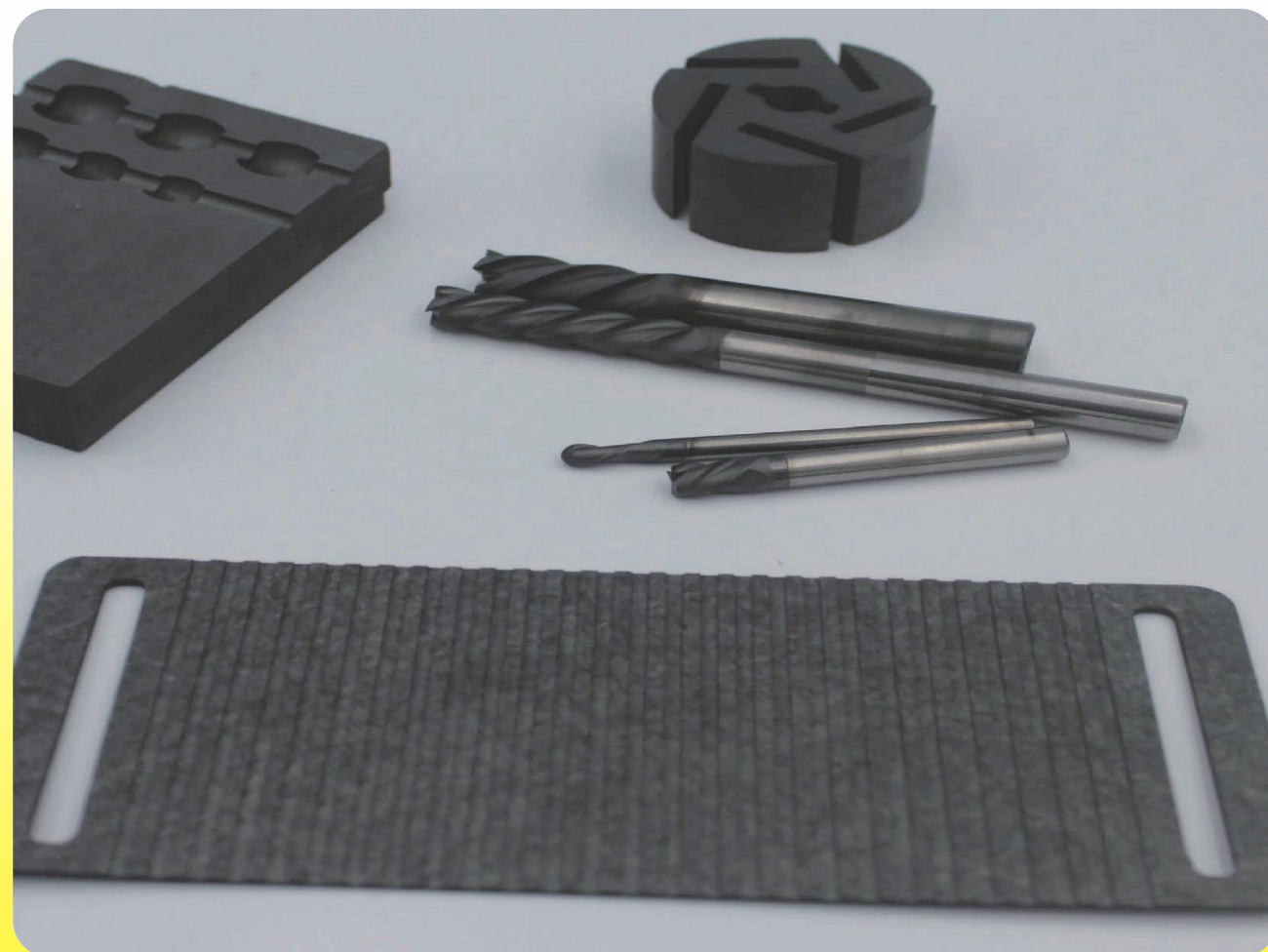


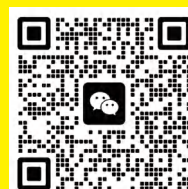


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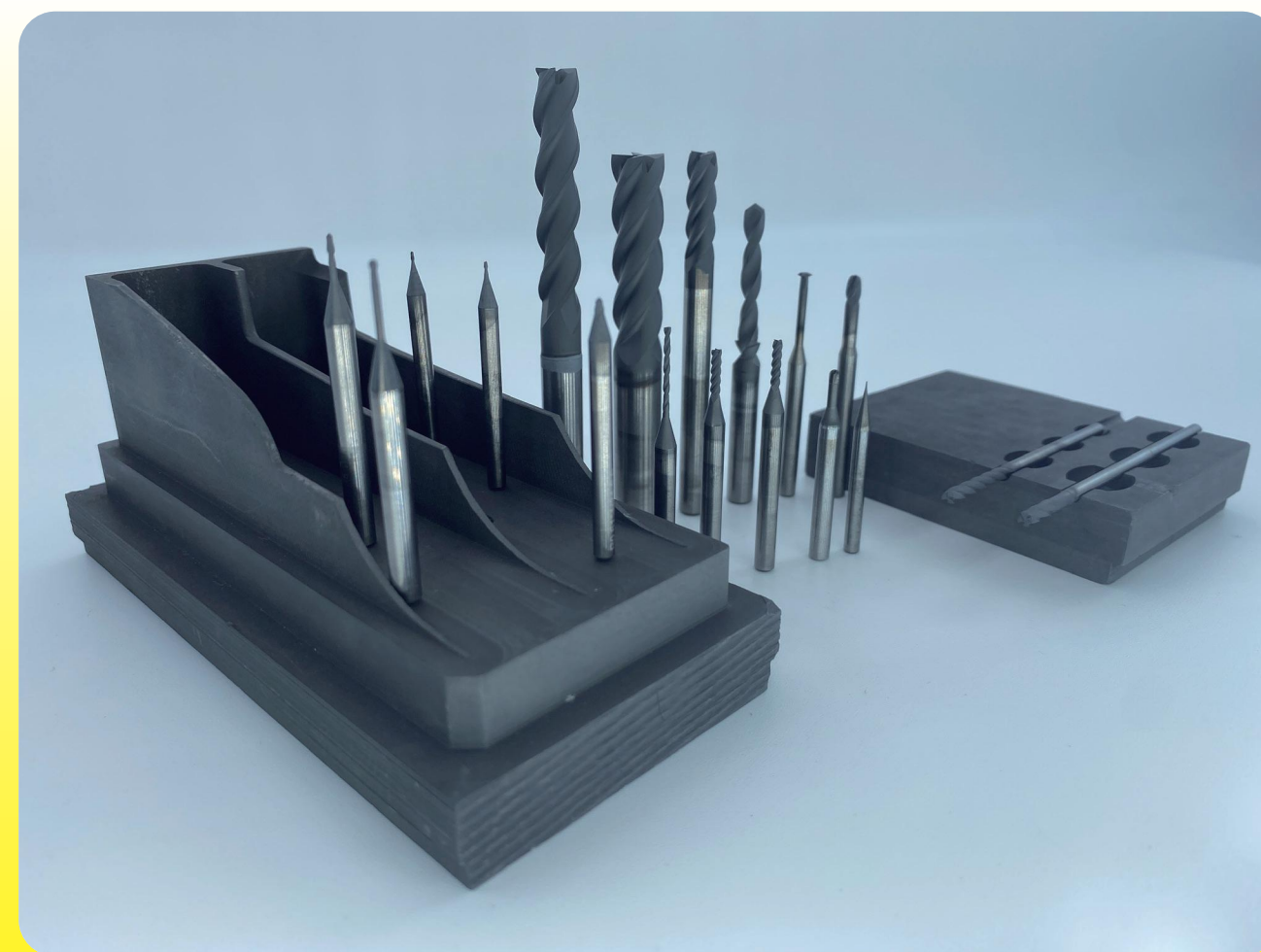


2024-2025样本



方瀚工具源头生产厂家

石墨工具 Graphite tool



上海方瀚精密工具有限公司

Shanghai Fonhae Precision Tools Co., Ltd.



