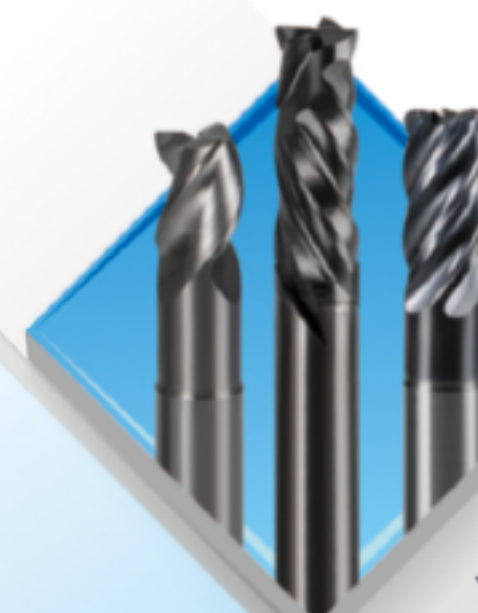




航空切削刀具



FQ-TOOLS



ООО "Современные Технологии НС"

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上海丰旗机械科技有限公司
Shanghai Fengqi Machinery Tech. Co., Ltd



企业简介 Overview

上海丰旗机械科技有限公司是一家ISO认证企业，一直为飞机生产企业提供加工钛合金、不锈钢和碳纤维复合材料等难加工材料的刀具，在航空航天领域拥有众多的客户，获得广泛的好评。上海丰旗具有较强的刀具研发能力，根据用户的加工要求，制定工艺方案，研发设计满足生产需要的各种非标专用刀具，提供整套解决方案。

上海丰旗始终坚持不断研发，保持刀具技术的先进性。上海丰旗在碳纤维复合材料钛合金的制孔和铣削方面，经过多年的研发，形成了丰旗系列刀具，并提供全套加工解决方案。

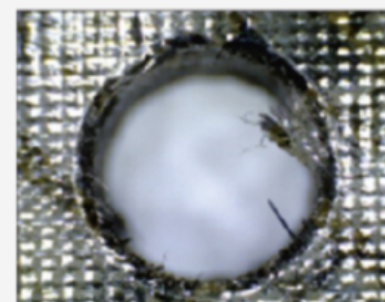
Shanghai Fengqi Machinery Tech. Co., Ltd is an ISO-certified manufacturer supplying cutting tools to machine hard materials including titanium alloy, stainless steel and composite materials for customers in the Aircraft and Aerospace industry. Our strength is our ability to develop customized tools and production processes to meet the requirements of our customers.

Shanghai Fengqi MT continuously invests in research and development of new carbide and HSS tools. Over the years, we have developed a full series of cutting tools for drilling and milling Carbon Fiber Reinforced Plastic (CFRP) and Titanium.

刀具制孔效果对比

INSPECTION NOTES

织物类复合材料 *Fibric Prepreg Composite*



其他品牌刀具 (加工第15个孔)
Competitor Tool (Good hole quality for 15 holes)



丰旗刀具 (加工第50个孔)
FQ Tool (Good hole quality all 50 holes)

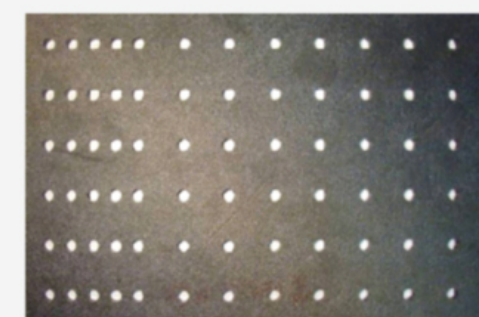
单向带复合材料 *Unidirectional Tape Composite*



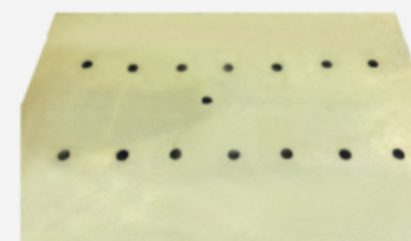
其他品牌刀具 Competitor Tool



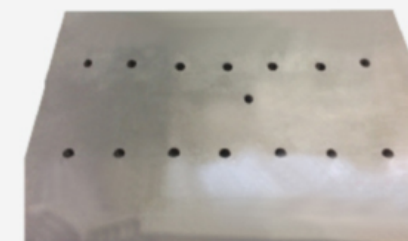
丰旗刀具 FQ Tool



数控制孔 CNC Drilling



自动进给钻制孔 (入口)
ADU Drilling (Entry)



