
		11.51	29/64"	0.453	SZZ-I0453-50XH	SZZ-I0453-50CH	SZZ-I0453-50SC
		12.00		0.472	SZZ-M0120-50XH	SZZ-M0120-50CH	SZZ-M0120-50SC
		12.30	31/64"	0.484	SZZ-I0484-50XH	SZZ-I0484-50CH	SZZ-I0484-50SC
		12.50		0.492	SZZ-M0125-50XH	SZZ-M0125-50CH	SZZ-M0125-50SC
0	3.18 1/8"	12.70	1/2"	0.500	SZZ-I0500-50XH	SZZ-I0500-50CH	SZZ-I0500-50SC
		13.00		0.512	SZO-M0130-50XH	SZO-M0130-50CH	SZO-M0130-50SC
		13.50		0.531	SZO-M0135-50XH	SZO-M0135-50CH	SZO-M0135-50SC
		14.00		0.551	SZO-M0140-50XH	SZO-M0140-50CH	SZO-M0140-50SC
		14.29	9/16"	0.563	SZO-I0562-50XH	SZO-I0562-50CH	SZO-I0562-50SC
		14.50		0.571	SZO-M0145-50XH	SZO-M0145-50CH	SZO-M0145-50SC
0	3.18 1/8"	15.00		0.591	SZO-M0150-50XH	SZO-M0150-50CH	SZO-M0150-50SC
		15.50		0.610	SZO-M0155-50XH	SZO-M0155-50CH	SZO-M0155-50SC
		15.88	5/8"	0.625	SZO-I0625-50XH	SZO-I0625-50CH	SZO-I0625-50SC
		16.00		0.630	SZO-M0160-50XH	SZO-M0160-50CH	SZO-M0160-50SC
		16.50		0.650	SZO-M0165-50XH	SZO-M0165-50CH	SZO-M0165-50SC
		17.00		0.669	SZO-M0170-50XH	SZO-M0170-50CH	SZO-M0170-50SC
0	3.18 1/8"	17.46	11/16"	0.687	SZO-I0687-50XH	SZO-I0687-50CH	SZO-I0687-50SC
		17.50		0.689	SZO-M0175-50XH	SZO-M0175-50CH	SZO-M0175-50SC

A 铲钻 Shovel drill

锥柄螺旋槽/直槽刀杆

Taper shank spiral groove / straight groove Arbor



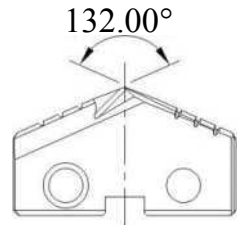
型号 Code No	接口 Connector	D1	L1	L2	L3	L	MT	G2	RCA		
SLHY0-MMMT2-32 N	Y0	9.50 ~ 11.49 0.374" ~ 0.452"	32	52	88	160	MT2	1/16"	SH-1905R	M2X4	T7X35
SLSY0-MMMT2-32N			32	52	88	160					
SLHY0-MMMT2-60			60	80	117	189					
SLHY0-MMMT2-111			111	131	167	240					
N											
SLHZ0-MMMT2-32 N	Z0	11.50 ~ 12.97 0.453" ~ 0.511"	32	52	88	160	MT2	1/16"	SH-1905R	M2X4.8	T7X35
SLSZ0-MMMT2-32N			32	52	88	160					
SLHZ0-MMMT2-60			60	80	117	189					
SLHZ0-MMMT2-111			111	131	167	240					
N											
SLH00-MMMT2-35N SLS00-MMMT2-35N	00	12.98 ~ 15.49 0.511" ~ 0.611"	35	56	92	164	MT2	1/16"	SH-1905R	M2.5X5.8	T8X40
SLH00-MMMT2-64N			64	84	121	193					
SLH00-MMMT2-114			114	135	172	244					
SLH00-MMMT2-178			178	199	235	307					
N											
SLH05-MMMT2-35N SLS05-MMMT2-35N	05	15.50 ~ 17.85 0.61 ~ 0.703	35	56	92	164	MT2	1/16"	SH-1905R	M2.5X7	T8X40
SLH05-MMMT2-64N			64	84	121	193					
SLH05-MMMT2-114			114	135	172	244					
SLH05-MMMT2-178			178	199	235	307					
N											

注: SLH-螺旋槽 SLS-直槽

A 铲钻 Shovel drill

硬质合金刀片

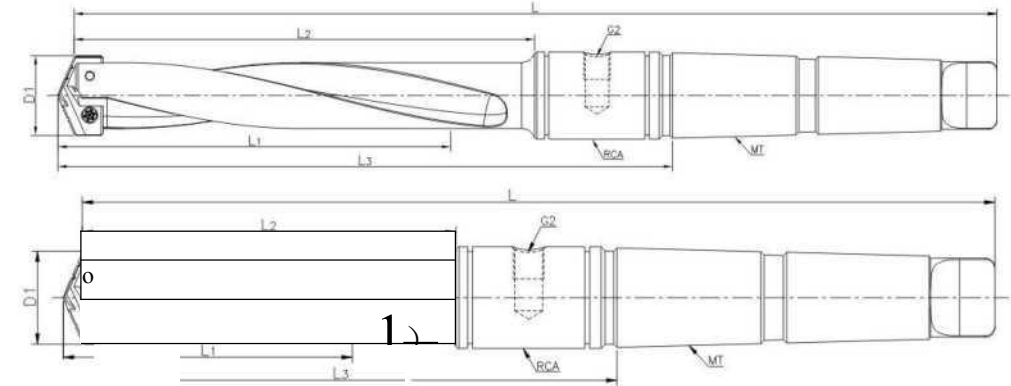
Carbide inseries



A 铲钻 Shovel drill

锥柄螺旋槽/直槽刀杆

Taper shank spiral groove / straight groove Arbor



接口 Connector	厚度 (mm)	直径 Diameter			应用 Application		
		mm	Fractionl Equivalent	inch	P	K	N
1	3.97 5/32"	18.00		0.709	SZ1-M0180-50XH	SZ1-M0180-50CH	SZ1-M0180-50SC
		18.50		0.728	SZ1-M0185-50XH	SZ1-M0185-50CH	SZ1-M0185-50SC
		19.00		0.748	SZ1-M0190-50XH	SZ1-M0190-50CH	SZ1-M0190-50SC
		19.05	3/4"	0.750	SZ1-I0750-50XH	SZ1-I0750-50CH	SZ1-I0750-50SC
		19.50		0.768	SZ1-M0195-50XH	SZ1-M0195-50CH	SZ1-M0195-50SC
		20.00		0.787	SZ1-M0200-50XH	SZ1-M0200-50CH	SZ1-M0200-50SC
		20.50		0.807	SZ1-M0205-50XH	SZ1-M0205-50CH	SZ1-M0205-50SC
		20.64	13/16"	0.813	SZ1-I0812-50XH	SZ1-I0812-50CH	SZ1-I0812-50SC
		21.00		0.827	SZ1-M0210-50XH	SZ1-M0210-50CH	SZ1-M0210-50SC
1	3.97 5/32"	21.50		0.846	SZ1-M0215-50XH	SZ1-M0215-50CH	SZ1-M0215-50SC
		22.00		0.866	SZ1-M0220-50XH	SZ1-M0220-50CH	SZ1-M0220-50SC
		22.23	7/8"	0.875	SZ1-I0875-50XH	SZ1-I0875-50CH	SZ1-I0875-50SC
		23.00		0.906	SZ1-M0230-50XH	SZ1-M0230-50CH	SZ1-M0230-50SC
		23.81	15/16"	0.937	SZ1-I0937-50XH	SZ1-I0937-50CH	SZ1-I0937-50SC
2	4.76 3/16"	24.00		0.945	SZ1-M0240-50XH	SZ1-M0240-50CH	SZ1-M0240-50SC
		25.00		0.984	SZ2-M0250-50XH	SZ2-M0250-50CH	SZ2-M0250-50SC
		25.40	1"	1.000	SZ2-I1000-50XH	SZ2-I1000-50CH	SZ2-I1000-50SC
		26.00		1.024	SZ2-M0260-50XH	SZ2-M0260-50CH	SZ2-M0260-50SC
		26.99	1-1/16"	1.063	SZ2-I1062-50XH	SZ2-I1062-50CH	SZ2-I1062-50SC
		27.00		1.063	SZ2-M0270-10XH	SZ2-M0270-10CH	SZ2-M0270-10SC
		28.00		1.102	SZ2-M0280-50XH	SZ2-M0280-50CH	SZ2-M0280-50SC
2	4.76 3/16"	28.58	1-1/8"	1.125	SZ2-I1125-50XH	SZ2-I1125-50CH	SZ2-I1125-50SC
		29.00		1.142	SZ2-M0290-50XH	SZ2-M0290-50CH	SZ2-M0290-50SC
		30.00		1.181	SZ2-M0300-50XH	SZ2-M0300-50CH	SZ2-M0300-50SC
		30.16	1-3/16"	1.187	SZ2-I1187-50XH	SZ2-I1187-50CH	SZ2-I1187-50SC
		31.00		1.220	SZ2-M0310-50XH	SZ2-M0310-50CH	SZ2-M0310-50SC
		31.75	1-1/4"	1.250	SZ2-I1250-50XH	SZ2-I1250-50CH	SZ2-I1250-50SC
		32.00		1.260	SZ2-M0320-50XH	SZ2-M0320-50CH	SZ2-M0320-50SC
		33.00		1.299	SZ2-M0330-50XH	SZ2-M0330-50CH	SZ2-M0330-50SC
		33.34	1-5/16"	1.313	SZ2-I1312-50XH	SZ2-I1312-50CH	SZ2-I1312-50SC
		34.00		1.339	SZ2-M0340-50XH	SZ2-M0340-50CH	SZ2-M0340-50SC
2	4.76 3/16"	34.13	1-11/32"	1.344	SZ2-I1343-50XH	SZ2-I1343-50CH	SZ2-I1343-50SC
		34.93	1-3/8"	1.375	SZ2-I1375-50XH	SZ2-I1375-50CH	SZ2-I1375-50SC
		35.00		1.378	SZ2-M0350-50XH	SZ2-M0350-50CH	SZ2-M0350-50SC

型号 Code No	接口 Connector	D1	L1	L2	L3	L	MT	G2	RCA		
SLH10-MMMT3-70N SLS10-MMMT3-70N SLH10-MMMT3-121 SLH10-MMMT3-172 SLH10-MMMT3-273 N	10	17.86~21.99 0.703"~0.866"	70 70 121 172 273	98 98 149 200 302	143 143 193 244 346	233 233 283 334 436	MT3	1/8"	SH-2540R	M3X7	T9X40
SLH15-MMMT3-70N SLS15-MMMT3-70N SLH15-MMMT3-121 SLH15-MMMT3-172 SLH15-MMMT3-273 N	15	22.00~24.60 0.866"~0.969"	70 70 121 172 273	98 98 149 200 302	143 143 193 244 346	233 233 283 334 436	MT3	1/8"	SH-2540R	M3X7	T9X40
SLH20-MMMT4-86N SLS20-MMMT3-86N SLH20-MMMT4-137 SLH20-MMMT4-187 SLH20-MMMT4-289 N	20	24.61~29.99 0.969"~1.181"	86 86 137 187 289	144 144 165 216 318	160 160 211 262 364	274 274 325 375 477	MT4	1/8"	SH-2540R	M4X10	T15X45
SLH25-MMMT4-86N SLS25-MMMT3-86N SLH25-MMMT4-137 SLH25-MMMT4-187 SLH25-MMMT4-289 N	25	30.00~35.50 1.181"~1.398"	86 86 137 187 289	144 144 165 216 318	168 168 218 269 371	281 274 332 383 484	MT4	1/4"	SH-3175R	M4X10	T15X45

注: SLH-螺旋槽 SLS-直槽

钻

铲钻

可换钻尖钻

可换钻尖钻

组合钻

组合钻

带定心口钻

带定心口钻

YMD大钻

YMD大钻

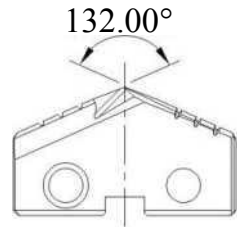
模块系钻

模块系钻

A 铲钻 Shovel drill

硬质合金刀片

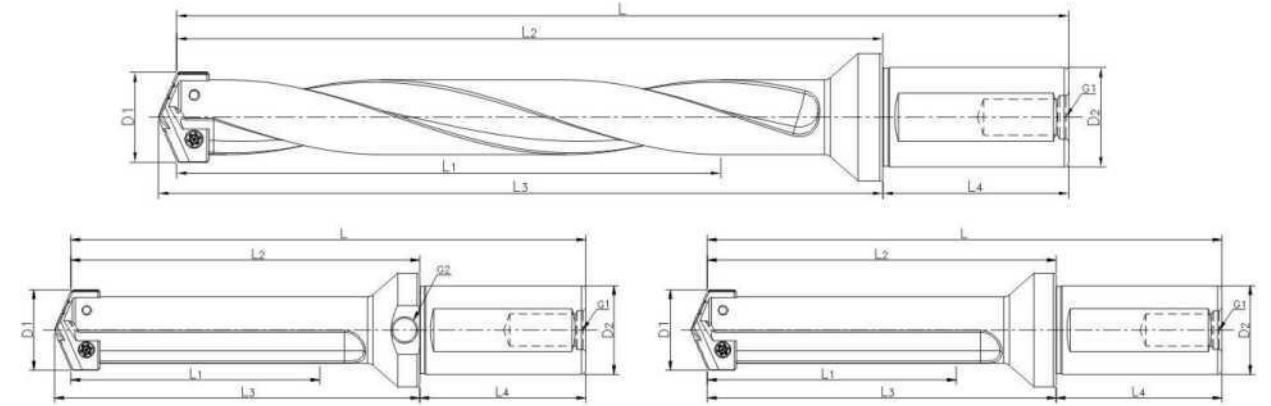
Carbide inseries



A 铲钻 Shovel drill

侧固式柄螺旋槽/直槽刀杆

Side fixed handle spiral groove / straight groove cutter bar



钻

铲钻

可换钻尖钻

组合钻

带定心钻

WMD大钻

模块系钻

接口 停度 Connector (孺誌)	直径 Diameter			应用 Application			
	mm	Frcationl Equivalent	inch	P	K	N	
Y	2.38 3/32"	9.50		0.374	SZY-M0095-50XH	SZY-M0095-50CH	SZY-M0095-50SC
		9.53	3/8"	0.375	SZY-I0375-50XH	SZY-I0375-50CH	SZY-I0375-50SC
		9.80		0.386	SZY-M0098-50XH	SZY-M0098-50CH	SZY-M0098-50SC
		10.00		0.394	SZY-M0100-50XH	SZY-M0100-50CH	SZY-M0100-50SC
		10.20		0.402	SZY-M0102-50XH	SZY-M0102-50CH	SZY-M0102-50SC
		10.50		0.413	SZY-M0105-50XH	SZY-M0105-50CH	SZY-M0105-50SC
		10.72	27/64"	0.422	SZY-I0421-50XH	SZY-I0421-50CH	SZY-I0421-50SC
		10.80		0.425	SZY-M0108-50XH	SZY-M0108-50CH	SZY-M0108-50SC
		11.00		0.433	SZY-M0110-50XH	SZY-M0110-50CH	SZY-M0110-50SC
		11.11	7/16"	0.437	SZY-I0437-50XH	SZY-I0437-50CH	SZY-I0437-50SC
Z	2.38 3/32"	11.50		0.453	SZZ-M0115-50XH	SZZ-M0115-50CH	SZZ-M0115-50SC
		11.51	29/64"	0.453	SZZ-I0453-50XH	SZZ-I0453-50CH	SZZ-I0453-50SC
		12.00		0.472	SZZ-M0120-50XH	SZZ-M0120-50CH	SZZ-M0120-50SC
		12.30	31/64"	0.484	SZZ-I0484-50XH	SZZ-I0484-50CH	SZZ-I0484-50SC
		12.50		0.492	SZZ-M0125-50XH	SZZ-M0125-50CH	SZZ-M0125-50SC
		12.70	1/2"	0.500	SZZ-I0500-50XH	SZZ-I0500-50CH	SZZ-I0500-50SC
0	3.18 1/8"	13.00		0.512	SZO-M0130-50XH	SZO-M0130-50CH	SZO-M0130-50SC
		13.50		0.531	SZO-M0135-50XH	SZO-M0135-50CH	SZO-M0135-50SC
		14.00		0.551	SZO-M0140-50XH	SZO-M0140-50CH	SZO-M0140-50SC
		14.29	9/16"	0.563	SZO-I0562-50XH	SZO-I0562-50CH	SZO-I0562-50SC
		14.50		0.571	SZO-M0145-50XH	SZO-M0145-50CH	SZO-M0145-50SC
		15.00		0.591	SZO-M0150-50XH	SZO-M0150-50CH	SZO-M0150-50SC
0	3.18 1/8"	15.50		0.610	SZO-M0155-50XH	SZO-M0155-50CH	SZO-M0155-50SC
		15.88	5/8"	0.625	SZO-I0625-50XH	SZO-I0625-50CH	SZO-I0625-50SC
		16.00		0.630	SZO-M0160-50XH	SZO-M0160-50CH	SZO-M0160-50SC
		16.50		0.650	SZO-M0165-50XH	SZO-M0165-50CH	SZO-M0165-50SC
		17.00		0.669	SZO-M0170-50XH	SZO-M0170-50CH	SZO-M0170-50SC
		17.46	11/16"	0.687	SZO-I0687-50XH	SZO-I0687-50CH	SZO-I0687-50SC
		17.50		0.689	SZO-M0175-50XH	SZO-M0175-50CH	SZO-M0175-50SC

