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科弦精密工具  
KEXIAN PRECISION TOOLS

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PRECISION TOOLS SMART MANUFACTURING





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# INTRODUCTION

## 企业简介

### 科弦精密工具，机加工行业的坚实后盾！

上海科弦精密工具有限公司成立于2014年，后又成立科弦精密工具（浙江）有限公司于浙江省平湖经济开发区。公司配备了一批美国、日本、德国的CNC段差、研磨、涂层及测量设备，生产出精度范围达到国际高标准的 $\pm 0.002\text{mm}$ 的专业级高精度切削用铣刀。

历经近10年来一直不懈努力、发展磨砺，通过对材料选择、热处理工艺、表面涂层、刃口处理等方面的深入研究，科弦完成了钢件、铸铁、不锈钢、钛合金、高温合金、淬硬钢、有色金属、技术经验积累，拥有了极强现场管理能力，信息化的管控手段，领先思路的现实产品。形成了一套包含材料选择、热处理、表面涂层、刃口处理等独特的52度及65度尖端产品工艺，申请了ISO、高新技术企业、高新技术成果及产品的欧美相关认证。它持续拓展研发平台、引进和培养研发队伍，不断更新研发设备，加大研发投入，不断促进新产品和新技术的迭代升级，从而打造质量稳定的一流产品，以便在日益严峻的市场竞争中立于不败之地。

不忘初心，砥砺前行。科弦将一如既往地为企业制造的发展做出应有的贡献，我们始终秉持优化环境、以人为本、安全第一、持续改进、追求卓越方针、职业健康安全方针，致力为员工提供舒适愉悦的生产办公环境。展望未来之路，科弦一定能披荆斩棘，以最饱满的热情，开拓出最美好的明天！

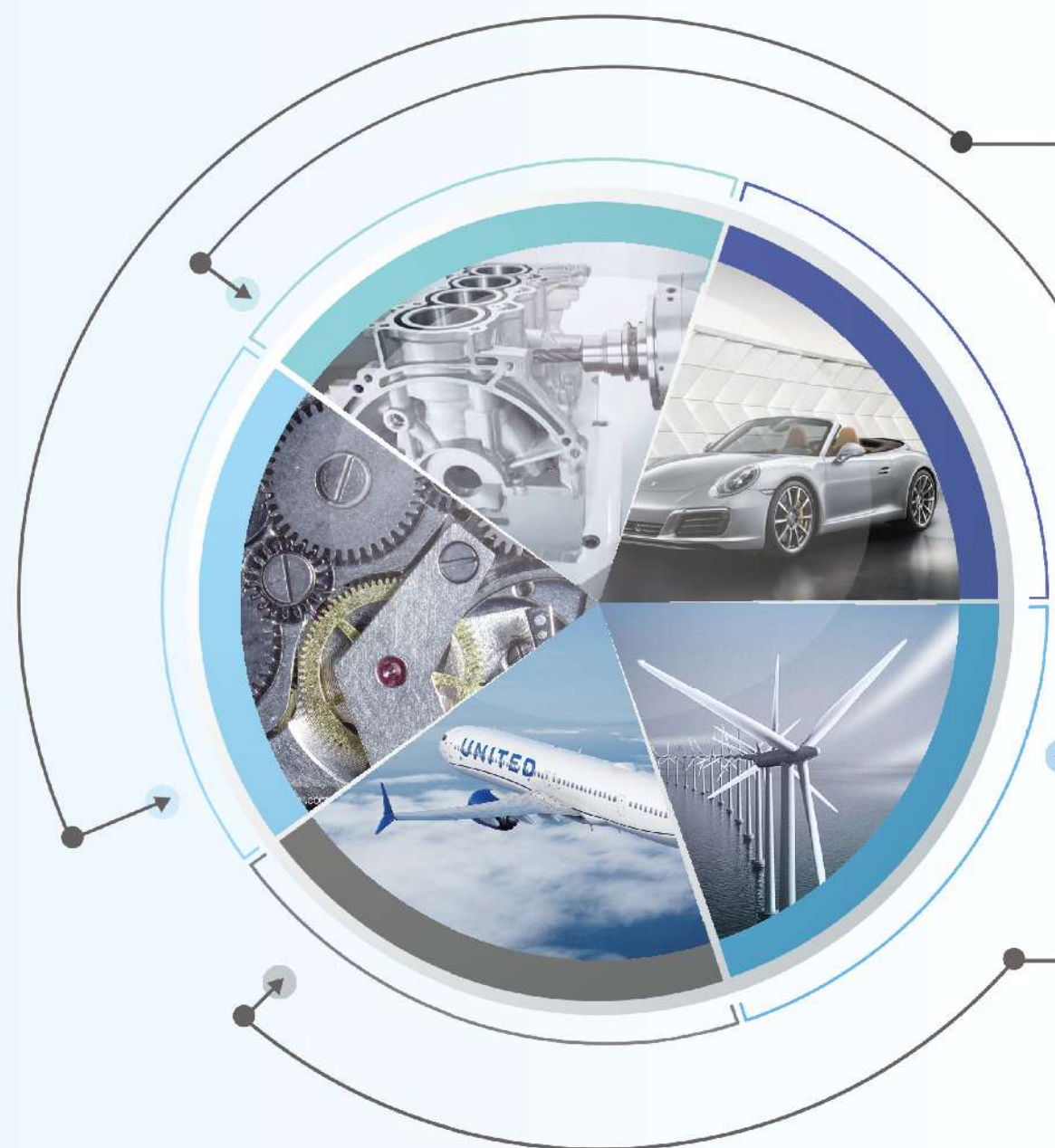
### Kexian Precision Tools, as a solid strong support for the machining industry !

Shanghai Kexian Precision Tools Co., Ltd. was established in 2014. Later, Kexian Precision Tools (Zhejiang) Co., Ltd. was established in Pinghu E.D.Z., Zhejiang Province. A series of imported CNC equipments were settled which come from USA, Japan, Germany. They are used for Segmenting, Grinding, Coating and Inspecting in the processing. Such precise equipments help the final products reach the international highest cutting range around  $\pm 0.002\text{mm}$ .

After nearly 10 years of unremitting efforts, developing efforts, through the research and development on the Raw-Material-Selection, Heat Treatment, Surface Coating, Flute Processing and other aspects of the in-depth study, like Finished Steel, Cast Iron, Stainless Steel, Titanium Alloy, Super Alloys, Hardened Steel, Non-ferrous metals, it gains technique & experience accumulation, has extremely strong field management ability, information control measures, leading ideas of real products. Finally it formed a set of material selection, heat treatment, surface coating, cutting edge processing and the unique technology of 52 degree and 65 degree. We have applied ISO certificate and also gained high-tech enterprises qualification, certificate of high-tech achievements and the certificate authorized by Europe and the United States. It continues to expand the research and development platform, improves and develops the R&D team, constantly updates equipments, increase investment and constantly & iteratively upgrades the new products and new technologies. Our goal is to create the first-class products with stable quality, which keeps us victor in the competition.

Kexian will continually make contributions to the top-end manufacturing. We always adhere to these policies, they are "Production Environment Optimized, People-Oriented, Safety First, Constant Improvement, Pursuit of Excellence, Occupational Health", all these is to commit employees a comfortable and pleasant working environment. Looking forward to the future, we believe that Kexian will be able to break through all the difficulties and get a beautiful tomorrow with our utmost enthusiasm.





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52° Milling Series

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**65度铣削系列**  
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**石墨刀具系列**  
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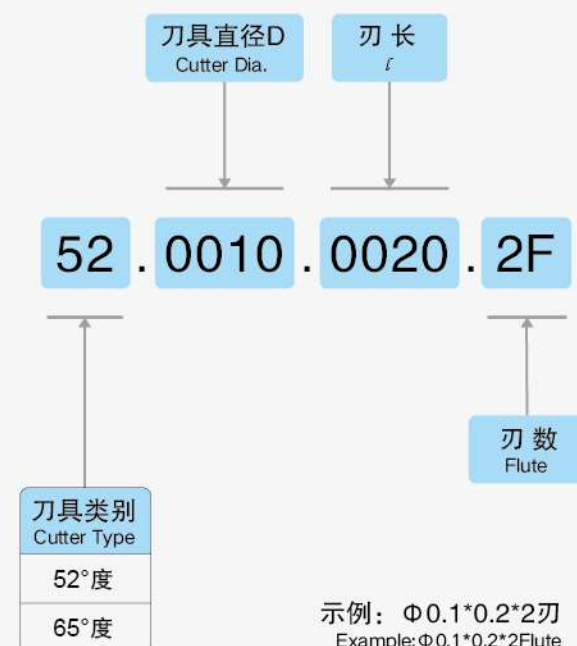
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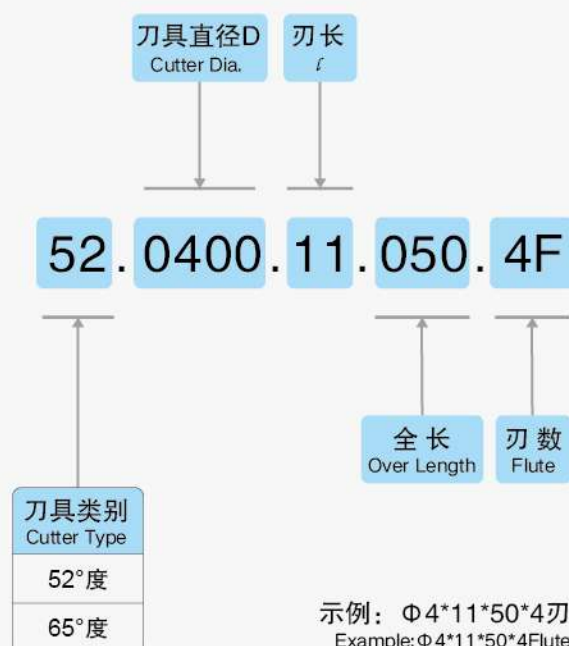
**钻削刀具系列**  
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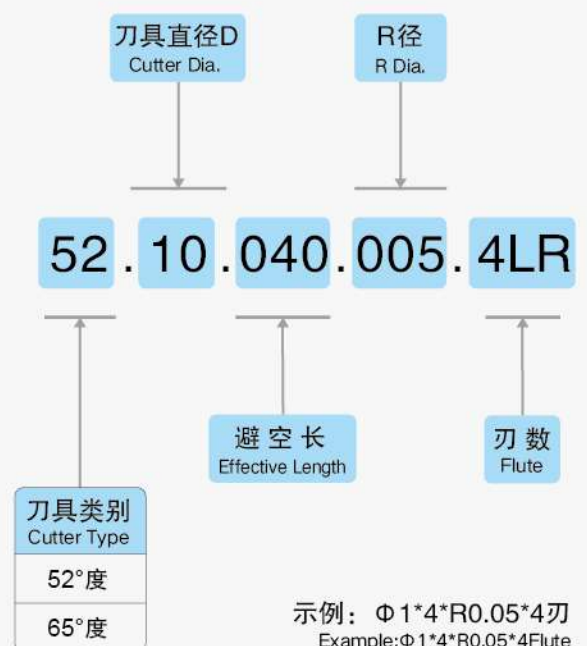
### 段差平刀 Segment Square End Mill



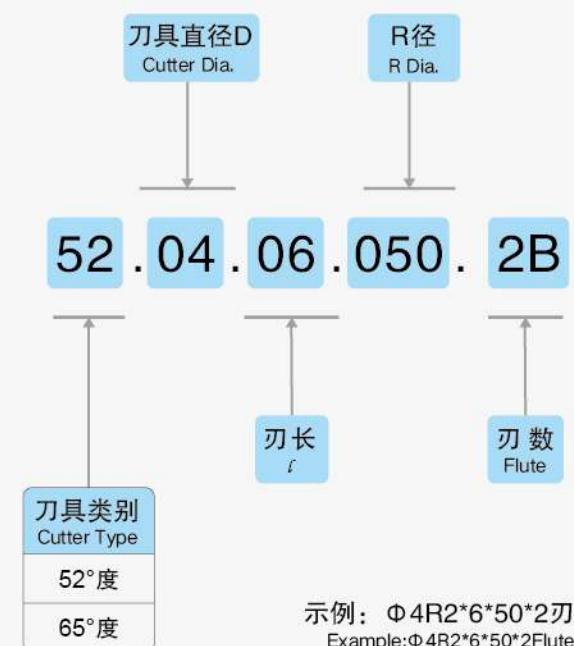
### 直柄平刀 Straight Shank Square End Mill



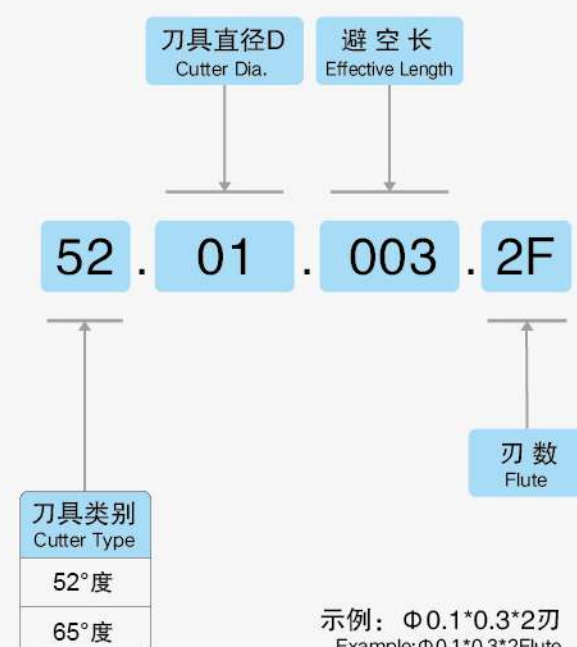
### 深沟圆鼻刀 Deep Groove Corner Radius End Mill



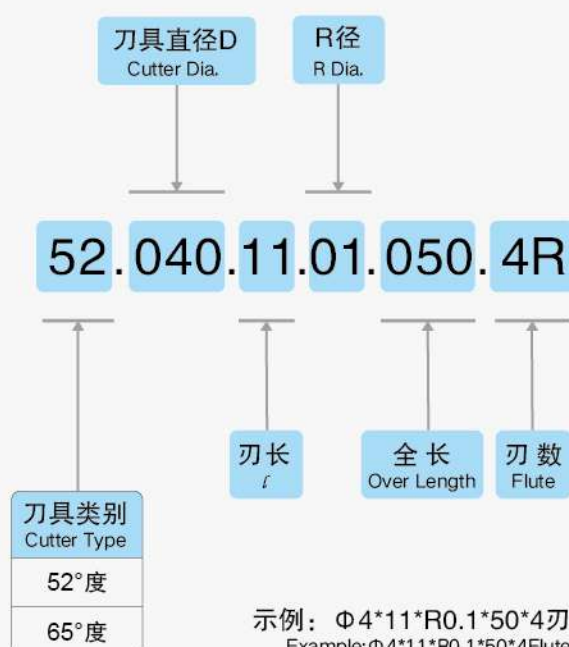
### 球刀 Ball Nose End Mill



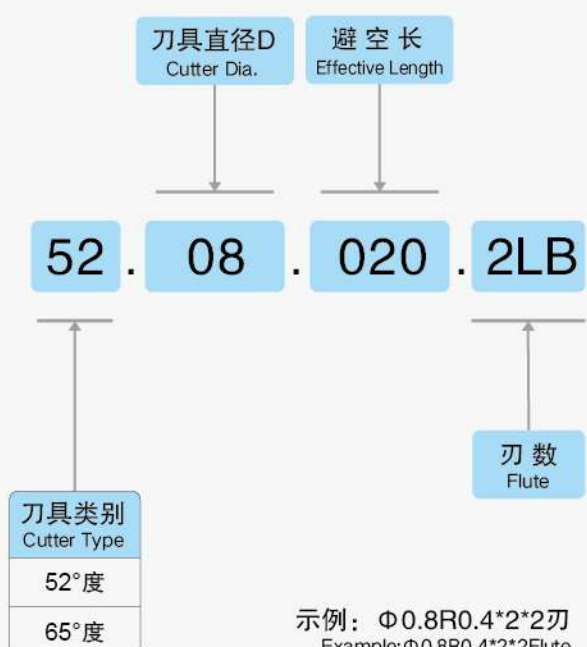
### 深沟平刀 Deep Groove Square End Mill



### 圆鼻刀 Corner Radius End Mill



### 深沟球刀 Deep Groove Ball Nose End Mill







各涂层适合加工材质表  
Coating Types Chart on Workpieces

○ 非常适合  
Very Suitable

○ 适合  
Suitable

涂层种类 Coating Types		纳米钛硅涂层 TiSi-COATING	铬铝涂层 CrAl-COATING	金刚石涂层	
				DLC COATING	DIA COATING
被切削材质 Materials of Workpieces	热处理钢 45~65 HRC Hardened Steel	○			
	热处理钢 45~52 HRC Hardened Steel	○	○		
	调质钢 Quenched & Tempered Steel	○	○		
	普通钢 Ordinary Steel		○		
	铜 Copper		○	○	
	铝合金 Aluminum Alloy			○	
	硬脆材 Hard Brittle Materials				○
	石墨 Graphite				○
	高温合金 Superalloy	○			
	钛合金 Titanium Alloy	○			
	不锈钢 Stainless Steel	○			
	铸铁 Cast Iron		○		



52° 整体硬质合金铣刀

52° SOLID CARBIDE END MILLS

- 2刃段差平刀  
2 Flute Segment Square End Mill

2刃直柄平刀  
2 Flute Straight Shank Square End Mill

2刃直柄/2刃段差平刀切削参数  
Milling Parameters of 2 Flute Straight Shank End Mill & 2 Flute Segment Square End Mill

4刃段差平刀  
4 Flute Segment Square End Mill

4刃直柄平刀  
4 Flute Straight Shank Square End Mill

4刃直柄/4刃段差平刀切削参数  
Milling Parameters of 4 Flute Straight Shank End Mill & 4 Flute Segment Square End Mill

2刃深沟平刀  
2 Flute Deep Groove Square End Mill

2刃深沟平刀切削参数  
Milling Parameters of 2 Flute Deep Groove Square End Mill

4刃深沟平刀  
4 Flute Deep Groove Square End Mill

4刃深沟平刀切削参数  
Milling Parameters of 4 Flute Deep Groove Square End Mill

2刃段差圆鼻刀  
2 Flute Segment Corner Radius End Mill

4刃段差圆鼻刀  
4 Flute Segment Corner Radius End Mill

2刃/4刃段差圆鼻刀切削参数  
Milling Parameters of 2 Flute /4 Flute Segment Corner Radius End Mill

4刃直柄圆鼻刀  
4 Flute Straight Shank Corner Radius End Mill

4刃直柄圆鼻刀切削参数  
Milling Parameters of 4 Flute Straight Shank Corner Radius End Mill

2刃深沟圆鼻刀  
2 Flute Deep Groove Corner Radius End Mill

2刃深沟圆鼻刀切削参数  
Milling Parameter of 2 Flute Deep Groove Corner Radius End Mill

4刃深沟圆鼻刀  
4 Flute Deep Groove Corner Radius End Mill

4刃深沟圆鼻刀切削参数  
Milling Parameter of 4 Flute Deep Groove Corner Radius End Mill

2刃段差球刀  
2 Flute Segment Ball Nose End Mill

2刃直柄球刀  
2 Flute Straight Shank Ball Nose End Mill

2刃段差/直柄球刀切削参数  
Milling Parameters of 2 Flute Segment/ Straight Shank Ball Nose End Mill

2刃深沟球刀  
2 Flute Deep Groove Ball Nose End Mill

2刃深沟球刀切削参数表  
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卓越的性能，超高的性价比！  
Top Performance, Competitive Price!



2刃段差平刀 2 Flute Segment Square End Mill



公差: d=h5	Tolerance	涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
D≤3	0,-0.015	CrAL	○	○	○	2	30°	HRC≤52
3 < D < 20	0,-0.02							

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	刃长 (l) Length of Cut	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.0010.0020.2F	0.1	0.2	4	45
52.0020.0040.2F	0.2	0.4	4	45
52.0030.0060.2F	0.3	0.6	4	45
52.0040.0080.2F	0.4	0.8	4	45
52.0050.0100.2F	0.5	1	4	45
52.0060.0120.2F	0.6	1.2	4	45
52.0070.0140.2F	0.7	1.4	4	45
52.0080.0160.2F	0.8	1.6	4	45
52.0090.0180.2F	0.9	1.8	4	45
52.0100.0300.2F	1	3	4	50
52.0150.0450.2F	1.5	4.5	4	50
52.0200.0600.2F	2	6	4	50
52.0250.0750.2F	2.5	7.5	4	50
52.0300.0900.2F-6	3	9	6	50
52.0400.1200.2F-6	4	12	6	50
52.0500.1500.2F-6	5	15	6	60

2刃直柄平刀 2 Flute Straight Shank Square End Mill



公差: d=h5	Tolerance	涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
D≤3	0,-0.015	CrAL	○	○	○	2	30°	HRC≤52
3 < D < 20	0,-0.02							

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	刃长 (l) Length of Cut	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.0400.11.050.2F	4	11	4	50
52.0400.11.075.2F		11		75
52.0600.13.050.2F		13		50
52.0600.15.060.2F		15		60
52.0600.15.075.2F	6	15	6	75
52.0600.15.100.2F		15		100
52.0800.20.060.2F		20		60
52.0800.20.075.2F	8	20	8	75
52.0800.20.100.2F		20		100
52.1000.25.075.2F		25	10	75
52.1000.25.100.2F	10	25		100
52.1000.30.150.2F		30		150
52.1200.25.075.2F	12	25	12	75
52.1200.30.100.2F		30		100
52.1200.30.150.2F		30		150
52.1600.30.100.2F	16	30	16	100
52.1600.40.150.2F		40		150



切削参数表 Milling Parameters Recommendation

2刃段差平刀/2刃直柄平刀  
2 Flute Segment Square End Mill / 2 Flute Straight Shank Square End Mill

被切削材质 Workpiece Material	碳素钢 Carbon Steel S50C							合金钢 Alloy Steel SCM • SKD • SUS						
刃径 Cutter Dia.	Vc m/min	n min-1	F mm/min	F mm/min	Ae mm	Ap mm		Vc m/min	n min-1	F mm/min	F mm/min	Ae mm	Ap mm	
			侧铣 Side Milling	开槽 Slotting	侧铣 Side Milling	侧铣 Side Milling	开槽 Slotting			侧铣 Side Milling	开槽 Slotting	侧铣 Side Milling	侧铣 Side Milling	开槽 Slotting
0.1	50-80	50000		25	0.005		0.005	50-70	50000		15	0.005		0.005
0.2	50-80	50000		40	0.01		0.01	50-70	50000		25	0.01		0.01
0.3	50-80	50000	100	50	0.015	0.6	0.015	50-70	50000	90	35	0.015	0.6	0.015
0.4	50-80	50000	150	75	0.02	0.8	0.02	50-70	47700	130	50	0.02	0.8	0.02
0.5	50-80	41401	170	85	0.025	1	0.075	50-70	38200	130	50	0.025	1	0.025
0.6	50-80	34501	170	85	0.03	1.2	0.09	50-70	31847	130	50	0.03	1.2	0.03
0.7	50-80	29572	180	90	0.035	1.4	0.105	50-70	27298	140	50	0.035	1.4	0.035
0.8	50-80	25876	180	90	0.04	1.6	0.12	50-70	23885	140	50	0.04	1.6	0.04
0.9	50-80	23001	200	95	0.045	1.8	0.135	50-70	21231	145	50	0.045	1.8	0.045
1	50-80	20701	210	100	0.07	2	0.15	50-70	19108	150	55	0.05	2	0.05
1.5	50-80	13800	210	100	0.105	3	0.75	50-70	12739	150	55	0.075	3	0.075
2	50-80	10350	210	100	0.14	4	1	50-70	9554	170	60	0.1	4	0.1
2.5	50-80	8280	250	120	0.175	5	1.25	50-70	7643	180	65	0.125	5	0.125
3	50-80	6900	280	140	0.45	6	1.5	50-70	6369	190	70	0.15	6	0.15
4	50-80	5175	300	160	0.6	8	3	50-70	4777	190	70	0.2	8	0.2
5	50-80	4140	330	160	0.75	10	3.75	50-70	3822	230	75	0.25	10	0.25
6	50-80	3450	340	170	0.9	12	4.5	50-70	3185	260	85	0.3	12	0.3
8	50-80	2588	320	160	1.2	16	6	50-70	2389	240	75	0.4	16	0.4
10	50-80	2070	300	150	1.5	20	7.5	50-70	1911	230	75	0.5	20	0.5
12	50-80	1725	270	140	1.8	24	9	50-70	1592	220	70	0.6	24	0.6

切削参数表 Milling Parameters Recommendation

2刃段差平刀/2刃直柄平刀  
2 Flute Segment Square End Mill / 2 Flute Straight Shank Square End Mill

被切削材质 Workpiece Material	调质钢 Quenched&Tempered Steel HPM · NAK							淬火钢 Hardened Steel SKD61 (~52HRC)						
刃径 Cutter Dia.	Vc m/min	n min-1	F mm/min	F mm/min	Ae mm	Ap mm		Vc m/min	n min-1	F mm/min	F mm/min	Ae mm	Ap mm	
			侧铣 Side Milling	开槽 Slotting	侧铣 Side Milling	侧铣 Side Milling	开槽 Slotting			侧铣 Side milling	开槽 Slotting	侧铣 Side Milling	侧铣 Side Milling	开槽 Slotting
0.1	40-60	50000		20	0.005		0.005	20-40	50000		15	0.002		0.005
0.2	40-60	50000		30	0.01		0.01	20-40	47700		20	0.004		0.01
0.3	40-60	50000	85	40	0.015	0.6	0.015	20-40	31847		20	0.006		0.015
0.4	40-60	47700	110	55	0.02	0.8	0.02	20-40	23885	50	25	0.008	0.8	0.02
0.5	40-60	38200	110	55	0.025	1	0.025	20-40	19108	60	30	0.01	1	0.075
0.6	40-60	212314	110	55	0.03	1.2	0.03	20-40	15924	60	30	0.012	1.2	0.09
0.7	40-60	181984	120	55	0.035	1.4	0.035	20-40	13649	65	35	0.014	1.4	0.105
0.8	40-60	159236	120	55	0.04	1.6	0.04	20-40	11943	65	35	0.016	1.6	0.12
0.9	40-60	141543	125	55	0.045	1.8	0.045	20-40	10616	70	35	0.018	1.8	0.135
1	40-60	127389	130	65	0.05	2	0.05	20-40	9554	75	40	0.02	2	0.15
1.5	40-60	25478	130	65	0.075	3	0.075	20-40	6369	75	40	0.03	3	0.225
2	40-60	19108	150	75	0.1	4	0.1	20-40	4777	75	40	0.04	4	0.3
2.5	40-60	15287	160	80	0.125	5	0.125	20-40	3822	75	40	0.05	5	0.375
3	40-60	12739	170	85	0.15	6	0.15	20-40	3185	80	40	0.06	6	0.45
4	40-60	6369	170	85	0.2	8	0.2	20-40	2389	95	50	0.08	8	0.6
5	40-60	5096	210	110	0.25	10	0.25	20-40	1911	95	50	0.1	10	0.75
6	40-60	4246	240	120	0.3	12	0.3	20-40	1592	100	50	0.12	12	0.9
8	40-60	3185	220	110	0.4	16	0.4	20-40	1194	100	50	0.16	16	1.2
10	40-60	2548	210	100	0.5	20	0.5	20-40	955	100	50	0.2	20	1.5
12	40-60	2123	200	100	0.6	24	0.6	20-40	796	100	50	0.24	24	1.8



切削参数表 Milling Parameters Recommendation

2刃段差平刀/2刃直柄平刀  
2 Flute Segment Square End Mill / 2 Flute Straight Shank Square End Mill

被切削材质 Workpiece Material	铜 Copper						
	Vc m/min	n min-1	F mm/min	F mm/min	Ae mm	Ap mm	
			侧铣 Side Milling	开槽 Slotting	侧铣 Side Milling	侧铣 Side Milling	开槽 Slotting
0.1	60-80	50000	60	25	0.02	0.2	0.01
0.2	60-80	50000	90	35	0.04	0.4	0.02
0.3	60-80	50000	150	60	0.06	0.6	0.03
0.4	60-80	50000	200	80	0.08	0.8	0.04
0.5	60-80	44586	220	90	0.1	1	0.2
0.6	60-80	37155	230	95	0.12	1.2	0.24
0.7	60-80	31847	240	95	0.14	1.4	0.28
0.8	60-80	27866	250	95	0.16	1.6	0.32
0.9	60-80	24770	260	95	0.18	1.8	0.36
1	60-80	22293	270	100	0.2	2	0.4
1.5	60-80	14862	300	120	0.3	3	1.125
2	60-80	11146	330	120	0.4	4	1.5
2.5	60-80	8917	360	120	0.5	5	1.875
3	60-80	7431	370	130	0.6	6	2.25
4	60-80	5573	390	130	0.8	8	3
5	60-80	4459	410	130	1	10	3.75
6	60-80	3715	410	130	1.2	12	4.5
8	60-80	2787	360	120	1.6	16	6
10	60-80	2229	330	110	2	20	7.5
12	60-80	1858	320	110	2.4	24	9

4刃段差平刀 4 Flute Segment Square End Mill



涂层 种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAL	○	○	○	4	30°	HRC≤52

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤52hrc ○ >52hrc	○	○	○	○	○		

订货号 Code No.	刃径 (D) Cutter Dia.	刃长 (l) Length of Cut	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.0100.0300.4F	1	3	4	50
52.0150.0450.4F	1.5	4.5	4	50
52.0200.0600.4F	2	6	4	50
52.0250.0750.4F	2.5	7.5	4	50
52.0300.0900.4F	3	9	4	50
52.0300.0900.4F-6	3	9	6	50
52.0400.1200.4F-6	4	12	6	50
52.0500.1500.4F-6	5	15	6	60



4刃直柄平刀 4 Flute Straight Shank Square End Mill



公差: d=h5 D≤3 3 < D < 20	Tolerance 0,-0.015 0,-0.02
涂层种类 Coating	开槽 Slotting
侧铣 Side Milling	面铣 Face Milling
刃数 Flute	螺旋角 Helix Angle
适合材料硬度 Workpiece HRC	
CrAL	4 30° HRC≤52

被切削材料 Cutting Materials ○ 非常适合 Very Suitable ○ 适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤52hrc ○ >52hrc	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	刃长 (l) Length of Cut	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.0400.11.050.4F	4	11	4	50
52.0400.11.075.4F		11		75
52.0500.15.060.4F	5	15	6	60
52.0600.13.050.4F		13		50
52.0600.15.060.4F	6	15	6	60
52.0600.15.075.4F		15		75
52.0600.15.100.4F		15		100
52.0800.20.060.4F		20		60
52.0800.20.075.4F	8	20	8	75
52.0800.20.100.4F		20		100
52.1000.25.075.4F		25		75
52.1000.30.100.4F	10	30	10	100
52.1000.30.150.4F		30		150
52.1200.25.075.4F		25		75
52.1200.30.100.4F	12	30	12	100
52.1200.30.150.4F		30		150
52.1600.40.100.4F		40		100
52.1600.48.150.4F	16	48	16	150
52.2000.40.100.4F		40		100
52.2000.60.150.4F	20	60	20	150

切削参数表 Milling Parameters Recommendation

4刃段差平刀/4刃直柄平刀  
4 Flute Segment Square End Mill / 4 Flute Straight Shank Square End Mill

被切削材质 Workpiece Material	碳素钢 Carbon Steel S50C					合金钢 Alloy Steel SCM • SKD • SUS				
刃径 Cutter Dia.	Vc m/min	n min-1	F mm/min 侧铣 Side Milling	Ae mm 侧铣 Side Milling	Ap mm 侧铣 Side Milling	Vc m/min	n min-1	F mm/min 侧铣 Side Milling	Ae mm 侧铣 Side Milling	Ap mm 侧铣 Side Milling
1	45-75	19108	290	0.05	2.5	45-65	17516	210	0.05	2.5
1.5	45-75	12739	290	0.075	3.75	45-65	11677	210	0.075	3.75
2	45-75	9554	290	0.1	5	45-65	8758	240	0.1	5
2.5	45-75	7643	350	0.125	6.25	45-65	7006	260	0.125	6.25
3	45-75	6369	390	0.3	7.5	45-65	5839	260	0.3	7.5
4	45-75	4777	480	0.4	10	45-65	4379	310	0.4	10
5	45-75	3822	510	0.5	12.5	45-65	3503	360	0.5	12.5
6	45-75	3185	540	0.6	15	45-65	2919	390	0.6	15
8	45-75	2389	480	1.2	20	45-65	2189	370	1.2	20
10	45-75	1911	480	1.5	25	45-65	1752	360	1.5	25
12	45-75	1592	440	1.8	30	45-65	1460	360	1.8	30
16	45-75	1194	380	2.4	40	45-65	1095	350	2.4	40
20	45-75	955	380	3	50	45-65	876	350	3	50

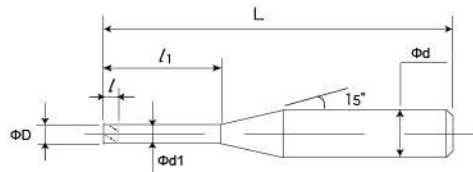


切削参数表 Milling Parameters Recommendation

4刃段差平刀/4刃直柄平刀  
4 Flute Segment Square End Mill / 4 Flute Straight Shank Square End Mill

被切削材质 Workpiece Material	调质钢 Quenched&Tempered Steel HPM • NAK					淬火钢 Hardened Steel SKD61 (~52HRC)					铜 Copper				
	Vc m/min	n min-1	F mm/min			Vc m/min	n min-1	F mm/min			Vc m/min	n min-1	F mm/min		
			侧铣 Side Milling	侧铣 Side Milling	侧铣 Side Milling			侧铣 Side Milling	侧铣 Side Milling	侧铣 Side Milling			侧铣 Side Milling	侧铣 Side Milling	侧铣 Side Milling
1	35-55	14331	170	0.05	2.5	15-35	7962	100	0.02	2.5	55-75	20701	380	0.2	2.5
1.5	35-55	9554	170	0.075	3.75	15-35	5308	100	0.03	3.75	55-75	13800	420	0.3	3.75
2	35-55	7166	210	0.1	5	15-35	3981	100	0.04	5	55-75	10350	470	0.4	5
2.5	35-55	5732	210	0.125	6.25	15-35	3185	110	0.05	6.25	55-75	8280	500	0.5	6.25
3	35-55	4777	210	0.3	7.5	15-35	2654	110	0.06	7.5	55-75	6900	530	0.6	7.5
4	35-55	3583	260	0.4	10	15-35	1990	140	0.08	10	55-75	5175	610	0.8	10
5	35-55	2866	320	0.5	12.5	15-35	1592	140	0.1	12.5	55-75	4140	610	1	12.5
6	35-55	2389	360	0.6	15	15-35	1327	140	0.12	15	55-75	3450	630	1.2	15
8	35-55	1791	340	1.2	20	15-35	995	140	0.16	20	55-75	2588	580	1.6	20
10	35-55	1433	310	1.5	25	15-35	796	140	0.2	25	55-75	2070	540	2	25
12	35-55	1194	290	1.8	30	15-35	663	140	0.24	30	55-75	1725	490	2.4	30
16	35-55	896	280	2.4	40	15-35	498	140	0.32	40	55-75	1294	480	3.2	40
20	35-55	717	280	3	50	15-35	398	140	0.4	50	55-75	1035	480	4	50

2刃深沟平刀 2 Flute Deep Groove Square End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02

涂层 种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAl	○	○	○	2	30°	HRC≤52

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel ≤52hrc >52hrc	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○	○	○		

订货号 Code No.	刃径 (D) Cutter Dia.	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.01.003.2F	0.1	0.3	0.1	0.085	4	45
52.01.004.2F		0.4				45
52.01.005.2F		0.5				45
52.01.006.2F		0.6				45
52.01.008.2F		0.8				45
52.01.010.2F	0.2	1	0.2	0.18	4	45
52.02.006.2F		0.6				45
52.02.008.2F		0.8				45
52.02.010.2F		1				45
52.02.012.2F		1.2				45
52.02.015.2F		1.5				45
52.02.020.2F	0.3	2	0.3	0.28	4	45
52.03.008.2F		0.8				45
52.03.010.2F		1				45
52.03.012.2F		1.2				45
52.03.015.2F		1.5				45
52.03.020.2F		2				45
52.03.025.2F		2.5				45
52.03.030.2F	0.4	3	0.4	0.37	4	45
52.04.010.2F		1				45
52.04.015.2F		1.5				45
52.04.020.2F		2				45
52.04.025.2F		2.5				45
52.04.030.2F		3				45
52.04.040.2F		4				45
52.04.050.2F		5				45
52.04.060.2F		6				45



2刃深沟平刀 2 Flute Deep Groove Square End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAl	○	○	○	2	30°	HRC≤52

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.05.015.2F	0.5	1.5	0.5	0.46	4	50
52.05.020.2F		2				50
52.05.030.2F		3				50
52.05.040.2F		4				50
52.05.060.2F		6				50
52.05.080.2F		8				50
52.05.100.2F		10				50
52.06.015.2F	0.6	1.5	0.6	0.56	4	50
52.06.020.2F		2				50
52.06.040.2F		4				50
52.06.060.2F		6				50
52.06.080.2F		8				50
52.06.100.2F		10				50
52.08.020.2F	0.8	2	0.8	0.76	4	50
52.08.030.2F		3				50
52.08.040.2F		4				50
52.08.060.2F		6				50
52.08.080.2F		8				50
52.08.100.2F		10				50
52.08.120.2F		12				50
52.10.040.2F	1	4	1	0.95	4	50
52.10.060.2F		6				50
52.10.080.2F		8				50
52.10.100.2F		10				50
52.10.120.2F		12				50
52.10.150.2F		15				50

2刃深沟平刀 2 Flute Deep Groove Square End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAl	○	○	○	2	30°	HRC≤52

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.15.060.2F	1.5	6	2.25	1.45	4	50
52.15.080.2F		8				50
52.15.100.2F		10				50
52.15.120.2F		12				50
52.15.150.2F		15				50
52.15.200.2F		20				60
52.15.250.2F		25				75
52.15.300.2F		30				75
52.20.080.2F	2	8	3	1.94	4	50
52.20.100.2F		10				50
52.20.120.2F		12				50
52.20.160.2F		16				50
52.20.200.2F		20				60
52.20.250.2F		25				75
52.20.300.2F		30				75
52.20.350.2F		35				75
52.20.400.2F		40				75
52.25.080.2F	2.5	8	3.75	2.4	4	50
52.25.100.2F		10				50
52.25.150.2F		15				50
52.25.200.2F		20				60
52.25.250.2F		25				75
52.25.300.2F		30				75
52.25.350.2F		35				75
52.25.400.2F		40				75
52.25.450.2F		45				100
52.25.500.2F		50				100



2刃深沟平刀 2 Flute Deep Groove Square End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02

涂层 种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAl	○	○	○	2	30°	HRC≤52

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤52hrc ○ >52hrc	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.30.100.2F	3	10	4.5	2.85	6	50
52.30.150.2F		15				50
52.30.200.2F		20				60
52.30.250.2F		25				75
52.30.300.2F		30				75
52.30.350.2F		35				75
52.30.400.2F		40				75
52.30.450.2F		45				100
52.30.500.2F		50				100
52.30.550.2F		55				100
52.30.600.2F		60				100
52.40.160.2F	4	16	6	3.8	6	60
52.40.200.2F		20				60
52.40.250.2F		25				75
52.40.300.2F		30				75
52.40.400.2F		40				75
52.40.500.2F		50				100
52.40.600.2F		60				100
52.50.160.2F	5	16	7.5	4.8	6	60
52.50.200.2F		20				60
52.50.250.2F		25				75
52.50.300.2F		30				75
52.50.400.2F		40				75
52.50.500.2F		50				100
52.50.600.2F		60				100

切削参数表 Milling Parameters Recommendation

2刃深沟平刀  
2 Flute Deep Groove Square End Mill

被切削材质 Workpiece Material	刃径 Cutter Dia.	有效长 Effective Length	碳素钢・调质钢 Carbon Steel・Quenched & Tempered Steel S50C・NAK55・NAK80・HPM-1 (~43HRC)				淬硬钢 Hardened Steel HPM-38・STAVAX・SKD61 (~55HRC)				淬硬钢 Hardened Steel SKD11・PD613 (~62HRC)				工具钢 Tool Steel SKH (~65HRC)			
			转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm
0.1	0.3	40000	150	0.005	0.06	0.06	40000	120	0.003	0.05	40000	100	0.002	0.04	40000	70	0.002	0.03
	0.5	40000	100	0.005	0.06	0.06	40000	80	0.003	0.05	40000	60	0.002	0.04	40000	50	0.002	0.03
	0.75	40000	80	0.003	0.06	0.06	40000	70	0.002	0.05	40000	50	0.001	0.04	40000	30	0.001	0.03
	1	40000	60	0.002	0.06	0.06	40000	50	0.001	0.05	40000	40	0.001	0.04	40000	20	0.001	0.03
0.15	0.3	40,000	180	0.005	0	0	40,000	150	0.003	0	40,000	120	0.002	0	40,000	100	0.002	0.04
	0.5	40,000	150	0.005	0	0	40,000	120	0.003	0	40,000	100	0.002	0	40,000	80	0.002	0.04
	0.75	40,000	120	0.003	0	0	40,000	100	0.002	0	40,000	80	0.001	0	40,000	60	0.001	0.04
	1	40,000	100	0.002	0	0	40,000	80	0.001	0	40,000	60	0.001	0	40,000	40	0.001	0.04
0.2	1.5	40,000	80	0.002	0	0	40,000	60	0.001	0	40,000	40	0.001	0	40,000	20	0.001	0.04
	0.5	30000	240	0.005	0.12	0.12	30000	200	0.003	0.1	30000	160	0.003	0.08	30000	120	0.003	0.06
	0.75	30000	200	0.005	0.12	0.12	30000	180	0.003	0.1	30000	140	0.003	0.08	30000	100	0.003	0.06
	1	30000	180	0.005	0.12	0.12	30000	150	0.003	0.1	30000	120	0.003	0.08	30000	80	0.003	0.06
0.3	1.5	30000	120	0.003	0.12	0.12	30000	100	0.002	0.1	30000	80	0.002	0.08	30000	60	0.002	0.06
	2	30,000	80	0.003	0.12	0.12	30,000	50	0.002	0.1	30,000	40	0.002	0.08	30,000	30	0.002	0.06
	2.5	30,000	60	0.002	0.12	0.12	30,000	50	0.001	0.1	25,000	40	0.001	0.08	25,000	30	0.001	0.06
	3	30,000	40	0.002	0.12	0.12	25,000	40	0.001	0.1	25,000	30	0.001	0.08	22,000	20	0.001	0.06
0.4	1	30,000	350	0.007	0.18	0.18	30,000	300	0.003	0.15	30,000	250	0.003	0.12	30,000	200	0.003	0.09
	1.5	30,000	260	0.007	0.18	0.18	30,000	200	0.003	0.15	30,000	160	0.003	0.12	30,000	120	0.003	0.09
	2	30,000	180	0.005	0.18	0.18	30,000	150	0.003	0.15	30,000	120	0.003	0.12	25,000	100	0.003	0.09
	2.5	30,000	150	0.004	0.18	0.18	25,000	100	0.002	0.15	25,000	80	0.002	0.12	20,000	60	0.002	0.09
0.5	3	30,000	70	0.004	0.18	0.18	25,000	50	0.002	0.15	25,000	40	0.002	0.12	20,000	30	0.002	0.09
	1	30,000	450	0.01	0.24	0.24	30,000	400	0.005	0.2	30,000	350	0.005	0.16	25,000	300	0.005	0.12
	1.5	30,000	400	0.01	0.24	0.24	30,000	360	0.005	0.2	30,000	330	0.005	0.16	25,000	250	0.005	0.12
	2	30,000	360	0.01	0.24	0.24	30,000	320	0.005	0.2	25,000	280	0.005	0.16	25,000	220	0.005	0.12
0.6	2.5	30,000	340	0.008	0.24	0.24	25,000	280	0.005	0.2	25,000	250	0.004	0.16	20,000	200	0.004	0.12
	3	30,000	320	0.008	0.24	0.24	25,000	260	0.004	0.2	20,000	220	0.003	0.16	18,000	180	0.003	0.12
	3.5	30,000	280	0.007	0.24	0.24	25,000	220	0.004	0.2	20,000	180	0.003	0.16	18,000	150	0.002	0.12
	4	30,000	250	0.006	0.24	0.24	25,000	200	0.003	0.2	20,000	160	0.002	0.16	18,000	120	0.002	0.12
0.7	5	25,000	250	0.005	0.24	0.24	22,000	180	0.003	0.2	20,000	150	0.002	0.16	18,000	90	0.002	0.12
	6	25,000	200	0.004	0.24	0.24	22,000	150	0.002	0.2	18,000	130	0.002	0.16	16,000	70	0.001	0.12
	8	20,000	150	0.002	0.24	0.24	16,000	120	0.001	0.2	14,000	90	0.001	0.16	12,000	40	0.001	0.12
	10	16,000	100	0.002	0.24	0.24	13,000	80	0.001	0.2	12,000	50	0.001	0.16	10,000	20	0.001	0.12
0.8	1	30,000	550	0.02	0.3	0.3	25,000	500	0.01	0.25	23,000	450	0.007	0.2	20,000	400	0.005	0.15
	1.5	30,000	520	0.02	0.3	0.3	25,000	450	0.01	0.25	23,000	400	0.007	0.2	20,000	360	0.005	0.15
	2	30,000	500	0.02	0.3	0.3	25,000	420	0.01	0.25	23,000	380	0.007	0.2	20,000	320	0.005	0.15
	2.5	30,000	480	0.015	0.3	0.3	25,000	400	0.008	0.25	23,000	360	0.006	0.2	20,000	300	0.004	0.15
0.9	3	30,000	420	0.015	0.3	0.3	25,000	350	0.007	0.25	23,000	320	0.005	0.2	20,000	280	0.003	0.15
	3.5	25,000	400	0.012	0.3	0.3	25,000	320	0.006	0.25	23,000	280	0.003	0.2	20,000	240	0.003	0.15
	4	25,000	380	0.01	0.3	0.3	25,000	280	0.005	0.25	23,000	240	0.003	0.2	20,000	200	0.002	0.15
	4.5	25,000	350	0.008	0.3	0.3	25,000	230	0.004	0.25	20,000	200	0.003	0.2	18,000	160	0.002	0.15
1.0	5	25,000	320	0.007	0.3	0.3	20,000	200	0.003	0.25	18,000	150	0.003	0.2	16,000	100	0.002	0.15
	6	25,000	300	0.005	0.3	0.3	20,000	200	0.003	0.25	18,000	150	0.002	0.2	16,000	100	0.002	0.15
	7	20,000	250	0.005	0.3	0.3	16,000	180	0.003	0.25	14,000	140	0.002	0.2	14,000	80	0.002	0.15
	8	20,000	200	0.005	0.3	0.3	16,000	160	0.002	0.25	14,000	130	0.002	0.2	12,000	60	0.001	0.15



切削参数表 Milling Parameters Recommendation

2刃深沟平刀  
2 Flute Deep Groove Square End Mill

被切削材质 Workpiece Material		碳素钢·调质钢 Carbon Steel · Quenched & Tempered Steel S50C · NAK55 · NAK80 · HPM-1 (~43HRC)				淬硬钢 Hardened Steel HPM-38 · STAVAX · SKD61 (~55HRC)				淬硬钢 Hardened Steel SKD11 · PD613 (~62HRC)				工具钢 Tool Steel SKH (~65HRC)			
刃径 Cutter Dia.	有效长 Effective Length	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm
0.5	9	20,000	200	0.003	0.3	16,000	150	0.002	0.25	14,000	120	0.001	0.2	12,000	50	0.001	0.15
	10	16,000	170	0.003	0.3	13,000	130	0.002	0.25	12,000	110	0.001	0.2	10,000	40	0.001	0.1
0.6	1.5	30,000	650	0.02	0.35	25,000	550	0.01	0.3	23,000	450	0.007	0.25	20,000	400	0.005	0.18
	2	30,000	550	0.02	0.35	25,000	500	0.01	0.3	23,000	400	0.007	0.25	20,000	350	0.005	0.18
	3	30,000	500	0.015	0.35	25,000	450	0.007	0.3	23,000	350	0.005	0.25	20,000	300	0.003	0.18
	4	25,000	450	0.01	0.35	25,000	400	0.005	0.3	23,000	300	0.003	0.25	20,000	250	0.002	0.18
	5	25,000	400	0.007	0.35	20,000	350	0.003	0.3	18,000	250	0.003	0.25	16,000	200	0.002	0.18
	6	25,000	350	0.001	0.35	20,000	300	0.002	0.3	18,000	200	0.002	0.25	16,000	150	0.001	0.18
0.7	2	30,000	750	0.04	0.4	25,000	600	0.03	0.35	23,000	450	0.02	0.28	20,000	400	0.012	0.21
	4	25,000	690	0.03	0.4	25,000	560	0.02	0.35	23,000	400	0.015	0.28	20,000	320	0.007	0.21
	6	25,000	550	0.02	0.4	20,000	410	0.015	0.35	18,000	300	0.012	0.28	16,000	240	0.007	0.21
	8	20,000	430	0.012	0.4	16,000	330	0.01	0.35	14,000	230	0.007	0.28	12,000	180	0.005	0.21
0.8	10	16,000	300	0.008	0.4	13,000	200	0.005	0.35	12,000	180	0.003	0.28	10,000	120	0.002	0.21
	3	25,000	850	0.04	0.45	25,000	780	0.03	0.4	23,000	650	0.02	0.32	20,000	550	0.012	0.24
	4	25,000	800	0.03	0.45	25,000	700	0.025	0.4	23,000	600	0.015	0.32	20,000	500	0.007	0.24
	5	25,000	700	0.03	0.45	23,000	630	0.02	0.4	20,000	530	0.012	0.32	18,000	450	0.006	0.24
	6	20,000	620	0.025	0.45	20,000	550	0.02	0.4	18,000	450	0.01	0.32	16,000	350	0.005	0.24
	8	16,000	500	0.015	0.45	16,000	400	0.007	0.4	14,000	300	0.005	0.32	12,000	200	0.003	0.24
	10	16,000	400	0.012	0.45	16,000	350	0.007	0.4	12,000	180	0.005	0.32	10,000	150	0.003	0.24
	12	16,000	300	0.007	0.45	13,000	220	0.005	0.4	12,000	120	0.003	0.32	10,000	120	0.002	0.24
1	2	25,000	1,200	0.07	0.6	23,000	1,000	0.06	0.5	18,000	900	0.05	0.4	14,000	600	0.035	0.3
	3	25,000	1,200	0.06	0.6	23,000	1,000	0.05	0.5	18,000	900	0.04	0.4	14,000	600	0.03	0.3
	4	25,000	1,000	0.05	0.6	23,000	900	0.04	0.5	18,000	800	0.03	0.4	14,000	500	0.02	0.3
	5	22,000	1,000	0.04	0.6	20,000	800	0.03	0.5	16,000	700	0.02	0.4	12,000	450	0.012	0.3
	6	20,000	900	0.03	0.6	18,000	700	0.02	0.5	14,000	600	0.01	0.4	10,000	400	0.007	0.3
	7	20,000	900	0.03	0.6	18,000	650	0.02	0.5	14,000	550	0.01	0.4	10,000	370	0.006	0.3
	8	18,000	800	0.03	0.6	16,000	600	0.02	0.5	12,000	500	0.01	0.4	8,000	340	0.005	0.3
	9	18,000	700	0.02	0.6	16,000	550	0.015	0.5	12,000	450	0.007	0.4	8,000	300	0.005	0.3
	10	16,000	600	0.02	0.6	14,000	500	0.01	0.5	10,000	400	0.007	0.4	6,000	250	0.005	0.3
	12	16,000	500	0.02	0.6	13,000	400	0.01	0.5	10,000	300	0.005	0.4	6,000	180	0.004	0.3
	14	16,000	450	0.015	0.6	13,000	360	0.008	0.5	10,000	280	0.005	0.4	5,500	160	0.004	0.3
	16	14,000	400	0.012	0.6	12,000	320	0.006	0.5	9,000	250	0.004	0.4	5,500	150	0.003	0.3
	18	14,000	300	0.01	0.6	12,000	240	0.006	0.5	8,000	200	0.004	0.4	5,000	120	0.002	0.3
	20	12,000	200	0.007	0.6	10,000	160	0.005	0.5	7,000	130	0.003	0.4	4,500	90	0.001	0.3
	22	12,000	180	0.005	0.6	10,000	150	0.003	0.5	6,000	100	0.002	0.4	4,200	60	0.001	0.3
1.2	6	20,000	900	0.04	0.7	18,000	700	0.03	0.6	14,000	600	0.02	0.5	10,000	400	0.01	0.4
	8	18,000	800	0.04	0.7	16,000	600	0.02	0.6	12,000	500	0.01	0.5	8,000	340	0.007	0.4
	10	16,000	600	0.03	0.7	12,000	500	0.02	0.6	10,000	430	0.01	0.5	8,000	300	0.005	0.4
	12	14,000	600	0.02	0.7	10,000	500	0.01	0.6	9,000	400	0.007	0.5	7,000	250	0.005	0.4
	16	12,000	400	0.018	0.7	9,000	300	0.01	0.6	8,000	260	0.005	0.5	6,000	180	0.003	0.4
1.4	6	22,000	1,000	0.06	0.8	20,000	800	0.04	0.7	18,000	700	0.03	0.56	12,000	450	0.02	0.42
	12	16,000	700	0.03	0.8	13,000	500	0.01	0.7	11,000	400	0.007	0.56	8,000	280	0.005	0.42

切削参数表 Milling Parameters Recommendation

2刃深沟平刀  
2 Flute Deep Groove Square End Mill

被切削材质 Workpiece Material		碳素钢・调质钢 Carbon Steel・Quenched&Tempered Steel S50C・NAK55・NAK80・HPM-1(43HRC)				淬硬钢 Hardened Steel HPM-38・STAVAX・SKD61(55HRC)				淬硬钢 Hardened Steel SKD11・PD613(62HRC)				工具钢 Tool Steel SKH(65HRC)			
刃径 Cutter Dia.	有效长 Effective Length	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm
1.5	4	23,000	1,200	0.07	0.9	20,000	900	0.05	0.75	18,000	800	0.04	0.6	14,000	600	0.03	0.45
	6	23,000	1,000	0.06	0.9	20,000	800	0.04	0.75	18,000	700	0.03	0.6	14,000	500	0.02	0.45
	8	20,000	900	0.06	0.9	18,000	600	0.03	0.75	14,000	600	0.03	0.6	10,000	380	0.01	0.45
	10	20,000	800	0.04	0.9	16,000	500	0.03	0.75	14,000	500	0.02	0.6	10,000	350	0.01	0.45
	12	16,000	700	0.04	0.9	14,000	500	0.02	0.75	12,000	430	0.02	0.6	8,000	310	0.007	0.45
	14	14,000	600	0.03	0.9	12,000	400	0.02	0.75	10,000	380	0.01	0.6	7,500	250	0.007	0.45
	16	12,000	500	0.02	0.9	10,000	360	0.01	0.75	9,000	300	0.007	0.6	6,800	200	0.005	0.45
	18	10,000	400	0.02	0.9	9,000	330	0.008	0.75	8,000	260	0.005	0.6	6,000	170	0.004	0.45
	20	9,000	320	0.014	0.9	8,000	280	0.005	0.75	7,000	200	0.004	0.6	5,500	150	0.003	0.45
	25	8,000	250	0.01	0.9	7,000	200	0.004	0.75	6,000	150	0.003	0.6	4,500	100	0.002	0.45
	30	7,000	200	0.005	0.9	6,000	150	0.003	0.75	5,000	110	0.002	0.6	4,000	80	0.002	0.45
	35	6,000	150	0.003	0.9	5,000	110	0.002	0.75	4,500	90	0.002	0.6	3,500	60	0.002	0.45
1.6	6	22,000	1,000	0.06	0.96	19,000	850	0.04	0.8	17,000	750	0.03	0.64	13,000	600	0.025	0.48
	8	20,000	900	0.06	0.96	17,000	750	0.03	0.8	14,000	600	0.03	0.64	10,000	430	0.015	0.48
1.8	6	20,000	1,000	0.07	1	18,000	900	0.05	0.9	15,000	750	0.04	0.7	12,000	600	0.03	0.5
	8	18,000	900	0.06	1	16,000	800	0.04	0.9	12,000	600	0.03	0.7	9,500	500	0.02	0.5
	10	16,000	800	0.06	1	14,000	700	0.04	0.9	12,000	500	0.03	0.7	9,500	450	0.02	0.5
	12	14,000	700	0.05	1	12,000	600	0.03	0.9	10,000	500	0.02	0.7	8,200	400	0.01	0.5
	14	14,000	700	0.05	1	12,000	600	0.03	0.9	10,000	430	0.02	0.7	8,200	360	0.01	0.5
	16	12,000	600	0.04	1	10,000	500	0.02	0.9	9,200	400	0.01	0.7	7,500	340	0.007	0.5
	18	10,000	500	0.04	1	9,200	410	0.02	0.9	8,500	370	0.01	0.7	6,000	320	0.007	0.5
2	4	20,000	1,200	0.1	1.2	18,000	1,000	0.08	1	15,000	800	0.06	0.8	12,000	600	0.04	0.6
	6	20,000	1,000	0.08	1.2	18,000	900	0.06	1	15,000	750	0.05	0.8	12,000	600	0.03	0.6
	8	18,000	900	0.07	1.2	16,000	800	0.05	1	12,000	600	0.04	0.8	9,500	500	0.02	0.6
	10	16,000	800	0.06	1.2	14,000	700	0.05	1	12,000	500	0.04	0.8	9,500	450	0.02	0.6
	12	14,000	700	0.05	1.2	12,000	600	0.04	1	10,000	500	0.03	0.8	8,200	400	0.01	0.6
	14	14,000	700	0.04	1.2	12,000	600	0.03	1	10,000	430	0.02	0.8	8,200	360	0.007	0.6
	16	12,000	600	0.04	1.2	10,000	500	0.03	1	9,200	400	0.02	0.8	7,500	340	0.007	0.6
	18	10,000	500	0.03	1.2	9,200	410	0.02	1	8,500	370	0.01	0.8	6,000	320	0.005	0.6
	20	10,000	400	0.03	1.2	9,200	380	0.02	1	8,500	340	0.01	0.8	6,000	260	0.005	0.6
	25	9,000	350	0.02	1.2	8,500	330	0.015	1	8,000	300	0.008	0.8	5,000	180	0.004	0.6
	30	8,000	300	0.015	1.2	7,500	280	0.01	1	7,000	250	0.006	0.8	4,500	150	0.004	0.6
	35	7,000	250	0.012	1.2	6,500	230	0.008	1	6,000	200	0.005	0.8	4,000	120	0.003	0.6
2.5	40	6,000	200	0.008	1.2	5,500	180	0.005	1	5,000	150	0.004	0.8	3,500	100	0.003	0.6
	50	5,000	120	0.005	1.2	4,500	100	0.004	1	4,000	80	0.003	0.8	3,000	55	0.002	0.6
	8	16,000	1,000	0.08	1.5	14,000	800	0.07	1.25	10,000	700	0.05	1	8,000	500	0.03	0.75
	12	14,000	800	0.07	1.5	12,000	700	0.06	1.25	9,600	600	0.04	1	7,500	480	0.02	0.75
	16	12,000	700	0.06	1.5	10,000	600	0.05	1.25	8,500	500	0.02	1	7,000	400	0.01	0.75
	20	10,000	600	0.06	1.5	8,200	500	0.05	1.25	7,500	500	0.02	1	5,000	400	0.01	0.75
	30	8,000	400	0.03	1.5	7,000	300	0.025	1.25	6,000	250	0.015	1	4,000	150	0.008	0.75
	40	6,000	250	0.015	1.5	5,500	200	0.012	1.25	5,000	180	0.01	1	3,500	110	0.005	0.75
	50	5,000	150	0.01	1.5	4,500	120	0.008	1.25	4,000	100	0.005	1	3,000	70	0.004	0.75