自动进给钻制孔 (出口)
ADU Drilling (Exit)



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< 钻 削刀具 >

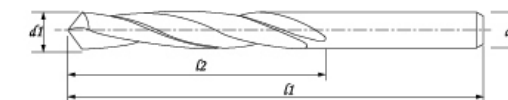
Drilling Tools



以质求存，追求卓越，
用户至上，恪守信誉。
Premier Quality Beyond Excellence

钻削刀具 Drilling Tools

硬质合金直柄钻头 (FQ10000系列) Carbide Straight Shank Drills (FQ10000 Series)



手用制孔: 适用于航空碳纤维复合材料、复合材料+铝合金叠层、复合材料+钛合金叠层及其他通用材料的制孔

★ 特殊的钻尖设计，锋利的切削刃可减小轴向力，有效控制复材出口时的分层和劈裂现象

Hand held: for CFRP and CFRP – Al – Ti – Stacks

★ Special drill point design and sharp cutting edges can reduce cutting forces and eliminate splintering and delamination at hole entry/exit.

Unit: mm

EDP NO.	d1	d2	l2	l1
FQ10250-080	2.5	2.5	40	80
FQ10250-095	2.5	2.5	45	95
FQ10250-120	2.5	2.5	45	120
FQ10326-080	3.26	3.26	40	80
FQ10326-095	3.26	3.26	45	95
FQ10326-120	3.26	3.26	45	120
FQ10326-150	3.26	3.26	70	150
FQ10400-080	4.00	4.00	40	80
FQ10400-095	4.00	4.00	45	95
FQ10400-120	4.00	4.00	45	120
FQ10400-150	4.00	4.00	70	150
FQ10500-080	5.00	5.00	40	80
FQ10500-095	5.00	5.00	45	95
FQ10500-120	5.00	5.00	45	120
FQ10500-150	5.00	5.00	70	150
FQ10600-080	6.00	6.00	40	80
FQ10600-095	6.00	6.00	45	95
FQ10600-120	6.00	6.00	45	120
FQ10600-150	6.00	6.00	70	150

Unit: mm

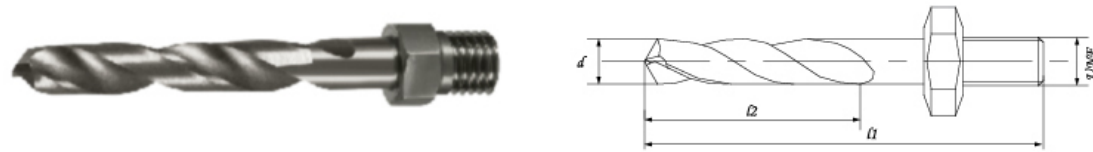
EDP NO.	d1	d2	l2	l1
FQ10635-080	6.35	6.35	40	80
FQ10635-095	6.35	6.35	45	95
FQ10635-120	6.35	6.35	45	120
FQ10635-150	6.35	6.35	70	150
FQ10700-080	7.00	6.35	40	80
FQ10700-095	7.00	6.35	45	95
FQ10700-120	7.00	6.35	45	120
FQ10700-150	7.00	6.35	70	150
FQ10800-080	8.00	6.35	40	80
FQ10800-095	8.00	6.35	45	95
FQ10800-120	8.00	6.35	45	120
FQ10800-150	8.00	6.35	70	150
FQ10953-080	9.525	8.0	40	80
FQ10953-095	9.525	8.0	45	95
FQ10953-120	9.525	8.0	45	120
FQ10953-150	9.525	8.0	70	150

▲ 该系列产品可根据用户实际需要定制

▲ Additional dimensions are available upon the customers' requests.

硬质合金螺纹柄钻头 (FQT10000系列)

Carbide Threaded Shank Drills (FQT10000 Series)



手用制孔: 适用于航空碳纤维复合材料、复合材料+铝合金叠层、复合材料+钛合金叠层及其他通用材料的制孔

★ 特殊的钻尖设计, 锋利的切削刃可减小轴向力, 有效控制复材出口时的分层和劈裂现象

Hand held: for CFRP and CFRP – Al – Ti – Stacks

★ Special drill point design and sharp cutting edges can reduce cutting forces and eliminate splintering and delamination at hole entry/exit.