型号 Code No	接口 Connector	DI	L1	L2	L3	L	D2	L4	G1	G2		
SLSY0-ML016-19N SLSY0-ML020-32N	Y0	9.50~11.49 0.374"~0.452"	19	48	50	96	16	48	1/16"	1/8"	M2X4	T7X35
SLHY0-ML020-60N SLHY0-ML020-111N			32	61	64	111	20	50	1/8"			
SLSY0-ML020-222N SLSY0-ML020-290N			60	90	92	140	20	50	1/8"			
			111	141	143	191	20	50	1/8"			
			222	252	254	302	20	50	1/8"			
			290	320	322	370	20	50	1/8"			
SLSZ0-ML016-19N SLSZ0-ML020-32N	Z0	11.50~12.97 0.453"~0.511"	19	48	50	96	16	48	1/16"	1/8"	M2X4.8	T7X35
SLHZ0-ML020-60N SLHZ0-ML020-111N			32	61	64	111	20	50	1/8"			
SLSZ0-ML020-222N SLSZ0-ML020-290N			60	90	92	140	20	50	1/8"			
			111	141	143	191	20	50	1/8"			
			222	252	254	302	20	50	1/8"			
			290	320	322	370	20	50	1/8"			
SLS00-ML020-22N SLS00-ML020-35N	00	12.98~15.49 0.511"~0.61"	22	48	50	98				1/8"	M2.5X5.8	T8X40
SLH00-ML020-64N SLH00-ML020-114N			35	64	66	114						
SLH00-ML020-178N SLS00-ML020-295N			64	92	95	142	20	50	1/8"			
SLS00-MLQ20-387N			114	143	146	193						
			178	206	209	256						
			295	324	327	374						
SLS05-ML020-22N SLS05-ML020-35N	05	15.50~17.85 0.61~0.703	22	48	50	98				1/8"	M2.5X7	T8X40
SLH05-ML020-64N SLH05-ML020-114N			35	64	66	114						
SLH05-ML020-178N SLS05-ML020-295N			64	92	95	142	20	50	1/8"			
SLS05-MLQ20-387N			114	143	146	193						
			178	206	209	256						
			295	324	327	374						

注: SLH-螺旋槽 SLS-直槽

可换钻尖钻

组合钻

带定心钻

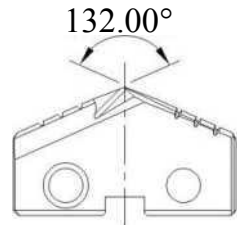
WMD大钻

模块系钻

A 铲钻 Shovel drill

硬质合金刀片

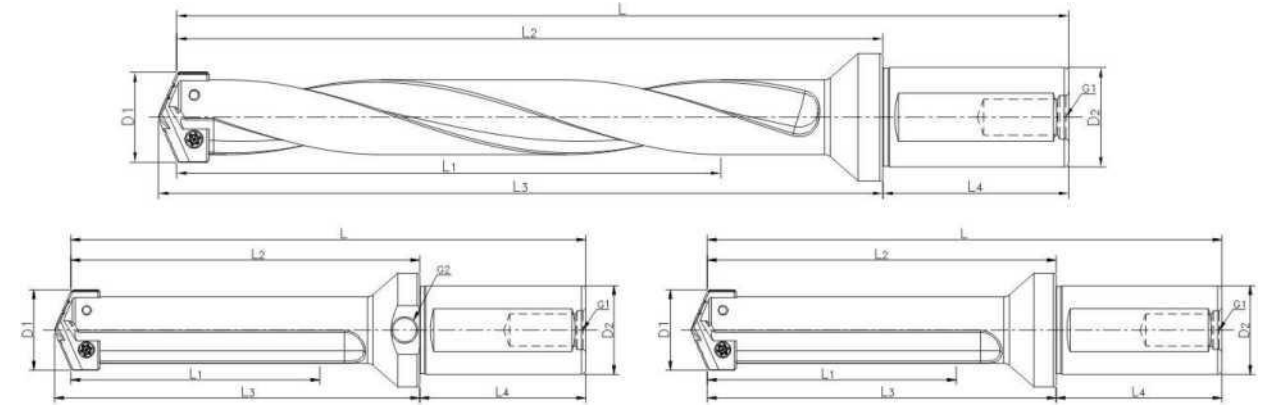
Carbide inseries



A 铲钻 Shovel drill

侧固式柄螺旋槽/直槽刀杆

Side fixed handle spiral groove / straight groove cutter bar



钻

铲钻

可换钻尖钻

组合钻

带定心钻

YMD 大钻

模块系

接口 停度 Connector (孺護)	直径 Diameter			应用 Application		
	mm	Frcationl Equivalent	inch	P	K	N
1 3.97 5/32"	18.00		0.709	SZ1-M0180-50XH	SZ1-M0180-50CH	SZ1-M0180-50SC
	18.50		0.728	SZ1-M0185-50XH	SZ1-M0185-50CH	SZ1-M0185-50SC
	19.00		0.748	SZ1-M0190-50XH	SZ1-M0190-50CH	SZ1-M0190-50SC
	19.05	3/4"	0.750	SZ1-I0750-50XH	SZ1-I0750-50CH	SZ1-I0750-50SC
	19.50		0.768	SZ1-M0195-50XH	SZ1-M0195-50CH	SZ1-M0195-50SC
	20.00		0.787	SZ1-M0200-50XH	SZ1-M0200-50CH	SZ1-M0200-50SC
	20.50		0.807	SZ1-M0205-50XH	SZ1-M0205-50CH	SZ1-M0205-50SC
	20.64	13/16"	0.813	SZ1-I0812-50XH	SZ1-I0812-50CH	SZ1-I0812-50SC
	21.00		0.827	SZ1-M0210-50XH	SZ1-M0210-50CH	SZ1-M0210-50SC
	21.50		0.846	SZ1-M0215-50XH	SZ1-M0215-50CH	SZ1-M0215-50SC
1 3.97 5/32"	22.00		0.866	SZ1-M0220-50XH	SZ1-M0220-50CH	SZ1-M0220-50SC
	22.23	7/8"	0.875	SZ1-I0875-50XH	SZ1-I0875-50CH	SZ1-I0875-50SC
	23.00		0.906	SZ1-M0230-50XH	SZ1-M0230-50CH	SZ1-M0230-50SC
	23.81	15/16"	0.937	SZ1-I0937-50XH	SZ1-I0937-50CH	SZ1-I0937-50SC
	24.00		0.945	SZ1-M0240-50XH	SZ1-M0240-50CH	SZ1-M0240-50SC
2 4.76 3/16"	25.00		0.984	SZ2-M0250-50XH	SZ2-M0250-50CH	SZ2-M0250-50SC
	25.40	1"	1.000	SZ2-I1000-50XH	SZ2-I1000-50CH	SZ2-I1000-50SC
	26.00		1.024	SZ2-M0260-50XH	SZ2-M0260-50CH	SZ2-M0260-50SC
	26.99	1-1/16"	1.063	SZ2-I1062-50XH	SZ2-I1062-50CH	SZ2-I1062-50SC
	27.00		1.063	SZ2-M0270-10XH	SZ2-M0270-10CH	SZ2-M0270-10SC
	28.00		1.102	SZ2-M0280-50XH	SZ2-M0280-50CH	SZ2-M0280-50SC
	28.58	1-1/8"	1.125	SZ2-I1125-50XH	SZ2-I1125-50CH	SZ2-I1125-50SC
	29.00		1.142	SZ2-M0290-50XH	SZ2-M0290-50CH	SZ2-M0290-50SC
2 4.76 3/16"	30.00		1.181	SZ2-M0300-50XH	SZ2-M0300-50CH	SZ2-M0300-50SC
	30.16	1-3/16"	1.187	SZ2-I1187-50XH	SZ2-I1187-50CH	SZ2-I1187-50SC
	31.00		1.220	SZ2-M0310-50XH	SZ2-M0310-50CH	SZ2-M0310-50SC
	31.75	1-1/4"	1.250	SZ2-I1250-50XH	SZ2-I1250-50CH	SZ2-I1250-50SC
	32.00		1.260	SZ2-M0320-50XH	SZ2-M0320-50CH	SZ2-M0320-50SC
	33.00		1.299	SZ2-M0330-50XH	SZ2-M0330-50CH	SZ2-M0330-50SC
	33.34	1-5/16"	1.313	SZ2-I1312-50XH	SZ2-I1312-50CH	SZ2-I1312-50SC
	34.00		1.339	SZ2-M0340-50XH	SZ2-M0340-50CH	SZ2-M0340-50SC
	34.13	1-11/32"	1.344	SZ2-I1343-50XH	SZ2-I1343-50CH	SZ2-I1343-50SC
	34.93	1-3/8"	1.375	SZ2-I1375-50XH	SZ2-I1375-50CH	SZ2-I1375-50SC
	35.00		1.378	SZ2-M0350-50XH	SZ2-M0350-50CH	SZ2-M0350-50SC

型号 Code No	接口 Connector	DI	L1	L2	L3	L	D2	L4	G1	G2										
SLS10-ML025-48N	10	17.86~21.99 0.703"~0.866"	48	76	79	132	25	56	1/8"	1/8"	M3X7	T9X40								
SLS10-ML025-67N			67	107	111	163														
SLH10-ML025-118N			118	155	158	211														
SLH10-ML025-168N			168	206	209	262														
SLH10-ML025-270N			270	307	311	363														
SLS10-ML025-457N			457	495	498	551														
SLS10-ML025-569N			569	603	606	659														
SLS15-ML025-48N			15	22.00~24.60 0.866"~0.969"	48	76							79	132	25	56	1/8"	1/8"	M3X7	T9X40
SLS15-ML025-67N					67	107							111	163						
SLH15-ML025-118N					118	155							158	211						
SLH15-ML025-168N	168	206			209	262														
SLH15-ML025-270N	270	307			311	363														
SLS15-ML025-457N	457	495			498	551														
SLS15-ML025-569N	569	603	606	659																
SLS20-ML032-57N	20	24.61~29.99 0.969"~1.181"	57	89	92	149	32	60	1/4"	1/8"	M4X10	T15X45								
SLS20-ML032-86N			86	129	132	189														
SLH20-ML032-137N			137	179	183	239														
SLH20-ML032-187N			187	230	234	290														
SLH20-ML032-289N			289	332	335	392														
SLS20-ML032-511N			511	554	558	618														
SLS20-ML032-492N			692	735	739	795														
SLS25-ML032-57N	25	30.00~35.50 1.181"~1.398"	57	89	92	149	32	60	1/4"	1/8"	M4X10	T15X45								
SLS25-ML032-86N			86	129	132	189														
SLH25-ML032-137N			137	179	183	239														
SLH25-ML032-187N			187	230	234	290														
SLH25-ML032-289N			289	332	335	392														
SLS25-ML032-511N			511	554	558	618														
SLS25-ML032-492N			692	735	739	795														

注: SLH-螺旋槽 SLS-直槽

可换钻尖钻

组合钻

带定心钻

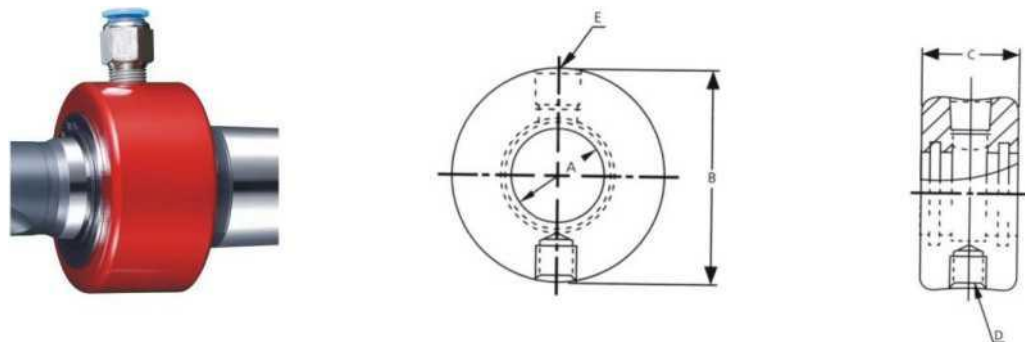
YMD 大钻

模块系

Accessories

供油环

Rotary Coolant Adapter



型号 Code No	内径(A) Inside diameter	外径(B) Outside diameter	厚度(C) Thickness	驱动杆螺纹(D) Driving rod thread	冷却嘴螺纹(E) Coding nozzle thread
SH-1905R	19.05	44.45	22.23	M8X1.25	1/8"
SH-2540R	25.40	53.97	28.57	M8X1.25	1/8"
SH-3175R	31.75	63.50	34.92	M10X1.5	1/4"
SH-4445R	44.45	76.20	34.92	M10X1.5	1/4"
SH-5715R	57.15	95.27	44.45	M12X1.75	1/2"

驱动杆

Drive rod

型号 Code No	螺纹 Thread	总长 Total length	匹配的供油环 Matched oil ring
SG-M8-250	M8X1.25	250	SH-1905R
SG-M8-250	M8X1.25	250	SH-2540R
SG-M10-250	M10X1.5	250	SH-3175R
SG-M10-250	M10X1.5	250	SH-4445R
SG-M12-250	M12X1.75		SH-5715R

> 注意事项

Precautions

应用要点、注意事项

Essentials of use and precautions

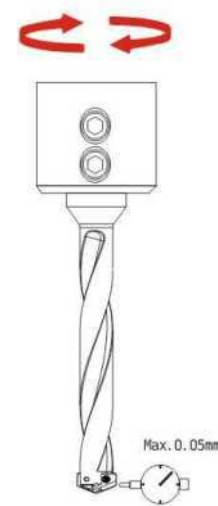
安装 Assembly

应用场合的稳定性对于获得最佳的刀具寿命与孔的精度是重要的。检查机床主轴、夹具与工件的装夹情况，确保最大的稳定性与刚性。不稳定的工况会引起钻头的折断。

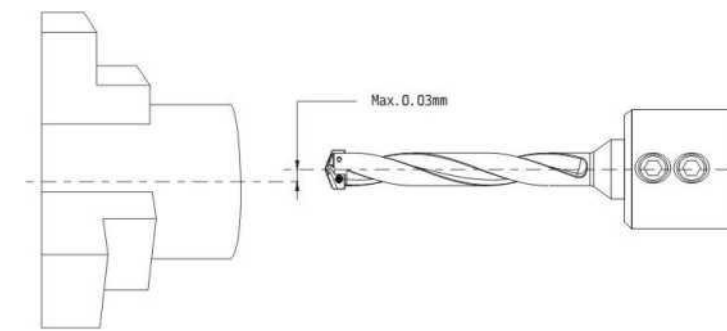
The stability of the applications is essential for optimal tool life and hole accuracy. Guarantee the maximum stability and rigidity by checking the holding of the machine tool spindle, fixtures and workpiece. Unstable operating conditions will cause fracture of drills bits.

最大跳动和同心度 Max.Runout and Misalignment

跳动
Runout

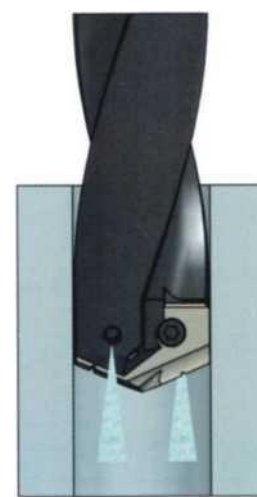


同心度
Misalignment



冷却压力 Cooling Pressure

内部冷却
Inner cooling



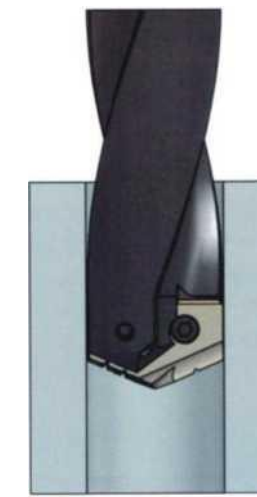
5-6D:5bar V
7-8D:10bar V
8-12D:15bar J
11-14D:20bar J

外部冷却
Outer cooling



3-4D:5bar ✓
7-8D:10bar X
8-12D:15bar X
11-14D:20bar X

准干式切削
Quasi-dry cutting



3-4D: MQL ✓
(仅硬质合金/Only carbide)

> 注意事项 Precautions

应用要点、注意事项 Essentials of use and precautions

钻头更换判断标准 Standard for drill bit replacement

磨损极限 Wear limit

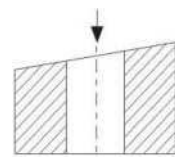


硬质合金刀片: VB=0.3mm
Carbide insert:

粉末高速钢刀片: VB=0.4mm
HSS-PM insert:

应用 Application

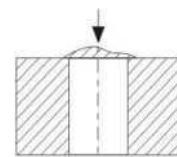
工况
Operating Condition



起始面为斜面
The entry surface is slanted
斜面进给率
Slope Feed Rate
<3°测

说明
Instructions

工况
Operating Condition



出孔为斜面
The outlet is slanted
斜面 i 推合率
Slope Feed Rate
<3° 50%

说明
Instructions

工件表面不平整
The entry surface is welded
加工前先忽平
Level it through spot facing before machining

钻叠贼
Stacked plates
原则上可以
Allowed in principle
需要良好的工件压紧
The workpiece shall be properly clamped
板之间不能有间隙
There must be no gaps between the plates

起始面为弧面
The entry surface is arc 在中心处钻孔
并降低进给是可以的 Drilling at the center at reduced feed rate is allowed
如起始点不在弧面中心需要将面
惚平 Spot facing is required if the entry point is not at the center of the arc

