BS1010

去毛刺刀具
Deburring tool

刀具说明　Cutting tool description

★ 刀具类型
内孔正反去毛刺倒角刀系列是为满足现代化生产需求，创新的技术使正反向去毛刺更加简单，一次过孔双面去毛刺倒角，高效解决去毛刺难题。

★Type of the cutting tools
Using the deburring and chamfering on the front and back side one-pass processing, we can help our customers solving some processing issues. We can finish the deburring and chamfering for the front and back side with only one hole process.

刀具类型有两种:
Knives are divided into two types:





★适用于任何机床
刀具可装夹于任何一台旋转机器上。如钻床、铣床、车床、CNC机床及电动工具等。

★Applicable to any machine tool
The cutter can be clamped on any rotary machine. Such as drilling machines, milling machines, lathes, CNC machines and power tools.

★适用范围广
不仅可以解决普通机械加工工件中遇到的去毛刺倒角需求，更适用于精密难倒角的加工件。如：航空、军工、汽车、工业零部件，发动机缸体，圆柱体，球体通孔，内壁孔等。

★Wide application
It can not only solve the need of deburring chamfering in common machining workpiece, but also is suitable for machining workpiece with precise and difficult chamfering. Such as: aviation, military, automotive industry parts, engine cylinder, cylinder, ball through the hole, the inner wall hole.

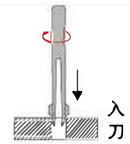
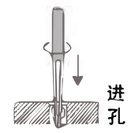
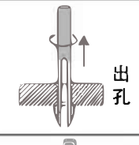
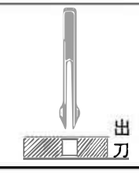


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Deburring tool

加工原理 The processing principle

★整体型去毛刺倒角刀　★integral burr chamfering cutter

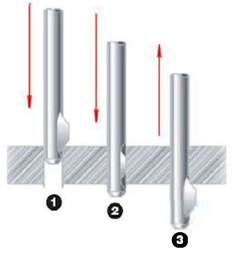
倒角加工解说示意图
Chamfering schematic diagram

正转入孔，当内孔倒角去毛刺刀的前端导向体进入孔中时，刀刃上45度角切削刃依靠刀杆自身的弹性强度对孔面进行倒角和去毛刺。 When the leading body of the inner hole chamfering and deburring cutter enters the hole, the 45-degree cutting edge can finish chamfering and deburring of the hole surface based on its own elastic strength of the cutter bar.	
过孔，进入孔对面端倒角和去毛刺。刀刃过孔是依靠弹性收缩改变了刀刃的外径尺寸，刀刃的圆周外角经过倒角处理,过孔时不会对原孔壁产生切削与损伤，过孔后自然张开实现倒角切削。 Then, passing through the hole and working on the opposite of the hole. The outer diameter can be changed by the cutter bar elastic shrinkage when passing through the hole. The cutting edge peripheral outer angle has been chamfered, which will not damage the hole wall. Then, opening naturally to chamfer.	
当刀体深入孔 壁下端时，不论张开还是闭合，都会相应的产生 倒角切削。 When the cutter enters to the end of the hole, whether it ' s open or closed, chamfering will be generated correspondingly. In particular, when retreating the cutter.	
退刀时，刀刃闭合，内端33度角改变到近似45度角，可以达到倒角近似45度。 The blade is closed and the inner 33-degree angle changes to 45-degree, which can finish the 45-degree chamfering.	

★分体型去毛刺倒角刀
★Split deburring and chamfering cutter

结构介绍：
分体型去毛刺倒角刀由刀杆体、刀片和弹性闭合槽构成；前端为入孔导向体，刀片前端为45°，内端为33°。
Structure introduction:
The split deburring and chamfering cutter is composed of one cutter bar, one blade and one elastic closed groove. The front end is the hole entering director. The front end of the blade is 45- degree, inner end is 33- degree.