Unit: mm

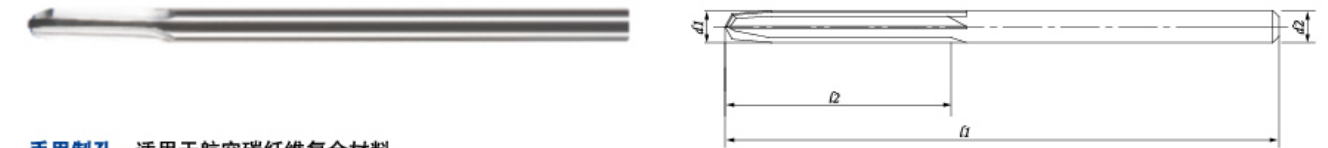
EDP NO.	d	l2	l1	UNF
FQT10250-025	2.5	10	25	1/4"-28
FQT10250-038	2.5	20	38	1/4"-28
FQT10250-050	2.5	25	50	1/4"-28
FQT10326-025	3.26	10	25	1/4"-28
FQT10326-038	3.26	15	38	1/4"-28
FQT10326-055	3.26	30	55	1/4"-28
FQT10400-025	4.0	10	25	1/4"-28
FQT10400-038	4.0	20	38	1/4"-28
FQT10400-055	4.0	30	55	1/4"-28
FQT10500-025	5.0	10	25	1/4"-28
FQT10500-038	5.0	15	38	1/4"-28
FQT10500-055	5.0	30	55	1/4"-28
FQT10600-025	6.0	10	25	1/4"-28
FQT10600-038	6.0	20	38	1/4"-28
FQT10600-055	6.0	30	55	1/4"-28

▲ 该系列产品可根据用户实际需要定制

▲ Additional dimensions are available upon the customers' requests.

硬质合金直柄钐首钻/钻铰刀 (FQ10000B系列)

Carbide Straight Shank Drill Reamers (FQ10000B Series)



手用制孔: 适用于航空碳纤维复合材料

★ 特殊的钻尖设计, 在加工玻璃纤维和碳纤维小孔时, 表现出色。

★ 钻铰一次完成, 可获得精确的孔径尺寸。

★ 有效控制复材出口劈裂现象。

Hand held drills: for Carbon Fiber and Fiberglass

★ Excellent performance for small diameter holes in carbon fiber & fiberglass.

★ Drilling and Reaming in one pass. The drill reamer will produce very clean accurate holes in composite materials.

★ Without splintering and delamination at hole entry/exit

Unit: mm

EDP NO.	d1	l2	l1	d2
FQ10250B-100	2.5	50	100	2.5
FQ10300B-100	3.0	50	100	3.0
FQ10326B-100	3.26	50	100	3.26
FQ10400B-100	4.0	50	100	4.0
FQ10418B-100	4.18	50	100	4.18
FQ10485B-100	4.85	50	100	4.85
FQ10500B-100	5.0	50	100	5.0
FQ10600B-100	6.0	50	100	6.0
FQ10635B-100	6.35	50	100	6.35
FQ10650B-100	6.5	50	100	6.5
FQ10700B-100	7.0	50	100	7.0
FQ10750B-100	7.5	50	100	7.5
FQ10795B-100	7.95	50	100	7.95
FQ10800B-100	8.0	50	100	8.0
FQ10850B-100	8.5	50	100	8.5
FQ10900B-100	9.0	50	100	9.0
FQ10953B-100	9.525	50	100	9.525
FQ10000B-100	10.0	50	100	10.0

▲ 该系列产品可根据用户实际需要定制

▲ Additional dimensions are available upon the customers' requests.



硬质合金螺纹柄钎首钻/钻铰刀 (FQT10000B系列)

Carbide Threaded Shank Drill Reamers (FQT10000B Series)



手用制孔: 适用于航空碳纤维复合材料

- ★ 特殊的钻尖设计, 在加工玻璃纤维和碳纤维小孔时, 表现出色。
- ★ 钻铰一次完成, 可获得精确的孔径尺寸。 ★有效控制复材出口劈裂现象。

Hand held drills: for Carbon Fiber and Fiberglass

- ★ Excellent performance for small diameter holes in carbon fiber & fiberglass.
- ★ Drilling and Reaming in one pass. The drill reamer will produce very clean accurate holes in composite materials.
- ★ Without splintering and delamination at hole entry/exit