精密机械加工刀具制造商

- 成立于2016年
- 位于上海市金山工业区

专业提供硬质合金，金属陶瓷刀具研发，生产，销售和服务的企业。主要服务于航空航天，汽车，消费电子，液压气动，工程机械及精密机械等客户。

Precision machining tool manufacturer

- Established in 2016
- Located in Jinshan Industrial Zone, Shanghai P.R. China.

The company specializes in providing tungsten carbide, cermet tools research and development, production, sales and service. Mainly serve aerospace, automotive, consumer electronics, pneumatic hydraulic industry, engineering machinery and precision machinery customers.



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主要设备全为进口高精密数控工具磨床

The main equipment is imported high precision CNC tool grinding machine



主要设备

公司具有完备的硬质合金刀具生产线，无芯磨床，外圆磨床，高精度5轴数控磨刀机床共有30台套。主力机型为：进口高精密数控工具磨床！

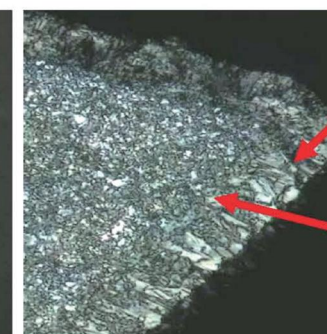
Main equipment

The company has a complete production line of tungsten carbide tools, coreless grinding machine, cylindrical grinding machine, high-precision 5-axis CNC grinding machine, with a total of 30 sets. The main model is: imported high-precision CNC tool grinding machine!

D1.0铣刀断面图
D1.0 Milling cutter profile
1500X



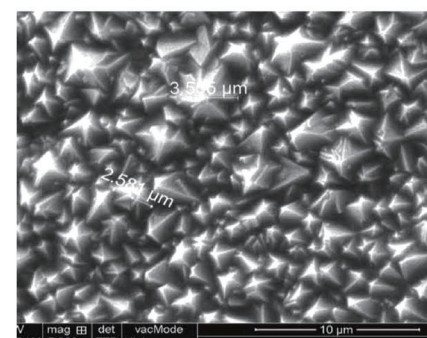
D1.0铣刀断面图
D1.0 Milling cutter profile
3000X



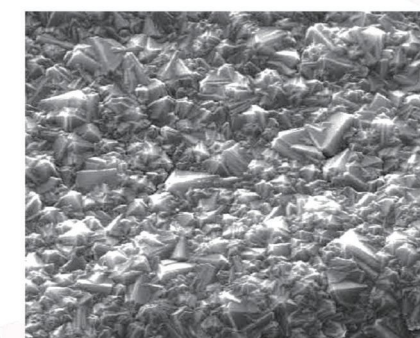
侧截面
金刚石颗粒
Side section
diamond particles

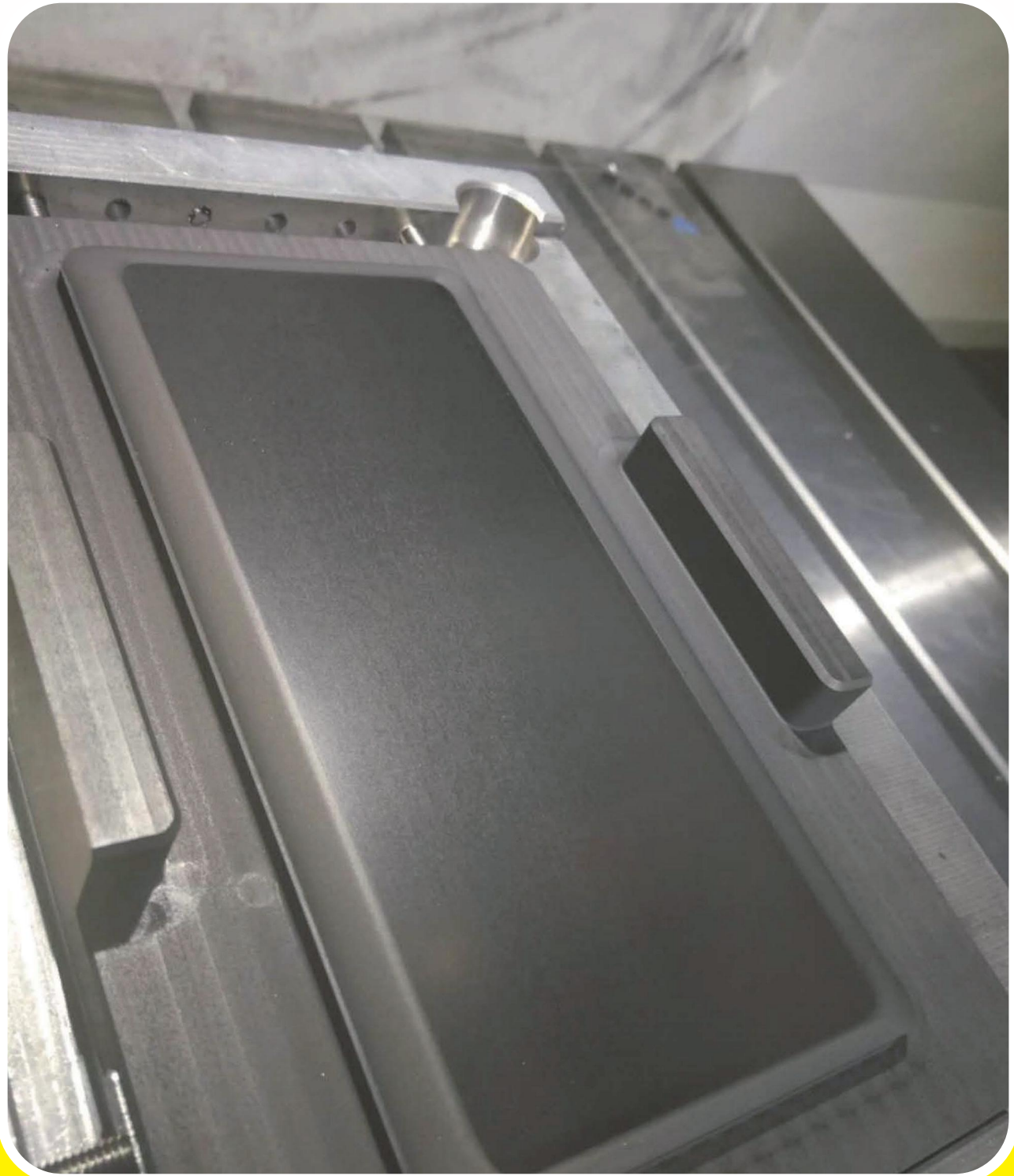
与合金基体
完美结合
Perfect combination
with alloy matrix

粗晶涂层外观形貌
Appearance of coarse
crystal coating
5000X



复合晶涂层外观形貌
Appearance of composite
crystal coating
5000X





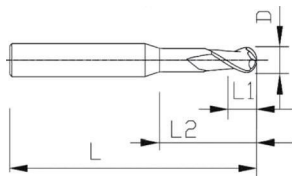
热弯模具用金刚石涂层立铣刀

DIA Coating For Graphite Hot Bending Die Endmill Series



BT-DIA-GHBD

- 涂层Grade: 超大晶粒CVD金刚石涂层
Super large grain CVD diamond coating
- 材质Material: 金刚石涂层专用超硬合金
Diamond coating special superhard alloy
- 螺旋角Helix: 30°
- 外径公差DH: 0~-0.015mm