使用方法：
1 启动倒角刀正转，瞄准孔 位，直插入孔内即可完成正面倒角；
2 维持垂直状态继续插入，进入工件孔，刀片即会缩入本体中；
3 穿过工件后，待刀片完全离开后刀片弹出，再垂直往上拔出倒角刀，即完成背面 倒角。
Application method:
1.Start the cutter turning forward, aiming at the hole position, inserting into the hole directly, then the front side chamfering and deburing finished.
2.Continuing, entering to the workpiece hole. The blade will shrink in the hole.
3.After passing through the hole, the blade will pop up after leaving the workpiece completely. Then, pulling out the cutter vertically upward, the back side chamfering finished.



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Deburring tool

刀具选型 Cutting tool selection

★刀具设计简洁、高效稳定，加工过程中，不需要复杂的或耗时的预调过程。钻孔的直径直接决定了所需要的刀具尺寸。
您需要提供如下尺寸：

1.加工工件的孔径和深度尺寸，以及工件结构
2.加工工件材质
3.加工要求：去毛刺还是倒角
4.加工机床

★The tool design is simple, efficient and stable. No complicated or time-consuming presetting process. Diameter of the hole determines the cutter size. You need to provide the following dimensions:

1. machining workpiece aperture and depth size, as well as the structure of the workpiece
2. Material of the workpiece
3. Processing requirements: deburring or chamfering
4. Machine tools

如何解决去毛刺和倒角过程中产生的问题
How to solve the problem of deburring and chamfering

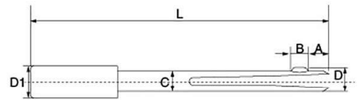
★会不会刮伤内孔或扩孔 很多客户都会顾虑会刮伤内孔，扩大内孔，这个是完全无需顾虑的，为了保证生产效率刀具可一直旋转入孔，内孔光洁度不达到Ra0.8以下是不会刮花内孔或扩孔的(铝件或铜件需选择比相应孔径小一点的，比如加工铝件3.2的，选择2.8- -3.18就可以)。	★Will it scratch or enlarge the inner hole Many customers concern if the cutter will scratch or enlarge the inner hole. Actually, we don ' t need to worry about it at all. In order to guarantee the production efficiency,the cutter can be rotated into the whole hole. Unless the inner hole surface roughness reach at Ra0.8, the inner hole will not be affected at all(Aluminum or copper pieces need to choose smaller bore diameter, for example, to process aluminum workpiece 3.2, It ' s better to choose 2.8~3.18).
★倒角尺寸太小，毛刺没有被去除 1.是否是刀具型号太小导致； 2.转速和进给重新调试。	★The chamfering size is too small, and the burrs can ' t be removed. 1. Whether the tool model is too small ; 2. Rotate speed and feed need to be retest.
★倒角尺寸太大 1.进给量太小； 2.选择的刀具型号太大； 3.刀片力太强(分体式去毛刺倒角刀的刀片强度可自行调节)。	★The chamfering size is too large 1. Feed is too small; 2. The tool model is too large; 3. The blade force is too strong(the blade strength of the split deburring and chamfering cutter can be adjustedby itself).
★使用寿命太短 1.工件或者刀具装夹固定强度不够； 2.加工机床不够稳定(轴向磨损等等)； 3.工件硬度太高(工件适用于工件硬度在HRC32以内)。	★The working life is too short 1. Workpiece or tool clamp is fixed tightly; 2. Machine tool is not stable(axial wear, etc); 3. Workpiece hardness is too high(the cutter can be applied to the workpiece with hardness lower than HRC32).