说明
Instructions

有空
Cavities 不
可以 Not
allowed

钻贯穿孔
Through hole
不可以 Not
allowed

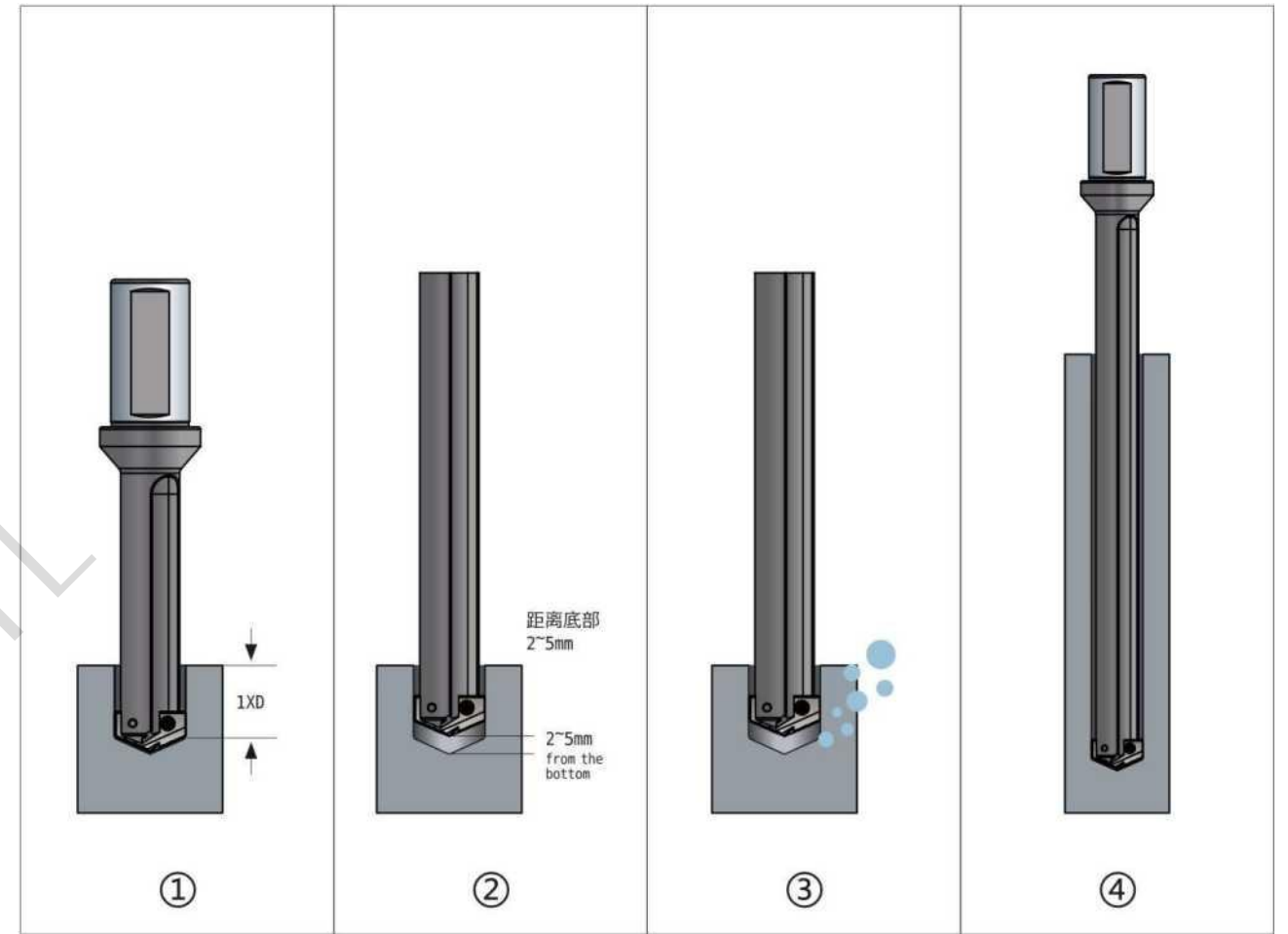
说明
Instructions

起始面有台阶
Step on the entry surface
不可以 (钻尖起始点必须为平
面) Not allowed (the entry point must be
on a horizontal plane)

说明
Instructions

> 注意事项 Precautions

长径系列钻削工艺 Long diameter series drilling process



①短钻头钻引导孔至 1D~1.5D

Drill a pilot hole to 1D to 1.5D with a short drill bit

②低转速和低进给进入引导孔

Enter the pilot hole at a low speed and low feed rate

③让冷却液停留 2~3 秒

Keep the coolant for 2 to 3s

④按推荐的参数连续加工出口时降低速度和进给

Carry out continuous drilling according to the recommended parameters. Reduce the speed and feed rate at the outlet

铲钻刀杆非标定制卡

Special holder custom made

询问 Inquiry 订购 Order

公司 Company _____ 客户编号 Customer number _____
联系人 Contact Person _____ 电话 Tel _____
手机 M. B _____ 传真 FaX _____
地址 Add _____ 电子邮件 E-Mail _____
订货号 Order number _____ 购买数量 Order Quantity _____
交货期 Delivery _____

加工条件和刀具信息

孔 HOLE

通孔 THROUGH HOLE 盲孔 BLIND HOLIE
要求孔径: _____mm 钻孔深度: _____mm

APERTURE DEPTH

加工方法 PROCESSING METHODS

湿式 WET 干式 DRY
冷却方式 COOLING

外冷 EXTERNAL COOLING 内冷 COOLED

硬度 HARDNESS (HRC, HB)

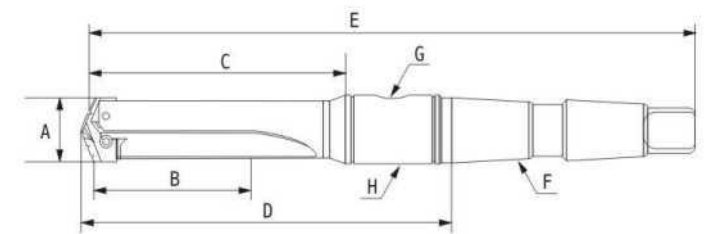
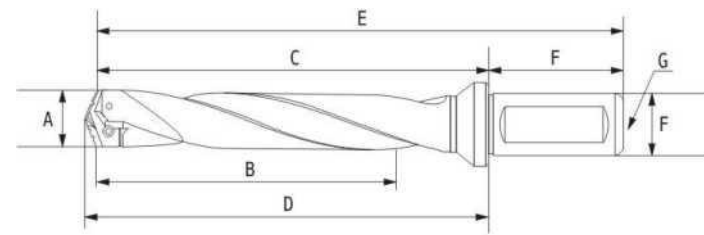
抗拉强度 TENSILE STRENGTH (N/mm2)

使用机床 MACHINE

沟槽形式 FUTEMODALITY:

直槽 STRAIGHT

螺旋槽 HELICAL



A: _____ B: _____ C: _____ D: _____ E: _____ F: _____ G: _____ H: _____

提示:如未陈述以上内容,我们将米用 CHTOOLS 标准。

TIP:IF NOT STATED ABOVE,AND WE WILL USE THE STANDARD CHTOOLS

签名 SIGNATURE:

日期 DATE:

铲钻刀杆非标定制卡

Special holder custom made

询问 Inquiry 订购 Order

公司 Company _____ 客户编号 Customer number _____
联系人 Contact Person _____ 电话 Tel _____
手机 M. B _____ 传真 FaX _____
地址 Add _____ 电子邮件 E-Mail _____
订货号 Order number _____ 购买数量 Order Quantity _____
交货期 Delivery _____

加工条件和刀具信息

JLHOLE

通孔 THROUGH HOLE 盲孔 BLIND HOLIE
要求孔径: _____mm 钻孔深度: _____mm

APERTURE DEPTH

加工方法 PROCESSING METHODS

湿式 WET 干式 DRY

外冷 EXTERNAL COOLING 内冷 COOLED

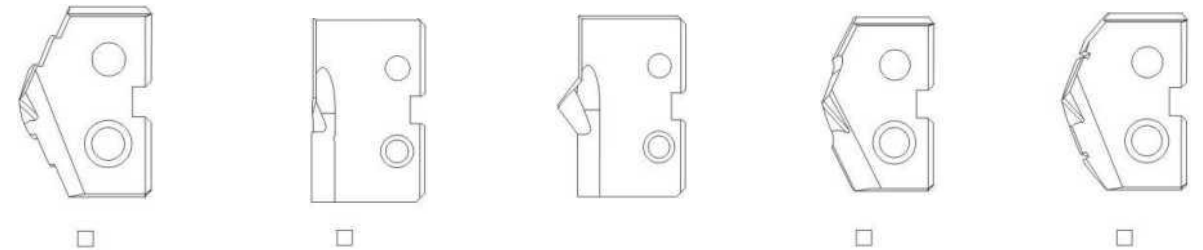
硬度 HARDNESS (HRC, HB)

抗拉强度 TENSILE STRENGTH (N/mm2)

使用机床 MACHINE

刀片涂层 BLADE COATINE:TiCN , TiN , TiAlN ,无口, - _____

刀片类型 INSERT TYPE



其他类型(客户自定义) OTHER TYPE (CUSTOMIZABLE)

提示:如未陈述以上内容,我们将米用 CHTOOLS 标准。

TIP:IF NOT STATED ABOVE,AND WE WILL USE THE

STANDARD CHTOOLS 签

日期 DATE:

名 SIGNATURE:

铲钻

DI 换钻尖钻

组合钻

带定心钻

VMD 大钻

模块系

铲钻

可换钻尖钻

组合钻

带定心钻

VMD 大钻

模块系

可换钻关钻头

Adjustable point drill bit

可换式钻头的特征和优势

Characteristics and advantages of interchangeable bit

介绍 Introduction

- ADJ 可换钻尖式钻头，是川山甲新推出的一款高性能、可变速钻头系统，简称 ADJ 钻头。该钻头刀片与钻杆灵活搭配，满足不同的直径和深度需求。一杆多用，精度可控，大大减少刀具的投入和库存。
- 刀具直径范围①10.00~②30.99mm, 钻孔深度分为 3D/5D/7D/10D/12D; 刀片材质有硬质合金和高性能粉末高速钢两种，按照被加工的材料不同设计有 4 种钻尖：通用钻尖、不锈钢用钻尖、铸铁用钻尖、有色金属用钻尖。
- 最佳的材料、顶级的涂层工艺和精密磨削配合，实现性能的最佳效果。

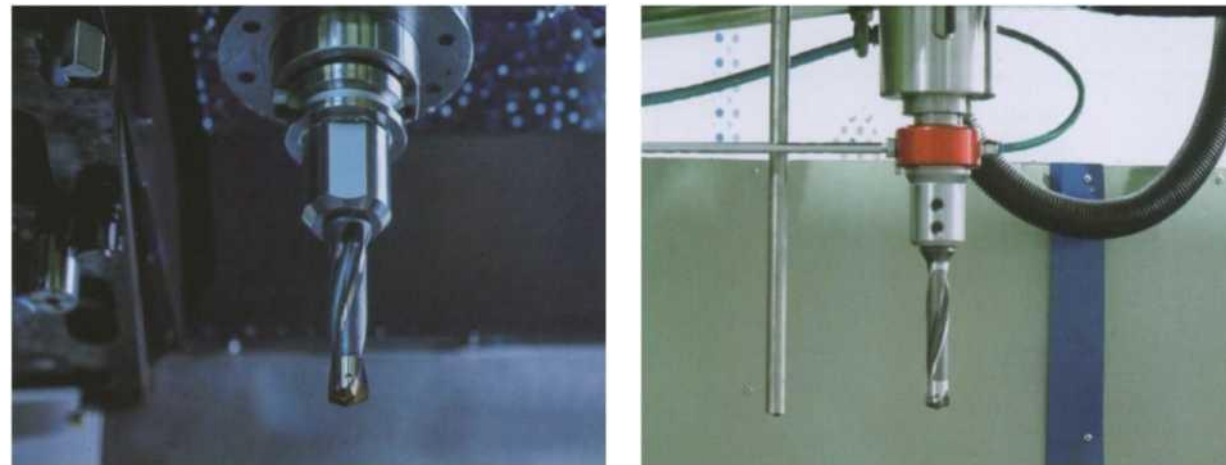
ADJ replaceable point bit is a high-performance, variable diameter bit system newly launched by Chuanshanjia, referred to as ADJ bit. The bit blade fits flexibly with the drill pipe to meet different diameters and depths. Multi-purpose, controllable precision, greatly reduce the input and inventory of cutting tools.

- Tool diameter range of 010.00-030.99mm, drilling depth is divided into 3D/5D/7D/10D/12D; The blade material has two kinds of hard alloy and high performance powder high speed steel, according to the different design of processing materials have 4 kinds of drill tip: universal drill tip, stainless steel drill tip, cast iron drill tip, non-ferrous metal drill tip.
- Best materials, top coating technology and precision grinding to achieve the best performance.

优势 Advantages

- 稳定和方便操作的可换钻尖结构，可以在线操作。
 - 锁紧螺丝和 V 型组合定位，把钻尖和钻杆保持受力一致，稳定可靠。
 - 高强度的钻尖结构，大进给钻削也同样可靠。
 - 硬质合金和高性能粉末高速钢材质钻尖，可满足高性能 CNC 钻削和普通机床钻削。
- Stable and easy to operate replaceable drill tip structure that can be operated online.
- Lock screw and V-type combination positioning, the drill tip and drill pipe keep the same force, stable and reliable.
 - High strength drill tip structure, large feed drilling is also reliable.
 - Carbide and high performance powder high speed steel drill point can meet high performance CNC drilling and ordinary machine drilling.

应用领域 Application field



铲
钻

可换
钻头

组
合
钻

带
定
心
钻

VMD
大
钻

硬质合金刀片

——刀片硬度高，耐磨性好，应用于数控钻床、数控车床、加工中心的高速钻削

Given their high hardness and wear resistance, the inserts are used for high speed drilling on CNC drills, CNC lathes and machining centers.

粉末高速钢刀片

——刀片抗崩刃性更好应用于各类摇臂钻床、立式钻床、普通车床、数控机床的中低速钻削

With high chipping resistance, the inserts are used for low-to-medium speed drilling on various radial drilling machines, vertical drilling machines, common lathes and CNC machine tools.

可换钻尖钻头

1 Adjustable point drill bit

CUTOUT I L

>可换钻尖钻头 Adjustable point drill bit

型号编码规则

Model coding rule

ADJ 钻头刀片 ADJ bit blade

050

大类 Big type	材质 Insert Material	钻尖类型 Drill point	刀片直径 Insert Diameter
ADJ 系列可换钻尖式钻头	60-硬质合金 30-粉末高速钢	PA-通用钻尖 MA-不锈钢用钻尖 KA-铸铁用钻尖 NA-有色金属用钻尖	1050-10.5mm

Carbide micro grain HPC

硬质合金刀片 Carbide inseries	ISO				
	P	M	K	N	S
PA	•	◦	◦		
MA	◦	•			◦
KA			•		
NA				•	

ADJ 钻头刀杆 ADJ drill shank

ADJ1050/1099-3D-L16

大类 Big type	直径 The diameter of	最大加工孔深 Maximum machining hole depth	刀柄直径 The handle diameter
ADJ 系列可换钻尖式钻头	1050/1099 表示 最小安装刀片 ei0.50ran, 最大安装刀片①10.99mm	3D-3XD1 5D-5XD1 7D-7XD1 10D-10XD1 12D-12XD1	L16-16mm L20-20mm L25-25mm L32-32mm L40-40mm

ISO 3D 5D 7D 10D 12D

可换钻尖钻头 Adjustable point drill bit



ISO 3D 5D 7D 10D 12D

刀片型号标准库存直径 The blade model S^dard^ck	刀杆型号 Tool rod type	刀片直径范围 Blade diameter range	倍径 Times the	尺寸 Size					C 螺钉 Clamp screw	扳手 Wrench
				L1	L2	L3	D2	D3		
ADJ60-PA1000	10.0	10.00-10.49	3D	101	37	48	16	24	M2.0*10	6IP
			5D	131	67	48	16	24		
			7D	141	77	48	16	24		
			10D	171	107	48	16	24		
ADJ60-PA1050	10.5	10.00-10.99	3D	101	37	48	16	24		
			5D	131	67	48	16	24		
			7D	141	77	48	16	24		
			10D	171	107	48	16	24		
ADJ60-PA1100	11.0	11.00-11.49	3D	104	40	48	16	24		
			5D	137	73	48	16	24		
			7D	148	84	48	16	24		
			10D	181	117	48	16	24		
ADJ60-PA1150	11.5	11.00-11.99	3D	104	40	48	16	24		
			5D	137	73	48	16	24		
			7D	148	84	48	16	24		
			10D	181	117	48	16	24		
ADJ60-PA1200	12.0	12.00-12.49	3D	108	43	48	16	24		
			5D	144	79	48	16	24		
			7D	156	91	48	16	24		
			10D	192	127	48	16	24		
ADJ60-PA1250	12.5	12.00-12.99	3D	108	43	48	16	24		
			5D	144	79	48	16	24		
			7D	156	91	48	16	24		
			10D	192	127	48	16	24		
ADJ60-PA1300	13.0	13.00-13.49	3D	111	46	48	16	24		
			5D	150	85	48	16	24		
			7D	163	98	48	16	24		
			10D	202	137	48	16	24		
ADJ60-PA1350	13.5	13.00-13.99	3D	111	46	48	16	24		
			5D	150	85	48	16	24		
			7D	163	98	48	16	24		
			10D	202	137	48	16	24		