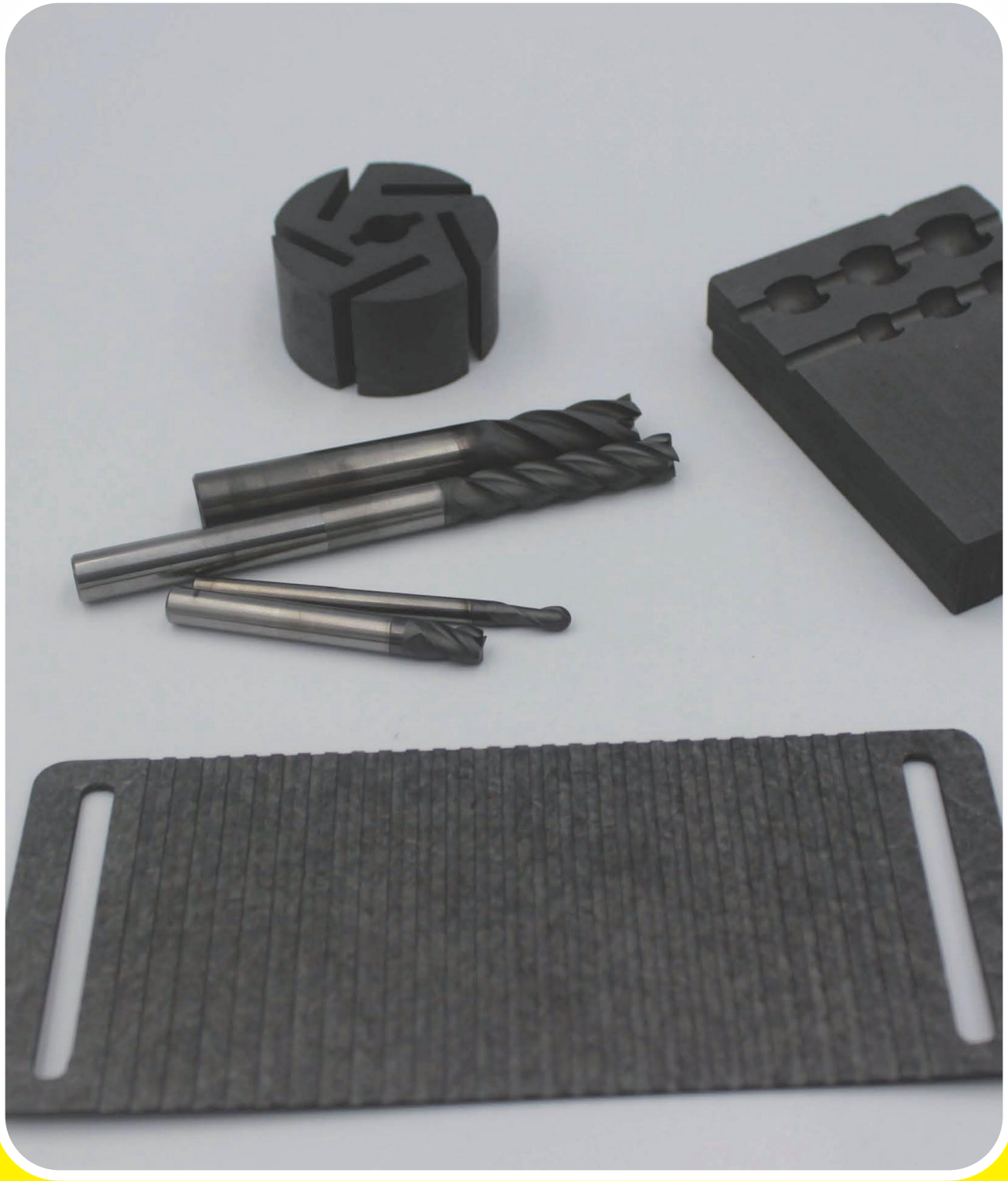


产品编码 Product code	刃径 D Cutting edge diameter	刃长 L1 Cutting edge length	避空长 L2 Hiding length	柄长 Shank length	全长 L Overall length	柄径 d Shank diameter	备库 Stock
GHBD0804	R0.5	2	6	35	45	4	♻️
GHBD0805	R0.5	2	8	35	45	4	♻️
GHBD1010	R0.5	3	6	35	45	4	♻️
GHBD1011	R0.5	3	8	35	45	4	♻️
GHBD2003	R1	3	8	35	45	4	♻️
GHBD2004	R1	3	10	35	45	4	♻️
GHBD1501	R0.75	3	8	35	45	4	♻️
GHBD1502	R0.75	3	10	33	45	4	♻️
GHBD4004	4.0	R0.2	12	28	45	4	♻️
GHBD4005	4.0	R0.5	12	28	45	4	♻️
GHBD6005	6.0	R0.5	12	28	45	6	♻️
GHBD1105	10.0	R0.5	15	45	75	10	♻️

♻️标准在库Stock 📦需订制2周交期2 Weeks

碳钢 合金钢 (<35HRC) Carbon steel Alloy steel	合金钢 (35-48HRC) Alloy steel	不锈钢 Stainless	灰铸铁 球墨铸铁 (<32HRC) Cast iron Ductile cast iron	铸造铝合金 (Si>12%) Aluminum alloys	石墨 Graphite	玻璃纤维 Glass fiber	碳纤维 Carbon fiber
○				○	◎	○	○

○可以使用Accessible ◎性能最佳Best performance



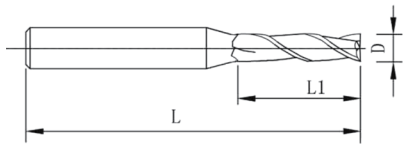
二刃平头标准型金刚石涂层立铣刀

DIA Coating For Graphite Two Flute Ball Endmill Series



BT-DIA-DEDS

- 涂层Grade: CVD金刚石涂层
CVD diamond coating
- 材质Material: 金刚石涂层专用超硬合金
Diamond coating special superhard alloy
- 螺旋角Helix: 30°
- 外径公差DH: 0~-0.015mm



产品编码 Product code	刃径 D Cutting edge diameter	刃长 L1 Cutting edge length	柄长 Shank length	全长 L Overall length	柄径 d Shank diameter	备库 Stock
DESD0001	0.1	0.3	35	45	4	☑
DESD0002	0.2	0.5	35	45	4	☑
DESD0003	0.3	0.5	35	45	4	☑
DESD0004	0.4	0.5	35	45	4	☑
DESD0005	0.5	1.5	35	45	4	☑
DESD0006	0.6	1.5	35	45	4	☑
DESD0007	0.7	2	35	45	4	☑
DESD0008	0.8	2	35	45	4	☑
DESD0009	0.9	2	35	45	4	☑
DESD0010	1.0	3	35	45	4	☑
DESD0015	1.5	3	35	45	4	☑
DESD0020	2.0	6	35	45	4	☑
DESD0030	3.0	8	35	45	6	☑
DESD0040	4.0	12	32	45	6	☑
DESD0050	5.0	15	32	50	6	☑
DESD0060	6.0	15	32	50	6	☑
DESD0080	8.0	20	38	60	8	☑
DESD0100	10.0	25	48	75	10	☑
DESD0120	12.0	25	48	75	12	☑

☑标准在库Stock ☑需订制2周交期2 Weeks

碳钢 合金钢 (<35HRC) Carbon steel Alloy steel	合金钢 (35-48HRC) Alloy steel	不锈钢 Stainless	灰铸铁 球墨铸铁 (<32HRC) Cast iron Ductile cast iron	铸造铝合金 (Si>12%) Aluminum alloys	石墨 Graphite	碳纤维 Carbon fiber
				○	◎	○

○可以使用Accessible ◎性能最佳Best performance

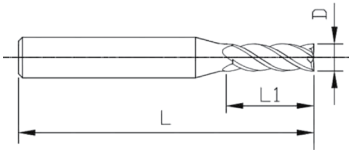
四刃平头标准型金刚石涂层立铣刀

DIA Coating For Graphite Four Flute Ball Endmill Series



BT-DIA-DEMS

- 涂层Grade：CVD金刚石涂层
CVD diamond coating
- 材质Material： 金刚石涂层专用超硬合金
Diamond coating special superhard alloy
- 螺旋角Helix： 30°
- 外径公差DH： 0~-0.015mm



产品编码 Product code	刃径 D Cutting edge diameter	刃长 L1 Cutting edge length	柄长 Shank length	全长 L Overall length	柄径 d Shank diameter	备库 Stock
DEMD0001	1.0	3	35	45	4	☐
DEMD0002	2.0	6	35	45	4	☐
DEMD0003	3.0	9	35	45	4	☐
DEMD0004	4.0	12	35	45	4	☐
DEMD0005	5.0	15	35	50	6	☐
DEMD0006	6.0	15	35	50	6	☐
DEMD0007	7.0	15	35	60	8	☐
DEMD0008	8.0	20	35	60	8	☐
DEMD0009	9.0	20	45	75	10	☐
DEMD0010	10.0	25	45	75	10	☐
DEMD0011	11.0	25	45	75	12	☐
DEMD0012	12.0	25	45	75	12	☐
DESD0016	16.0	30	60	100	16	☐
DESD0020	20.0	35	60	100	20	☐