Unit: mm

EDP NO.	d	l2	l1	UNF
FQT10250B-55	2.5	30	55	1/4"-28
FQT10300B-55	3.0	30	55	1/4"-28
FQT10326B-55	3.26	30	55	1/4"-28
FQT10400B-55	4.0	30	55	1/4"-28
FQT10418B-55	4.18	30	55	1/4"-28
FQT10485B-55	4.85	30	55	1/4"-28
FQT10500B-55	5.0	30	55	1/4"-28
FQT10600B-55	6.0	30	55	1/4"-28
FQT10635B-55	6.35	30	55	1/4"-28
FQT10650B-55	6.5	30	55	1/4"-28
FQT10700B-55	7.0	30	55	1/4"-28
FQT10750B-55	7.5	30	55	1/4"-28
FQT10795B-55	7.95	30	55	1/4"-28
FQT10800B-55	8.0	30	55	1/4"-28
FQT10850B-55	8.5	30	55	1/4"-28
FQT10900B-55	9.0	30	55	3/8"-24
FQT10953B-55	9.525	30	55	3/8"-24
FQT10000B-55	10.0	30	55	3/8"-24

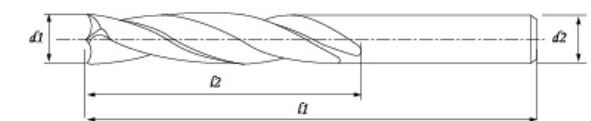
▲该系列产品可根据用户实际需要定制

▲ Additional dimensions are available upon the customers' requests.



硬质合金三尖钻 (FQ10000C系列)

Carbide Kevlar Drills (FQ10000C Series)



手用制孔: 适用于航空碳纤维复合材料薄板加工 (Kevlar)

- ★ 三尖钻的设计彻底消除在出口处容易出现的分层和毛刺现象
- ★ 特殊钻尖, 自定心

Hand held drills: for Carbon Fiber Composite sheet (Kevlar)

- ★ The 3 Brads point design eliminates breakout and delamination at hole entry/exit.
- ★ Special drill point design. Self-Centering.

Unit: mm

EDP NO.	d1	d2	l2	l1
FQ10250C-045	2.5	2.5	15	45
FQ10200C-080	2.5	2.5	30	80
FQ10326C-045	3.26	3.26	15	45
FQ10326C-080	3.26	3.26	30	80
FQ10400C-055	4	4.0	20	55
FQ10400C-080	4	4.0	30	80
FQ10485C-055	4.85	4.85	20	55
FQ10485C-080	4.85	4.85	30	80
FQ10500C-070	5	5.0	30	70
FQ10500C-095	5	5.0	45	95
FQ10635C-070	6.35	6.35	30	70
FQ10635C-095	6.35	6.35	45	95
FQ10800C-070	8	6.35	30	70
FQ10800C-095	8	6.35	45	95
FQ10952C-070	9.525	6.35	30	70
FQ10952C-095	9.525	6.35	45	95

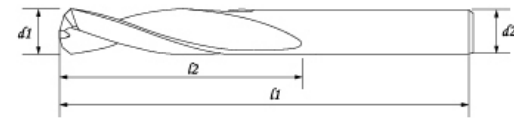
▲该系列产品可根据用户实际需要定制

▲ Additional dimensions are available upon the customers' requests.



硬质合金直柄八面钻 (FQ10000D系列)

Carbide 8 Facet Drills (FQ10000D Series)



手用制孔: 适用于玻璃纤维、碳纤维及其它复合材料

★ 8面刃设计, 有效减少轴向力, 避免复材分层、劈裂。

★ 可选金刚石涂层

Hand held drills: for Carbon Fiber and Fiberglass

★ It creates an accurate hole without splintering or delamination.

★ Available Diamond Coating at the request of customers

Unit: mm

EDP NO.	d1	d2	l2	l1
FQ10250D-050	2.5	2.5	15	50
FQ10318D-063	3.175	3.175	20	63
FQ10326D-063	3.26	3.26	20	63
FQ10400D-066	4.0	4.0	24	66
FQ10500D-066	5.0	5.0	25	66
FQ10600D-066	6.0	6.0	28	66
FQ10635D-080	6.35	6.35	30	80
FQ10800D-080	8.0	8.0	40	80
FQ10953D-095	9.525	9.525	45	95
FQ10000D-095	10.0	10.0	45	95

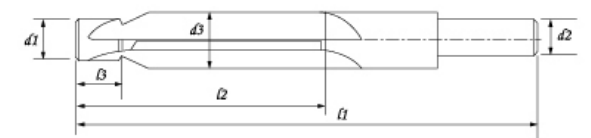
▲ 该系列产品可根据用户实际需要定制

▲ Additional dimensions are available upon the customers' requests.