可换钻尖钻头 | Adjustable point drill bit

铲钻

铲钻

可换钻尖钻头

可换钻尖钻头

组合钻

组合钻

带定心孔钻

带定心孔钻

大钻

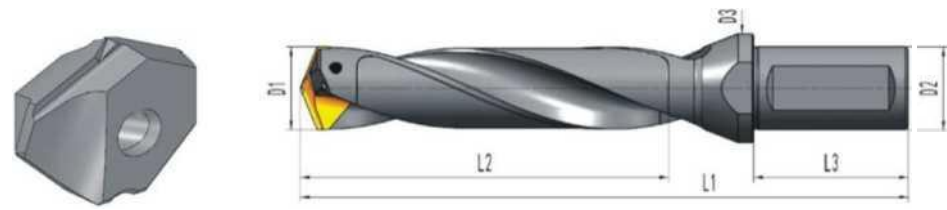
大钻

模块系

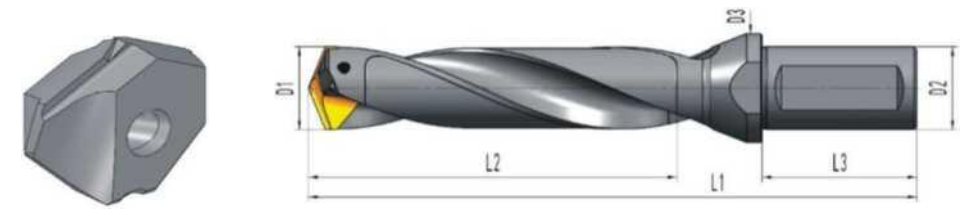
模块系

可换钻尖钻头 | Adjustable point drill bit

> 可换钻尖钻头 Adjustable point drill bit



可换钻尖钻头 Adjustable point drill bit



1 1HH .7D | |10D | | 12

ISO 1

刀片型号标准库存直径 The blade model S^dard^ck		刀杆型号 ibol rod type	刀片直径范围倍径 Blade diameter range 幣籠器	尺寸 Size					螺钉 Clamp screw	扳手 Wrench	
LI	L2	L3	D2	D3							
ADJ60-PA1400	14.0	ADJ1400/1449-3D-L20	14.00-14.49	3D	120	49	50	20	28	M3.0*14	SIP
		ADJ1400/1449-5D-L20		5D	162	91	50	20	28		
		ADJ1400/1449-7D-L20		7D	176	105	50	20	28		
		ADJ1400/1449-10D-L20		10D	218	147	50	20	28		
		ADJ1400/1449-12D-L20		12D	246	175	50	20	28		
ADJ60-PA1450	14.5	ADJ1450/1499-3D-L20	14.00-14.99	3D	120	49	50	20	28		
		ADJ1450/1499-5D-L20		5D	162	91	50	20	28		
		ADJ1450/1499-7D-L20		7D	176	105	50	20	28		
		ADJ1450/1499-10D-L20		10D	218	147	50	20	28		
		ADJ1450/1499-12D-L20		12D	246	175	50	20	28		
ADJ60-PA1500	15.0	ADJ1500/1549-3D-L20	15.00-15.49	3D	123	52	50	20	28		
		ADJ1500/1549-5D-L20		5D	168	97	50	20	28		
		ADJ1500/1549-7D-L20		7D	183	112	50	20	28		
		ADJ1500/1549-10D-L20		10D	228	157	50	20	28		
		ADJ1500/1549-12D-L20		12D	258	187	50	20	28		
ADJ60-PA1550	15.5	ADJ1550/1599-3D-L20	15.00-15.99	3D	123	52	50	20	28		
		ADJ1550/1599-5D-L20		5D	168	97	50	20	28		
		ADJ1550/1599-7D-L20		7D	183	112	50	20	28		
		ADJ1550/1599-10D-L20		10D	228	157	50	20	28		
		ADJ1550/1599-12D-L20		12D	258	187	50	20	28		
ADJ60-PA1600	16.0	ADJ1600/1649-3D-L20	16.00-16.49	3D	127	56	50	20	28		
		ADJ1600/1649-5D-L20		5D	175	104	50	20	28		
		ADJ1600/1649-7D-L20		7D	191	120	50	20	28		
		ADJ1600/1649-10D-L20		10D	239	168	50	20	28		
		ADJ1600/1649-12D-L20		12D	271	200	50	20	28		
ADJ60-PA1650	16.5	ADJ1650/1699-3D-L20	16.00-16.99	3D	127	56	50	20	28		
		ADJ1650/1699-5D-L20		5D	175	104	50	20	28		
		ADJ1650/1699-7D-L20		7D	191	120	50	20	28		
		ADJ1650/1699-10D-L20		10D	239	168	50	20	28		
		ADJ1650/1699-12D-L20		12D	271	200	50	20	28		
ADJ60-PA1700	17.0	ADJ1700/1749-3D-L20	17.00-17.49	3D	131	60	50	20	28		
		ADJ1700/1749-5D-L20		5D	182	111	50	20	28		
		ADJ1700/1749-7D-L20		7D	199	128	50	20	28		
		ADJ1700/1749-10D-L20		10D	250	179	50	20	28		
		ADJ1700/1749-12D-L20		12D	284	213	50	20	28		
ADJ60-PA1750	17.5	ADJ1750/1799-3D-L20	17.00-17.99	3D	131	60	50	20	28		
		ADJ1750/1799-5D-L20		5D	182	111	50	20	28		
		ADJ1750/1799-7D-L20		7D	199	128	50	20	28		
		ADJ1750/1799-10D-L20		10D	250	179	50	20	28		
		ADJ1750/1799-12D-L20		12D	284	213	50	20	28		

刀片型号标准库存直径 The blade model S^dard^ck		刀杆型号 Tool rod type	刀片直径范围倍径 Blade diameter range Times^e	尺寸 Size					螺钉 Clamp screw	扳手 Wrench	
LI	L2	L3	D2	D3							
ADJ60-PA1800	18.0	ADJ1800/1849-3D-L20	18.00-18.49	3D	136	63	50	20	28	M4.0*18	SIP
		ADJ1800/1849-5D-L20		5D	190	117	50	20	28		
		ADJ1800/1849-7D-L20		7D	208	135	50	20	28		
		ADJ1800/1849-10D-L20		10D	262	189	50	20	28		
		ADJ1800/1849-12D-L20		12D	298	225	50	20	28		
ADJ60-PA1850	18.5	ADJ1850/1899-3D-L20	18.00-18.99	3D	136	63	50	20	28		
		ADJ1850/1899-5D-L20		5D	190	117	50	20	28		
		ADJ1850/1899-7D-L20		7D	208	135	50	20	28		
		ADJ1850/1899-10D-L20		10D	262	189	50	20	28		
		ADJ1850/1899-12D-L20		12D	298	225	50	20	28		
ADJ60-PA1900	19.0	ADJ1900/1949-3D-L20	19.00-19.49	3D	140	67	50	20	28		
		ADJ1900/1949-5D-L20		5D	197	124	50	20	28		
		ADJ1900/1949-7D-L20		7D	216	143	50	20	28		
		ADJ1900/1949-10D-L20		10D	273	200	50	20	28		
		ADJ1900/1949-12D-L20		12D	311	238	50	20	28		
ADJ60-PA1950	19.5	ADJ1950/1999-3D-L20	19.00-19.99	3D	140	67	50	20	28		
		ADJ1950/1999-5D-L20		5D	197	124	50	20	28		
		ADJ1950/1999-7D-L20		7D	216	143	50	20	28		
		ADJ1950/1999-10D-L20		10D	273	200	50	20	28		
		ADJ1950/1999-12D-L20		12D	311	238	50	20	28		
ADJ60-PA2000	20.0	ADJ2000/2099-3D-L25	20.00-20.49	3D	154	72	56	25	35		
		ADJ2000/2099-5D-L25		5D	214	132	56	25	35		
		ADJ2000/2099-7D-L25		7D	234	152	56	25	35		
		ADJ2000/2099-10D-L25		10D	294	212	56	25	35		
		ADJ2000/2099-12D-L25		12D	334	252	56	25	35		
ADJ60-PA2050	20.5	ADJ2000/2099-3D-L25	20.00-20.99	3D	157	75	56	25	35		
		ADJ2000/2099-5D-L25		5D	220	138	56	25	35		
		ADJ2000/2099-7D-L25		7D	241	159	56	25	35		
		ADJ2000/2099-10D-L25		10D	304	222	56	25	35		
		ADJ2000/2099-12D-L25		12D	346	264	56	25	35		
ADJ60-PA2100	21.0	ADJ2100/2199-3D-L25	21.00-21.49	3D	157	75	56	25	35		
		ADJ2100/2199-5D-L25		5D	220	138	56	25	35		
		ADJ2100/2199-7D-L25		7D	241	159	56	25	35		
		ADJ2100/2199-10D-L25		10D	304	222	56	25	35		
		ADJ2100/2199-12D-L25		12D	346	264	56	25	35		
ADJ60-PA2150	21.5	ADJ2100/2199-3D-L25	21.00-21.99	3D	157	75	56	25	35		
		ADJ2100/2199-5D-L25		5D	220	138	56	25	35		
		ADJ2100/2199-7D-L25		7D	241	159	56	25	35		
		ADJ2100/2199-10D-L25		10D	304	222	56	25	35		
		ADJ2100/2199-12D-L25		12D	346	264	56	25	35		

铲钻

可换钻尖钻头

组合钻

带定心U钻

VMD大钻

模块系统

铲钻

可换钻尖钻头

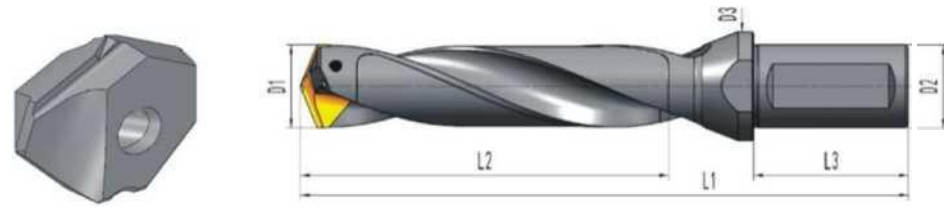
组合钻

带定心U钻

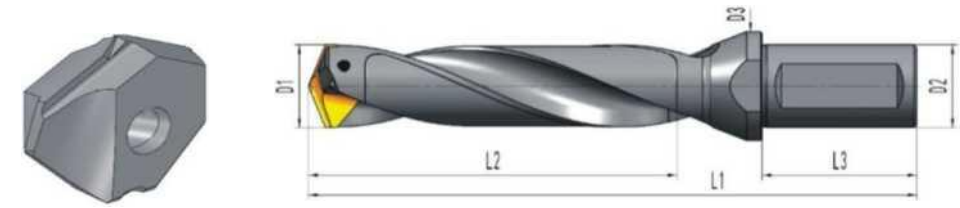
VMD大钻

模块系统

>可换钻尖钻头 Adjustable point drill bit



可换钻尖钻头 Adjustable point drill bit



铲钻

可换钻尖钻头

组合钻

带定心J1钻

VMD大钻

模块系统

刀片型号标准库存直径 The blade model S^dard^ck		刀杆型号 ibol rod type		刀片直径范围倍径 Blade diameter range 幣籠器		尺寸 Size					螺钉 Clamp screw	扳手 Wrench
LI	L2	L3	D2	D3								
ADJ60-PA2200	22.0	ADJ2200/2299-3D-L25	22.00-22.49	3D	161	79	56	25	35	M4.0*22		15IP
				5D	227	145	56	25	35			
				7D	249	167	56	25	35			
				10D	315	233	56	25	35			
				12D	359	277	56	25	35			
ADJ60-PA2250	22.5	ADJ2200/2299-3D-L25	22.00-22.99	3D	161	79	56	25	35	M4.0*22		15IP
				5D	227	145	56	25	35			
				7D	249	167	56	25	35			
				10D	315	233	56	25	35			
				12D	359	277	56	25	35			
ADJ60-PA2300	23.0	ADJ2300/2399-3D-L25	23.00-23.49	3D	164	82	56	25	35	M4.0*22		15IP
				5D	233	151	56	25	35			
				7D	256	174	56	25	35			
				10D	325	243	56	25	35			
				12D	371	289	56	25	35			
ADJ60-PA2350	23.5	ADJ2300/2399-3D-L25	23.00-23.99	3D	164	82	56	25	35	M4.0*22		15IP
				5D	233	151	56	25	35			
				7D	256	174	56	25	35			
				10D	325	243	56	25	35			
				12D	371	289	56	25	35			
ADJ60-PA2400	24.0	ADJ2400/2499-3D-L25	24.00-24.49	3D	172	86	56	25	35	M4.0*22		15IP
				5D	244	158	56	25	35			
				7D	268	182	56	25	35			
				10D	340	254	56	25	35			
				12D	388	302	56	25	35			
ADJ60-PA2450	24.5	ADJ2400/2499-3D-L25	24.00-24.99	3D	172	86	56	25	35	M4.0*22		15IP
				5D	244	158	56	25	35			
				7D	268	182	56	25	35			
				10D	340	254	56	25	35			
				12D	388	302	56	25	35			
ADJ60-PA2500	25.0	ADJ2500/2599-3D-L32	25.00-25.49	3D	182	89	60	32	42	M5.0*24		20IP
				5D	257	164	60	32	42			
				7D	282	189	60	32	42			
				10D	357	264	60	32	42			
				12D	407	314	60	32	42			
ADJ60-PA2550	25.5	ADJ2500/2599-3D-L32	25.00-25.99	3D	182	89	60	32	42	M5.0*24		20IP
				5D	257	164	60	32	42			
				7D	282	189	60	32	42			
				10D	357	264	60	32	42			
				12D	407	314	60	32	42			

铲钻

可换钻尖钻头

组合钻

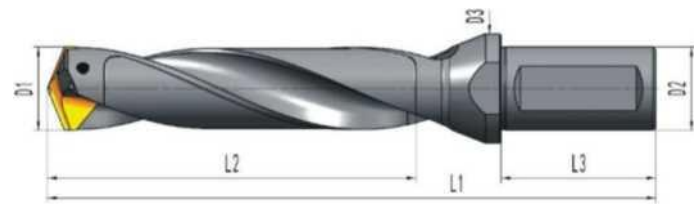
带定心J1钻

VMD大钻

模块系统

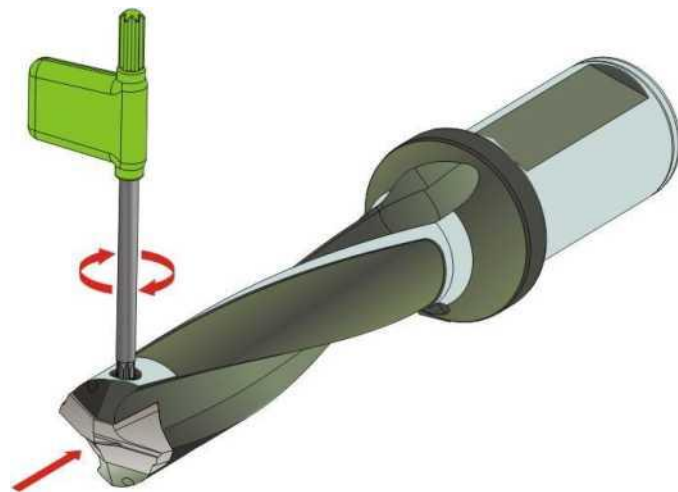
刀片型号标准库存直径 The blade model S^dard^ck		刀杆型号 Tool rod type		刀片直径范围倍径 Blade diameter range Times'e		尺寸 Size					螺钉 Clamp screw	扳手 Wrench
LI	L2	L3	D2	D3								
ADJ60-PA2600	26.0	ADJ2600/2699-3D-L32	26.00-26.49	3D	185	92	60	32	42	M5.0*26		20IP
				5D	263	170	60	32	42			
				7D	289	196	60	32	42			
				10D	367	274	60	32	42			
				12D	419	326	60	32	42			
ADJ60-PA2650	26.5	ADJ2600/2699-3D-L32	26.00-26.99	3D	185	92	60	32	42	M5.0*26		20IP
				5D	263	170	60	32	42			
				7D	289	196	60	32	42			
				10D	367	274	60	32	42			
				12D	419	326	60	32	42			
ADJ60-PA2700	27.0	ADJ2700/2799-3D-L32	27.00-27.49	3D	189	96	60	32	42	M5.0*26		20IP
				5D	270	177	60	32	42			
				7D	297	204	60	32	42			
				10D	378	285	60	32	42			
				12D	432	339	60	32	42			
ADJ60-PA2750	27.5	ADJ2700/2799-3D-L32	27.00-27.99	3D	189	96	60	32	42	M5.0*26		20IP
				5D	270	177	60	32	42			
				7D	297	204	60	32	42			
				10D	378	285	60	32	42			
				12D	432	339	60	32	42			
ADJ60-PA2800	28.0	ADJ2800/2899-3D-L32	28.00-28.49	3D	192	99	60	32	42	M5.0*28		20IP
				5D	276	183	60	32	42			
				7D	304	211	60	32	42			
				10D	388	295	60	32	42			
				12D	444	351	60	32	42			
ADJ60-PA2850	28.5	ADJ2800/2899-3D-L32	28.00-28.99	3D	192	99	60	32	42	M5.0*28		20IP
				5D	276	183	60	32	42			
				7D	304	211	60	32	42			
				10D	388	295	60	32	42			
				12D	444	351	60	32	42			
ADJ60-PA2900	29.0	ADJ2900/2999-3D-L32	29.00-29.49	3D	196	103	60	32	42	M5.0*28		20IP
				5D	283	190	60	32	42			
				7D	312	219	60	32	42			
				10D	399	306	60	32	42			
				12D	457	364	60	32	42			
ADJ60-PA2950	29.5	ADJ2900/2999-3D-L32	29.00-29.99	3D	196	103	60	32	42	M5.0*28		20IP
				5D	283	190	60	32	42			
				7D	312	219	60	32	42			
				10D	399	306	60	32	42			
				12D	457	364	60	32	42			

> 可换钻尖钻头 Adjustable point drill bit



刀片型号 The blade model	标准库存直径 Standard stock diameter	刀杆型号 Tool rod type	刀片直径范围 Blade diameter range (D1)	倍径 Times the diameter	尺寸 Size					螺钉 Clamp screw	扳手 Wrench
					L1	L2	L3	D2	D3		
ADJ60-PA3000	30.0	ADJ3000/3099-3D-L32	30.00-30.49	3D	199	106	60	32	42	M5.0*28	20IP
		ADJ3000/3099-5D-L32		5D	289	196	60	32	42		
		ADJ3000/3099-7D-L32		7D	319	226	60	32	42		
		ADJ3000/3099-10D-L32		10D	409	316	60	32	42		
		ADJ3000/3099-12D-L32		12D	469	376	60	32	42		
ADJ60-PA3050	30.5	ADJ3000/3099-3D-L32	30.00-30.99	3D	199	106	60	32	42	M5.0*28	20IP
		ADJ3000/3099-5D-L32		5D	289	196	60	32	42		
		ADJ3000/3099-7D-L32		7D	319	226	60	32	42		
		ADJ3000/3099-10D-L32		10D	409	316	60	32	42		
		ADJ3000/3099-12D-L32		12D	469	376	60	32	42		

刀片的安装 Installation procedure



直径范围① Range of Diameter ①	拧紧力矩(Nm) Tightening Torque (Nm)
10.0-13.99	0.6
14.0-17.99	1.2
18.0-23.99	2.2
24.0-27.99	3.3
28.0-30.99	5.0

- ① 用压缩空气清洁刀片和刀片槽;
 - ② 将刀片插入刀杆安装槽内轻按刀片;
 - ③ 用紧固螺栓锁紧刀片。有条件的用户推荐采用力矩扳手锁紧锁紧力矩值如图所示。
- ① Clean the blade and blade slot with compressed air;
② Insert the blade into the knife rod mounting slot and press the blade gently.
③ Lock the blade with fastening bolts. Users with conditions recommend using torque wrenches to lock the locking torque value as shown in the figure.