切削参数表 Milling Parameters Recommendation

2刃深沟平刀  
2 Flute Deep Groove Square End Mill

被切削材质 Workpiece Material		碳素钢・调质钢 Carbon Steel・Quenched&Tempered Steel S50C・NAK55・NAK80・HPM-1(43HRC)				淬硬钢 Hardened Steel HPM-38・STAVAX・SKD61(55HRC)				淬硬钢 Hardened Steel SKD11・PD613(62HRC)				工具钢 Tool Steel SKH(65HRC)			
刃径 Cutter Dia.	有效长 Effective Length	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm
3	8	16,000	1,000	0.15	1.8	14,000	900	0.1	1.5	10,000	800	0.07	1.2	8,000	600	0.05	0.9
	12	14,000	900	0.1	1.8	12,000	800	0.08	1.5	9,200	700	0.06	1.2	7,200	500	0.04	0.9
	16	12,000	800	0.08	1.8	10,000	700	0.07	1.5	8,500	600	0.05	1.2	6,500	400	0.03	0.9
	20	10,000	800	0.08	1.8	9,000	700	0.07	1.5	7,800	600	0.04	1.2	5,800	400	0.02	0.9
	25	9,000	700	0.07	1.8	8,200	600	0.06	1.5	7,000	500	0.03	1.2	5,000	360	0.01	0.9
	30	8,000	700	0.05	1.8	7,000	600	0.03	1.5	6,500	500	0.02	1.2	4,500	330	0.007	0.9

- ※ 本切削参数是参考值。请通过实际的加工形状及使用机械等调整。
- ※ 切入量的ap表示轴方向的切入深度，ae表示半径方向的切入深度。
- ※ 切削加工淬火钢时，推荐使用油雾冷却液。
- ※ Z切入时的方法推荐使用螺旋和斜坡（倾斜）进行切削加工。
- ※ L（有效长度）/D（刃径）超过8倍时，请将侧铣的进给速度调整为50%以下，切入量：ae调整为30%以下。
- ※ 凹槽切削参考切削条件表，将切入量：ap及进给速度设定为50%以下，推荐往返切削。
- ※ 发生比时，请将转速数和进给速度按相同比例降低。另外，主轴转速不足时也请同样降低。
- ※ L（有效长度）/D（刃径）在5以上时，推荐使用有效长度较短的工具进行导槽加工。
- ※ φ不满0.5或L（有效长度）/D（刃径）在15以上时，可能需要根据加工形状、使用机械等进行大幅度的降低。
- ※ These recommended cutting conditions indicate just reference. It should be adjusted according to milling shape and machine type.
- ※ ap:Axial Depth of Cut, ae:Radial Depth of Cut.
- ※ Recommend to use oil mist coolant for machining hardened steel.
- ※ Recommend to apply herical or ramping for approaching into axial direction.
- ※ Adjust feed rate 50% lower and cutting depth(ae) 30% lower for milling deep wall area. When L/D exceeds 8 for stable milling.
- ※ For slotting, recommend reciprocating milling by adjusting feed & ap in below 50% of recommended milling condition.
- ※ Reduce both spindle speed and feed at same rate for chattering and also for insufficient spindle speed of a machine.
- ※ Recommend guide slotting process with short neck tool before milling with L/D 5 time or longer neck tool.
- ※ Decrease cutting parameters when required for the tools smaller than Dia. 0.5mm, or L/D is more than 15 times longer

4刃深沟平刀 4 Flute Deep Groove Square End Mill



涂层 种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAL	○	○	○	4	30°	HRC≤52

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel ≤52hrc >52hrc	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○	○	○		

订货号 Code No.	刃径 (D) Cutter Dia.	避空长 (L) Effective Length	刃长 (L) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.10.0040.4F	1	4	1.5	0.95	4	50
52.10.0060.4F		6				50
52.10.0080.4F		8				50
52.10.0100.4F		10				50
52.10.0120.4F		12				50
52.10.0150.4F		15				50
52.15.0060.4F	1.5	6	2.25	1.45	4	50
52.15.0080.4F		8				50
52.15.0100.4F		10				50
52.15.0120.4F		12				50
52.15.0150.4F		15				50
52.15.0200.4F		20				60
52.15.0250.4F		25				75
52.15.0300.4F		30				75
52.20.0080.4F	2	8	3	1.94	4	50
52.20.0100.4F		10				50
52.20.0120.4F		12				50
52.20.0160.4F		16				50
52.20.0200.4F		20				60
52.20.0250.4F		25				75
52.20.0300.4F		30				75
52.20.0350.4F		35				75
52.20.0400.4F		40				75



4刃深沟平刀 4 Flute Deep Groove Square End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAL	○	○	○	4	30°	HRC≤52

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.25.0080.4F	2.5	8	3.75	2.4	4	50
52.25.0100.4F		10				50
52.25.0150.4F		15				50
52.25.0200.4F		20				60
52.25.0250.4F		25				75
52.25.0300.4F		30				75
52.25.0350.4F		35				75
52.25.0400.4F		40				75
52.25.0450.4F		45				100
52.25.0500.4F		50				100
52.30.0100.4F	3	10	4.5	2.85	6	50
52.30.0150.4F		15				50
52.30.0200.4F		20				60
52.30.0250.4F		25				75
52.30.0300.4F		30				75
52.30.0350.4F		35				75
52.30.0400.4F		40				75
52.30.0450.4F		45				100
52.30.0500.4F		50				100
52.30.0550.4F		55				100
52.30.0600.4F		60				100

4刃深沟平刀 4 Flute Deep Groove Square End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAL	○	○	○	4	30°	HRC≤52

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.40.0160.4F	4	16	6	3.8	6	60
52.40.0200.4F		20				60
52.40.0250.4F		25				75
52.40.0300.4F		30				75
52.40.0400.4F		40				75
52.40.0500.4F		50				100
52.40.0600.4F		60				100
52.40.0700.4F		70				110
52.40.0800.4F		80				120
52.50.0160.4F	5	16	7.5	4.8	6	60
52.50.0200.4F		20				60
52.50.0250.4F		25				75
52.50.0300.4F		30				75
52.50.0400.4F		40				75
52.50.0500.4F		50				100
52.50.0600.4F		60				100
52.50.0800.4F		80				120
52.50.1000.4F		100				140



切削参数表 Milling Parameters Recommendation

4刃深沟平刀  
4 Flute Deep Groove Square End Mill

被切削材质 Workpiece Material		碳素钢·调质钢 Carbon Steel · Quenched&Tempered Steel S50C · NAK55 · NAK80 · HPM-1 (~43HRC)				淬硬钢 Hardened Steel HPM-38 · STAVAX · SKD61 (~55HRC)				淬硬钢 Hardened Steel SKD11 · PD613 (~62HRC)				工具钢 Tool Steel SKH (~65HRC)			
刃径 Cutter Dia.	有效长 Effective Length	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm
1	4	25,000	2,000	0.05	0.6	23,000	1,800	0.04	0.5	18,000	1,600	0.03	0.4	14,000	1,000	0.02	0.3
	6	20,000	1,800	0.03	0.6	18,000	1,400	0.02	0.5	14,000	1,200	0.01	0.4	10,000	800	0.007	0.3
	8	18,000	1,600	0.03	0.6	16,000	1,200	0.02	0.5	12,000	1,000	0.01	0.4	8,000	680	0.005	0.3
	10	16,000	1,200	0.02	0.6	14,000	1,000	0.01	0.5	10,000	800	0.007	0.4	6,000	500	0.005	0.3
1.2	6	20,000	1,800	0.04	0.7	18,000	1,400	0.03	0.6	14,000	1,200	0.02	0.5	10,000	800	0.01	0.4
	8	18,000	1,600	0.04	0.7	16,000	1,200	0.02	0.6	12,000	1,000	0.01	0.5	8,000	680	0.007	0.4
	10	16,000	1,200	0.03	0.7	12,000	1,000	0.02	0.6	10,000	850	0.01	0.5	8,000	600	0.005	0.4
	12	14,000	1,200	0.02	0.7	10,000	1,000	0.01	0.6	9,000	800	0.007	0.5	7,000	500	0.005	0.4
1.5	6	23,000	2,000	0.06	0.9	20,000	1,600	0.04	0.75	18,000	1,400	0.03	0.6	14,000	1,000	0.02	0.45
	8	20,000	1,800	0.06	0.9	18,000	1,200	0.03	0.75	14,000	1,200	0.03	0.6	10,000	750	0.01	0.45
	10	20,000	1,600	0.04	0.9	16,000	1,000	0.03	0.75	14,000	1,000	0.02	0.6	10,000	700	0.01	0.45
	12	16,000	1,400	0.04	0.9	14,000	1,000	0.02	0.75	12,000	850	0.02	0.6	8,000	620	0.007	0.45
1.8	14	14,000	1,200	0.03	0.9	12,000	800	0.02	0.75	10,000	750	0.01	0.6	7,500	500	0.007	0.45
	16	12,000	1,000	0.02	0.9	10,000	720	0.01	0.75	9,000	600	0.007	0.6	6,800	400	0.005	0.45
	6	20,000	2,000	0.07	1	18,000	1,800	0.05	0.9	15,000	1,500	0.04	0.7	12,000	1,200	0.03	0.5
	8	18,000	1,800	0.06	1	16,000	1,600	0.04	0.9	12,000	1,200	0.03	0.7	9,500	1,000	0.02	0.5
2	10	16,000	1,600	0.06	1	14,000	1,400	0.04	0.9	12,000	1,000	0.03	0.7	9,500	900	0.02	0.5
	12	14,000	1,400	0.05	1	12,000	1,200	0.03	0.9	10,000	1,000	0.02	0.7	8,200	800	0.01	0.5
	14	14,000	1,400	0.05	1	12,000	1,200	0.03	0.9	10,000	860	0.02	0.7	8,200	720	0.01	0.5
	16	12,000	1,200	0.04	1	10,000	1,000	0.02	0.9	9,200	800	0.01	0.7	7,500	680	0.007	0.5
2.5	18	10,000	1,000	0.04	1	9,200	820	0.02	0.9	8,500	740	0.01	0.7	6,000	640	0.007	0.5
	6	20,000	2,000	0.08	1.2	18,000	1,800	0.06	1	15,000	1,500	0.05	0.8	12,000	1,200	0.03	0.6
	8	18,000	1,800	0.07	1.2	16,000	1,600	0.05	1	12,000	1,200	0.04	0.8	9,500	1,000	0.02	0.6
	10	16,000	1,600	0.06	1.2	14,000	1,400	0.05	1	12,000	1,000	0.04	0.8	9,500	900	0.02	0.6
3	12	14,000	1,400	0.05	1.2	12,000	1,200	0.04	1	10,000	1,000	0.03	0.8	8,200	800	0.01	0.6
	14	14,000	1,400	0.04	1.2	12,000	1,200	0.03	1	10,000	860	0.02	0.8	8,200	720	0.007	0.6
	16	12,000	1,200	0.04	1.2	10,000	1,000	0.03	1	9,200	800	0.02	0.8	7,500	680	0.007	0.6
	18	10,000	1,000	0.03	1.2	9,200	820	0.02	1	8,500	740	0.01	0.8	6,000	640	0.005	0.6
3	20	10,000	800	0.03	1.2	9,200	760	0.02	1	8,500	680	0.01	0.8	6,000	520	0.005	0.6
	8	16,000	2,000	0.08	1.5	14,000	1,600	0.07	1.25	10,000	1,400	0.05	1	8,000	1,000	0.03	0.75
	12	14,000	1,600	0.07	1.5	12,000	1,400	0.06	1.25	9,600	1,200	0.04	1	7,500	960	0.02	0.75
	16	12,000	1,400	0.06	1.5	10,000	1,200	0.05	1.25	8,500	1,000	0.02	1	7,000	800	0.01	0.75
3	20	10,000	1,200	0.06	1.5	8,200	1,000	0.05	1.25	7,500	1,000	0.02	1	5,000	800	0.01	0.75
	25	8,000	1,000	0.05	1.5	7,000	800	0.03	1.25	6,500	680	0.01	1	4,500	550	0.005	0.75
	8	16,000	2,000	0.15	1.8	14,000	1,800	0.1	1.5	10,000	1,600	0.07	1.2	8,000	1.2	0.05	0.9
	12	14,000	1,800	0.1	1.8	12,000	1,600	0.08	1.5	9,200	1,400	0.06	1.2	7,200	1,000	0.04	0.9
3	16	12,000	1,600	0.08	1.8	10,000	1,400	0.07	1.5	8,500	1,200	0.05	1.2	6,500	800	0.03	0.9
	20	10,000	1,600	0.08	1.8	9,000	1,400	0.07	1.5	7,800	1,200	0.04	1.2	5,800	800	0.02	0.9
	25	9,000	1,400	0.07	1.8	8,200	1,200	0.06	1.5	7,000	1,000	0.03	1.2	5,000	720	0.01	0.9
	30	8,000	1,400	0.05	1.8	7,000	1,200	0.03	1.5	6,500	1,000	0.02	1.2	4,500	650	0.007	0.9

切削参数表 Milling Parameters Recommendation

4刃深沟平刀  
4 Flute Deep Groove Square End Mill

被切削材质 Workpiece Material		碳素钢·调质钢 Carbon Steel · Quenched&Tempered Steel S50C · NAK55 · NAK80 · HPM-1 (~43HRC)				淬硬钢 Hardened Steel HPM-38 · STAVAX · SKD61 (~55HRC)				淬硬钢 Hardened Steel SKD11 · PD613 (~62HRC)				工具钢 Tool Steel SKH (~65HRC)			
刃径 Cutter Dia.	有效长 Effective Length	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm
4	12	12,000	2,000	0.2	2.5	9,500	2,000	0.15	2	8,000	1,600	0.08	1.6	7,000	1,000	0.06	1.2
	16	10,000	2,000	0.15	2.5	8,000	1,800	0.1	2	7,000	1,400	0.06	1.6	6,000	1,200	0.05	1.2
	20	8,500	1,800	0.12	2.5	7,000	1,600	0.08	2	6,500	1,200	0.05	1.6	5,500	1,000	0.04	1.2
	25	8,000	1,600	0.1	2.5	6,000	1,400	0.07	2	5,200	1,200	0.04	1.6	4,500	1,000	0.03	1.2
	30	6,800	1,400	0.08	2.5	4,800	1,000	0.05	2	4,200	850	0.03	1.6	3,500	620	0.02	1.2
	35	5,500	1,000	0.07	2.5	4,200	880	0.04	2	3,800	720	0.02	1.6	3,000	550	0.01	1.2
	40	4,000	860	0.05	2.5	3,600	720	0.03	2	3,000	600	0.01	1.6	2,500	400	0.007	1.2
5	16	10,000	2,000	0.2	3	7,000	1,800	0.12	2.5	5,500	1,600	0.08	2	4,500	1,000	0.06	1.5
	25	8,000	1,600	0.15	3	5,800	1,400	0.07	2.5	4,200	1,200	0.05	2	3,000	800	0.03	1.5
	35	6,000	1,200	0.1	3	4,200	900	0.05	2.5	3,500	800	0.03	2	2,500	600	0.02	1.5
	50	3,500	750	0.07	3	2,800	620	0.03	2.5	2,500	500	0.02	2	1,500	350	0.01	1.5
6	20	8,000	2,000	0.25	4	6,500	1,600	0.18	3	4,500	1,400	0.08	2.4	3,500	920	0.06	1.8
	30	7,000	1,600	0.2	4	4,500	1,200	0.12	3	3,500	1,000	0.06	2.4	2,500	660	0.04	1.8
	40	4,500	1,200	0.15	4	3,000	1,000	0.08	3	2,500	800	0.03	2.4	2,000	550	0.02	1.8
	50	3,000	850	0.1	4	2,500	700	0.05	3	2,000	500	0.02	2.4	1,500	380	0.01	1.8

- ※ 本切削参数是参考值。请通过实际的加工形状及使用机械等调整。
- ※ 切入量的ap表示轴方向的切入深度，ae表示半径方向的切入深度。
- ※ 切削加工淬硬钢时，推荐使用油雾冷却液。
- ※ Z切入时的方法推荐使用螺旋和斜坡（倾斜）进行切削加工。
- ※ L（有效长度）/D（刃径）超过8倍时，请将侧铣的进给速度调整到50%以下，切入量：ae调整到30%以下。
- ※ 凹槽切削参考切削条件表，将切入量：ap及进给速度设定为50%以下，推荐往返切削。
- ※ 发生振动时，请将旋转数和进给速度按相同比例降低。另外，主轴转速不足时也请同样降低。
- ※ These recommended cutting conditions indicate just reference. It should be adjusted according to milling shape and machine type.
- ※ ap:Axial Depth of Cut, ae:Radial Depth of Cut.
- ※ Recommend to use oil mist coolant for machining hardened steel.
- ※ Recommend to apply herical or ramping for approaching into axial direction.
- ※ Adjust feed rate 50% lower and cutting depth (ae) 30% lower for milling deep wall area. When L/D exceeds 8 for stable milling.
- ※ For slotting, recommend reciprocating milling by adjusting feed & ap in below 50% of recommended milling condition.
- ※ Reduce both spindle speed and feed at same rate for chattering and also for insufficient spindle speed of a machine.



2刃段差圆鼻刀 2 Flute Segment Corner Radius End Mill



公差: d=h5	Tolerance	涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
D≤3	0,-0.015	CrAL	○	○	○	2	30°	HRC≤52
3 < D < 20	0,-0.02							
R	±0.005							

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	圆鼻R角 Corner Radius	刃长 (l) Length of Cut	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.01.002.002.2R	0.1	R0.02	0.2	4	40
52.015.003.003.2R	0.15	R0.03	0.3	4	40
52.02.004.003.2R	0.2	R0.03	0.4	4	40
52.03.006.005.2R	0.3	R0.05	0.6	4	40
52.04.008.005.2R	0.4	R0.05	0.8	4	40
52.04.008.010.2R	0.4	R0.1	0.8	4	40
52.05.010.005.2R	0.5	R0.05	1	4	40
52.05.010.010.2R	0.5	R0.1	1	4	40
52.06.012.005.2R	0.6	R0.05	1.2	4	40
52.06.012.010.2R	0.6	R0.1	1.2	4	40
52.07.014.005.2R	0.7	R0.05	1.4	4	40
52.07.014.010.2R	0.7	R0.1	1.4	4	40
52.08.016.005.2R	0.8	R0.05	1.6	4	40
52.08.016.010.2R	0.8	R0.1	1.6	4	40
52.09.018.005.2R	0.9	R0.05	1.8	4	40
52.09.018.010.2R	0.9	R0.1	1.8	4	40
52.10.030.005.2R	1	R0.05	3	4	50
52.10.030.010.2R	1	R0.1	3	4	50
52.10.030.020.2R	1	R0.2	3	4	50
52.10.030.030.2R	1	R0.3	3	4	50
52.15.045.005.2R	1.5	R0.05	4.5	4	50
52.15.045.010.2R	1.5	R0.1	4.5	4	50
52.15.045.020.2R	1.5	R0.2	4.5	4	50
52.15.045.030.2R	1.5	R0.3	4.5	4	50
52.20.060.005.2R	2	R0.05	6	4	50
52.20.060.010.2R	2	R0.1	6	4	50
52.20.060.020.2R	2	R0.2	6	4	50
52.20.060.030.2R	2	R0.3	6	4	50
52.20.060.050.2R	2	R0.5	6	4	50

2刃段差圆鼻刀 2 Flute Segment Corner Radius End Mill



公差: d=h5	Tolerance	涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
D≤3	0,-0.015	CrAL	○	○	○	2	30°	HRC≤52
3 < D < 20	0,-0.02							
R	±0.005							

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	圆鼻R角 Corner Radius	刃长 (l) Length of Cut	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.30.090.005.2R	3	R0.05	9	4	50
52.30.090.010.2R	3	R0.1	9	4	50
52.30.090.020.2R	3	R0.2	9	4	50
52.30.090.030.2R	3	R0.3	9	4	50
52.30.090.050.2R	3	R0.5	9	4	50
52.30.090.100.2R	3	R1	9	4	50
52.30.090.005.2R-6	3	R0.05	9	6	50
52.30.090.010.2R-6	3	R0.1	9	6	50
52.30.090.020.2R-6	3	R0.2	9	6	50
52.30.090.030.2R-6	3	R0.3	9	6	50
52.30.090.050.2R-6	3	R0.5	9	6	50
52.30.090.100.2R-6	3	R1	9	6	50
52.40.120.010.2R-6	4	R0.1	12	6	50
52.40.120.020.2R-6	4	R0.2	12	6	50
52.40.120.030.2R-6	4	R0.3	12	6	50
52.40.120.050.2R-6	4	R0.5	12	6	50
52.40.120.100.2R-6	4	R1	12	6	50
52.50.150.010.2R-6	5	R0.1	15	6	60
52.50.150.020.2R-6	5	R0.2	15	6	60
52.50.150.030.2R-6	5	R0.3	15	6	60
52.50.150.050.2R-6	5	R0.5	15	6	60
52.50.150.100.2R-6	5	R1	15	6	60



4刃段差圆鼻刀 4 Flute Segment Corner Radius End Mill



公差: d=h5	Tolerance	涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
D≤3	0,-0.015	CrAL	○	○	○	4	30°	HRC≤52
3 < D < 20	0,-0.02							
R	±0.005							

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	圆鼻R角 Corner Radius	刃长 (l) Length of Cut	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.010.030.005.4R	1	R0.05	3	4	50
52.010.030.010.4R		R0.1			50
52.010.030.020.4R		R0.2			50
52.010.030.030.4R		R0.3			50
52.015.045.005.4R	1.5	R0.05	4.5	4	50
52.015.045.010.4R		R0.1			50
52.015.045.020.4R		R0.2			50
52.015.045.030.4R		R0.3			50
52.020.060.005.4R	2	R0.05	6	4	50
52.020.060.010.4R		R0.1			50
52.020.060.020.4R		R0.2			50
52.020.060.030.4R		R0.3			50
52.020.060.050.4R	3	R0.5	9	4	50
52.030.090.005.4R		R0.05			50
52.030.090.010.4R		R0.1			50
52.030.090.020.4R		R0.2			50
52.030.090.030.4R		R0.3			50
52.030.090.050.4R	3	R0.5	9	6	50
52.030.090.100.4R		R1			50
52.030.090.005.4R-6		R0.05			50
52.030.090.010.4R-6		R0.1			50
52.030.090.020.4R-6	3	R0.2	9	6	50
52.030.090.030.4R-6		R0.3			50
52.030.090.050.4R-6		R0.5			50
52.030.090.100.4R-6		R1			50
52.040.120.010.4R-6	4	R0.1	12	6	60
52.040.120.020.4R-6		R0.2			60
52.040.120.030.4R-6		R0.3			60
52.040.120.050.4R-6		R0.5			60
52.040.120.100.4R-6	4	R1			60

4刃段差圆鼻刀 4 Flute Segment Corner Radius End Mill



公差: d=h5	Tolerance	涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
D≤3	0,-0.015	CrAL	○	○	○	4	30°	HRC≤52
3 < D < 20	0,-0.02							
R	±0.005							

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	圆鼻R角 Corner Radius	刃长 (l) Length of Cut	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.050.150.010.4R-6	5	R0.1	15	6	60
52.050.150.020.4R-6		R0.2			60
52.050.150.030.4R-6		R0.3			60
52.050.150.050.4R-6		R0.5			60
52.050.150.100.4R-6	5	R1	15	6	60



切削参数表 Milling Parameters Recommendation

2刃/4刃段差圆鼻刀

2 Flute /4 Flute Segment Corner Radius End Mill

被切削材质 Workpiece Material	碳素钢 Carbon Steel S50C			合金钢 Alloy Steel SCM • SKD • SUS			调质钢 Quenched&Tempered Steel HPM • NAK			淬硬钢 Hardened Steel SKD61 (~52HRC)		
切削速度 Cutting Speed	60 ~ 80m/min			50 ~ 70m/min			30 ~ 50m/min			20 ~ 30m/min		
刃径 Cutter Dia.	转速 Rev.Speed	进给速度 Feeding Rate F mm/min		转速 Rev.Speed	进给速度 Feeding Rate F mm/min		转速 Rev.Speed	进给速度 Feeding Rate F mm/min		转速 Rev.Speed	进给速度 Feeding Rate F mm/min	
	n min-1	侧铣 Side Milling	开槽 Slotting	n min-1	侧铣 Side Milling	开槽 Slotting	n min-1	侧铣 Side Milling	开槽 Slotting	n min-1	侧铣 Side Milling	开槽 Slotting
1	25,500	200	100	19,200	130	50	12,800	80	40	6,400	60	30
1.5	17,100	340	120	12,800	180	60	8,500	90	45	4,200	70	35
2	12,800	400	150	9,600	210	70	6,400	110	55	3,200	80	40
2.5	10,200	400	150	7,700	210	70	5,100	110	55	2,500	80	40
3	8,500	450	160	6,400	250	80	4,300	120	60	2,100	100	50
4	6,400	450	160	4,800	250	80	3,200	120	60	1,600	100	50
5	5,100	600	200	3,800	300	90	2,600	150	75	1,300	120	60



※ 请根据加工面的倾斜角调整进给速度。

※ 拐角处的进给速度请降低30 ~ 50%。

※ 转速调整时，请按相同比例调整进给速度，调整切入量。

※ Adjust feed according to inclined angle.

※ When corner machining, reduce the feed by approximately 50% ~ 30%.

※ Adjust spindle speed and feed at the same rate also reduce depth of cut, if the machine spindle speed insufficient.

4刃直柄圆鼻刀 4 Flute Straight Shank Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层 种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAL	○	○	○	4	30°	HRC≤52

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	圆鼻R角 Corner Radius	刃长 (l) Length of Cut	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.040.11.01.050.4R	4	R0.1	11	4	50
52.040.11.02.050.4R		R0.2			50
52.040.11.03.050.4R		R0.3			50
52.040.11.05.050.4R		R0.5			50
52.040.11.10.050.4R		R1			50
52.060.13.01.050.4R	6	R0.1	13	6	50
52.060.15.01.060.4R	6	R0.1	15	6	60
52.060.15.01.075.4R					75
52.060.15.01.100.4R					100
52.060.13.02.050.4R	6	R0.2	13	6	50
52.060.15.02.060.4R	6	R0.2	15	6	60
52.060.15.02.075.4R					75
52.060.15.02.100.4R					100
52.060.13.03.050.4R	6	R0.3	13	6	50
52.060.15.03.060.4R	6	R0.3	15	6	60
52.060.15.03.075.4R					75
52.060.15.03.100.4R					100
52.060.13.05.050.4R	6	R0.5	13	6	50
52.060.15.05.060.4R	6	R0.5	15	6	60
52.060.15.05.075.4R					75
52.060.15.05.100.4R					100
52.060.13.10.050.4R	6	R1	13	6	50
52.060.15.10.060.4R	6	R1	15	6	60
52.060.15.10.075.4R					75
52.060.15.10.100.4R					100
52.080.20.01.060.4R	8	R0.1	20	8	60
52.080.20.01.075.4R					75
52.080.20.01.100.4R					100
52.080.20.01.150.4R					150



4刃直柄圆鼻刀 4 Flute Straight Shank Corner Radius End Mill



公差: d=h5	Tolerance	涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
D≤3	0,-0.015	CrAL	○	○	○	4	30°	HRC≤52
3 < D < 20	0,-0.02							
R	±0.005							

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤52hrc ○ >52hrc	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	圆鼻R角 Corner Radius	刃长 (ℓ) Length of Cut	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.080.20.02.060.4R	8	R0.2	20	8	60
52.080.20.02.075.4R					75
52.080.20.02.100.4R					100
52.080.20.02.150.4R					150
52.080.20.03.060.4R	8	R0.3	20	8	60
52.080.20.03.075.4R					75
52.080.20.03.100.4R					100
52.080.20.03.150.4R					150
52.080.20.05.060.4R	8	R0.5	20	8	60
52.080.20.05.075.4R					75
52.080.20.05.100.4R					100
52.080.20.05.150.4R					150
52.080.20.10.060.4R	8	R1	20	8	60
52.080.20.10.075.4R					75
52.080.20.10.100.4R					100
52.080.20.10.150.4R					150
52.080.20.20.060.4R	8	R2	20	8	60
52.080.20.20.075.4R					75
52.080.20.20.100.4R					100
52.080.20.20.150.4R					150
52.100.25.01.075.4R	10	R0.1	25	10	75
52.100.25.01.100.4R					100
52.100.25.01.150.4R					150
52.100.25.02.075.4R	10	R0.2	25	10	75
52.100.25.02.100.4R					100
52.100.25.02.150.4R					150
52.100.25.03.075.4R	10	R0.3	25	10	75
52.100.25.03.100.4R					100
52.100.25.03.150.4R					150
52.100.25.05.075.4R	10	R0.5	25	10	75
52.100.25.05.100.4R					100
52.100.25.05.150.4R					150

4刃直柄圆鼻刀 4 Flute Straight Shank Corner Radius End Mill



公差: d=h5	Tolerance	涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
D≤3	0,-0.015	CrAL	○	○	○	4	30°	HRC≤52
3 < D < 20	0,-0.02							
R	±0.005							

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤52hrc ○ >52hrc	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	圆鼻R角 Corner Radius	刃长 (ℓ) Length of Cut	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.100.25.10.075.4R	10	R1	25	10	75
52.100.25.10.100.4R					100
52.100.25.10.150.4R					150
52.100.25.20.075.4R	10	R2	25	10	75
52.100.25.20.100.4R					100
52.100.25.20.150.4R					150
52.120.25.01.075.4R	12	R0.1	25	12	75
52.120.30.01.100.4R			30		100
52.120.30.01.150.4R			30		150
52.120.25.02.075.4R	12	R0.2	25	12	75
52.120.30.02.100.4R			30		100
52.120.30.02.150.4R			30		150
52.120.25.03.075.4R	12	R0.3	25	12	75
52.120.30.03.100.4R			30		100
52.120.30.03.150.4R			30		150
52.120.25.05.075.4R	12	R0.5	25	12	75
52.120.30.05.100.4R			30		100
52.120.30.05.150.4R			30		150
52.120.25.10.075.4R	12	R1	25	12	75
52.120.30.10.100.4R			30		100
52.120.30.10.150.4R			30		150
52.120.25.20.075.4R	12	R2	25	12	75
52.120.30.20.100.4R			30		100
52.120.30.20.150.4R			30		150
52.160.40.05.100.4R	16	R0.5	40	16	100
52.160.40.05.150.4R					150
52.160.40.10.100.4R	16	R1	40	16	100
52.160.40.10.150.4R					150
52.160.40.20.100.4R	16	R2	40	16	100
52.160.40.20.150.4R					150
52.160.40.30.100.4R	16	R3	40	16	100
52.160.40.30.150.4R					150

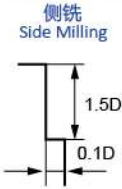


切削参数表 Milling Parameters Recommendation

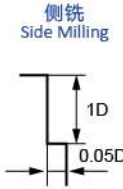
4刃直柄圆鼻刀  
4 Flute Straight Shank Corner Radius End Mill

被切削材质 Workpiece Material	碳素钢 Carbon Steel S50C		合金钢 Alloy Steel SCM • SKD • SUS		调质钢 Quenched&Tempered Steel HPM • NAK		淬硬钢 Hardened Steel SKD61 (~52HRC)	
切削速度 Cutting Speed	60 ~ 80m/min		50 ~ 70m/min		30 ~ 50m/min		20 ~ 30m/min	
刃径 Cutter Dia.	转速 Rev.Speed	进给速度 Feeding Rate	转速 Rev.Speed	进给速度 Feeding Rate	转速 Rev.Speed	进给速度 Feeding Rate	转速 Rev.Speed	进给速度 Feeding Rate
	n min-1	F mm/min	n min-1	F mm/min	n min-1	F mm/min	n min-1	F mm/min
6	4,300	780	3,200	580	2,200	380	1,100	160
8	3,200	780	2,400	580	1,600	380	800	160
10	2,600	780	1,900	580	1,300	380	650	160
12	2,100	780	1,600	580	1,100	380	530	160

钢 件 Steel Parts



淬硬钢 Hardened Steel



- ※ 请根据加工面的倾斜角调整进给速度。
- ※ 拐角处的进给速度请降低30 ~ 50%。
- ※ 转速调整时，请按相同比例调整进给速度，调整切入量。
- ※ Adjust feed according to inclined angle.
- ※ When corner machining, reduce the feed by approximately 50% ~ 30%.
- ※ Adjust spindle speed and feed at the same rate also reduce depth of cut, if the machine spindle speed insufficient.

2刃深沟圆鼻刀 2 Flute Deep Groove Corner Radius End Mill



公差: d=h5 Tolerance	涂层 种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
D≤3 0,-0.015 3 < D < 20 0,-0.02 R ±0.005	CrAl	○	○	○	2	30°	HRC≤52

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel ≤52hrc >52hrc	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	圆鼻R角 Corner Radius	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.02.006.003.2LR	0.2	R0.03	0.6	0.2	0.18	4	45
52.02.008.003.2LR			0.8				45
52.02.010.003.2LR			1				45
52.02.012.003.2LR			1.2				45
52.02.015.003.2LR			1.5				45
52.02.020.003.2LR	0.3	R0.05	2	0.3	0.28	4	45
52.03.008.005.2LR			0.8				45
52.03.010.005.2LR			1				45
52.03.012.005.2LR			1.2				45
52.03.015.005.2LR			1.5				45
52.03.020.005.2LR			2				45
52.03.025.005.2LR			2.5				45
52.03.030.005.2LR			3				45
52.04.010.005.2LR	0.4	R0.05	1	0.4	0.37	4	45
52.04.015.005.2LR			1.5				45
52.04.020.005.2LR			2				45
52.04.025.005.2LR			2.5				45
52.04.030.005.2LR			3				45
52.04.040.005.2LR			4				45
52.04.050.005.2LR			5				45
52.04.060.005.2LR	0.5	R0.05	6	0.5	0.46	4	45
52.05.015.005.2LR			1.5				45
52.05.020.005.2LR			2				45
52.05.030.005.2LR			3				45
52.05.040.005.2LR			4				45
52.05.060.005.2LR			6				45
52.05.080.005.2LR			8				50
52.05.100.005.2LR			10				50
52.05.015.010.2LR		R0.1	1.5	0.5	0.46	4	45
52.05.020.010.2LR			2				45
52.05.030.010.2LR			3				45
52.05.040.010.2LR			4				45



2刃深沟圆鼻刀 2 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAL	○	○	○	2	30°	HRC≤52

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	圆鼻R角 Corner Radius	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.05.060.010.2LR	0.5	R0.1	6	0.5	0.46	4	45
52.05.080.010.2LR			8				50
52.05.100.010.2LR			10				50
52.06.015.005.2LR	0.6	R0.05	1.5	0.6	0.56	4	45
52.06.020.005.2LR			2				45
52.06.040.005.2LR			4				45
52.06.060.005.2LR			6				45
52.06.080.005.2LR			8				50
52.06.100.005.2LR	0.6	R0.1	10	0.6	0.56	4	50
52.06.015.010.2LR			1.5				45
52.06.020.010.2LR			2				45
52.06.040.010.2LR			4				45
52.06.060.010.2LR			6				45
52.06.080.010.2LR	0.8	R0.05	8	0.8	0.76	4	50
52.06.100.010.2LR			10				50
52.08.020.005.2LR			2				45
52.08.030.005.2LR			3				45
52.08.040.005.2LR			4				45
52.08.060.005.2LR	0.8	R0.1	6	0.8	0.76	4	45
52.08.080.005.2LR			8				50
52.08.100.005.2LR			10				50
52.08.120.005.2LR			12				50
52.08.020.010.2LR	0.8	R0.2	2	0.8	0.76	4	45
52.08.030.010.2LR			3				45
52.08.040.010.2LR			4				45
52.08.060.010.2LR			6				45
52.08.080.010.2LR			8				50
52.08.100.010.2LR	0.8	R0.3	10	0.8	0.76	4	50
52.08.120.010.2LR			12				50
52.08.020.020.2LR			2				50
52.08.030.020.2LR			3				50
52.08.040.020.2LR			4				50

2刃深沟圆鼻刀 2 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAL	○	○	○	2	30°	HRC≤52

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	圆鼻R角 Corner Radius	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.08.060.020.2LR	0.8	R0.2	6	0.8	0.76	4	50
52.08.080.020.2LR			8				50
52.08.100.020.2LR			10				50
52.08.120.020.2LR	1	R0.05	12	1	0.95	4	50
52.10.040.005.2LR			4				50
52.10.060.005.2LR			6				50
52.10.080.005.2LR			8				50
52.10.100.005.2LR			10				50
52.10.120.005.2LR	1	R0.1	12	1	0.95	4	50
52.10.150.005.2LR			15				50
52.10.040.010.2LR			4				50
52.10.060.010.2LR			6				50
52.10.080.010.2LR			8				50
52.10.100.010.2LR	1	R0.2	10	1	0.95	4	50
52.10.120.010.2LR			12				50
52.10.150.010.2LR			15				50
52.10.040.020.2LR			4				50
52.10.060.020.2LR			6				50
52.10.080.020.2LR	1	R0.3	8	1	0.95	4	50
52.10.100.020.2LR			10				50
52.10.120.020.2LR			12				50
52.10.150.020.2LR			15				50
52.10.040.030.2LR	1	R0.5	4	1	1.45	4	50
52.10.060.030.2LR			6				50
52.10.080.030.2LR			8				50
52.10.100.030.2LR			10				50
52.10.120.030.2LR			12				50
52.15.060.005.2LR	1.5	R0.05	6	1.5	1.45	4	50
52.15.080.005.2LR			8				50
52.15.100.005.2LR			10				50
52.15.120.005.2LR			12				50



2刃深沟圆鼻刀 2 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAl	○	○	○	2	30°	HRC≤52

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	圆鼻R角 Corner Radius	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.15.150.005.2LR	1.5	R0.05	15	1.5	1.45	4	50
52.15.200.005.2LR			20				60
52.15.250.005.2LR			25				75
52.15.300.005.2LR			30				75
52.15.060.010.2LR	1.5	R0.1	6	1.5	1.45	4	50
52.15.080.010.2LR			8				50
52.15.100.010.2LR			10				50
52.15.120.010.2LR			12				50
52.15.150.010.2LR			15				50
52.15.200.010.2LR			20				60
52.15.250.010.2LR			25				75
52.15.300.010.2LR			30				75
52.15.060.020.2LR	1.5	R0.2	6	1.5	1.45	4	50
52.15.080.020.2LR			8				50
52.15.100.020.2LR			10				50
52.15.120.020.2LR			12				50
52.15.150.020.2LR			15				50
52.15.200.020.2LR			20				60
52.15.250.020.2LR			25				75
52.15.300.020.2LR			30				75
52.15.060.030.2LR	1.5	R0.3	6	1.5	1.45	4	50
52.15.080.030.2LR			8				50
52.15.100.030.2LR			10				50
52.15.120.030.2LR			12				50
52.15.150.030.2LR			15				50
52.15.200.030.2LR			20				60
52.15.250.030.2LR			25				75
52.15.300.030.2LR			30				75
52.20.080.010.2LR	2	R0.1	8	2	1.94	4	50
52.20.100.010.2LR			10				50
52.20.120.010.2LR			12				50
52.20.160.010.2LR			16				50

2刃深沟圆鼻刀 2 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAl	○	○	○	2	30°	HRC≤52

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	圆鼻R角 Corner Radius	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.20.200.010.2LR	2	R0.1	20	2	1.94	4	60
52.20.250.010.2LR			25				75
52.20.300.010.2LR			30				75
52.20.350.010.2LR			35				75
52.20.400.010.2LR	2	R0.2	40	2	1.94	4	75
52.20.080.020.2LR			8				50
52.20.100.020.2LR			10				50
52.20.120.020.2LR			12				50
52.20.160.020.2LR			16				50
52.20.200.020.2LR			20				60
52.20.250.020.2LR			25				75
52.20.300.020.2LR			30				75
52.20.350.020.2LR	2	R0.3	35	2	1.94	4	75
52.20.400.020.2LR			40				75
52.20.080.030.2LR			8				50
52.20.100.030.2LR			10				50
52.20.120.030.2LR			12				50
52.20.160.030.2LR			16				50
52.20.200.030.2LR			20				60
52.20.250.030.2LR			25				75
52.20.300.030.2LR	2	R0.5	30	2	1.94	4	75
52.20.350.030.2LR			35				75
52.20.400.030.2LR			40				75
52.20.080.050.2LR			8				50
52.20.100.050.2LR			10				50
52.20.120.050.2LR			12				50
52.20.160.050.2LR			16				50
52.20.200.050.2LR			20				60
52.20.250.050.2LR	2	R0.5	25	2	1.94	4	75
52.20.300.050.2LR			30				75
52.20.350.050.2LR			35				75
52.20.400.050.2LR			40				75



2刃深沟圆鼻刀 2 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAl	○	○	○	2	30°	HRC≤52

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤52HRC ○ >52HRC	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	圆鼻R角 Corner Radius	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.25.080.010.2LR	2.5	R0.1	8	2.5	2.4	4	50
52.25.100.010.2LR			10				50
52.25.150.010.2LR			15				50
52.25.200.010.2LR			20				60
52.25.250.010.2LR			25				75
52.25.300.010.2LR			30				75
52.25.350.010.2LR			35				75
52.25.400.010.2LR			40				75
52.25.450.010.2LR			45				100
52.25.500.010.2LR			50				100
52.25.080.020.2LR	2.5	R0.2	8	2.5	2.4	4	50
52.25.100.020.2LR			10				50
52.25.150.020.2LR			15				50
52.25.200.020.2LR			20				60
52.25.250.020.2LR			25				75
52.25.300.020.2LR			30				75
52.25.350.020.2LR			35				75
52.25.400.020.2LR			40				75
52.25.450.020.2LR			45				100
52.25.500.020.2LR			50				100
52.25.080.030.2LR	2.5	R0.3	8	2.5	2.4	4	50
52.25.100.030.2LR			10				50
52.25.150.030.2LR			15				50
52.25.200.030.2LR			20				60
52.25.250.030.2LR			25				75
52.25.300.030.2LR			30				75
52.25.350.030.2LR			35				75
52.25.400.030.2LR			40				75
52.25.450.030.2LR			45				100
52.25.500.030.2LR			50				100
52.25.080.050.2LR	2.5	R0.5	8	2.5	2.4	4	50
52.25.100.050.2LR			10				50

2刃深沟圆鼻刀 2 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAl	○	○	○	2	30°	HRC≤52

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤52HRC ○ >52HRC	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	圆鼻R角 Corner Radius	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.25.150.050.2LR	2.5	R0.5	15	2.5	2.4	4	50
52.25.200.050.2LR			20				60
52.25.250.050.2LR			25				75
52.25.300.050.2LR			30				75
52.25.350.050.2LR			35				75
52.25.400.050.2LR			40				75
52.25.450.050.2LR			45				100
52.25.500.050.2LR			50				100
52.30.100.010.2LR	3	R0.1	10	3	2.85	6	50
52.30.150.010.2LR			15				50
52.30.200.010.2LR			20				60
52.30.250.010.2LR			25				75
52.30.300.010.2LR			30				75
52.30.350.010.2LR			35				75
52.30.400.010.2LR			40				75
52.30.450.010.2LR			45				100
52.30.500.010.2LR			50				100
52.30.550.010.2LR			55				100
52.30.600.010.2LR	3	R0.2	60	3	2.85	6	100
52.30.100.020.2LR			10				50
52.30.150.020.2LR			15				50
52.30.200.020.2LR			20				60
52.30.250.020.2LR			25				75
52.30.300.020.2LR			30				75
52.30.350.020.2LR			35				75
52.30.400.020.2LR			40				75
52.30.450.020.2LR			45				100
52.30.500.020.2LR			50				100
52.30.550.020.2LR	3	R0.3	55	3	2.85	6	100
52.30.600.020.2LR			60				100
52.30.100.030.2LR			10				50
52.30.150.030.2LR	3	R0.3	15	3	2.85	6	50
52.30.150.030.2LR			15				50



2刃深沟圆鼻刀 2 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAL	○	○	○	2	30°	HRC≤52

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	圆鼻R角 Corner Radius	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.30.200.030.2LR	3	R0.3	20	3	2.85	6	60
52.30.250.030.2LR			25				75
52.30.300.030.2LR			30				75
52.30.350.030.2LR			35				75
52.30.400.030.2LR			40				75
52.30.450.030.2LR			45				100
52.30.500.030.2LR			50				100
52.30.550.030.2LR			55				100
52.30.600.030.2LR			60				100
52.30.100.050.2LR	3	R0.5	10	3	2.85	6	50
52.30.150.050.2LR			15				50
52.30.200.050.2LR			20				60
52.30.250.050.2LR			25				75
52.30.300.050.2LR			30				75
52.30.350.050.2LR			35				75
52.30.400.050.2LR			40				75
52.30.450.050.2LR			45				100
52.30.500.050.2LR			50				100
52.30.550.050.2LR			55				100
52.30.600.050.2LR	3	R1	60	3	2.85	6	100
52.30.100.100.2LR			10				50
52.30.150.100.2LR			15				50
52.30.200.100.2LR			20				60
52.30.250.100.2LR			25				75
52.30.300.100.2LR			30				75
52.30.350.100.2LR			35				75
52.30.400.100.2LR			40				75
52.30.450.100.2LR			45				100
52.30.500.100.2LR			50				100
52.30.550.100.2LR	4	R0.1	55	4	3.8	6	100
52.30.600.100.2LR			60				100
52.40.160.010.2LR			16				60
52.40.160.010.2LR			16				60

2刃深沟圆鼻刀 2 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAL	○	○	○	2	30°	HRC≤52

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	圆鼻R角 Corner Radius	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.40.200.010.2LR	4	R0.1	20	4	3.8	6	60
52.40.250.010.2LR			25				75
52.40.300.010.2LR			30				75
52.40.400.010.2LR			40				75
52.40.500.010.2LR			50				100
52.40.600.010.2LR			60				100
52.40.700.010.2LR			70				110
52.40.800.010.2LR			80				120
52.40.160.020.2LR	4	R0.2	16	4	3.8	6	60
52.40.200.020.2LR			20				60
52.40.250.020.2LR			25				75
52.40.300.020.2LR			30				75
52.40.400.020.2LR			40				75
52.40.500.020.2LR			50				100
52.40.600.020.2LR			60				100
52.40.700.020.2LR			70				110
52.40.800.020.2LR			80				120
52.40.160.030.2LR	4	R0.3	16	4	3.8	6	60
52.40.200.030.2LR			20				60
52.40.250.030.2LR			25				75
52.40.300.030.2LR			30				75
52.40.400.030.2LR			40				75
52.40.500.030.2LR			50				100
52.40.600.030.2LR			60				100
52.40.700.030.2LR			70				110
52.40.800.030.2LR			80				120
52.40.160.050.2LR	4	R0.5	16	4	3.8	6	60
52.40.200.050.2LR			20				60
52.40.250.050.2LR			25				75
52.40.300.050.2LR			30				75
52.40.400.050.2LR			40				75
52.40.500.050.2LR			50				100



2刃深沟圆鼻刀 2 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAL	○	○	○	2	30°	HRC≤52

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	圆鼻R角 Corner Radius	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.40.600.050.2LR	4	R0.5	60	4	3.8	6	100
52.40.700.050.2LR			70				110
52.40.800.050.2LR			80				120
52.40.160.100.2LR	4	R1	16	4	3.8	6	60
52.40.200.100.2LR			20				60
52.40.250.100.2LR			25				75
52.40.300.100.2LR			30				75
52.40.400.100.2LR			40				75
52.40.500.100.2LR			50				100
52.40.600.100.2LR			60				100
52.40.700.100.2LR			70				110
52.40.800.100.2LR	5	R0.1	80	5	4.8	6	120
52.50.0160.010.2LR			16				60
52.50.0200.010.2LR			20				60
52.50.0250.010.2LR			25				75
52.50.0300.010.2LR			30				75
52.50.0400.010.2LR			40				75
52.50.0500.010.2LR			50				100
52.50.0600.010.2LR			60				100
52.50.0800.010.2LR	5	R0.2	80	5	4.8	6	120
52.50.1000.010.2LR			100				140
52.50.0160.020.2LR			16				60
52.50.0200.020.2LR			20				60
52.50.0250.020.2LR			25				75
52.50.0300.020.2LR			30				75
52.50.0400.020.2LR			40				75
52.50.0500.020.2LR			50				100
52.50.0600.020.2LR	5	R0.3	60	5	4.8	6	100
52.50.0800.020.2LR			80				120
52.50.1000.020.2LR			100				140
52.50.0160.030.2LR			16				60
52.50.0200.030.2LR	5	R0.3	20	5	4.8	6	60

2刃深沟圆鼻刀 2 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAL	○	○	○	2	30°	HRC≤52

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	圆鼻R角 Corner Radius	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.50.0250.030.2LR	5	R0.3	25	5	4.8	6	75
52.50.0300.030.2LR			30				75
52.50.0400.030.2LR			40				75
52.50.0500.030.2LR			50				100
52.50.0600.030.2LR			60				100
52.50.0800.030.2LR	5	R0.5	80	5	4.8	6	120
52.50.1000.030.2LR			100				140
52.50.0160.050.2LR			16				60
52.50.0200.050.2LR			20				60
52.50.0250.050.2LR			25				75
52.50.0300.050.2LR	5	R0.5	30	5	4.8	6	75
52.50.0400.050.2LR			40				75
52.50.0500.050.2LR			50				100
52.50.0600.050.2LR			60				100
52.50.0800.050.2LR			80				120
52.50.1000.050.2LR	5	R1	100	5	4.8	6	140
52.50.0160.100.2LR			16				60
52.50.0200.100.2LR			20				60
52.50.0250.100.2LR			25				75
52.50.0300.100.2LR			30				75
52.50.0400.100.2LR	5	R1	40	5	4.8	6	75
52.50.0500.100.2LR			50				100
52.50.0600.100.2LR			60				100
52.50.0800.100.2LR			80				120
52.50.1000.100.2LR			100				140



切削参数表 Milling Parameters Recommendation

2刃深沟圆鼻刀  
2 Flute Deep Groove Corner Radius End Mill

被切削材质 Workpiece Material			调质钢 Quenched&Tempered Steel HPM • NAK (~42HRC)				淬硬钢 Hardened Steel HPM-38 • STAVAX • SKD61 (~55HRC)				淬硬钢 Hardened Steel SKD11 • PD613 (~62HRC)				工具钢 Tool Steel SKH (~65HRC)			
刃径 Cutter Dia.	圆角半径 Corner Radius	有效刃长 Effective Length	转速 Rev. Speed n min-1	进给 Feeding Rate F mm/min	切深 Depth of Cut Ap mm	切宽 Depth of Cut Ae mm	转速 Rev. Speed n min-1	进给 Feeding Rate F mm/min	切深 Depth of Cut Ap mm	切宽 Depth of Cut Ae mm	转速 Rev. Speed n min-1	进给 Feeding Rate F mm/min	切深 Depth of Cut Ap mm	切宽 Depth of Cut Ae mm	转速 Rev. Speed n min-1	进给 Feeding Rate F mm/min	切深 Depth of Cut Ap mm	切宽 Depth of Cut Ae mm
0.2	0.02	0.5	30,000	240	0.005	0.05	30,000	200	0.003	0.04	30,000	160	0.003	0.02	30,000	120	0.003	0.01
		1	30,000	180	0.005	0.05	30,000	150	0.003	0.04	30,000	120	0.002	0.02	30,000	80	0.002	0.01
		1.5	30,000	120	0.004	0.05	30,000	100	0.002	0.04	30,000	80	0.002	0.02	30,000	60	0.001	0.01
		2	30,000	70	0.003	0.05	30,000	50	0.002	0.04	30,000	40	0.001	0.02	30,000	30	0.001	0.01
	0.05	0.5	30,000	240	0.01	0.05	30,000	200	0.003	0.04	30,000	160	0.003	0.02	30,000	120	0.003	0.01
		1	30,000	180	0.007	0.05	30,000	150	0.003	0.04	30,000	120	0.003	0.02	30,000	80	0.003	0.01
		1.5	30,000	120	0.005	0.05	30,000	100	0.002	0.04	30,000	80	0.002	0.02	30,000	60	0.002	0.01
		2	30,000	70	0.003	0.05	30,000	50	0.002	0.04	30,000	40	0.002	0.02	30,000	30	0.002	0.01
	0.3	1	30,000	350	0.015	0.1	30,000	300	0.003	0.08	30,000	250	0.003	0.04	30,000	200	0.003	0.03
		1.5	30,000	240	0.01	0.1	30,000	200	0.003	0.08	30,000	160	0.003	0.04	30,000	120	0.003	0.03
		2	30,000	180	0.007	0.1	30,000	150	0.003	0.08	30,000	120	0.003	0.04	25,000	100	0.003	0.03
		2.5	30,000	150	0.005	0.1	25,000	100	0.002	0.08	25,000	80	0.002	0.04	20,000	60	0.002	0.03
		3	30,000	70	0.004	0.1	25,000	50	0.002	0.08	25,000	40	0.002	0.04	20,000	30	0.002	0.03
		1	30,000	350	0.02	0.1	30,000	300	0.003	0.08	30,000	250	0.003	0.04	30,000	200	0.003	0.03
0.4	0.05	1.5	30,000	240	0.015	0.1	30,000	200	0.003	0.08	30,000	160	0.003	0.04	30,000	120	0.003	0.03
		2	30,000	180	0.01	0.1	30,000	150	0.003	0.08	30,000	120	0.003	0.04	25,000	100	0.003	0.03
		2.5	30,000	150	0.007	0.1	25,000	100	0.002	0.08	25,000	80	0.002	0.04	20,000	60	0.002	0.03
		3	30,000	70	0.005	0.1	25,000	50	0.002	0.08	25,000	40	0.002	0.04	20,000	30	0.002	0.03
	0.02	1	30,000	450	0.015	0.12	30,000	400	0.005	0.1	28,000	350	0.005	0.05	25,000	300	0.004	0.04
		1.5	30,000	400	0.012	0.12	30,000	350	0.005	0.1	28,000	300	0.005	0.05	25,000	260	0.004	0.04
		2	30,000	360	0.01	0.12	30,000	300	0.005	0.1	25,000	250	0.005	0.05	25,000	220	0.003	0.04
		2.5	30,000	340	0.008	0.12	28,000	280	0.004	0.1	25,000	240	0.004	0.05	20,000	180	0.003	0.04
		3	30,000	320	0.008	0.12	25,000	250	0.004	0.1	23,000	220	0.003	0.05	18,000	160	0.002	0.04
		4	30,000	250	0.006	0.12	25,000	200	0.003	0.1	20,000	160	0.002	0.05	18,000	120	0.002	0.04
	0.05	1	30,000	450	0.025	0.12	30,000	400	0.005	0.1	28,000	350	0.005	0.05	25,000	300	0.005	0.04
		1.5	30,000	400	0.022	0.12	30,000	350	0.005	0.1	28,000	300	0.005	0.05	25,000	260	0.005	0.04
		2	30,000	360	0.02	0.12	30,000	300	0.005	0.1	25,000	250	0.005	0.05	25,000	220	0.005	0.04
		2.5	30,000	340	0.015	0.12	28,000	280	0.004	0.1	25,000	240	0.004	0.05	20,000	180	0.004	0.04
	0.1	3	30,000	320	0.015	0.12	25,000	250	0.004	0.1	23,000	220	0.003	0.05	18,000	160	0.003	0.04
		4	30,000	250	0.01	0.12	25,000	200	0.003	0.1	20,000	160	0.002	0.05	18,000	120	0.002	0.04
		1	30,000	600	0.016	0.14	25,000	500	0.008	0.15	23,000	450	0.006	0.1	20,000	400	0.004	0.08
0.5	0.02	2	30,000	500	0.014	0.14	25,000	420	0.007	0.15	23,000	360	0.005	0.1	20,000	300	0.003	0.08
		3	30,000	420	0.012	0.14	25,000	350	0.006	0.15	23,000	320	0.004	0.1	20,000	280	0.003	0.08
		4	25,000	380	0.01	0.14	25,000	300	0.004	0.15	23,000	240	0.002	0.1	20,000	180	0.002	0.08
		5	25,000	300	0.008	0.14	20,000	200	0.003	0.15	18,000	150	0.002	0.1	16,000	100	0.002	0.08
		6	25,000	250	0.004	0.14	20,000	160	0.002	0.15	18,000	100	0.001	0.1	16,000	70	0.001	0.08
		1	30,000	600	0.03	0.14	25,000	500	0.01	0.15	23,000	450	0.007	0.1	20,000	400	0.005	0.08
	0.05	2	30,000	500	0.025	0.14	25,000	420	0.01	0.15	23,000	360	0.007	0.1	20,000	300	0.005	0.08
		3	30,000	420	0.02	0.14	25,000	350	0.008	0.15	23,000	320	0.005	0.1	20,000	280	0.003	0.08
		4	25,000	380	0.015	0.14	25,000	300	0.005	0.15	23,000	240	0.003	0.1	20,000	180	0.002	0.08
	0.1	5	25,000	300	0.01	0.14	20,000	200	0.004	0.15	18,000	150	0.003	0.1	16,000	100	0.002	0.08
		6	25,000	250	0.008	0.14	20,000	160	0.003	0.15	18,000	100	0.002	0.1	16,000	70	0.001	0.08