硬质合金直柄扩铰刀 (FQ20000系列)

Carbide Straight Shank Piloted Core Drills (FQ20000 Series)



手用制孔: 应用于航空各种叠层制孔

★ 采用直槽设计, 防止卡刀现象。

★ 对于复合材料和金属叠层, 能扩出高质量、高精度的孔, 可以省去铰孔工序。

Hand held: for CFRP and CFRP – Al – Ti – Stacks

★ Straight Groove Design. Available Threaded Shank at the request of customers

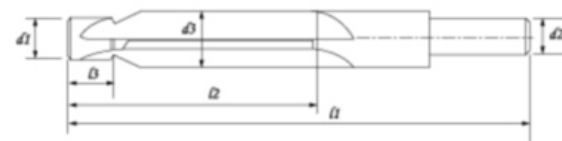
★ It can expand smooth accurate holes. The reaming can often be eliminated.

Unit: mm

EDP NO.	d1	d2	d3	l3	l2	l1
FQ20400-080-326	3.26	4.00	4.00	8	40	80
FQ20400-095-326	3.26	4.00	4.00	8	45	95
FQ20400-120-326	3.26	4.00	4.00	8	70	120
FQ20400-150-326	3.26	4.00	4.00	8	70	150
FQ20475-080-326	3.26	4.75	4.75	8	40	80
FQ20475-095-326	3.26	4.75	4.75	8	45	95
FQ20475-120-326	3.26	4.75	4.75	8	70	120
FQ20475-150-326	3.26	4.75	4.75	8	70	150
FQ20475-080-400	4.0	4.75	4.75	8	40	80
FQ20475-095-400	4.0	4.75	4.75	8	45	95
FQ20475-120-400	4.0	4.75	4.75	8	70	120
FQ20475-150-400	4.0	4.75	4.75	8	70	150
FQ20500-080-326	3.26	5.00	5.00	8	40	80
FQ20500-095-326	3.26	5.00	5.00	8	45	95
FQ20500-120-326	3.26	5.00	5.00	8	70	120
FQ20500-150-326	3.26	5.00	5.00	8	70	150
FQ20500-080-400	4.00	5.00	5.00	8	40	80
FQ20500-095-400	4.0	5.00	5.00	8	45	95
FQ20500-120-400	4.0	5.00	5.00	8	70	120
FQ20500-150-400	4.0	5.00	5.00	8	70	150
FQ20600-080-400	4.0	6.00	6.00	8	40	80
FQ20600-095-400	4.0	6.00	6.00	8	45	95
FQ20600-120-400	4.0	6.00	6.00	8	70	120
FQ20600-150-400	4.0	6.00	6.00	8	70	150
FQ20600-080-475	4.75	6.00	6.00	8	40	80
FQ20600-095-475	4.75	6.00	6.00	8	45	95
FQ20600-120-475	4.75	6.00	6.00	8	70	120
FQ20600-150-475	4.75	6.00	6.00	8	70	150
FQ20620-080-475	4.75	6.2	6.20	8	40	80
FQ20620-095-475	4.75	6.2	6.20	8	45	95
FQ20620-120-475	4.75	6.2	6.20	8	70	120
FQ20620-150-475	4.75	6.2	6.20	8	70	150
FQ20620-080-500	5.0	6.2	6.20	8	40	80

硬质合金直柄扩铰刀 (FQ20000系列)

Carbide Straight Shank Piloted Core Drills (FQ20000 Series)