☐标准在庫Stock ☐需订制2周交期2 Weeks

碳钢 合金钢 (<35HRC) Carbon steel Alloy steel	合金钢 (35-48HRC) Alloy steel	不锈钢 Stainless	灰铸铁 球墨铸铁 (<32HRC) Cast iron Ductile cast iron	铸造铝合金 (Si>12%) Aluminum alloys	石墨 Graphite	碳纤维 Carbon fiber
				○	◎	○

○可以使用Accessible ◎性能最佳Best performance

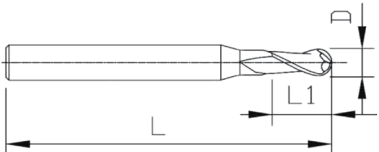
二刃球头标准型金刚石涂层立铣刀

DIA Coating For Graphite Two Flute Ball Endmill Series



BT-DIA-DEBD

- 涂层Grade：CVD金刚石涂层
CVD diamond coating
- 材质Material： 金刚石涂层专用超硬合金
Diamond coating special superhard alloy
- 螺旋角Helix： 30°
- 外径公差DH： 0~-0.015mm

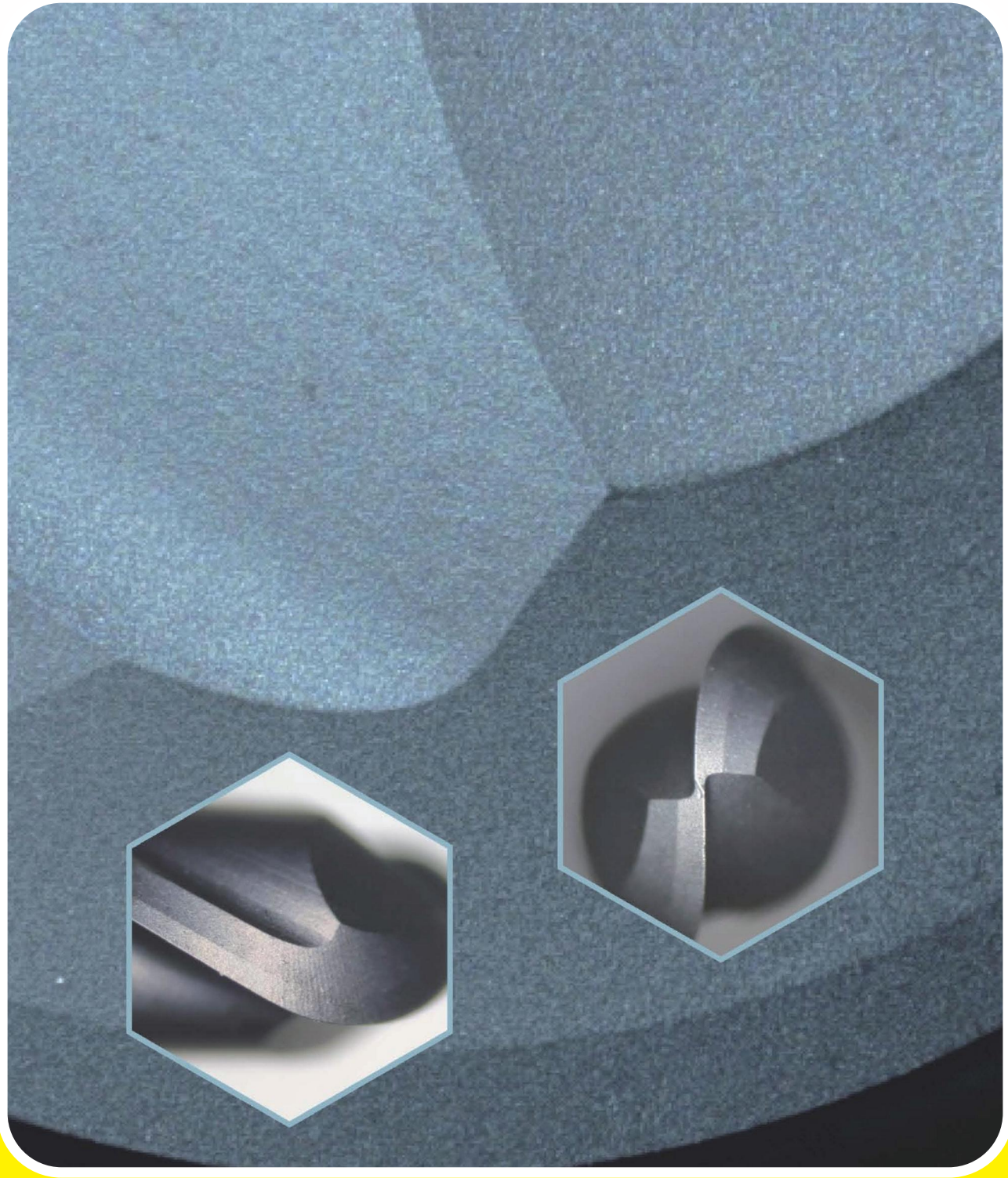


产品编码 Product code	刃径 D Cutting edge diameter	刃长 L1 Cutting edge length	柄长 Shank length	全长 L Overall length	柄径 d Shank diameter	备库 Stock
DEBD0001	R0.1	0.5	35	45	4	☐
DEBD0015	R0.15	0.5	35	45		☐
DEBD0020	R0.2	0.5	30	45		☐
DEBD0025	R0.25	0.5	28	45		☐
DEBD0030	R0.3	1.8	28	45		☐
DEBD0040	R0.4	3	28	45		☐
DEBD0050	R0.5	4	28	45		☐
DEBD0075	R0.75	5	28	45		☐
DEBD0100	R1	6	27	50		☐
DEBD0150	R1.5	9	30	50		☐
DEBD0200	R2	12	35	60		☐
DEBD0250	R2.5	15	42	75		☐
DEBD0300	R3	15	42	60	6	☐
DEBD0301		25	40	65		☐
DEBD0302		25	40	75		☐
DEBD0303		25	60	90		☐
DEBD0304	R4	25	70	100	8	☐
DEBD0305		25	90	120		☐
DEBD0400		20	40	60		☐
DEBD0401		25	40	75		☐
DEBD0402	R5	25	60	90	10	☐
DEBD0403		30	70	100		☐
DEBD0404		30	90	120		☐
DEBD0500		25	40	75	12	☐
DEBD0501	R6	25	60	90		☐
DEBD0502		30	70	100		☐
DEBD0503		30	90	120		☐
DEBD0504		30	120	150		☐
DEBD0600	R6	25	40	75		☐
DEBD0601		25	60	90		☐
DEBD0602		30	70	100		☐
DEBD0603		30	90	120		☐
DEBD0604		30	120	150		☐

☐标准在庫Stock ☐需订制2周交期2 Weeks

碳钢 合金钢 (<35HRC) Carbon steel Alloy steel	合金钢 (35-48HRC) Alloy steel	不锈钢 Stainless	灰铸铁 球墨铸铁 (<32HRC) Cast iron Ductile cast iron	铸造铝合金 (Si>12%) Aluminum alloys	石墨 Graphite	碳纤维 Carbon fiber
				○	◎	○

○可以使用Accessible ◎性能最佳Best performance



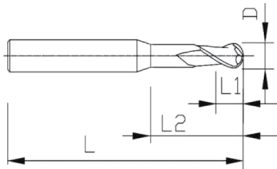
二刃球头长颈型金刚石涂层立铣刀

DIA Coating For Graphite Two Flute Ball Long Neck Endmill Series



BT-DIA-DLBD

- 涂层Grade：超大晶粒CVD金刚石涂层
Super large grain CVD diamond coating
- 材质Material：金刚石涂层专用超硬合金
Diamond coating special superhard alloy
- 螺旋角Helix：30°
- 外径公差DH：0~-0.015mm