切削参数表 Milling Parameters Recommendation

2刃深沟圆鼻刀  
2 Flute Deep Groove Corner Radius End Mill

被切削材质 Workpiece Material			调质钢 Quenched&Tempered Steel HPM • NAK (~42HRC)				淬硬钢 Hardened Steel HPM-38 • STAVAX • SKD61 (~55HRC)				淬硬钢 Hardened Steel SKD11 • PD613 (~62HRC)				工具钢 Tool Steel SKH (~65HRC)			
刃径 Cutter Dia.	圆角半径 Corner Radius	有效刃长 Effective Length	转速 Rev. Speed	进给 Feeding Rate	切深 Depth of Cut	切宽 Depth of Cut	转速 Rev. Speed	进给 Feeding Rate	切深 Depth of Cut	切宽 Depth of Cut	转速 Rev. Speed	进给 Feeding Rate	切深 Depth of Cut	切宽 Depth of Cut	转速 Rev. Speed	进给 Feeding Rate	切深 Depth of Cut	切宽 Depth of Cut
			n min-1	F mm/min	Ap mm	Ae mm	n min-1	F mm/min	Ap mm	Ae mm	n min-1	F mm/min	Ap mm	Ae mm	n min-1	F mm/min	Ap mm	Ae mm
0.6	0.02	2	30,000	600	0.016	0.2	25,000	500	0.012	0.2	23,000	400	0.006	0.15	20,000	320	0.004	0.1
		4	25,000	450	0.012	0.2	23,000	400	0.007	0.2	20,000	300	0.004	0.15	18,000	200	0.003	0.1
		6	23,000	300	0.008	0.2	20,000	200	0.005	0.2	18,000	150	0.003	0.15	12,000	100	0.002	0.1
		8	18,000	200	0.006	0.2	16,000	150	0.003	0.2	14,000	100	0.001	0.15	10,000	80	0.001	0.1
		10	16,000	120	0.003	0.2	14,000	100	0.001	0.2	12,000	80	0.001	0.15	8,000	50	0.001	0.1
	0.05 0.1	2	30,000	600	0.035	0.2	25,000	500	0.02	0.2	23,000	400	0.01	0.15	20,000	320	0.007	0.1
		4	25,000	450	0.025	0.2	23,000	400	0.015	0.2	20,000	300	0.007	0.15	18,000	200	0.005	0.1
		6	23,000	300	0.015	0.2	20,000	200	0.008	0.2	18,000	150	0.005	0.15	12,000	100	0.003	0.1
		8	18,000	200	0.01	0.2	16,000	150	0.005	0.2	14,000	100	0.002	0.15	10,000	80	0.001	0.1
		10	16,000	120	0.005	0.2	14,000	100	0.002	0.2	12,000	80	0.001	0.15	8,000	50	0.001	0.1
0.7	0.02	2	30,000	900	0.016	0.25	25,000	700	0.012	0.25	23,000	600	0.006	0.15	20,000	450	0.003	0.12
		4	28,000	700	0.012	0.25	25,000	600	0.008	0.25	23,000	500	0.005	0.15	20,000	350	0.002	0.12
		6	25,000	500	0.008	0.25	20,000	350	0.005	0.25	18,000	250	0.003	0.15	16,000	200	0.002	0.12
	0.05 0.1	2	30,000	900	0.04	0.25	25,000	700	0.03	0.25	23,000	600	0.015	0.15	20,000	450	0.01	0.12
		4	28,000	700	0.03	0.25	25,000	600	0.02	0.25	23,000	500	0.01	0.15	20,000	350	0.007	0.12
		6	25,000	500	0.02	0.25	20,000	350	0.01	0.25	18,000	250	0.007	0.15	16,000	200	0.005	0.12
0.8	0.02	2	28,000	1,000	0.016	0.3	25,000	800	0.014	0.25	23,000	700	0.006	0.16	20,000	500	0.005	0.14
		4	28,000	900	0.012	0.3	25,000	700	0.008	0.25	23,000	600	0.005	0.16	20,000	400	0.003	0.14
		6	23,000	700	0.009	0.3	20,000	550	0.006	0.25	18,000	450	0.004	0.16	16,000	320	0.002	0.14
		8	18,000	500	0.006	0.3	16,000	400	0.003	0.25	14,000	300	0.002	0.16	12,000	200	0.002	0.14
		2	28,000	1,000	0.05	0.3	25,000	800	0.03	0.25	23,000	700	0.02	0.16	20,000	500	0.015	0.14
	0.05 0.1 0.2	4	28,000	900	0.045	0.3	25,000	700	0.025	0.25	23,000	600	0.015	0.16	20,000	400	0.01	0.14
		6	23,000	700	0.03	0.3	20,000	550	0.02	0.25	18,000	450	0.01	0.16	16,000	320	0.007	0.14
		8	18,000	500	0.02	0.3	16,000	400	0.01	0.25	14,000	300	0.005	0.16	12,000	200	0.005	0.14
		12	16,000	300	0.007	0.3	14,000	200	0.005	0.25	12,000	120	0.003	0.16	10,000	80	0.001	0.14
		0.9	0.1	4	25,000	1,100	0.05	0.3	25,000	850	0.03	0.3	20,000	700	0.02	0.2	18,000	600
8	18,000			500	0.03	0.3	16,000	400	0.01	0.3	14,000	350	0.008	0.2	10,000	250	0.005	0.15



4刃深沟圆鼻刀 4 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAl	○	○	○	4	30°	HRC≤52

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤52hrc ○ >52hrc	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	圆鼻R角 (R) Corner Radius	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空 (d1) Neck Dia.	柄径 (D) Shank Dia.	全长 (L) Overall Length
52.10.040.005.4LR	1	R0.05	4	1	0.95	4	50
52.10.060.005.4LR			6				50
52.10.080.005.4LR			8				50
52.10.100.005.4LR			10				50
52.10.120.005.4LR			12				50
52.10.150.005.4LR			15				50
52.10.040.010.4LR	1	R0.1	4	1	0.95	4	50
52.10.060.010.4LR			6				50
52.10.080.010.4LR			8				50
52.10.100.010.4LR			10				50
52.10.120.010.4LR			12				50
52.10.150.010.4LR			15				50
52.10.040.020.4LR	1	R0.2	4	1	0.95	4	50
52.10.060.020.4LR			6				50
52.10.080.020.4LR			8				50
52.10.100.020.4LR			10				50
52.10.120.020.4LR			12				50
52.10.150.020.4LR			15				50
52.10.040.030.4LR	1	R0.3	4	1	0.95	4	50
52.10.060.030.4LR			6				50
52.10.080.030.4LR			8				50
52.10.100.030.4LR			10				50
52.10.120.030.4LR			12				50
52.10.150.030.4LR			15				50
52.15.060.005.4LR	1.5	R0.05	6	1.5	1.45	4	50
52.15.080.005.4LR			8				50
52.15.100.005.4LR			10				50
52.15.120.005.4LR			12				50
52.15.150.005.4LR			15				50
52.15.200.005.4LR			20				60
52.15.250.005.4LR			25				75
52.15.300.005.4LR			30				75

4刃深沟圆鼻刀 4 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAl	○	○	○	4	30°	HRC≤52

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤52hrc ○ >52hrc	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	圆鼻R角 (R) Corner Radius	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空 (d1) Neck Dia.	柄径 (D) Shank Dia.	全长 (L) Overall Length
52.15.060.010.4LR	1.5	R0.1	6	1.5	1.45	4	50
52.15.080.010.4LR			8				50
52.15.100.010.4LR			10				50
52.15.120.010.4LR			12				50
52.15.150.010.4LR			15				50
52.15.200.010.4LR			20				60
52.15.250.010.4LR			25				75
52.15.300.010.4LR			30				75
52.15.060.020.4LR	1.5	R0.2	6	1.5	1.45	4	50
52.15.080.020.4LR			8				50
52.15.100.020.4LR			10				50
52.15.120.020.4LR			12				50
52.15.150.020.4LR			15				50
52.15.200.020.4LR			20				60
52.15.250.020.4LR			25				75
52.15.300.020.4LR			30				75
52.15.060.030.4LR	1.5	R0.3	6	1.5	1.45	4	50
52.15.080.030.4LR			8				50
52.15.100.030.4LR			10				50
52.15.120.030.4LR			12				50
52.15.150.030.4LR			15				50
52.15.200.030.4LR			20				60
52.15.250.030.4LR			25				75
52.15.300.030.4LR			30				75
52.20.080.010.4LR	2	R0.1	8	2	1.94	4	50
52.20.100.010.4LR			10				50
52.20.120.010.4LR			12				50
52.20.160.010.4LR			16				50
52.20.200.010.4LR			20				60
52.20.250.010.4LR			25				75
52.20.300.010.4LR			30				75
52.20.350.010.4LR			35				75
52.20.400.010.4LR			40				75



4刃深沟圆鼻刀 4 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance	涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
D≤3	0,-0.015	CrAL	○	○	○	4	30°	HRC≤52
3 < D < 20	0,-0.02							
R	±0.005							

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤52hrc ○ >52hrc	○	○	○	○	○	○	○

订货号 Code No.	刀径 (D) Cutter Dia.	圆鼻R角 (R) Corner Radius	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空 (d1) Neck Dia.	柄径 (D) Shank Dia.	全长 (L) Overall Length
52.20.080.020.4LR	2	R0.2	8	2	1.94	4	50
52.20.100.020.4LR			10				50
52.20.120.020.4LR			12				50
52.20.160.020.4LR			16				50
52.20.200.020.4LR			20				60
52.20.250.020.4LR			25				75
52.20.300.020.4LR			30				75
52.20.350.020.4LR			35				75
52.20.400.020.4LR	2	R0.3	40	2	1.94	4	75
52.20.080.030.4LR			8				50
52.20.100.030.4LR			10				50
52.20.120.030.4LR			12				50
52.20.160.030.4LR			16				50
52.20.200.030.4LR			20				60
52.20.250.030.4LR			25				75
52.20.300.030.4LR			30				75
52.20.350.030.4LR	2	R0.5	35	2	1.94	4	75
52.20.400.030.4LR			40				75
52.20.080.050.4LR			8				50
52.20.100.050.4LR			10				50
52.20.120.050.4LR			12				50
52.20.160.050.4LR			16				50
52.20.200.050.4LR			20				60
52.20.250.050.4LR			25				75
52.20.300.050.4LR			30				75
52.20.350.050.4LR			35				75
52.20.400.050.4LR			40				75

4刃深沟圆鼻刀 4 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance	涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
D≤3	0,-0.015	CrAL	○	○	○	4	30°	HRC≤52
3 < D < 20	0,-0.02							
R	±0.005							

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤52hrc ○ >52hrc	○	○	○	○	○	○	○

订货号 Code No.	刀径 (D) Cutter Dia.	圆鼻R角 (R) Corner Radius	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空 (d1) Neck Dia.	柄径 (D) Shank Dia.	全长 (L) Overall Length
52.25.080.010.4LR	2.5	R0.1	8	2.5	2.4	4	50
52.25.100.010.4LR			10				50
52.25.150.010.4LR			15				50
52.25.200.010.4LR			20				60
52.25.250.010.4LR			25				75
52.25.300.010.4LR			30				75
52.25.350.010.4LR			35				75
52.25.400.010.4LR			40				75
52.25.450.010.4LR			45				100
52.25.500.010.4LR			50				100
52.25.080.020.4LR	2.5	R0.2	8	2.5	2.4	4	50
52.25.100.020.4LR			10				50
52.25.150.020.4LR			15				50
52.25.200.020.4LR			20				60
52.25.250.020.4LR			25				75
52.25.300.020.4LR			30				75
52.25.350.020.4LR			35				75
52.25.400.020.4LR			40				75
52.25.450.020.4LR			45				100
52.25.500.020.4LR			50				100
52.25.080.030.4LR	2.5	R0.3	8	2.5	2.4	4	50
52.25.100.030.4LR			10				50
52.25.150.030.4LR			15				50
52.25.200.030.4LR			20				60
52.25.250.030.4LR			25				75
52.25.300.030.4LR			30				75
52.25.350.030.4LR			35				75
52.25.400.030.4LR			40				75
52.25.450.030.4LR			45				100
52.25.500.030.4LR			50				100



4刃深沟圆鼻刀 4 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAL	○	○	○	4	30°	HRC≤52

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤52hrc ○ >52hrc	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	圆鼻R角 (R) Corner Radius	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空 (d1) Neck Dia.	柄径 (D) Shank Dia.	全长 (L) Overall Length
52.25.080.050.4LR	2.5	R0.5	8	2.5	2.4	4	50
52.25.100.050.4LR			10				50
52.25.150.050.4LR			15				50
52.25.200.050.4LR			20				60
52.25.250.050.4LR			25				75
52.25.300.050.4LR			30				75
52.25.350.050.4LR			35				75
52.25.400.050.4LR			40				75
52.25.450.050.4LR			45				100
52.25.500.050.4LR			50				100
52.30.100.010.4LR	3	R0.1	10	3	2.85	6	50
52.30.150.010.4LR			15				50
52.30.150.010.4LR			15				50
52.30.200.010.4LR			20				60
52.30.250.010.4LR			25				75
52.30.300.010.4LR			30				75
52.30.350.010.4LR			35				75
52.30.400.010.4LR			40				75
52.30.450.010.4LR			45				100
52.30.500.010.4LR			50				100
52.30.550.010.4LR			55				100
52.30.600.010.4LR			60				100
52.30.100.020.4LR	3	R0.2	10	3	2.85	6	50
52.30.120.020.4LR			12				50
52.30.150.020.4LR			15				60
52.30.200.020.4LR			20				60
52.30.250.020.4LR			25				75
52.30.300.020.4LR			30				75
52.30.350.020.4LR			35				75
52.30.400.020.4LR			40				75

4刃深沟圆鼻刀 4 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAL	○	○	○	4	30°	HRC≤52

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤52hrc ○ >52hrc	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	圆鼻R角 (R) Corner Radius	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空 (d1) Neck Dia.	柄径 (D) Shank Dia.	全长 (L) Overall Length
52.30.450.020.4LR	3	R0.2	45	3	2.85	6	100
52.30.500.020.4LR			50				100
52.30.550.020.4LR			55				100
52.30.600.020.4LR			60				100
52.30.100.030.4LR	3	R0.3	10	3	2.85	6	50
52.30.120.030.4LR			12				50
52.30.150.030.4LR			15				60
52.30.200.030.4LR			20				60
52.30.250.030.4LR			25				75
52.30.300.030.4LR			30				75
52.30.350.030.4LR			35				75
52.30.400.030.4LR			40				75
52.30.450.030.4LR			45				100
52.30.500.030.4LR			50				100
52.30.550.030.4LR	3	R0.5	55	3	2.85	6	100
52.30.600.030.4LR			60				100
52.30.100.050.4LR			10				50
52.30.120.050.4LR			12				50
52.30.150.050.4LR			15				60
52.30.200.050.4LR			20				60
52.30.250.050.4LR			25				75
52.30.300.050.4LR			30				75
52.30.350.050.4LR			35				75
52.30.400.050.4LR			40				75
52.30.450.050.4LR	3	R1	45	3	2.85	6	100
52.30.500.050.4LR			50				100
52.30.550.050.4LR			55				100
52.30.600.050.4LR			60				100
52.30.100.100.4LR			10				50
52.30.120.100.4LR			12				50
52.30.150.100.4LR	3	R1	15	3	2.85	6	60
52.30.200.100.4LR			20				60



4刃深沟圆鼻刀 4 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance	涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
D≤3	0,-0.015	CrAL	○	○	○	4	30°	HRC≤52
3 < D < 20	0,-0.02							
R	±0.005							

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤52hrc ○ >52hrc	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	圆鼻R角 (R) Corner Radius	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空 (d1) Neck Dia.	柄径 (D) Shank Dia.	全长 (L) Overall Length
52.30.250.100.4LR	3	R1	25	3	2.85	6	75
52.30.300.100.4LR			30				75
52.30.350.100.4LR			35				75
52.30.400.100.4LR			40				75
52.30.450.100.4LR			45				100
52.30.500.100.4LR			50				100
52.30.550.100.4LR	4	R0.1	55	4	3.8	6	100
52.30.600.100.4LR			60				100
52.40.160.010.4LR			16				60
52.40.200.010.4LR			20				60
52.40.250.010.4LR			25				75
52.40.300.010.4LR			30				75
52.40.400.010.4LR			40				75
52.40.500.010.4LR			50				100
52.40.600.010.4LR			60				100
52.40.700.010.4LR			70				110
52.40.800.010.4LR	4	R0.2	80	4	3.8	6	120
52.40.160.020.4LR			16				60
52.40.200.020.4LR			20				60
52.40.250.020.4LR			25				75
52.40.300.020.4LR			30				75
52.40.400.020.4LR			40				75
52.40.500.020.4LR			50				100
52.40.600.020.4LR			60				100
52.40.700.020.4LR			70				110
52.40.800.020.4LR			80				120
52.40.160.030.4LR	4	R0.3	16	4	3.8	6	60
52.40.200.030.4LR			20				60
52.40.250.030.4LR			25				75
52.40.300.030.4LR			30				75
52.40.400.030.4LR			40				75
52.40.500.030.4LR			50				100

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D≤3	0,-0.015	CrAL	○	○	○	4	30°	HRC≤52
3 < D < 20	0,-0.02							
R	±0.005							

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤52hrc ○ >52hrc	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	圆鼻R角 (R) Corner Radius	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空 (d1) Neck Dia.	柄径 (D) Shank Dia.	全长 (L) Overall Length
52.40.600.030.4LR	4	R0.3	60	4	3.8	6	100
52.40.700.030.4LR			70				110
52.40.800.030.4LR			80				120
52.40.160.050.4LR	4	R0.5	16	4	3.8	6	60
52.40.200.050.4LR			20				60
52.40.250.050.4LR			25				75
52.40.300.050.4LR			30				75
52.40.400.050.4LR			40				75
52.40.500.050.4LR			50				100
52.40.600.050.4LR			60				100
52.40.700.050.4LR			70				110
52.40.800.050.4LR			80				120
52.40.160.100.4LR	4	R1	16	4	3.8	6	60
52.40.200.100.4LR			20				60
52.40.250.100.4LR			25				75
52.40.300.100.4LR			30				75
52.40.400.100.4LR			40				75
52.40.500.100.4LR			50				100
52.40.600.100.4LR			60				100
52.40.700.100.4LR			70				110
52.40.800.100.4LR			80				120
52.50.0160.010.4LR	5	R0.1	16	5	4.8	6	60
52.50.0200.010.4LR			20				60
52.50.0250.010.4LR			25				75
52.50.0300.010.4LR			30				75
52.50.0400.010.4LR			40				75
52.50.0500.010.4LR			50				100
52.50.0600.010.4LR			60				100
52.50.0800.010.4LR			80				120
52.50.1000.010.4LR			100				140
52.50.0160.020.4LR	5	R0.2	16	5	4.8	6	60
52.50.0200.020.4LR			20				60
52.50.0250.020.4LR			25				75



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公差: d=h5	Tolerance	涂层种类	开槽	侧铣	面铣	刃数	螺旋角	适合材料硬度
D≤3	0,-0.015	Coating	Slotting	Side Milling	Face Milling	Flute	Helix Angle	Workpiece HRC
3 < D < 20	0,-0.02	CrAL	○	○	○	4	30°	HRC≤52
R	±0.005							

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢	合金钢	调质钢	铸铁	淬硬钢	不锈钢	钛合金	铝合金	铜	树脂	石墨	高温合金
Carbon Steel	Alloy Steel	Quenched & Tempered Steel	Cast Iron	Hardened Steel	Stainless Steel	Titanium Alloy	Aluminum Alloy	Copper	Resin	Graphite	Super Alloy
○	○	○	○	≤52hrc ○ >52hrc	○	○	○	○	○	○	○

订货号	刀径 (D)	圆鼻R角 (R)	避空长 (L1)	刀长 (L)	避空 (d1)	柄径 (D)	全长 (L)
Code No.	Cutter Dia.	Corner Radius	Effective Length	Length of Cut	Neck Dia.	Shank Dia.	Overall Length
52.50.0300.020.4LR	5	R0.2	30	5	4.8	6	75
52.50.0400.020.4LR			40				75
52.50.0500.020.4LR			50				100
52.50.0600.020.4LR			60				100
52.50.0800.020.4LR			80				120
52.50.1000.020.4LR			100				140
52.50.0160.030.4LR	5	R0.3	16	5	4.8	6	60
52.50.0200.030.4LR			20				60
52.50.0250.030.4LR			25				75
52.50.0300.030.4LR			30				75
52.50.0400.030.4LR			40				75
52.50.0500.030.4LR			50				100
52.50.0600.030.4LR			60				100
52.50.0800.030.4LR			80				120
52.50.1000.030.4LR			100				140
52.50.0160.050.4LR	5	R0.5	16	5	4.8	6	60
52.50.0200.050.4LR			20				60
52.50.0250.050.4LR			25				75
52.50.0300.050.4LR			30				75
52.50.0400.050.4LR			40				75
52.50.0500.050.4LR			50				100
52.50.0600.050.4LR			60				100
52.50.0800.050.4LR			80				120
52.50.1000.050.4LR			100				140
52.50.0160.100.4LR	5	R1	16	5	4.8	6	60
52.50.0200.100.4LR			20				60
52.50.0250.100.4LR			25				75
52.50.0300.100.4LR			30				75
52.50.0400.100.4LR			40				75
52.50.0500.100.4LR			50				100
52.50.0600.100.4LR			60				100
52.50.0800.100.4LR			80				120
52.50.1000.100.4LR			100				140

切削参数表 Milling Parameters Recommendation

4刃深沟圆鼻刀

4 Flute Deep Groove Corner Radius End Mill

被切削材质 Workpiece Material			调质钢 Quenched&Tempered Steel HPM・NAK (~42HRC)				淬硬钢 Hardened Steel HPM-38・STAVAX・SKD61 (~55HRC)				淬硬钢 Hardened Steel SKD11・PD613 (~62HRC)				工具钢 Tool Steel SKH (~65HRC)					
刃径 Cutter Dia.	圆角半径 Corner Radius	有效刃长 Effective Length	转速 Rev. Speed	进给 Feeding Rate	切深 Depth of Cut	切宽 Depth of Cut	转速 Rev. Speed	进给 Feeding Rate	切深 Depth of Cut	切宽 Depth of Cut	转速 Rev. Speed	进给 Feeding Rate	切深 Depth of Cut	切宽 Depth of Cut	转速 Rev. Speed	进给 Feeding Rate	切深 Depth of Cut	切宽 Depth of Cut		
			n min-1	F mm/min	Ap mm	Ae mm	n min-1	F mm/min	Ap mm	Ae mm	n min-1	F mm/min	Ap mm	Ae mm	n min-1	F mm/min	Ap mm	Ae mm		
1	0.02	2	30,000	2,800	0.016	0.35	25,000	2,300	0.012	0.3	21,000	2,000	0.01	0.25	17,000	1,400	0.008	0.2		
		3	28,000	2,500	0.016	0.35	23,000	2,100	0.012	0.3	20,000	1,800	0.01	0.25	16,000	1,300	0.008	0.2		
		4	25,000	2,200	0.014	0.35	21,000	1,800	0.01	0.3	18,000	1,500	0.008	0.25	14,000	1,100	0.005	0.2		
		5	23,000	1,900	0.012	0.35	19,000	1,600	0.008	0.3	16,000	1,400	0.005	0.25	13,000	1,000	0.003	0.2		
		6	20,000	1,700	0.01	0.35	16,000	1,400	0.008	0.3	14,000	1,200	0.005	0.25	11,000	850	0.003	0.2		
		8	18,000	1,400	0.008	0.35	15,000	1,100	0.006	0.3	13,000	900	0.005	0.25	10,000	650	0.002	0.2		
		10	16,000	1,000	0.006	0.35	13,000	800	0.004	0.3	11,000	700	0.003	0.25	9,000	500	0.002	0.2		
	0.05 0.1 0.2 0.3	2	30,000	2,800	0.065	0.35	25,000	2,300	0.05	0.3	21,000	2,000	0.04	0.25	17,000	1,400	0.03	0.2		
		3	28,000	2,500	0.06	0.35	23,000	2,100	0.05	0.3	20,000	1,800	0.04	0.25	16,000	1,300	0.03	0.2		
		4	25,000	2,200	0.055	0.35	21,000	1,800	0.04	0.3	18,000	1,500	0.03	0.25	14,000	1,100	0.02	0.2		
		5	23,000	1,900	0.05	0.35	19,000	1,600	0.03	0.3	16,000	1,400	0.02	0.25	13,000	1,000	0.01	0.2		
		6	20,000	1,700	0.045	0.35	16,000	1,400	0.02	0.3	14,000	1,200	0.01	0.25	11,000	850	0.007	0.2		
		8	18,000	1,400	0.035	0.35	15,000	1,100	0.015	0.3	13,000	900	0.008	0.25	10,000	650	0.005	0.2		
		10	16,000	1,000	0.025	0.35	13,000	800	0.01	0.3	11,000	700	0.006	0.25	9,000	500	0.005	0.2		
		1.2	5	24,000	2,200	0.06	0.45	20,000	1,800	0.045	0.4	17,000	1,500	0.03	0.3	14,000	1,100	0.02	0.2	
			10	16,000	1,400	0.04	0.45	13,000	1,100	0.03	0.4	11,000	950	0.01	0.3	9,000	700	0.005	0.2	
1.5	0.02	3	28,000	2,800	0.016	0.55	23,000	2,300	0.012	0.5	20,000	2,000	0.01	0.4	16,000	1,400	0.008	0.3		
		4	25,000	2,400	0.016	0.55	21,000	2,000	0.012	0.5	18,000	1,700	0.01	0.4	14,000	1,200	0.008	0.3		
		6	23,000	2,200	0.014	0.55	19,000	1,800	0.01	0.5	16,000	1,500	0.008	0.4	13,000	1,100	0.005	0.3		
		8	20,000	1,800	0.014	0.55	16,000	1,500	0.01	0.5	14,000	1,300	0.008	0.4	11,000	900	0.003	0.3		
		12	16,000	1,400	0.012	0.55	13,000	1,100	0.008	0.5	11,000	950	0.005	0.4	9,000	650	0.002	0.3		
		15	14,000	1,000	0.008	0.55	11,000	800	0.005	0.5	9,000	700	0.003	0.4	7,000	500	0.002	0.3		
	0.05 0.1 0.2 0.3 0.5	3	28,000	2,800	0.1	0.55	23,000	2,300	0.05	0.5	20,000	2,000	0.04	0.4	16,000	1,400	0.03	0.3		
		4	25,000	2,400	0.08	0.55	21,000	2,000	0.05	0.5	18,000	1,700	0.04	0.4	14,000	1,200	0.03	0.3		
		6	23,000	2,200	0.08	0.55	19,000	1,800	0.045	0.5	16,000	1,500	0.03	0.4	13,000	1,100	0.02	0.3		
		8	20,000	1,800	0.06	0.55	16,000	1,500	0.04	0.5	14,000	1,300	0.025	0.4	11,000	900	0.01	0.3		
		12	16,000	1,400	0.06	0.55	13,000	1,100	0.03	0.5	11,000	950	0.02	0.4	9,000	650	0.007	0.3		
		15	14,000	1,000	0.03	0.55	11,000	800	0.02	0.5	9,000	700	0.007	0.4	7,000	500	0.005	0.3		
		2	0.02	4	24,000	2,800	0.02	0.7	20,000	2,300	0.015	0.6	17,000	2,000	0.012	0.5	14,000	1,400	0.008	0.35
				6	22,000	2,500	0.018	0.7	18,000	2,100	0.015	0.6	15,000	1,800	0.012	0.5	12,000	1,300	0.008	0.35
8	20,000			2,200	0.016	0.7	16,000	1,800	0.012	0.6	14,000	1,500	0.01	0.5	11,000	1,100	0.005	0.35		
12	16,000			1,700	0.014	0.7	13,000	1,400	0.01	0.6	11,000	1,200	0.008	0.5	9,000	850	0.003	0.35		
16	14,000			1,400	0.012	0.7	11,000	1,100	0.008	0.6	9,500	950	0.005	0.5	7,500	650	0.002	0.35		
20	10,000			800	0.01	0.7	8,000	650	0.005	0.6	7,000	550	0.003	0.5	5,500	400	0.002	0.35		
0.05 0.1 0.2 0.3 0.5	4		24,000	2,800	0.13	0.7	20,000	2,300	0.06	0.6	17,000	2,000	0.05	0.5	14,000	1,400	0.03	0.35		
	6		22,000	2,500	0.12	0.7	18,000	2,100	0.06	0.6	15,000	1,800	0.05	0.5	12,000	1,300	0.03	0.35		
	8		20,000	2,200	0.11	0.7	16,000	1,800	0.05	0.6	14,000	1,500	0.04	0.5	11,000	1,100	0.02	0.35		
	12		16,000	1,700	0.09	0.7	13,000	1,400	0.04	0.6	11,000	1,200	0.03	0.5	9,000	850	0.01	0.35		
2.5	0.1 0.2 0.3 0.5	10	16,000	2,200	0.14	0.85	13,000	1,800	0.07	0.7	11,000	1,500	0.05	0.5	9,000	1,100	0.03	0.5		
		20	11,000	1,400	0.08	0.85	9,000	1,100	0.04	0.7	7,500	950	0.02	0.5	6,000	650	0.01	0.5		
		30	7,000	800	0.03	0.85	5,500	650	0.01	0.7	4,500	550	0.01	0.5	3,500	400	0.005	0.5		



## 切削参数表 Milling Parameters Recommendation

### 4刃深沟圆鼻刀

#### 4 Flute Deep Groove Corner Radius End Mill

被切削材质 Workpiece Material			调质钢 Quenched&Tempered Steel HPM • NAK (~42HRC)				淬硬钢 Hardened Steel HPM-38 • STAVAX • SKD61 (~55HRC)				淬硬钢 Hardened Steel SKD11 • PD613 (~62HRC)				工具钢 Tool Steel SKH (~65Hrc)			
刃径 Cutter Dia.	圆角半径 Corner Radius	有效刃长 Effective Length	转速 Rev. Speed	进给 Feeding Rate	切深 Depth of Cut	切宽 Depth of Cut	转速 Rev. Speed	进给 Feeding Rate	切深 Depth of Cut	切宽 Depth of Cut	转速 Rev. Speed	进给 Feeding Rate	切深 Depth of Cut	切宽 Depth of Cut	转速 Rev. Speed	进给 Feeding Rate	切深 Depth of Cut	切宽 Depth of Cut
			n min-1	f mm/min	Ap mm	Ae mm	n min-1	f mm/min	Ap mm	Ae mm	n min-1	f mm/min	Ap mm	Ae mm	n min-1	f mm/min	Ap mm	Ae mm
3	0.05 0.1 0.2 0.3 0.5 1	4	18,000	2,800	0.18	1	15,000	2,300	0.1	0.8	13,000	2,000	0.07	0.7	10,000	1,400	0.05	0.6
		6	16,000	2,500	0.17	1	13,000	2,100	0.1	0.8	11,000	1,800	0.07	0.7	9,000	1,300	0.05	0.6
		8	14,000	2,200	0.16	1	11,000	1,800	0.1	0.8	9,500	1,500	0.07	0.7	7,500	1,100	0.05	0.6
		12	13,500	2,000	0.16	1	11,000	1,600	0.08	0.8	9,500	1,400	0.06	0.7	7,500	1,000	0.04	0.6
		16	12,000	1,800	0.14	1	10,000	1,500	0.07	0.8	8,500	1,300	0.05	0.7	7,000	900	0.03	0.6
		20	10,000	1,400	0.12	1	8,000	1,100	0.05	0.8	7,000	950	0.04	0.7	5,500	700	0.02	0.6
		25	9,000	1,200	0.08	1	7,500	1,000	0.04	0.8	6,500	850	0.02	0.7	5,000	600	0.01	0.6
4	0.1 0.2 0.3 0.5 1	30	8,000	800	0.06	1	6,500	650	0.03	0.8	5,500	550	0.02	0.7	4,500	400	0.007	0.6
		8	12,000	2,600	0.25	1.4	10,000	2,100	0.15	1.2	8,500	1,800	0.08	1	7,000	1,300	0.06	0.8
		12	12,000	2,600	0.25	1.4	10,000	2,100	0.15	1.2	8,500	1,800	0.08	1	7,000	1,300	0.06	0.8
		16	10,000	2,200	0.17	1.4	8,000	1,800	0.1	1.2	7,000	1,500	0.06	1	5,500	1,100	0.05	0.8
		24	8,000	1,600	0.14	1.4	6,500	1,300	0.08	1.2	5,500	1,100	0.05	1	4,500	750	0.03	0.8
		32	6,500	1,300	0.08	1.4	5,500	1,100	0.04	1.2	4,500	950	0.02	1	3,500	650	0.01	0.8
		1	9,500	2,400	0.25	2.2	8,000	2,000	0.15	2	7,000	1,700	0.08	1.6	5,500	1,200	0.06	1.2
5	0.1 0.2 0.3 0.5 1	20	8,000	2,000	0.18	2.2	6,500	1,600	0.1	2	5,500	1,400	0.07	1.6	4,500	1,000	0.05	1.2
		40	5,000	1,200	0.09	2.2	4,000	1,000	0.05	2	3,500	850	0.02	1.6	3,000	600	0.01	1.2
		12	8,000	2,500	0.35	2.7	6,500	2,100	0.18	2.5	5,500	1,800	0.08	2	4,500	1,300	0.06	1.5
6	0.1 0.2 0.3 0.5 1	18	7,000	2,200	0.3	2.7	5,500	1,800	0.18	2.5	4,500	1,500	0.08	2	3,500	1,100	0.06	1.5
		24	6,000	1,800	0.2	2.7	5,000	1,500	0.15	2.5	4,000	1,300	0.07	2	3,000	900	0.05	1.5
		48	3,000	900	0.1	2.7	2,500	750	0.05	2.5	2,000	650	0.03	2	2,000	450	0.02	1.5

※ 请根据实际的加工形状及使用机械等调整切削条件。

※ 切入量的ap表示轴方向的切入深度，ae表示半径方向的切入深度。

※ 在切削加工淬硬钢时，推荐使用油雾冷却液。

※ 作为Z切入时的方法，推荐使用螺旋和斜坡（倾斜）进行切削加工。

※ L（有效长度）/D（刃径）超过8倍时，请将侧铣的进给速度调整为50%以下，切入量调整为30%以下。

※ 槽切削参考切削条件表将切入量：ap及进给速度设定为50%以下，推荐往返切削。

※ 发生振动时，请将旋转数和进给速度降低到相同的比例。另外，主轴转速不足时也请同样降低。

※ Adjust milling conditions according to milling shape and machine type.

※ ap : Axial Depth of Cut, ae : Radial Depth of Cut.

※ Recommend to use oil mist coolant for machining hardened Steel.

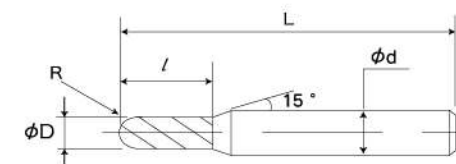
※ Recommend to apply helical or ramping for approaching into axial direction.

※ Adjust feed rate 50% lower and cutting depth (ae) 30% lower for milling deep wall area when L/D exceeds 8 for stable milling.

※ For slotting, recommend reciprocating milling by adjusting feed & ap in below 50% of recommended milling condition.

※ Reduce both spindle speed and feed at same rate for chattering and also for insufficient spindle speed of a machine.

## 2刃段差球刀 2 Flute Segment Ball Nose End Mill



公差：d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R < 1	±0.005
R ≥ 1	±0.01

涂层 种类 Coating	仿形铣 Kellerling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAL		2	30°	HRC≤52

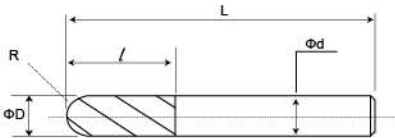
被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel ≤52hrc >52hrc	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○	○	○	○	○

订货号 Code No.	球头半径 (R) Nose Radius	刃长 (l) Length of Cut	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.0005.0010.2B	R0.025	0.1	4	45
52.0006.0012.2B	R0.03	0.12	4	45
52.0007.0014.2B	R0.035	0.14	4	45
52.0008.0016.2B	R0.04	0.16	4	45
52.0010.0020.2B	R0.05	0.2	4	45
52.0020.0040.2B	R0.1	0.4	4	45
52.0030.0060.2B	R0.15	0.6	4	45
52.0040.0080.2B	R0.2	0.8	4	45
52.0050.0100.2B	R0.25	1	4	45
52.0060.0120.2B	R0.3	1.2	4	45
52.0070.0140.2B	R0.35	1.4	4	45
52.0080.0160.2B	R0.4	1.6	4	45
52.0090.0180.2B	R0.45	1.8	4	45
52.0100.0200.2B	R0.5	2	4	50
52.0120.0240.2B	R0.6	2.4	4	50
52.0150.0300.2B	R0.75	3	4	50
52.0200.0400.2B	R1	4	4	50
52.0250.0500.2B	R1.25	5	4	50
52.0300.0600.2B	R1.5	6	4	50
52.0300.0600.2B-6	R1.5	6	6	50
52.0350.0700.2B	R1.75	7	4	50
52.0350.0700.2B-6	R1.75	7	6	50
52.0400.0800.50.2B-6	R2	8	6	50
52.0400.0800.75.2B-6	R2	8	6	75
52.0500.1000.2B-6	R2.5	10	6	60



2刃直柄球刀 2 Flute Straight Shank Ball Nose End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R < 1	±0.005
R ≥ 1	±0.01

涂层 种类 Coating	仿形铣 Kellerling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAl		2	30°	HRC≤52

被切削材料 Cutting Materials ○ 非常适合 Very Suitable ○ 适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤52hrc ○ >52hrc	○	○	○	○	○	○	○

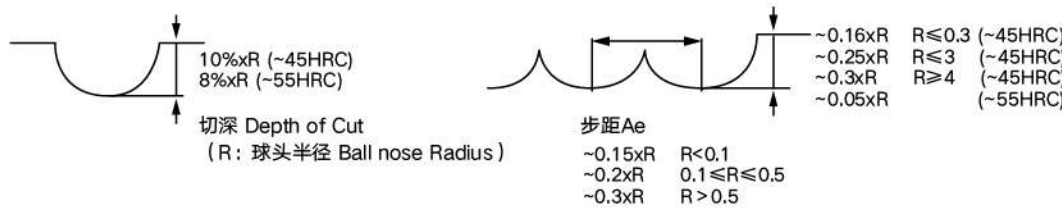
订货号 Code No.	球头半径 (R) Nose Radius	刃长 (l) Length of Cut	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.04.06.050.2B	R2	6	4	50
52.04.06.075.2B				75
52.06.09.050.2B	R3	9	6	50
52.06.09.060.2B				60
52.06.09.075.2B				75
52.06.09.100.2B				100
52.08.12.060.2B	R4	12	8	60
52.08.12.075.2B				75
52.08.12.100.2B				100
52.08.12.150.2B				150
52.10.15.075.2B	R5	15	10	75
52.10.15.100.2B				100
52.10.15.150.2B				150
52.12.18.075.2B	R6	18	12	75
52.12.18.100.2B				100
52.12.18.150.2B				150

切削参数表 Milling Parameters Recommendation

2刃段差 / 直柄球刀

2 Flute Segment / Straight Shank Ball Nose End Mill

被切削材质 Workpiece Material	碳素钢 Carbon Steel S50C		合金钢・调质钢 Alloy Steel・Quenched&Tempered Steel SCM・SKD・SUS・HPM・NAK		淬硬钢 Hardened Steel SKD61 (~52HRC)		铝合金 Aluminum Alloy		铜 Copper	
切线速度 Cutting Speed	150m/min		120~150m/min		80~100m/min		150m/min		100~150m/min	
刃径 Cutter Dia.	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	进给 Feeding Rate mm/min
0.05	50,000	200	50,000	150	50,000	100	50,000	250	50,000	250
0.1	50,000	400	50,000	340	50,000	200	50,000	500	50,000	500
0.2	50,000	630	50,000	600	50,000	630	50,000	600	50,000	600
0.3	50,000	930	50,000	940	48,000	900	50,000	750	50,000	750
0.4	50,000	1,200	48,000	1,200	36,000	900	50,000	1,000	50,000	1,000
0.5	48,000	1,430	38,000	1,200	29,000	900	50,000	1,250	48,000	1,000
0.6	40,000	1,430	32,000	1,200	24,000	810	50,000	1,480	40,000	1,080
0.8	30,000	1,270	24,000	1,000	18,000	670	50,000	1,900	30,000	1,160
1	24,000	1,160	19,000	800	14,300	600	48,000	2,400	24,000	1,200
1.5	16,000	930	13,000	600	9,600	460	32,000	2,400	16,000	1,200
2	12,000	930	10,000	570	7,200	450	24,000	2,400	12,000	1,200
2.5	9,600	930	8,000	560	5,700	450	19,000	2,400	9,600	1,200
3	8,000	930	6,400	540	4,800	450	16,000	2,400	8,000	1,200
4	6,000	900	4,800	540	3,600	450	12,000	2,400	6,000	1,200
5	4,800	900	3,800	540	2,900	450	9,600	2,300	4,800	1,150
6	4,000	900	3,200	540	2,400	450	8,000	2,100	4,000	1,050
7	3,400	900	2,750	540	2,050	450	6,800	2,000	3,400	1,000
8	3,000	900	2,400	540	1,800	450	6,000	2,000	3,000	1,000
9	2,650	900	2,100	520	1,600	450	5,300	2,000	2,650	1,000
10	2,400	900	1,900	520	1,450	450	4,800	2,000	2,400	1,000



- ※ 槽加工的进给速度请设定为60%。
- ※ 刀具悬深以4D为基准，>4D时请降低切削条件。
- ※ 吹气或油雾最适合。
- ※ 请按相同比例调整转速和进给速度。

- ※ When slotting, reduce the feed by 60% from the above values.
- ※ Length of overhang is 4 times Dia. as standard. When it is longer than 4 times Dia., adjust the conditions listed above.
- ※ Recommended airflow or oil mist.
- ※ Adjust both spindle speed and feed at the same rate.

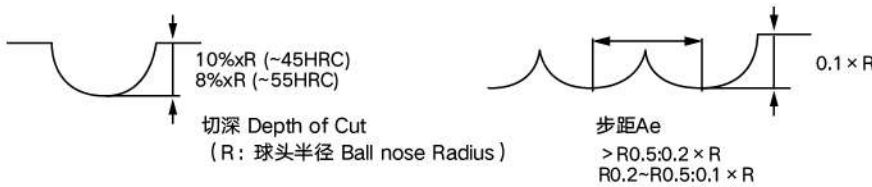


切削参数表 Milling Parameters Recommendation

2刃段差 / 直柄球刀

2 Flute Segment / Straight Shank Ball Nose End Mill

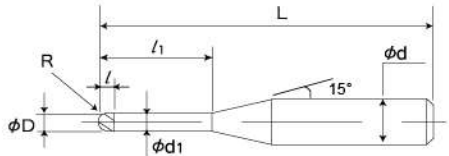
被切削材质 Workpiece Material	碳素钢 Carbon Steel S50C		合金钢・调质钢 Alloy Steel・Quenched&Tempered Steel SCM・SKD・SUS・HPM・NAK		淬硬钢 Hardened Steel SKD61 (~52HRC)		铝合金 Aluminum Alloy		铜 Copper	
切线速度 Cutting Speed	150m/min		120~150m/min		80~100m/min		150m/min		100~150m/min	
刃径 Cutter Dia.	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	进给 Feeding Rate mm/min
0.05	50,000	200	50,000	150	50,000	100	50,000	250	50,000	250
0.1	50,000	400	50,000	340	50,000	200	50,000	500	50,000	500
0.2	50,000	630	50,000	600	50,000	630	50,000	600	50,000	600
0.3	50,000	930	50,000	940	48,000	900	50,000	750	50,000	750
0.4	50,000	1,200	48,000	1,200	36,000	900	50,000	1,000	50,000	1,000
0.5	48,000	1,430	38,000	1,200	29,000	900	50,000	1,250	48,000	1,000
0.6	40,000	1,430	32,000	1,200	24,000	810	50,000	1,480	40,000	1,080
0.8	30,000	1,270	24,000	1,000	18,000	670	50,000	1,900	30,000	1,160
1	24,000	1,160	19,000	800	14,300	600	48,000	2,400	24,000	1,200
1.5	16,000	930	13,000	600	9,600	460	32,000	2,400	16,000	1,200
2	12,000	930	10,000	570	7,200	450	24,000	2,400	12,000	1,200
2.5	9,600	930	8,000	560	5,700	450	19,000	2,400	9,600	1,200
3	8,000	930	6,400	540	4,800	450	16,000	2,400	8,000	1,200
4	6,000	900	4,800	540	3,600	450	12,000	2,400	6,000	1,200
5	4,800	900	3,800	540	2,900	450	9,600	2,300	4,800	1,150
6	4,000	900	3,200	540	2,400	450	8,000	2,100	4,000	1,050
7	3,400	900	2,750	540	2,050	450	6,800	2,000	3,400	1,000
8	3,000	900	2,400	540	1,800	450	6,000	2,000	3,000	1,000
9	2,650	900	2,100	520	1,600	450	5,300	2,000	2,650	1,000
10	2,400	900	1,900	520	1,450	450	4,800	2,000	2,400	1,000



- ※ 槽加工的进给速度请设定为60%。
- ※ 吹气或油雾最适合。
- ※ 请按相同比例调整转速和进给速度。
- ※ 推荐使用尽可能具有刚性的铣床和机械。
- ※ 切入量、机械刚性不同，条件也不同。请随时调整。

- ※ When slotting, reduce the feed by 60% from the above values.
- ※ Recommended air blow or oil mist.
- ※ Adjust both spindle speed and feed at the same rate.
- ※ Use a rigid machine and chuck holder.
- ※ Adjust milling conditions according to the volume of depth of cut and rigidity of the machine.

2刃深沟球刀 2 Flute Deep Groove Ball Nose End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R < 1	±0.005
R ≥ 1	±0.01

涂层种类 Coating	仿形铣 Kellerling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAL		2	30°	HRC≤52

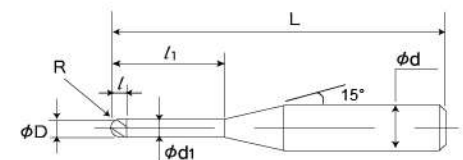
被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel ≤52hrc >52hrc	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○	○	○		

订货号 Code No.	球头半径 (R) Nose Radius	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.01.003.2LB	R0.05	0.3	0.07	0.085	4	45
52.01.005.2LB		0.5				45
52.015.003.2LB	R0.075	0.3	0.12	0.13	4	45
52.015.005.2LB		0.5				45
52.015.010.2LB		1				45
52.02.006.2LB		0.6				45
52.02.008.2LB		0.8				45
52.02.010.2LB	R0.1	1	0.16	0.18	4	45
52.02.012.2LB		1.2				45
52.02.015.2LB		1.5				45
52.02.020.2LB		2				45
52.03.008.2LB		0.8				45
52.03.010.2LB		1				45
52.03.012.2LB	R0.15	1.2	0.24	0.28	4	45
52.03.015.2LB		1.5				45
52.03.020.2LB		2				45
52.03.025.2LB		2.5				45
52.03.030.2LB		3				45
52.04.010.2LB		1				45
52.04.015.2LB		1.5				45
52.04.020.2LB		2				45
52.04.025.2LB	R0.2	2.5	0.32	0.37	4	45
52.04.030.2LB		3				45
52.04.040.2LB		4				45
52.04.050.2LB		5				45
52.04.060.2LB		6				45



2刃深沟球刀 2 Flute Deep Groove Ball Nose End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R < 1	±0.005
R ≥ 1	±0.01

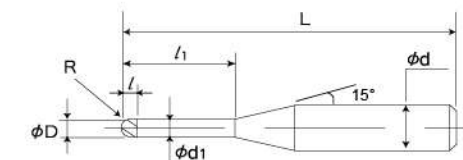
涂层种类 Coating	仿形铣 Kellerling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAl		2	30°	HRC≤52

被切削材料 Cutting Materials 非常适合 Very Suitable 适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy

订货号 Code No.	球头半径 (R) Nose Radius	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.05.015.2LB	R0.25	1.5	0.4	0.46	4	45
52.05.020.2LB		2				45
52.05.030.2LB		3				45
52.05.040.2LB		4				45
52.05.060.2LB		6				45
52.05.080.2LB	R0.3	8	0.48	0.56	4	50
52.05.100.2LB		10				50
52.06.015.2LB		1.5				45
52.06.020.2LB		2				45
52.06.040.2LB		4				45
52.06.060.2LB	R0.4	6	0.64	0.76	4	45
52.06.080.2LB		8				50
52.06.100.2LB		10				50
52.08.020.2LB		2				50
52.08.030.2LB		3				50
52.08.040.2LB	R0.5	4	0.8	0.95	4	50
52.08.060.2LB		6				50
52.08.080.2LB		8				50
52.08.100.2LB		10				50
52.08.120.2LB		12				50
52.10.040.2LB	R0.5	4	0.8	0.95	4	50
52.10.060.2LB		6				50
52.10.080.2LB		8				50
52.10.100.2LB		10				50
52.10.120.2LB		12				50
52.10.150.2LB		15				50

2刃深沟球刀 2 Flute Deep Groove Ball Nose End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R < 1	±0.005
R ≥ 1	±0.01

涂层种类 Coating	仿形铣 Kellerling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAl		2	30°	HRC≤52

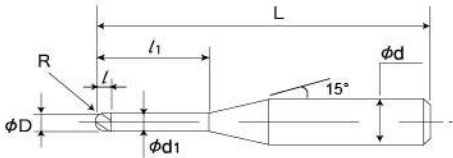
被切削材料 Cutting Materials 非常适合 Very Suitable 适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy

订货号 Code No.	球头半径 (R) Nose Radius	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.15.060.2LB	R0.75	6	1.2	1.45	4	50
52.15.080.2LB		8				50
52.15.100.2LB		10				50
52.15.120.2LB		12				50
52.15.150.2LB		15				50
52.15.200.2LB	R1	20	1.6	1.94	4	60
52.15.250.2LB		25				75
52.15.300.2LB		30				75
52.20.080.2LB		8				50
52.20.100.2LB		10				50
52.20.120.2LB	R1.25	12	2	2.4	6	50
52.20.160.2LB		16				50
52.20.200.2LB		20				60
52.20.250.2LB		25				75
52.20.300.2LB		30				75
52.20.350.2LB	R1.25	35	2	2.4	6	75
52.20.400.2LB		40				75
52.25.080.2LB		8				50
52.25.100.2LB		10				50
52.25.150.2LB		15				50
52.25.200.2LB	R1.25	20	2	2.4	6	60
52.25.250.2LB		25				75
52.25.300.2LB		30				75
52.25.350.2LB		35				75
52.25.400.2LB		40				75
52.25.450.2LB		45				100



2刃深沟球刀 2 Flute Deep Groove Ball Nose End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3<D<20	0,-0.02
R<1	±0.005
R≥1	±0.01

涂层 种类 Coating	仿形铣 Kellering	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
CrAl		2	30°	HRC≤52

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤52hrc ○ >52hrc	○	○	○	○	○	○	○

订货号 Code No.	球头半径 (R) Nose Radius	避空长 (L) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
52.30.100.2LB	R1.5	10	2.4	2.85	6	50
52.30.150.2LB		15				50
52.30.200.2LB		20				60
52.30.250.2LB		25				75
52.30.300.2LB		30				75
52.30.350.2LB		35				75
52.30.400.2LB		40				75
52.30.450.2LB	R2	45	3.2	3.8	6	100
52.40.160.2LB		16				60
52.40.200.2LB		20				60
52.40.250.2LB		25				75
52.40.300.2LB		30				75
52.40.400.2LB		40				75
52.40.500.2LB		50				100
52.40.600.2LB	R2.5	60	4	4.8	6	100
52.50.160.2LB		16				60
52.50.200.2LB		20				60
52.50.250.2LB		25				75
52.50.300.2LB		30				75
52.50.400.2LB		40				75
52.50.500.2LB		50				100
52.50.600.2LB		60				100

切削参数表 Milling Parameters Recommendation

2刃深沟球刀  
2 Flute Deep Groove Ball Nose End Mill

被切削材质 Workpiece Material			淬硬钢 Hardened Steel SKD61 - STAVAX - HPM-38 (~52HRC)				淬硬钢 Hardened Steel SKD11(~62HRC)				工具钢 Tool Steel SKH (~65HRC)			
刃径 Cutter Dia.	有效长 Effective Length	长径比 L/D	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1
0.05	0.2	2	0.003	0.005	120	40,000	0.002	0.005	100	40,000	0.002	0.003	70	40,000
	0.3	3	0.003	0.005	100	40,000	0.002	0.005	70	40,000	0.002	0.003	50	40,000
	0.5	5	0.002	0.003	70	40,000	0.001	0.003	50	40,000	0.001	0.002	30	40,000
0.075	0.3	2	0.003	0.005	180	40,000	0.002	0.005	150	40,000	0.002	0.003	100	40,000
	0.5	3.3	0.003	0.005	150	40,000	0.002	0.005	120	40,000	0.002	0.003	70	40,000
	1	6.7	0.002	0.003	70	40,000	0.001	0.003	50	40,000	0.001	0.002	30	40,000
0.1	0.3	1.5	0.01	0.01	350	40,000	0.006	0.005	300	40,000	0.003	0.003	200	40,000
	0.5	2.5	0.008	0.01	320	40,000	0.005	0.005	280	40,000	0.003	0.003	180	40,000
	0.75	3.8	0.005	0.01	280	40,000	0.003	0.005	200	40,000	0.002	0.003	150	40,000
	1	5	0.003	0.005	250	40,000	0.002	0.003	160	40,000	0.001	0.002	120	40,000
	1.25	6.3	0.003	0.005	180	40,000	0.002	0.003	140	40,000	0.001	0.002	100	40,000
	1.5	7.5	0.003	0.005	150	40,000	0.002	0.003	120	40,000	0.001	0.002	80	40,000
	1.75	8.8	0.002	0.003	120	40,000	0.001	0.002	100	40,000	0.001	0.002	60	40,000
	2	10	0.002	0.003	100	40,000	0.001	0.002	80	40,000	0.001	0.001	50	40,000
	2.5	12.5	0.001	0.002	70	40,000	0.001	0.001	60	40,000	0.001	0.001	40	40,000
	3	15	0.001	0.001	50	40,000	0.001	0.001	40	40,000	0.001	0.001	30	40,000
0.15	0.5	1.7	0.01	0.015	350	40,000	0.007	0.01	300	40,000	0.003	0.005	280	40,000
	0.6	2	0.007	0.01	350	40,000	0.005	0.007	300	40,000	0.003	0.005	250	40,000
	0.75	2.5	0.007	0.01	330	40,000	0.005	0.007	280	40,000	0.003	0.005	230	40,000
	1	3.3	0.007	0.01	320	40,000	0.005	0.007	250	40,000	0.003	0.005	200	40,000
	1.25	4.2	0.005	0.007	280	40,000	0.003	0.005	200	40,000	0.002	0.003	160	40,000
	1.5	5	0.005	0.007	230	40,000	0.003	0.005	180	40,000	0.002	0.003	120	40,000
	1.75	5.8	0.003	0.005	180	40,000	0.002	0.003	150	40,000	0.002	0.002	100	40,000
	2	6.7	0.003	0.005	150	40,000	0.002	0.003	120	40,000	0.002	0.002	90	40,000
	2.25	7.5	0.002	0.003	120	40,000	0.001	0.002	100	40,000	0.001	0.001	80	40,000
	2.5	8.3	0.002	0.003	100	40,000	0.001	0.002	80	40,000	0.001	0.001	70	40,000
0.2	3	10	0.001	0.003	80	40,000	0.001	0.002	70	40,000	0.001	0.001	60	40,000
	3.5	11.7	0.001	0.002	70	40,000	0.001	0.001	60	40,000	0.001	0.001	50	40,000
	4	13.3	0.001	0.002	60	40,000	0.001	0.001	50	40,000	0.001	0.001	40	40,000
	0.5	1.3	0.03	0.05	800	40,000	0.03	0.03	720	40,000	0.009	0.02	580	40,000
	0.8	2	0.02	0.05	800	40,000	0.02	0.03	720	40,000	0.008	0.02	580	40,000
	1	2.5	0.02	0.05	800	40,000	0.02	0.03	720	40,000	0.008	0.02	580	40,000
	1.5	3.8	0.01	0.03	620	40,000	0.01	0.02	500	40,000	0.005	0.01	400	40,000
	2	5	0.01	0.02	500	40,000	0.01	0.01	380	40,000	0.005	0.007	300	40,000
	2.5	6.3	0.007	0.01	420	40,000	0.005	0.007	300	40,000	0.003	0.005	260	40,000
	3	7.5	0.007	0.01	300	40,000	0.005	0.007	240	40,000	0.003	0.005	200	40,000
	3.5	8.8	0.005	0.007	230	40,000	0.003	0.005	160	40,000	0.002	0.003	120	40,000