可换钻尖钻头 Adjustable point drill bit

应用要点、注意事项

Essentials of use and precautions

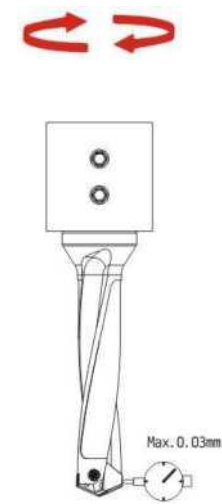
日安装 Assembly

应用场合的稳定性对于获得最佳的刀具寿命与孔的精度是重要的。检查机床主轴、夹具与工件的装夹情况，确保最大的稳定性与刚性。不稳定的工况会引起钻头的折断。

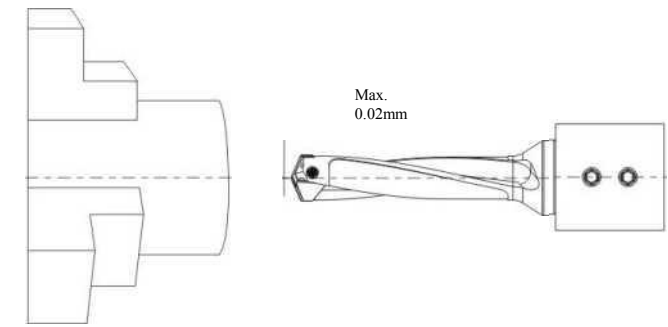
The stability of the applications is essential for optimal tool life and hole accuracy. Guarantee the maximum stability and rigidity by checking the holding of the machine tool spindle, fixtures and workpiece. Unstable operating conditions will cause fracture of drills bits.

最大跳动和同心度 Max.Runout and Misalignment

跳动
Runout

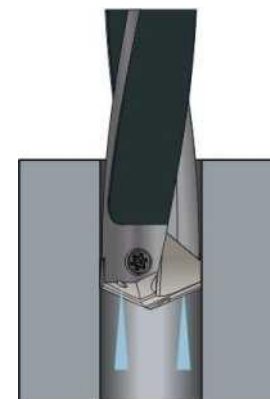


同心度
Misalignment



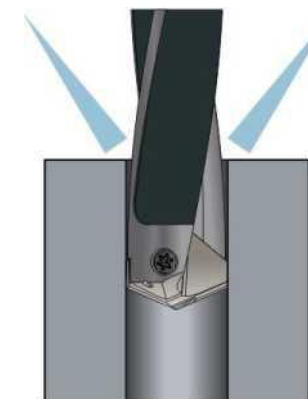
Q 冷却压力 Cooling Pressure

内部冷却
Inner cooling



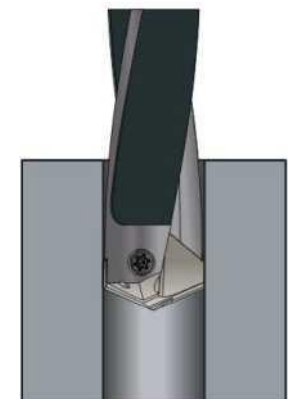
- 3XD:5bar
- 5XD:10bar V
- 7XD:15bar J
- 10XD:20bar J
- 12XD:20bar J

外部冷却
Outer cooling



- 3XD:5bar J
- 5XD:10bar X
- 7XD:15bar X
- 10XD:20bar X
- 12XD:20bar J

准干式切削
Quasi-dry cutting



- 3XD:5bar J

>可换钻尖钻头 Adjustable point drill bit

应用要点、注意事项

Essentials of use and precautions

钻头更换判断标准 Standard for drill bit replacement

磨损极限 Wear limit



硬质合金刀片: VB=0.3mm
Carbide insert:

粉末高速钢刀片: VB=0.4mm
HSS-PM insert:

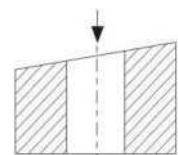
B 应用 Application

工况
Operating Condition

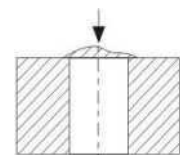
说明
Instructions

工况
Operating Condition

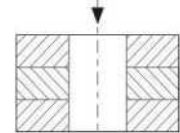
说明
Instructions



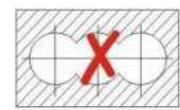
起始面为斜面
The entry surface is slanted
斜面进给率
Slope Feed Rate
<math><3^\circ 50\%</math>



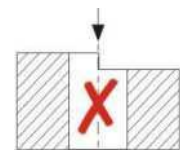
出孔为斜面
The outlet is slanted
斜面进给率
Slope Feed Rate
<math><3^\circ 50\%</math>



起始面为弧面
The entry surface is arc
在中心处钻孔并降低进给是可以的
Drilling at the center at reduced feed rates is allowed
如起始点不在弧面中心需要将面磨平
Spot facing is required if the entry point is not at the center of the arc



钻贯穿孔
Through hole
不可以 Not allowed



工件表面不平整
The entry surface is welded
加工前先磨平
Level it through spot facing before machining

钻叠层板
Stacked plates
原则上可以
Allowed in principle
需要良好的工件压紧
The workpiece shall be properly clamped
板之间不能有间隙
There must be no gaps between the plates

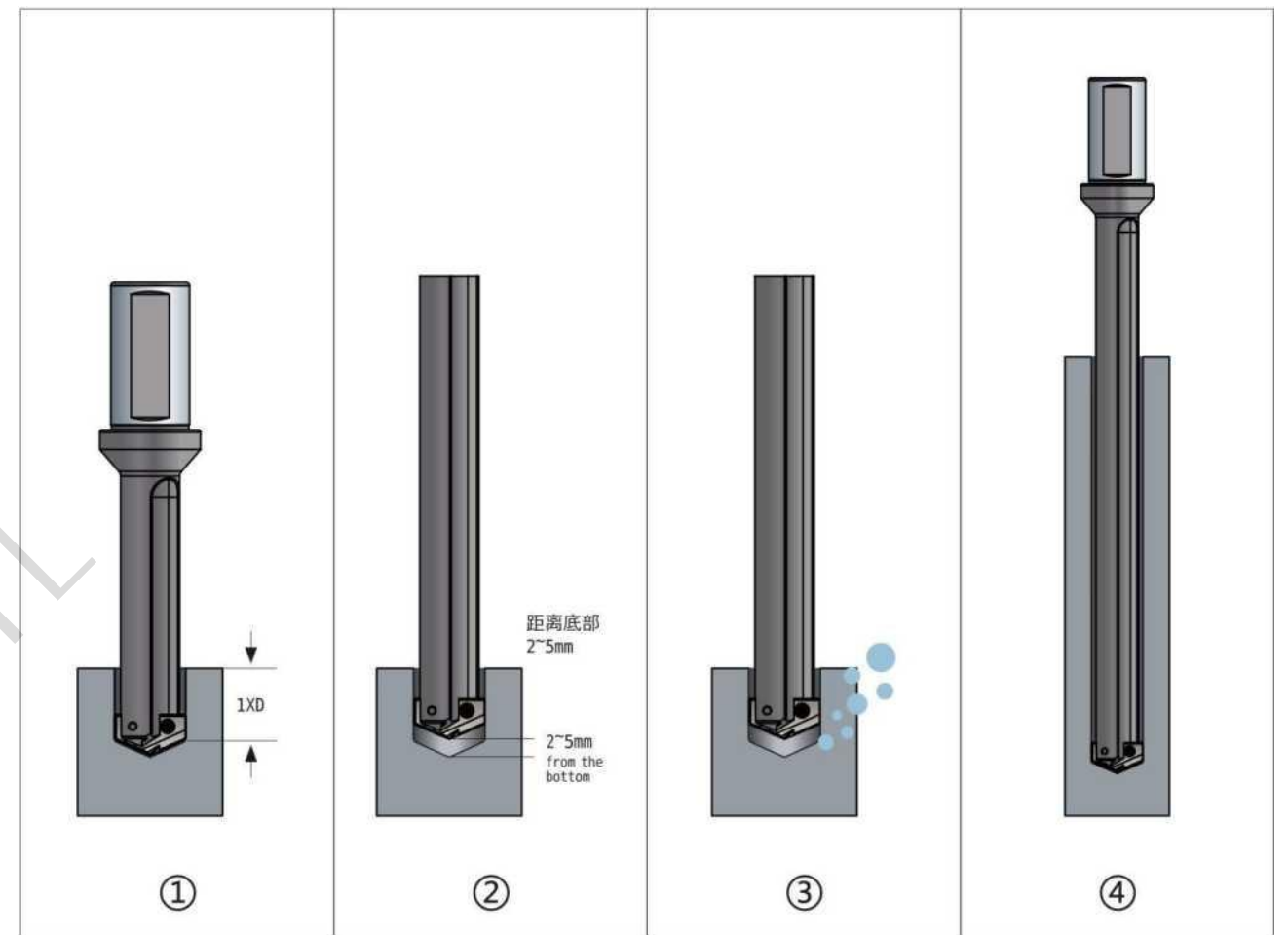
钻型腔
Cavities
不可以 Not allowed

起始面有台阶
Step on the entry surface
不可以 (钻尖起始点必须为平面)
Not allowed (the entry point must be on a horizontal plane)

可换钻尖钻头 Adjustable point drill bit

长径系列钻削工艺

Long diameter series drilling process



- ①短钻头钻引导孔至 1D~1.5D
Drill a pilot hole to 1D~1.5D with a short drill bit
- ②低转速和低进给进入引导孔
Enter the pilot hole at a low speed and low feed rate
- ③让冷却液停留 2~3 秒
Keep the coolant for 2 to 3s
- ④按推荐的参数连续加工出口时降低速度和进给
Carry out continuous drilling according to the recommended parameters. Reduce the speed and feed rate at the outlet

> 切削参数 Cutting parameters

Cutting parameters

硬质合金刀片系列 Carbide blade series

Table with columns: ISO, 被加工材料 Material, 条件 Heat treatment, 布氏硬度 HB, 强度 N/mm², 切削速度 Vc (m/min) (最小, 推荐, 最大), and various material types like 易切屑钢, 碳钢, 低合金钢, 高合金钢, 灰口铸铁, 球墨铸铁, 锻铝, 铸铝, 铜合金, 非铁金属, 钛合金, 哈氏耐磨护板, 淬硬钢.

Table with columns: (P10.00-11.99mm), (W2.00-13.99mm), (P14.00-15.99mm), (P16.00-19.99mm), 020.00-25.99mm (D26.00-32.99mm), and various material types like 易切屑钢, 碳钢, 低合金钢, 高合金钢, 灰口铸铁, 球墨铸铁, 锻铝, 铸铝, 铜合金, 非铁金属, 钛合金, 哈氏耐磨护板, 淬硬钢.

注意: 1. 上述推荐的切削参数以 3D 型为准。当使用 5D、7D、10D、12D 型时, 根据工况适当降低进给量。进给量: 3D 型=100%、5D 型=80%、7D 型=70%、10D 型=60%、12D 型=50% 以下; 2. 切削 H 类硬材料推荐使用 MQL (微量油雾冷却方式)。

Note :1. The cutting parameters recommended by the upper speed are subject to the 3D model. When using type 5D and type 8D, the feed should be appropriately reduced according to the working condition. Feed quantity :3D type =100%, 5D type =80%, 7D type =70%, 10D =60%, 12D = less than 50%; 2. MQL (micro oil mist cooling) is recommended for cutting H hard materials.

可换钻尖钻头

带定心钻头

VM D 大钻头

模块系

铲钻

可换钻尖钻头

组合钻

带定心钻头

VM D 大钻头

模块系

Combined drill

组合钻的特征和优势

Characteristics and advantages of combination drill

特征优势 Main feature

可换钻尖组合钻头，是在可换钻尖钻头(皇冠钻)的基础开发的一款钻头，钻孔范围直径 26mm~62m,孔深有 3D/5D/7D/10D 四种规格，切削刃用可换钻尖和普通 U 钻刀片组合，效率高，成本低，孔加工精度公差在+0.1~-0.1 范围。

Replaceable bit combination, is in the replaceable bit (crown drill) based on the development of a drill, drilling range diameter 26mm~62m, hole depth of 3D/5D/7D/10D four specifications, cutting edge with replaceable drill point and common U drill blade combination, high efficiency, low cost, hole machining accuracy tolerance in +0.1~-0.1 range.

组合钻的型号编码

The type code of the combination drill

组合钻中心刃刀片 Combined drill center blade

ADJS60-PA2600

大类 Big type	材质 Insert Material	钻尖类型 Drill point type	刀片直径 Insert Diameter
ADJS 系列可换钻尖式钻头	60-刚合金 30-粉末高速钢	PA-通用钻尖 MA-不锈钢用钻尖 KA-铸铁用钻尖 NA-有色金属用钻尖	2600-26.00mm

组合钻刀杆 Combined drill shank

ADJ S2600/2649 - 3D- C32

大类 Big type	直径 The diameter of	有效加工孔深 Maximum machining hole depth	刀柄直径 The handle diameter
ADJS 系列可换钻尖式组合钻	2600/2649-表示最小刀片组合 02600mm,最大刀片组合 ①2649mm	3D-3XD1 5D-5XD1 7D-7XD1	C25-① 25mm C32-① 32mm C40-040mm