产品编码 Product code	刃径 D Cutting edge diameter	刃长 L1 Cutting edge length	避空长 L2 Hiding length	柄长 Shank length	全长 L Overall length	柄径 d Shank diameter	备库 Stock
DLBD0201	R0.1	0.3	2	35	45	4	☐
DLBD0202		0.3	4	35	45		☐
DLBD0203		0.3	6	35	45		☐
DLBD0204		0.3	8	35	45		☐
DLBD0205		0.3	10	32	50		☐
DLBD0206		0.3	12	30	50		☐
DLBD0207	R0.2	0.3	15	30	55	4	☐
DLBD0401		0.5	2	35	45		☐
DLBD0402		0.5	4	35	45		☐
DLBD0403		0.5	6	35	45		☐
DLBD0404		0.5	8	35	45		☐
DLBD0405		0.5	10	32	50		☐
DLBD0406	R0.3	0.5	12	30	50	4	☐
DLBD0407		0.5	15	30	55		☐
DLBD0601		1.5	2	35	45		☐
DLBD0602		1.5	4	35	45		☐
DLBD0603		1.5	6	35	45		☐
DLBD0604		1.5	8	35	45		☐
DLBD0605	R0.4	1.5	10	32	50	4	☐
DLBD0606		1.5	12	30	50		☐
DLBD0607		1.5	15	30	55		☐
DLBD0801		2	2	35	45		☐
DLBD0802		2	4	35	45		☐
DLBD0803		2	6	35	45		☐
DLBD0804	R0.5	2	8	35	45	4	☐
DLBD0805		2	10	32	50		☐
DLBD0806		2	12	30	50		☐
DLBD0807		2	15	30	55		☐
DLBD1001		3	4	35	45		☐
DLBD1002		3	6	35	45		☐
DLBD1003	R0.5	3	8	35	45	4	☐
DLBD1004		3	10	35	45		☐
DLBD1005		3	12	32	50		☐
DLBD1006		3	15	30	50		☐
DLBD1007		3	18	30	55		☐
DLBD1008		3	20	30	55		☐

☐标准在库Stock ☐需订制2周交期2 Weeks

碳钢 合金钢 (<35HRC) Carbon steel Alloy steel	合金钢 (35-48HRC) Alloy steel	不锈钢 Stainless	灰铸铁 球墨铸铁 (<32HRC) Cast iron Ductile cast iron	铸造铝合金 (Si>12%) Aluminum alloys	石墨 Graphite	碳纤维 Carbon fiber
				○	◎	○

○可以使用Accessible ◎性能最佳Best performance

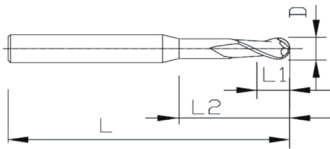
二刃球头长颈型金刚石涂层立铣刀

DIA Coating For Graphite Two Flute Ball Long Neck Endmill Series



BT-DIA-DLBD

- 涂层Grade：超大晶粒CVD金刚石涂层
Super large grain CVD diamond coating
- 材质Material：金刚石涂层专用超硬合金
Diamond coating special superhard alloy
- 螺旋角Helix：30°
- 外径公差DH：0~-0.015mm



产品编码 Product code	刃径 D Cutting edge diameter	刃长 L1 Cutting edge length	避空长 L2 Hiding length	柄长 Shank length	全长 L Overall length	柄径 d Shank diameter	备库 Stock
DLBD1501	R0.75	3	8	35	45	4	☐
DLBD1502		3	10	33	45		☐
DLBD1503		3	12	32	50		☐
DLBD1504		3	15	30	50		☐
DLBD1505		3	18	30	55		☐
DLBD1506	R1	3	20	30	55	4	☐
DLBD2001		3	4	35	45		☐
DLBD2002		3	6	35	45		☐
DLBD2003		3	8	35	45		☐
DLBD2004		3	10	35	45		☐
DLBD2005		3	12	32	50		☐
DLBD2006		3	15	30	50		☐
DLBD2007		3	18	30	55		☐
DLBD2008	R1.5	3	20	30	55	4	☐
DLBD3001		3	4	35	45		☐
DLBD3002		3	6	35	45		☐
DLBD3003		3	8	35	45		☐
DLBD3004		3	10	35	45		☐
DLBD3005	R2	3	12	35	45	4	☐
DLBD4001		3	6	28	45		☐
DLBD4002		3	8	28	45		☐
DLBD4003		3	10	28	45		☐
DLBD4004		3	12	28	50		☐
DLBD4005		3	15	28	55		☐
DLBD4006		3	18	30	55		☐
DLBD4007		3	20	30	55		☐
DLBD4008		3	25	28	60		☐
DLBD4009		3	30	30	65		☐
DLBD4010		3	15	28	55	6	☐
DLBD4011		3	18	30	55		☐
DLBD4012		3	20	30	55		☐
DLBD4013		3	25	28	60		☐
DLBD4014		3	30	30	65		☐

☐标准在库Stock ☐需订制2周交期2 Weeks

碳钢 合金钢 (<35HRC) Carbon steel Alloy steel	合金钢 (35-48HRC) Alloy steel	不锈钢 Stainless	灰铸铁 球墨铸铁 (<32HRC) Cast iron Ductile cast iron	铸造铝合金 (Si>12%) Aluminum alloys	石墨 Graphite	碳纤维 Carbon fiber
				○	◎	○

○可以使用Accessible ◎性能最佳Best performance

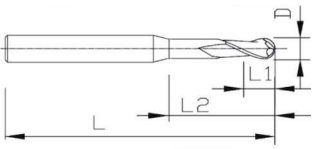
二刃球头长颈型金刚石涂层立铣刀

DIA Coating For Graphite Two Flute Ball Long Neck Endmill Series



BT-DIA-DLBD

- 涂层Grade：超大晶粒CVD金刚石涂层
Super large grain CVD diamond coating
- 材质Material：金刚石涂层专用超硬合金
Diamond coating special superhard alloy
- 螺旋角Helix：30°
- 外径公差DH：0~-0.015mm



产品编码 Product code	刃径 D Cutting edge diameter	刃长 L1 Cutting edge length	避空长 L2 Hiding length	柄长 Shank length	全长 L Overall length	柄径 d Shank diameter	备库 Stock
DLBD5001	R2.5	3	8	28	45	6	☐
DLBD5002		3	10	28	45		☐
DLBD5003		3	12	28	50		☐
DLBD5004		3	15	28	55		☐
DLBD6001	R3	4	8	28	45	6	☐
DLBD6002		4	10	28	45		☐
DLBD6003		4	12	28	50		☐
DLBD6004		4	15	28	55		☐
DLBD6005		4	18	30	55		☐
DLBD6006		4	20	30	55	6	☐
DLBD6007		4	25	28	60		☐
DLBD6008		4	30	30	65		☐
DLBD6009		4	15	28	55		☐
DLBD6010		4	18	30	55		☐
DLBD6011		4	20	30	55		☐
DLBD6012	R4	4	25	28	60	8	☐
DLBD6013		4	30	30	65		☐
DLBD8001		10	15	30	45		☐
DLBD8002		12	18	27	45	10	☐
DLBD8003	R5	12	20	30	45		☐
DLBD8004		12	25	25	50		☐
DLBD1101		10	15	30	45		☐
DLBD1102		12	18	27	45	12	☐
DLBD1103	R6	12	20	30	45		☐
DLBD1104		12	25	25	50		☐
DLBD1201		16	25	35	60		☐
DLBD1202		16	30	30	60		☐
DLBD1203		16	35	25	60		☐
DLBD1204		20	25	35	60		☐
DLBD1205		20	30	45	75		☐
DLBD1206		20	35	55	90		☐
DLBD1207		25	30	45	75		☐
DLBD1208		25	35	40	75		☐
DLBD1209		25	35	55	90		☐
DLBD1210		30	35	30	65		☐
DLBD1211		30	40	35	75		☐
DLBD1212		30	45	45	90		☐
DLBD1213		30	50	55	100		☐

☐标准在库Stock ☐需订制2周交期2 Weeks

碳钢 合金钢 (<35HRC) Carbon steel Alloy steel	合金钢 (35-48HRC) Alloy steel	不锈钢 Stainless	灰铸铁 球墨铸铁 (<32HRC) Cast iron Ductile cast iron	铸造铝合金 (Si>12%) Aluminum alloys	石墨 Graphite	碳纤维 Carbon fiber
				○	◎	○

○可以使用Accessible ◎性能最佳Best performance

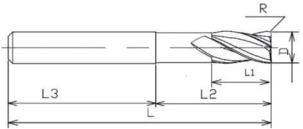


四刃R角型金刚石涂层立铣刀

DIA Coating For Graphinte Four Flote Spuare Endmill Series



BT-DIA-EMR



- 涂层Grade: 超大晶粒CVD金刚石涂层
Super large grain CVD diamond coating
- 材质Material: 金刚石涂层专用超硬合金
Diamond coating special superhard alloy
- 螺旋角Helix: 30°
- 外径公差DH: 0~-0.015mm