切削参数表 Milling Parameters Recommendation

2刃深沟球刀  
2 Flute Deep Groove Ball Nose End Mill

被切削材质 Workpiece Material			淬硬钢 Hardened Steel SKD61 - STAVAX - HPM-38 (~52HRC)				淬硬钢 Hardened Steel SKD11(~62HRC)				工具钢 Tool Steel SKH (~65HRC)			
刃径 Cutter Dia.	有效长 Effective Length	长径比 L/D	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1
0.2	4	10	0.005	0.005	160	30,000	0.003	0.003	120	30,000	0.002	0.003	90	30,000
	4.5	11.3	0.003	0.005	100	30,000	0.002	0.003	80	30,000	0.001	0.002	60	30,000
	5	12.5	0.002	0.003	70	30,000	0.001	0.002	50	30,000	0.001	0.002	40	30,000
	6	15	0.001	0.002	50	30,000	0.001	0.001	40	30,000	0.001	0.001	30	30,000
0.25	1	2	0.03	0.05	1,000	40,000	0.02	0.03	860	40,000	0.01	0.02	650	40,000
	1.5	3	0.02	0.05	850	40,000	0.01	0.03	720	40,000	0.007	0.02	520	40,000
	2	4	0.02	0.03	720	40,000	0.01	0.02	650	40,000	0.007	0.01	400	40,000
	2.5	5	0.01	0.02	600	40,000	0.007	0.01	530	40,000	0.005	0.007	360	40,000
	3	6	0.01	0.02	500	40,000	0.007	0.01	420	40,000	0.005	0.007	320	40,000
	3.5	7	0.007	0.01	420	40,000	0.005	0.007	360	40,000	0.003	0.005	280	40,000
	4	8	0.007	0.01	350	40,000	0.005	0.007	300	40,000	0.003	0.005	260	40,000
	4.5	9	0.005	0.005	300	40,000	0.003	0.003	260	40,000	0.002	0.003	220	40,000
	5	10	0.005	0.005	240	33,000	0.003	0.003	200	33,000	0.002	0.003	180	33,000
	5.5	11	0.003	0.005	200	30,000	0.002	0.003	160	30,000	0.001	0.002	120	30,000
	6	12	0.002	0.003	120	30,000	0.001	0.002	80	30,000	0.001	0.002	70	30,000
	8	16	0.002	0.002	75	30,000	0.001	0.002	60	30,000	0.001	0.002	50	30,000
	10	20	0.001	0.002	40	20,000	0.001	0.002	30	20,000	0.001	0.001	20	20,000
	1	1.7	0.05	0.1	1,400	40,000	0.03	0.06	1,000	40,000	0.02	0.05	720	30,000
	1.5	2.5	0.05	0.1	1,400	40,000	0.03	0.06	1,000	40,000	0.02	0.05	720	30,000
	2	3.3	0.05	0.1	1,400	40,000	0.03	0.06	1,000	40,000	0.02	0.05	720	30,000
0.3	2.5	4.2	0.03	0.05	1,200	40,000	0.02	0.04	840	40,000	0.02	0.03	640	30,000
	3	5	0.03	0.05	1,200	40,000	0.02	0.04	840	40,000	0.02	0.03	640	30,000
	3.5	5.8	0.02	0.03	1,000	40,000	0.01	0.03	620	40,000	0.01	0.02	480	30,000
	4	6.7	0.02	0.03	1,000	40,000	0.01	0.03	620	40,000	0.01	0.02	480	30,000
	4.5	7.5	0.02	0.03	900	35,000	0.01	0.02	580	35,000	0.008	0.015	430	30,000
	5	8.3	0.01	0.02	720	30,000	0.007	0.015	500	30,000	0.007	0.01	400	30,000
	5.5	9.2	0.01	0.015	700	30,000	0.007	0.01	450	30,000	0.005	0.008	360	30,000
	6	10	0.007	0.01	500	30,000	0.005	0.007	380	30,000	0.004	0.006	320	30,000
	7	11.7	0.005	0.007	400	25,000	0.003	0.005	300	25,000	0.003	0.003	260	20,000
	8	13.3	0.003	0.005	320	25,000	0.003	0.003	260	25,000	0.002	0.003	220	20,000
	9	15	0.003	0.003	280	25,000	0.003	0.002	220	25,000	0.001	0.002	160	20,000
	10	16.7	0.002	0.003	150	20,000	0.002	0.002	120	20,000	0.001	0.002	100	18,000
	12	20	0.002	0.002	80	20,000	0.002	0.002	60	20,000	0.001	0.002	50	18,000
	2	2.9	0.07	0.1	1,600	40,000	0.05	0.08	1,300	40,000	0.03	0.07	1,000	30,000
	4	5.7	0.04	0.06	1,300	40,000	0.03	0.04	820	40,000	0.015	0.02	600	30,000
	6	8.6	0.01	0.03	800	30,000	0.01	0.015	500	30,000	0.006	0.01	420	25,000
0.35	8	11.4	0.006	0.01	520	25,000	0.005	0.006	380	20,000	0.004	0.006	250	20,000

切削参数表 Milling Parameters Recommendation

2刃深沟球刀  
2 Flute Deep Groove Ball Nose End Mill

被切削材质 Workpiece Material			淬硬钢 Hardened Steel SKD61 - STAVAX - HPM-38 (~52HRC)				淬硬钢 Hardened Steel SKD11(~62HRC)				工具钢 Tool Steel SKH (~65HRC)			
刃径 Cutter Dia.	有效长 Effective Length	长径比 L/D	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1
0.4	2	2.5	0.1	0.15	2,000	40,000	0.07	0.1	1,600	40,000	0.05	0.1	1,200	30,000
	3	3.8	0.1	0.15	2,000	40,000	0.07	0.1	1,600	40,000	0.05	0.05	1,200	30,000
	4	5	0.05	0.1	1,600	40,000	0.05	0.05	1,200	40,000	0.03	0.05	860	30,000
	5	6.3	0.05	0.05	1,600	40,000	0.03	0.05	1,000	40,000	0.02	0.03	620	30,000
	6	7.5	0.03	0.05	1,200	30,000	0.02	0.03	760	30,000	0.01	0.02	560	25,000
	7	8.8	0.02	0.03	1,000	30,000	0.01	0.02	680	30,000	0.007	0.01	520	25,000
	8	10	0.01	0.02	820	30,000	0.007	0.01	600	30,000	0.005	0.01	480	25,000
	10	12.5	0.005	0.005	450	25,000	0.003	0.003	380	25,000	0.002	0.003	320	20,000
	12	15	0.003	0.005	320	20,000	0.002	0.003	260	20,000	0.002	0.002	200	20,000
	2	2.2	0.1	0.2	2,200	40,000	0.08	0.15	1,800	30,000	0.06	0.1	1,300	30,000
0.45	4	4.4	0.05	0.12	1,800	40,000	0.04	0.08	1,400	30,000	0.03	0.05	900	25,000
	6	6.7	0.035	0.05	1,200	30,000	0.025	0.035	800	25,000	0.015	0.025	600	20,000
	8	8.9	0.025	0.04	1,000	30,000	0.015	0.025	700	23,000	0.008	0.015	500	20,000
	2	2	0.1	0.3	2,500	40,000	0.1	0.2	2,000	30,000	0.08	0.1	1,400	25,000
0.5	2.5	2.5	0.1	0.3	2,500	40,000	0.1	0.2	2,000	30,000	0.08	0.1	1,400	25,000
	3	3	0.1	0.3	2,500	40,000	0.1	0.2	2,000	30,000	0.08	0.1	1,400	25,000
	4	4	0.1	0.2	2,500	40,000	0.05	0.15	1,800	30,000	0.05	0.1	1,200	25,000
	5	5	0.05	0.15	2,000	30,000	0.04	0.1	1,600	25,000	0.03	0.05	920	20,000
	6	6	0.05	0.1	1,800	30,000	0.04	0.05	1,200	25,000	0.02	0.05	740	20,000
	7	7	0.04	0.06	1,200	30,000	0.03	0.04	950	25,000	0.02	0.03	680	20,000
	8	8	0.04	0.06	1,000	30,000	0.03	0.04	860	25,000	0.02	0.03	560	20,000
	9	9	0.03	0.05	820	25,000	0.02	0.03	750	20,000	0.01	0.02	500	18,000
	10	10	0.03	0.05	750	25,000	0.02	0.03	620	20,000	0.01	0.02	450	18,000
	12	12	0.01	0.03	600	20,000	0.007	0.02	520	18,000	0.005	0.01	400	16,000
	13	13	0.008	0.02	500	20,000	0.005	0.01	420	18,000	0.003	0.006	350	16,000
	14	14	0.005	0.01	420	20,000	0.003	0.007	360	18,000	0.002	0.005	320	16,000
	16	16	0.005	0.005	300	18,000	0.003	0.005	250	16,000	0.002	0.003	200	14,000
	18	18	0.003	0.005	180	18,000	0.002	0.005	120	16,000	0.002	0.002	85	14,000
	20	20	0.003	0.003	100	16,000	0.002	0.003	75	14,000	0.002	0.002	60	12,000
	22	22	0.002	0.003	50	14,000	0.002	0.002	40	12,000	0.001	0.002	35	10,000
0.6	2.4	2	0.1	0.3	2,500	30,000	0.1	0.2	2,000	30,000	0.05	0.1	1,600	25,000
	4	3.3	0.1	0.2	2,500	30,000	0.07	0.2	2,000	30,000	0.05	0.1	1,600	25,000
	6	5	0.07	0.1	2,000	30,000	0.05	0.1	1,600	25,000	0.03	0.07	1,200	20,000
	8	6.7	0.05	0.1	1,600	30,000	0.03	0.07	1,200	25,000	0.02	0.05	920	20,000
	10	8.3	0.03	0.07	1,200	20,000	0.02	0.05	860	20,000	0.01	0.03	680	18,000
	12	10	0.02	0.05	860	20,000	0.01	0.03	620	20,000	0.007	0.02	480	18,000
	14	11.7	0.02	0.03	600	18,000	0.01	0.02	400	18,000	0.005	0.01	300	16,000



切削参数表 Milling Parameters Recommendation

2刃深沟球刀

2 Flute Deep Groove Ball Nose End Mill

被切削材质 Workpiece Material			淬硬钢 Hardened Steel SKD61 · STAVAX · HPM-38 (~52HRC)				淬硬钢 Hardened Steel SKD11(~62HRC)				工具钢 Tool Steel SKH (~65HRC)			
刃径 Cutter Dia.	有效长 Effective Length	长径比 L/D	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1
0.6	16	13.3	0.01	0.02	350	16,000	0.005	0.01	250	16,000	0.003	0.007	130	14,000
0.7	8	5.7	0.12	0.2	2,500	30,000	0.08	0.15	1,800	20,000	0.03	0.08	1,000	20,000
	12	8.6	0.07	0.12	1,400	20,000	0.04	0.08	1,100	18,000	0.015	0.05	700	18,000
	16	11.4	0.02	0.05	700	17,000	0.01	0.03	600	17,000	0.008	0.02	450	16,000
	3	2	0.15	0.3	3,000	30,000	0.1	0.3	2,500	30,000	0.1	0.2	2,000	25,000
0.75	4	2.7	0.15	0.3	3,000	30,000	0.1	0.3	2,500	30,000	0.1	0.2	2,000	25,000
	6	4	0.15	0.2	3,000	30,000	0.1	0.2	2,000	30,000	0.1	0.1	1,600	25,000
	8	5.3	0.1	0.2	2,500	25,000	0.05	0.2	1,600	25,000	0.05	0.1	1,200	20,000
	10	6.7	0.1	0.1	2,500	25,000	0.05	0.1	1,200	25,000	0.05	0.05	860	20,000
	12	8	0.05	0.1	1,800	20,000	0.03	0.1	920	20,000	0.02	0.05	780	18,000
	14	9.3	0.05	0.07	1,200	20,000	0.03	0.05	820	20,000	0.02	0.03	650	18,000
	16	10.7	0.03	0.05	720	18,000	0.02	0.03	650	18,000	0.01	0.02	580	16,000
	18	12	0.02	0.04	550	16,000	0.012	0.025	400	16,000	0.008	0.015	400	14,000
	20	13.3	0.01	0.03	450	16,000	0.01	0.02	360	16,000	0.007	0.01	300	14,000
	22	14.7	0.01	0.02	330	14,000	0.01	0.01	250	14,000	0.007	0.007	200	12,000
	30	20	0.005	0.005	80	10,000	0.003	0.005	60	10,000	0.003	0.003	40	8,000
	8	5	0.1	0.2	2,500	25,000	0.07	0.15	2,000	20,000	0.05	0.1	1,600	18,000
0.8	12	7.5	0.07	0.1	1,800	20,000	0.05	0.07	1,500	16,000	0.03	0.05	1,200	14,000
	16	10	0.03	0.05	720	16,000	0.02	0.03	600	14,000	0.015	0.02	480	12,000
	20	12.5	0.01	0.03	500	14,000	0.01	0.02	380	12,000	0.01	0.01	300	10,000
	3	1.5	0.2	0.5	3,000	25,000	0.2	0.5	2,500	25,000	0.15	0.3	2,000	20,000
1	4	2	0.2	0.5	3,000	25,000	0.2	0.5	2,500	25,000	0.15	0.3	2,000	20,000
	6	3	0.2	0.5	2,500	25,000	0.2	0.3	2,000	25,000	0.15	0.3	1,600	20,000
	8	4	0.2	0.3	2,000	20,000	0.1	0.2	1,600	18,000	0.1	0.2	1,200	16,000
	10	5	0.1	0.3	2,000	18,000	0.1	0.2	1,600	16,000	0.1	0.1	1,200	14,000
	12	6	0.1	0.2	1,600	16,000	0.1	0.1	1,200	14,000	0.05	0.1	940	12,000
	13	6.5	0.08	0.2	1,600	16,000	0.06	0.1	1,200	14,000	0.04	0.08	940	12,000
	14	7	0.07	0.15	1,600	16,000	0.05	0.08	1,200	14,000	0.03	0.07	940	12,000
	16	8	0.07	0.15	1,600	16,000	0.05	0.08	1,200	14,000	0.03	0.07	940	12,000
	18	9	0.05	0.1	1,400	14,000	0.03	0.05	1,000	12,000	0.02	0.03	850	10,000
	20	10	0.05	0.1	1,000	14,000	0.03	0.05	820	12,000	0.02	0.03	720	10,000
	22	11	0.03	0.08	850	14,000	0.02	0.06	700	12,000	0.02	0.02	600	10,000
	25	12.5	0.03	0.05	680	12,000	0.02	0.03	560	10,000	0.01	0.02	420	8,500
1.25	30	15	0.02	0.03	360	12,000	0.01	0.02	300	10,000	0.008	0.01	240	8,500
	35	17.5	0.01	0.02	150	10,000	0.007	0.01	120	8,000	0.005	0.007	100	6,800
	40	20	0.005	0.01	100	10,000	0.003	0.005	80	8,000	0.002	0.003	50	6,800
	6	2.4	0.3	0.4	2,800	20,000	0.2	0.5	2,300	20,000	0.15	0.4	2,000	18,000

切削参数表 Milling Parameters Recommendation

2刃深沟球刀

2 Flute Deep Groove Ball Nose End Mill

被切削材质 Workpiece Material			淬硬钢 Hardened Steel SKD61 · STAVAX · HPM-38 (~52HRC)				淬硬钢 Hardened Steel SKD11(~62HRC)				工具钢 Tool Steel SKH (~65HRC)			
刃径 Cutter Dia.	有效长 Effective Length	长径比 L/D	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1
1.25	8	3.2	0.25	0.3	2,600	20,000	0.15	0.3	2,100	20,000	0.12	0.25	1,800	18,000
	10	4	0.2	0.3	2,500	20,000	0.15	0.2	2,000	20,000	0.1	0.15	1,600	18,000
	15	6	0.1	0.2	2,000	18,000	0.07	0.15	1,600	16,000	0.05	0.1	1,200	14,000
	20	8	0.07	0.15	1,500	16,000	0.05	0.1	1,200	14,000	0.03	0.05	1,000	10,000
	25	10	0.05	0.1	1,000	14,000	0.03	0.07	850	12,000	0.02	0.03	720	8,000
	30	12	0.03	0.07	720	12,000	0.02	0.05	640	10,000	0.01	0.02	580	7,000
	35	14	0.02	0.03	450	10,000	0.01	0.02	400	8,500	0.007	0.01	320	6,200
	6	2	0.2	0.8	3,000	20,000	0.2	0.6	2,500	18,000	0.2	0.5	2,000	14,000
1.5	8	2.7	0.2	0.8	3,000	20,000	0.2	0.6	2,500	18,000	0.2	0.5	2,000	14,000
	10	3.3	0.2	0.6	2,500	20,000	0.2	0.4	2,000	18,000	0.1	0.3	1,500	14,000
	12	4	0.2	0.6	2,500	20,000	0.2	0.4	2,000	18,000	0.1	0.3	1,500	14,000
	14	4.7	0.1	0.4	2,000	18,000	0.1	0.3	1,600	16,000	0.1	0.2	1,200	12,000
	16	5.3	0.1	0.4	2,000	18,000	0.1	0.3	1,600	16,000	0.1	0.2	1,200	12,000
	20	6.7	0.1	0.3	1,600	18,000	0.1	0.2	1,200	16,000	0.1	0.1	960	12,000
	25	8.3	0.1	0.2	1,200	16,000	0.07	0.15	920	14,000	0.05	0.07	800	10,000
	30	10	0.07	0.1	750	14,000	0.05	0.07	640	12,000	0.03	0.05	600	8,600
	35	11.7	0.05	0.1	620	12,000	0.03	0.07	500	10,000	0.02	0.05	420	7,200
	40	13.3	0.03	0.07	450	10,000	0.02	0.05	320	8,200	0.01	0.03	260	6,400
	15	4.3	0.25	1	3,000	20,000	0.15	0.5	2,300	16,000	0.13	0.4	1,500	14,000
	20	5.7	0.18	0.6	2,500	18,000	0.1	0.3	1,800	15,000	0.1	0.2	1,200	12,000
1.75	25	7.1	0.12	0.35	1,800	16,000	0.1	0.2	1,600	14,000	0.06	0.12	1,000	10,000
	30	8.6	0.1	0.25	1,500	14,000	0.07	0.15	950	11,000	0.05	0.08	800	9,000
	35	10	0.08	0.2	1,200	13,000	0.07	0.12	800	10,000	0.03	0.06	650	7,500
	40	11.4	0.07	0.1	800	11,000	0.04	0.07	720	9,000	0.02	0.05	450	7,000
	45	12.9	0.06	0.07	700	10,000	0.035	0.05	600	7,500	0.015	0.03	320	6,000
	8	2	0.3	1.5	3,000	20,000	0.2	0.8	2,500	16,000	0.2	0.6	2,000	12,000
2	10	2.5	0.3	1.5	3,000	20,000	0.2	0.8	2,500	16,000	0.2	0.6	2,000	12,000
	12	3	0.3	1.5	3,000	20,000	0.2	0.8	2,500	16,000	0.2	0.6	2,000	12,000
	14	3.5	0.3	1.5	3,000	20,000	0.2	0.8	2,000	16,000	0.2	0.6	1,600	12,000
	15	3.8	0.3	1.5	3,000	20,000	0.2	0.8	2,000	16,000	0.2	0.6	1,600	12,000
	20	5	0.2	1	2,400	16,000	0.1	0.6	1,800	14,000	0.1	0.4	1,400	10,000
	25	6.3	0.2	0.8	1,600	16,000	0.1	0.4	1,200	14,000	0.1	0.2	1,000	10,000
	30	17.5	0.1	0.3	1,600	14,000	0.07	0.2	1,200	10,000	0.05	0.15	1,000	8,200
	35	8.8	0.1	0.2	1,200	14,000	0.07	0.15	1,000	10,000	0.05	0.1	820	8,200
	40	10	0.07	0.15	1,200	12,000	0.05	0.1	1,000	8,600	0.03	0.07	820	6,800
	45	11.3	0.07	0.1	750	12,000	0.05	0.07	620	8,600	0.03	0.05	500	6,800
	50	12.5	0.05	0.08	550	10,000	0.03	0.05	500	7,500	0.02	0.03	420	5,500



切削参数表 Milling Parameters Recommendation

2刃深沟球刀  
2 Flute Deep Groove Ball Nose End Mill

被切削材质 Workpiece Material			淬硬钢 Hardened Steel SKD61 - STAVAX - HPM-38 (~52HRC)				淬硬钢 Hardened Steel SKD11(~62HRC)				工具钢 Tool Steel SKH (~65HRC)			
刀径 Cutter Dia.	有效长 Effective Length	长径比 L/D	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1
2.5	10	2	0.3	1.5	3,000	18,000	0.2	1.2	2,500	12,000	0.2	0.7	2,000	9,200
	15	3	0.3	1.5	3,000	18,000	0.2	1.2	2,500	12,000	0.2	0.7	2,000	9,200
	20	4	0.3	1.2	3,000	15,000	0.2	1	2,000	10,000	0.15	0.5	1,600	8,000
	25	5	0.2	1	2,500	15,000	0.15	0.8	1,800	8,600	0.1	0.3	1,200	7,200
	30	6	0.2	0.8	2,000	12,000	0.15	0.5	1,500	7,600	0.1	0.2	860	6,400
	40	8	0.1	0.2	1,200	10,000	0.07	0.15	1,000	6,800	0.05	0.1	650	5,500
3	10	1.7	0.3	2	3,000	16,000	0.3	1.2	2,500	8,000	0.2	1	2,000	7,000
	15	2.5	0.3	2	3,000	16,000	0.3	1.2	2,500	8,000	0.2	1	2,000	7,000
	20	3.3	0.3	2	3,000	16,000	0.3	1.2	2,500	8,000	0.2	1	2,000	7,000
	25	4.2	0.3	1.5	3,000	16,000	0.2	1	2,000	8,000	0.15	0.7	1,500	7,000
	30	5	0.2	1.5	3,000	14,000	0.2	1	2,000	7,200	0.15	0.7	1,500	6,500
	35	5.8	0.2	1.2	2,400	13,000	0.17	0.8	1,600	6,800	0.12	0.5	1,200	5,800
	40	6.7	0.2	1	1,800	12,000	0.15	0.6	1,200	6,400	0.1	0.4	1,000	5,200
	50	8.3	0.1	0.6	1,200	8,200	0.1	0.3	860	4,800	0.05	0.2	620	4,000
	60	10	0.07	0.3	600	6,000	0.05	0.15	450	3,200	0.03	0.07	300	2,500

※ 切入量的ap表示轴方向的切入深度，ae表示位图。推荐油雾冷却剂。

※ 旋转数和进给速度请按相同比例调整。

※ 根据切入量和机械刚度的不同，条件可能会有所不同。请随时调整。

※ 工具突出量请不要超过必要量。

※ Depth of Cut: ap=Axial Depth of Cut / ae=Radial Depth of Cut.

※ We recommend using oil mist coolant.

※ Adjust both spindle speed and feed at the same rate.

※ Adjust milling conditions according to the volume of depth of cut and rigidity of machine.

※ Length of tool overhang must be as short as possible.

65° 整体硬质合金铣刀  
65° SOLID CARBIDE END MILLS

2刃段差平刀 2 Flute Segment Square End Mill	P80
2刃直柄/2刃段差平刀切削参数 Milling Parameters of 2 Flute Straight Shank End Mill & 2 Flute Segment Square End Mill	P81-83
2刃深沟平刀 2 Flute Deep Groove Square End Mill	P84-85
2刃深沟平刀切削参数 Milling Parameters of 2 Flute Deep Groove Square End Mill	P86-87
4刃段差平刀 4 Flute Segment Square End Mill	P88
4刃直柄平刀 4 Flute Straight Shank Square End Mill	P89
4刃直柄/段差平刀切削参数 Milling Parameters of 4 Flute Straight Shank End Mill & 4 Flute Segment Square End Mill	P90-91
4刃深沟平刀 4 Flute Deep Groove Square End Mill	P92-93
4刃深沟平刀切削参数 Milling Parameters of 4 Flute Deep Groove Square End Mill	P94-95
6刃直柄平刀 6 Flute Straight Shank Square End Mill	P96
6刃直柄平刀切削参数 Milling Parameters of 6 Flute Straight Shank End Mill	P97
2刃小径2倍刃圆鼻刀 2 Flute Micro Corner Radius End Mill	P98
4刃段差圆鼻刀 4 Flute Segment Corner Radius End Mill	P99
2刃/4刃段差圆鼻刀切削参数 Milling Parameters of 2 Flute /4 Flute Segment Corner Radius End Mill	P100
4刃直柄圆鼻刀 4 Flute Straight Shank Corner Radius End Mill	P100-103
4刃直柄圆鼻刀切削参数 Milling Parameters of 4 Flute Straight Shank Corner Radius End Mill	P104
2刃深沟圆鼻刀 2 Flute Deep Groove Corner Radius End Mill	P105-106
2刃深沟圆鼻刀切削参数 Milling Parameter of 2 Flute Deep Groove Corner Radius End Mill	P107-108
4刃深沟圆鼻刀 4 Flute Deep Groove Corner Radius End Mill	P109-117
4刃深沟圆鼻刀切削参数 Milling Parameter of 4 Flute Deep Groove Corner Radius End Mill	P118-119
6刃直柄圆鼻刀 6 Flute Straight Shank Corner Radius End Mill	P120-121
6刃直柄圆鼻刀切削参数 Milling Parameters of 6 Flute Straight Shank Corner Radius End Mill	P122
2刃段差球刀 2 Flute Segment Ball Nose End Mill	P123
2刃直柄球刀 2 Flute Straight Shank Ball Nose End Mill	P124
2刃段差和直柄球刀切削参数 Milling Parameters of 2 Flute Segment/ Straight Shank Ball Nose End Mill	P125
2刃深沟球刀 2 Flute Deep Groove Ball Nose End Mill	P126-129
2刃深沟球刀切削参数 Milling Parameters of 2 Flute Deep Groove Ball Nose End Mill	P130-134

卓越的性能，超高的性价比！  
Top Performance, Competitive Price!



2刃段差平刀 2 Flute Segment Square End Mill



公差: d=h5 D≤3 3 < D < 20	Tolerance 0,-0.015 0,-0.02
TiSi	

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
TiSi	○	○	○	2	30°	HRC≤65

被切削材料 Cutting Materials ○ 非常适合 Very Suitable ○ 适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	≤55hrc ○ >55hrc ○	○	○	○				○

订货号 Code No.	刃径 (D) Cutter Dia.	刃长 (l) Length of Cut	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.0005.0010.2F	0.05	0.1	4	45
65.0006.0012.2F	0.06	0.12	4	45
65.0007.0014.2F	0.07	0.14	4	45
65.0008.0016.2F	0.08	0.16	4	45
65.0009.0018.2F	0.09	0.18	4	45
65.0010.0020.2F	0.1	0.2	4	45
65.0015.0030.2F	0.15	0.3	4	45
65.0020.0040.2F	0.2	0.4	4	45
65.0025.0050.2F	0.25	0.5	4	45
65.0030.0060.2F	0.3	0.6	4	45
65.0035.0070.2F	0.35	0.7	4	45
65.0040.0080.2F	0.4	0.8	4	45
65.0045.0090.2F	0.45	0.9	4	45
65.0050.0100.2F	0.5	1	4	45
65.0055.0110.2F	0.55	1.1	4	45
65.0060.0120.2F	0.6	1.2	4	45
65.0065.0130.2F	0.65	1.3	4	45
65.0070.0140.2F	0.7	1.4	4	45
65.0075.0150.2F	0.75	1.5	4	45
65.0080.0160.2F	0.8	1.6	4	45
65.0085.0170.2F	0.85	1.7	4	45
65.0090.0180.2F	0.9	1.8	4	45
65.0095.0190.2F	0.95	1.9	4	45

切削参数表 Milling Parameters Recommendation

2刃段差平刀/2刃直柄平刀  
2 Flute Segment Square End Mill / 2 Flute Straight Shank Square End Mill

被切削材质 Workpiece Material	碳素钢 Carbon Steel S50C							合金钢 Alloy Steel SCM • SKD • SUS						
	Vc m/min	n min-1	F mm/min	F mm/min	Ae mm	Ap mm		Vc m/min	n min-1	F mm/min	F mm/min	Ae mm	Ap mm	
			侧铣 Side Milling	开槽 Slotting	侧铣 Side Milling	侧铣 Side Milling	开槽 Slotting			侧铣 Side Milling	侧铣 Side Milling	开槽 Slotting		
0.1	50-80	50000		25	0.005		0.005	50-70	50000		15	0.005		0.005
0.2	50-80	50000		40	0.01		0.01	50-70	50000		25	0.01		0.01
0.3	50-80	50000	100	50	0.015	0.6	0.015	50-70	50000	90	35	0.015	0.6	0.015
0.4	50-80	50000	150	75	0.02	0.8	0.02	50-70	47700	130	50	0.02	0.8	0.02
0.5	50-80	41401	170	85	0.025	1	0.075	50-70	38200	130	50	0.025	1	0.025
0.6	50-80	34501	170	85	0.03	1.2	0.09	50-70	31847	130	50	0.03	1.2	0.03
0.7	50-80	29572	180	90	0.035	1.4	0.105	50-70	27298	140	50	0.035	1.4	0.035
0.8	50-80	25876	180	90	0.04	1.6	0.12	50-70	23885	140	50	0.04	1.6	0.04
0.9	50-80	23001	200	95	0.045	1.8	0.135	50-70	21231	145	50	0.045	1.8	0.045
1	50-80	20701	210	100	0.07	2	0.15	50-70	19108	150	55	0.05	2	0.05
1.5	50-80	13800	210	100	0.105	3	0.75	50-70	12739	150	55	0.075	3	0.075
2	50-80	10350	210	100	0.14	4	1	50-70	9554	170	60	0.1	4	0.1
2.5	50-80	8280	250	120	0.175	5	1.25	50-70	7643	180	65	0.125	5	0.125
3	50-80	6900	280	140	0.45	6	1.5	50-70	6369	190	70	0.15	6	0.15
4	50-80	5175	300	160	0.6	8	3	50-70	4777	190	70	0.2	8	0.2
5	50-80	4140	330	160	0.75	10	3.75	50-70	3822	230	75	0.25	10	0.25
6	50-80	3450	340	170	0.9	12	4.5	50-70	3185	260	85	0.3	12	0.3
8	50-80	2588	320	160	1.2	16	6	50-70	2389	240	75	0.4	16	0.4
10	50-80	2070	300	150	1.5	20	7.5	50-70	1911	230	75	0.5	20	0.5
12	50-80	1725	270	140	1.8	24	9	50-70	1592	220	70	0.6	24	0.6



切削参数表 Milling Parameters Recommendation

2刃段差平刀/2刃直柄平刀  
2 Flute Segment Square End Mill / 2 Flute Straight Shank Square End Mill

被切削材质 Workpiece Material	调质钢 Quenched&Tempered Steel HPM • NAK							淬火钢 Hardened Steel SKD61 (~52HRC)						
刃径 Cutter Dia.	Vc m/min	n min-1	F mm/min	F mm/min	Ae mm	Ap mm		Vc m/min	n min-1	F mm/min	F mm/min	Ae mm	Ap mm	
			侧铣 Side Milling	开槽 Slotting	侧铣 Side Milling	侧铣 Side Milling	开槽 Slotting			侧铣 Side Milling	侧铣 Side Milling	开槽 Slotting		
0.1	40-60	50000		20	0.005		0.005	20-40	50000		15	0.002		0.005
0.2	40-60	50000		30	0.01		0.01	20-40	47700		20	0.004		0.01
0.3	40-60	50000	85	40	0.015	0.6	0.015	20-40	31847		20	0.006		0.015
0.4	40-60	47700	110	55	0.02	0.8	0.02	20-40	23885	50	25	0.008	0.8	0.02
0.5	40-60	38200	110	55	0.025	1	0.025	20-40	19108	60	30	0.01	1	0.075
0.6	40-60	212314	110	55	0.03	1.2	0.03	20-40	15924	60	30	0.012	1.2	0.09
0.7	40-60	181984	120	55	0.035	1.4	0.035	20-40	13649	65	35	0.014	1.4	0.105
0.8	40-60	159236	120	55	0.04	1.6	0.04	20-40	11943	65	35	0.016	1.6	0.12
0.9	40-60	141543	125	55	0.045	1.8	0.045	20-40	10616	70	35	0.018	1.8	0.135
1	40-60	127389	130	65	0.05	2	0.05	20-40	9554	75	40	0.02	2	0.15
1.5	40-60	25478	130	65	0.075	3	0.075	20-40	6369	75	40	0.03	3	0.225
2	40-60	19108	150	75	0.1	4	0.1	20-40	4777	75	40	0.04	4	0.3
2.5	40-60	15287	160	80	0.125	5	0.125	20-40	3822	75	40	0.05	5	0.375
3	40-60	12739	170	85	0.15	6	0.15	20-40	3185	80	40	0.06	6	0.45
4	40-60	6369	170	85	0.2	8	0.2	20-40	2389	95	50	0.08	8	0.6
5	40-60	5096	210	110	0.25	10	0.25	20-40	1911	95	50	0.1	10	0.75
6	40-60	4246	240	120	0.3	12	0.3	20-40	1592	100	50	0.12	12	0.9
8	40-60	3185	220	110	0.4	16	0.4	20-40	1194	100	50	0.16	16	1.2
10	40-60	2548	210	100	0.5	20	0.5	20-40	955	100	50	0.2	20	1.5
12	40-60	2123	200	100	0.6	24	0.6	20-40	796	100	50	0.24	24	1.8

切削参数表 Milling Parameters Recommendation

2刃段差平刀/2刃直柄平刀  
2 Flute Segment Square End Mill / 2 Flute Straight Shank Square End Mill

被切削材质 Workpiece Material	铜 Copper						
	Vc m/min	n min-1	F mm/min		Ae mm	Ap mm	
			侧铣 Side Milling	开槽 Slotting		侧铣 Side Milling	开槽 Slotting
0.1	60-80	50000	60	25	0.02	0.2	0.01
0.2	60-80	50000	90	35	0.04	0.4	0.02
0.3	60-80	50000	150	60	0.06	0.6	0.03
0.4	60-80	50000	200	80	0.08	0.8	0.04
0.5	60-80	44586	220	90	0.1	1	0.2
0.6	60-80	37155	230	95	0.12	1.2	0.24
0.7	60-80	31847	240	95	0.14	1.4	0.28
0.8	60-80	27866	250	95	0.16	1.6	0.32
0.9	60-80	24770	260	95	0.18	1.8	0.36
1	60-80	22293	270	100	0.2	2	0.4
1.5	60-80	14862	300	120	0.3	3	1.125
2	60-80	11146	330	120	0.4	4	1.5
2.5	60-80	8917	360	120	0.5	5	1.875
3	60-80	7431	370	130	0.6	6	2.25
4	60-80	5573	390	130	0.8	8	3
5	60-80	4459	410	130	1	10	3.75
6	60-80	3715	410	130	1.2	12	4.5
8	60-80	2787	360	120	1.6	16	6
10	60-80	2229	330	110	2	20	7.5
12	60-80	1858	320	110	2.4	24	9



2刃深沟平刀 2 Flute Deep Groove Square End Mill



公差: d=h5 D≤3 3 < D < 20	Tolerance 0,-0.015 0,-0.02	涂层 种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
		TiSi	○	○	○	2	30°	HRC≤65

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤55hrc ○ >55hrc	○	○					○

订货号 Code No.	刃径 (D) Cutter Dia.	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.01.003.2F	0.1	0.3	0.08	0.085	4	45
65.01.004.2F		0.4				45
65.01.005.2F		0.5				45
65.01.006.2F		0.6				45
65.01.008.2F		0.8				45
65.01.010.2F	0.2	1	0.16	0.18	4	45
65.02.006.2F		0.6				45
65.02.008.2F		0.8				45
65.02.010.2F		1				45
65.02.012.2F		1.2				45
65.02.015.2F	0.3	1.5	0.24	0.28	4	45
65.02.020.2F		2				45
65.03.008.2F		0.8				45
65.03.010.2F		1				45
65.03.012.2F		1.2				45
65.03.015.2F	0.4	1.5	0.32	0.37	4	45
65.03.020.2F		2				45
65.03.025.2F		2.5				45
65.03.030.2F		3				45
65.04.010.2F		1				45
65.04.015.2F	0.4	1.5	0.32	0.37	4	45
65.04.020.2F		2				45
65.04.025.2F		2.5				45
65.04.030.2F		3				45

2刃深沟平刀 2 Flute Deep Groove Square End Mill



公差: d=h5 D≤3 3 < D < 20	Tolerance 0,-0.015 0,-0.02	涂层 种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
		TiSi	○	○	○	2	30°	HRC≤65

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤55hrc ○ >55hrc	○	○					○

订货号 Code No.	刃径 (D) Cutter Dia.	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.04.040.2F	0.4	4	0.32	0.37	4	45
65.04.050.2F		5				45
65.04.060.2F		6				45
65.05.015.2F	0.5	1.5	0.4	0.46	4	45
65.05.020.2F		2				45
65.05.030.2F		3				45
65.05.040.2F		4				45
65.05.060.2F		6				45
65.05.080.2F	0.6	8	0.48	0.56	4	45
65.05.100.2F		10				50
65.06.015.2F		1.5				45
65.06.020.2F		2				45
65.06.030.2F		3				45
65.06.040.2F	0.8	4	0.64	0.76	4	45
65.06.060.2F		6				45
65.06.080.2F		8				45
65.06.100.2F		10				50
65.08.020.2F		2				45
65.08.030.2F	0.8	3	0.64	0.76	4	45
65.08.040.2F		4				45
65.08.060.2F		6				45
65.08.080.2F		8				45
65.08.100.2F		10				50
65.08.120.2F	0.8	12				50



切削参数表 Milling Parameters Recommendation

2刃深沟平刀

2 Flute Deep Groove Square End Mill

被切削材质 Workpiece Material		碳素钢·调质钢 Carbon Steels · Quenched&Tempered Steel S50C · NAK55 · NAK80 · HPM-1 (~43HRC)				淬硬钢 Hardened Steel HPM-38 · STAVAX · SKD61 (~55HRC)				淬硬钢 Hardened Steel SKD11 · PD613 (~62HRC)				工具钢 Tool Steel SKH (~65HRC)			
刀径 Cutter Dia.	有效长 Effective Length	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm
0.1	0.3	40000	150	0.005	0.06	40000	120	0.003	0.05	40000	100	0.002	0.04	40000	70	0.002	0.03
	0.5	40000	100	0.005	0.06	40000	80	0.003	0.05	40000	60	0.002	0.04	40000	50	0.002	0.03
	0.75	40000	80	0.003	0.06	40000	70	0.002	0.05	40000	50	0.001	0.04	40000	30	0.001	0.03
	1	40000	60	0.002	0.06	40000	50	0.001	0.05	40000	40	0.001	0.04	40000	20	0.001	0.03
0.15	0.3	40000	180	0.005	0	40000	150	0.003	0	40000	120	0.002	0	40000	100	0.002	0.04
	0.5	40000	150	0.005	0	40000	120	0.003	0	40000	100	0.002	0	40000	80	0.002	0.04
	0.75	40000	120	0.003	0	40000	100	0.002	0	40000	80	0.001	0	40000	60	0.001	0.04
	1	40000	100	0.002	0	40000	80	0.001	0	40000	60	0.001	0	40000	40	0.001	0.04
0.2	0.5	30000	240	0.005	0.12	30000	200	0.003	0.1	30000	160	0.003	0.08	30000	120	0.003	0.06
	0.75	30000	200	0.005	0.12	30000	180	0.003	0.1	30000	140	0.003	0.08	30000	100	0.003	0.06
	1	30000	180	0.005	0.12	30000	150	0.003	0.1	30000	120	0.003	0.08	30000	80	0.003	0.06
	1.5	30000	120	0.003	0.12	30000	100	0.002	0.1	30000	80	0.002	0.08	30000	60	0.002	0.06
0.3	2	30000	80	0.003	0.12	30000	50	0.002	0.1	30000	40	0.002	0.08	30000	30	0.002	0.06
	2.5	30000	60	0.002	0.12	30000	50	0.001	0.1	25000	40	0.001	0.08	25000	30	0.001	0.06
	3	30000	40	0.002	0.12	25000	40	0.001	0.1	25000	30	0.001	0.08	22000	20	0.001	0.06
	1	30000	350	0.007	0.18	30000	300	0.003	0.15	30000	250	0.003	0.12	30000	200	0.003	0.09
0.4	1.5	30000	260	0.007	0.18	30000	200	0.003	0.15	30000	160	0.003	0.12	30000	120	0.003	0.09
	2	30000	180	0.005	0.18	30000	150	0.003	0.15	30000	120	0.003	0.12	25000	100	0.003	0.09
	2.5	30000	150	0.004	0.18	25000	100	0.002	0.15	25000	80	0.002	0.12	20000	60	0.002	0.09
	3	30000	70	0.004	0.18	25000	50	0.002	0.15	25000	40	0.002	0.12	20000	30	0.002	0.09
0.5	1	30000	450	0.01	0.24	30000	400	0.005	0.2	30000	350	0.005	0.16	25000	300	0.005	0.12
	1.5	30000	400	0.01	0.24	30000	360	0.005	0.2	30000	330	0.005	0.16	25000	250	0.005	0.12
	2	30000	360	0.01	0.24	30000	320	0.005	0.2	25000	280	0.005	0.16	25000	220	0.005	0.12
	2.5	30000	340	0.008	0.24	25000	280	0.005	0.2	25000	250	0.004	0.16	20000	200	0.004	0.12
0.6	3	30000	320	0.008	0.24	25000	260	0.004	0.2	20000	220	0.003	0.16	18000	180	0.003	0.12
	3.5	30000	280	0.007	0.24	25000	220	0.004	0.2	20000	180	0.003	0.16	18000	150	0.002	0.12
	4	30000	250	0.006	0.24	25000	200	0.003	0.2	20000	160	0.002	0.16	18000	120	0.002	0.12
	5	25000	250	0.005	0.24	22000	180	0.003	0.2	20000	150	0.002	0.16	18000	90	0.002	0.12
0.7	6	25000	200	0.004	0.24	22000	150	0.002	0.2	18000	130	0.002	0.16	16000	70	0.001	0.12
	8	20000	150	0.002	0.24	16000	120	0.001	0.2	14000	90	0.001	0.16	12000	40	0.001	0.12
	10	16000	100	0.002	0.24	13000	80	0.001	0.2	12000	50	0.001	0.16	10000	20	0.001	0.12
	1	30000	550	0.02	0.3	25000	500	0.01	0.25	23000	450	0.007	0.2	20000	400	0.005	0.15
0.8	1.5	30000	520	0.02	0.3	25000	450	0.01	0.25	23000	400	0.007	0.2	20000	360	0.005	0.15
	2	30000	500	0.02	0.3	25000	420	0.01	0.25	23000	380	0.007	0.2	20000	320	0.005	0.15
	2.5	30000	480	0.015	0.3	25000	400	0.008	0.25	23000	360	0.006	0.2	20000	300	0.004	0.15
	3	30000	420	0.015	0.3	25000	350	0.007	0.25	23000	320	0.005	0.2	20000	280	0.003	0.15
0.9	3.5	25000	400	0.012	0.3	25000	320	0.006	0.25	23000	280	0.003	0.2	20000	240	0.003	0.15
	4	25000	380	0.01	0.3	25000	280	0.005	0.25	23000	240	0.003	0.2	20000	200	0.002	0.15
	4.5	25000	350	0.008	0.3	25000	230	0.004	0.25	20000	200	0.003	0.2	18000	160	0.002	0.15
	5	25000	320	0.007	0.3	20000	200	0.003	0.25	18000	150	0.003	0.2	16000	100	0.002	0.15
1.0	6	25000	300	0.005	0.3	20000	200	0.003	0.25	18000	150	0.002	0.2	16000	100	0.002	0.15
	7	20000	250	0.005	0.3	16000	180	0.003	0.25	14000	140	0.002	0.2	14000	80	0.002	0.15
	8	20000	200	0.005	0.3	16000	160	0.002	0.25	14000	130	0.002	0.2	12000	60	0.001	0.15

切削参数表 Milling Parameters Recommendation

2刃深沟平刀

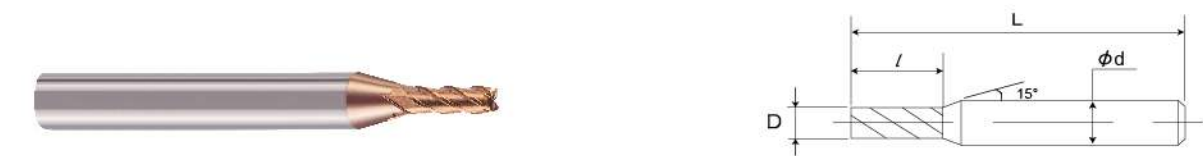
2 Flute Deep Groove Square End Mill

被切削材质 Workpiece Material		碳素钢·调质钢 Carbon Steels · Quenched&Tempered Steel S50C · NAK55 · NAK80 · HPM-1 (~43HRC)				淬硬钢 Hardened Steel HPM-38 · STAVAX · SKD61 (~55HRC)				淬硬钢 Hardened Steel SKD11 · PD613 (~62HRC)				工具钢 Tool Steel SKH (~65HRC)			
刀径 Cutter Dia.	有效长 Effective Length	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm
0.5	9	20000	200	0.003	0.3	16000	150	0.002	0.25	14000	120	0.001	0.2	12000	50	0.001	0.15
	10	16000	170	0.003	0.3	13000	130	0.002	0.25	12000	110	0.001	0.2	10000	40	0.001	0.1
0.6	1.5	30000	650	0.02	0.35	25000	550	0.01	0.3	23000	450	0.007	0.25	20000	400	0.005	0.18
	2	30000	550	0.02	0.35	25000	500	0.01	0.3	23000	400	0.007	0.25	20000	350	0.005	0.18
	3	30000	500	0.015	0.35	25000	450	0.007	0.3	23000	350	0.005	0.25	20000	300	0.003	0.18
	4	25000	450	0.01	0.35	25000	400	0.005	0.3	23000	300	0.003	0.25	20000	250	0.002	0.18
	5	25000	400	0.007	0.35	20000	350	0.003	0.3	18000	250	0.003	0.25	16000	200	0.002	0.18
	6	25000	350	0.001	0.35	20000	300	0.002	0.3	18000	200	0.002	0.25	16000	150	0.001	0.18
0.7	2	30000	750	0.04	0.4	25000	600	0.03	0.35	23000	450	0.02	0.28	20000	400	0.012	0.21
	4	25000	690	0.03	0.4	25000	560	0.02	0.35	23000	400	0.015	0.28	20000	320	0.007	0.21
	6	25000	550	0.02	0.4	20000	410	0.015	0.35	18000	300	0.012	0.28	16000	240	0.007	0.21
	8	20000	430	0.012	0.4	16000	330	0.01	0.35	14000	230	0.007	0.28	12000	180	0.005	0.21
0.8	10	16000	300	0.008	0.4	13000	200	0.005	0.35	12000	180	0.003	0.28	10000	120	0.002	0.21
	3	25000	850	0.04	0.45	25000	780	0.03	0.4	23000	650	0.02	0.32	20000	550	0.012	0.24
	4	25000	800	0.03	0.45	25000	700	0.025	0.4	23000	600	0.015	0.32	20000	500	0.007	0.24
	5	25000	700	0.03	0.45	23000	630	0.02	0.4	20000	530	0.012	0.32	18000	450	0.006	0.24
	6	20000	620	0.025	0.45	20000	550	0.02	0.4	18000	450	0.01	0.32	16000	350	0.005	0.24
	8	16000	500	0.015	0.45	16000	400	0.007	0.4	14000	300	0.005	0.32	12000	200	0.003	0.24
	10	16000	400	0.012	0.45	16000	350	0.007	0.4	12000	180	0.005	0.32	10000	150	0.003	0.24
	12	16000	300	0.007	0.45	13000	220	0.005	0.4	12000	120	0.003	0.32	10000	120	0.002	0.24

※本切削参数是参考值。请通过实际的加工形状及使用机械等



4刃段差平刀 4 Flute Segment Square End Mill



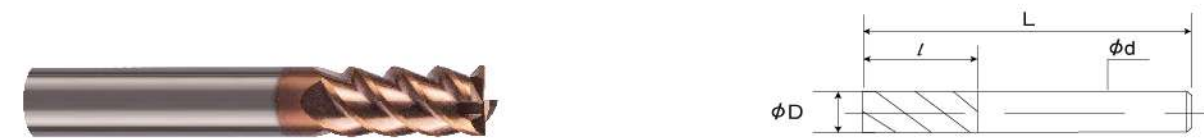
公差: d=h5 Tolerance		涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
D≤3	0,-0.015	TiSi	○	○	○	4	30°	HRC≤65
3 < D < 20	0,-0.02		○	○	○			

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel		不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55hrc	>55hrc							
○	○	○	○	○	○	○	○					○

订货号 Code No.	刃径 (D) Cutter Dia.	刃长 (l) Length of Cut	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.0080.0240.4F	0.8	2.4	4	45
65.0100.0300.4F	1	3	4	50
65.0150.0450.4F	1.5	4.5	4	50
65.0200.0600.4F	2	6	4	50
65.0250.0750.4F	2.5	7.5	4	50
65.0300.0900.4F	3	9	4	50
65.0300.0900.4F-6	3	9	6	50
65.0400.1100.4F-6	4	11	6	50
65.0500.1300.4F-6	5	13	6	60

4刃直柄平刀 4 Flute Straight Shank Square End Mill



公差: d=h5 Tolerance		涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
D≤3		TiSi	○	○	○	4	50°	HRC≤65
3 < D < 20			○	○	○			

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel		不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55hrc	>55hrc							
○	○	○	○	○	○	○	○					○

订货号 Code No.	刃径 (D) Cutter Dia.	刃长 (l) Length of Cut	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.0400.11.050.4F	4	11	4	50
65.0600.13.050.4F	6	13	6	50
65.0600.15.060.4F		15		60
65.0600.15.075.4F		15		75
65.0600.15.100.4F		15		100
65.0800.20.060.4F	8	20	8	60
65.0800.20.075.4F		20		75
65.0800.20.100.4F		20		100
65.1000.25.075.4F		25	10	75
65.1000.30.100.4F	10	25		100
65.1000.30.150.4F		30		150
65.1200.25.075.4F		25		75
65.1200.30.100.4F	12	30	12	100
65.1200.30.150.4F		30		150
65.1600.40.100.4F		40	16	100
65.1600.40.150.4F		40		150



切削参数表 Milling Parameters Recommendation

4刃直柄平刀/4刃段差平刀  
4 Flute Straight Shank End Mill & 4 Flute Segment Square End Mill

被切削材质 Workpiece Material	碳素钢 Carbon Steel S50C					合金钢 Alloy Steel SCM • SKD • SUS				
	Vc m/min	n min-1	F mm/min	Ae mm	Ap mm	Vc m/min	n min-1	F mm/min	Ae mm	Ap mm
			侧铣 Side milling	侧铣 Side milling	侧铣 Side milling			侧铣 Side milling	侧铣 Side milling	侧铣 Side milling
1	45-75	19108	290	0.05	2.5	45-65	17516	210	0.05	2.5
1.5	45-75	12739	290	0.075	3.75	45-65	11677	210	0.075	3.75
2	45-75	9554	290	0.1	5	45-65	8758	240	0.1	5
2.5	45-75	7643	350	0.125	6.25	45-65	7006	260	0.125	6.25
3	45-75	6369	390	0.3	7.5	45-65	5839	260	0.3	7.5
4	45-75	4777	480	0.4	10	45-65	4379	310	0.4	10
5	45-75	3822	510	0.5	12.5	45-65	3503	360	0.5	12.5
6	45-75	3185	540	0.6	15	45-65	2919	390	0.6	15
8	45-75	2389	480	1.2	20	45-65	2189	370	1.2	20
10	45-75	1911	480	1.5	25	45-65	1752	360	1.5	25
12	45-75	1592	440	1.8	30	45-65	1460	360	1.8	30
16	45-75	1194	380	2.4	40	45-65	1095	350	2.4	40
20	45-75	955	380	3	50	45-65	876	350	3	50

切削参数表 Milling Parameters Recommendation

4刃直柄平刀/4刃段差平刀  
4 Flute Straight Shank End Mill & 4 Flute Segment Square End Mill

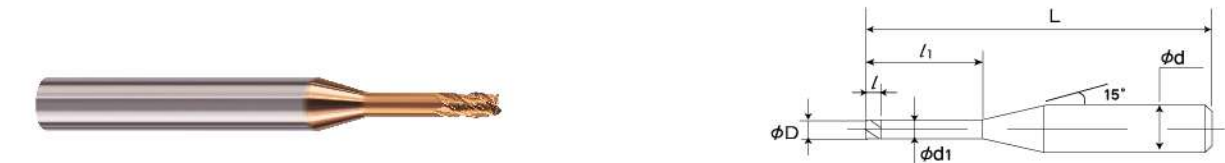
被切削材质 Workpiece Material	调质钢 Quenched&Tempered Steel HPM • NAK					淬火钢 Hardened Steel SKD61 (~52HRC)					铜 Copper				
	Vc m/min	n min-1	F mm/min	Ae mm	Ap mm	Vc m/min	n min-1	F mm/min	Ae mm	Ap mm	Vc m/min	n min-1	F mm/min	Ae mm	Ap mm
			侧铣 Side milling	侧铣 Side milling	侧铣 Side milling			侧铣 Side milling	侧铣 Side milling	侧铣 Side milling			侧铣 Side milling	侧铣 Side milling	侧铣 Side milling
1	35-55	14331	170	0.05	2.5	15-35	7962	100	0.02	2.5	55-75	20701	380	0.2	2.5
1.5	35-55	9554	170	0.075	3.75	15-35	5308	100	0.03	3.75	55-75	13800	420	0.3	3.75
2	35-55	7166	210	0.1	5	15-35	3981	100	0.04	5	55-75	10350	470	0.4	5
2.5	35-55	5732	210	0.125	6.25	15-35	3185	110	0.05	6.25	55-75	8280	500	0.5	6.25
3	35-55	4777	210	0.3	7.5	15-35	2654	110	0.06	7.5	55-75	6900	530	0.6	7.5
4	35-55	3583	260	0.4	10	15-35	1990	140	0.08	10	55-75	5175	610	0.8	10
5	35-55	2866	320	0.5	12.5	15-35	1592	140	0.1	12.5	55-75	4140	610	1	12.5
6	35-55	2389	360	0.6	15	15-35	1327	140	0.12	15	55-75	3450	630	1.2	15
8	35-55	1791	340	1.2	20	15-35	995	140	0.16	20	55-75	2588	580	1.6	20
10	35-55	1433	310	1.5	25	15-35	796	140	0.2	25	55-75	2070	540	2	25
12	35-55	1194	290	1.8	30	15-35	663	140	0.24	30	55-75	1725	490	2.4	30
16	35-55	896	280	2.4	40	15-35	498	140	0.32	40	55-75	1294	480	3.2	40
20	35-55	717	280	3	50	15-35	398	140	0.4	50	55-75	1035	480	4	50

※请使用合适的切削油。  
※切削加工淬火钢时，推荐使用油雾冷却液。  
※仅在侧面切削中使用。  
※请按相同比例调整转速和进给速度。  
※切入量、机械刚性不同，条件也不同。请随时调整使用。

※Use cutting fluid with smoke retardant.  
※Recommend to use oil mist coolant for machining hardened steels.  
※Available only for side cutting.  
※Adjust both spindle speed and feed at the same rate.  
※Adjust milling conditions according to the volume of Depth of Cut and rigidity of the machine.