可换钻尖钻

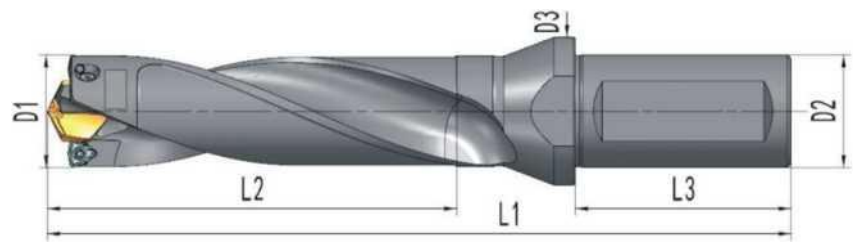
可换钻尖钻

带定心口钻

带定心口钻

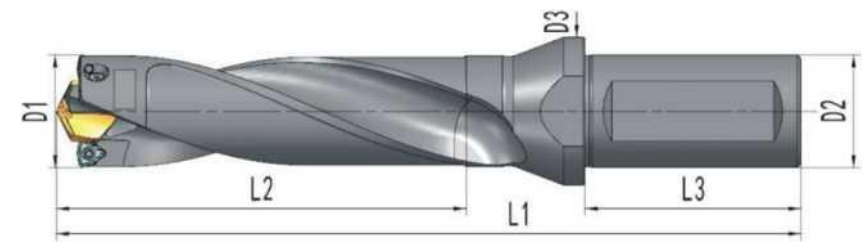
模块系列

A 组合钻 Combined drill



®嘴片龍 S 器翻檣 the blade Reaming blade (2) 直径 (DI) diameter		尺寸 Size					中心刀片		扩孔刀片									
		L1	L2	L3	D2	D3	螺钉	扳手	螺钉	扳手								
ADJS60-PA2600	WCMX04020 8	26.0	26.00	1	26.49	ADJS2600/2649-3D-C32	3D	185	92	60	32	42	M2.5X10.9	7IP				
						ADJS2600/2649-5D-C32	5D	237	144	60	32	42						
						ADJS2600/2649-7D-C32	7D	289	196	60	32	42						
						ADJS2600/2649-10D-C32	10D	367	274	60	32	42						
ADJS60-PA2650	WCMX04020 8	26.5	26.50	1	26.99	ADJS2650/2699-3D-C32	3D	185	92	60	32	42			M2.5X10.9	7IP		
						ADJS2650/2699-5D-C32	5D	237	144	60	32	42						
						ADJS2650/2699-7D-C32	7D	289	196	60	32	42						
						ADJS2650/2699-10D-C32	10D	367	274	60	32	42						
ADJS60-PA2700	WCMX04020 8	27.0	27.00	1	27.49	ADJS2700/2749-3D-C32	3D	189	96	60	32	42					M2.5X10.9	7IP
						ADJS2700/2749-5D-C32	5D	243	150	60	32	42						
						ADJS2700/2749-7D-C32	7D	297	204	60	32	42						
						ADJS2700/2749-10D-C32	10D	378	285	60	32	42						
ADJS60-PA2750	WCMX04020 8	27.5	27.50	1	27.99	ADJS2750/2799-3D-C32	3D	189	96	60	32	42	M2.5X10.9	7IP				
						ADJS2750/2799-5D-C32	5D	243	150	60	32	42						
						ADJS2750/2799-7D-C32	7D	297	204	60	32	42						
						ADJS2750/2799-10D-C32	10D	378	285	60	32	42						
ADJS60-PA2800	WCMX04020 8	28.0	28.00	1	28.49	ADJS2800/2849-3D-C32	3D	192	99	60	32	42			M2.5X6	T8		
						ADJS2800/2849-5D-C32	5D	248	155	60	32	42						
						ADJS2800/2849-7D-C32	7D	304	211	60	32	42						
						ADJS2800/2849-10D-C32	10D	388	295	60	32	42						
ADJS60-PA2850	WCMX04020 8	28.5	28.50	1	28.99	ADJS2850/2899-3D-C32	3D	192	99	60	32	42					M2.5X6	T8
						ADJS2850/2899-5D-C32	5D	248	155	60	32	42						
						ADJS2850/2899-7D-C32	7D	304	211	60	32	42						
						ADJS2850/2899-10D-C32	10D	388	295	60	32	42						
ADJS60-PA2900	WCMX04020 8	29.0	29.00	1	29.49	ADJS2900/2949-3D-C32	3D	193	100	60	32	42	M3.0X12.8	8IP				
						ADJS2900/2949-5D-C32	5D	251	158	60	32	42						
						ADJS2900/2949-7D-C32	7D	309	216	60	32	42						
						ADJS2900/2949-10D-C32	10D	396	303	60	32	42						
ADJS60-PA2950	WCMX04020 8	29.5	29.50	1	29.99	ADJS2950/2999-3D-C32	3D	193	100	60	32	42			M3.0X12.8	8IP		
						ADJS2950/2999-5D-C32	5D	251	158	60	32	42						
						ADJS2950/2999-7D-C32	7D	309	216	60	32	42						
						ADJS2950/2999-10D-C32	10D	396	303	60	32	42						
ADJS60-PA3000	WCMX04020 8	30.0	30.00	1	30.49	ADJS3000/3049-3D-C32	3D	199	106	60	32	42					M3.0X12.8	8IP
						ADJS3000/3049-5D-C32	5D	259	166	60	32	42						
						ADJS3000/3049-7D-C32	7D	319	226	60	32	42						
						ADJS3000/3049-10D-C32	10D	409	316	60	32	42						
ADJS60-PA3050	WCMX04020 8	30.5	30.50	1	30.99	ADJS3050/3099-3D-C32	3D	199	106	60	32	42	M3.0X12.8	8IP				
						ADJS3050/3099-5D-C32	5D	259	166	60	32	42						
						ADJS3050/3099-7D-C32	7D	319	226	60	32	42						
						ADJS3050/3099-10D-C32	10D	409	316	60	32	42						

A 组合钻 Combined drill

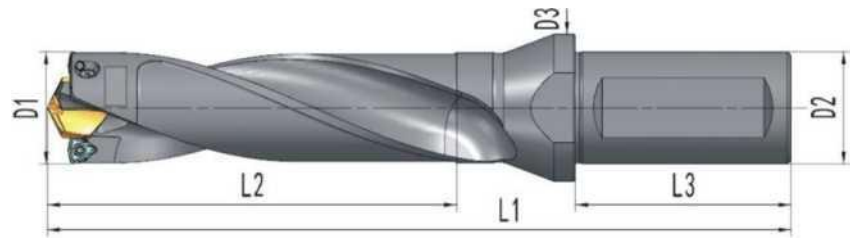


»扩%片壽 S 蟲句霹 the blade 直径 Reaming blade X2 (DI) millimeter		尺寸 Size					中心刀片		扩孔刀片									
		L1	L2	L3	D2	D3	螺钉	扳手	螺钉	扳手								
ADJS60-PA3100	WCMX04020 8	31.0	31.00	1	31.49	ADJS3100/3149-3D-C32	3D	202	109	60	32	42	M3.0X12.8	8IP				
						ADJS3100/3149-5D-C32	5D	264	171	60	32	42						
						ADJS3100/3149-7D-C32	7D	326	233	60	32	42						
						ADJS3100/3149-10D-C32	10D	419	326	60	32	42						
ADJS60-PA3150	WCMX04020 8	31.5	31.50	1	31.99	ADJS3150/3199-3D-C32	3D	202	109	60	32	42			M3.0X12.8	8IP		
						ADJS3150/3199-5D-C32	5D	264	171	60	32	42						
						ADJS3150/3199-7D-C32	7D	326	233	60	32	42						
						ADJS3150/3199-10D-C32	10D	419	326	60	32	42						
ADJS60-PA3200	WCMX04020 8	32.0	32.00	1	32.49	ADJS3200/3249-3D-C32	3D	206	113	60	32	42					M4.0X16.7	15IP
						ADJS3200/3249-5D-C32	5D	270	177	60	32	42						
						ADJS3200/3249-7D-C32	7D	334	241	60	32	42						
						ADJS3200/3249-10D-C32	10D	430	337	60	32	42						
ADJS60-PA3250	WCMX04020 8	32.5	32.50	1	32.99	ADJS3250/3299-3D-C32	3D	206	113	60	32	42	M4.0X16.7	15IP				
						ADJS3250/3299-5D-C32	5D	270	177	60	32	42						
						ADJS3250/3299-7D-C32	7D	334	241	60	32	42						
						ADJS3250/3299-10D-C32	10D	430	337	60	32	42						
ADJS60-PA3300	WCMT05030 8	33.0	33.00	1	33.49	ADJS3300/3349-3D-C32	3D	213	119	60	32	42			M4.0X16.7	15IP		
						ADJS3300/3349-5D-C32	5D	279	185	60	32	42						
						ADJS3300/3349-7D-C32	7D	345	251	60	32	42						
						ADJS3300/3349-10D-C32	10D	444	350	60	32	42						
ADJS60-PA3350	WCMT05030 8	33.5	33.50	1	33.99	ADJS3350/3399-3D-C32	3D	213	119	60	32	42					M4.0X16.7	15IP
						ADJS3350/3399-5D-C32	5D	279	185	60	32	42						
						ADJS3350/3399-7D-C32	7D	345	251	60	32	42						
						ADJS3350/3399-10D-C32	10D	444	350	60	32	42						
ADJS60-PA3400	WCMT05030 8	34.0	34.00	1	34.49	ADJS3400/3449-3D-C32	3D	217	123	60	32	42	M3.0X12.8	8IP				
						ADJS3400/3449-5D-C32	5D	285	191	60	32	42						
						ADJS3400/3449-7D-C32	7D	353	259	60	32	42						
						ADJS3400/3449-10D-C32	10D	455	361	60	32	42						
ADJS60-PA3450	WCMT05030 8	34.5	34.50	1	34.99	ADJS3450/3499-3D-C32	3D	217	123	60	32	42			M3.0X12.8	8IP		
						ADJS3450/3499-5D-C32	5D	285	191	60	32	42						
						ADJS3450/3499-7D-C32	7D	353	259	60	32	42						
						ADJS3450/3499-10D-C32	10D	455	361	60	32	42						
ADJS60-PA3500	WCMT05030 8	35.0	35.00	1	35.49	ADJS3500/3549-3D-C32	3D	220	126	60	32	42					M3.0X12.8	8IP
						ADJS3500/3549-5D-C32	5D	290	196	60	32	42						
						ADJS3500/3549-7D-C32	7D	360	266	60	32	42						
						ADJS3500/3549-10D-C32	10D	465	371	60	32	42						
ADJS60-PA3550	WCMT05030 8	35.5	35.50	1	35.99	ADJS3550/3599-3D-C32	3D	220	126	60	32	42	M3.0X12.8	8IP				
						ADJS3550/3599-5D-C32	5D	290	196	60	32	42						
						ADJS3550/3599-7D-C32	7D	360	266	60	32	42						
						ADJS3550/3599-10D-C32	10D	465	371	60	32	42						

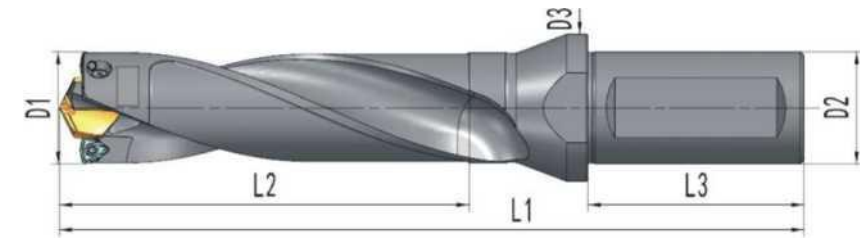
可换钻尖钻
组合钻
带定心口钻
VMD 大钻
模块系列

可换钻尖钻
带定心口钻
VMD 大钻
配件

Combined drill



Combined drill



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the blade Reaming blade X2 直径				(DI) diameter	尺寸 Size					中心刀 片 螺钉	扩孔刀片 扳手 螺钉
ADJS60-PA560 0	WCMT0804 12	56.0	ADJS600/5649-3D-C4 0 ADJS600/5649-5D-C4 0 ADJS600/5649-7D-C4 0 ADJS600/5649-10D-C4 0	56.00	L1	L2	L3	D2	D3	3D	扳手
			ADJS650/5699-3D-C4 0 ADJS650/5699-5D-C4 0 ADJS650/5699-7D-C4 0 ADJS650/5699-10D-C4 0	56.50						3D	
			ADJS700/5749-3D-C4 0 ADJS700/5749-5D-C4 0 ADJS700/5749-7D-C4 0 ADJS700/5749-10D-C4 0	57.00						3D	
			ADJS750/5799-3D-C4 0 ADJS750/5799-5D-C4 0 ADJS750/5799-7D-C4 0 ADJS750/5799-10D-C4 0	57.50						3D	
			ADJS800/5849-3D-C4 0 ADJS800/5849-5D-C4 0 ADJS800/5849-7D-C4 0 ADJS800/5849-10D-C4 0	58.00						3D	
			ADJS850/5899-3D-C4 0 ADJS850/5899-5D-C4 0 ADJS850/5899-7D-C4 0 ADJS850/5899-10D-C4 0	58.50						3D	
			ADJS900/5949-3D-C4 0 ADJS900/5949-5D-C4 0 ADJS900/5949-7D-C4 0 ADJS900/5949-10D-C4 0	59.00						3D	
			ADJS950/5999-3D-C4 0 ADJS950/5999-5D-C4 0 ADJS950/5999-7D-C4 0 ADJS950/5999-10D-C4 0	59.50						3D	
			ADJS6000/6049-3D-C4 0 ADJS6000/6049-5D-C4 0 ADJS6000/6049-7D-C4 0 ADJS6000/6049-10D-C4 0	60.00						3D	
			ADJS6050/6099-3D-C4 0 ADJS6050/6099-5D-C4 0 ADJS6050/6099-7D-C4 0 ADJS6050/6099-10D-C4 0	60.50						3D	

中心刀片 Center of the blade	扩孔刀片 x2 Reaming blade X2	杭佳 直径	刀杆型号 Tool rod type	刀片直 径范围 (DI)	倍径 times the diameter	尺寸 Size					中心刀片 螺钉	扩孔刀片 扳手 螺钉		
						L1	L2	L3	D2	D3				
ADJS60-PA6100	WCMT080412	61.0	ADJS6100/6149-3D-C40 ADJS6100/6149-5D-C40 ADJS6100/6149-7D-C40 ADJS6100/6149-10D-C40	61.00 61.1 61.49	3D 5D 7D 10D	313	204	70	40	50	M4.0X16.7	15IP	M4.0X10	T15
ADJS60-PA6150	WCMT080412	61.5	ADJS6150/6199-3D-C40 ADJS6150/6199-5D-C40 ADJS6150/6199-7D-C40 ADJS6150/6199-10D-C40	61.50 61.1 61.99	3D 5D 7D 10D	313	204	70	40	50	M4.0X16.7	15IP	M4.0X10	T15

切削参数

组合钻直 径 diameter	材质	切削速度 Cutting speed				材质	组合钻直 径 diameter	材质	切削速度 Cutting speed				H 质
		3D	5D	7D	10D				3D	5D	7D	10D	
转速 BT40		1100-1200	100Q-1100	900-1000	900-1000		转速		750-800	750-800	700-750	700-750	
26-28.9		Fz 0.15-0.2	Fz 0.15-0.2	Fz 0.16-0.2	Fz 0.15-0.2		45-46.9		Fz 0.18-0.25	Fz 0.18-0.25	Fz 0.16-0.2	Fz 0.16-0.2	
转速		F 165-240	F 150-220	F 145-200	F 135-200		转速		F 135-200	F 135-200	F 110-150	F 110-150	
29-30.9		1000-1100	1000-1100	900-1000	900-1000		47-48.9		750-800	750-800	700-750	700-750	
转速		Fz 0.15-0.2	Fz 0.15-0.2	Fz 0.15-0.2	Fz 0.15-0.2		转速		Fz 0.18-0.25	Fz 0.18-0.25	Fz 0.16-0.2	Fz 0.16-0.2	
31-32.9		F 150-220	F 150-220	F 135-200	F 135-200		49-50.9		F 135-200	F 135-200	F 115-150	F 115-150	
转速		950-1050	950-1050	900-1000	900-1000		转速		700-750	700-750	650-700	650-700	
33-34.9		Fz 0.15-0.2	Fz 0.15-0.2	Fz 0.14-0.2	Fz 0.14-0.2		51-52.9		Fz 0.18-0.25	Fz 0.18-0.25	Fz 0.16-0.2	Fz 0.16-0.2	
转速		F 145-210	F 145-210	F 125-200	F 125-200		转速		F 125-185	F 125-185	F 105-140	F 105-140	
35-36.9		900-1000	900-1000	850-900	850-900		53-54.9		700-750	700-750	650-700	650-700	
转速		Fz 0.16-0.2	Fz 0.16-0.2	Fz 0.14-0.2	Fz 0.14-0.2		转速		Fz 0.18-0.25	Fz 0.18-0.25	Fz 0.16-0.2	Fz 0.16-0.2	
37-38.9		F 145-200	F 145-200	F 120-180	F 120-180		55-56.9		F 125-185	F 125-185	F 105-140	F 105-140	
转速		850-900	850-900	800-850	800-850		转速		700-750	700-750	650-700	650-700	
39-40.9		Fz 0.16-0.2	Fz 0.16-0.2	Fz 0.14-0.2	Fz 0.14-0.2		57-58.9		Fz 0.18-0.25	Fz 0.18-0.25	Fz 0.16-0.2	Fz 0.16-0.2	
转速		F 135-180	F 135-180	F 115-175	F 115-175		转速		F 125-185	F 125-185	F 105-140	F 105-140	
41-42.9		800-850	800-850	800-850	800-850		59-60.9		650-700	650-700	600-650	600-650	
转速		Fz 0.16-0.2	Fz 0.16-0.2	Fz 0.14-0.2	Fz 0.14-0.2		转速		Fz 0.18-0.25	Fz 0.18-0.25	Fz 0.16-0.2	Fz 0.16-0.2	
43-44.9		F 135-180	F 135-180	F 115-170	F 115-170		61-62		F 115-175	F 115-175	F 95-130	F 95-130	
		800-850	800-850	750-800	750-800				650-700	650-700	600-650	600-650	
		Fz 0.16-0.2	Fz 0.16-0.2	Fz 0.14-0.2	Fz 0.14-0.2				Fz 0.2-0.25	Fz 0.2-0.25	Fz 0.16-0.2	Fz 0.16-0.2	
		F 130-170	F 130-170	F 105-160	F 105-160				F 120-165	F 120-165	F 90-120	F 90-120	
		750-800	750-800	700-750	700-750				550-600	550-600	500-550	500-550	
		Fz 0.18-0.25	Fz 0.18-0.25	Fz 0.16-0.2	Fz 0.16-0.2				Fz 0.2-0.25	Fz 0.2-0.25	Fz 0.16-0.2	Fz 0.16-0.2	
		F 135-200	F 135-200	F 115-150	F 115-150				F 110-150	F 110-150	F 80-110	F 80-110	

备注: Fz=每转进刀量 F=进给

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带定心 U 钻

Centring U drill

带定心 u 钻的特点和优势

Characteristics and advantages of centering bit

特征优势 Main feature

带定心 U 钻，是 U 钻延伸的孔加工刀具，使用 U 钻刀片，容纳 U 钻的优点，加上利用加装定心钻的设计，可实现更长倍径的钻孔。标准库存直径 18mm~40mm，加工深度 6~8 倍径可选择。

With centering drill, is the extension of U drill hole processing tool, the use of U drill blade, accommodate the advantages of U drill, coupled with the use of fixed core drill design, can achieve longer diameter drilling. Standard stock diameter 18mm~40mm, processing depth 6~8 times diameter can be selected.