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整体型去毛刺刀—不等柄单刃

Integral deburring tool - single blade with unequal shank





标准长 Standard Length

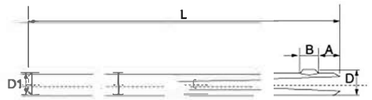
型 号	孔 径	柄径D1	缩柄径C	总长L	AR寸	BR寸	刀刃D	推荐转速R.P.M
BS1010-001	0.8-0.9	3	0.7	45	1	1.5	1.05	1800
BS1010-002	0.9-1.0	3	0.8	45	1	1.5	1.2	1800
BS1010-003	1.0-1.1	3	0.9	45	1	1.5	1.35	1800
BS1010-004	1.1-1.2	3	1	45	1	1.5	1.5	1800
BS1010-005	1.2-1.3	3	1.1	45	1	1.5	1.65	1800
BS1010-006	1.3-1.4	3	1.2	45	1	1.5	1.8	1800
BS1010-007	1.4-1.5	3	1.3	45	1	1.5	1.95	1800
BS1010-008	1.5-1.6	3	1.4	50	2	2.5	2.1	1500
BS1010-009	1.6-1.7	3	1.5	50	2	2.5	2.25	1500
BS1010-010	1.7-1.8	3	1.6	50	2	2.5	2.4	1500
BS1010-011	1.8-1.9	3	1.7	60	2	2.5	2.55	1500
BS1010-012	1.9-2.0	3	1.8	60	2	2.5	2.65	1500
BS1010-013	2.0-2.2	3	1.9	60	2	2.5	2.8	1500
BS1010-014	2.2-2.4	3	2.1	80	2	2.5	3.15	1500
BS1010-015	2.4-2.6	3	2.3	80	2	2.5	3.45	1500
BS1010-016	2.6-2.8	3	2.5	80	2	2.5	3.7	1500

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整体型去毛刺刀—单刃

Integral deburring tool - single blade





标准长 Standard Length

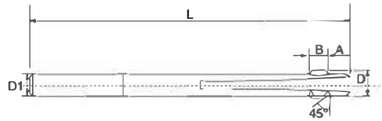
型 号	孔 径	柄径D1	总长L	AR寸	BR寸	刀刃外径	推荐转速R.P.M
BS1010-017	2.8-3.18	2.75	101.6	3.18	4.45	4.00	1200
BS1010-018	3.18-3.55	3.15	101.6	3.18	4.45	4.34	1200
BS1010-019	3.55-3.96	3.58	101.6	3.18	4.45	4.74	1200
BS1010-020	3.96-4.36	3.9	101.6	3.18	4.45	5.54	1200
BS1010-021	4.36-4.74	4.34	101.6	3.18	4.45	5.94	1200
BS1010-022	4.74-5.15	4.72	101.6	3.18	6.22	6.35	1200
BS1010-023	5.15-5.56	5.13	101.6	3.18	6.22	6.78	1200

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整体型去毛刺刀—双刃

Integral deburring knife - double-edged





标准长 Standard Length

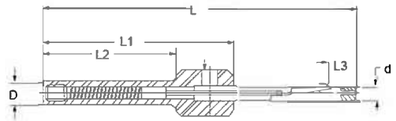
型 号	孔 径	柄径D1	总长L	A尺寸	B尺寸	刀刃外径	推荐转速R.P.M
BS1010-024	5.56-5.94	5.54	101.6	6.48	6.22	7.92	800-1000
BS1010-025	5.94-6.35	5.92	101.6	6.48	6.22	8.33	800-1000
BS1010-026	6.35-6.75	6.32	101.6	6.48	6.22	8.71	800-1000
BS1010-027	6.75-7.13	6.73	101.6	6.48	6.22	9.12	800-1000
BS1010-028	7.13-7.54	7.11	101.6	6.48	6.22	9.53	800-1000
BS1010-029	7.54-7.95	7.52	101.6	6.48	6.22	9.91	800-1000
BS1010-030	7.95-8.33	7.92	101.6	7.24	6.48	10.31	800-1000
BS1010-031	8.33-8.71	8.31	101.6	7.24	6.48	10.72	800-1000
BS1010-032	8.71-9.11	8.69	101.6	7.24	6.48	11.1	800-1000
BS1010-033	9.11-9.52	9.09	101.6	7.24	6.48	11.51	800-1000
BS1010-034	9.52-9.90	9.5	112.7	8	6.48	12.7	800-1000
BS1010-035	9.90-10.31	9.88	112.7	8	6.48	13.08	600