4刃深沟平刀 4 Flute Deep Groove Square End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
TiSi	○	○	○	4	30°	HRC≤65

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○				○

订货号 Code No.	刃径 (D) Cutter Dia.	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.10.040.4F	1	4	1.5	0.95	4	50
65.10.060.4F		6				50
65.10.080.4F		8				50
65.10.100.4F		10				50
65.10.120.4F		12				50
65.10.150.4F	1.5	15	2.25	1.45	4	50
65.15.060.4F		6				50
65.15.080.4F		8				50
65.15.100.4F		10				50
65.15.120.4F		12				50
65.15.150.4F		15				50
65.15.200.4F		20				60
65.15.250.4F	2	25	3	1.94	4	60
65.15.300.4F		30				75
65.20.080.4F		8				50
65.20.100.4F		10				50
65.20.120.4F		12				50
65.20.160.4F		16				50
65.20.200.4F		20				60
65.20.250.4F		25				60
65.20.300.4F		30				75
65.20.350.4F		35				75
65.20.400.4F	2.5	40	3.75	2.4	4	75
65.25.080.4F		8				50
65.25.100.4F		10				50
65.25.150.4F		15				50
65.25.200.4F		20				60
65.25.250.4F		25				60
65.25.300.4F		30				75
65.25.350.4F		35				75
65.25.400.4F		40				75

4刃深沟平刀 4 Flute Deep Groove Square End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
TiSi	○	○	○	4	30°	HRC≤65

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○				○

订货号 Code No.	刃径 (D) Cutter Dia.	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.25.450.4F	2.5	45	3.75	2.4	4	80
65.25.500.4F		50				80
65.30.100.4F		10				50
65.30.150.4F	3	15	4.5	3.85	6	60
65.30.200.4F		20				60
65.30.250.4F		25				75
65.30.300.4F		30				75
65.30.350.4F		35				75
65.30.400.4F		40				75
65.30.450.4F		45				100
65.30.500.4F		50				100
65.30.550.4F		55				100
65.30.600.4F		60				100
65.40.160.4F	4	16	6	3.8	6	60
65.40.200.4F		20				60
65.40.250.4F		25				75
65.40.300.4F		30				75
65.40.400.4F		40				75
65.40.500.4F		50				100
65.40.600.4F		60				100
65.40.700.4F		70				110
65.40.800.4F		80				120
65.50.160.4F	5	16	7.5	4.8	6	60
65.50.200.4F		20				60
65.50.250.4F		25				75
65.50.300.4F		30				75
65.50.400.4F		40				75
65.50.500.4F		50				100
65.50.600.4F		60				100
65.50.800.4F		80				120



切削参数表 Milling Parameters Recommendation

4刃深沟平刀  
4 Flute Deep Groove Square End Mill

被切削材质 Workpiece Material		碳素钢・调质钢 Carbon Steels・Quenched&Tempered Steel S50C・NAK55・NAK80・HPM-1(“43HRC)				淬硬钢 Hardened Steel HPM-38・STAVAX・SKD61(“55HRC)				淬硬钢 Hardened Steel SKD11・PD613(“62HRC)				工具钢 Tool Steel SKH(“65HRC)			
刃径 Cutter Dia.	有效长 Effective Length	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm
1	4	25000	2000	0.05	0.6	23000	1800	0.04	0.5	18000	1600	0.03	0.4	14000	1000	0.02	0.3
	6	20000	1800	0.03	0.6	18000	1400	0.02	0.5	14000	1200	0.01	0.4	10000	800	0.007	0.3
	8	18000	1600	0.03	0.6	16000	1200	0.02	0.5	12000	1000	0.01	0.4	8000	680	0.005	0.3
	10	16000	1200	0.02	0.6	14000	1000	0.01	0.5	10000	800	0.007	0.4	6000	500	0.005	0.3
1.2	6	20000	1800	0.04	0.7	18000	1400	0.03	0.6	14000	1200	0.02	0.5	10000	800	0.01	0.4
	8	18000	1600	0.04	0.7	16000	1200	0.02	0.6	12000	1000	0.01	0.5	8000	680	0.007	0.4
	10	16000	1200	0.03	0.7	12000	1000	0.02	0.6	10000	850	0.01	0.5	8000	600	0.005	0.4
	12	14000	1200	0.02	0.7	10000	1000	0.01	0.6	9000	800	0.007	0.5	7000	500	0.005	0.4
1.5	6	23000	2000	0.06	0.9	20000	1600	0.04	0.75	18000	1400	0.03	0.6	14000	1000	0.02	0.45
	8	20000	1800	0.06	0.9	18000	1200	0.03	0.75	14000	1200	0.03	0.6	10000	750	0.01	0.45
	10	20000	1600	0.04	0.9	16000	1000	0.03	0.75	14000	1000	0.02	0.6	10000	700	0.01	0.45
	12	16000	1400	0.04	0.9	14000	1000	0.02	0.75	12000	850	0.02	0.6	8000	620	0.007	0.45
	14	14000	1200	0.03	0.9	12000	800	0.02	0.75	10000	750	0.01	0.6	7500	500	0.007	0.45
1.8	16	12000	1000	0.02	0.9	10000	720	0.01	0.75	9000	600	0.007	0.6	6800	400	0.005	0.45
	6	20000	2000	0.07	1	18000	1800	0.05	0.9	15000	1500	0.04	0.7	12000	1200	0.03	0.5
	8	18000	1800	0.06	1	16000	1600	0.04	0.9	12000	1200	0.03	0.7	9500	1000	0.02	0.5
	10	16000	1600	0.06	1	14000	1400	0.04	0.9	12000	1000	0.03	0.7	9500	900	0.02	0.5
	12	14000	1400	0.05	1	12000	1200	0.03	0.9	10000	1000	0.02	0.7	8200	800	0.01	0.5
2	14	14000	1400	0.05	1	12000	1200	0.03	0.9	10000	860	0.02	0.7	8200	720	0.01	0.5
	16	12000	1200	0.04	1	10000	1000	0.02	0.9	9200	800	0.01	0.7	7500	680	0.007	0.5
	18	10000	1000	0.04	1	9200	820	0.02	0.9	8500	740	0.01	0.7	6000	640	0.007	0.5
	6	20000	2000	0.08	1.2	18000	1800	0.06	1	15000	1500	0.05	0.8	12000	1200	0.03	0.6
	8	18000	1800	0.07	1.2	16000	1600	0.05	1	12000	1200	0.04	0.8	9500	1000	0.02	0.6
2.5	10	16000	1600	0.06	1.2	14000	1400	0.05	1	12000	1000	0.04	0.8	9500	900	0.02	0.6
	12	14000	1400	0.05	1.2	12000	1200	0.04	1	10000	1000	0.03	0.8	8200	800	0.01	0.6
	14	14000	1400	0.04	1.2	12000	1200	0.03	1	10000	860	0.02	0.8	8200	720	0.007	0.6
	16	12000	1200	0.04	1.2	10000	1000	0.03	1	9200	800	0.02	0.8	7500	680	0.007	0.6
	18	10000	1000	0.03	1.2	9200	820	0.02	1	8500	740	0.01	0.8	6000	640	0.005	0.6
3	20	10000	800	0.03	1.2	9200	760	0.02	1	8500	680	0.01	0.8	6000	520	0.005	0.6
	8	16000	2000	0.08	1.5	14000	1600	0.07	1.25	10000	1400	0.05	1	8000	1000	0.03	0.75
	12	14000	1600	0.07	1.5	12000	1400	0.06	1.25	9600	1200	0.04	1	7500	960	0.02	0.75
	16	12000	1400	0.06	1.5	10000	1200	0.05	1.25	8500	1000	0.02	1	7000	800	0.01	0.75
	20	10000	1200	0.06	1.5	8200	1000	0.05	1.25	7500	1000	0.02	1	5000	800	0.01	0.75
4	25	8000	1000	0.05	1.5	7000	800	0.03	1.25	6500	680	0.01	1	4500	550	0.005	0.75
	8	16000	2000	0.15	1.8	14000	1800	0.1	1.5	10000	1600	0.07	1.2	8000	1.2	0.05	0.9
	12	14000	1800	0.1	1.8	12000	1600	0.08	1.5	9200	1400	0.06	1.2	7200	1000	0.04	0.9
	16	12000	1600	0.08	1.8	10000	1400	0.07	1.5	8500	1200	0.05	1.2	6500	800	0.03	0.9
	20	10000	1600	0.08	1.8	9000	1400	0.07	1.5	7800	1200	0.04	1.2	5800	800	0.02	0.9
4	25	9000	1400	0.07	1.8	8200	1200	0.06	1.5	7000	1000	0.03	1.2	5000	720	0.01	0.9
	30	8000	1400	0.05	1.8	7000	1200	0.03	1.5	6500	1000	0.02	1.2	4500	650	0.007	0.9
	12	12000	2000	0.2	2.5	9500	2000	0.15	2	8000	1600	0.08	1.6	7000	1000	0.06	1.2
	16	10000	2000	0.15	2.5	8000	1800	0.1	2	7000	1400	0.06	1.6	6000	1200	0.05	1.2
	20	8500	1800	0.12	2.5	7000	1600	0.08	2	6500	1200	0.05	1.6	5500	1000	0.04	1.2
4	25	8000	1600	0.1	2.5	6000	1400	0.07	2	5200	1200	0.04	1.6	4500	1000	0.03	1.2

切削参数表 Milling Parameters Recommendation

4刃深沟平刀  
4 Flute Deep Groove Square End Mill

被切削材质 Workpiece Material		碳素钢・调质钢 Carbon Steels・Quenched&Tempered Steel S50C・NAK55・NAK80・HPM-1(“43HRC)				淬硬钢 Hardened Steel HPM-38・STAVAX・SKD61(“55HRC)				淬硬钢 Hardened Steel SKD11・PD613(“62HRC)				工具钢 Tool Steel SKH(“65HRC)			
刃径 Cutter Dia.	有效长 Effective Length	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm
4	30	6800	1400	0.08	2.5	4800	1000	0.05	2	4200	850	0.03	1.6	3500	620	0.02	1.2
	35	5500	1000	0.07	2.5	4200	880	0.04	2	3800	720	0.02	1.6	3000	550	0.01	1.2
	40	4000	860	0.05	2.5	3600	720	0.03	2	3000	600	0.01	1.6	2500	400	0.007	1.2
	16	10000	2000	0.2	3	7000	1800	0.12	2.5	5500	1600	0.08	2	4500	1000	0.06	1.5
5	25	8000	1600	0.15	3	5800	1400	0.07	2.5	4200	1200	0.05	2	3000	800	0.03	1.5
	35	6000	1200	0.1	3	4200	900	0.05	2.5	3500	800	0.03	2	2500	600	0.02	1.5
	50	3500	750	0.07	3	2800	620	0.03	2.5	2500	500	0.02	2	1500	350	0.01	1.5
	20	8000	2000	0.25	4	6500	1600	0.18	3	4500	1400	0.08	2.4	3500	920	0.06	1.8
6	30	7000	1600	0.2	4	4500	1200	0.12	3	3500	1000	0.06	2.4	2500	660	0.04	1.8
	40	4500	1200	0.15	4	3000	1000	0.08	3	2500	800	0.03	2.4	2000	550	0.02	1.8
	50	3000	850	0.1	4	2500	700	0.05	3	2000	500	0.02	2.4	1500	380	0.01	1.8

※本切削参数是参考值。请通过实际的加工形状及使用机械等调整。  
※切入量的ap表示轴方向的切入深度，ae表示半径方向的切入深度。  
※切削加工淬火钢时，推荐使用油雾冷却液。  
※Z切入时的方法推荐使用螺旋和斜坡（倾斜）进行切削加工。  
※L（有效长度）/D（刃径）超过8倍时，请将侧铣的进给速度调整到50%以下，切入量：ae调整到30%以下。  
※凹槽切削参考切削条件表，将切入量：ap及进给速度设定为50%以下，推荐往返切削。  
※发生振动时，请将旋转数和进给速度按相同比例降低。另外，主轴转速不足时也同样降低。

※These recommended cutting conditions indicate just reference. It should be adjusted according to milling shape and machine type.  
※ap:Axial Depth of Cut, ae:Radial Depth of Cut.  
※Recommend to use oil mist coolant for machining hardened steel.  
※Recommend to apply herical or ramping for approaching into axial direction.  
※Adjust feed rate 50% lower and cutting depth (ae) 30% lower for milling deep wall area. When L/D exceeds 8 for stable milling.  
※For slotting, recommend reciprocating milling by adjusting feed & ap in below 50% of recommended milling condition.  
※Reduce both spindle speed and feed at same rate for chattering and also for insufficient spindle speed of a machine



6刃直柄平刀 6 Flute Straight Shank Square End Mill



被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel		不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55HRC	>55HRC							
○	○	○	○	○	○	○	○					○

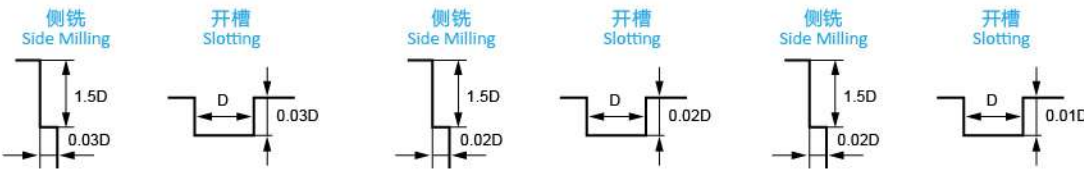
订货号 Code No.	刃径 (D) Cutter Dia.	刃长 (l) Length of Cut	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.0600.1560.6F	6	15	6	60
65.0600.2570.6F		25		70
65.0800.2075.6F	8	20	8	75
65.0800.3590.6F		35		90
65.1000.2580.6F	10	25	10	80
65.1000.45100.6F		45		100
65.1200.30100.6F	12	30	12	100
65.1200.55120.6F		55		120
65.1600.40110.6F	16	40	16	110
65.1600.65135.6F		65		135
65.2000.45125.6F	20	45	20	125
65.2000.75155.6F		75		155
65.2500.50140.6F	25	50	25	140
65.2500.90180.6F		90		180

切削参数表 Milling Parameters Recommendation

6刃直柄平刀  
6 Flute Straight Shank Square End Mill

被切削材质 Workpiece Material		淬硬钢 Hardened Steel HPM-38 • STAVAX • SKD61 (~55HRC)				淬硬钢 Hardened Steel SKD11 (~62HRC)				工具钢 Tool Steel SKH (~65HRC)			
刃径 Cutter Dia.	刃长 Cutter Length	侧铣 Side Milling		开槽 Slotting		侧铣 Side Milling		开槽 Slotting		侧铣 Side Milling		开槽 Slotting	
		转速 Rev. Speed min-1	进给 速度 Feeding Rate mm/min	转速 Rev. Speed min-1	进给 速度 Feeding Rate mm/min	转速 Rev. Speed min-1	进给 速度 Feeding Rate mm/min	转速 Rev. Speed min-1	进给 速度 Feeding Rate mm/min	转速 Rev. Speed min-1	进给 速度 Feeding Rate mm/min	转速 Rev. Speed min-1	进给 速度 Feeding Rate mm/min
5	10	7600	1600	6800	900	6200	1200	5600	600	5300	800	4800	350
	15	6800	1400	6000	600	5600	1000	5000	400	4800	600	4200	200
6	12	6400	1800	5800	950	5300	1200	4800	600	4600	800	4200	350
	18	5800	1600	5000	600	4800	1000	4200	400	4200	600	3600	200
8	16	4800	2000	4300	1000	4000	1400	3600	700	3400	1000	3000	400
	24	4300	1800	3800	700	3600	1200	3200	500	3000	800	2700	250
10	20	3800	2000	3400	1000	3200	1600	2800	800	2600	1000	2300	500
	30	3400	1800	3000	800	2800	1400	2500	600	2300	800	2000	300
12	24	3200	2000	2800	1000	2600	1600	2300	800	2200	1000	2000	500
	36	2800	1800	2500	800	2300	1400	2000	600	2000	800	1800	300
16	32	2400	2000	2000	1000	1800	1600	1600	800	1500	1000	1400	500
	48	2400	1800	2000	800	1800	1600	1600	600	1500	800	1400	300
20	40	1500	1000	1500	1000	1200	1000	1000	800	800	1000	800	500
	60	1500	1000	1500	1000	1200	1000	1000	800	800	1000	800	500

切深切宽的推荐 Ap and Ae recommendation



- ※机械、卡盘请使用刚性高精度的产品。
- ※切入量、机械刚性不同，条件也不同。请随时调整。
- ※请按相同比例调整转速和进给速度。
- ※推荐使用吹气或油雾。
- ※Use a rigid and precise machine and chuck holder.
- ※Adjust milling conditions according to the volume of Depth of Cut and rigidity of the machine.
- ※Adjust both spindle speed and feed at the same rate.
- ※Use oilmist coolant or air blow.



2刃小径2倍刃圆鼻刀 2 Flute Micro Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
TiSi	○	○	○	2	30°	HRC≤65

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤55hrc ○ >55hrc	○	○	○				○

订货号 Code No.	刃径 (D) Cutter Dia.	圆角 (R) Corner Radius	刃长 (l) Length of Cut	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.01.02.002.2R	0.1	R0.02	0.2	4	45
65.015.03.003.2R	0.15	R0.03	0.3	4	45
65.02.04.003.2R	0.2	R0.03	0.4	4	45
65.03.06.005.2R	0.3	R0.05	0.6	4	45
65.04.08.005.2R	0.4	R0.05	0.8	4	45
65.04.08.010.2R	0.4	R0.1	0.8	4	45
65.05.10.005.2R	0.5	R0.05	1	4	45
65.05.10.010.2R	0.5	R0.1	1	4	45
65.06.12.005.2R	0.6	R0.05	1.2	4	45
65.06.12.010.2R	0.6	R0.1	1.2	4	45
65.07.14.005.2R	0.7	R0.05	1.4	4	45
65.07.14.010.2R	0.7	R0.1	1.4	4	45
65.08.16.005.2R	0.8	R0.05	1.6	4	45
65.08.16.010.2R	0.8	R0.1	1.6	4	45
65.09.18.005.2R	0.9	R0.05	1.8	4	45
65.09.18.010.2R	0.9	R0.1	1.8	4	45

4刃段差圆鼻刀 4 Flute Segment Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
TiSi	○	○	○	4	30°	HRC≤65

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤55hrc ○ >55hrc	○	○	○				○

订货号 Code No.	刃径 (D) Cutter Dia.	圆角 (R) Corner Radius	刃长 (l) Length of Cut	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.010.020.005.4R	1	R0.05	2	4	50
65.010.020.010.4R		R0.1			50
65.010.020.020.4R		R0.2			50
65.010.020.030.4R		R0.3			50
65.015.030.005.4R	1.5	R0.05	3	4	50
65.015.030.010.4R		R0.1			50
65.015.030.020.4R		R0.2			50
65.015.030.030.4R		R0.3			50
65.020.040.005.4R	2	R0.05	4	4	50
65.020.040.010.4R		R0.1			50
65.020.040.020.4R		R0.2			50
65.020.040.030.4R		R0.3			50
65.020.040.050.4R	3	R0.5	6	4	50
65.030.060.005.4R		R0.05			50
65.030.060.010.4R		R0.1			50
65.030.060.020.4R		R0.2			50
65.030.060.030.4R	3	R0.3	6	6	50
65.030.060.050.4R		R0.5			50
65.030.060.100.4R		R1			50
65.030.060.005.4R-6	3	R0.05	6	6	50
65.030.060.010.4R-6		R0.1			50
65.030.060.020.4R-6		R0.2			50
65.030.060.030.4R-6		R0.3			50
65.030.060.050.4R-6	4	R0.5	8	6	50
65.030.060.100.4R-6		R1			50
65.040.080.010.4R-6		R0.1			50
65.040.080.020.4R-6	4	R0.2	10	6	50
65.040.080.030.4R-6		R0.3			50
65.040.080.050.4R-6		R0.5			50
65.040.080.100.4R-6		R1			50
65.050.100.010.4R-6	5	R0.1	10	6	50
65.050.100.020.4R-6		R0.2			50
65.050.100.030.4R-6		R0.3			50
65.050.100.050.4R-6		R0.5			50
65.050.100.100.4R-6	5	R1	10	6	50

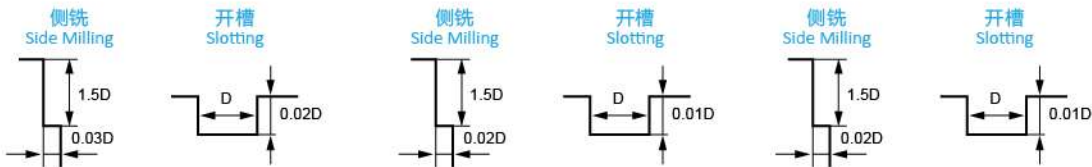


切削参数表    Milling Parameters Recommendation

2刃 / 4刃段差圆鼻刀  
2 Flute / 4 Flute Segment Corner Radius End Mill

被切削材质 Workpiece Material	淬火钢 Hardened Steel HPM-38 + STAVAX + SKD51 (~55HRC)				淬火钢 Hardened Steel SKD11 (~62HRC)				工具钢 Tool Steel SKH (~65HRC)			
	侧铣 Side Milling		开槽 Slotting		侧铣 Side Milling		开槽 Slotting		侧铣 Side Milling		开槽 Slotting	
	转速 Rev. Speed min-1	进给 速度 Feeding Rate mm/min	转速 Rev. Speed min-1	进给 速度 Feeding Rate mm/min	转速 Rev. Speed min-1	进给 速度 Feeding Rate mm/min	转速 Rev. Speed min-1	进给 速度 Feeding Rate mm/min	转速 Rev. Speed min-1	进给 速度 Feeding Rate mm/min	转速 Rev. Speed min-1	进给 速度 Feeding Rate mm/min
3	10000	1000	8000	580	8000	700	7500	500	7000	560	6000	280
4	8500	1200	7500	620	7000	800	6000	540	6000	600	5000	300
5	7600	1600	6800	900	6200	1200	5600	600	5300	800	4800	350
6	6400	1800	5800	950	5300	1200	4800	600	4600	800	4200	350
8	4800	2000	4300	1000	4000	1400	3600	700	3400	1,000	3000	400
10	3800	2000	3400	1000	3200	1600	2800	800	2600	1,000	2300	500
12	3200	2000	2800	1000	2600	1600	2300	800	2200	1,000	2000	500

切深切宽的推荐 Ap and Ae recommendation



- ※机械、卡盘请使用刚性高精度的产品。
- ※切入量、机械刚性不同，条件也不同。请随时调整。
- ※请按相同比例调整转速和进给速度。
- ※推荐使用吹气或油雾。
- ※Use a rigid and precise machine and chuck holder.
- ※Adjust milling conditions according to the volume of Depth of Cut and rigidity of the machine.
- ※Adjust both spindle speed and feed at the same rate.
- ※Use oilmist coolant or air blow.

4刃直柄圆鼻刀    4 Flute Straight Shank Corner Radius End Mill



公差: d=h5	Tolerance	涂层 种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
D≤3	0,-0.015	TiSi	○	○	○	4	30°	HRC≤65
3 < D < 20	0,-0.02							
R	±0.005							

被切削材料    Cutting Materials    ○非常适合Very Suitable    ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel ≤55hrc >55hrc	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Alumunum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○				○

订货号 Code No.	刃径 (D) Cutter Dia.	圆角 (R) Corner Radius	刃长 (ℓ) Length of Cut	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.040.08.01.050.4R	4	R0.1	8	4	50
65.040.08.02.050.4R		R0.2			50
65.040.08.03.050.4R		R0.3			50
65.040.08.05.050.4R		R0.5			50
65.040.08.10.050.4R		R1			50
65.060.12.01.050.4R	6	R0.1	12	6	50
65.060.12.01.060.4R					60
65.060.12.01.075.4R					75
65.060.12.01.100.4R					100
65.060.12.02.050.4R	6	R0.2	12	6	50
65.060.12.02.060.4R					60
65.060.12.02.075.4R					75
65.060.12.02.100.4R					100
65.060.12.03.050.4R	6	R0.3	12	6	50
65.060.12.03.060.4R					60
65.060.12.03.075.4R					75
65.060.12.03.100.4R					100
65.060.12.05.050.4R	6	R0.5	12	6	50
65.060.12.05.060.4R					60
65.060.12.05.075.4R					75
65.060.12.05.100.4R					100
65.060.12.10.050.4R	6	R1	12	6	50
65.060.12.10.060.4R					60
65.060.12.10.075.4R					75
65.060.12.10.100.4R					100
65.080.16.01.050.4R	8	R0.1	16	8	60
65.080.16.01.080.4R					75
65.080.16.01.075.4R					100
65.080.16.01.100.4R					150
65.080.16.02.050.4R	8	R0.2	16	8	60
65.080.16.02.080.4R					75
65.080.16.02.075.4R					100
65.080.16.02.100.4R					150



4刃直柄圆鼻刀 4 Flute Straight Shank Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
TiSi	○	○	○	4	30°	HRC≤65

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤55HRC ○ >55HRC	○	○					○

订货号 Code No.	刃径 (D) Cutter Dia.	圆角 (R) Corner Radius	刃长 (ℓ) Length of Cut	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.080.16.03.050.4R	8	R0.3	16	8	60
65.080.16.03.080.4R					75
65.080.16.03.075.4R					100
65.080.16.03.100.4R					150
65.080.16.05.050.4R	8	R0.5	16	8	60
65.080.16.05.080.4R					75
65.080.16.05.075.4R					100
65.080.16.05.100.4R					150
65.080.16.10.050.4R	8	R1	16	8	60
65.080.16.10.080.4R					75
65.080.16.10.075.4R					100
65.080.16.10.100.4R					150
65.080.16.20.050.4R	8	R2	16	8	60
65.080.16.20.080.4R					75
65.080.16.20.075.4R					100
65.080.16.20.100.4R					150
65.100.20.01.075.4R	10	R0.1	20	10	75
65.100.20.01.100.4R					100
65.100.20.01.150.4R					150
65.100.20.02.075.4R	10	R0.2	20	10	75
65.100.20.02.100.4R					100
65.100.20.02.150.4R					150
65.100.20.03.075.4R	10	R0.3	20	10	75
65.100.20.03.100.4R					100
65.100.20.03.150.4R					150
65.100.20.05.075.4R	10	R0.5	20	10	75
65.100.20.05.100.4R					100
65.100.20.05.150.4R					150
65.100.20.10.075.4R	10	R1	20	10	75
65.100.20.10.100.4R					100
65.100.20.10.150.4R					150
65.100.20.20.075.4R	10	R2	20	10	75
65.100.20.20.100.4R					100

4刃直柄圆鼻刀 4 Flute Straight Shank Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
TiSi	○	○	○	4	30°	HRC≤65

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤55HRC ○ >55HRC	○	○					○

订货号 Code No.	刃径 (D) Cutter Dia.	圆角 (R) Corner Radius	刃长 (ℓ) Length of Cut	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.100.20.20.150.4R	10	R2	20	10	150
65.120.24.01.075.4R	12	R0.1	24	12	75
65.120.24.01.100.4R					100
65.120.24.01.150.4R					150
65.120.24.02.075.4R	12	R0.2	24	12	75
65.120.24.02.100.4R					100
65.120.24.02.150.4R					150
65.120.24.03.075.4R	12	R0.3	24	12	75
65.120.24.03.100.4R					100
65.120.24.03.150.4R					150
65.120.24.05.075.4R	12	R0.5	24	12	75
65.120.24.05.100.4R					100
65.120.24.05.150.4R					150
65.120.24.10.075.4R	12	R1	24	12	75
65.120.24.10.100.4R					100
65.120.24.10.150.4R					150
65.120.24.20.075.4R	12	R2	24	12	75
65.120.24.20.100.4R					100
65.120.24.20.150.4R					150
65.160.32.05.100.4R	16	R0.5	32	16	100
65.160.32.05.150.4R					150
65.160.32.10.100.4R	16	R1	32	16	100
65.160.32.10.150.4R					150
65.160.32.20.100.4R	16	R2	32	16	100
65.160.32.20.150.4R					150
65.160.32.30.100.4R	16	R3	32	16	100
65.160.32.30.150.4R					150

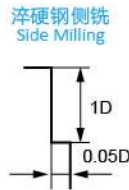
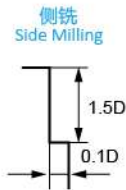


切削参数表 Milling Parameters Recommendation

4刃直柄圆鼻刀  
4 Flute Straight Shank Corner Radius End Mill

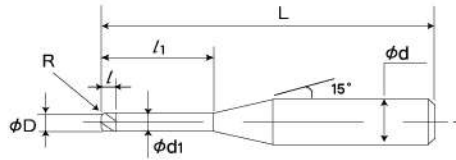
被切削材质 Workpiece Material	碳素钢 Carbon Steel S50C		合金钢 Alloy Steel SCM • SKD • SUS		调质钢 Quenched&Tempered Steel HPM • NAK		淬硬钢 Hardened Steel HPM-38 • STAVAX • SKD61 (~55HRC)	
切削速度	60 ~ 80m/min		50 ~ 70m/min		30 ~ 50m/min		20 ~ 30m/min	
刃径 Cutter Dia.	转速 Rev. Speed min-1	进给 速度 Feeding Rate mm/min	转速 Rev. Speed min-1	进给 速度 Feeding Rate mm/min	转速 Rev. Speed min-1	进给 速度 Feeding Rate mm/min	转速 Rev. Speed min-1	进给 速度 Feeding Rate mm/min
6	4300	780	3200	580	2200	380	1100	160
8	3200	780	2400	580	1600	380	800	160
10	2600	780	1900	580	1300	380	650	160
12	2100	780	1600	580	1100	380	530	160

切深切宽的推荐 Ap and Ae recommendation



- ※请根据加工面的倾斜角调整进给速度。
- ※拐角处的进给速度请降低30 ~ 50%。
- ※转速调整时，请按相同比例调整进给速度，调整切入量。
- ※Adjust feed according to inclined angle.
- ※When corner machining, reduce the feed by approximately 50% ~ 30%.
- ※Adjust spindle speed and feed at the same rate also reduce depth of cut, if the machine spindle speed insufficient.

2刃深沟圆鼻刀 2 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层 种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
TiSi	○	○	○	2	30°	HRC≤65

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel ≤55hrc >55hrc	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○				○

订货号 Code No.	刃径 (D) Cutter Dia.	圆角 (R) Corner Radius	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.02.006.003.2LR	0.2	R0.03	0.6	0.16	0.18	4	45
65.02.008.003.2LR			0.8				45
65.02.010.003.2LR			1				45
65.02.012.003.2LR			1.2				45
65.02.015.003.2LR			1.5				45
65.02.020.003.2LR			2				45
65.03.008.005.2LR	0.3	R0.05	0.8	0.24	0.28	4	45
65.03.010.005.2LR			1				45
65.03.012.005.2LR			1.2				45
65.03.015.005.2LR			1.5				45
65.03.020.005.2LR			2				45
65.03.025.005.2LR	0.4	R0.05	2.5	0.32	0.37	4	45
65.03.030.005.2LR			3				45
65.04.010.005.2LR			1				45
65.04.015.005.2LR			1.5				45
65.04.020.005.2LR			2				45
65.04.025.005.2LR	0.5	R0.05	2.5	0.4	0.46	4	45
65.04.030.005.2LR			3				45
65.04.040.005.2LR			4				45
65.04.050.005.2LR			5				45
65.04.060.005.2LR			6				45
65.05.015.005.2LR	0.5	R0.1	1.5	0.4	0.46	4	45
65.05.020.005.2LR			2				45
65.05.030.005.2LR			3				45
65.05.040.005.2LR			4				45
65.05.060.005.2LR			6				45
65.05.080.005.2LR	0.5	R0.1	8	0.4	0.46	4	45
65.05.100.005.2LR			10				50
65.05.015.010.2LR			1.5				45
65.05.020.010.2LR	0.5	R0.1	2	0.4	0.46	4	45
65.05.030.010.2LR			3				45
65.05.040.010.2LR			4				45
65.05.060.010.2LR			6				45
65.05.080.010.2LR			8				45



2刃深沟圆鼻刀 2 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance	涂层种类	开槽	侧铣	面铣	刃数	螺旋角	适合材料硬度
D≤3	0,-0.015	Coating	Slotting	Side Milling	Face Milling	Flute	Helix Angle	Workpiece HRC
3 < D < 20	0,-0.02	TiSi	○	○	○	2	30°	HRC≤65
R	±0.005							

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢	合金钢	调质钢	铸铁	淬硬钢	不锈钢	钛合金	铝合金	铜	树脂	石墨	高温合金
Carbon Steel	Alloy Steel	Quenched & Tempered Steel	Cast Iron	Hardened Steel	Stainless Steel	Titanium Alloy	Aluminum Alloy	Copper	Resin	Graphite	Super Alloy
				≤55HRC	>55HRC						
○	○	○	○	○	○	○					○

订货号	刃径 (D)	圆角 (R)	避空长 (L1)	刃长 (L)	避空径 (d1)	柄径 (d)	全长 (L)
Code No.	Cutter Dia.	Corner Radius	Effective Length	Length of Cut	Neck Dia.	Shank Dia.	Overall Length
65.05.100.010.2LR	0.5	R0.1	10	0.4	0.46	4	50
65.06.015.005.2LR			1.5				45
65.06.020.005.2LR			2				45
65.06.040.005.2LR			4				45
65.06.060.005.2LR	0.6	R0.05	6	0.48	0.56	4	45
65.06.080.005.2LR			8				45
65.06.100.005.2LR			10				50
65.06.015.010.2LR			1.5				45
65.06.020.010.2LR			2				45
65.06.040.010.2LR			4				45
65.06.060.010.2LR	0.6	R0.1	6	0.48	0.56	4	45
65.06.080.010.2LR			8				45
65.06.100.010.2LR			10				50
65.08.020.005.2LR			2				45
65.08.030.005.2LR			3				45
65.08.040.005.2LR			4				45
65.08.060.005.2LR	0.8	R0.05	6	0.64	0.76	4	45
65.08.080.005.2LR			8				45
65.08.100.005.2LR			10				50
65.08.120.005.2LR			12				50
65.08.020.010.2LR			2				45
65.08.030.010.2LR			3				45
65.08.040.010.2LR			4				45
65.08.060.010.2LR	0.8	R0.1	6	0.64	0.76	4	45
65.08.080.010.2LR			8				45
65.08.100.010.2LR			10				50
65.08.120.010.2LR			12				50
65.08.020.020.2LR			2				45
65.08.030.020.2LR			3				45
65.08.040.020.2LR			4				45
65.08.060.020.2LR	0.8	R0.2	6	0.64	0.76	4	45
65.08.080.020.2LR			8				45
65.08.100.020.2LR			10				50
65.08.120.020.2LR			12				50

切削参数表 Milling Parameters Recommendation

2刃深沟圆鼻刀  
2 Flute Deep Groove Corner Radius End Mill

被切削材质 Workpiece Material			调质钢 Quenched&Tempered Steel HPM・NAK （42HRC）				淬硬钢 Hardened Steel HPM-38・STAVAX・SKD61（~55HRC）				淬硬钢 Hardened Steel SKD11・YDG13（~62HRC）				工具钢 Tool Steel SKH（~63HRC）					
刃径 Cutter Dia.	圆角半径 Corner Radius	有效刃长 Effective Length	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm		
0.2	0.02	0.5	30000	240	0.005	0.05	30000	200	0.003	0.04	30000	160	0.003	0.02	30000	120	0.003	0.01		
		1	30000	180	0.005	0.05	30000	150	0.003	0.04	30000	120	0.002	0.02	30000	80	0.002	0.01		
		1.5	30000	120	0.004	0.05	30000	100	0.002	0.04	30000	80	0.002	0.02	30000	60	0.001	0.01		
		2	30000	70	0.003	0.05	30000	50	0.002	0.04	30000	40	0.001	0.02	30000	30	0.001	0.01		
	0.05	0.5	30000	240	0.01	0.05	30000	200	0.003	0.04	30000	160	0.003	0.02	30000	120	0.003	0.01		
		1	30000	180	0.007	0.05	30000	150	0.003	0.04	30000	120	0.003	0.02	30000	80	0.003	0.01		
		1.5	30000	120	0.005	0.05	30000	100	0.002	0.04	30000	80	0.002	0.02	30000	60	0.002	0.01		
		2	30000	70	0.003	0.05	30000	50	0.002	0.04	30000	40	0.002	0.02	30000	30	0.002	0.01		
0.3	0.02	1	30000	350	0.015	0.1	30000	300	0.003	0.08	30000	250	0.003	0.04	30000	200	0.003	0.03		
		1.5	30000	240	0.01	0.1	30000	200	0.003	0.08	30000	160	0.003	0.04	30000	120	0.003	0.03		
		2	30000	180	0.007	0.1	30000	150	0.003	0.08	30000	120	0.003	0.04	25000	100	0.003	0.03		
		2.5	30000	150	0.005	0.1	25000	100	0.002	0.08	25000	80	0.002	0.04	20000	60	0.002	0.03		
	0.05	3	30000	70	0.004	0.1	25000	50	0.002	0.08	25000	40	0.002	0.04	20000	30	0.002	0.03		
		1	30000	350	0.02	0.1	30000	300	0.003	0.08	30000	250	0.003	0.04	30000	200	0.003	0.03		
		1.5	30000	240	0.015	0.1	30000	200	0.003	0.08	30000	160	0.003	0.04	30000	120	0.003	0.03		
		2	30000	180	0.01	0.1	30000	150	0.003	0.08	30000	120	0.003	0.04	25000	100	0.003	0.03		
	0.02	2.5	30000	150	0.007	0.1	25000	100	0.002	0.08	25000	80	0.002	0.04	20000	60	0.002	0.03		
		3	30000	70	0.005	0.1	25000	50	0.002	0.08	25000	40	0.002	0.04	20000	30	0.002	0.03		
		0.4	0.02	1	30000	450	0.015	0.12	30000	400	0.005	0.1	28000	350	0.005	0.05	25000	300	0.004	0.04
				1.5	30000	400	0.012	0.12	30000	350	0.005	0.1	28000	300	0.005	0.05	25000	260	0.004	0.04
2	30000			360	0.01	0.12	30000	300	0.005	0.1	25000	250	0.005	0.05	25000	220	0.003	0.04		
2.5	30000			340	0.008	0.12	28000	280	0.004	0.1	25000	240	0.004	0.05	20000	180	0.003	0.04		
0.05	3		30000	320	0.008	0.12	25000	250	0.004	0.1	23000	220	0.003	0.05	18000	160	0.002	0.04		
	4		30000	250	0.006	0.12	25000	200	0.003	0.1	20000	160	0.002	0.05	18000	120	0.002	0.04		
	0.1		1	30000	450	0.025	0.12	30000	400	0.005	0.1	28000	350	0.005	0.05	25000	300	0.005	0.04	
			1.5	30000	400	0.022	0.12	30000	350	0.005	0.1	28000	300	0.005	0.05	25000	260	0.005	0.04	
0.5		0.05	2	30000	360	0.02	0.12	30000	300	0.005	0.1	25000	250	0.005	0.05	25000	220	0.005	0.04	
			2.5	30000	340	0.015	0.12	28000	280	0.004	0.1	25000	240	0.004	0.05	20000	180	0.004	0.04	
	3		30000	320	0.015	0.12	25000	250	0.004	0.1	23000	220	0.003	0.05	18000	160	0.003	0.04		
	4		30000	250	0.01	0.12	25000	200	0.003	0.1	20000	160	0.002	0.05	18000	120	0.002	0.04		
	0.02	1	30000	600	0.016	0.14	25000	500	0.008	0.15	23000	450	0.006	0.1	20000	400	0.004	0.08		
		2	30000	500	0.014	0.14	25000	420	0.007	0.15	23000	360	0.005	0.1	20000	300	0.003	0.08		
		3	30000	420	0.012	0.14	25000	350	0.006	0.15	23000	320	0.004	0.1	20000	280	0.003	0.08		
		4	25000	380	0.01	0.14	25000	300	0.004	0.15	23000	240	0.002	0.1	20000	180	0.002	0.08		
0.6	0.02	5	25000	300	0.008	0.14	20000	200	0.003	0.15	18000	150	0.002	0.1	16000	100	0.002	0.08		
		6	25000	250	0.004	0.14	20000	160	0.002	0.15	18000	100	0.001	0.1	16000	70	0.001	0.08		
		1	30000	600	0.03	0.14	25000	500	0.01	0.15	23000	450	0.007	0.1	20000	400	0.005	0.08		
		2	30000	500	0.025	0.14	25000	420	0.01	0.15	23000	360	0.007	0.1	20000	300	0.005	0.08		
	0.05	3	30000	420	0.02	0.14	25000	350	0.008	0.15	23000	320	0.005	0.1	20000	280	0.003	0.08		
		4	25000	380	0.015	0.14	25000	300	0.005	0.15	23000	240	0.003	0.1	20000	180	0.002	0.08		
		5	25000	300	0.01	0.14	20000	200	0.004	0.15	18000	150	0.003	0.1	16000	100	0.002	0.08		
		6	25000	250	0.008	0.14	20000	160	0.003	0.15	18000	100	0.002	0.1	16000	70	0.001	0.08		



## 切削参数表 Milling Parameters Recommendation

### 2刃深沟圆鼻刀

#### 2 Flute Deep Groove Corner Radius End Mill

被切削材质 Workpiece Material			调质钢 Quenched&Tempered Steel HPM + NAK (~42HRC)				淬硬钢 Hardened Steel HPM-3B + STAVAX + SKD61 (~55HRC)				淬硬钢 Hardened Steel SKD11 + PD613 (~62HRC)				工具钢 Tool Steel SKH (~65HRC)				
刃径 Cutter Dia.	圆角半径 Corner Radius	有效刃长 Effective Length	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	
0.6	0.02	6	23000	300	0.008	0.2	20000	200	0.005	0.2	18000	150	0.003	0.15	12000	100	0.002	0.1	
		8	18000	200	0.006	0.2	16000	150	0.003	0.2	14000	100	0.001	0.15	10000	80	0.001	0.1	
		10	16000	120	0.003	0.2	14000	100	0.001	0.2	12000	80	0.001	0.15	8000	50	0.001	0.1	
	0.05 0.1	2	30000	600	0.035	0.2	25000	500	0.02	0.2	23000	400	0.01	0.15	20000	320	0.007	0.1	
		4	25000	450	0.025	0.2	23000	400	0.015	0.2	20000	300	0.007	0.15	18000	200	0.005	0.1	
		6	23000	300	0.015	0.2	20000	200	0.008	0.2	18000	150	0.005	0.15	12000	100	0.003	0.1	
		8	18000	200	0.01	0.2	16000	150	0.005	0.2	14000	100	0.002	0.15	10000	80	0.001	0.1	
		10	16000	120	0.005	0.2	14000	100	0.002	0.2	12000	80	0.001	0.15	8000	50	0.001	0.1	
		0.7	2	30000	900	0.016	0.25	25000	700	0.012	0.25	23000	600	0.006	0.15	20000	450	0.003	0.12
			4	28000	700	0.012	0.25	25000	600	0.008	0.25	23000	500	0.005	0.15	20000	350	0.002	0.12
6	25000		500	0.008	0.25	20000	350	0.005	0.25	18000	250	0.003	0.15	16000	200	0.002	0.12		
0.05 0.1	2		30000	900	0.04	0.25	25000	700	0.03	0.25	23000	600	0.015	0.15	20000	450	0.01	0.12	
	4		28000	700	0.03	0.25	25000	600	0.02	0.25	23000	500	0.01	0.15	20000	350	0.007	0.12	
	6	25000	500	0.02	0.25	20000	350	0.01	0.25	18000	250	0.007	0.15	16000	200	0.005	0.12		
0.8	0.02	2	28000	1000	0.016	0.3	25000	800	0.014	0.25	23000	700	0.006	0.16	20000	500	0.005	0.14	
		4	28000	900	0.012	0.3	25000	700	0.008	0.25	23000	600	0.005	0.16	20000	400	0.003	0.14	
		6	23000	700	0.009	0.3	20000	550	0.006	0.25	18000	450	0.004	0.16	16000	320	0.002	0.14	
		8	18000	500	0.006	0.3	16000	400	0.003	0.25	14000	300	0.002	0.16	12000	200	0.002	0.14	
	0.05 0.1 0.2	2	28000	1000	0.05	0.3	25000	800	0.03	0.25	23000	700	0.02	0.16	20000	500	0.015	0.14	
		4	28000	900	0.045	0.3	25000	700	0.025	0.25	23000	600	0.015	0.16	20000	400	0.01	0.14	
		6	23000	700	0.03	0.3	20000	550	0.02	0.25	18000	450	0.01	0.16	16000	320	0.007	0.14	
		8	18000	500	0.02	0.3	16000	400	0.01	0.25	14000	300	0.005	0.16	12000	200	0.005	0.14	
		12	16000	300	0.007	0.3	14000	200	0.005	0.25	12000	120	0.003	0.16	10000	80	0.001	0.14	
		0.9	0.1	4	25000	1100	0.05	0.3	25000	850	0.03	0.3	20000	700	0.02	0.2	18000	600	0.01
8	18000			500	0.03	0.3	16000	400	0.01	0.3	14000	350	0.008	0.2	10000	250	0.005	0.15	

※请根据实际的加工形状及使用机械等调整切削条件。

※切入量的ap表示轴方向的切入深度，ae表示半径方向的切入深度。

※在切削加工淬硬钢时，推荐使用油雾冷却液。

※作为Z切入时的方法，推荐使用螺旋和斜坡（倾斜）进行切削加工。

※L（有效长度）/D（刃径）超过8倍时，请将侧铣的进给速度调整为50%以下，切入量调整为30%以下。

※槽切削参考切削条件表将切入量：ap及进给速度设定为50%以下，推荐往返切削。

※发生振动时，请将转速数和进给速度降低到相同的比例。另外，主轴转速不足时也请同样降低。

※Adjust milling conditions according to milling shape and machine type.

※ap : Axial Depth of Cut, ae : Radial Depth of Cut.

※Recommend to use oil mist coolant for machining hardened steels.

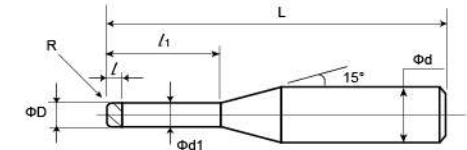
※Recommend to apply helical or ramping for approaching into axial direction.

※Adjust feed rate 50% lower and cutting depth (ae) 30% lower for milling deep wall area when L/D exceeds 8 for stable milling.

※For slotting, recommend reciprocating milling by adjusting feed & ap in below 50% of recommended milling condition.

※Reduce both spindle speed and feed at same rate for chattering and also for insufficient spindle speed of a machine.

## 4刃深沟圆鼻刀 4 Flute Deep Groove Corner Radius End Mill



公差：d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层 种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
TiSi	○	○	○	4	30°	HRC≤65

### 被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○				○

订货号 Code No.	刃径 (D) Cutter Dia.	圆角 (R) Corner Radius	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.10.030.005.4LR	1	R0.05	3	0.8	0.95	4	50
65.10.040.005.4LR			4				50
65.10.060.005.4LR			6				50
65.10.080.005.4LR			8				50
65.10.100.005.4LR			10				50
65.10.120.005.4LR			12				50
65.10.150.005.4LR			15				50
65.10.030.010.4LR	1	0.1	3	0.8	0.95	4	50
65.10.040.010.4LR			4				50
65.10.060.010.4LR			6				50
65.10.080.010.4LR			8				50
65.10.100.010.4LR			10				50
65.10.120.010.4LR			12				50
65.10.150.010.4LR			15				50
65.10.030.020.4LR	1	R0.2	3	0.8	0.95	4	50
65.10.040.020.4LR			4				50
65.10.060.020.4LR			6				50
65.10.080.020.4LR			8				50
65.10.100.020.4LR			10				50
65.10.120.020.4LR			12				50
65.10.150.020.4LR			15				50
65.10.030.030.4LR	1	R0.3	3	0.8	0.95	4	50
65.10.040.030.4LR			4				50
65.10.060.030.4LR			6				50
65.10.080.030.4LR			8				50
65.10.100.030.4LR			10				50
65.10.120.030.4LR			12				50
65.10.150.030.4LR			15				50
65.15.040.005.4LR	1.5	R0.05	4	1.2	1.43	4	50
65.15.060.005.4LR			6				50
65.15.080.005.4LR			8				50
65.15.100.005.4LR			10				50
65.15.120.005.4LR			12				50
65.15.150.005.4LR			15				50



4刃深沟圆鼻刀 4 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
TiSi	○	○	○	4	30°	HRC≤65

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤55hrc ○ >55hrc	○	○					○

订货号 Code No.	刃径 (D) Cutter Dia.	圆角 (R) Corner Radius	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.15.200.005.4LR	1.5	R0.05	20	1.2	1.43	4	60
65.15.250.005.4LR			25				75
65.15.300.005.4LR			30				75
65.15.040.010.4LR	1.5	R0.1	4	1.2	1.43	4	50
65.15.060.010.4LR			6				50
65.15.080.010.4LR			8				50
65.15.100.010.4LR			10				50
65.15.120.010.4LR			12				50
65.15.150.010.4LR			15				50
65.15.200.010.4LR			20				60
65.15.250.010.4LR			25				75
65.15.300.010.4LR			30				75
65.15.040.020.4LR	1.5	R0.2	4	1.2	1.43	4	50
65.15.060.020.4LR			6				50
65.15.080.020.4LR			8				50
65.15.100.020.4LR			10				50
65.15.120.020.4LR			12				50
65.15.150.020.4LR			15				50
65.15.200.020.4LR			20				60
65.15.250.020.4LR			25				75
65.15.300.020.4LR			30				75
65.15.040.030.4LR	1.5	R0.3	4	1.2	1.43	4	50
65.15.060.030.4LR			6				50
65.15.080.030.4LR			8				50
65.15.100.030.4LR			10				50
65.15.120.030.4LR			12				50
65.15.150.030.4LR			15				50
65.15.200.030.4LR			20				60
65.15.250.030.4LR			25				75
65.15.300.030.4LR			30				75
65.20.060.010.4LR	2	R0.1	6	1.6	1.91	4	50
65.20.080.010.4LR			8				50
65.20.100.010.4LR			10				50
65.20.120.010.4LR			12				50

4刃深沟圆鼻刀 4 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
TiSi	○	○	○	4	30°	HRC≤65

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤55hrc ○ >55hrc	○	○					○

订货号 Code No.	刃径 (D) Cutter Dia.	圆角 (R) Corner Radius	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.20.160.010.4LR	2	R0.1	16	1.6	1.91	4	50
65.20.200.010.4LR			20				60
65.20.250.010.4LR			25				75
65.20.300.010.4LR			30				75
65.20.350.010.4LR			35				75
65.20.400.010.4LR			40				75
65.20.060.020.4LR	2	R0.2	6	1.6	1.91	4	50
65.20.080.020.4LR			8				50
65.20.100.020.4LR			10				50
65.20.120.020.4LR			12				50
65.20.160.020.4LR			16				50
65.20.200.020.4LR			20				60
65.20.250.020.4LR			25				75
65.20.300.020.4LR			30				75
65.20.350.020.4LR			35				75
65.20.400.020.4LR			40				75
65.20.060.030.4LR	2	R0.3	6	1.6	1.91	4	50
65.20.080.030.4LR			8				50
65.20.100.030.4LR			10				50
65.20.120.030.4LR			12				50
65.20.160.030.4LR			16				50
65.20.200.030.4LR			20				60
65.20.250.030.4LR			25				75
65.20.300.030.4LR			30				75
65.20.350.030.4LR			35				75
65.20.400.030.4LR			40				75
65.20.060.050.4LR	2	R0.5	6	1.6	1.91	4	50
65.20.080.050.4LR			8				50
65.20.100.050.4LR			10				50
65.20.120.050.4LR			12				50
65.20.160.050.4LR			16				50
65.20.200.050.4LR			20				60
65.20.250.050.4LR			25				75
65.20.300.050.4LR			30				75



4刃深沟圆鼻刀 4 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
TiSi	○	○	○	4	30°	HRC≤65

被切削材料 Cutting Materials ○ 非常适合 Very Suitable ○ 适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤55hrc ○ >55hrc	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	圆角 (R) Corner Radius	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.20.350.050.4LR	2	R0.5	35	1.6	1.91	4	75
65.20.400.050.4LR			40				75
65.25.080.010.4LR			8				50
65.25.100.010.4LR			10				50
65.25.150.010.4LR			15				50
65.25.200.010.4LR	2.5	R0.1	20	2	2.39	4	60
65.25.250.010.4LR			25				75
65.25.300.010.4LR			30				75
65.25.350.010.4LR			35				75
65.25.400.010.4LR			40				75
65.25.450.010.4LR			45				100
65.25.500.010.4LR			50				100
65.25.080.020.4LR			8				50
65.25.100.020.4LR			10				50
65.25.150.020.4LR			15				50
65.25.200.020.4LR	2.5	R0.2	20	2	2.39	4	60
65.25.250.020.4LR			25				75
65.25.300.020.4LR			30				75
65.25.350.020.4LR			35				75
65.25.400.020.4LR			40				75
65.25.450.020.4LR			45				100
65.25.500.020.4LR			50				100
65.25.080.030.4LR			8				50
65.25.100.030.4LR			10				50
65.25.150.030.4LR			15				50
65.25.200.030.4LR	2.5	R0.3	20	2	2.39	4	60
65.25.250.030.4LR			25				75
65.25.300.030.4LR			30				75
65.25.350.030.4LR			35				75
65.25.400.030.4LR			40				75
65.25.450.030.4LR			45				100
65.25.500.030.4LR			50				100
65.25.080.050.4LR			8				50
65.25.100.050.4LR			10				50

4刃深沟圆鼻刀 4 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
TiSi	○	○	○	4	30°	HRC≤65

被切削材料 Cutting Materials ○ 非常适合 Very Suitable ○ 适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤55hrc ○ >55hrc	○	○	○	○	○	○	○

订货号 Code No.	刃径 (D) Cutter Dia.	圆角 (R) Corner Radius	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.25.150.050.4LR	2.5	R0.5	15	2	2.39	4	50
65.25.200.050.4LR			20				60
65.25.250.050.4LR			25				75
65.25.300.050.4LR			30				75
65.25.350.050.4LR			35				75
65.25.400.050.4LR			40				75
65.25.450.050.4LR			45				100
65.25.500.050.4LR			50				100
65.30.100.010.4LR			10	2.4	2.85	6	50
65.30.150.010.4LR	3	R0.1	15				60
65.30.200.010.4LR			20				60
65.30.250.010.4LR			25				75
65.30.300.010.4LR			30				75
65.30.350.010.4LR			35				75
65.30.400.010.4LR			40				75
65.30.450.010.4LR			45				100
65.30.500.010.4LR			50				100
65.30.550.010.4LR			55				100
65.30.600.010.4LR			60				100
65.30.100.020.4LR	3	R0.2	10	2.4	2.85	6	50
65.30.150.020.4LR			15				60
65.30.200.020.4LR			20				60
65.30.250.020.4LR			25				75
65.30.300.020.4LR			30				75
65.30.350.020.4LR			35				75
65.30.400.020.4LR			40				75
65.30.450.020.4LR			45				100
65.30.500.020.4LR			50				100
65.30.550.020.4LR			55				100
65.30.600.020.4LR	3	R0.3	60	2.4	2.85	6	100
65.30.100.030.4LR			10				50
65.30.150.030.4LR			15				60
65.30.200.030.4LR			20				60
65.30.250.030.4LR			25				75



4刃深沟圆鼻刀 4 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
TiSi	○	○	○	4	30°	HRC≤65

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤55HRC ○ >55HRC	○	○					○

订货号 Code No.	刃径 (D) Cutter Dia.	圆角 (R) Corner Radius	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.30.300.030.4LR	3	R0.3	30	2.4	2.85	6	75
65.30.350.030.4LR			35				75
65.30.400.030.4LR			40				75
65.30.450.030.4LR			45				100
65.30.500.030.4LR			50				100
65.30.550.030.4LR			55				100
65.30.600.030.4LR	3	R0.5	60	2.4	2.85	6	100
65.30.100.050.4LR			10				50
65.30.150.050.4LR			15				60
65.30.200.050.4LR			20				60
65.30.250.050.4LR			25				75
65.30.300.050.4LR			30				75
65.30.350.050.4LR			35				75
65.30.400.050.4LR			40				75
65.30.450.050.4LR			45				100
65.30.500.050.4LR			50				100
65.30.550.050.4LR			55				100
65.30.600.050.4LR			60				100
65.30.100.100.4LR	3	R1	10	2.4	2.85	6	50
65.30.150.100.4LR			15				50
65.30.200.100.4LR			20				60
65.30.250.100.4LR			25				75
65.30.300.100.4LR			30				75
65.30.350.100.4LR			35				75
65.30.400.100.4LR			40				75
65.30.450.100.4LR			45				100
65.30.500.100.4LR			50				100
65.30.550.100.4LR			55				100
65.30.600.100.4LR			60				100
65.40.120.010.4LR	4	R0.1	12	3.2	3.8	6	60
65.40.160.010.4LR			16				60
65.40.200.010.4LR			20				60
65.40.250.010.4LR			25				75
65.40.300.010.4LR			30				75

4刃深沟圆鼻刀 4 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
TiSi	○	○	○	4	30°	HRC≤65

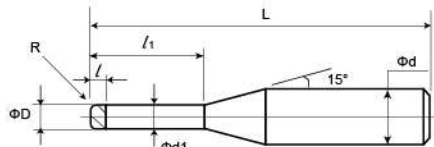
被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤55HRC ○ >55HRC	○	○					○

订货号 Code No.	刃径 (D) Cutter Dia.	圆角 (R) Corner Radius	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.40.400.010.4LR	4	R0.1	40	3.2	3.8	6	75
65.40.500.010.4LR			50				100
65.40.600.010.4LR			60				100
65.40.700.010.4LR			70				110
65.40.800.010.4LR			80				120
65.40.120.020.4LR	4	R0.2	12	3.2	3.8	6	60
65.40.160.020.4LR			16				60
65.40.200.020.4LR			20				60
65.40.250.020.4LR			25				75
65.40.300.020.4LR			30				75
65.40.400.020.4LR			40				100
65.40.500.020.4LR			50				100
65.40.600.020.4LR			60				100
65.40.700.020.4LR			70				110
65.40.800.020.4LR			80				120
65.40.120.030.4LR	4	R0.3	12	3.2	3.8	6	60
65.40.160.030.4LR			16				60
65.40.200.030.4LR			20				60
65.40.250.030.4LR			25				75
65.40.300.030.4LR			30				75
65.40.400.030.4LR			40				75
65.40.500.030.4LR			50				100
65.40.600.030.4LR			60				100
65.40.700.030.4LR			70				110
65.40.800.030.4LR			80				120
65.40.120.050.4LR	4	R0.5	12	3.2	3.8	6	60
65.40.160.050.4LR			16				60
65.40.200.050.4LR			20				60
65.40.250.050.4LR			25				75
65.40.300.050.4LR			30				75
65.40.400.050.4LR			40				100
65.40.500.050.4LR			50				100
65.40.600.050.4LR			60				100
65.40.700.050.4LR			70				110
65.40.120.050.4LR			12				60



4刃深沟圆鼻刀 4 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

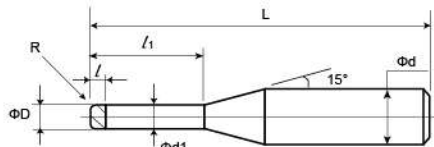
涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
TiSi	○	○	○	4	30°	HRC≤65

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤55hrc ○ >55hrc	○	○					○

订货号 Code No.	刀径 (D) Cutter Dia.	圆角 (R) Corner Radius	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.40.800.050.4LR	4	R0.5	80	3.2	3.8	6	120
65.40.120.100.4LR			12				60
65.40.160.100.4LR			16				60
65.40.200.100.4LR			20				60
65.40.250.100.4LR			25				75
65.40.300.100.4LR	4	R1	30	3.2	3.8	6	75
65.40.400.100.4LR			40				75
65.40.500.100.4LR			50				100
65.40.600.100.4LR			60				100
65.40.700.100.4LR			70				110
65.40.800.100.4LR			80				120
65.50.160.010.4LR			16				60
65.50.200.010.4LR			20				60
65.50.250.010.4LR			25				75
65.50.300.010.4LR			30				75
65.50.400.010.4LR	5	R0.1	40	4	4.75	6	75
65.50.500.010.4LR			50				100
65.50.600.010.4LR			60				100
65.50.800.010.4LR			80				120
65.50.160.020.4LR			16				60
65.50.200.020.4LR			20				60
65.50.250.020.4LR			25				75
65.50.300.020.4LR			30				75
65.50.400.020.4LR	5	R0.2	40	4	4.75	6	75
65.50.500.020.4LR			50				100
65.50.600.020.4LR			60				100
65.50.800.020.4LR			80				120
65.50.160.030.4LR			16				60
65.50.200.030.4LR			20				60
65.50.250.030.4LR			25				75
65.50.300.030.4LR	5	R0.3	30	4	4.75	6	75
65.50.400.030.4LR			40				75
65.50.500.030.4LR			50				100
65.50.600.030.4LR			60				100

4刃深沟圆鼻刀 4 Flute Deep Groove Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
TiSi	○	○	○	4	30°	HRC≤65

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤55hrc ○ >55hrc	○	○					○

订货号 Code No.	刀径 (D) Cutter Dia.	圆角 (R) Corner Radius	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.50.800.030.4LR	5	R0.3	80	4	4.75	6	120
65.50.160.050.4LR			16				60
65.50.200.050.4LR			20				60
65.50.250.050.4LR			25				75
65.50.300.050.4LR	5	R0.5	30	4	4.75	6	75
65.50.400.050.4LR			40				75
65.50.500.050.4LR			50				100
65.50.600.050.4LR			60				100
65.50.800.050.4LR			80				120
65.50.160.100.4LR			16				60
65.50.200.100.4LR			20				60
65.50.250.100.4LR			25				75
65.50.300.100.4LR			30				75
65.50.400.100.4LR	5	R1	40	4	4.75	6	75
65.50.500.100.4LR			50				100
65.50.600.100.4LR			60				100
65.50.800.100.4LR			80				120