产品编码 Product code	刃径 D Cutting edge diameter	刃长 L1 Cutting edge length	避空长 L2 Hiding length	柄长 Shank length	全长 L Overall length	柄径 d Shank diameter	备库 Stock
DEMR1001	1.0	R0.02	4	35	45	4	☐
DEMR1002		R0.05	4	35	45		☐
DEMR1003		R0.1	4	35	45		☐
DEMR1004		R0.2	4	35	45		☐
DEMR1501	1.5	R0.02	5	35	45	4	☐
DEMR1502		R0.05	5	35	45		☐
DEMR1503		R0.1	5	35	45		☐
DEMR1504		R0.2	5	35	45		☐
DEMR2001	2.0	R0.02	6	32	45	4	☐
DEMR2002		R0.05	6	32	45		☐
DEMR2003		R0.1	6	32	45		☐
DEMR2004		R0.2	6	32	45		☐
DEMR2005	2.0	R0.5	6	32	45	4	☐
DEMR3001		R0.02	9	31	45		☐
DEMR3002		R0.05	9	31	45		☐
DEMR3003		R0.1	9	31	45		☐
DEMR3004	3.0	R0.2	9	31	45	4	☐
DEMR3005		R0.5	9	31	45		☐
DEMR4001	4.0	R0.02	12	28	45	4	☐
DEMR4002		R0.05	12	28	45		☐
DEMR4003		R0.1	12	28	45		☐
DEMR4004		R0.2	12	28	45		☐
DEMR4005	4.0	R0.5	12	28	45	4	☐
DEMR6001		R0.02	15	28	50	6	☐
DEMR6002		R0.05	15	28	50		☐
DEMR6003		R0.1	15	28	50		☐
DEMR6004		R0.2	15	28	50		☐
DEMR6005	6.0	R0.5	15	28	50	6	☐
DEMR8001		R0.02	15	28	60	8	☐
DEMR8002		R0.05	15	28	60		☐
DEMR8003		R0.1	15	28	60		☐
DEMR8004	8.0	R02	15	28	60		☐
DEMR8005		R0.5	15	28	60	8	☐
DEMR1101	10.0	R0.02	25	45	75	10	☐
DEMR1102		R0.05	25	45	75		☐
DEMR1103		R0.1	25	45	75		☐
DEMR1104		R0.2	25	45	75		☐
DEMR1105		R0.5	25	45	75		☐

☐标准在库Stock ☐需订制2周交期2 Weeks

碳钢 合金钢 (<35HRC) Carbon steel Alloy steel	合金钢 (35-48HRC) Alloy steel	不锈钢 Stainless	灰铸铁 球墨铸铁 (<32HRC) Cast iron Ductile cast iron	铸造铝合金 (Si>12%) Aluminum alloys	石墨 Graphite	碳纤维 Carbon fiber
				○	◎	○

○可以使用Accessible ◎性能最佳Best performance



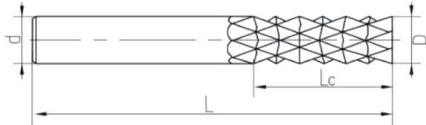
碳纤维用金刚石涂层立铣刀

DIA Coating For Carbon Fibre Endmill Series



BT-DIA-DCFD

- 涂层Grade: 超大晶粒CVD金刚石涂层
Super large grain CVD diamond coating
- 材质Material: 金刚石涂层专用超硬合金
Diamond coating special superhard alloy
- 螺旋角Helix: 30°
- 外径公差DH: 0~-0.015mm



产品编码 Product code	刃径 D Cutting edge diameter	刃长 L1 Cutting edge length	柄长 Shank length	全长 L Overall length	柄径 d Shank diameter	备库 Stock
DCFD0010	1.0	3	35	45	4	☑
DCFD0015	1.5	5	35	45	4	☑
DCFD0020	2.0	6	32	45	4	☑
DCFD0025	2.5	6	32	45	4	☑
DCFD0030	3.0	9	32	45	4	☑
DCFD0040	4.0	12	30	45	4	☑
DCFD0050	5.0	15	30	50	6	☑
DCFD0060	6.0	15	30	55	6	☑
DCFD0080	8.0	20	38	60	8	☑
DCFD0100	10.0	25	45	75	10	☑
DCFD0120	12.0	25	45	75	12	☑

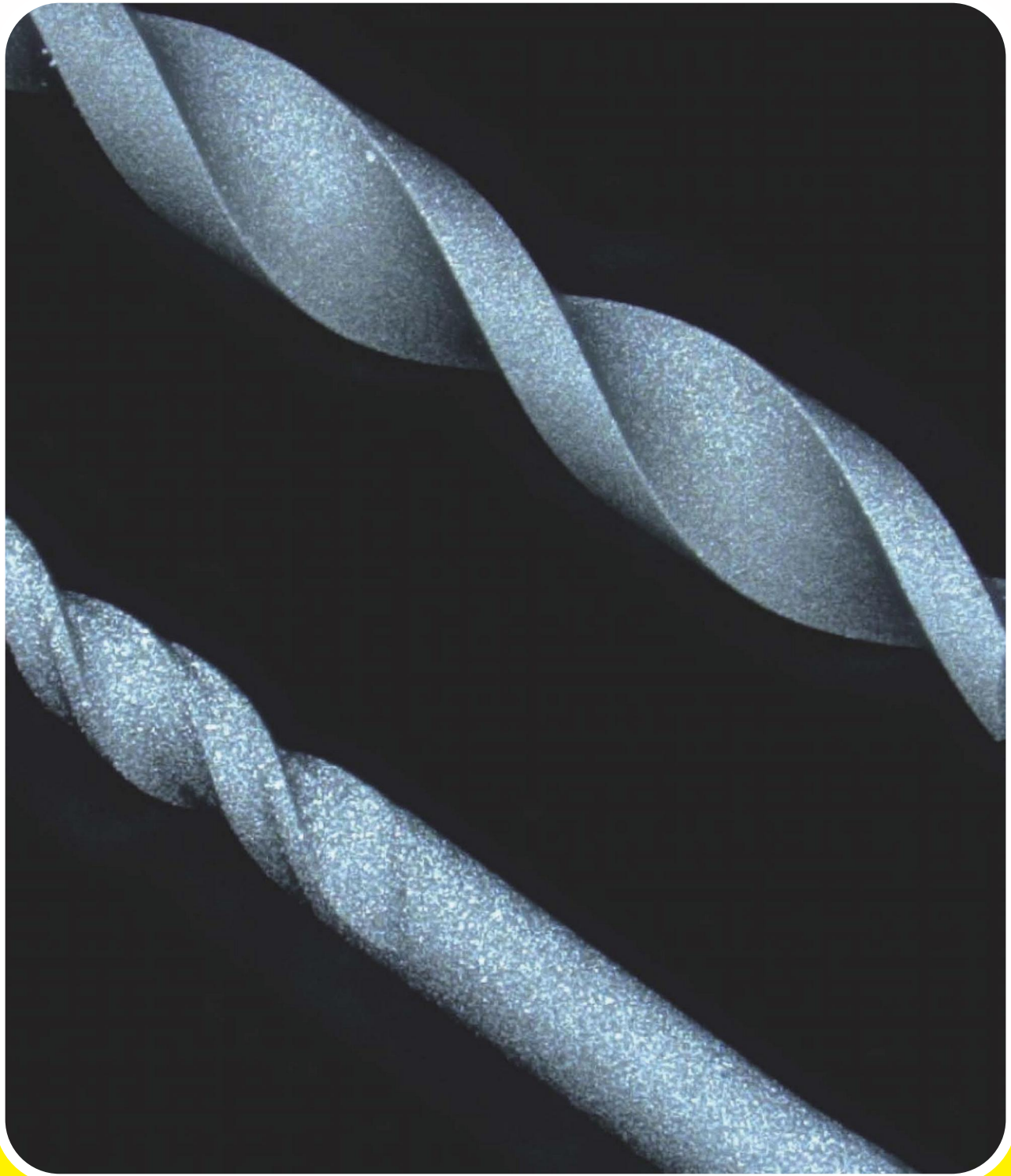
☑标准在库Stock ☒需订制2周交期2 Weeks

用于碳纤维和玻璃纤维复合材料的侧边及沟槽加工可获得优良的表面质量
Used for side and groove machining of carbon fiber and glass fiber composite materials to obtain excellent surface quality