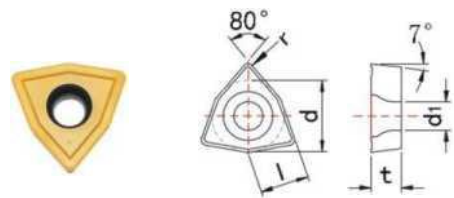
型号编码规则 Model coding rule

SP18-6D-C25-H06

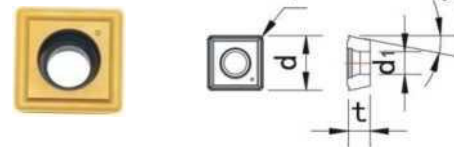
大类 Big type	刀杆直径 Tool rod diameter	长径比 Length to diameter handle	柄径 Shank diameter	中心钻型号 Center drill type
SD (WC 刀片系列)	18 (表示刀杆 ϕ 18mm)	2D (直径的 2 倍)	C20 (柄径 ϕ 20mm)	H06 (中心钻型号)
SP (SP 刀片系列)		3D (直径的 3 倍)	C25 (柄径 e25mm)	
		4D (直径的 4 倍)	C32 (柄径 e 32mm)	
		5D (直径的 5 倍)	C40 (柄径 ϕ 40mm)	

刀片型号

The blade model



型号 Code No	尺寸 Size					螺钉 Clamp screw	扳手 Wrench
	l	d	t	r	dl		
WCMX030208	3.8	5.56	2.38	0.8	2.8	M2.5X6	T8
WCMX040208	4.3	6.35	2.38	0.8	2.8	M2.5X6	T8
WCMT050308	5.4	7.94	3.18	0.8	3.3	M3X8	T8
WCMT06T308	6.54	9.525	3.97	0.8	3.8	M3.5X10	T15
WCMT080412	8.74	12.7	4.76	1.2	4.3	M4X10	T15



型号 Code No	尺寸 Size				c, 螺钉 8 什:云	扳手 Wrench
	d	t	r	dl		
SPMT04T102	4	1.98	0.2	2	M1.8X4	T6
SPMG050204	5	2.38	0.4	2.25	M2.2X5	T6
SPMG060204	6	2.38	0.4	2.61	M2.2X6	T7
SPMG07T308	7.94	3.97	0.8	2.85	M2.5X8	T8
SPMG090408	9.8	4.3	0.8	4.05	M3.5X10	T15
SPMG110408	11.5	4.8	0.8	4.45	M4X10	T15
SPMG140512	14.3	5.2	1.2	5.75	M5X12	T20

带定心 U 钻

Centring U drill



WC DX6

型号 Code No	尺寸 Size						导向钻 Pilot Drill	insSt 感	c 螺钉 Clamp screw	扳手 Wrench
	L	L1	L2	L3	M	ed				
SD25-6D-C32-H06	25	237	154	177	60	HSS-V0630Tin	WCMX030208	M2.5X6	T8	
SD25.5-6D-C32-H06	25.5	240	157	180	60					
SD26-6D-C32-H06	26	243	160	183	60					
SD26.5-6D-C32-H06	26.5	246	163	186	60					
SD27-6D-C32-H06	27	249	166	189	60					
SD27.5-6D-C32-H06	27.5	252	169	192	60					
SD28-6D-C32-H06	28	255	172	195	60					
SD28.5-6D-C32-H06	28.5	298	175	198	60					
SD29-6D-C32-H06	29	261	178	201	60					
SD29.5-6D-C32-H06	29.5	264	181	204	60					
SD30-6D-C32-H06	30	267	184	207	60	HSS-V0835Tin	WCMX040208	M2.5X6	T8	
SD30.5-6D-C32-H06	30.5	270	187	210	60					
SD31-6D-C32-H06	31	273	190	213	60					
SD31.5-6D-C32-H06	31.5	276	193	216	60					
SD32-6D-C32-H08	32	279	196	219	60					
SD32.5-6D-C32-H08	32.5	282	199	222	60					
SD33-6D-C32-H08	33	285	202	225	60					
SD33.5-6D-C32-H08	33.5	288	205	228	60					
SD34-6D-C32-H08	34	290	208	230	60					
SD34.5-6D-C32-H08	34.5	293	211	233	60					
SD35-6D-C32-H08	35	297	214	237	60	HSS-V1035Tin	WCMX050308	M3.0X8	T8	
SD35.5-6D-C32-H08	35.5	300	217	240	60					
SD36-6D-C32-H08	36	303	220	243	60					
SD36.5-6D-C32-H08	36.5	306	223	246	60					
SD37-6D-C32-H08	37	309	226	249	60					
SD37.5-6D-C32-H08	37.5	312	229	252	60					
SD38-6D-C32-H08	38	315	232	255	60					
SD38.5-6D-C32-H08	38.5	318	235	258	60					
SD39-6D-C32-H08	39	321	238	261	60					
SD39.5-6D-C32-H08	39.5	324	241	264	60					
SD40-6D-C32-H08	40	324	244	264	60	HSS-V1035Tin	WCMX06T30	M3.5X10	T15	
SD40.5-6D-C32-H08	40.5	327	247	267	60					
SD41-6D-C40-H10	41	330	250	270	60					
SD41.5-6D-C40-H10	41.5	333	253	273	60					
SD42-6D-C40-H10	42	351	256	281	70					
SD42.5-6D-C40-H10	42.5	354	259	284	70					
SD43-6D-C40-H10	43	357	262	287	70					
SD43.5-6D-C40-H10	43.5	360	265	290	70					
SD44-6D-C40-H10	44	363	268	293	70					
SD44.5-6D-C40-H10	44.5	366	271	296	70					
SD45-6D-C40-H10	45	369	274	299	70					

带定心 u 钻

Centring U drill

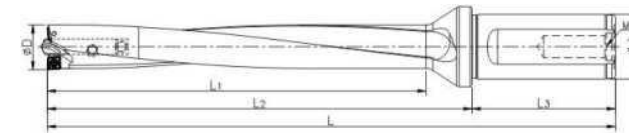


WC DX8

型号 Code No	尺寸 Size							导向钻 Pilot Drill	刀片 Insert	螺钉 Clamp screw	扳手 Wrench
	ΦD	L	L1	L2	L3	M	Φd				
SD25-8D-C32-H06	25	287	204	227	60				WCMX030208	M2.5X6	T8
SD25.5-8D-C32-H06	25.5	291	208	231	60						
SD26-8D-C32-H06	26	295	212	235	60						
SD26.5-8D-C32-H06	26.5	299	216	239	60						
SD27-8D-C32-H06	27	303	220	243	60						
SD27.5-8D-C32-H06	27.5	307	224	247	60			HSS-V0630Tin	WCMX040208	M2.5X6	T8
SD28-8D-C32-H06	28	311	228	251	60						
SD28.5-8D-C32-H06	28.5	315	232	255	60						
SD29-8D-C32-H06	29	319	236	259	60						
SD29.5-8D-C32-H06	29.5	323	240	263	60						
SD30-8D-C32-H06	30	327	244	267	60						
SD30.5-8D-C32-H06	30.5	331	248	271	60						
SD31-8D-C32-H06	31	335	252	275	60						
SD31.5-8D-C32-H06	31.5	339	256	279	60						
SD32-8D-C32-H08	32	343	260	283	60						
SD32.5-8D-C32-H08	32.5	347	264	287	60						
SD33-8D-C32-H08	33	351	268	291	60						
SD33.5-8D-C32-H08	33.5	355	272	295	60						
SD34-8D-C32-H08	34	358	276	298	60						
SD34.5-8D-C32-H08	34.5	362	280	302	60						
SD35-8D-C32-H08	35	367	284	307	60	G 1/4					
SD35.5-8D-C32-H08	35.5	371	288	311	60						
SD36-8D-C32-H08	36	375	292	315	60						
SD36.5-8D-C32-H08	36.5	379	296	319	60						
SD37-8D-C32-H08	37	383	300	323	60						
SD37.5-8D-C32-H08	37.5	387	304	327	60						
SD38-8D-C32-H08	38	391	308	331	60						
SD38.5-8D-C32-H08	38.5	395	312	335	60						
SD39-8D-C32-H08	39	399	316	339	60						
SD39.5-8D-C32-H08	39.5	403	320	343	60						
SD40-8D-C32-H08	40	404	324	344	60						
SD40.5-8D-C32-H08	40.5	408	328	348	60						
SD41-8D-C40-H10	41	412	332	352	60						
SD41.5-8D-C40-H10	41.5	416	336	356	60						
SD42-8D-C40-H10	42	435	340	365	70						
SD42.5-8D-C40-H10	42.5	439	344	369	70						
SD43-8D-C40-H10	43	443	348	373	70						
SD43.5-8D-C40-H10	43.5	447	352	377	70						
SD44-8D-C40-H10	44	451	356	381	70		40	HSS-V1035Tin	WCMX06T308	M3.5X10	T15
SD44.5-8D-C40-H10	44.5	455	360	385	70						
SD45-8D-C40-H10	45	459	364	389	70						

带定心 U 钻

Centring U drill



SP DX6

型号 Code No	尺寸 Size							导向钻 Pilot Drill	insSt 感	c 螺钉 screw	Clamp	扳手 Wrench
	L	L1	L2	L3	M	ed						
SP18-6D-C25	18.0	186	112	130	56							
SP18.5-6D-C25	18.5	189	115	133	56							
SP19-6D-C25	19.0	192	118	136	56							
SP19.5-6D-C25	19.5	195	121	139	56							
SP20-6D-C25	20.0	198	124	142	56							
SP20.5-6D-C25	20.5	201	127	145	56							
SP21-6D-C25	21.0	204	130	148	56	G 1/8	25	HSS-V0630Tin				
SP21.5-6D-C25	21.5	207	133	151	56							
SP22-6D-C25	22.0	210	136	154	56							
SP22.5-6D-C25	22.5	213	139	157	56							
SP23-6D-C25	23.0	216	142	160	56							
SP23.5-6D-C25	23.5	219	145	163	56							
SP24-6D-C25	24.0	222	148	166	56							
SP24.5-6D-C25	24.5	225	151	169	56							
SP25-6D-C25	25.0	228	154	172	56							
SP25.5-6D-C32	25.5	242	157	182	60							
SP26-6D-C32	26.0	245	160	185	60							
SP26.5-6D-C32	26.5	248	163	188	60							
SP27-6D-C32	27.0	251	166	191	60							
SP27.5-6D-C32	27.5	254	169	194	60	G 1/4	32	HSS-V0835Tin	WCMG07T308	M2.5X8	T8	
SP28-6D-C32	28.0	257	172	197	60							
SP28.5-6D-C32	28.5	260	175	200	60							
SP29-6D-C32	29.0	263	178	203	60							
SP29.5-6D-C32	29.5	266	181	206	60							
SP30-6D-C32	30.0	269	184	209	60							

铲钻

可换钻头

组合钻

大钻

模块系

铲钻

可换钻头

组合钻

大钻

模块系

带定心 U 钻

Centring U drill



SP DX8

型号 Code No	尺寸 Size							导向钻 Pilot Drill	inst 盛	c 螺钉 Clamp screw	扳手 Wrench
	0)D	L	L1	L2	L3	M	0>d				
SP18-8D-C25	18.0	222	148	166	56	G 1/8	25	HSS-V0630Tin	WCMG050204	M2.2X5	T6
SP18.5-8D-C25	18.5	226	152	170	56						
SP19-8D-C25	19.0	230	156	174	56						
SP19.5-8D-C25	19.5	234	160	178	56						
SP20-8D-C25	20.0	238	164	182	56						
SP20.5-8D-C25	20.5	242	168	186	56						
SP21-8D-C25	21.0	246	172	190	56						
SP21.5-8D-C25	21.5	250	176	194	56				WCMG060204	M2.2X6	T7
SP22-8D-C25	22.0	254	180	198	56						
SP22.5-8D-C25	22.5	258	184	202	56						
SP23-8D-C25	23.0	262	188	206	56						
SP23.5-8D-C25	23.5	266	192	210	56						
SP24-8D-C25	24.0	270	196	214	56						
SP24.5-8D-C25	24.5	274	200	218	56						
SP25-8D-C25	25.0	278	204	222	56	G 1/4	32	HSS-V0835Tin	WCMG07T308	M2.5X8	T8
SP25.5-8D-C32	25.5	293	208	233	60						
SP26-8D-C32	26.0	297	212	237	60						
SP26.5-8D-C32	26.5	301	216	241	60						
SP27-8D-C32	27.0	305	220	245	60						
SP27.5-8D-C32	27.5	309	224	249	60						
SP28-8D-C32	28.0	313	228	253	60						
SP28.5-8D-C32	28.5	317	232	257	60						
SP29-8D-C32	29.0	321	236	261	60						
SP29.5-8D-C32	29.5	325	240	265	60						
SP30-8D-C32	30.0	329	244	269	60						

导向钻

Guide drill



型号 Code No	尺寸 Size	
	L	
HSS-V0630Tin	6	30
HSS-V0835Tin	8	35
HSS-V1035Tin	10	35
HSS-V1240Tin	12	40
HSS-V1645Tin	16	45
HSS-V2050Tin	20	50
HSS-V2560Tin	25	60

带定心 U

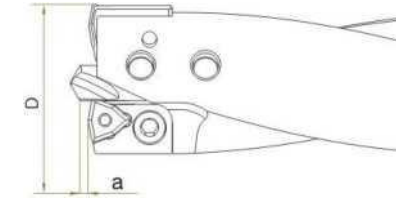
Centring U drill

钻

用户指南

User Guide

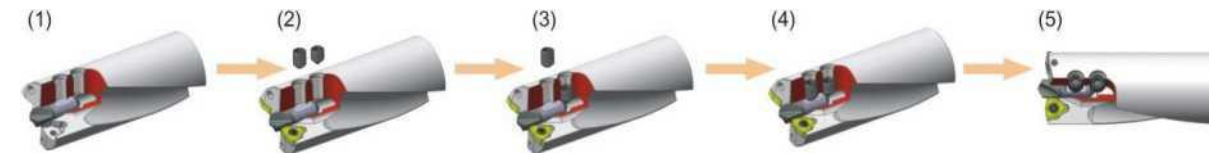
导向钻的高度设置 Pilot drill(PLD) setting



钻头直径(D) Bit diameter (D)	a		
	非合金钢	合金钢	有色金属
25-30	1.2	1	1.5
31-40	1.5	1.3	1.8
41-50	1.8	1.5	2.2
51-59	2.2	1.8	2.5
60-75	2.5	2	2.8
75-80	3	2.5	3.5

使用方法

Method of use



- (1) 插入孔导向钻;
- (2) 安装刀片;
- (3) 调整好导向钻高度;
- (4) 锁紧螺丝;
- (5) 导向钻底部必须紧贴导向钻, 高度调整螺丝, 不可有缝隙。

- (1) Insert hole guide drill;
- (2) Install the blade;
- (3) Adjust the guide drill height;
- (4) Lock screws;
- (5) The bottom of the guide drill must be close to the guide drill, height adjustment screws, no gaps.



导向钻高度调整螺丝, 涂上防松动胶, 防止使用中松动。

Guide drill height adjustment screw, coated with anti-loosening adhesive, to prevent loose in use.