切削参数表 Milling Parameters Recommendation

4刃深沟圆鼻刀

4 Flute Deep Groove Corner Radius End Mill

被切削材质 Workpiece Material			调质钢 Quenched&Tempered Steel HPM + NAK ("42HRC)				淬硬钢 Hardened Steel HPM-38 + STAVAX + SKD61 ("55HRC)				淬硬钢 Hardened Steel SKD11 + PD613 ("62HRC)				工具钢 Tool Steel SKH ("65HRC)			
刃径 Cutter Dia.	圆角半径 Corner Radius	有效刃长 Effective Length	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm
1	0.02	2	30,000	2,800	0.016	0.35	25,000	2,300	0.012	0.3	21,000	2,000	0.01	0.25	17,000	1,400	0.008	0.2
		3	28,000	2,500	0.016	0.35	23,000	2,100	0.012	0.3	20,000	1,800	0.01	0.25	16,000	1,300	0.008	0.2
		4	25,000	2,200	0.014	0.35	21,000	1,800	0.01	0.3	18,000	1,500	0.008	0.25	14,000	1,100	0.005	0.2
		5	23,000	1,900	0.012	0.35	19,000	1,600	0.008	0.3	16,000	1,400	0.005	0.25	13,000	1,000	0.003	0.2
		6	20,000	1,700	0.01	0.35	16,000	1,400	0.008	0.3	14,000	1,200	0.005	0.25	11,000	850	0.003	0.2
		8	18,000	1,400	0.008	0.35	15,000	1,100	0.006	0.3	13,000	900	0.005	0.25	10,000	650	0.002	0.2
		10	16,000	1,000	0.006	0.35	13,000	800	0.004	0.3	11,000	700	0.003	0.25	9,000	500	0.002	0.2
		2	30,000	2,800	0.065	0.35	25,000	2,300	0.05	0.3	21,000	2,000	0.04	0.25	17,000	1,400	0.03	0.2
		3	28,000	2,500	0.06	0.35	23,000	2,100	0.05	0.3	20,000	1,800	0.04	0.25	16,000	1,300	0.03	0.2
		4	25,000	2,200	0.055	0.35	21,000	1,800	0.04	0.3	18,000	1,500	0.03	0.25	14,000	1,100	0.02	0.2
1.2	0.05	5	23,000	1,900	0.05	0.35	19,000	1,600	0.03	0.3	16,000	1,400	0.02	0.25	13,000	1,000	0.01	0.2
		6	20,000	1,700	0.045	0.35	16,000	1,400	0.02	0.3	14,000	1,200	0.01	0.25	11,000	850	0.007	0.2
		8	18,000	1,400	0.035	0.35	15,000	1,100	0.015	0.3	13,000	900	0.008	0.25	10,000	650	0.005	0.2
		10	16,000	1,000	0.025	0.35	13,000	800	0.01	0.3	11,000	700	0.006	0.25	9,000	500	0.005	0.2
		5	24,000	2,200	0.06	0.45	20,000	1,800	0.045	0.4	17,000	1,500	0.03	0.3	14,000	1,100	0.02	0.2
		10	16,000	1,400	0.04	0.45	13,000	1,100	0.03	0.4	11,000	950	0.01	0.3	9,000	700	0.005	0.2
1.5	0.1	3	28,000	2,800	0.016	0.55	23,000	2,300	0.012	0.5	20,000	2,000	0.01	0.4	16,000	1,400	0.008	0.3
		4	25,000	2,400	0.016	0.55	21,000	2,000	0.012	0.5	18,000	1,700	0.01	0.4	14,000	1,200	0.008	0.3
		6	23,000	2,200	0.014	0.55	19,000	1,800	0.01	0.5	16,000	1,500	0.008	0.4	13,000	1,100	0.005	0.3
		8	20,000	1,800	0.014	0.55	16,000	1,500	0.01	0.5	14,000	1,300	0.008	0.4	11,000	900	0.003	0.3
		12	16,000	1,400	0.012	0.55	13,000	1,100	0.008	0.5	11,000	950	0.005	0.4	9,000	650	0.002	0.3
		15	14,000	1,000	0.008	0.55	11,000	800	0.005	0.5	9,000	700	0.003	0.4	7,000	500	0.002	0.3
		3	28,000	2,800	0.1	0.55	23,000	2,300	0.05	0.5	20,000	2,000	0.04	0.4	16,000	1,400	0.03	0.3
		4	25,000	2,400	0.08	0.55	21,000	2,000	0.05	0.5	18,000	1,700	0.04	0.4	14,000	1,200	0.03	0.3
		6	23,000	2,200	0.08	0.55	19,000	1,800	0.045	0.5	16,000	1,500	0.03	0.4	13,000	1,100	0.02	0.3
		8	20,000	1,800	0.06	0.55	16,000	1,500	0.04	0.5	14,000	1,300	0.025	0.4	11,000	900	0.01	0.3
2	0.2	12	16,000	1,400	0.06	0.55	13,000	1,100	0.03	0.5	11,000	950	0.02	0.4	9,000	650	0.007	0.3
		15	14,000	1,000	0.03	0.55	11,000	800	0.02	0.5	9,000	700	0.007	0.4	7,000	500	0.005	0.3
		4	24,000	2,800	0.02	0.7	20,000	2,300	0.015	0.6	17,000	2,000	0.012	0.5	14,000	1,400	0.008	0.35
		6	22,000	2,500	0.018	0.7	18,000	2,100	0.015	0.6	15,000	1,800	0.012	0.5	12,000	1,300	0.008	0.35
		8	20,000	2,200	0.016	0.7	16,000	1,800	0.012	0.6	14,000	1,500	0.01	0.5	11,000	1,100	0.005	0.35
		12	16,000	1,700	0.014	0.7	13,000	1,400	0.01	0.6	11,000	1,200	0.008	0.5	9,000	850	0.003	0.35
		16	14,000	1,400	0.012	0.7	11,000	1,100	0.008	0.6	9,500	950	0.005	0.5	7,500	650	0.002	0.35
		20	10,000	800	0.01	0.7	8,000	650	0.005	0.6	7,000	550	0.003	0.5	5,500	400	0.002	0.35
		4	24,000	2,800	0.13	0.7	20,000	2,300	0.06	0.6	17,000	2,000	0.05	0.5	14,000	1,400	0.03	0.35
		6	22,000	2,500	0.12	0.7	18,000	2,100	0.06	0.6	15,000	1,800	0.05	0.5	12,000	1,300	0.03	0.35
2.5	0.3	8	20,000	2,200	0.11	0.7	16,000	1,800	0.05	0.6	14,000	1,500	0.04	0.5	11,000	1,100	0.02	0.35
		12	16,000	1,700	0.09	0.7	13,000	1,400	0.04	0.6	11,000	1,200	0.03	0.5	9,000	850	0.01	0.35
		16	14,000	1,400	0.07	0.7	11,000	1,100	0.03	0.6	9,500	950	0.02	0.5	7,500	650	0.007	0.35
		20	10,000	800	0.05	0.7	8,000	650	0.02	0.6	7,000	550	0.01	0.5	5,500	400	0.005	0.35
		10	16,000	2,200	0.14	0.85	13,000	1,800	0.07	0.7	11,000	1,500	0.05	0.5	9,000	1,100	0.03	0.5
		20	11,000	1,400	0.08	0.85	9,000	1,100	0.04	0.7	7,500	950	0.02	0.5	6,000	650	0.01	0.5
		30	7,000	800	0.03	0.85	5,500	650	0.01	0.7	4,500	550	0.01	0.5	3,500	400	0.005	0.5
		10	16,000	2,200	0.14	0.85	13,000	1,800	0.07	0.7	11,000	1,500	0.05	0.5	9,000	1,100	0.03	0.5
		20	11,000	1,400	0.08	0.85	9,000	1,100	0.04	0.7	7,500	950	0.02	0.5	6,000	650	0.01	0.5
		30	7,000	800	0.03	0.85	5,500	650	0.01	0.7	4,500	550	0.01	0.5	3,500	400	0.005	0.5

切削参数表 Milling Parameters Recommendation

4刃深沟圆鼻刀

4 Flute Deep Groove Corner Radius End Mill

被切削材质 Workpiece Material			调质钢 Quenched&Tempered Steel HPM + NAK ("42HRC)				淬硬钢 Hardened Steel HPM-38 + STAVAX + SKD61 ("55HRC)				淬硬钢 Hardened Steel SKD11 + PD613 ("62HRC)				工具钢 Tool Steel SKH ("65HRC)			
刃径 Cutter Dia.	圆角半径 Corner Radius	有效刃长 Effective Length	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm	转速 Rev.Speed min-1	进给 Feeding Rate mm/min	切深 Ap mm	切宽 Ae mm
3	0.05 0.1 0.2 0.3 0.5 1	4	18,000	2,800	0.18	1	15,000	2,300	0.1	0.8	13,000	2,000	0.07	0.7	10,000	1,400	0.05	0.6
		6	16,000	2,500	0.17	1	13,000	2,100	0.1	0.8	11,000	1,800	0.07	0.7	9,000	1,300	0.05	0.6
		8	14,000	2,200	0.16	1	11,000	1,800	0.1	0.8	9,500	1,500	0.07	0.7	7,500	1,100	0.05	0.6
		12	13,500	2,000	0.16	1	11,000	1,600	0.08	0.8	9,500	1,400	0.06	0.7	7,500	1,000	0.04	0.6
		16	12,000	1,800	0.14	1	10,000	1,500	0.07	0.8	8,500	1,300	0.05	0.7	7,000	900	0.03	0.6
		20	10,000	1,400	0.12	1	8,000	1,100	0.05	0.8	7,000	950	0.04	0.7	5,500	700	0.02	0.6
		25	9,000	1,200	0.08	1	7,500	1,000	0.04	0.8	6,500	850	0.02	0.7	5,000	600	0.01	0.6
		30	8,000	800	0.06	1	6,500	650	0.03	0.8	5,500	550	0.02	0.7	4,500	400	0.007	0.6
4	0.1 0.2 0.3 0.5 1	8	12,000	2,600	0.25	1.4	10,000	2,100	0.15	1.2	8,500	1,800	0.08	1	7,000	1,300	0.06	0.8
		12	12,000	2,600	0.25	1.4	10,000	2,100	0.15	1.2	8,500	1,800	0.08	1	7,000	1,300	0.06	0.8
		16	10,000	2,200	0.17	1.4	8,000	1,800	0.1	1.2	7,000	1,500	0.06	1	5,500	1,100	0.05	0.8
		24	8,000	1,600	0.14	1.4	6,500	1,300	0.08	1.2	5,500	1,100	0.05	1	4,500	750	0.03	0.8
		32	6,500	1,300	0.08	1.4	5,500	1,100	0.04	1.2	4,500	950	0.02	1	3,500	650	0.01	0.8
5	0.1 0.2 0.3 0.5 1	15	9,500	2,400	0.25	2.2	8,000	2,000	0.15	2	7,000	1,700	0.08	1.6	5,500	1,200	0.06	1.2
		20	8,000	2,000	0.18	2.2	6,500	1,600	0.1	2	5,500	1,400	0.07	1.6	4,500	1,000	0.05	1.2
		40	5,000	1,200	0.09	2.2	4,000	1,000	0.05	2	3,500	850	0.02	1.6	3,000	600	0.01	1.2
6	0.1 0.2 0.3 0.5 1	12	8,000	2,500	0.35	2.7	6,500	2,100	0.18	2.5	5,500	1,800	0.08	2	4,500	1,300	0.06	1.5
		18	7,000	2,200	0.3	2.7	5,500	1,800	0.18	2.5	4,500	1,500	0.08	2	3,500	1,100	0.06	1.5
		24	6,000	1,800	0.2	2.7	5,000	1,500	0.15	2.5	4,000	1,300	0.07	2	3,000	900	0.05	1.5
		48	3,000	900	0.1	2.7	2,500	750	0.05	2.5	2,000	650	0.03	2	2,000	450	0.02	1.5



6刃直柄圆鼻刀 6 Flute Straight Shank Corner Radius End Mill



公差: d=h5	Tolerance	涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
D≤3	0,-0.015	TiSi	○	○	○	6	50°	HRC≤65
3 < D < 20	0,-0.02							
R	±0.005							

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	≤55hrc ○ >55hrc ○	○	○					○

订货号 Code No.	刃径 (D) Cutter Dia.	圆角 (R) Corner Radius	刃长 (l) Length of Cut	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.060.15.02.060.6R	6	R0.2	15	6	60
65.060.15.03.060.6R		R0.3			60
65.060.15.05.060.6R		R0.5			60
65.060.15.10.060.6R		R1			60
65.060.25.02.070.6R	6	R0.2	25	6	70
65.060.25.03.070.6R		R0.3			70
65.060.25.05.070.6R		R0.5			70
65.060.25.10.070.6R		R1			70
65.080.20.03.075.6R	8	R0.3	20	8	75
65.080.20.05.075.6R		R0.5			75
65.080.20.10.075.6R		R1			75
65.080.20.15.075.6R		R1.5			75
65.080.35.03.090.6R	8	R0.3	35	8	90
65.080.35.05.090.6R		R0.5			90
65.080.35.10.090.6R		R1			90
65.080.35.15.090.6R		R1.5			90
65.100.25.03.080.6R	10	R0.3	25	10	80
65.100.25.05.080.6R		R0.5			80
65.100.25.10.080.6R		R1			80
65.100.25.20.080.6R		R2			80
65.100.45.03.100.6R	10	R0.3	45	10	100
65.100.45.05.100.6R		R0.5			100
65.100.45.10.100.6R		R1			100
65.100.45.20.100.6R		R2			100
65.120.30.03.100.6R	12	R0.3	30	12	100
65.120.30.05.100.6R		R0.5			100
65.120.30.10.100.6R		R1			100
65.120.30.20.100.6R		R2			100

6刃直柄圆鼻刀 6 Flute Straight Shank Corner Radius End Mill



公差: d=h5	Tolerance	涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
D≤3	0,-0.015	TiSi	○	○	○	6	50°	HRC≤65
3 < D < 20	0,-0.02							
R	±0.005							

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	≤55hrc ○ >55hrc ○	○	○					○

订货号 Code No.	刃径 (D) Cutter Dia.	圆角 (R) Corner Radius	刃长 (l) Length of Cut	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.120.55.03.120.6R	12	R0.3	55	12	120
65.120.55.05.120.6R		R0.5			120
65.120.55.10.120.6R		R1			120
65.120.55.20.120.6R		R2			120
65.160.40.05.110.6R	16	R0.5	40	16	110
65.160.40.10.110.6R		R1			110
65.160.40.20.110.6R		R2			110
65.160.40.30.110.6R		R3			110
65.160.65.05.135.6R	16	R0.5	65	16	135
65.160.65.10.135.6R		R1			135
65.160.65.20.135.6R		R2			135
65.160.65.30.135.6R		R3			135
65.200.45.05.125.6R	20	R0.5	45	20	125
65.200.45.10.125.6R		R1			125
65.200.45.20.125.6R		R2			125
65.200.45.30.125.6R		R3			125
65.200.75.05.155.6R	20	R0.5	75	20	155
65.200.75.10.155.6R		R1			155
65.200.75.20.155.6R		R2			155
65.200.75.30.155.6R		R3			155
65.250.50.10.140.6R	25	R1	50	25	140
65.250.50.20.140.6R		R2			140
65.250.50.30.140.6R		R3			140
65.250.50.40.140.6R		R4			140
65.250.90.10.180.6R	25	R1	90	25	180
65.250.90.20.180.6R		R2			180
65.250.90.30.180.6R		R3			180
65.250.90.40.180.6R		R4			180

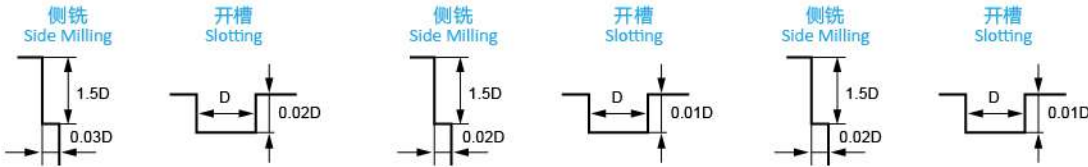


切削参数表 Milling Parameters Recommendation

6刃直柄圆鼻刀  
6 Flute Straight Shank Corner Radius End Mill

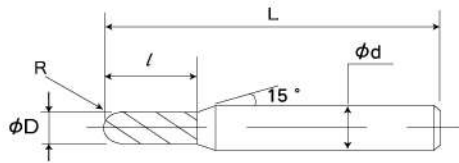
被切削材质 Workpiece Material	淬火钢 Hardened Steel HPM-38 + STAVAX + SKD61 (~55HRC)				淬火钢 Hardened Steel SKD11 (~62HRC)				工具钢 Tool Steel SKH (~65HRC)			
	侧铣 Side Milling		开槽 Slotting		侧铣 Side Milling		开槽 Slotting		侧铣 Side Milling		开槽 Slotting	
	转速 Spindle Speed min-1	进给速度 Feed mm/min	转速 Spindle Speed min-1	进给速度 Feed mm/min	转速 Spindle Speed min-1	进给速度 Feed mm/min	转速 Spindle Speed min-1	进给速度 Feed mm/min	转速 Spindle Speed min-1	进给速度 Feed mm/min	转速 Spindle Speed min-1	进给速度 Feed mm/min
3	10,000	1,000	8,000	580	8,000	700	7,500	500	7,000	560	6,000	280
4	8,500	1,200	7,500	620	7,000	800	6,000	540	6,000	600	5,000	300
5	7,600	1,600	6,800	900	6,200	1,200	5,600	600	5,300	800	4,800	350
6	6,400	1,800	5,800	950	5,300	1,200	4,800	600	4,600	800	4,200	350
8	4,800	2,000	4,300	1,000	4,000	1,400	3,600	700	3,400	1,000	3,000	400
10	3,800	2,000	3,400	1,000	3,200	1,600	2,800	800	2,600	1,000	2,300	500
12	3,200	2,000	2,800	1,000	2,600	1,600	2,300	800	2,200	1,000	2,000	500
16	2,400	2,000	2,000	1,000	1,800	1,600	1,600	800	1,500	1,000	1,400	500
20	1,500	1,000	1,500	1,000	1,200	1,000	1,000	800	800	1000	800	500

切深切宽的推荐 Ap and Ae recommendation



※机械、卡盘请使用刚性高精度的产品。  
※切入量、机械刚性不同，条件也不同。请随时调整。  
※请按相同比例调整转速和进给速度。  
※推荐使用吹气或油雾。  
※Use a rigid and precise machine and chuck holder.  
※Adjust milling conditions according to the volume of Depth of Cut and rigidity of the machine.  
※Adjust both spindle speed and feed at the same rate.  
※Use oilmist coolant or air blow.

2刃段差球刀 2 Flute Segment Ball Nose End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R < 1	±0.005
R ≥ 1	±0.01

涂层种类 Coating	仿形铣 Kellerling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
TiSi	○	2	30°	HRC≤65

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○				○

订货号 Code No.	球头半径 (R) Nose Radius	刃长 (l) Length of Cut	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.0005.0005.2B	R0.025	0.1	4	45
65.0006.0006.2B	R0.03	0.12	4	45
65.0007.0007.2B	R0.035	0.14	4	45
65.0008.0008.2B	R0.04	0.16	4	45
65.0010.0010.2B	R0.05	0.2	4	45
65.0020.0020.2B	R0.1	0.4	4	45
65.0030.0030.2B	R0.15	0.6	4	45
65.0040.0060.2B	R0.2	0.8	4	45
65.0050.0080.2B	R0.25	1	4	45
65.0060.0090.2B	R0.3	1.2	4	45
65.0070.0110.2B	R0.35	1.4	4	45
65.0080.0120.2B	R0.4	1.6	4	45
65.0090.0135.2B	R0.45	1.8	4	45
65.0100.0200.2B	R0.5	2	4	50
65.0120.0240.2B	R0.6	2.4	4	50
65.0150.0300.2B	R0.75	3	4	50
65.0200.0400.2B	R1	4	4	50
65.0250.0500.2B	R1.25	5	4	50
65.0300.0600.2B	R1.5	6	4	50
65.0300.0600.2B-6	R1.5	6	6	50
65.0350.0700.2B-6	R1.75	7	6	50
65.0400.0800.2B-6	R2	8	6	50
65.0500.1000.2B-6	R2.5	10	6	60



2刃直柄球刀 2 Flute Straight Shank Ball Nose End Mill



被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

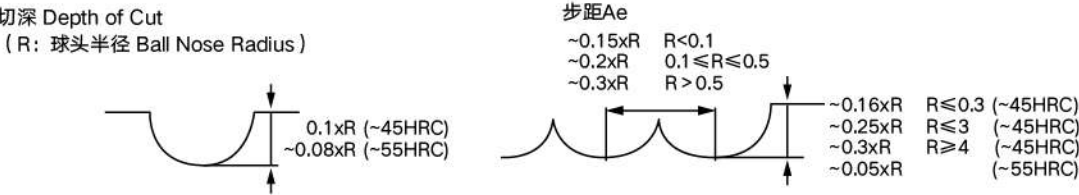
碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤55hrc ○ >55hrc	○	○	○				○

订货号 Code No.	球头半径 (R) Nose Radius	刃长 (l) Length of Cut	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.04.06.050.2B	R2	6	4	50
65.04.06.075.2B				75
65.06.09.050.2B	R3	9	6	50
65.06.09.060.2B				60
65.06.09.075.2B				75
65.06.09.100.2B				100
65.08.12.060.2B	R4	12	8	60
65.08.12.075.2B				75
65.08.12.100.2B				100
65.08.12.150.2B				150
65.10.15.075.2B	R5	15	10	75
65.10.15.100.2B				100
65.10.15.150.2B				150
65.12.18.075.2B	R6	18	12	75
65.12.18.100.2B				100
65.12.18.150.2B				150

切削参数表 Milling Parameters Recommendation

2刃段差 / 直柄球头刀  
2 Flute Segment / Straight Shank Ball Nose End Mill

被切削材质 Workpiece Material	碳素钢 Carbon Steel S50C		合金钢・调质钢 Alloy Steel-Quenched&Tempered Steel SCM・SKD・SUS・HPM・NAK		淬火钢 Hardened Steel SKD61 (~55HRC)		铝合金 Aluminum Alloy		铜 Copper	
切削速度	150m/min		120 ~ 150m/min		80 ~ 100m/min		150m/min		100 ~ 150m/min	
球刀半径 Ball Nose Radius	转速 Rev. Speed min-1	进给 速度 Feeding Rate mm/min	转速 Rev. Speed min-1	进给 速度 Feeding Rate mm/min	转速 Rev. Speed min-1	进给 速度 Feeding Rate mm/min	转速 Rev. Speed min-1	进给 速度 Feeding Rate mm/min	转速 Rev. Speed min-1	进给 速度 Feeding Rate mm/min
0.05	50000	200	50000	150	50000	100	50000	250	50000	250
0.1	50000	400	50000	340	50000	200	50000	500	50000	500
0.2	50000	630	50000	600	50000	630	50000	600	50000	600
0.3	50000	930	50000	940	48000	900	50000	750	50000	750
0.4	50000	1200	48000	1200	36000	900	50000	1000	50000	1000
0.5	48000	1430	38000	1200	29000	900	50000	1250	48000	1000
0.6	40000	1430	32000	1200	24000	810	50000	1480	40000	1080
0.8	30000	1270	24000	1000	18000	670	50000	1900	30000	1160
1	24000	1160	19000	800	14300	600	48000	2400	24000	1200
1.5	16000	930	13000	600	9600	460	32000	2400	16000	1200
2	12000	930	10000	570	7200	450	24000	2400	12000	1200
2.5	9600	930	8000	560	5700	450	19000	2400	9600	1200
3	8000	930	6400	540	4800	450	16000	2400	8000	1200
4	6000	900	4800	540	3600	450	12000	2400	6000	1200
5	4800	900	3800	540	2900	450	9600	2300	4800	1150
6	4000	900	3200	540	2400	450	8000	2100	4000	1050
7	3400	900	2750	540	2050	450	6800	2000	3400	1000
8	3000	900	2400	540	1800	450	6000	2000	3000	1000
9	2650	900	2100	520	1600	450	5300	2000	2650	1000
10	2400	900	1900	520	1450	450	4800	2000	2400	1000



※槽加工的进给速度请设定为表格中的60%。  
※刀具悬深以4D为基准，更长悬深时，请调整切削条件。  
※吹气或油雾最适合。  
※请按相同比例调整转速和进给速度。  
※When slotting, reduce the feed by 60% from the above values.  
※Length of overhang is 4 times Dia. as standard. When it is longer than 4 times Dia., adjust the conditions listed above.  
※Recommended airflow or oil mist.  
※Adjust both spindle speed and feed at the same rate



2刃深沟球头刀 2 Flute Deep Groove Ball Nose End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R < 1	±0.005
R ≥ 1	±0.01

涂层种类 Coating	仿形铣 Kellerling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
TiSi	○	2	30°	HRC≤65

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤55HRC ○ >55HRC	○	○	○				○

订货号 Code No.	球头半径 (R) Nose Radius	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.01.003.2LB	R0.05	0.3	0.07	0.085	4	45
65.01.005.2LB		0.5				45
65.015.003.2LB	R0.075	0.3	0.105	0.13	4	45
65.015.005.2LB		0.5				45
65.015.010.2LB	R0.1	1	0.14	0.18	4	45
65.02.006.2LB		0.6				45
65.02.008.2LB		0.8				45
65.02.010.2LB		1				45
65.02.012.2LB		1.2				45
65.02.015.2LB		1.5				45
65.02.020.2LB	R0.15	2	0.21	0.28	4	45
65.03.008.2LB		0.8				45
65.03.010.2LB		1				45
65.03.012.2LB		1.2				45
65.03.015.2LB		1.5				45
65.03.020.2LB		2				45
65.03.025.2LB	R0.2	2.5	0.28	0.37	4	45
65.03.030.2LB		3				45
65.03.040.2LB		4				45
65.03.050.2LB		5				45
65.03.060.2LB		6				45
65.03.080.2LB	R0.25	8	0.35	0.46	4	45
65.03.015.2LB		1.5				45
65.03.020.2LB		2				45
65.03.025.2LB		2.5				45
65.03.030.2LB		3				45
65.03.040.2LB		4				45

2刃深沟球头刀 2 Flute Deep Groove Ball Nose End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R < 1	±0.005
R ≥ 1	±0.01

涂层种类 Coating	仿形铣 Kellerling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
TiSi	○	2	30°	HRC≤65

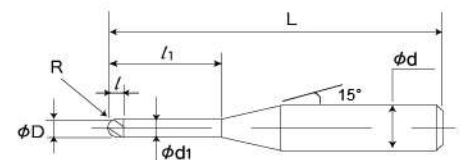
被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○ ≤55HRC ○ >55HRC	○	○	○				○

订货号 Code No.	球头半径 (R) Nose Radius	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.03.100.2LB	R0.25	10	0.35	0.46	4	50
65.03.015.2LB	R0.3	1.5	0.42	0.56	4	45
65.03.020.2LB		2				45
65.03.040.2LB		4				45
65.03.060.2LB		6				45
65.03.080.2LB	R0.4	8	0.56	0.76	4	45
65.03.100.2LB		10				50
65.03.020.2LB		2				45
65.03.030.2LB		3				45
65.03.040.2LB	R0.5	4	0.7	0.95	4	45
65.03.060.2LB		6				50
65.03.080.2LB		8				50
65.03.100.2LB		10				50
65.03.120.2LB	R0.6	12	0.84	1.15	4	50
65.03.150.2LB		15				50
65.03.040.2LB		4				50
65.03.060.2LB		6				50
65.03.080.2LB	R0.75	8	1.05	1.45	4	50
65.03.100.2LB		10				50
65.03.120.2LB		12				50
65.03.040.2LB		4				50
65.03.060.2LB	R0.75	6	1.05	1.45	4	50
65.03.080.2LB		8				50
65.03.100.2LB		10				50
65.03.120.2LB		12				50



2刃深沟球头刀 2 Flute Deep Groove Ball Nose End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R < 1	±0.005
R ≥ 1	±0.01

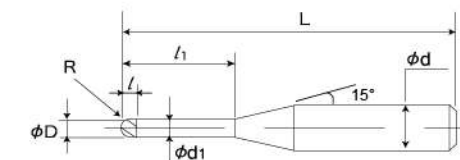
涂层种类 Coating	仿形铣 Kellerling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
TiSi	○	2	30°	HRC≤65

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○	○	○	○	○

订货号 Code No.	球头半径 (R) Nose Radius	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.03.150.2LB	R0.75	15	1.05	1.45	4	50
65.03.200.2LB		20				60
65.03.250.2LB		25				75
65.03.300.2LB		30				75
65.03.060.2LB	R1	6	1.4	1.94	4	50
65.03.080.2LB		8				50
65.03.100.2LB		10				50
65.03.120.2LB		12				50
65.03.160.2LB		16				50
65.03.200.2LB		20				60
65.03.250.2LB		25				75
65.03.300.2LB		30				75
65.03.350.2LB		35				75
65.03.400.2LB		40				75
65.03.080.2LB	R1.25	8	1.75	2.4	4	50
65.03.100.2LB		10				50
65.03.150.2LB		15				50
65.03.200.2LB		20				60
65.03.250.2LB		25				75
65.03.300.2LB		30				75
65.03.350.2LB	R1.25	35	1.75	2.4	6	75
65.03.400.2LB		40				75
65.03.450.2LB	R1.25	45	1.75	2.4	6	100
65.03.500.2LB		50				100
65.03.100.2LB	R1.5	10	2.1	2.85	6	50
65.03.120.2LB		12				50
65.03.150.2LB		15				60
65.03.200.2LB		20				60
65.03.250.2LB		25				75
65.03.300.2LB		30				75
65.03.350.2LB		35				75
65.03.400.2LB		40				75

2刃深沟球头刀 2 Flute Deep Groove Ball Nose End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R < 1	±0.005
R ≥ 1	±0.01

涂层种类 Coating	仿形铣 Kellerling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
TiSi	○	2	30°	HRC≤65

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○	○	○	○	○

订货号 Code No.	球头半径 (R) Nose Radius	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
65.03.450.2LB	R1.5	45	2.1	2.85	6	100
65.03.500.2LB		50				100
65.03.550.2LB		55				100
65.03.600.2LB		60				100
65.03.150.2LB	R2	12	2.8	3.8	6	60
65.03.160.2LB		16				60
65.03.200.2LB		20				60
65.03.250.2LB		25				75
65.03.300.2LB		30				75
65.03.400.2LB		40				75
65.03.500.2LB		50				100
65.03.600.2LB		60				100
65.03.700.2LB		70				110
65.03.800.2LB		80				120
65.03.160.2LB	R2.5	16	3.5	2.8	6	60
65.03.200.2LB		20				60
65.03.250.2LB		25				75
65.03.300.2LB		30				75
65.03.400.2LB		40				75
65.03.500.2LB		50				100
65.03.600.2LB		60				100
65.03.800.2LB		80				120



切削参数表 Milling Parameters Recommendation

2刃深沟球头刀  
2 Flute Deep Groove Ball Nose End Mill

被切削材质 Workpiece Material				淬硬钢 Hardened Steel SKD61 • STAVAX • HPM-38 (~52HRC)				淬硬钢 Hardened Steel SKD11 (~62HRC)				工具钢 Tool Steel SKH (~65HRC)			
刃径 Cutter Dia.	有效长 Effective Length	有效 长度比 L/D		切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1
0.05	0.2	2		0.003	0.005	120	40000	0.002	0.005	100	40000	0.002	0.003	70	40000
0.05	0.3	3		0.003	0.005	100	40000	0.002	0.005	70	40000	0.002	0.003	50	40000
0.05	0.5	5		0.002	0.003	70	40000	0.001	0.003	50	40000	0.001	0.002	30	40000
0.075	0.3	2		0.003	0.005	180	40000	0.002	0.005	150	40000	0.002	0.003	100	40000
0.075	0.5	3.3		0.003	0.005	150	40000	0.002	0.005	120	40000	0.002	0.003	70	40000
0.075	1	6.7		0.002	0.003	70	40000	0.001	0.003	50	40000	0.001	0.002	30	40000
0.1	0.3	1.5		0.01	0.01	350	40000	0.006	0.005	300	40000	0.003	0.003	200	40000
0.1	0.5	2.5		0.008	0.01	320	40000	0.005	0.005	280	40000	0.003	0.003	180	40000
0.1	0.75	3.8		0.005	0.01	280	40000	0.003	0.005	200	40000	0.002	0.003	150	40000
0.1	1	5		0.003	0.005	250	40000	0.002	0.003	160	40000	0.001	0.002	120	40000
0.1	1.25	6.3		0.003	0.005	180	40000	0.002	0.003	140	40000	0.001	0.002	100	40000
0.1	1.5	7.5		0.003	0.005	150	40000	0.002	0.003	120	40000	0.001	0.002	80	40000
0.1	1.75	8.8		0.002	0.003	120	40000	0.001	0.002	100	40000	0.001	0.002	60	40000
0.1	2	10		0.002	0.003	100	40000	0.001	0.002	80	40000	0.001	0.001	50	40000
0.1	2.5	12.5		0.001	0.002	70	40000	0.001	0.001	60	40000	0.001	0.001	40	40000
0.1	3	15		0.001	0.001	50	40000	0.001	0.001	40	40000	0.001	0.001	30	40000
0.15	0.5	1.7		0.01	0.015	350	40000	0.007	0.01	300	40000	0.003	0.005	280	40000
0.15	0.6	2		0.007	0.01	350	40000	0.005	0.007	300	40000	0.003	0.005	250	40000
0.15	0.75	2.5		0.007	0.01	330	40000	0.005	0.007	280	40000	0.003	0.005	230	40000
0.15	1	3.3		0.007	0.01	320	40000	0.005	0.007	250	40000	0.003	0.005	200	40000
0.15	1.25	4.2		0.005	0.007	280	40000	0.003	0.005	200	40000	0.002	0.003	160	40000
0.15	1.5	5		0.005	0.007	230	40000	0.003	0.005	180	40000	0.002	0.003	120	40000
0.15	1.75	5.8		0.003	0.005	180	40000	0.002	0.003	150	40000	0.002	0.002	100	40000
0.15	2	6.7		0.003	0.005	150	40000	0.002	0.003	120	40000	0.002	0.002	90	40000
0.15	2.25	7.5		0.002	0.003	120	40000	0.001	0.002	100	40000	0.001	0.001	80	40000
0.15	2.5	8.3		0.002	0.003	100	40000	0.001	0.002	80	40000	0.001	0.001	70	40000
0.15	3	10		0.001	0.003	80	40000	0.001	0.002	70	40000	0.001	0.001	60	40000
0.15	3.5	11.7		0.001	0.002	70	40000	0.001	0.001	60	40000	0.001	0.001	50	40000
0.15	4	13.3		0.001	0.002	60	40000	0.001	0.001	50	40000	0.001	0.001	40	40000
0.2	0.5	1.3		0.03	0.05	800	40000	0.03	0.03	720	40000	0.009	0.02	580	40000
0.2	0.8	2		0.02	0.05	800	40000	0.02	0.03	720	40000	0.008	0.02	580	40000
0.2	1	2.5		0.02	0.05	800	40000	0.02	0.03	720	40000	0.008	0.02	580	40000
0.2	1.5	3.8		0.01	0.03	620	40000	0.01	0.02	500	40000	0.005	0.01	400	40000
0.2	2	5		0.01	0.02	500	40000	0.01	0.01	380	40000	0.005	0.007	300	40000
0.2	2.5	6.3		0.007	0.01	420	40000	0.005	0.007	300	40000	0.003	0.005	260	40000
0.2	3	7.5		0.007	0.01	300	40000	0.005	0.007	240	40000	0.003	0.005	200	40000
0.2	3.5	8.8		0.005	0.007	230	40000	0.003	0.005	160	40000	0.002	0.003	120	40000
0.2	4	10		0.005	0.005	160	30000	0.003	0.003	120	30000	0.002	0.003	90	30000
0.2	4.5	11.3		0.003	0.005	100	30000	0.002	0.003	80	30000	0.001	0.002	60	30000
0.2	5	12.5		0.002	0.003	70	30000	0.001	0.002	50	30000	0.001	0.002	40	30000
0.2	6	15		0.001	0.002	50	30000	0.001	0.001	40	30000	0.001	0.001	30	30000
0.25	1	2		0.03	0.05	1000	40000	0.02	0.03	860	40000	0.01	0.02	650	40000
0.25	1.5	3		0.02	0.05	850	40000	0.01	0.03	720	40000	0.007	0.02	520	40000
0.25	2	4		0.02	0.03	720	40000	0.01	0.02	650	40000	0.007	0.01	400	40000

切削参数表 Milling Parameters Recommendation

2刃深沟球头刀  
2 Flute Deep Groove Ball Nose End Mill

被切削材质 Workpiece Material			淬硬钢 Hardened Steel SKD61 • STAVAX • HPM-38 (~52HRC)				淬硬钢 Hardened Steel SKD11 (~62HRC)				工具钢 Tool Steel SKH (~65HRC)			
刃径 Cutter Dia.	有效长 Effective Length	有效长度比 L/D	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1
0.25	2.5	5	0.01	0.02	600	40000	0.007	0.01	530	40000	0.005	0.007	360	40000
0.25	3	6	0.01	0.02	500	40000	0.007	0.01	420	40000	0.005	0.007	320	40000
0.25	3.5	7	0.007	0.01	420	40000	0.005	0.007	360	40000	0.003	0.005	280	40000
0.25	4	8	0.007	0.01	350	40000	0.005	0.007	300	40000	0.003	0.005	260	40000
0.25	4.5	9	0.005	0.005	300	40000	0.003	0.003	260	40000	0.002	0.003	220	40000
0.25	5	10	0.005	0.005	240	33000	0.003	0.003	200	33000	0.002	0.003	180	33000
0.25	5.5	11	0.003	0.005	200	30000	0.002	0.003	160	30000	0.001	0.002	120	30000
0.25	6	12	0.002	0.003	120	30000	0.001	0.002	80	30000	0.001	0.002	70	30000
0.25	8	16	0.002	0.002	75	30000	0.001	0.002	60	30000	0.001	0.002	50	30000
0.25	10	20	0.001	0.002	40	20000	0.001	0.002	30	20000	0.001	0.001	20	20000
0.3	1	1.7	0.05	0.1	1400	40000	0.03	0.06	1000	40000	0.02	0.05	720	30000
0.3	1.5	2.5	0.05	0.1	1400	40000	0.03	0.06	1000	40000	0.02	0.05	720	30000
0.3	2	3.3	0.05	0.1	1400	40000	0.03	0.06	1000	40000	0.02	0.05	720	30000
0.3	2.5	4.2	0.03	0.05	1200	40000	0.02	0.04	840	40000	0.02	0.03	640	30000
0.3	3	5	0.03	0.05	1200	40000	0.02	0.04	840	40000	0.02	0.03	640	30000
0.3	3.5	5.8	0.02	0.03	1000	40000	0.01	0.03	620	40000	0.01	0.02	480	30000
0.3	4	6.7	0.02	0.03	1000	40000	0.01	0.03	620	40000	0.01	0.02	480	30000
0.3	4.5	7.5	0.02	0.03	900	35000	0.01	0.02	580	35000	0.008	0.015	430	30000
0.3	5	8.3	0.01	0.02	720	30000	0.007	0.015	500	30000	0.007	0.01	400	30000
0.3	5.5	9.2	0.01	0.015	700	30000	0.007	0.01	450	30000	0.005	0.008	360	30000
0.3	6	10	0.007	0.01	500	30000	0.005	0.007	380	30000	0.004	0.006	320	30000
0.3	7	11.7	0.005	0.007	400	25000	0.003	0.005	300	25000	0.003	0.003	260	20000
0.3	8	13.3	0.003	0.005	320	25000	0.003	0.003	260	25000	0.002	0.003	220	20000
0.3	9	15	0.003	0.003	280	25000	0.003	0.002	220	25000	0.001	0.002	160	20000
0.3	10	16.7	0.002	0.003	150	20000	0.002	0.002	120	20000	0.001	0.002	100	18000
0.3	12	20	0.002	0.002	80	20000	0.002	0.002	60	20000	0.001	0.002	50	18000
0.35	2	2.9	0.07	0.1	1600	40000	0.05	0.08	1300	40000	0.03	0.07	1000	30000
0.35	4	5.7	0.04	0.06	1300	40000	0.03	0.04	820	40000	0.015	0.02	600	30000
0.35	6	8.6	0.01	0.03	800	30000	0.01	0.015	500	30000	0.006	0.01	420	25000
0.35	8	11.4	0.006	0.01	520	25000	0.005	0.006	380	20000	0.004	0.006	250	20000
0.4	2	2.5	0.1	0.15	2000	40000	0.07	0.1	1600	40000	0.05	0.1	1200	30000
0.4	3	3.8	0.1	0.15	2000	40000	0.07	0.1	1600	40000	0.05	0.05	1200	30000
0.4	4	5	0.05	0.1	1600	40000	0.05	0.05	1200	40000	0.03	0.05	860	30000
0.4	5	6.3	0.05	0.05	1600	40000	0.03	0.05	1000	40000	0.02	0.03	620	30000
0.4	6	7.5	0.03	0.05	1200	30000	0.02	0.03	760	30000	0.01	0.02	560	25000
0.4	7	8.8	0.02	0.03	1000	30000	0.01	0.02	680	30000	0.007	0.01	520	25000
0.4	8	10	0.01	0.02	820	30000	0.007	0.01	600	30000	0.005	0.01	480	25000
0.4	10	12.5	0.005	0.005	450	25000	0.003	0.003	380	25000	0.002	0.003	320	20000
0.4	12	15	0.003	0.005	320	20000	0.002	0.003	260	20000	0.002	0.002	200	20000
0.45	2	2.2	0.1	0.2	2200	40000	0.08	0.15	1800	30000	0.06	0.1	1300	30000
0.45	4	4.4	0.05	0.12	1800	40000	0.04	0.08	1400	30000	0.03	0.05	900	25000
0.45	6	6.7	0.035	0.15	1200	30000	0.025	0.035	800	25000	0.015	0.025	600	20000
0.45	8	8.9	0.025	0.04	1000	30000	0.015	0.025	700	23000	0.008	0.015	500	20000
0.5	2	2	0.1	0.3	2500	40000	0.1	0.2	2000	30000	0.08	0.1	1400	25000



切削参数表 Milling Parameters Recommendation

2刃深沟球头刀  
2 Flute Deep Groove Ball Nose End Mill

被切削材质 Workpiece Material			淬硬钢 Hardened Steel SKD61 • STAVAX • HPM-38 (≈ 52HRC)				淬硬钢 Hardened Steel SKD11 (≈ 62HRC)				工具钢 Tool Steel SKH (≈ 65HRC)			
刃径 Cutter Dia.	有效长 Effective Length	有效 长度比 L/D	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1
0.5	2.5	2.5	0.1	0.3	2500	40000	0.1	0.2	2000	30000	0.08	0.1	1400	25000
0.5	3	3	0.1	0.3	2500	40000	0.1	0.2	2000	30000	0.08	0.1	1400	25000
0.5	4	4	0.1	0.2	2500	40000	0.05	0.15	1800	30000	0.05	0.1	1200	25000
0.5	5	5	0.05	0.15	2000	30000	0.04	0.1	1600	25000	0.03	0.05	920	20000
0.5	6	6	0.05	0.1	1800	30000	0.04	0.05	1200	25000	0.02	0.05	740	20000
0.5	7	7	0.04	0.06	1200	30000	0.03	0.04	950	25000	0.02	0.03	680	20000
0.5	8	8	0.04	0.06	1000	30000	0.03	0.04	860	25000	0.02	0.03	560	20000
0.5	9	9	0.03	0.05	820	25000	0.02	0.03	750	20000	0.01	0.02	500	18000
0.5	10	10	0.03	0.05	750	25000	0.02	0.03	620	20000	0.01	0.02	450	18000
0.5	12	12	0.01	0.03	600	20000	0.007	0.02	520	18000	0.005	0.01	400	16000
0.5	13	13	0.008	0.02	500	20000	0.005	0.01	420	18000	0.003	0.006	350	16000
0.5	14	14	0.005	0.01	420	20000	0.003	0.007	360	18000	0.002	0.005	320	16000
0.5	16	16	0.005	0.005	300	18000	0.003	0.005	250	16000	0.002	0.003	200	14000
0.5	18	18	0.003	0.005	180	18000	0.002	0.005	120	16000	0.002	0.002	85	14000
0.5	20	20	0.003	0.003	100	16000	0.002	0.003	75	14000	0.002	0.002	60	12000
0.5	22	22	0.002	0.003	50	14000	0.002	0.002	40	12000	0.001	0.002	35	10000
0.6	2.4	2	0.1	0.3	2500	30000	0.1	0.2	2000	30000	0.05	0.1	1600	25000
0.6	4	3.3	0.1	0.2	2500	30000	0.07	0.2	2000	30000	0.05	0.1	1600	25000
0.6	6	5	0.07	0.1	2000	30000	0.05	0.1	1600	25000	0.03	0.07	1200	20000
0.6	8	6.7	0.05	0.1	1600	30000	0.03	0.07	1200	25000	0.02	0.05	920	20000
0.6	10	8.3	0.03	0.07	1200	20000	0.02	0.05	860	20000	0.01	0.03	680	18000
0.6	12	10	0.02	0.05	860	20000	0.01	0.03	620	20000	0.007	0.02	480	18000
0.6	14	11.7	0.02	0.03	600	18000	0.01	0.02	400	18000	0.005	0.01	300	16000
0.6	16	13.3	0.01	0.02	350	16000	0.005	0.01	250	16000	0.003	0.007	130	14000
0.7	8	5.7	0.12	0.2	2500	30000	0.08	0.15	1800	20000	0.03	0.08	1000	20000
0.7	12	8.6	0.07	0.12	1400	20000	0.04	0.08	1100	18000	0.015	0.05	700	18000
0.7	16	11.4	0.02	0.05	700	17000	0.01	0.03	600	17000	0.008	0.02	450	16000
0.75	3	2	0.15	0.3	3000	30000	0.1	0.3	2500	30000	0.1	0.2	2000	25000
0.75	4	2.7	0.15	0.3	3000	30000	0.1	0.3	2500	30000	0.1	0.2	2000	25000
0.75	6	4	0.15	0.2	3000	30000	0.1	0.2	2000	30000	0.1	0.1	1600	25000
0.75	8	5.3	0.1	0.2	2500	25000	0.05	0.2	1600	25000	0.05	0.1	1200	20000
0.75	10	6.7	0.1	0.1	2500	25000	0.05	0.1	1200	25000	0.05	0.05	860	20000
0.75	12	8	0.05	0.1	1800	20000	0.03	0.1	920	20000	0.02	0.05	780	18000
0.75	14	9.3	0.05	0.07	1200	20000	0.03	0.05	820	20000	0.02	0.03	650	18000
0.75	16	10.7	0.03	0.05	720	18000	0.02	0.03	650	18000	0.01	0.02	580	16000
0.75	18	12	0.02	0.04	550	16000	0.012	0.025	400	16000	0.008	0.015	400	14000
0.75	20	13.3	0.01	0.03	450	16000	0.01	0.02	360	16000	0.007	0.01	300	14000
0.75	22	14.7	0.01	0.02	330	14000	0.01	0.01	250	14000	0.007	0.007	200	12000
0.75	30	20	0.005	0.005	80	10000	0.003	0.005	60	10000	0.003	0.003	40	8000
0.8	8	5	0.1	0.2	2500	25000	0.07	0.15	2000	20000	0.05	0.1	1600	18000
0.8	12	7.5	0.07	0.1	1800	20000	0.05	0.07	1500	16000	0.03	0.05	1200	14000
0.8	16	10	0.03	0.05	720	16000	0.02	0.03	600	14000	0.015	0.02	480	12000
0.8	20	12.5	0.01	0.03	500	14000	0.01	0.02	380	12000	0.01	0.01	300	10000
1	3	1.5	0.2	0.5	3000	25000	0.2	0.5	2500	25000	0.15	0.3	2000	20000

切削参数表 Milling Parameters Recommendation

2刃深沟球头刀  
2 Flute Deep Groove Ball Nose End Mill

被切削材质 Workpiece Material			淬硬钢 Hardened Steel SKD61 • STAVAX • HPM-38 (≈ 52HRC)				淬硬钢 Hardened Steel SKD11 (≈ 62HRC)				工具钢 Tool Steel SKH (≈ 65HRC)			
刃径 Cutter Dia.	有效长 Effective Length	有效 长度比 L/D	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1
1	4	2	0.2	0.5	3000	25000	0.2	0.5	2500	25000	0.15	0.3	2000	20000
1	6	3	0.2	0.5	2500	25000	0.2	0.3	2000	25000	0.15	0.3	1600	20000
1	8	4	0.2	0.3	2000	20000	0.1	0.2	1600	18000	0.1	0.2	1200	16000
1	10	5	0.1	0.3	2000	18000	0.1	0.2	1600	16000	0.1	0.1	1200	14000
1	12	6	0.1	0.2	1600	16000	0.1	0.1	1200	14000	0.05	0.1	940	12000
1	13	6.5	0.08	0.2	1600	16000	0.06	0.1	1200	14000	0.04	0.08	940	12000
1	14	7	0.07	0.15	1600	16000	0.05	0.08	1200	14000	0.03	0.07	940	12000
1	16	8	0.07	0.15	1600	16000	0.05	0.08	1200	14000	0.03	0.07	940	12000
1	18	9	0.05	0.1	1400	14000	0.03	0.05	1000	12000	0.02	0.03	850	10000
1	20	10	0.05	0.1	1000	14000	0.03	0.05	820	12000	0.02	0.03	720	10000
1	22	11	0.03	0.08	850	14000	0.02	0.06	700	12000	0.02	0.02	600	10000
1	25	12.5	0.03	0.05	680	12000	0.02	0.03	560	10000	0.01	0.02	420	8500
1	30	15	0.02	0.03	360	12000	0.01	0.02	300	10000	0.008	0.01	240	8500
1	35	17.5	0.01	0.02	150	10000	0.007	0.01	120	8000	0.005	0.007	100	6800
1	40	20	0.005	0.01	100	10000	0.003	0.005	80	8000	0.002	0.003	50	6800
1.25	6	2.4	0.3	0.4	2800	20000	0.2	0.5	2300	20000	0.15	0.4	2000	18000
1.25	8	3.2	0.25	0.3	2600	20000	0.15	0.3	2100	20000	0.12	0.25	1800	18000
1.25	10	4	0.2	0.3	2500	20000	0.15	0.2	2000	20000	0.1	0.15	1600	18000
1.25	15	6	0.1	0.2	2000	18000	0.07	0.15	1600	16000	0.05	0.1	1200	14000
1.25	20	8	0.07	0.15	1500	16000	0.05	0.1	1200	14000	0.03	0.05	1000	10000
1.25	25	10	0.05	0.1	1000	14000	0.03	0.07	850	12000	0.02	0.03	720	8000
1.25	30	12	0.03	0.07	720	12000	0.02	0.05	640	10000	0.01	0.02	580	7000
1.25	35	14	0.02	0.03	450	10000	0.01	0.02	400	8500	0.007	0.01	320	6200
1.5	6	2	0.2	0.8	3000	20000	0.2	0.6	2500	18000	0.2	0.5	2000	14000
1.5	8	2.7	0.2	0.8	3000	20000	0.2	0.6	2500	18000	0.2	0.5	2000	14000
1.5	10	3.3	0.2	0.6	2500	20000	0.2	0.4	2000	18000	0.1	0.3	1500	14000
1.5	12	4	0.2	0.6	2500	20000	0.2	0.4	2000	18000	0.1	0.3	1500	14000
1.5	14	4.7	0.1	0.4	2000	18000	0.1	0.3	1600	16000	0.1	0.2	1200	12000
1.5	16	5.3	0.1	0.4	2000	18000	0.1	0.3	1600	16000	0.1	0.2	1200	12000
1.5	20	6.7	0.1	0.3	1600	18000	0.1	0.2	1200	16000	0.1	0.1	960	12000
1.5	25	8.3	0.1	0.2	1200	16000	0.07	0.15	920	14000	0.05	0.07	800	10000
1.5	30	10	0.07	0.1	750	14000	0.05	0.07	640	12000	0.03	0.05	600	8600
1.5	35	11.7	0.05	0.1	620	12000	0.03	0.07	500	10000	0.02	0.05	420	7200
1.5	40	13.3	0.03	0.07	450	10000	0.02	0.05	320	8200	0.01	0.03	260	6400
1.75	15	4.3	0.25	1	3000	20000	0.15	0.5	2300	16000	0.13	0.4	1500	14000
1.75	20	5.7	0.18	0.6	2500	18000	0.1	0.3	1800	15000	0.1	0.2	1200	12000
1.75	25	7.1	0.12	0.35	1800	16000	0.1	0.2	1600	14000	0.06	0.12	1000	10000
1.75	30	8.6	0.1	0.25	1500	14000	0.07	0.15	950	11000	0.05	0.08	800	9000
1.75	35	10	0.08	0.2	1200	13000	0.07	0.12	800	10000	0.03	0.06	650	7500
1.75	40	11.4	0.07	0.1	800	11000	0.04	0.07	720	9000	0.02	0.05	450	7000
1.75	45	12.9	0.06	0.07	700	10000	0.035	0.05	600	7500	0.015	0.03	320	6000
2	8	2	0.3	1.5	3000	20000	0.2	0.8	2500	16000	0.2	0.6	2000	12000
2	10	2.5	0.3	1.5	3000	20000	0.2	0.8	2500	16000	0.2	0.6	2000	12000
2	12	3	0.3	1.5	3000	20000	0.2	0.8	2500	16000	0.2	0.6	2000	12000



切削参数表 Milling Parameters Recommendation

2刃深沟球头刀  
2 Flute Deep Groove Ball Nose End Mill

被切削材质 Workpiece Material			淬硬钢 Hardened Steel SKD61 • STAVAX • HPM-38 (≥ 52HRC)				淬硬钢 Hardened Steel SKD11 (≥ 62HRC)				工具钢 Tool Steel SKH (≥ 63HRC)			
刃径 Cutter Dia.	有效长 Effective Length	有效 长度比 L/D	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1	切深 Ap mm	切宽 Ae mm	进给 Feeding Rate mm/min	转速 Rev.Speed min-1
2	14	3.5	0.3	1.5	3000	20000	0.2	0.8	2000	16000	0.2	0.6	1600	12000
2	15	3.8	0.3	1.5	3000	20000	0.2	0.8	2000	16000	0.2	0.6	1600	12000
2	20	5	0.2	1	2400	16000	0.1	0.6	1800	14000	0.1	0.4	1400	10000
2	25	6.3	0.2	0.8	1600	16000	0.1	0.4	1200	14000	0.1	0.2	1000	10000
2	30	7.5	0.1	0.3	1600	14000	0.07	0.2	1200	10000	0.05	0.15	1000	8200
2	35	8.8	0.1	0.2	1200	14000	0.07	0.15	1000	10000	0.05	0.1	820	8200
2	40	10	0.07	0.15	1200	12000	0.05	0.1	1000	8600	0.03	0.07	820	6800
2	45	11.3	0.07	0.1	750	12000	0.05	0.07	620	8600	0.03	0.05	500	6800
2	50	12.5	0.05	0.08	550	10000	0.03	0.05	500	7500	0.02	0.03	420	5500
2.5	10	2	0.3	1.5	3000	18000	0.2	1.2	2500	12000	0.2	0.7	2000	9200
2.5	15	3	0.3	1.5	3000	18000	0.2	1.2	2500	12000	0.2	0.7	2000	9200
2.5	20	4	0.3	1.2	3000	15000	0.2	1	2000	10000	0.15	0.5	1600	8000
2.5	25	5	0.2	1	2500	15000	0.15	0.8	1800	8600	0.1	0.3	1200	7200
2.5	30	6	0.2	0.8	2000	12000	0.15	0.5	1500	7600	0.1	0.2	860	6400
2.5	40	8	0.1	0.2	1200	10000	0.07	0.15	1000	6800	0.05	0.1	650	5500
3	10	1.7	0.3	2	3000	16000	0.3	1.2	2500	8000	0.2	1	2000	7000
3	15	2.5	0.3	2	3000	16000	0.3	1.2	2500	8000	0.2	1	2000	7000
3	20	3.3	0.3	2	3000	16000	0.3	1.2	2500	8000	0.2	1	2000	7000
3	25	4.2	0.3	1.5	3000	16000	0.2	1	2000	8000	0.15	0.7	1500	7000
3	30	5	0.2	1.5	3000	14000	0.2	1	2000	7200	0.15	0.7	1500	6500
3	35	5.8	0.2	1.2	2400	13000	0.17	0.8	1600	6800	0.12	0.5	1200	5800
3	40	6.7	0.2	1	1800	12000	0.15	0.6	1200	6400	0.1	0.4	1000	5200
3	50	8.3	0.1	0.6	1200	8200	0.1	0.3	860	4800	0.05	0.2	620	4000
3	60	10	0.07	0.3	600	6000	0.05	0.15	450	3200	0.03	0.07	300	2500

※切入量的ap表示轴方向的切入深度，ae表示位图。推荐油雾冷却剂。  
※旋转数和进给速度请按相同比例调整。  
※根据切入量和机械刚度的不同，条件可能会有所不同。请随时调整。  
※工具突出量请不要超过必要量。  
※Depth of Cut: ap=Axial Depth of Cut / ae=Radial Depth of Cut.  
※We recommend using oil mist coolant.  
※Adjust both spindle speed and feed at the same rate.  
※Adjust milling conditions according to the volume of depth of cut and rigidity of machine.  
※Length of tool overhang must be as short as possible.