- 推荐切削条件及注意事项:
Recommended cutting conditions and precautions
- 1.复合材料的种类、机床刚性、装夹方式等，不同条件可能出现很大差异上表为参考值。
1.The types of composite materials,machine rigidity,clamping methods,etc.,may vary greatly under different conditions,and the table above is a reference value
 - 2.工件质量要求高时，工件出现毛刺、分层时，请降低进给速度和转速。
2.When the workpiece quality requirements are high,the workpiece appears burr,stratification, please reduce the feed speed and speed
 - 3.采用充分吸尘等方式除尘。
3.Dust removal by means of sufficient vacuuming

碳钢 合金钢 (<35HRC) Carbon steel Alloy steel	合金钢 (35-48HRC) Alloy steel	不锈钢 Stainless	石墨 Graphite	玻璃纤维 Glass fiber	碳纤维 Carbon fiber
				☉	○

○可以使用Accessible ☉性能最佳Best performance



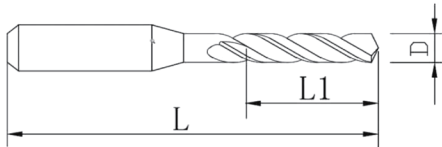
金刚石涂层石墨微型钻头

DIA Coating For Graphite Drill Series



BT-DIA-DCGD

- 涂层Grade: 大晶粒CVD金刚石涂层
Super large grain CVD diamond coating
- 材质Material: 金刚石涂层专用超硬合金
Diamond coating special superhard alloy
- 螺旋角Helix: 30°
- 外径公差DH: 0~-0.010mm

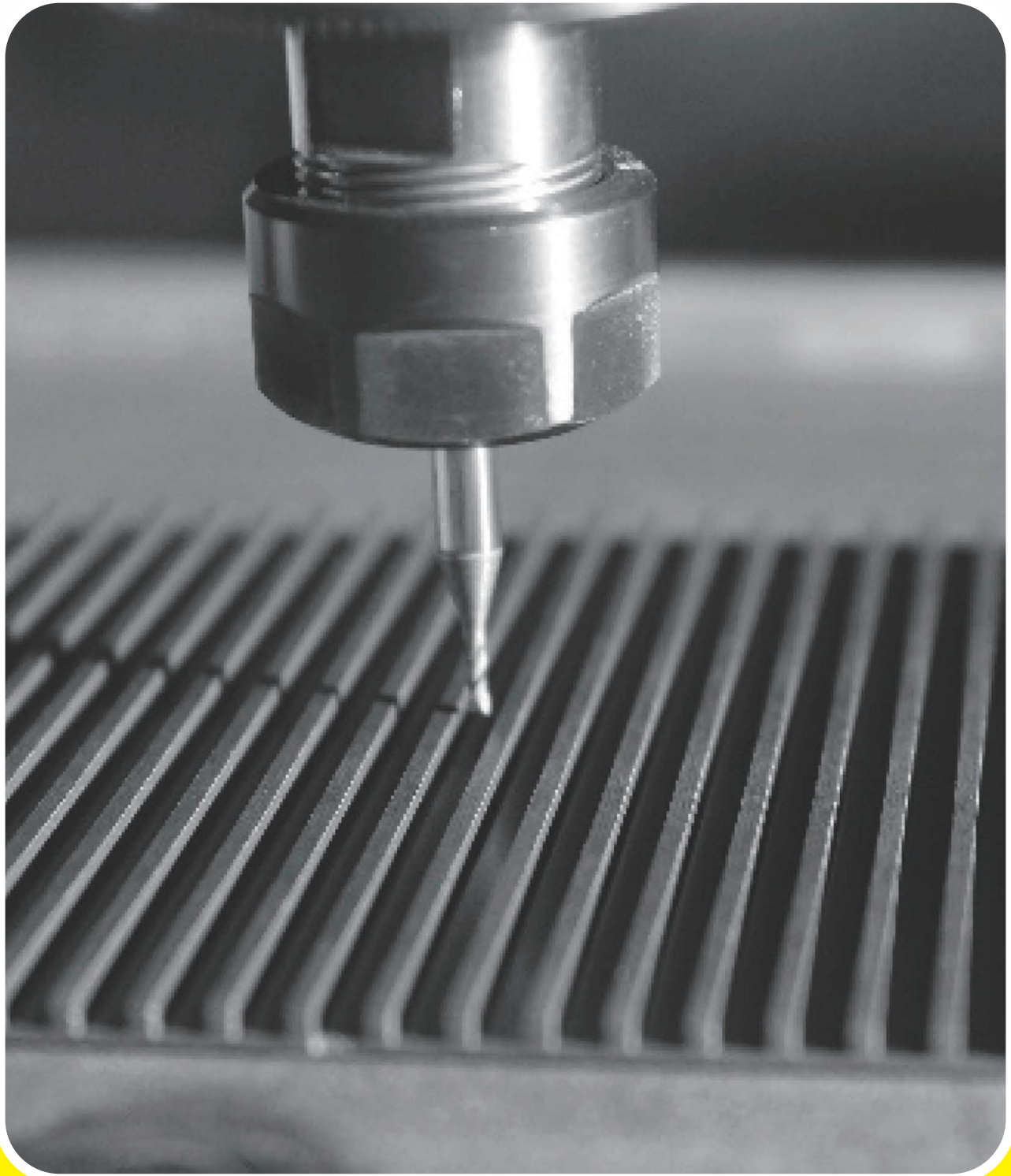


产品编码 Product code	刃径 D Cutting edge diameter	刃长 L1 Cutting edge length	柄长 Shank length	全长 L Overall length	柄径 d Shank diameter	备库 Stock
DCBD0010	D0.1	0.5	35	45	4	🔄
DCBD0015	D0.15	0.5	35	45	4	🔄
DCBD0020	D0.2	1.5	35	45	4	🔄
DCBD0025	D0.25	2	35	45	4	🔄
DCBD0030	D0.3	2	35	45	4	🔄
DCBD0035	D0.35	2	35	45	4	🔄
DCBD0040	D0.4	2	35	45	4	🔄
DCBD0045	D0.45	2	35	45	4	🔄
DCBD0050	D0.5	2	35	45	4	🔄
DCBD0055	D0.55	2	35	45	4	🔄
DCBD0060	D0.6	2	35	45	4	🔄
DCBD0065	D0.65	2	35	45	4	🔄
DCBD0070	D0.7	2.5	35	45	4	🔄
DCBD0075	D0.75	3.5	35	45	4	🔄
DCBD0080	D0.8	5.0	30	45	4	🔄
DCBD0085	D0.85	5.0	30	45	4	🔄
DCBD0090	D0.9	5.0	30	45	4	🔄
DCBD0095	D0.95	5.0	30	45	4	🔄
DCBD0100	D1.0	5.0	30	45	4	🔄
DCBD0150	D1.5	6.0	30	45	4	🔄
DCBD0200	D2.0	10.0	30	45	4	🔄
DCBD0250	D2.5	10.0	30	45	4	🔄
DCBD0300	D3.0	10.0	30	45	4	🔄

🔄标准在库Stock 🔄需订制2周交期2 Weeks

碳钢 合金钢 (<35HRC) Carbon steel Alloy steel	合金钢 (35-48HRC) Alloy steel	不锈钢 Stainless	铸造铝合金 (Si>12%) Aluminum alloys	石墨 Graphite	玻璃纤维 Glass fiber	碳纤维 Carbon fiber
○			○	◎	○	○

○可以使用Accessible ◎性能最佳Best performance



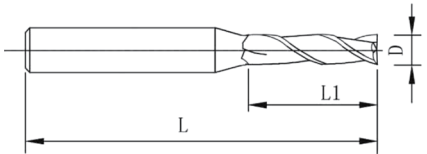
氢燃料电池板专用铣刀

DIA Coating Endmill For Hydrogen Fuel Cell Board



BT-DIA-DCEH

- 涂层Grade: 超耐磨CVD金刚石涂层
Ultra wear-resistant CVD diamond coating
- 材质Material: 金刚石涂层专用超硬合金
Diamond coating special superhard alloy
- 螺旋角Helix: 30°
- 外径公差DH: 0~-0.015mm