BS1010

小孔可换刀片倒角刀

A chamfering cutter with a replaceable blade through a small hole





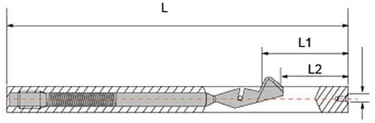
标准长 Standard Length

型 号	规 格	尺寸（L）	尺寸（L2）	尺寸（L3）	刀片类型	推荐转速R.P.M
BS1010-036	3	87.5	35	3.5	sv-1/8#	800-1000
BS1010-037	3	98	38	3.5	sv-1/8#	800-1000
BS1010-038	3	105	40	3.8	sv-3/16#	800-1000

BS1010

可换刀片倒角刀
Replaceable blade chamfering cutter





标准长 Standard Length

型 号	规 格	尺寸（L）	尺寸（L2）	刀片类型	推荐转速R.P.M
BS1010-039	6	110	5	1#	800-1000
BS1010-040	7	110	5	1#	800-1000
BS1010-041	8	115	5	2#	800-1000
BS1010-042	9	127	5	3#	800-1000
BS1010-043	10	127	5	3#	800-1000
BS1010-044	11	127	5	3-1/2#	600
BS1010-045	12	127	5	3-1/2#	600
BS1010-046	13	127	10	3-1/2#	600
BS1010-047	14	140	10	4#	600
BS1010-048	15	140	10	4#	600
BS1010-049	16	155	10	4#	600
BS1010-050	17	155	10	4#	600
BS1010-051	18	155	10	4#	600
BS1010-052	19	180	10	4#	600



标准长 Standard Length

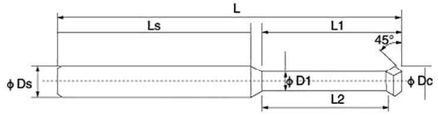
型 号	规 格	尺寸（L）	尺寸（L2）	刀片类型	推荐转速R.P.M
BS1010-053	20	180	10	5#	600
BS1010-054	21	180	10	5#	600
BS1010-055	22	180	10	5#	600
BS1010-056	23	180	10	5#	600
BS1010-057	24	180	10	5#	600
BS1010-058	25	180	10	5#	600

BS1010

整体钨钢合金正反倒角刀
Solid carbide turning chamfering cutter

最小加工直径φ3.1 Minimum machining diameter





直径极小，对于复杂的工件形状也可进行正反倒角加工!
●便于较深位置的工件边缘及钻孔的反倒角加工的长颈规格实现了标准化。
●采用耐熔敷性高人氮化铬涂层。

The diameter is very small, can be applied to complex workpiece.
●The long neck specification design can be applied to the deep position of the edge of the workpiece.
●Coated with high melting, high.

型 号	φDc	φD1	φDs	L	L1	L2	LS	Cmax
BS1010-059	3.0	1.8	1.8	3	12	11.4	27.0	0.6
BS1010-060	4.0	2.4	2.4	4	16	15.2	27.5	0.8
BS1010-061	5.0	2.8	2.8	5	20	18.9	28.0	1.1
BS1010-062	6.0	3.0	3.0	6	24	22.5	33.5	1.5
BS1010-063	8.0	4.8	4.8	8	28	24.6	35.0	1.6
BS1010-064	10.0	6.4	6.4	10	35	31.2	38.0	1.8
BS1010-065	12.0	7.8	7.8	12	42	37.6	40.0	2.1

工件材料	切削速度 Vc(m/min)	每刃进给量 tz(mm/刃)
SS材料、碳素钢、合金钢	70-100	0.05-0.1
不锈钢	60-80	0.03-0.08
铸铁、球铁	40-80	0.05-0.1
铝合金、非铁金属	80-150	0.05-0.12

1、该表为选择切削条件的大致标准，因机床及工件的状态而异，请适时调整；
2、湿式加工的加工面一般更为光洁；
3、反面侧与正面侧相比，有时需要降低切削条件；
4、出现2次毛刺时，请减少进给量。

1. The table is a rough standard for selecting cutting conditions, and varies with the state of machine tools and workpieces.
2. The processing surface of wet machining is generally more smooth;
3. Compared with the front side, the cutting conditions need to be reduced.
4. When the burr occurS twice, please reduce the quantity of feed.