石墨 刀具系列

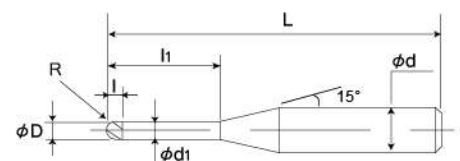
GRAPHITE CUTTER SERIES

64-整体硬质合金球头铣刀 64-Solid Carbide Ball Nose End Mill	P136-137
66-整体硬质合金球头铣刀 66-Solid Carbide Ball Nose End Mill	P138
60-整体硬质合金球头铣刀 60-Solid Carbide Ball Nose End Mill	P139
74-整体硬质合金圆鼻铣刀 74-Solid Carbide Corner Radius End Mill	P140-142
76-整体硬质合金圆鼻铣刀 76-Solid Carbide Corner Radius End Mill	P143
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86-整体硬质合金平底铣刀 86-Solid Carbide Square End Mill	P148
80-整体硬质合金平底铣刀 80-Solid Carbide Square End Mill	P149-150
石墨刀具切削参数 Milling Parameters Chart of Graphite Cutters	P151

卓越的性能，超高的性价比！  
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整体硬质合金球头铣刀 Solid Carbide Ball Nose End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R < 1	±0.005
R ≥ 1	±0.01

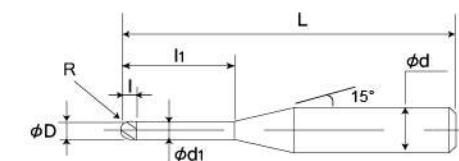
涂层 种类 Coating	仿形铣 Kellering	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
DIA	☉	2	30°	

被切削材料 Cutting Materials ☉非常适合Very Suitable ☉适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55HRC >55HRC			☉		☉	☉	

订货号 Code No.	球头半径 (R) Nose Radius	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
64.03.015	R0.15	1.5	0.5	0.27	4	50
64.03.03		3				50
64.03.05		5				50
64.03.07		7				50
64.04.02	R0.20	2	0.6	0.36	4	50
64.04.04		4				50
64.04.06		6				50
64.04.08		8				50
64.05.015	R0.25	1.5	0.7	0.45	4	50
64.05.03		3				50
64.05.04		4				50
64.05.06		6				50
64.05.08	R0.30	8	1	0.55	4	50
64.05.10		10				50
64.06.03		3				50
64.06.04		4				50
64.06.06	R0.40	6	1.2	0.75	4	50
64.06.08		8				50
64.06.10		10				50
64.06.12		12				50
64.08.04	R0.50	4	1.5	0.95	4	50
64.08.06		6				50
64.08.08		8				50
64.08.10		10				50
64.08.12	R0.50	12	1.5	0.95	4	50
64.08.16		16				60
64.10.03		3				50
64.10.04		4				50
64.10.06	R0.50	6				50
64.10.08		8				50

整体硬质合金球头铣刀 Solid Carbide Ball Nose End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R < 1	±0.005
R ≥ 1	±0.01

涂层 种类 Coating	仿形铣 Kellering	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
DIA	☉	2	30°	

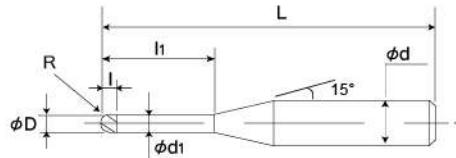
被切削材料 Cutting Materials ☉非常适合Very Suitable ☉适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55HRC >55HRC			☉		☉	☉	

订货号 Code No.	球头半径 (R) Nose Radius	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
64.10.10	R0.5	10	1.5	0.95	4	60
64.10.12		12				60
64.10.15		15				60
64.10.20		20				60
64.10.25		25				75
64.15.05	R0.75	5	2.2	1.45	4	50
64.15.08		8				50
64.15.10		10				60
64.15.12		12				50
64.15.15		15				60
64.15.20		20				60
64.15.25		25				75
64.15.30		30				75
64.20.06	R1	6	3	1.92	4	50
64.20.08		8				50
64.20.10		10				60
64.20.12		12				50
64.20.16		16				60
64.20.20		20				60
64.20.25		25				75
64.20.30		30				75
64.20.40	R1.5	40	4.5	2.9	4	100
64.30.09		9				50
64.30.15		15				60
64.30.20		20				60
64.30.25		25				75
64.30.30		30				75
64.30.35		35				75
64.30.45		45				100



整体硬质合金球头铣刀 Solid Carbide Ball Nose End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R < 1	±0.005
R ≥ 1	±0.01

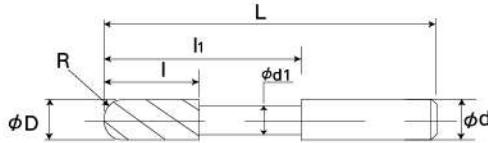
涂层种类 Coating	仿形铣 Kellerling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
DIA	⊙	2	30°	

被切削材料 Cutting Materials ⊙ 非常适合 Very Suitable ○ 适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55HRC >55HRC			○		○	⊙	

订货号 Code No.	球头半径 (R) Nose Radius	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
66.02.06	R1	6	3	1.92	6	50
66.02.10		10				50
66.02.16		16				60
66.02.20		20				60
66.02.25		25				60
66.02.30		30				75
66.02.40	R1.5	40	4.5	2.9	6	100
66.03.09		9				50
66.03.15		15				60
66.03.20		20				60
66.03.25		25				60
66.03.30		30				75
66.03.35	R2	35	6	3.9	6	75
66.03.45		45				100
66.03.60		60				100
66.04.12		12				60
66.04.16		16				60
66.04.20		20				60
66.04.25	R2.5	25	8	4.9	6	75
66.04.30		30				75
66.04.35		35				75
66.04.40		40				100
66.04.50		50				75
66.04.60		60				100
66.05.20	R2.5	20	10	4.9	6	60
66.05.50		50				100

整体硬质合金球头铣刀 Solid Carbide Ball Nose End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R < 1	±0.005
R ≥ 1	±0.01

涂层种类 Coating	仿形铣 Kellerling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
DIA	⊙	2	30°	

被切削材料 Cutting Materials ⊙ 非常适合 Very Suitable ○ 适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55HRC >55HRC			○		○	⊙	

订货号 Code No.	球头半径 (R) Nose Radius	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
60.03.10	R1.5	10	6	2.9	3	60
60.03.15		15	6			75
60.03.30		30	6			100
60.04.08	R2	8	8	3.7	4	50
60.04.20	R2	20	8			60
60.04.25		25	8			75
60.04.40		40	8	4.7	5	100
60.04.30	R2	30	20			100
60.04.15L			15			120
60.04.15XL			15	5.7	6	140
60.05.25	R2.5	25	10			60
60.05.50	R2.5	50	10			100
60.06.12	R3	12	12	7.6	8	50
60.06.30	R3	30	12			60
60.06.35		35	12			75
60.06.40		40	12			100
60.06.60		60	12			150
60.06.50	R4	50	30			150
60.08.30		30	16	9.6	10	60
60.08.40		40	16			80
60.08.60		60	16			110
60.08.60L		60	16			150
60.08.60XL		60	40			150
60.10.40	R5	40	20	11.5	12	80
60.10.60		60	20			110
60.10.60L		60	20			150
60.10.50		70	50			180
60.12.40	R6	40	24	15.4	16	80
60.12.60		60	24			110
60.12.60L		60	24			150
60.12.75	R8	75	55			200
60.16.80		80	32			150
60.16.100		100	55			200



整体硬质合金圆鼻铣刀 Solid Carbide Corner Radius End Mill



公差: d=h5	Tolerance	涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
D≤3	0,-0.015							
3 < D < 20	0,-0.02							
R	±0.005							
DIA						2	30°	

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55hrc >55hrc							

订货号 Code No.	刃径 (D) Cutter Dia.	球头半径 (R) Nose Radius	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
74.04.02.05	0.4	R0.05	2	0.8	0.36	4	50
74.04.04.05			4				50
74.04.06.05			6				50
74.04.08.05			8				50
74.05.03.05	0.5	R0.05	3	1	0.45	4	50
74.05.04.05			4				50
74.05.06.05			6				50
74.05.08.05			8				50
74.05.10.05	0.6	R0.05	10	1.2	0.55	4	50
74.06.03.05			3				50
74.06.06.05			6				50
74.06.09.05			9				50
74.06.12.05	0.8	R0.05	12	1.6	0.75	4	50
74.08.04.05			4				50
74.08.08.05			8				50
74.08.12.05			12				50
74.08.16.05	1.0	R0.1	16	2	0.95	4	50
74.10.06.10			6				50
74.10.08.10			8				50
74.10.10.10			10				60
74.10.12.10	1.0	R0.2	12	2	0.95	4	60
74.10.15.10			15				60
74.10.20.10			20				60
74.10.06.20			6				50
74.10.08.20	1.0	R0.2	8	2	0.95	4	50
74.10.10.20			10				60
74.10.12.20			12				60
74.10.15.20			15				60
74.10.20.20	1.5	R0.1	20	3	1.45	4	60
74.15.06.10			6				50

整体硬质合金圆鼻铣刀 Solid Carbide Corner Radius End Mill



公差: d=h5	Tolerance	涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
D≤3	0,-0.015							
3 < D < 20	0,-0.02							
R	±0.005							
DIA						2	30°	

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

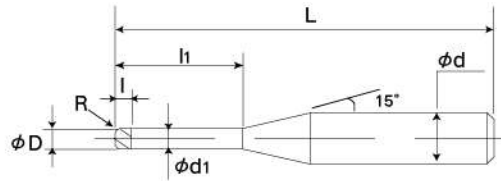
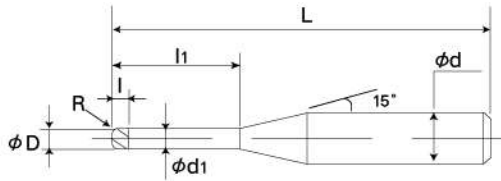
碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55hrc >55hrc							

订货号 Code No.	刃径 (D) Cutter Dia.	球头半径 (R) Nose Radius	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
74.15.10.10	1.5	R0.1	10	3	1.45	4	60
74.15.16.10			16				60
74.15.20.10			20				60
74.15.06.15			6	3	1.45	4	50
74.15.10.15	1.5	R0.15	10				60
74.15.16.15			16				60
74.15.20.15			20				60
74.15.06.20			6	3	1.45	4	50
74.15.10.20	1.5	R0.2	10				60
74.15.16.20			16				60
74.15.20.20			20				60
74.20.06.10	2.0	R0.1	6	4	1.92	4	50
74.20.08.10			8				60
74.20.10.10			10				60
74.20.12.10			12				60
74.20.16.10	2.0	R0.2	16	4	1.92	4	60
74.20.20.10			20				60
74.20.25.10			25				75
74.20.30.10			30				75
74.20.06.20	2.0	R0.2	6	4	1.92	4	50
74.20.08.20			8				60
74.20.10.20			10				60
74.20.12.20			12				60
74.20.16.20	2.0	R0.2	16	4	1.92	4	60
74.20.20.20			20				60
74.20.25.20			25				75
74.20.30.20			30				75
74.30.09.10	3.0	R0.1	9	9	2.9	4	50
74.30.15.10	3.0	R0.1	15	6	2.9	4	60
74.30.20.10			20				60



整体硬质合金圆鼻铣刀 Solid Carbide Corner Radius End Mill

整体硬质合金圆鼻铣刀 Solid Carbide Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
DIA	○	○	○	2	30°	

公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
DIA	○	○	○	2	30°	

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55HRC >55HRC			○		○	○	

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55HRC >55HRC			○		○	○	

订货号 Code No.	刃径 (D) Cutter Dia.	球头半径 (R) Nose Radius	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
74.30.30.10	3	R0.1	30	6	2.9	4	75
74.30.45.10			45				100
74.30.09.20	3	R0.2	9	9	2.9	4	50
74.30.15.20			15				60
74.30.20.20			20				60
74.30.30.20	3	R0.2	30	6	2.9	4	75
74.30.45.20			45				100
74.30.09.30	3	R0.3	9	9	2.9	4	50
74.30.15.30			15				60
74.30.20.30			20				60
74.30.30.30	3	R0.3	30	6	2.9	4	75
74.30.45.30			45				100
74.30.09.50	3	R0.5	9	9	2.9	4	50
74.30.15.50			15				60
74.30.20.50			20				60
74.30.30.50	3	R0.5	30	6	2.9	4	75
74.30.45.50			45				100

订货号 Code No.	刃径 (D) Cutter Dia.	球头半径 (R) Nose Radius	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
76.20.06.20	2	R0.2		6		6	50
76.20.10.20			10				50
76.20.16.20			16				50
76.20.20.20	2	R0.2	20	4	1.92	6	60
76.20.25.20			25				75
76.20.30.20			30				75
76.30.09.30	3	R0.3		9		6	50
76.30.15.30			15				50
76.30.20.30			20				60
76.30.30.30	3	R0.3	30	6	2.9	6	75
76.30.45.30			45				100
76.30.09.50	3	R0.5		9		6	50
76.30.15.50			15				50
76.30.20.50			20				60
76.30.30.50	3	R0.5	30	6	2.9	6	75
76.30.45.50			45				100
76.40.12.20	4	R0.2		12		6	50
76.40.15.20			15				50
76.40.20.20			20				60
76.40.25.20	4	R0.2	25	8	3.9	6	75
76.40.30.20			30				75
76.40.40.20			40				100
76.40.12.50	4	R0.5		12		6	50
76.40.15.50			15				50
76.40.20.50			20				60
76.40.25.50	4	R0.5	25	8	3.9	6	75
76.40.30.50			30				75
76.40.40.50			40				100
76.50.15.50			20				60
76.50.30.50	5	R0.5	30	10	4.9	6	75
76.50.50.50			50				100



整体硬质合金圆鼻铣刀 Solid Carbide Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
DIA	○	○	○	4	30°	

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55HRC >55HRC			○		○	○	

订货号 Code No.	刃径 (D) Cutter Dia.	球头半径 (R) Nose Radius	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
70.03.015.01	3	R0.1	15	9	2.9	3	60
70.03.025.01			25				75
70.03.030.01			30				100
70.03.015.02	3	R0.2	15	9	2.9	3	60
70.03.025.02			25				75
70.03.030.02			30				100
70.03.015.03	3	R0.3	15	9	2.9	3	60
70.03.025.03			25				75
70.03.030.03			30				100
70.03.015.05	3	R0.5	15	9	2.9	3	60
70.03.025.05			25				75
70.03.030.05			30				100
70.04.020.01	4	R0.1	20	12	3.8	4	60
70.04.025.01			25				75
70.04.030.01			30				100
70.04.020.02	4	R0.2	20	12	3.8	4	60
70.04.025.02			25				75
70.04.030.02			30				100
70.04.020.05	4	R0.5	20	12	3.8	4	60
70.04.025.05			25				75
70.04.030.05			30				100
70.06.030.02	6	R0.2	30	20	5.7	6	60
70.06.035.02			35				75
70.06.040.02			40				100
70.06.060.02	6	R0.3	60	20	5.7	6	150
70.06.030.03			30				60
70.06.035.03			35				75
70.06.040.03	6	R0.5	40	20	5.7	6	100
70.06.060.03			60				150
70.06.030.05			30	20	5.7	6	60
70.06.035.05			35				75

整体硬质合金圆鼻铣刀 Solid Carbide Corner Radius End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02
R	±0.005

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
DIA	○	○	○	4	30°	

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55HRC >55HRC			○		○	○	

订货号 Code No.	刃径 (D) Cutter Dia.	球头半径 (R) Nose Radius	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
70.06.040.05	6	R0.5	40	20	5.7	6	100
70.06.060.05			60				150
70.06.030.10			30				60
70.06.035.10	6	R1	35	20	5.7	6	75
70.06.040.10			40				100
70.06.060.10			60				150
70.08.020.02	8	R0.2		20		8	60
70.08.040.02	8	R0.2	40	25	7.7	8	80
70.08.060.02			60				110
70.08.060.02L			60				150
70.08.020.05	8	R0.5		20		8	60
70.08.040.05	8	R0.5	40	25	7.7	8	80
70.08.060.05			60				110
70.08.060.05L			60				150
70.08.040.10	8	R1	40	25	7.7	8	80
70.08.060.10			60				110
70.08.060.10L			60				150
70.10.040.05	10	R0.5	40	30	9.7	10	80
70.10.060.05			60				110
70.10.060.05L			60				150
70.10.040.10	10	R1	40	30	9.7	10	80
70.10.060.10			60				110
70.10.060.10L			60				150
70.12.040.05	12	R0.5	40	30	11.7	12	80
70.12.060.05	12	R0.5	60	35	11.7	12	110
70.12.060.05L			60				150
70.12.040.10		R1.0	40	30	11.7	12	80
70.12.060.10	12	R1.0	60	35	11.7	12	110
70.12.060.10L			60				150
70.16.100.05	16	R0.5	100	40	15.5	16	150
70.16.100.10	16	R1	100	40	15.5	16	150



整体硬质合金平底铣刀 Solid Carbide Square End Mill



被切削材料 Cutting Materials ○ 非常适合 Very Suitable ○ 适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel		不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55hrc	>55hrc							
								○		○	○	

订货号 Code No.	刃径 (D) Cutter Dia.	避空长 (li) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
84.03.015	0.3	1.5	0.5	0.27	4	50
84.03.030		3				50
84.03.050		5				50
84.03.060		6				50
84.04.020	0.4	2	0.6	0.36	4	50
84.04.040		4				50
84.04.060		6				50
84.04.080		8				50
84.05.015	0.5	1.5	1	0.45	4	50
84.05.030		3				50
84.05.040		4				50
84.05.060		6				50
84.05.080	0.6	8	1.2	0.55	4	50
84.05.100		10				50
84.06.030		3				50
84.06.040		4				50
84.06.060	0.8	6	1.6	0.75	4	50
84.06.080		8				50
84.06.100		10				50
84.06.120		12				50
84.08.040	0.8	4	1.6	0.75	4	50
84.08.060		6				50
84.08.080		8				50
84.08.100		10				50
84.08.120	0.8	12				50
84.08.160		16				50

整体硬质合金平底铣刀 Solid Carbide Square End Mill



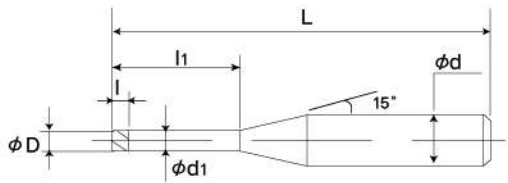
被切削材料 Cutting Materials ○ 非常适合 Very Suitable ○ 适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel		不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55hrc	>55hrc							
								○		○	○	

订货号 Code No.	刃径 (D) Cutter Dia.	避空长 (li) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
84.10.030	1	3	2	0.95	4	50
84.10.060		6				50
84.10.080		8				50
84.10.100		10				60
84.10.120		12				60
84.10.150		15				60
84.10.200	1.5	20	3	1.45	4	60
84.15.050		5				50
84.15.080		8				50
84.15.100		10				60
84.15.150		15				60
84.15.200		20				60
84.20.060	2	6	4	1.92	4	50
84.20.080		8				50
84.20.100		10				60
84.20.120		12				60
84.20.160		16				60
84.20.200		20				60
84.20.250	3	25	6	2.9	4	70
84.20.300		30				75
84.20.400		40				100
84.30.090	3	9	6	2.9	4	60
84.30.150		15				60
84.30.200		20				60
84.30.300		30				75



整体硬质合金平底铣刀 Solid Carbide Square End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02

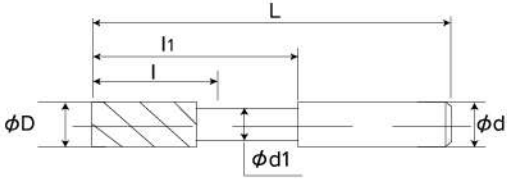
涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
DIA	○	○	○	2	30°	

被切削材料 Cutting Materials ○ 非常适合 Very Suitable ○ 适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55HRC >55HRC			○		○	○	

订货号 Code No.	刃径 (D) Cutter Dia.	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
86.020.060	2		6		6	50
86.020.100	2	10	4	1.92	6	50
86.020.160		16				50
86.020.200		20				60
86.020.250		25				60
86.020.300		30				75
86.020.350		35				75
86.020.400		40				100
86.030.120	3		12		6	50
86.030.150	3	15	6	2.9	6	50
86.030.200		20				60
86.030.300		30				75
86.030.450		45				100
86.040.160	4		16		6	50
86.040.200	4	20	8	3.9	6	60
86.040.300		30				75
86.040.400		40				100
86.040.600		60				100
86.050.150	5		20		6	60
86.050.300	5,0	30	10	4.9	6	75
86.050.500		50				100

整体硬质合金平底铣刀 Solid Carbide Square End Mill



公差: d=h5	Tolerance
D≤3	0,-0.015
3 < D < 20	0,-0.02

涂层种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
DIA	○	○	○	4	30°	

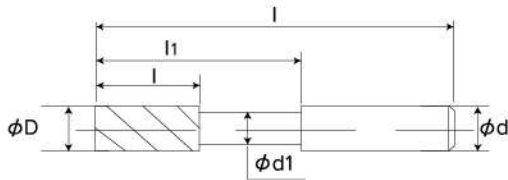
被切削材料 Cutting Materials ○ 非常适合 Very Suitable ○ 适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55HRC >55HRC			○		○	○	

订货号 Code No.	刃径 (D) Cutter Dia.	避空长 (l1) Effective Length	刃长 (l) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
80.03.09	3		9		3	50
80.03.15	3	15	9	2.9	3	60
80.03.25		25				75
80.03.30		30				100
80.04.12	4		12		4	50
80.04.20	4	20	12	3.8	4	60
80.04.25		25				75
80.04.30		30				100
80.04.40		40				120
80.05.25	5	25	20	4.7	5	60
80.05.35		35				75
80.05.50		50				100
80.06.15	6		15		6	50
80.06.30	6	30	20	5.7	6	60
80.06.35		35				75
80.06.40		40				100
80.06.60		60				150
80.08.20	8		20		8	60
80.08.30	8	30	20	7.7	8	60
80.08.40	8	40	25	7.7	8	80
80.06.60		60				110
80.08.60L		60				150
80.08.80		80				200



整体硬质合金平底铣刀 Solid Carbide Alloy Steel Square End Mill



公差: d=h5 Tolerance	
D≤3	0,-0.015
3 < D < 20	0,-0.02

涂层 种类 Coating	开槽 Slotting	侧铣 Side Milling	面铣 Face Milling	刃数 Flute	螺旋角 Helix Angle	适合材料硬度 Workpiece HRC
DIA	○	○	○	4	30°	

被切削材料 Cutting Materials ○ 非常适合 Very Suitable ○ 适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55HRC	>55HRC					○	

订货号 Code No.	刃径 (D) Cutter Dia.	避空长 (L1) Effective Length	刃长 (L) Length of Cut	避空径 (d1) Neck Dia.	柄径 (d) Shank Dia.	全长 (L) Overall Length
80.10.40	10	40	30	9.7	10	80
80.10.60		60				110
80.10.60L		60				150
80.10.100		100				200
80.12.40	12	40	30	11.7	12	80
80.12.60	12	60	35	11.7	12	110
80.12.60L		60				150
80.12.100		100				200
80.16.100		100				150
80.16.100L	16	100	40	15.5	16	180
80.16.150		150				250

切削参数表 Milling Parameters Recommendation

石墨机常用刀具参数参考表  
Milling Parameters Chart of Graphite Cutters

刀具规格 Tools Specifications	切削参数 Cutting Parameters			
	转速 Rotating Speed S	进给 Feeding Rate F	切深 Depth Cut mm	步距 Step P
D16 (粗加工 Roughing)	5000	5000	2	9.6
D12 (粗加工 Roughing)	6000	5000	1.5	7.2
D10 (粗加工 Roughing)	7000	5000	1	6
D8 (粗加工 Roughing)	7500	5000	0.8	4
D6 (粗加工 Roughing)	9000	5000	0.7	3
D4 (粗加工 Roughing)	11000	5000	0.4	2
D2 (粗加工 Roughing)	13000	3500	0.2	1
D12 (精加工 Finishing)	8000	5000	0.1	6
D10 (精加工 Finishing)	10000	5000	0.1	5
D8 (精加工 Finishing)	11000	5000	0.1	4
D6 (精加工 Finishing)	12000	5000	0.1	3
D4 (精加工 Finishing)	14000	5000	0.1	2
D2 (精加工 Finishing)	15000	3000	0.07	1
D1 (精加工 Finishing)	16000	2000	0.06	0.5
D0.8 (精加工 Finishing)	20000	1500	0.05	0.4
D0.6 (精加工 Finishing)	20000	1500	0.05	0.3
D0.5 (精加工 Finishing)	20000	1500	0.05	0.25
D0.4 (精加工 Finishing)	20000	1000	0.05	0.2
D0.3 (精加工 Finishing)	20000	1500	0.03	0.15
D0.2 (精加工 Finishing)	25000	1500	0.02	0.1
R6 (精加工 Finishing)	8000	5000	0.3	0.3
R5 (精加工 Finishing)	10000	5000	0.25	0.25
R4 (精加工 Finishing)	10000	5000	0.2	0.2
R3 (精加工 Finishing)	11000	5000	0.15	0.15
R2 (精加工 Finishing)	12000	5000	0.1	0.1
R1 (精加工 Finishing)	14000	3500	0.06	0.06
R0.75 (精加工 Finishing)	15000	3000	0.05	0.05
R0.5 (精加工 Finishing)	16000	2500	0.05	0.05
R0.4 (精加工 Finishing)	20000	2500	0.04	0.04
R0.3 (精加工 Finishing)	20000	2000	0.03	0.03
R0.25 (精加工 Finishing)	20000	1800	0.025	0.025
R0.2 (精加工 Finishing)	25000	1500	0.02	0.02
R0.15 (精加工 Finishing)	28000	1200	0.015	0.015
R0.1 (精加工 Finishing)	28000	1000	0.01	0.01



钻削  
刀具系列  
DRILLING BITS SERIES

麻花钻3DW/5DW/7DW  
Twist Drill Bits 3DW/5DW/7DW P153-158

内冷钻3DN/5DN/7DN  
Internal Cooling Aiguille Drill Bits 3DN/5DN/7DN P159-164

直槽钻3DZCW/5DZCW/7DZCN  
Straight Fluted Drill Bits 3DZCW/5DZCW/7DZCN P165-P167

三刃钻3DSRW/5DSRN/7DSRN  
3 Flute Drill Bits 3DSRW/5DSRN/7DSRN P168-P170

定心钻90DXW/120DXW  
Pilot Drill Bits 90DXW/120DXW P171-172

直槽铰刀ZCJ  
Straight Fluted Reamers ZCJ P173

螺旋铰刀LXJ  
Spiral Reamers LXJ P174

强力钻QL  
Powerful Drill Bits QL P175

三尖强力钻3JQL  
3 Point Powerful Drill Bits 3JQL P176

平底钻3DPDW/5DPDN  
Flat Bottom Drill Bits 3DPDW/5DPDN P177-P178

深孔钻12DSKZN/15DSKZN/20DSKZN  
Gun Drill Bits 12DSKZN/15DSKZN/20DSKZN P179-P181

硬质合金钻头推荐切削参数  
Recommended Cutting Parameters for Solid Carbide Alloy Drill Bits P182

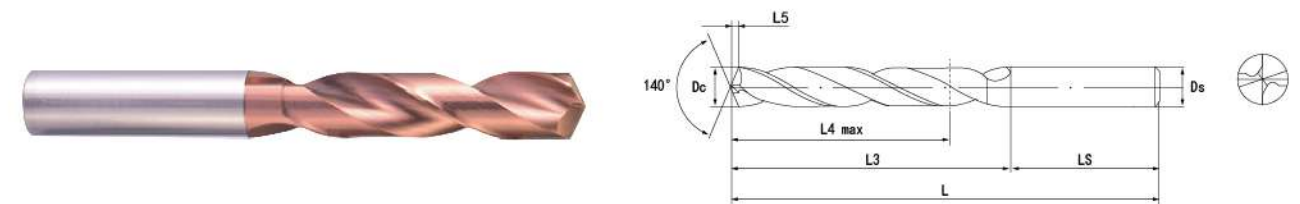
硬质合金铰刀推荐切削参数  
Recommended Cutting Parameters for Solid Carbide Alloy Reamers P183

卓越的性能，超高的性价比！  
Top Performance, Competitive Price!



General Drilling Series  
通用钻削系列

麻花钻3DW Twist Drill Bits 3DW



钻头直径, Dc	公差 Tolerance, m7
3.00 ≤ Dc ≤ 6.00	+0.016/+0.004
6.01 ≤ Dc ≤ 10.00	+0.021/+0.006
10.01 ≤ Dc ≤ 18.00	+0.025/+0.007
18.01 ≤ Dc ≤ 20.00	+0.029/+0.008

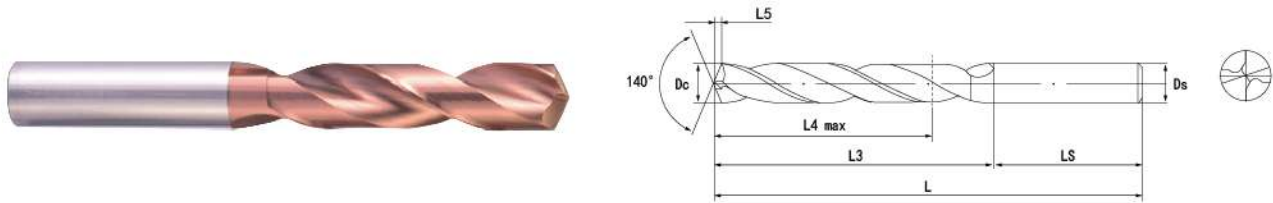
被切削材料 Cutting Materials ○ 非常适合 Very Suitable ○ 适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	≤55hrc >55hrc	○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	最大钻削深度 L4(mm)
3DW.300.20.04.62	3.00	20	62	4	36	14
3DW.317.20.04.62	3.17	20	62	4	36	14
3DW.330.20.04.62	3.30	20	62	4	36	14
3DW.350.20.04.62	3.50	20	62	4	36	15
3DW.357.20.04.62	3.57	20	62	4	36	15
3DW.370.20.04.62	3.70	20	62	4	36	15
3DW.380.24.04.66	3.80	24	66	4	36	17
3DW.397.24.04.66	3.97	24	66	4	36	17
3DW.400.24.04.66	4.00	24	66	4	36	17
3DW.420.24.06.66	4.20	24	66	6	36	17
3DW.437.24.06.66	4.37	24	66	6	36	18
3DW.450.24.06.66	4.50	24	66	6	36	18
3DW.460.24.06.66	4.60	24	66	6	36	20
3DW.465.24.06.66	4.65	24	66	6	36	20
3DW.476.24.06.66	4.76	24	66	6	36	20
3DW.480.28.06.66	4.80	28	66	6	36	20
3DW.500.28.06.66	5.00	28	66	6	36	20
3DW.516.28.06.66	5.16	28	66	6	36	20
3DW.550.28.06.66	5.50	28	66	6	36	21
3DW.555.28.06.66	5.55	28	66	6	36	21
3DW.556.28.06.66	5.56	28	66	6	36	21
3DW.570.28.06.66	5.70	28	66	6	36	21
3DW.580.28.06.66	5.80	28	66	6	36	21
3DW.595.28.06.66	5.95	28	66	6	36	21
3DW.600.28.06.66	6.00	28	66	6	36	21
3DW.635.34.08.79	6.35	34	79	8	36	23
3DW.650.34.08.79	6.50	34	79	8	36	23
3DW.675.34.08.79	6.75	34	79	8	36	25
3DW.680.34.08.79	6.80	34	79	8	36	25
3DW.700.34.08.79	7.00	34	79	8	36	25
3DW.710.41.08.79	7.10	41	79	8	36	25
3DW.740.41.08.79	7.40	41	79	8	36	25
3DW.750.41.08.79	7.50	41	79	8	36	25
3DW.754.41.08.79	7.54	41	79	8	36	27
3DW.780.41.08.79	7.80	41	79	8	36	27
3DW.794.41.08.79	7.94	41	79	8	36	27
3DW.800.41.08.79	8.00	41	79	8	36	27
3DW.833.47.10.89	8.33	47	89	10	40	27
3DW.850.47.10.89	8.50	47	89	10	40	27
3DW.873.47.10.89	8.73	47	89	10	40	29
3DW.880.47.10.89	8.80	47	89	10	40	29



麻花钻3DW Twist Drill Bits 3DW



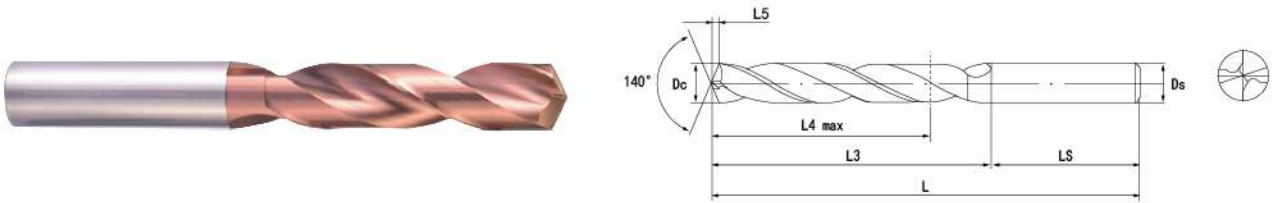
钻头直径,Dc	公差Tolerance,m7
3.00≤Dc≤6.00	+0.016/+0.004
6.01≤Dc≤10.00	+0.021/+0.006
10.01≤Dc≤18.00	+0.025/+0.007
18.01≤Dc≤20.00	+0.029/+0.008

被切削材料 Cutting Materials 非常适合Very Suitable 适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel		不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Alumunum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55hrc	>55hrc							
○	○	○	○			○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	最大钻削深度 L4(mm)
3DW.900.47.10.89	9.00	47	89	10	40	29
3DW.913.47.10.89	9.13	47	89	10	40	29
3DW.925.47.10.89	9.25	47	89	10	40	29
3DW.930.47.10.89	9.30	47	89	10	40	29
3DW.950.47.10.89	9.50	47	89	10	40	29
3DW.952.47.10.89	9.52	47	89	10	40	31
3DW.980.47.10.89	9.80	47	89	10	40	31
3DW.992.47.10.89	9.92	47	89	10	40	31
3DW.1000.47.10.89	10.00	47	89	10	40	31
3DW.1020.55.12.102	10.20	55	102	12	45	31
3DW.1032.55.12.102	10.32	55	102	12	45	31
3DW.1050.55.12.102	10.50	55	102	12	45	31
3DW.1070.55.12.102	10.70	55	102	12	45	33
3DW.1100.55.12.102	11.00	55	102	12	45	33
3DW.1111.55.12.102	11.11	55	102	12	45	33
3DW.1120.55.12.102	11.20	55	102	12	45	33
3DW.1150.55.12.102	11.50	55	102	12	45	33
3DW.1170.55.12.102	11.70	55	102	12	45	33
3DW.1191.55.12.102	11.91	55	102	12	45	36
3DW.1200.55.12.102	12.00	55	102	12	45	36
3DW.1250.60.14.107	12.50	60	107	14	45	36
3DW.1270.60.14.107	12.70	60	107	14	45	36
3DW.1300.60.14.107	13.00	60	107	14	45	36
3DW.1350.60.14.107	13.50	60	107	14	45	37
3DW.1370.60.14.107	13.70	60	107	14	45	37
3DW.1400.60.14.107	14.00	60	107	14	45	37
3DW.1429.65.16.115	14.29	65	115	16	48	38
3DW.1450.65.16.115	14.50	65	115	16	48	38
3DW.1470.65.16.115	14.70	65	115	16	48	38
3DW.1500.65.16.115	15.00	65	115	16	48	38
3DW.1550.65.16.115	15.50	65	115	16	48	39
3DW.1570.65.16.115	15.70	65	115	16	48	39
3DW.1600.65.16.115	16.00	65	115	16	48	39
3DW.1650.73.18.123	16.50	73	123	18	48	40
3DW.1700.73.18.123	17.00	73	123	18	48	40
3DW.1750.73.18.123	17.50	73	123	18	48	41
3DW.1800.73.18.123	18.00	73	123	18	48	41
3DW.1850.79.20.131	18.50	79	131	20	50	49
3DW.1900.79.20.131	19.00	79	131	20	50	49
3DW.1050.79.20.131	19.50	79	131	20	50	49
3DW.2000.79.20.131	20.00	79	131	20	50	49

麻花钻5DW Twist Drill Bits 5DW



钻头直径,Dc	公差Tolerance,m7
3.00≤Dc≤6.00	+0.016/+0.004
6.01≤Dc≤10.00	+0.021/+0.006
10.01≤Dc≤18.00	+0.025/+0.007
18.01≤Dc≤20.00	+0.029/+0.008

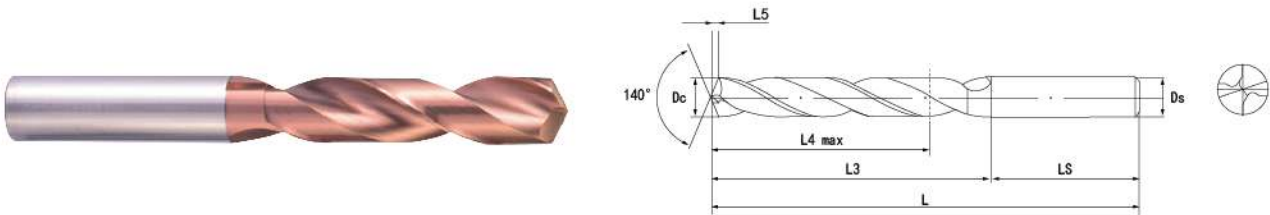
被切削材料 Cutting Materials 非常适合Very Suitable 适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel		不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Alumunum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55hrc	>55hrc							
○	○	○	○			○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	最大钻削深度 L4(mm)
5DW.300.26.04.66	3.00	26	66	4	36	21
5DW.317.26.04.66	3.17	26	66	4	36	21
5DW.330.26.04.66	3.30	26	66	4	36	21
5DW.350.26.04.66	3.50	26	66	4	36	21
5DW.357.26.04.66	3.57	26	66	4	36	21
5DW.370.26.04.66	3.70	26	66	4	36	21
5DW.380.34.04.74	3.80	34	74	4	36	27
5DW.397.34.04.74	3.97	34	74	4	36	27
5DW.400.34.04.74	4.00	34	74	4	36	27
5DW.420.34.06.74	4.20	34	74	6	36	27
5DW.437.34.06.74	4.37	34	74	6	36	27
5DW.450.34.06.74	4.50	34	74	6	36	27
5DW.460.34.06.74	4.60	34	74	6	36	27
5DW.465.34.06.74	4.65	34	74	6	36	27
5DW.476.34.06.74	4.76	34	74	6	36	27
5DW.480.44.06.82	4.80	44	82	6	36	32
5DW.500.44.06.82	5.00	44	82	6	36	32
5DW.516.44.06.82	5.16	44	82	6	36	32
5DW.550.44.06.82	5.50	44	82	6	36	32
5DW.555.44.06.82	5.55	44	82	6	36	32
5DW.556.44.06.82	5.56	44	82	6	36	32
5DW.570.44.06.82	5.70	44	82	6	36	32
5DW.580.44.06.82	5.80	44	82	6	36	32
5DW.595.44.06.82	5.95	44	82	6	36	32
5DW.600.44.06.82	6.00	44	82	6	36	32
5DW.635.53.08.91	6.35	53	91	8	36	35
5DW.650.53.08.91	6.50	53	91	8	36	35
5DW.675.53.08.91	6.75	53	91	8	36	35
5DW.680.53.08.91	6.80	53	91	8	36	40
5DW.700.53.08.91	7.00	53	91	8	36	40
5DW.710.53.08.91	7.10	53	91	8	36	40
5DW.740.53.08.91	7.40	53	91	8	36	40
5DW.750.53.08.91	7.50	53	91	8	36	40
5DW.754.53.08.91	7.54	53	91	8	36	42
5DW.780.53.08.91	7.80	53	91	8	36	42
5DW.794.53.08.91	7.94	53	91	8	36	42
5DW.800.53.08.91	8.00	53	91	8	36	42
5DW.833.61.10.103	8.33	61	103	10	40	42
5DW.850.61.10.103	8.50	61	103	10	40	42
5DW.873.61.10.103	8.73	61	103	10	40	45
5DW.880.61.10.103	8.80	61	103	10	40	45



麻花钻5DW Twist Drill Bits 5DW



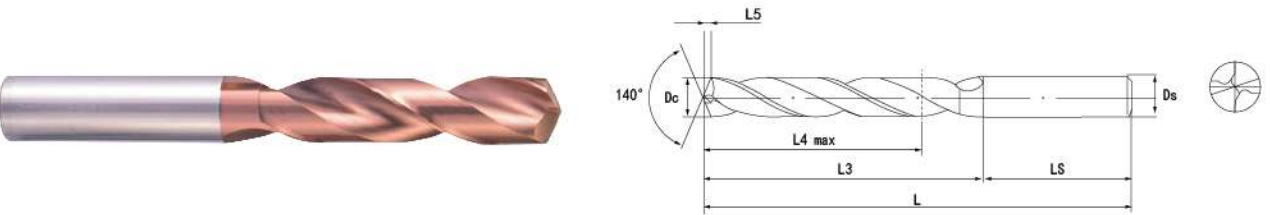
钻头直径Dc	公差Tolerance,m7
3.00≤Dc≤6.00	+0.016/+0.004
6.01≤Dc≤10.00	+0.021/+0.006
10.01≤Dc≤18.00	+0.025/+0.007
18.01≤Dc≤20.00	+0.029/+0.008

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Alumunum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	≤55hrc >55hrc	○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	最大钻削深度 L4(mm)
5DW.900.61.10.103	9.00	61	103	10	40	45
5DW.913.61.10.103	9.13	61	103	10	40	45
5DW.925.61.10.103	9.25	61	103	10	40	45
5DW.930.61.10.103	9.30	61	103	10	40	45
5DW.950.61.10.103	9.50	61	103	10	40	45
5DW.952.61.10.103	9.52	61	103	10	40	48
5DW.980.61.10.103	9.80	61	103	10	40	48
5DW.992.61.10.103	9.92	61	103	10	40	48
5DW.1000.61.10.103	10.00	61	103	10	40	48
5DW.1020.71.12.118	10.20	71	118	12	45	48
5DW.1032.71.12.118	10.32	71	118	12	45	48
5DW.1050.71.12.118	10.50	71	118	12	45	48
5DW.1070.71.12.118	10.70	71	118	12	45	56
5DW.1100.71.12.118	11.00	71	118	12	45	56
5DW.1111.71.12.118	11.11	71	118	12	45	56
5DW.1120.71.12.118	11.20	71	118	12	45	56
5DW.1150.71.12.118	11.50	71	118	12	45	56
5DW.1170.71.12.118	11.70	71	118	12	45	56
5DW.1191.71.12.118	11.91	71	118	12	45	56
5DW.1200.71.12.118	12.00	71	118	12	45	56
5DW.1250.77.14.124	12.50	77	124	14	45	56
5DW.1270.77.14.124	12.70	77	124	14	45	56
5DW.1300.77.14.124	13.00	77	124	14	45	56
5DW.1350.77.14.124	13.50	77	124	14	45	59
5DW.1370.77.14.124	13.70	77	124	14	45	59
5DW.1400.77.14.124	14.00	77	124	14	45	59
5DW.1429.83.16.133	14.29	83	133	16	48	60
5DW.1450.83.16.133	14.50	83	133	16	48	60
5DW.1470.83.16.133	14.70	83	133	16	48	60
5DW.1500.83.16.133	15.00	83	133	16	48	60
5DW.1550.83.16.133	15.50	83	133	16	48	62
5DW.1570.83.16.133	15.70	83	133	16	48	62
5DW.1600.83.16.133	16.00	83	133	16	48	62
5DW.1650.93.18.143	16.50	93	143	18	48	64
5DW.1700.93.18.143	17.00	93	143	18	48	64
5DW.1750.93.18.143	17.50	93	143	18	48	66
5DW.1800.93.18.143	18.00	93	143	18	48	66
5DW.1850.101.20.153	18.50	101	153	20	50	71
5DW.1900.101.20.153	19.00	101	153	20	50	71
5DW.1050.101.20.153	19.50	101	153	20	50	71
5DW.2000.101.20.153	20.00	101	153	20	50	71

麻花钻7DW Twist Drill Bits 7DW



钻头直径Dc	公差Tolerance,m7
3.00≤Dc≤6.00	+0.016/+0.004
6.01≤Dc≤10.00	+0.021/+0.006
10.01≤Dc≤18.00	+0.025/+0.007
18.01≤Dc≤20.00	+0.029/+0.008

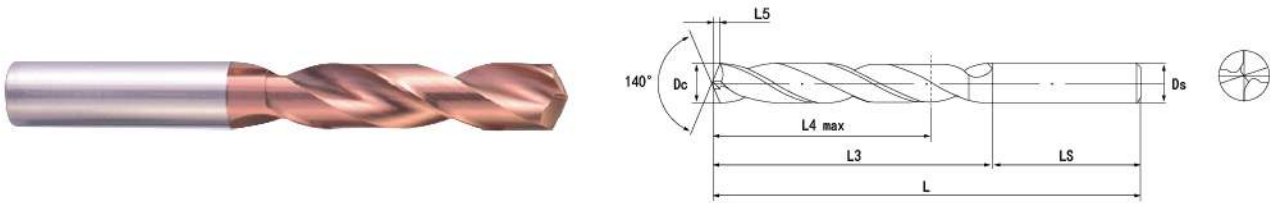
被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Alumunum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	≤55hrc >55hrc	○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	最大钻削深度 L4(mm)
7DW.450.56.06.94	4.50	56	94	6	36	45
7DW.460.56.06.94	4.60	56	94	6	36	45
7DW.465.56.06.94	4.65	56	94	6	36	45
7DW.476.56.06.94	4.76	56	94	6	36	45
7DW.480.56.06.94	4.80	56	94	6	36	45
7DW.500.56.06.94	5.00	56	94	6	36	45
7DW.516.56.06.94	5.16	56	94	6	36	45
7DW.550.56.06.94	5.50	56	94	6	36	45
7DW.555.56.06.94	5.55	56	94	6	36	45
7DW.556.56.06.94	5.56	56	94	6	36	45
7DW.570.56.06.94	5.70	56	94	6	36	45
7DW.580.56.06.94	5.80	56	94	6	36	45
7DW.595.56.06.94	5.95	56	94	6	36	45
7DW.600.56.06.94	6.00	56	94	6	36	45
7DW.635.67.08.110	6.35	67	110	8	36	57
7DW.650.67.08.110	6.50	67	110	8	36	57
7DW.675.67.08.110	6.75	67	110	8	36	57
7DW.680.67.08.110	6.80	67	110	8	36	57
7DW.700.67.08.110	7.00	67	110	8	36	57
7DW.710.72.08.110	7.10	72	110	8	36	57
7DW.740.72.08.110	7.40	72	110	8	36	57
7DW.750.72.08.110	7.50	72	110	8	36	57
7DW.754.72.08.110	7.54	72	110	8	36	57
7DW.780.72.08.110	7.80	72	110	8	36	57
7DW.794.72.08.110	7.94	72	110	8	36	57
7DW.800.72.08.110	8.00	72	110	8	36	57
7DW.833.80.10.122	8.33	80	122	10	40	62
7DW.850.80.10.122	8.50	80	122	10	40	62
7DW.873.80.10.122	8.73	80	122	10	40	62
7DW.880.80.10.122	8.80	80	122	10	40	62



麻花钻7DW Twist Drill Bits 7DW



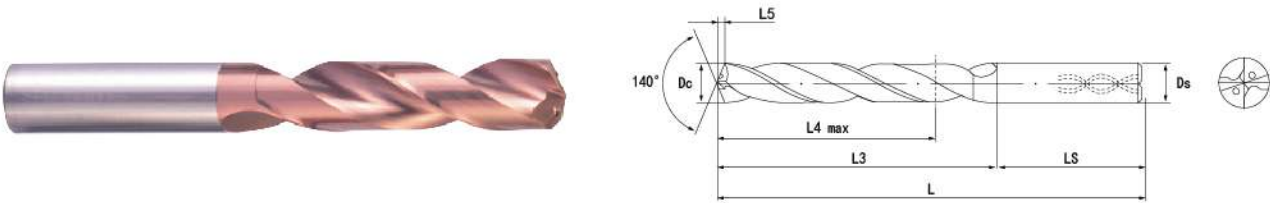
钻头直径Dc	公差Tolerance,m7
3.00≤Dc≤6.00	+0.016/+0.004
6.01≤Dc≤10.00	+0.021/+0.006
10.01≤Dc≤18.00	+0.025/+0.007
18.01≤Dc≤20.00	+0.029/+0.008

被切削材料 Cutting Materials 非常适合Very Suitable 适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel		不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Alumunum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55hrc	>55hrc							
○	○	○	○			○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	最大钻削深度 L4(mm)
7DW.900.80.10.122	9.00	80	122	10	40	62
7DW.913.80.10.122	9.13	80	122	10	40	62
7DW.925.80.10.122	9.25	80	122	10	40	62
7DW.930.80.10.122	9.30	80	122	10	40	62
7DW.950.80.10.122	9.50	80	122	10	40	62
7DW.952.80.10.122	9.52	80	122	10	40	62
7DW.980.80.10.122	9.80	80	122	10	40	62
7DW.992.80.10.122	9.92	80	122	10	40	62
7DW.1000.80.10.122	10.00	80	122	10	40	62
7DW.1020.94.12.141	10.20	94	141	12	45	72
7DW.1032.94.12.141	10.32	94	141	12	45	72
7DW.1050.94.12.141	10.50	94	141	12	45	72
7DW.1070.94.12.141	10.70	94	141	12	45	72
7DW.1100.94.12.141	11.00	94	141	12	45	72
7DW.1111.94.12.141	11.11	94	141	12	45	72
7DW.1120.94.12.141	11.20	94	141	12	45	72
7DW.1150.94.12.141	11.50	94	141	12	45	72
7DW.1170.94.12.141	11.70	94	141	12	45	72
7DW.1191.94.12.141	11.91	94	141	12	45	72
7DW.1200.94.12.141	12.00	94	141	12	45	72
7DW.1250.108.14.155	12.50	108	155	14	45	83
7DW.1270.108.14.155	12.70	108	155	14	45	83
7DW.1300.108.14.155	13.00	108	155	14	45	83
7DW.1350.108.14.155	13.50	108	155	14	45	83
7DW.1370.108.14.155	13.70	108	155	14	45	83
7DW.1400.108.14.155	14.00	108	155	14	45	83
7DW.1429.121.16.171	14.29	121	171	16	48	92
7DW.1450.121.16.171	14.50	121	171	16	48	92
7DW.1470.121.16.171	14.70	121	171	16	48	92
7DW.1500.121.16.171	15.00	121	171	16	48	92
7DW.1550.121.16.171	15.50	121	171	16	48	92
7DW.1570.121.16.171	15.70	121	171	16	48	92
7DW.1600.121.16.171	16.00	121	171	16	48	92
7DW.1650.135.18.185	16.50	135	185	18	48	103
7DW.1700.135.18.185	17.00	135	185	18	48	103
7DW.1750.135.18.185	17.50	135	185	18	48	103
7DW.1800.135.18.185	18.00	135	185	18	48	103
7DW.1850.148.20.200	18.50	148	200	20	50	112
7DW.1900.148.20.200	19.00	148	200	20	50	112
7DW.1050.148.20.200	19.50	148	200	20	50	112
7DW.2000.148.20.200	20.00	148	200	20	50	112

内冷钻3DN Internal Cooling Aiguille Drill Bits 3DN



钻头直径Dc	公差Tolerance,m7
3.00≤Dc≤6.00	+0.016/+0.004
6.01≤Dc≤10.00	+0.021/+0.006
10.01≤Dc≤18.00	+0.025/+0.007
18.01≤Dc≤20.00	+0.029/+0.008

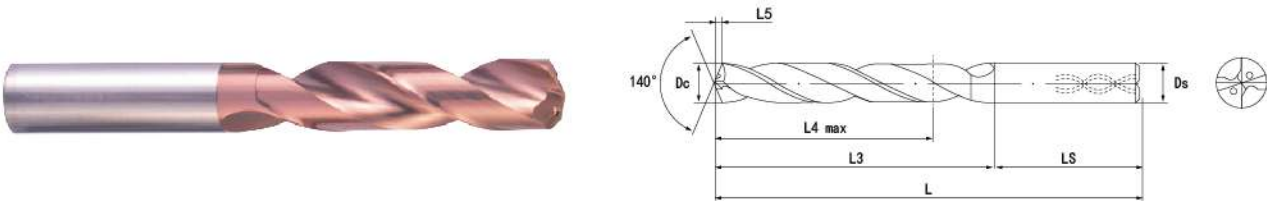
被切削材料 Cutting Materials 非常适合Very Suitable 适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel		不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Alumunum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55hrc	>55hrc							
○	○	○	○			○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	最大钻削深度 L4(mm)
3DN.300.20.04.62	3.00	20	62	4	36	14
3DN.317.20.04.62	3.17	20	62	4	36	14
3DN.330.20.04.62	3.30	20	62	4	36	14
3DN.350.20.04.62	3.50	20	62	4	36	15
3DN.357.20.04.62	3.57	20	62	4	36	15
3DN.370.20.04.62	3.70	20	62	4	36	15
3DN.380.24.04.66	3.80	24	66	4	36	17
3DN.397.24.04.66	3.97	24	66	4	36	17
3DN.400.24.04.66	4.00	24	66	4	36	17
3DN.420.24.06.66	4.20	24	66	6	36	17
3DN.437.24.06.66	4.37	24	66	6	36	18
3DN.450.24.06.66	4.50	24	66	6	36	18
3DN.460.24.06.66	4.60	24	66	6	36	20
3DN.465.24.06.66	4.65	24	66	6	36	20
3DN.476.24.06.66	4.76	24	66	6	36	20
3DN.480.28.06.66	4.80	28	66	6	36	20
3DN.500.28.06.66	5.00	28	66	6	36	20
3DN.516.28.06.66	5.16	28	66	6	36	20
3DN.550.28.06.66	5.50	28	66	6	36	21
3DN.555.28.06.66	5.55	28	66	6	36	21
3DN.556.28.06.66	5.56	28	66	6	36	21
3DN.570.28.06.66	5.70	28	66	6	36	21
3DN.580.28.06.66	5.80	28	66	6	36	21
3DN.595.28.06.66	5.95	28	66	6	36	21
3DN.600.28.06.66	6.00	28	66	6	36	21
3DN.635.34.08.79	6.35	34	79	8	36	23
3DN.650.34.08.79	6.50	34	79	8	36	23
3DN.675.34.08.79	6.75	34	79	8	36	25
3DN.680.34.08.79	6.80	34	79	8	36	25
3DN.700.34.08.79	7.00	34	79	8	36	25
3DN.710.41.08.79	7.10	41	79	8	36	25
3DN.740.41.08.79	7.40	41	79	8	36	25
3DN.750.41.08.79	7.50	41	79	8	36	25
3DN.754.41.08.79	7.54	41	79	8	36	27
3DN.780.41.08.79	7.80	41	79	8	36	27
3DN.794.41.08.79	7.94	41	79	8	36	27
3DN.800.41.08.79	8.00	41	79	8	36	27
3DN.833.47.10.89	8.33	47	89	10	40	27
3DN.850.47.10.89	8.50	47	89	10	40	27
3DN.873.47.10.89	8.73	47	89	10	40	29
3DN.880.47.10.89	8.80	47	89	10	40	29



内冷钻3DN Internal Cooling Aiguille Drill Bits 3DN



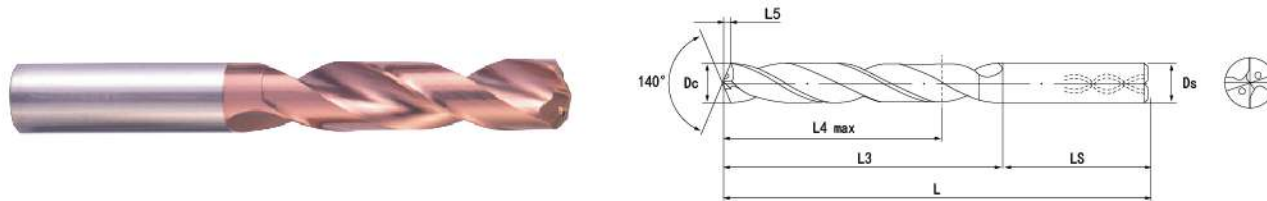
钻头直径.Dc	公差Tolerance,m7
3.00≤Dc≤6.00	+0.016/+0.004
6.01≤Dc≤10.00	+0.021/+0.006
10.01≤Dc≤18.00	+0.025/+0.007
18.01≤Dc≤20.00	+0.029/+0.008

被切削材料 Cutting Materials 非常适合Very Suitable 适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Alumunum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	≤55hrc >55hrc	○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	最大钻削深度 L4(mm)
3DN.900.47.10.89	9.00	47	89	10	40	29
3DN.913.47.10.89	9.13	47	89	10	40	29
3DN.925.47.10.89	9.25	47	89	10	40	29
3DN.930.47.10.89	9.30	47	89	10	40	29
3DN.950.47.10.89	9.50	47	89	10	40	29
3DN.952.47.10.89	9.52	47	89	10	40	31
3DN.980.47.10.89	9.80	47	89	10	40	31
3DN.992.47.10.89	9.92	47	89	10	40	31
3DN.1000.47.10.89	10.00	47	89	10	40	31
3DN.1020.55.12.102	10.20	55	102	12	45	31
3DN.1032.55.12.102	10.32	55	102	12	45	31
3DN.1050.55.12.102	10.50	55	102	12	45	31
3DN.1070.55.12.102	10.70	55	102	12	45	33
3DN.1100.55.12.102	11.00	55	102	12	45	33
3DN.1111.55.12.102	11.11	55	102	12	45	33
3DN.1120.55.12.102	11.20	55	102	12	45	33
3DN.1150.55.12.102	11.50	55	102	12	45	33
3DN.1170.55.12.102	11.70	55	102	12	45	33
3DN.1191.55.12.102	11.91	55	102	12	45	36
3DN.1200.55.12.102	12.00	55	102	12	45	36
3DN.1250.60.14.107	12.50	60	107	14	45	36
3DN.1270.60.14.107	12.70	60	107	14	45	36
3DN.1300.60.14.107	13.00	60	107	14	45	36
3DN.1350.60.14.107	13.50	60	107	14	45	37
3DN.1370.60.14.107	13.70	60	107	14	45	37
3DN.1400.60.14.107	14.00	60	107	14	45	37
3DN.1429.65.16.115	14.29	65	115	16	48	38
3DN.1450.65.16.115	14.50	65	115	16	48	38
3DN.1470.65.16.115	14.70	65	115	16	48	38
3DN.1500.65.16.115	15.00	65	115	16	48	38
3DN.1550.65.16.115	15.50	65	115	16	48	39
3DN.1570.65.16.115	15.70	65	115	16	48	39
3DN.1600.65.16.115	16.00	65	115	16	48	39
3DN.1650.73.18.123	16.50	73	123	18	48	40
3DN.1700.73.18.123	17.00	73	123	18	48	40
3DN.1750.73.18.123	17.50	73	123	18	48	41
3DN.1800.73.18.123	18.00	73	123	18	48	41
3DN.1850.79.20.131	18.50	79	131	20	50	49
3DN.1900.79.20.131	19.00	79	131	20	50	49
3DN.1050.79.20.131	19.50	79	131	20	50	49
3DN.2000.79.20.131	20.00	79	131	20	50	49

内冷钻5DN Internal Cooling Aiguille Drill Bits 5DN



钻头直径.Dc	公差Tolerance,m7
3.00≤Dc≤6.00	+0.016/+0.004
6.01≤Dc≤10.00	+0.021/+0.006
10.01≤Dc≤18.00	+0.025/+0.007
18.01≤Dc≤20.00	+0.029/+0.008

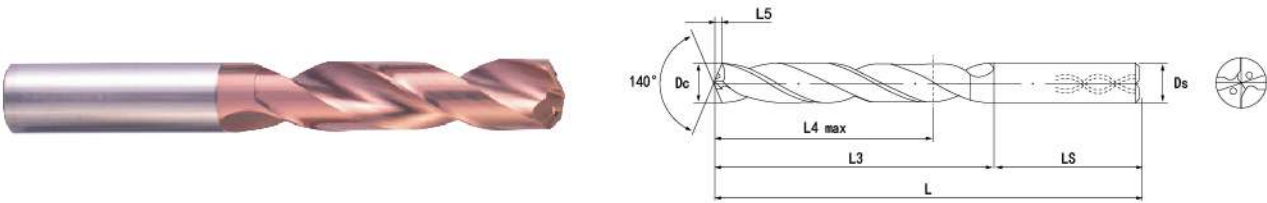
被切削材料 Cutting Materials 非常适合Very Suitable 适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Alumunum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	≤55hrc >55hrc	○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	最大钻削深度 L4(mm)
5DN.450.34.06.74	4.50	34	74	6	36	27
5DN.460.34.06.74	4.60	34	74	6	36	27
5DN.465.34.06.74	4.65	34	74	6	36	27
5DN.476.34.06.74	4.76	34	74	6	36	27
5DN.480.44.06.82	4.80	44	82	6	36	32
5DN.500.44.06.82	5.00	44	82	6	36	32
5DN.516.44.06.82	5.16	44	82	6	36	32
5DN.550.44.06.82	5.50	44	82	6	36	32
5DN.555.44.06.82	5.55	44	82	6	36	32
5DN.556.44.06.82	5.56	44	82	6	36	32
5DN.570.44.06.82	5.70	44	82	6	36	32
5DN.580.44.06.82	5.80	44	82	6	36	32
5DN.595.44.06.82	5.95	44	82	6	36	32
5DN.600.44.06.82	6.00	44	82	6	36	32
5DN.635.53.08.91	6.35	53	91	8	36	35
5DN.650.53.08.91	6.50	53	91	8	36	35
5DN.675.53.08.91	6.75	53	91	8	36	35
5DN.680.53.08.91	6.80	53	91	8	36	40
5DN.700.53.08.91	7.00	53	91	8	36	40
5DN.710.53.08.91	7.10	53	91	8	36	40
5DN.740.53.08.91	7.40	53	91	8	36	40
5DN.750.53.08.91	7.50	53	91	8	36	40
5DN.754.53.08.91	7.54	53	91	8	36	42
5DN.780.53.08.91	7.80	53	91	8	36	42
5DN.794.53.08.91	7.94	53	91	8	36	42
5DN.800.53.08.91	8.00	53	91	8	36	42
5DN.833.61.10.103	8.33	61	103	10	40	42
5DN.850.61.10.103	8.50	61	103	10	40	42
5DN.873.61.10.103	8.73	61	103	10	40	45
5DN.880.61.10.103	8.80	61	103	10	40	45