产品编码 Product code	刃径 D Cutting edge diameter	刃长 L1 Cutting edge length	柄长 Shank length	全长 L Overall length	柄径 d Shank diameter	备库 Stock
DCEH0021	0.21	0.5	35	45	4	🔄
DCEH0031	0.31	0.5	35	45	4	🔄
DCEH0041	0.41	0.5	35	45	4	🔄
DESD0051	0.51	0.5	35	45	4	🔄
DESD0061	0.61	0.5	35	45	4	🔄
DCEH0071	0.71	0.5	35	45	4	🔄
DESD0081	0.81	2	35	45	4	🔄
DESD0091	0.91	2	35	45	4	🔄
DESD0101	1.01	5	35	45	4	🔄
DESD0121	1.21	5	32	45	4	🔄
DESD0151	1.51	5	32	45	4	🔄
DESD0181	1.81	8	30	45	4	🔄
DESD0201	2.01	10	30	45	4	🔄
DESD0251	2.51	10	30	45	4	🔄

🔄标准在库Stock 🔄需订制2周交期2 Weeks

碳钢 合金钢 (<35HRC) Carbon steel Alloy steel	合金钢 (35-48HRC) Alloy steel	不锈钢 Stainless	灰铸铁 球墨铸铁 (<32HRC) Cast iron Ductile cast iron	铸造铝合金 (Si>12%) Aluminum alloys	石墨 Graphite	碳纤维 Carbon fiber
				○	◎	○

○可以使用Accessible ◎性能最佳Best performance

平头石墨铣刀切削条件表

Table of cutting conditions for flat head graphite milling cutter



被加工材料 Processed material	石墨 Graphite																											
	槽加工 Slot machining		侧面加工 Side machining		面铣加工 Face milling																							
刃径 Dia	rpm 转速 S (min-1)	Feed 进给 F (mm/min)	rpm 转速 S (min-2)	Feed 进给 F (mm/min)	rpm 转速 S (min-3)	Feed 进给 F (mm/min)																						
1.0	24000	2240	24000	3200	24000	2560																						
1.5	24000	2240	24000	3200	24000	2560																						
1.8	24000	2240	24000	3200	24000	2560																						
2.0	22500	2100	22500	3000	22500	2400																						
2.5	17500	2100	17500	3000	17500	2400																						
3.0	15800	1925	15800	2750	15800	2200																						
3.5	15000	1820	15000	2600	15000	2080																						
4.0	15000	1820	15000	2600	15000	2080																						
5.0	12000	1750	12000	2500	12000	2000																						
6.0	12000	1750	12000	2500	12000	2000																						
8.0	10000	1470	10000	2100	10000	1680																						
10.0	8800	1295	8800	1850	8800	1480																						
12.0	7800	1155	7800	1650	7800	1320																						
切削深度 DOC (ap,ae)																												
	<table><tr><td>$\phi 4 < D \leq \phi 8$</td><td>0.3D</td></tr><tr><td>$\phi 8 < D$</td><td>0.5D</td></tr></table>		$\phi 4 < D \leq \phi 8$	0.3D	$\phi 8 < D$	0.5D	<table><tr><td></td><td>ap</td><td>ae</td></tr><tr><td>$\phi 4 < D \leq \phi 8$</td><td>1.5D</td><td>0.05D</td></tr><tr><td>$\phi 8 < D$</td><td>2D</td><td>0.05D</td></tr></table>			ap	ae	$\phi 4 < D \leq \phi 8$	1.5D	0.05D	$\phi 8 < D$	2D	0.05D	<table><tr><td></td><td>ap</td><td>ae</td></tr><tr><td>$\phi 4 < D \leq \phi 8$</td><td>0.3D</td><td>0.8D</td></tr><tr><td>$\phi 8 < D$</td><td>0.5D</td><td>0.8D</td></tr></table>			ap	ae	$\phi 4 < D \leq \phi 8$	0.3D	0.8D	$\phi 8 < D$	0.5D	0.8D
	$\phi 4 < D \leq \phi 8$	0.3D																										
	$\phi 8 < D$	0.5D																										
	ap	ae																										
$\phi 4 < D \leq \phi 8$	1.5D	0.05D																										
$\phi 8 < D$	2D	0.05D																										
	ap	ae																										
$\phi 4 < D \leq \phi 8$	0.3D	0.8D																										
$\phi 8 < D$	0.5D	0.8D																										

- 1、请使用刚性较高的机床和刀柄。
- 1、 Please use a rigid machine tool and tool holder
- 2、请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
- 2、 Please adjust the speed and feed speed according to the cutting speed,equipment rigidity and other conditions
- 3、上表是按照刀具悬长为直径3倍以下时所制订的。
- 3、 The above table is formulated according to the suspension length of the tool is less than 3 times the diameter

球头石墨铣刀切削条件表

Table of cutting conditions for ball end graphite milling cutter



被加工材料 Processed material	石墨 Graphite							
	粗加工 Rough machining				精加工 Finish machining			
	rpm 转速 S (min-1)	Feed 进给 F (mm/min)	切深 ap (mm)	切宽 Pf (mm)	rpm 转速 S (min-1)	Feed 进给 F (mm/min)	切深 ap (mm)	切宽 Pf (mm)
刃径 Dia								
R0.5	20000~	2450~	0.15	0.2	20000~	1250~	0.05	0.05
R0.75	18000~	2500~	0.2	0.5	18000~	1250~	0.06	0.06
R1.0	18000~	2500~	0.2	0.8	18000~	1250~	0.06	0.06
R1.5	18000~	3000~	0.3	1.0	18000~	1350~	0.09	0.09
R2	16000~	3000~	0.4	1.2	16000~	1500~	0.12	0.12
R2.5	11000~	3000~	0.6	1.6	11000~	1500~	0.15	0.15
R3	9000~	3100~	0.8	1.8	9000~	1850~	0.18	0.18
R4	7500~	3650~	1	2.2	7500~	2250~	0.22	0.22
R5	7500~	3800~	1.2	2.5	7500~	2500~	0.25	0.25
R6	6000~	4200~	1.5	3	6000~	2650~	0.3	0.3
切削深度 DOC (ap,ae)								

- 1、请使用刚性较高的机床和刀柄。
- 1、 Please use a rigid machine tool and tool holder
- 2、请根据切削速度、设备刚性等情况可适当调整转速和进给速度。
- 2、 Please adjust the speed and feed speed according to the cutting speed,equipment rigidity and other conditions
- 3、上表是按照刀具悬长为直径3倍以下时所制订的。
- 3、 The above table is formulated according to the suspension length of the tool is less than 3 times the diameter

常用参数及其单位

Parameter and Unit



D	铣刀直径 Diamete	mm	Fn	每转进给量 Feed per Revolution	mm/rev
ap	切削深度 Cutting Depth	mm	fz	每刃进给量 Feeding per Teeth	mm/tooth
ae	切削宽度 Cutting Width	mm	Z	刀刃数 Number of Teeth	
Vf	Vf 进给速度 Feed Rate	mm/min	S	主轴转速 Spindle Speed	rev/min
Vc	切削速度 Cutting Speed	m/min	L	工作台总进给长度 Length	工件长度 + 铣刀直径：l+D
Q	金属切削率 Rate of Metal Removal	(cm3/min)	Tc	加工时间 Processing Time	min

	通用计算公式 General Formula
主轴转速 Spindle Speed n	$n = \frac{Vc \cdot 1000}{\pi \cdot D} \text{ (rev/min)}$
切削速度 Cutting Speed Vc	$Vc = \frac{\pi \cdot D \cdot n}{1000} \text{ (m/min)}$
进给速度 Feed Rate Vf	$Vf = fz \cdot z \cdot n \text{ (mm/min)}$
每刃进给量 Feed per Teeth fz	$fz = \frac{Vf}{z \cdot n} \text{ (mm)}$
金属切削率 Rate of Metal Removal Q	$Q = \frac{ae \cdot ap \cdot Vf}{1000} \text{ (cm}^3\text{/min)}$
加工时间 Processing Time Tc	$Tc = \frac{L}{Vf} \text{ (min)}$