铲钻

可换钻尖钻

组合钻

VMD 大钻

铲钻

可换钻尖钻

组合钻

带定心 U 钻

VMD 大钻

模块系统

带定心 U 钻

Centring U drill

带定心 u 钻 WC 系列切削参数

钻头直径建轴		低碳钢 S10C-S25C	中碳钢 SS30C-S50C	结构钢 SS,SM	铸铁 FC,FCD	合金钢 SCr,SCM	工具钢 H13,SKD	不锈钢 SUS	铝合金
①25~①31.5	7.5 千瓦以上 BT40	S1200-S900	S1100-S850	S1200-S900	S1300-S1000	S1300-S1000	S1100-S800	S1000-S700	S1300-S1000
		Fz 0.1-0.12	Fz 0.08-0.11	Fz 0.08-0.12	Fz 0.09-0.12	Fz 0.1-0.12	Fz 0.08-0.10	Fz 0.08-0.10	Fz 0.1-0.12
		F 90-120	F 80-110	F 80-120	F 90-130	F 90-120	F 70-110	F 60-100	F 100-150
①32~①36.5	11 千瓦以上 BT40	S1000-S800	S1100-S850	S1000-S750	S1000-S700	S1000-S700	S900-S650	S900-S650	S1200-S800
		Fz 0.10-0.13	Fz 0.10-0.12	Fz 0.10-0.13	Fz 0.10-0.13	Fz 0.10-0.13	Fz 0.10-0.13	Fz 0.10-0.13	Fz 0.10-0.13
		F 80-130	F 85-120	F 75-130	F 70-130	F 70-130	F 65-100	F 65-100	F 80-130
①37~①40.5	15 千瓦以上 BT50 主轴	S1000-S700	S100-S700	S1000-S650	S1000-S650	S900-S600	S800-S600	S800-S600	S1000-S800
		Fz 0.08-0.12	Fz 0.08-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.08-0.12	Fz 0.10-0.12	Fz 0.10-0.12
		F 60-100	F 65-100	F 65-110	F 65-120	F 60-120	F 55-100	F 55-100	F 80-120
041-043.5	15 千瓦以上 BT50 主轴	S100-S700	S100-S700	S900-S700	S900-S700	S800-S600	S800-S600	S800-S600	S1000-S700
		Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.1Q-0.12	Fz 0.08-0.10	Fz 0.10-0.12
		F 70-110	F 70-110	F 70-110	F 70-110	F 60-100	F 60-100	F 50-80	F 70-120
(P44~①45)	15 千瓦以上 BT50 主轴	S900-S650	S900-S650	S850-S650	S850-S650	S750-S550	S750-S550	S700-S550	S1000-S700
		Fz 0.08-0.12	Fz 0.08-0.12	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.08-0.12	Fz 0.08-0.12	Fz 0.08-0.12	Fz 0.09-0.12
		F 60-110	F 60-110	F 65-90	F 65-110	F 50-65	F 50-65	F 45-80	F 65-120

备注: s=转速 Fz=每转进刀量 F=进给

带定心 U 钻 SP 系列切削参数

钻头直径建轴		低碳钢 S10C-S25C	中碳钢 SS30C-S50C	结构钢 SS,SM	铸铁 FC,FCD	合金钢 SCr,SCM	工具钢 H13,SKD	不锈钢 SUS	铝合金
①18~①19.5	7.5 千瓦以上 BT40	S1400-S1200	S1400-S1200	S1300-S1100	S1300-S1100	S1400-S1100	S1400-S1000	S1400-S1000	S1600-S1200
		Fz 0.07-0.1	Fz 0.07-0.1	Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.07-0.1	Fz 0.07-0.1	Fz 0.07-0.1	Fz 0.1-0.12
		F 85-100	F 85-120	F 90-110	F 90-110	F 70-110	F 60-100	F 60-90	F 100-150
①20~①22.5	11 千瓦以上 BT40	S1300-S1000	S1300-S1000	S1200-S1000	S1200-S1000	S1200-S900	S1200-S900	S1100-S900	S1500-S1100
		Fz 0.07-0.1	Fz 0.07-0.1	Fz 0.08-0.12	Fz 0.08P.12	Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.08-0.1
		F 70-110	F 70-110	F 80-120	F 80-120	F 75-120	F 75-120	F 70-90	F 90-150
①23~①25.5	15 千瓦以上 BT50 主轴	S1200-S1000	S1200-S1000	S1100-S900	S1100-S900	S110Q-S900	S100G-S800	S100G-S700	S1400-S1200
		Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.1-0.1	Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.08-0.12
		F 80-120	F 80-120	F 75-110	F 75-110	F 90-110	F 70-100	F 60-100	F 100-140
626 ~ ① 27.5	15 千瓦以上 BT50 主轴	S1100-S900	S1100-S900	S1100-S900	S1100-S900	S1000-S800	S100G-S800	S900-S700	S1200-S900
		Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.10-0.12	Fz 0.1Q-0.12	Fz 0.08-0.1	Fz 0.10-0.12
		F 75-110	F 75-110	F 90-130	F 90-130	F 80-120	F 80-120	F 60-90	F 90-140
①28~①30	15 千瓦以上 BT50 主轴	S1000-S800	S1000-S800	S1000-S800	S1000-S800	S900-S700	S900-S700	S800-S600	S1200-S900
		Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.1-0.12	Fz 0.1-0.12	Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.08-0.1	Fz 0.1-0.12
		F 65-100	F 65-100	F 80-120	F 80-120	F 65-90	F 65-90	F 55-80	F 90-140

备注: s=转速 Fz=每转进刀量 F=进给

VMD 大钻头

VMD large bit

VMD 大钻头的特点和优势

Features and advantages of VMD large bit

特征优势 Main feature

- VMD 大直径暴力钻头，专门针对直径 45mm-180mm 大子 L 经加工，由刀体、连接杆、刀片座、导向钻、连接环等组成。
- 带导向钻的定芯设计，深孔加工起到导向作用。
- 与 U 钻通用 WC 系列刀片，方便采购。
- 刀片座模块化设计，刀夹可换，刃径可调范围直径 0-5mm。
- 刀体和连接杆可根据孔加工深度适配，有效减少刀具库存。
- 自带内冷出水系统，可连续加工使用。
- VMD large diameter violent bit is specially processed for large holes with diameters of 45mm-180mm. It is composed of cutter body, connecting rod, blade holder, guide drill, connecting ring etc.
- Positioning design with guide drill, and deep hole processing plays a guiding role.
- Universal WC series blade with U drill, convenient to purchase.
- Modular design of blade holder, replaceable blade holder, adjustable blade diameter range of 0-5mm.
- The tool body and connecting rod can be adapted according to the depth of hole processing, effectively reducing tool inventory.
- With internal cooling water system, can be used for continuous processing.



模块化系统，连接强度卓越，刀体与连接杆组合，加工深度自由调节。
Modular system, excellent connection strength, combination of cutter body and connecting rod, free adjustment of machining depth.

VMD 林 5 头 1 VMD large bit

铲钻

可换钻尖钻

组合钻

VMD 大钻

模块系

铲钻

可换钻尖钻

组合钻

带定心 U 钻

VMD 大钻头

模块系

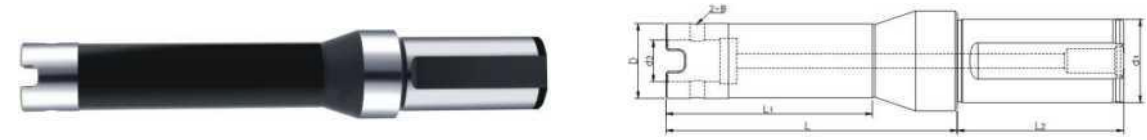
VMD 大钻头 VMD large bit

VMD 大钻头 VMD large bit

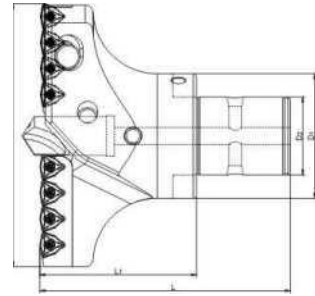
型号编码规则 Model coding rule

VMD 连接刀杆 VMD connecting cutter bar

大类 Big type	可调节直径范围 Adjustable diameter range	柄径 Shank diameter
VMD 系列大钻头	045/050 (表示最小钻头 L 直径 45mm, 最大钻孔直径 50mm)	13 (表示柄径 13mm)



VMD 大钻头 VMDDrill



型号 Code No	尺寸 Size						锁紧螺钉 Connecting screw	连接环 Drive Ring
	d1	d2	L	L1	D	L2		
VMD13-115L	32	13	115	77	28	70	M8	WET-281310
VMD13-200L		13	200	165	28			
VMD13-300L		13	300	265	28			
VMD16-125L	40	16	125	86	32	80		WET-321610
VMD16-200L		16	200	161	32			
VMD16-300L		16	300	261	32			
VMD22-148L		22	148	109	40		WET-402212	
VMD22-200L		22	200	161	40			
VMD22-300L		22	300	261	40			
VMD27-168L	50.5	27	168	133	48	M10	WET-482712	
VMD27-300L		27	300	265	48			
VMD32-186L		32	186	151	58			WET-583214
VMD32-300L		32	300	265	58			
VMD40-186L		40	186	151	70		WET-704014	
VMD40-300L		40	300	265	70			
VMD50-184L	50	184	149	80	WET-805016			
VMD50-300L	50	300	265	80				

型号 Code No	尺寸 Size					导向钻 Guide drill	刀片座 Insert Seat	原 Insf	螺钉 Clamp screw	扳手 Wrench
	D	d2	d1	L1	L					
VMD-045/050-13	45-50	13	28	50	85	PLD-1035	VMC-045050N/T	WCMX030204	M2.5X5	T8
VMD-050/055-13	50-55	13	28	50	85	TiN-H	VMC-050055N/T			
VMD-055/060-16	55-60	16	32	60	100	PLD-1238	VMC-055060N/T	WCMX030204	M2.5X6	
VMD-060/065-16	60-65	16	32	60	100		VMC-060065N/T			
VMD-065/070-16	65-70	16	32	60	100		TiN-H	VMC-065070N/T	WCMX050308	M3.0X8
VMD-070/075-22	70-75	22	40	70	115	PLD-1645 TiN-H	VMC-070075N/T			
VMD-075/080-22	75-80	22	40	70	115		VMC-075080N/T			
VMD-080/085-22	80-85	22	40	70	115		VMC-080085N/T			
VMD-085/090-27	85-90	27	48	70	120	WCMX06T308	VMC-085090N/T	M3.5X10	T15	
VMD-090/095-27	90-95	27	48	70	120		VMC-090095N/T			
VMD-095/100-27	95-100	27	48	70	120		VMC-095100N/T			
VMD-100/105-32	100-105	32	58	80	130	PLD-2045 TiN-H	VMC-100105N/T	WCMX050308	M3.0X8	T10
VMD-105/110-32	105-110	32	58	80	130		VMC-105110N/T			
VMD-110/115-32	110-115	32	58	80	130		VMC-110115N/T			
VMD-115/120-40	115-120	40	70	90	145	WCMX06T308	VMC-115120N/T	M3.5X10	T15	
VMD-120/125-40	120-125	40	70	90	145		VMC-120125N/T			
VMD-125/130-40	125-130	40	70	90	145		VMC-125130N/T			
VMD-130/135-40	130-135	40	70	90	145	PLD-2556 TiN-H	VMC-130135N/T	M4.0X10		
VMD-135/140-40	135-140	40	70	90	145		VMC-135140N/T			
VMD-140/150-50	140-150	50	80	100	160		VMC-140150N/T			
VMD-150/160-50	150-160	50	80	100	160	PLD-3068	VMC-150160N/T	M4.0X10		
VMD-160/170-50	160-170	50	80	100	160		VMC-160170N/T			
VMD-170/180-50	170-180	50	80	100	160	TiN-H	VMC-170180N/T			

连接环 Adapter ring



型号 Code No	外径 D	内径 d	厚度 S
WET-281310	28	13	10
WET-321610	32	16	10
WET-402212	40	22	12
WET-482712	48	27	12
WET-583214	58	32	14
WET-704012	70	40	14
WET-805016	80	50	16

铲钻

可换钻尖钻

组合钻

带定心钻

大钻头

模块系

铲钻

可换钻尖钻

组合钻

带定心钻

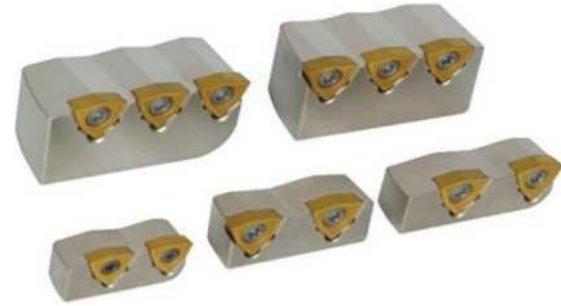
VMD 大钻头

模块系

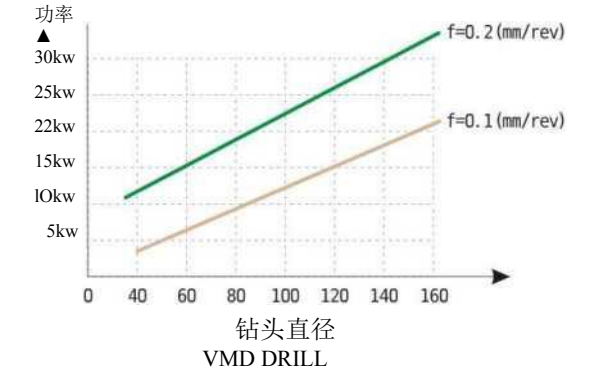
VMD 大钻头 VMD large bit

VMD 大钻头 VMD large bit

刀片座 Blade bearing

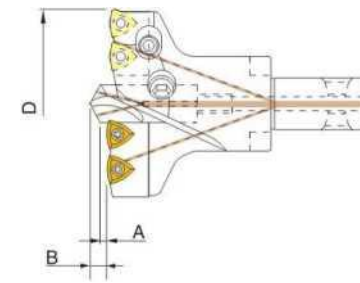


信息技术 Technical Data



型号 Code No	刀片座内 Insert Seat	刀片座外 Insert Seat	露 t A	刃数 Z	C. 螺钉 Clamp screw	扳手 Wrench
45-50	VMC-045050N	VMC-045050T	WCMX030204	2	M2.5X5	T8
50-55	VMC-050055N	VMC-050055T		2	M2.5X6	T10
55-60	VMC-055060N	VMC-055060T		2	M3.0X8	
60-65	VMC-060065N	VMC-060065T	WCMX050308	2	M3.5X10	
65-70	VMC-065070N	VMC-065070T		2	M3.5X10	
70-75	VMC-070075N	VMC-070075T		2	M3.5X10	
75-80	VMC-075080N	VMC-075080T	WCMX06T308	3	M4.0X10	T15
80-85	VMC-080085N	VMC-080085T				
85-90	VMC-085090N	VMC-085090T				
90-95	VMC-090095N	VMC-090095T	WCMX050308	3	M3.0X8	T10
95-100	VMC-095100N	VMC-095100T				
100-105	VMC-100105N	VMC-100105T				
105-110	VMC-105110N	VMC-105110T	WCMX06T308	3	M3.5X10	T15
110-115	VMC-110115N	VMC-110115T				
115-120	VMC-115120N	VMC-115120T				
120-125	VMC-120125N	VMC-120125T	WCMX080408	3	M4.0X10	T15
125-130	VMC-125130N	VMC-125130T				
130-135	VMC-130135N	VMC-130135T				
135-140	VMC-135140N	VMC-135140T	WCMX080408	3	M4.0X10	T15
140-150	VMC-140150N	VMC-140150T				
150-160	VMC-150160N	VMC-150160T				
160-170	VMC-160170N	VMC-160170T	WCMX080408	3	M4.0X10	T15
170-180	VMC-170180N	VMC-170180T				

导向钻高度设置 Pilot Drill



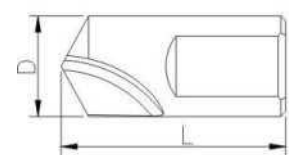
型号 Code No	2-4XD		4-6XD		6-8XD	
	A	B	A	B	A	B
45-55	1.6	4.0	1.8	4.2	2.0	4.4
55-75	1.8	5.4	2.0	5.6	2.2	5.8
75-100	2.2	6.5	2.5	6.8	2.8	7.1
100-120	2.4	7.7	2.8	8.1	3.2	8.5
120-170	3.2	9.9	3.6	10.3	4.0	10.7
170-180	3.5	12.2	3.9	12.6	4.3	13.0

推荐切削参数(VMD) Recommended Cutting Values For VMD

ISO 被削材	硬度	切削速 VC(m/min) 下限-推荐-上限	进给量 fz(mm/rev) 下限-推荐-上限							刀片 材质
			045 ~ 455	0) 55~0) 60	0) 60 ~ 0) 75	0) 75 ~ 4100	0) 100~0) 10	0) 105-0) 150	0) 150-0) 180	
(-0.25%) 低碳钢	180~280HB	120-150-180	0.06-0.08-0.1	0.07-0.08-0.11	0.08-0.1-0.12	0.1-0.12-0.14	0.14-0.17-0.2	0.08-0.1-0.12	0.1-0.12-0.14	AC330
(0.25%) 低碳钢	180~280HB	110-140-170	0.06-0.08-0.1	0.07-0.08-0.11	0.08-0.1-0.12	0.1-0.12-0.14	0.12-0.15-0.18	0.08-0.1-0.12	0.1-0.12-0.14	1030
(-Hb300) 低合金钢	180~300HB	90-110-130	0.06-0.08-0.1	0.07-0.08-0.11	0.08-0.1-0.12	0.1-0.12-0.14	0.12-0.15-0.18	0.08-0.1-0.12	0.1-0.12-0.14	1030
(Hb300-) 高合金钢	180~300HB	60-80-100	0.05-0.06-0.07	0.05-0.06-0.07	0.06-0.07-0.08	0.06-0.08-0.1	0.09-0.11-0.13	0.06-0.07-0.08	0.06-0.08-0.1	MU7025
不锈钢	200~330HB	60-90-110	0.04-0.05-0.07	0.04-0.07-0.11	0.06-0.09-0.12	0.08-0.11-0.14	0.1-0.14-0.18	0.06-0.1-0.12	0.08-0.11-0.14	1025
灰口铸铁	250HB	120-150-180	0.07-0.1-0.13	0.07-0.11-0.15	0.08-0.12-0.16	0.1-0.14-0.18	0.12-0.17-0.22	0.08-0.12-0.16	0.1-0.14-0.18	AC330
球墨铸铁	250HB	100-140-180	0.04-0.08-0.13	0.07-0.11-0.15	0.08-0.12-0.16	0.1-0.18-0.25	0.12-0.19-0.26	0.08-0.12-0.16	0.1-0.18-0.25	MU7025
锻造铝合金	-	180-230-280	0.04-0.05-0.06	0.07-0.01-0.12	0.08-0.1-0.13	0.09-0.12-0.15	0.12-0.16-0.2	0.08-0.1-0.13	0.09-0.12-0.15	MU3225
铸造铝合金	-	120-210-270	0.04-0.05-0.06	0.06-0.09-0.12	0.08-0.1-0.13	0.09-0.12-0.15	0.12-0.16-0.2	0.08-0.1-0.13	0.09-0.12-0.15	MU3225

注: *以上切削条件为大致基准, 需要根据机械刚性和工件刚性、切深等进行调整。 *转数 n (min-1)=W 削速度 Vc (m/min) X10004-3.14。 刀具直径(mm) *进给速度 Vf Gm/min=n(min-1) X 每齿进给量 fz(mm/t) X Z (刀齿数)

导向钻 Guide drill HSS C08%



型号 Code No	直径 D	长度 L
HSS-V1035TIN-H	10	35
HSS-V1238TIN-H	12	38
HSS-V1645TIN-H	16	45
HSS-2045TIN-H	50	45
HSS-2556TIN-H	25	56
HSS-3068TIN-H	30	68

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