内冷钻5DN Internal Cooling Aiguille Drill Bits 5DN



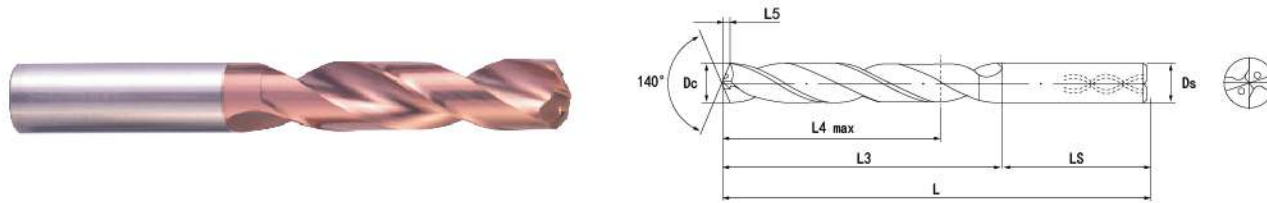
钻头直径,Dc	公差Tolerance,m7
3.00≤Dc≤6.00	+0.016/+0.004
6.01≤Dc≤10.00	+0.021/+0.006
10.01≤Dc≤18.00	+0.025/+0.007
18.01≤Dc≤20.00	+0.029/+0.008

被切削材料 Cutting Materials 非常适合Very Suitable 适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Alumunum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
≤55hrc				>55hrc							
○	○	○	○		○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	最大钻削深度 L4(mm)
5DN.900.61.10.103	9.00	61	103	10	40	45
5DN.913.61.10.103	9.13	61	103	10	40	45
5DN.925.61.10.103	9.25	61	103	10	40	45
5DN.930.61.10.103	9.30	61	103	10	40	45
5DN.950.61.10.103	9.50	61	103	10	40	45
5DN.952.61.10.103	9.52	61	103	10	40	48
5DN.980.61.10.103	9.80	61	103	10	40	48
5DN.992.61.10.103	9.92	61	103	10	40	48
5DN.1000.61.10.103	10.00	61	103	10	40	48
5DN.1020.71.12.118	10.20	71	118	12	45	48
5DN.1032.71.12.118	10.32	71	118	12	45	48
5DN.1050.71.12.118	10.50	71	118	12	45	48
5DN.1070.71.12.118	10.70	71	118	12	45	56
5DN.1100.71.12.118	11.00	71	118	12	45	56
5DN.1111.71.12.118	11.11	71	118	12	45	56
5DN.1120.71.12.118	11.20	71	118	12	45	56
5DN.1150.71.12.118	11.50	71	118	12	45	56
5DN.1170.71.12.118	11.70	71	118	12	45	56
5DN.1191.71.12.118	11.91	71	118	12	45	56
5DN.1200.71.12.118	12.00	71	118	12	45	56
5DN.1250.77.14.124	12.50	77	124	14	45	56
5DN.1270.77.14.124	12.70	77	124	14	45	56
5DN.1300.77.14.124	13.00	77	124	14	45	56
5DN.1350.77.14.124	13.50	77	124	14	45	59
5DN.1370.77.14.124	13.70	77	124	14	45	59
5DN.1400.77.14.124	14.00	77	124	14	45	59
5DN.1429.83.16.133	14.29	83	133	16	48	60
5DN.1450.83.16.133	14.50	83	133	16	48	60
5DN.1470.83.16.133	14.70	83	133	16	48	60
5DN.1500.83.16.133	15.00	83	133	16	48	60
5DN.1550.83.16.133	15.50	83	133	16	48	62
5DN.1570.83.16.133	15.70	83	133	16	48	62
5DN.1600.83.16.133	16.00	83	133	16	48	62
5DN.1650.93.18.143	16.50	93	143	18	48	64
5DN.1700.93.18.143	17.00	93	143	18	48	64
5DN.1750.93.18.143	17.50	93	143	18	48	66
5DN.1800.93.18.143	18.00	93	143	18	48	66
5DN.1850.101.20.153	18.50	101	153	20	50	71
5DN.1900.101.20.153	19.00	101	153	20	50	71
5DN.1050.101.20.153	19.50	101	153	20	50	71
5DN.2000.101.20.153	20.00	101	153	20	50	71

内冷钻7DN Internal Cooling Aiguille Drill Bits 7DN



钻头直径,Dc	公差Tolerance,m7
3.00≤Dc≤6.00	+0.016/+0.004
6.01≤Dc≤10.00	+0.021/+0.006
10.01≤Dc≤18.00	+0.025/+0.007
18.01≤Dc≤20.00	+0.029/+0.008

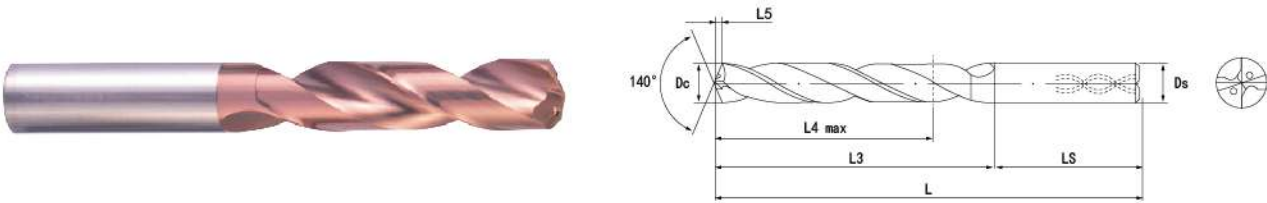
被切削材料 Cutting Materials 非常适合Very Suitable 适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Alumunum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
≤55hrc				>55hrc							
○	○	○	○		○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	最大钻削深度 L4(mm)
7DN.450.56.06.94	4.50	56	94	6	36	45
7DN.460.56.06.94	4.60	56	94	6	36	45
7DN.465.56.06.94	4.65	56	94	6	36	45
7DN.476.56.06.94	4.76	56	94	6	36	45
7DN.480.56.06.94	4.80	56	94	6	36	45
7DN.500.56.06.94	5.00	56	94	6	36	45
7DN.516.56.06.94	5.16	56	94	6	36	45
7DN.550.56.06.94	5.50	56	94	6	36	45
7DN.555.56.06.94	5.55	56	94	6	36	45
7DN.556.56.06.94	5.56	56	94	6	36	45
7DN.570.56.06.94	5.70	56	94	6	36	45
7DN.580.56.06.94	5.80	56	94	6	36	45
7DN.595.56.06.94	5.95	56	94	6	36	45
7DN.600.56.06.94	6.00	56	94	6	36	45
7DN.635.67.08.110	6.35	67	110	8	36	57
7DN.650.67.08.110	6.50	67	110	8	36	57
7DN.675.67.08.110	6.75	67	110	8	36	57
7DN.680.67.08.110	6.80	67	110	8	36	57
7DN.700.67.08.110	7.00	67	110	8	36	57
7DN.710.72.08.110	7.10	72	110	8	36	57
7DN.740.72.08.110	7.40	72	110	8	36	57
7DN.750.72.08.110	7.50	72	110	8	36	57
7DN.754.72.08.110	7.54	72	110	8	36	57
7DN.780.72.08.110	7.80	72	110	8	36	57
7DN.794.72.08.110	7.94	72	110	8	36	57
7DN.800.72.08.110	8.00	72	110	8	36	57
7DN.833.80.10.122	8.33	80	122	10	40	62
7DN.850.80.10.122	8.50	80	122	10	40	62
7DN.873.80.10.122	8.73	80	122	10	40	62
7DN.880.80.10.122	8.80	80	122	10	40	62



内冷钻7DN Internal Cooling Aiguille Drill Bits 7DN



钻头直径,Dc	公差Tolerance,m7
3.00≤Dc≤6.00	+0.016/+0.004
6.01≤Dc≤10.00	+0.021/+0.006
10.01≤Dc≤18.00	+0.025/+0.007
18.01≤Dc≤20.00	+0.029/+0.008

被切削材料 Cutting Materials 非常适合Very Suitable 适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel		不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Alumunum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55hrc	>55hrc							
○	○	○	○			○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	最大钻削深度 L4(mm)
7DN.900.80.10.122	9.00	80	122	10	40	62
7DN.913.80.10.122	9.13	80	122	10	40	62
7DN.925.80.10.122	9.25	80	122	10	40	62
7DN.930.80.10.122	9.30	80	122	10	40	62
7DN.950.80.10.122	9.50	80	122	10	40	62
7DN.952.80.10.122	9.52	80	122	10	40	62
7DN.980.80.10.122	9.80	80	122	10	40	62
7DN.992.80.10.122	9.92	80	122	10	40	62
7DN.1000.80.10.122	10.00	80	122	10	40	62
7DN.1020.94.12.141	10.20	94	141	12	45	72
7DN.1032.94.12.141	10.32	94	141	12	45	72
7DN.1050.94.12.141	10.50	94	141	12	45	72
7DN.1070.94.12.141	10.70	94	141	12	45	72
7DN.1100.94.12.141	11.00	94	141	12	45	72
7DN.1111.94.12.141	11.11	94	141	12	45	72
7DN.1120.94.12.141	11.20	94	141	12	45	72
7DN.1150.94.12.141	11.50	94	141	12	45	72
7DN.1170.94.12.141	11.70	94	141	12	45	72
7DN.1191.94.12.141	11.91	94	141	12	45	72
7DN.1200.94.12.141	12.00	94	141	12	45	72
7DN.1250.108.14.155	12.50	108	155	14	45	83
7DN.1270.108.14.155	12.70	108	155	14	45	83
7DN.1300.108.14.155	13.00	108	155	14	45	83
7DN.1350.108.14.155	13.50	108	155	14	45	83
7DN.1370.108.14.155	13.70	108	155	14	45	83
7DN.1400.108.14.155	14.00	108	155	14	45	83
7DN.1429.121.16.171	14.29	121	171	16	48	92
7DN.1450.121.16.171	14.50	121	171	16	48	92
7DN.1470.121.16.171	14.70	121	171	16	48	92
7DN.1500.121.16.171	15.00	121	171	16	48	92
7DN.1550.121.16.171	15.50	121	171	16	48	92
7DN.1570.121.16.171	15.70	121	171	16	48	92
7DN.1600.121.16.171	16.00	121	171	16	48	92
7DN.1650.135.18.185	16.50	135	185	18	48	103
7DN.1700.135.18.185	17.00	135	185	18	48	103
7DN.1750.135.18.185	17.50	135	185	18	48	103
7DN.1800.135.18.185	18.00	135	185	18	48	103
7DN.1850.148.20.200	18.50	148	200	20	50	112
7DN.1900.148.20.200	19.00	148	200	20	50	112
7DN.1050.148.20.200	19.50	148	200	20	50	112
7DN.2000.148.20.200	20.00	148	200	20	50	112

直槽钻3DZCW Straight Fluted Drill Bits 3DZCW



钻头直径,Dc	公差Tolerance,m7
3.00≤Dc≤6.00	+0.016/+0.004
6.01≤Dc≤10.00	+0.021/+0.006
10.01≤Dc≤18.00	+0.025/+0.007
18.01≤Dc≤20.00	+0.029/+0.008

被切削材料 Cutting Materials 非常适合Very Suitable 适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel		不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Alumunum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55hrc	>55hrc							
○	○	○	○			○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	最大钻削深度 L4(mm)
3DZCW.400.24.04.66	4.00	24	66	4	36	17
3DZCW.420.24.06.66	4.20	24	66	6	36	17
3DZCW.450.24.06.66	4.50	24	66	6	36	18
3DZCW.500.28.06.66	5.00	28	66	6	36	20
3DZCW.550.28.06.66	5.50	28	66	6	36	21
3DZCW.600.28.06.66	6.00	28	66	6	36	21
3DZCW.610.28.06.66	6.10	28	66	6	36	21
3DZCW.620.34.08.79	6.20	34	79	8	36	23
3DZCW.635.34.08.79	6.35	34	79	8	36	23
3DZCW.650.34.08.79	6.50	34	79	8	36	23
3DZCW.680.34.08.79	6.80	34	79	8	36	25
3DZCW.700.34.08.79	7.00	34	79	8	36	25
3DZCW.750.41.08.79	7.50	41	79	8	36	25
3DZCW.780.41.08.79	7.80	41	79	8	36	27
3DZCW.800.41.08.79	8.00	41	79	8	36	27
3DZCW.850.47.10.89	8.50	47	89	10	40	27
3DZCW.900.47.10.89	9.00	47	89	10	40	29
3DZCW.950.47.10.89	9.50	47	89	10	40	29
3DZCW.1000.47.10.89	10.00	47	89	10	40	31
3DZCW.1050.55.12.102	10.50	55	102	12	45	31
3DZCW.1100.55.12.102	11.00	55	102	12	45	33
3DZCW.1150.55.12.102	11.50	55	102	12	45	33
3DZCW.1200.55.12.102	12.00	55	102	12	45	36
3DZCW.1250.60.14.107	12.50	60	107	14	45	36
3DZCW.1270.60.14.107	12.70	60	107	14	45	36
3DZCW.1300.60.14.107	13.00	60	107	14	45	36
3DZCW.1350.60.14.107	13.50	60	107	14	45	37
3DZCW.1400.60.14.107	14.00	60	107	14	45	37
3DZCW.1450.65.16.115	14.50	65	115	16	48	38
3DZCW.1500.65.16.115	15.00	65	115	16	48	38
3DZCW.1550.65.16.115	15.50	65	115	16	48	39
3DZCW.1600.65.16.115	16.00	65	115	16	48	39
3DZCW.1650.73.18.123	16.50	73	123	18	48	40
3DZCW.1700.73.18.123	17.00	73	123	18	48	40
3DZCW.1750.73.18.123	17.50	73	123	18	48	41
3DZCW.1800.73.18.123	18.00	73	123	18	48	41
3DZCW.2000.79.20.131	20.00	79	131	20	50	49



直槽钻5DZCW Straight Fluted Drill Bits 5DZCW



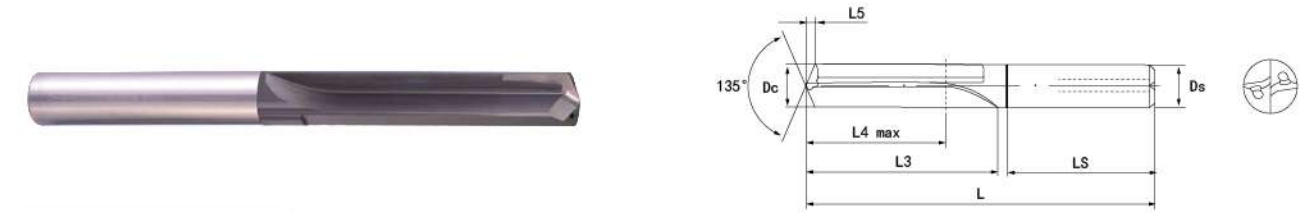
钻头直径.Dc	公差Tolerance,m7
3.00≤Dc≤6.00	+0.016/+0.004
6.01≤Dc≤10.00	+0.021/+0.006
10.01≤Dc≤18.00	+0.025/+0.007
18.01≤Dc≤20.00	+0.029/+0.008

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	最大钻削深度 L4(mm)
5DZCW.400.34.04.74	4.00	34	74	4	36	27
5DZCW.420.34.06.74	4.20	34	74	6	36	27
5DZCW.450.34.06.74	4.50	34	74	6	36	27
5DZCW.500.44.06.82	5.00	44	82	6	36	32
5DZCW.550.44.06.82	5.50	44	82	6	36	32
5DZCW.600.44.06.82	6.00	44	82	6	36	32
5DZCW.610.44.06.82	6.10	44	82	6	36	32
5DZCW.620.53.08.91	6.20	53	91	8	36	35
5DZCW.635.53.08.91	6.35	53	91	8	36	35
5DZCW.650.53.08.91	6.50	53	91	8	36	35
5DZCW.680.53.08.91	6.80	53	91	8	36	40
5DZCW.700.53.08.91	7.00	53	91	8	36	40
5DZCW.750.53.08.91	7.50	53	91	8	36	40
5DZCW.780.53.08.91	7.80	53	91	8	36	42
5DZCW.800.53.08.91	8.00	53	91	8	36	42
5DZCW.850.61.10.103	8.50	61	103	10	40	42
5DZCW.900.61.10.103	9.00	61	103	10	40	45
5DZCW.950.61.10.103	9.50	61	103	10	40	45
5DZCW.1000.61.10.103	10.00	61	103	10	40	48
5DZCW.1050.71.12.118	10.50	71	118	12	45	48
5DZCW.1100.71.12.118	11.00	71	118	12	45	56
5DZCW.1150.71.12.118	11.50	71	118	12	45	56
5DZCW.1200.71.12.118	12.00	71	118	12	45	56
5DZCW.1250.77.14.124	12.50	77	124	14	45	56
5DZCW.1270.77.14.124	12.70	77	124	14	45	56
5DZCW.1300.77.14.124	13.00	77	124	14	45	56
5DZCW.1350.77.14.124	13.50	77	124	14	45	59
5DZCW.1400.77.14.124	14.00	77	124	14	45	59
5DZCW.1450.83.16.133	14.50	83	133	16	48	60
5DZCW.1500.83.16.133	15.00	83	133	16	48	60
5DZCW.1550.83.16.133	15.50	83	133	16	48	62
5DZCW.1600.83.16.133	16.00	83	133	16	48	62
5DZCW.1650.93.18.143	16.50	93	143	18	48	64
5DZCW.1700.93.18.143	17.00	93	143	18	48	64
5DZCW.1750.93.18.143	17.50	93	143	18	48	66
5DZCW.1800.93.18.143	18.00	93	143	18	48	66
5DZCW.2000.101.20.153	20.00	101	153	20	50	71

直槽钻7DZCN Straight Fluted Drill Bits 7DZCN



钻头直径.Dc	公差Tolerance,m7
3.00≤Dc≤6.00	+0.016/+0.004
6.01≤Dc≤10.00	+0.021/+0.006
10.01≤Dc≤18.00	+0.025/+0.007
18.01≤Dc≤20.00	+0.029/+0.008

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel	不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
○	○	○	○	○	○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	最大钻削深度 L4(mm)
7DZCN.450.56.06.94	4.50	56	94	6	36	45
7DZCN.500.56.06.94	5.00	56	94	6	36	45
7DZCN.550.56.06.94	5.50	56	94	6	36	45
7DZCN.600.56.06.94	6.00	56	94	6	36	45
7DZCN.610.56.06.94	6.10	56	94	6	36	45
7DZCN.620.67.08.110	6.20	67	110	8	36	57
7DZCN.635.67.08.110	6.35	67	110	8	36	57
7DZCN.650.67.08.110	6.50	67	110	8	36	57
7DZCN.680.67.08.110	6.80	67	110	8	36	57
7DZCN.700.67.08.110	7.00	67	110	8	36	57
7DZCN.750.72.08.110	7.50	72	110	8	36	57
7DZCN.780.72.08.110	7.80	72	110	8	36	57
7DZCN.800.72.08.110	8.00	72	110	8	36	57
7DZCN.850.80.10.122	8.50	80	122	10	40	62
7DZCN.900.80.10.122	9.00	80	122	10	40	62
7DZCN.950.80.10.122	9.50	80	122	10	40	62
7DZCN.1000.80.10.122	10.00	80	122	10	40	62
7DZCN.1050.94.12.141	10.50	94	141	12	45	72
7DZCN.1100.94.12.141	11.00	94	141	12	45	72
7DZCN.1150.94.12.141	11.50	94	141	12	45	72
7DZCN.1200.94.12.141	12.00	94	141	12	45	72
7DZCN.1250.108.14.155	12.50	108	155	14	45	83
7DZCN.1270.108.14.155	12.70	108	155	14	45	83
7DZCN.1300.108.14.155	13.00	108	155	14	45	83
7DZCN.1350.108.14.155	13.50	108	155	14	45	83
7DZCN.1400.108.14.155	14.00	108	155	14	45	83
7DZCN.1450.121.16.171	14.50	121	171	16	48	92
7DZCN.1500.121.16.171	15.00	121	171	16	48	92
7DZCN.1550.121.16.171	15.50	121	171	16	48	92
7DZCN.1600.121.16.171	16.00	121	171	16	48	92
7DZCN.1650.135.18.185	16.50	135	185	18	48	103
7DZCN.1700.135.18.185	17.00	135	185	18	48	103
7DZCN.1750.135.18.185	17.50	135	185	18	48	103
7DZCN.1800.135.18.185	18.00	135	185	18	48	103
7DZCN.2000.148.20.200	20.00	148	200	20	50	112



三刃钻3DSRW 3 Flute Drill Bits 3DSRW



钻头直径,Dc	公差Tolerance,m7
3.00≤Dc≤6.00	+0.016/+0.004
6.01≤Dc≤10.00	+0.021/+0.006
10.01≤Dc≤18.00	+0.025/+0.007
18.01≤Dc≤20.00	+0.029/+0.008

被切削材料 Cutting Materials 非常适合Very Suitable 适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel		不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Alumunum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55hrc	>55hrc							
○	○	○	○			○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	最大钻削深度 L4(mm)
3DSRW.400.24.04.66	4.00	24	66	4	36	17
3DSRW.420.24.06.66	4.20	24	66	6	36	17
3DSRW.450.24.06.66	4.50	24	66	6	36	18
3DSRW.500.28.06.66	5.00	28	66	6	36	20
3DSRW.550.28.06.66	5.50	28	66	6	36	21
3DSRW.600.28.06.66	6.00	28	66	6	36	21
3DSRW.610.28.06.66	6.10	28	66	6	36	21
3DSRW.620.34.08.79	6.20	34	79	8	36	23
3DSRW.635.34.08.79	6.35	34	79	8	36	23
3DSRW.650.34.08.79	6.50	34	79	8	36	23
3DSRW.680.34.08.79	6.80	34	79	8	36	25
3DSRW.700.34.08.79	7.00	34	79	8	36	25
3DSRW.750.41.08.79	7.50	41	79	8	36	25
3DSRW.780.41.08.79	7.80	41	79	8	36	27
3DSRW.800.41.08.79	8.00	41	79	8	36	27
3DSRW.850.47.10.89	8.50	47	89	10	40	27
3DSRW.900.47.10.89	9.00	47	89	10	40	29
3DSRW.950.47.10.89	9.50	47	89	10	40	29
3DSRW.1000.47.10.89	10.00	47	89	10	40	31
3DSRW.1050.55.12.102	10.50	55	102	12	45	31
3DSRW.1100.55.12.102	11.00	55	102	12	45	33
3DSRW.1150.55.12.102	11.50	55	102	12	45	33
3DSRW.1200.55.12.102	12.00	55	102	12	45	36
3DSRW.1250.60.14.107	12.50	60	107	14	45	36
3DSRW.1270.60.14.107	12.70	60	107	14	45	36
3DSRW.1300.60.14.107	13.00	60	107	14	45	36
3DSRW.1350.60.14.107	13.50	60	107	14	45	37
3DSRW.1400.60.14.107	14.00	60	107	14	45	37
3DSRW.1450.65.16.115	14.50	65	115	16	48	38
3DSRW.1500.65.16.115	15.00	65	115	16	48	38
3DSRW.1550.65.16.115	15.50	65	115	16	48	39
3DSRW.1600.65.16.115	16.00	65	115	16	48	39
3DSRW.1650.73.18.123	16.50	73	123	18	48	40
3DSRW.1700.73.18.123	17.00	73	123	18	48	40
3DSRW.1750.73.18.123	17.50	73	123	18	48	41
3DSRW.1800.73.18.123	18.00	73	123	18	48	41
3DSRW.2000.79.20.131	20.00	79	131	20	50	49

三刃钻5DSRN 3 Flute Drill Bits 5DSRN



钻头直径,Dc	公差Tolerance,m7
3.00≤Dc≤6.00	+0.016/+0.004
6.01≤Dc≤10.00	+0.021/+0.006
10.01≤Dc≤18.00	+0.025/+0.007
18.01≤Dc≤20.00	+0.029/+0.008

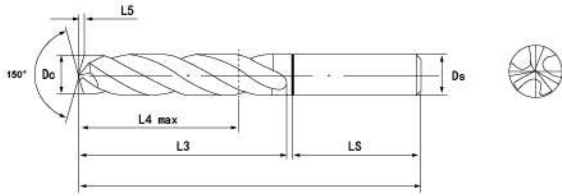
被切削材料 Cutting Materials 非常适合Very Suitable 适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel		不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Alumunum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55hrc	>55hrc							
○	○	○	○			○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	最大钻削深度 L4(mm)
5DSRN.400.34.04.74	4.00	34	74	4	36	27
5DSRN.420.34.06.74	4.20	34	74	6	36	27
5DSRN.450.34.06.74	4.50	34	74	6	36	27
5DSRN.500.44.06.82	5.00	44	82	6	36	32
5DSRN.550.44.06.82	5.50	44	82	6	36	32
5DSRN.600.44.06.82	6.00	44	82	6	36	32
5DSRN.610.44.06.82	6.10	44	82	6	36	32
5DSRN.620.53.08.91	6.20	53	91	8	36	35
5DSRN.635.53.08.91	6.35	53	91	8	36	35
5DSRN.650.53.08.91	6.50	53	91	8	36	35
5DSRN.680.53.08.91	6.80	53	91	8	36	40
5DSRN.700.53.08.91	7.00	53	91	8	36	40
5DSRN.750.53.08.91	7.50	53	91	8	36	40
5DSRN.780.53.08.91	7.80	53	91	8	36	42
5DSRN.800.53.08.91	8.00	53	91	8	36	42
5DSRN.850.61.10.103	8.50	61	103	10	40	42
5DSRN.900.61.10.103	9.00	61	103	10	40	45
5DSRN.950.61.10.103	9.50	61	103	10	40	45
5DSRN.1000.61.10.103	10.00	61	103	10	40	48
5DSRN.1050.71.12.118	10.50	71	118	12	45	48
5DSRN.1100.71.12.118	11.00	71	118	12	45	56
5DSRN.1150.71.12.118	11.50	71	118	12	45	56
5DSRN.1200.71.12.118	12.00	71	118	12	45	56
5DSRN.1250.77.14.124	12.50	77	124	14	45	56
5DSRN.1270.77.14.124	12.70	77	124	14	45	56
5DSRN.1300.77.14.124	13.00	77	124	14	45	56
5DSRN.1350.77.14.124	13.50	77	124	14	45	59
5DSRN.1400.77.14.124	14.00	77	124	14	45	59
5DSRN.1450.83.16.133	14.50	83	133	16	48	60
5DSRN.1500.83.16.133	15.00	83	133	16	48	60
5DSRN.1550.83.16.133	15.50	83	133	16	48	62
5DSRN.1600.83.16.133	16.00	83	133	16	48	62
5DSRN.1650.93.18.143	16.50	93	143	18	48	64
5DSRN.1700.93.18.143	17.00	93	143	18	48	64
5DSRN.1750.93.18.143	17.50	93	143	18	48	66
5DSRN.1800.93.18.143	18.00	93	143	18	48	66
5DSRN.2000.101.20.153	20.00	101	153	20	50	71



三刃钻7DSRN 3 Flute Drill Bits 7DSRN



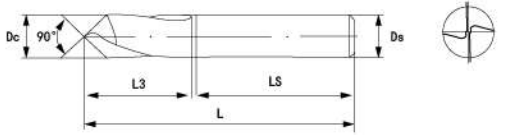
钻头直径,Dc	公差Tolerance,m7
3.00≤Dc≤6.00	+0.016/+0.004
6.01≤Dc≤10.00	+0.021/+0.006
10.01≤Dc≤18.00	+0.025/+0.007
18.01≤Dc≤20.00	+0.029/+0.008

被切削材料 Cutting Materials 非常适合Very Suitable 适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel		不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Alumunum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55hrc	>55hrc							
○	○	○	○			○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	最大钻削深度 L4(mm)
7DSRN.450.56.06.94	4.50	56	94	6	36	45
7DSRN.500.56.06.94	5.00	56	94	6	36	45
7DSRN.550.56.06.94	5.50	56	94	6	36	45
7DSRN.600.56.06.94	6.00	56	94	6	36	45
7DSRN.610.56.06.94	6.10	56	94	6	36	45
7DSRN.620.67.08.110	6.20	67	110	8	36	57
7DSRN.635.67.08.110	6.35	67	110	8	36	57
7DSRN.650.67.08.110	6.50	67	110	8	36	57
7DSRN.680.67.08.110	6.80	67	110	8	36	57
7DSRN.700.67.08.110	7.00	67	110	8	36	57
7DSRN.750.72.08.110	7.50	72	110	8	36	57
7DSRN.780.72.08.110	7.80	72	110	8	36	57
7DSRN.800.72.08.110	8.00	72	110	8	36	57
7DSRN.850.80.10.122	8.50	80	122	10	40	62
7DSRN.900.80.10.122	9.00	80	122	10	40	62
7DSRN.950.80.10.122	9.50	80	122	10	40	62
7DSRN.1000.80.10.122	10.00	80	122	10	40	62
7DSRN.1050.94.12.141	10.50	94	141	12	45	72
7DSRN.1100.94.12.141	11.00	94	141	12	45	72
7DSRN.1150.94.12.141	11.50	94	141	12	45	72
7DSRN.1200.94.12.141	12.00	94	141	12	45	72
7DSRN.1250.108.14.155	12.50	108	155	14	45	83
7DSRN.1270.108.14.155	12.70	108	155	14	45	83
7DSRN.1300.108.14.155	13.00	108	155	14	45	83
7DSRN.1350.108.14.155	13.50	108	155	14	45	83
7DSRN.1400.108.14.155	14.00	108	155	14	45	83
7DSRN.1450.121.16.171	14.50	121	171	16	48	92
7DSRN.1500.121.16.171	15.00	121	171	16	48	92
7DSRN.1550.121.16.171	15.50	121	171	16	48	92
7DSRN.1600.121.16.171	16.00	121	171	16	48	92
7DSRN.1650.135.18.185	16.50	135	185	18	48	103
7DSRN.1700.135.18.185	17.00	135	185	18	48	103
7DSRN.1750.135.18.185	17.50	135	185	18	48	103
7DSRN.1800.135.18.185	18.00	135	185	18	48	103
7DSRN.2000.148.20.200	20.00	148	200	20	50	112

定心钻90DXW Pilot Drill Bits 90DXW



钻头直径,Dc	公差Tolerance,m7
3.00≤Dc≤20.00	±0.01

被切削材料 Cutting Materials 非常适合Very Suitable 适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel		不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Alumunum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55hrc	>55hrc							
○	○	○	○			○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)
90DXW.300.06.04.44	3.00	6	44	4	36
90DXW.400.08.04.46	4.00	8	46	4	36
90DXW.500.10.06.48	5.00	10	48	6	36
90DXW.600.12.06.50	6.00	12	50	6	36
90DXW.800.16.08.54	8.00	16	54	8	36
90DXW.1000.20.10.62	10.00	20	62	10	40
90DXW.1200.24.12.71	12.00	24	71	12	45
90DXW.1400.28.14.75	14.00	28	75	14	45
90DXW.1600.32.16.82	16.00	32	82	16	48
90DXW.1800.36.18.86	18.00	36	86	18	48
90DXW.2000.40.20.92	20.00	40	92	20	50



定心钻120DXW Pilot Drill Bits 120DXW



钻头直径,Dc	公差Tolerance,m7
3.00≤Dc≤20.00	±0.01

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel		不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Alumunum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55hrc	>55hrc							
○	○	○	○			○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)
120DXW.300.06.04.44	3.00	6	44	4	36
120DXW.400.08.04.46	4.00	8	46	4	36
120DXW.500.10.06.48	5.00	10	48	6	36
120DXW.600.12.06.50	6.00	12	50	6	36
120DXW.800.16.08.54	8.00	16	54	8	36
120DXW.1000.20.10.62	10.00	20	62	10	40
120DXW.1200.24.12.71	12.00	24	71	12	45
120DXW.1400.28.14.75	14.00	28	75	14	45
120DXW.1600.32.16.82	16.00	32	82	16	48
120DXW.1800.36.18.86	18.00	36	86	18	48
120DXW.2000.40.20.92	20.00	40	92	20	50

直槽铰刀ZCJ Straight Fluted Reamers ZCJ



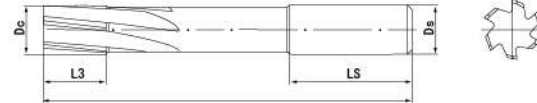
被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel		不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Alumunum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55hrc	>55hrc							
○	○	○	○			○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	齿数 Z	最大钻削深度 L4(mm)
ZCJ.300.12.04.75	3.00	12	75	4	36	4	10
ZCJ.350.12.04.75	3.50	12	75	4	36	4	12
ZCJ.400.12.04.75	4.00	12	75	4	36	4	12
ZCJ.450.12.06.75	4.50	12	75	6	36	6	15
ZCJ.500.12.06.75	5.00	12	75	6	36	6	15
ZCJ.550.12.06.75	5.50	12	75	6	36	6	18
ZCJ.600.12.06.75	6.00	12	75	6	36	6	18
ZCJ.650.16.08.100	6.50	16	100	8	36	6	21
ZCJ.700.16.08.100	7.00	16	100	8	36	6	21
ZCJ.750.16.08.100	7.50	16	100	8	36	6	24
ZCJ.800.16.08.100	8.00	16	100	8	36	6	24
ZCJ.850.20.10.100	8.50	20	100	10	40	6	27
ZCJ.900.20.10.100	9.00	20	100	10	40	6	27
ZCJ.950.20.10.100	9.50	20	100	10	40	6	30
ZCJ.1000.20.10.100	10.00	20	100	10	40	6	30
ZCJ.1050.20.12.120	10.50	20	120	12	45	6	33
ZCJ.1100.20.12.120	11.00	20	120	12	45	6	33
ZCJ.1150.20.12.120	11.50	20	120	12	45	6	36
ZCJ.1200.20.12.120	12.00	20	120	12	45	6	36
ZCJ.1250.25.14.130	12.50	25	130	14	45	6	40
ZCJ.1300.25.14.130	13.00	25	130	14	45	6	40
ZCJ.1350.25.14.130	13.50	25	130	14	45	6	42
ZCJ.1400.25.14.130	14.00	25	130	14	45	6	42
ZCJ.1450.25.16.130	14.50	25	130	16	48	8	45
ZCJ.1500.25.16.130	15.00	25	130	16	48	8	45
ZCJ.1550.25.16.150	15.50	25	150	16	48	8	48
ZCJ.1600.25.16.150	16.00	25	150	16	48	8	48
ZCJ.1650.25.18.150	16.50	25	150	18	48	8	51
ZCJ.1700.25.18.150	17.00	25	150	18	48	8	51
ZCJ.1750.25.18.150	17.50	25	150	18	48	8	54
ZCJ.1800.25.18.150	18.00	25	150	18	48	8	54
ZCJ.2000.25.20.150	20.00	25	150	20	50	8	60



螺旋铰刀LXJ Spiral Reamers LXJ

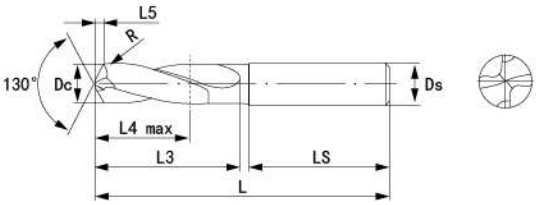


被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel		不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55hrc	>55hrc							
○	○	○	○			○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	最大钻削深度 L4(mm)
LXJ.300.12.04.75	3.00	12	75	4	36	10
LXJ.350.12.04.75	3.50	12	75	4	36	12
LXJ.400.12.04.75	4.00	12	75	4	36	12
LXJ.450.12.06.75	4.50	12	75	6	36	15
LXJ.500.12.06.75	5.00	12	75	6	36	15
LXJ.550.12.06.75	5.50	12	75	6	36	18
LXJ.600.12.06.75	6.00	12	75	6	36	18
LXJ.650.16.08.100	6.50	16	100	8	36	21
LXJ.700.16.08.100	7.00	16	100	8	36	21
LXJ.750.16.08.100	7.50	16	100	8	36	24
LXJ.800.16.08.100	8.00	16	100	8	36	24
LXJ.850.20.10.100	8.50	20	100	10	40	27
LXJ.900.20.10.100	9.00	20	100	10	40	27
LXJ.950.20.10.100	9.50	20	100	10	40	30
LXJ.1000.20.10.100	10.00	20	100	10	40	30
LXJ.1050.20.12.120	10.50	20	120	12	45	33
LXJ.1100.20.12.120	11.00	20	120	12	45	33
LXJ.1150.20.12.120	11.50	20	120	12	45	36
LXJ.1200.20.12.120	12.00	20	120	12	45	36
LXJ.1250.25.14.130	12.50	25	130	14	45	40
LXJ.1300.25.14.130	13.00	25	130	14	45	40
LXJ.1350.25.14.130	13.50	25	130	14	45	42
LXJ.1400.25.14.130	14.00	25	130	14	45	42
LXJ.1450.25.16.130	14.50	25	130	16	48	45
LXJ.1500.25.16.130	15.00	25	130	16	48	45
LXJ.1550.25.16.150	15.50	25	150	16	48	48
LXJ.1600.25.16.150	16.00	25	150	16	48	48
LXJ.1650.25.18.150	16.50	25	150	18	48	51
LXJ.1700.25.18.150	17.00	25	150	18	48	51
LXJ.1750.25.18.150	17.50	25	150	18	48	54
LXJ.1800.25.18.150	18.00	25	150	18	48	54
LXJ.2000.25.20.150	20.00	25	150	20	50	60

强力钻QL Powerful Drill Bits QL



钻头直径,Dc	公差Tolerance,m7
3.00≤Dc≤20.00	±0.03

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel		不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55hrc	>55hrc							
○	○	○	○			○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	肩部 R(mm)	最大钻削深度 L4(mm)
QL.400.22.04.55	4.00	22	55	4	36	0.5	8
QL.500.26.06.62	5.00	26	62	6	36	0.5	10
QL.600.26.06.62	6.00	26	62	6	36	0.5	12
QL.700.34.08.74	7.00	34	74	8	36	0.5	14
QL.800.34.08.74	8.00	34	74	8	36	0.5	16
QL.900.34.10.74	9.00	34	74	10	40	0.5	18
QL.1000.43.10.90	10.00	43	90	10	40	0.8	20
QL.1100.43.12.90	11.00	43	90	12	45	1.0	22
QL.1200.43.12.90	12.00	43	90	12	45	1.0	24
QL.1300.43.14.90	13.00	43	90	14	45	1.2	26
QL.1400.54.14.107	14.00	54	107	14	45	1.5	28
QL.1500.60.16.107	15.00	60	107	16	48	1.5	30
QL.1600.60.16.107	16.00	60	107	16	48	1.5	32
QL.1700.60.18.107	17.00	60	107	18	48	1.8	34
QL.1800.60.18.107	18.00	60	107	18	48	1.8	36
QL.1900.60.18.107	19.00	60	107	18	50	1.8	38
QL.2000.60.20.107	20.00	60	107	20	50	2.0	40



三尖强力钻3JQL 3 Point Powerful Drill Bits 3JQL



钻头直径Dc	公差Tolerance,m7
3.00≤Dc≤20.00	±0.03

被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel		不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Alumunum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55hrc	>55hrc							
○	○	○	○			○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	肩部 R(mm)	最大钻削深度 L4(mm)
3JQL.400.22.04.55	4.00	22	55	4	36	0.5	8
3JQL.500.26.06.62	5.00	26	62	6	36	0.5	10
3JQL.600.26.06.62	6.00	26	62	6	36	0.5	12
3JQL.700.34.08.74	7.00	34	74	8	36	0.5	14
3JQL.800.34.08.74	8.00	34	74	8	36	0.5	16
3JQL.900.34.10.74	9.00	34	74	10	40	0.5	18
3JQL.1000.43.10.90	10.00	43	90	10	40	0.8	20
3JQL.1100.43.12.90	11.00	43	90	12	45	1.0	22
3JQL.1200.43.12.90	12.00	43	90	12	45	1.0	24
3JQL.1300.43.14.90	13.00	43	90	14	45	1.2	26
3JQL.1400.54.14.107	14.00	54	107	14	45	1.5	28
3JQL.1500.60.16.107	15.00	60	107	16	48	1.5	30
3JQL.1600.60.16.107	16.00	60	107	16	48	1.5	32
3JQL.1700.60.18.107	17.00	60	107	18	48	1.8	34
3JQL.1800.60.18.107	18.00	60	107	18	48	1.8	36
3JQL.1900.60.18.107	19.00	60	107	18	50	1.8	38
3JQL.2000.60.20.107	20.00	60	107	20	50	2.0	40

平底钻3DPDW Flat Bottom Drill Bits 3DPDW



钻头直径Dc	公差Tolerance,m7
3.00≤Dc≤6.00	+0.016/+0.004
6.01≤Dc≤10.00	+0.021/+0.006
10.01≤Dc≤18.00	+0.025/+0.007
18.01≤Dc≤20.00	+0.029/+0.008

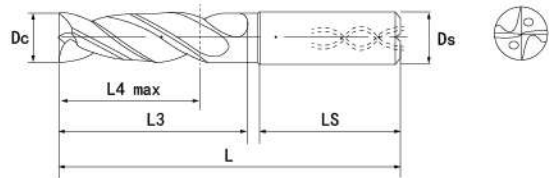
被切削材料 Cutting Materials ○非常适合Very Suitable ○适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel		不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Alumunum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55hrc	>55hrc							
○	○	○	○			○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	最大钻削深度 L4(mm)
3DPDW.400.24.04.66	4.00	24	66	4	36	17
3DPDW.450.24.04.66	4.50	24	66	6	36	18
3DPDW.500.28.06.66	5.00	28	66	6	36	20
3DPDW.550.28.06.66	5.50	28	66	6	36	21
3DPDW.600.28.06.66	6.00	28	66	6	36	21
3DPDW.650.34.08.79	6.50	34	79	8	36	23
3DPDW.700.34.08.79	7.00	34	79	8	36	25
3DPDW.750.41.08.79	7.50	41	79	8	36	25
3DPDW.800.41.08.79	8.00	41	79	8	36	27
3DPDW.850.47.10.89	8.50	47	89	10	40	27
3DPDW.900.47.10.89	9.00	47	89	10	40	29
3DPDW.950.47.10.89	9.50	47	89	10	40	29
3DPDW.1000.47.10.89	10.00	47	89	10	40	31
3DPDW.1050.55.12.102	10.50	55	102	12	45	31
3DPDW.1100.55.12.102	11.00	55	102	12	45	33
3DPDW.1150.55.12.102	11.50	55	102	12	45	33
3DPDW.1200.55.12.102	12.00	55	102	12	45	36
3DPDW.1250.60.14.107	12.50	60	107	14	45	36
3DPDW.1300.60.14.107	13.00	60	107	14	45	36
3DPDW.1350.60.14.107	13.50	60	107	14	45	37
3DPDW.1400.60.14.107	14.00	60	107	14	45	37
3DPDW.1450.65.16.115	14.50	65	115	16	48	38
3DPDW.1500.65.16.115	15.00	65	115	16	48	38
3DPDW.1550.65.16.115	15.50	65	115	16	48	39
3DPDW.1600.65.16.115	16.00	65	115	16	48	39



平底钻5DPDN Flat Bottom Drill Bits 5DPDN



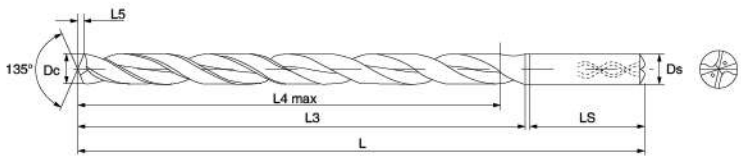
钻头直径 Dc	公差 Tolerance, m7
3.00≤Dc≤6.00	+0.016/+0.004
6.01≤Dc≤10.00	+0.021/+0.006
10.01≤Dc≤18.00	+0.025/+0.007
18.01≤Dc≤20.00	+0.029/+0.008

被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel		不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55HRC	>55HRC							
○	○	○	○			○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	最大钻削深度 L4(mm)
5DPDN.400.24.04.66	4.00	24	66	4	36	17
5DPDN.450.24.04.66	4.50	24	66	6	36	18
5DPDN.500.28.06.66	5.00	28	66	6	36	20
5DPDN.550.28.06.66	5.50	28	66	6	36	21
5DPDN.600.28.06.66	6.00	28	66	6	36	21
5DPDN.650.34.08.79	6.50	34	79	8	36	23
5DPDN.700.34.08.79	7.00	34	79	8	36	25
5DPDN.750.41.08.79	7.50	41	79	8	36	25
5DPDN.800.41.08.79	8.00	41	79	8	36	27
5DPDN.850.47.10.89	8.50	47	89	10	40	27
5DPDN.900.47.10.89	9.00	47	89	10	40	29
5DPDN.950.47.10.89	9.50	47	89	10	40	29
5DPDN.1000.47.10.89	10.00	47	89	10	40	31
5DPDN.1050.55.12.102	10.50	55	102	12	45	31
5DPDN.1100.55.12.102	11.00	55	102	12	45	33
5DPDN.1150.55.12.102	11.50	55	102	12	45	33
5DPDN.1200.55.12.102	12.00	55	102	12	45	36
5DPDN.1250.60.14.107	12.50	60	107	14	45	36
5DPDN.1300.60.14.107	13.00	60	107	14	45	36
5DPDN.1350.60.14.107	13.50	60	107	14	45	37
5DPDN.1400.60.14.107	14.00	60	107	14	45	37
5DPDN.1450.65.16.115	14.50	65	115	16	48	38
5DPDN.1500.65.16.115	15.00	65	115	16	48	38
5DPDN.1550.65.16.115	15.50	65	115	16	48	39
5DPDN.1600.65.16.115	16.00	65	115	16	48	39

深孔钻12DSKN Gun Drill Bits 12DSKN



钻头直径 Dc	公差 Tolerance, m7
3.00≤Dc≤6.00	-0.020/-0.038
6.01≤Dc≤10.00	-0.025/-0.047
10.01≤Dc≤18.00	-0.032/-0.059

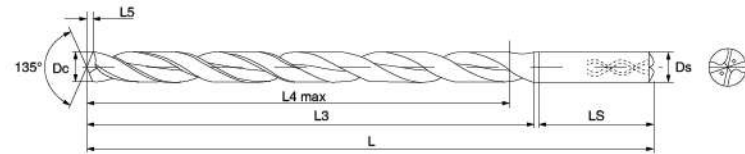
被切削材料 Cutting Materials ○非常适合 Very Suitable ○适合 Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel		不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Aluminum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55HRC	>55HRC							
○	○	○	○			○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	最大钻削深度 L4(mm)
12DSKN.400.68.04.116	4.00	68	116	4	46	62
12DSKN.450.77.06.127	4.50	77	127	6	48	69
12DSKN.500.94.06.146	5.00	94	146	6	50	85
12DSKN.550.94.06.146	5.50	94	146	6	50	85
12DSKN.600.102.06.154	6.00	102	154	6	50	93
12DSKN.650.111.08.164	6.50	111	164	8	50	100
12DSKN.700.119.08.172	7.00	119	172	8	50	108
12DSKN.750.128.08.182	7.50	128	182	8	52	116
12DSKN.800.136.08.190	8.00	136	190	8	52	124
12DSKN.850.145.10.200	8.50	145	200	10	52	131
12DSKN.900.153.10.208	9.00	153	208	10	52	139
12DSKN.950.162.10.218	9.50	162	218	10	54	147
12DSKN.1000.170.10.226	10.00	170	226	10	54	155
12DSKN.1050.179.12.240	10.50	179	240	12	58	162
12DSKN.1100.187.12.248	11.00	187	248	12	58	170
12DSKN.1150.196.12.258	11.50	196	258	12	60	178
12DSKN.1200.204.12.266	12.00	204	266	12	60	186
12DSKN.1250.213.14.276	12.50	213	276	14	60	193
12DSKN.1300.221.14.284	13.00	221	284	14	60	201
12DSKN.1350.230.14.294	13.50	230	294	14	60	209
12DSKN.1400.238.14.302	14.00	238	302	14	62	217
12DSKN.1450.247.16.312	14.50	247	312	16	62	224
12DSKN.1500.255.16.320	15.00	255	320	16	62	232
12DSKN.1550.264.16.330	15.50	264	330	16	64	240
12DSKN.1600.272.16.338	16.00	272	338	16	64	248



深孔钻15DSKN Gun Drill Bits 15DSKN



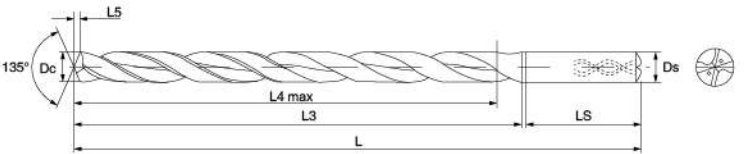
钻头直径.Dc	公差Tolerance,m7
3.00≤Dc≤6.00	-0.020/-0.038
6.01≤Dc≤10.00	-0.025/-0.047
10.01≤Dc≤18.00	-0.032/-0.059

被切削材料 Cutting Materials 非常适合Very Suitable 适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel		不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Alumunum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55hrc	>55hrc							
○	○	○	○			○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	最大钻削深度 L4(mm)
15DSKN.400.80.04.128	4.00	80	128	4	46	74
15DSKN.450.90.06.140	4.50	90	140	6	48	82
15DSKN.500.110.06.162	5.00	110	162	6	50	101
15DSKN.550.110.06.162	5.50	110	162	6	50	101
15DSKN.600.120.06.172	6.00	120	172	6	50	111
15DSKN.650.130.08.183	6.50	130	183	8	50	119
15DSKN.700.140.08.193	7.00	140	193	8	50	129
15DSKN.750.150.08.204	7.50	150	204	8	52	138
15DSKN.800.160.08.214	8.00	160	214	8	52	148
15DSKN.850.170.10.225	8.50	170	225	10	52	156
15DSKN.900.180.10.235	9.00	180	235	10	52	166
15DSKN.950.190.10.246	9.50	190	246	10	54	175
15DSKN.1000.200.10.256	10.00	200	256	10	54	185
15DSKN.1050.210.12.271	10.50	210	271	12	58	193
15DSKN.1100.220.12.281	11.00	220	281	12	58	207
15DSKN.1150.230.12.292	11.50	230	292	12	60	212
15DSKN.1200.240.12.202	12.00	240	302	12	60	226
15DSKN.1250.250.14.213	12.50	250	313	14	60	230
15DSKN.1300.260.14.223	13.00	260	323	14	60	240
15DSKN.1350.270.14.235	13.50	270	335	14	60	249
15DSKN.1400.280.14.344	14.00	280	344	14	62	259

深孔钻20DSKN Gun Drill Bits 20DSKN



钻头直径.Dc	公差Tolerance,m7
3.00≤Dc≤6.00	-0.020/-0.038
6.01≤Dc≤10.00	-0.025/-0.047
10.01≤Dc≤18.00	-0.032/-0.059

被切削材料 Cutting Materials 非常适合Very Suitable 适合Suitable

碳素钢 Carbon Steel	合金钢 Alloy Steel	调质钢 Quenched & Tempered Steel	铸铁 Cast Iron	淬硬钢 Hardened Steel		不锈钢 Stainless Steel	钛合金 Titanium Alloy	铝合金 Alumunum Alloy	铜 Copper	树脂 Resin	石墨 Graphite	高温合金 Super Alloy
				≤55hrc	>55hrc							
○	○	○	○			○	○	○				○

订货号 Code No.	刃径 Dc(mm)	槽长 L3(mm)	总长 L(mm)	柄径 Ds(mm)	柄长 Ls(mm)	最大钻削深度 L4(mm)
20DSKN.400.100.04.148	4.00	100	148	4	46	94
20DSKN.450.113.06.163	4.50	113	163	6	48	105
20DSKN.500.140.06.192	5.00	140	192	6	50	131
20DSKN.550.140.06.192	5.50	140	192	6	50	131
20DSKN.600.150.06.202	6.00	150	202	6	50	141
20DSKN.650.163.08.216	6.50	163	216	8	50	152
20DSKN.700.175.08.228	7.00	175	228	8	50	164
20DSKN.750.188.08.242	7.50	188	242	8	52	176
20DSKN.800.200.08.254	8.00	200	254	8	52	188
20DSKN.850.213.10.268	8.50	213	268	10	52	199
20DSKN.900.225.10.280	9.00	225	280	10	52	211
20DSKN.950.238.10.294	9.50	238	294	10	54	223
20DSKN.1000.250.10.306	10.00	250	306	10	54	235
20DSKN.1050.263.12.324	10.50	263	324	12	58	246
20DSKN.1100.275.12.336	11.00	275	336	12	58	262
20DSKN.1150.288.12.350	11.50	288	350	12	60	270
20DSKN.1200.300.12.362	12.00	300	362	12	60	286



切削参数表 Milling Parameters Recommendation

硬质合金钻头推荐切削参数  
Recommended Cutting Parameters for Solid Carbide Alloy Drill Bits

加工材质 Working Materials	抗拉强度 Tensile Strength N/mm² 硬度 Hardness HB	进给率 Feeding Rate fz(mm/r)			切削速度 Cutting Speed Vc(m/min)	冷却液 Coolant
		Φ4-Φ8	Φ8-Φ20	Φ20-Φ25		
结构钢 Structural Steel	<500N/mm²	0.08-0.15	0.15-0.3	0.3-0.35	80-130	乳化剂 Emulsifier  切削油 Cutting Fluid
	500-700N/mm²	0.06-0.12	0.12-0.25	0.25-0.35	65-100	
	700N/mm²	0.06-0.12	0.12-0.25	0.25-0.30	60-90	
工具钢 Tool Steel	<1400N/mm²	0.06-0.12	0.12-0.25	0.25-0.30	50-70	乳化剂 Emulsifier  切削油 Cutting Fluid
	>1400N/mm²	0.05-0.1	0.1-0.18	0.17-0.25	45-60	
不锈钢 Stainless Steel	<850N/mm²	0.06-0.1	0.1-0.2	0.2-0.25	45-65	乳化剂、切削油 Emulsifier/Cutting Fluid
铸铁 Cast Iron	<200HB	0.1-0.15	0.14-0.18	0.18-0.22	95-100	乳化剂干式 Dry Emulsifier
	>200HB	0.08-0.12	0.12-0.15	0.16-0.2	80-100	
铝合金 Aluminum Alloy		0.12-0.2	0.2-0.35	0.35-0.4	80-180	乳化剂 Emulsifier
铜合金 Copper Alloy		0.12-0.2	0.2-0.35	0.35-0.4	70-140	乳化剂 Emulsifier
钛合金 Titanium Alloy		0.06-0.1	0.1-0.2	0.2-0.25	35-50	乳化剂、切削油 Emulsifier/Cutting Fluid
热塑性塑胶 Thermoplastic Plastics		0.06-0.012	0.012-0.32	0.32-0.48	80-150	干式/气体 Drying/gas
硬式塑胶 Rigid Plastics		0.06-0.24	0.24-0.36	0.36-0.48	80-120	干式/气体 Drying/gas
强化纤维塑胶 Reinforced Fibre Plastics		0.02-0.06	0.08-0.24	0.26-0.4	70-130	干式/气体 Drying/gas

切削参数表 Milling Parameters Recommendation

硬质合金铰刀推荐切削参数  
Recommended Cutting Parameters for Solid Carbide Alloy Reamers

加工材质 Working Materials	抗拉强度 Tensile Strength N/mm² 硬度 Hardness HB	进给率 Feeding Rate fz(mm/r)			切削速度 Cutting Speed Vc(m/min)	冷却液 Coolant
		Φ3-Φ8	Φ8-Φ20	Φ20-Φ25		
结构钢 Structural Steel	<500N/mm²	0.15-0.25	0.20-0.35	0.30-0.50	25-35	乳化剂 Emulsifier
	500-700N/mm²	0.1-0.12	0.17-0.30	0.25-0.40	25-35	
	700N/mm²	0.1-0.18	0.15-0.25	0.20-0.35	20-30	
工具钢 Tool Steel	<1400N/mm²	0.1-0.2	0.15-0.25	0.2-0.35	25-35	乳化剂 Emulsifier
	>1400N/mm²	0.08-0.12	0.1-0.15	0.15-0.3	20-30	
不锈钢 Stainless Steel	<850N/mm²	0.1-0.15	0.15-0.2	0.2-0.3	15-25	乳化剂 Emulsifier
铸铁 Cast Iron	<200HB	0.2-0.3	0.3-0.5	0.4-0.7	25-35	乳化剂 Emulsifier  干式切削 Dry Cutting
	>200HB	0.15-0.25	0.2-0.35	0.3-0.5	20-30	
铝合金 Aluminum Alloy		0.15-0.25	0.2-0.35	0.3-0.6	25-40	乳化剂 Emulsifier
铜合金 Copper Alloy		0.12-0.18	0.15-0.25	0.25-0.4	20-35	乳化剂 Emulsifier
钛合金 Titanium Alloy		0.08-0.12	0.1-0.15	0.15-0.2	30-40	切削油 Cutting Fluid



## 复合材料铣刀 Composite Milling Cutters

科弦持续为钢、铸铁、不锈钢、钛合金、高温合金、碳纤维/玻璃纤维等各类难加工及新型复合材料提供非标解决方案。

Kexian continually provides non-standard solutions for all kinds of hard milling materials and new composite materials, such as Steel, Cast Iron, Stainless Steel, Titanium Alloy, Superalloy, Carbon-fiber, Fiber-glass and so on.



COMPOSITE MILLING

## Non-Standard Series 非标系列

针对新材料新工艺科弦一直秉承跟客户联合开发新型刀具的优良传统。

For new material and new processing technology, Kexian has been adhering to keep a well tradition that jointly develops new products along with customers.



OEM & ODM SERVICES





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