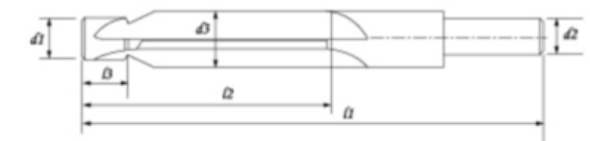


Unit: mm

EDP NO.	d1	d2	d3	l3	l2	l1
FQ20620-095-500	5.0	6.2	6.20	8	45	95
FQ20620-120-500	5.0	6.2	6.20	8	70	120
FQ20620-150-500	5.0	6.2	6.20	8	70	150
FQ20630-080-475	4.75	6.3	6.30	8	40	80
FQ20630-095-475	4.75	6.3	6.30	8	45	95
FQ20630-120-475	4.75	6.3	6.30	8	70	120
FQ20630-150-475	4.75	6.3	6.30	8	70	150
FQ20630-080-500	5.0	6.3	6.30	8	40	80
FQ20630-095-500	5.0	6.3	6.30	8	45	95
FQ20630-120-500	5.0	6.3	6.30	8	70	120
FQ20630-150-500	5.0	6.3	6.30	8	70	150
FQ20700-083-500	5.0	6.35	7.00	8	40	83
FQ20700-095-500	5.0	6.35	7.00	8	45	95
FQ20700-120-500	5.0	6.35	7.00	8	70	120
FQ20700-150-500	5.0	6.35	7.00	8	70	150
FQ20700-083-620	6.2	6.35	7.00	8	40	83
FQ20700-095-620	6.2	6.35	7.00	8	45	95
FQ20700-120-620	6.2	6.35	7.00	8	70	120
FQ20700-150-620	6.2	6.35	7.00	8	70	150
FQ20780-083-620	6.2	6.35	7.80	8	40	83
FQ20780-095-620	6.2	6.35	7.80	8	45	95
FQ20780-120-620	6.2	6.35	7.80	8	70	120
FQ20780-150-620	6.2	6.35	7.80	8	70	150
FQ20780-083-700	7.0	6.35	7.80	8	40	83
FQ20780-095-700	7.0	6.35	7.80	8	45	95
FQ20780-120-700	7.0	6.35	7.80	8	70	120
FQ20780-150-700	7.0	6.35	7.80	8	70	150
FQ20900-083-700	7.0	6.35	9.00	8	40	83
FQ20900-095-700	7.0	6.35	9.00	8	45	95
FQ20900-120-700	7.0	6.35	9.00	8	70	120
FQ20900-150-700	7.0	6.35	9.00	8	70	150
FQ20900-083-780	7.8	6.35	9.00	8	40	83
FQ20900-095-780	7.8	6.35	9.00	8	45	95
FQ20900-120-780	7.8	6.35	9.00	8	70	120
FQ20900-150-780	7.8	6.35	9.00	8	70	150
FQ20940-080-700	7.0	6.35	9.40	8	40	80
FQ20940-095-700	7.0	6.35	9.40	8	45	95
FQ20940-120-700	7.0	6.35	9.40	8	70	120
FQ20940-150-700	7.0	6.35	9.40	8	70	150

硬质合金直柄扩铰刀 (FQ20000系列)

Carbide Straight Shank Piloted Core Drills (FQ20000 Series)



Unit: mm

EDP NO.	d1	d2	d3	l3	l2	l1
FQ20940-080-780	7.8	6.35	9.40	8	40	80
FQ20940-095-780	7.8	6.35	9.40	8	45	95
FQ20940-120-780	7.8	6.35	9.40	8	70	120
FQ20940-150-780	7.8	6.35	9.40	8	70	150
FQ21000-080-700	7.0	8.0	10.00	10	40	80
FQ21000-095-700	7.0	8.0	10.00	10	45	95
FQ21000-120-700	7.0	8.0	10.00	10	70	120
FQ21000-150-700	7.0	8.0	10.00	10	70	150
FQ21000-080-780	7.8	8.0	10.00	10	40	80
FQ21000-095-780	7.8	8.0	10.00	10	45	95
FQ21000-120-780	7.8	8.0	10.00	10	70	120
FQ21000-150-780	7.8	8.0	10.00	10	70	150
FQ21100-080-940	9.4	8.0	11.00	10	40	80
FQ21100-095-940	9.4	10	11.00	10	45	95
FQ21100-120-940	9.4	10	11.00	10	70	120
FQ21100-150-940	9.4	10	11.00	10	70	150
FQ21100-080-1000	10	10	11.00	10	40	80
FQ21100-095-1000	10	10	11.00	10	45	95
FQ21100-120-1000	10	10	11.00	10	70	120
FQ21100-150-1000	10	10	11.00	10	70	150
FQ21250-080-1000	10	10	12.50	10	40	80
FQ21250-095-1000	10	10	12.50	10	45	95
FQ21250-120-1000	10	10	12.50	10	70	120
FQ21250-150-1000	10	10	12.50	10	70	150
FQ21250-080-1100	11	10	12.50	10	40	80
FQ21250-095-1100	11	10	12.50	10	45	95
FQ21250-120-1100	11	10	12.50	10	70	120
FQ21250-150-1100	11	10	12.50	10	70	150
FQ21264-080-1100	11	10	12.64	10	40	80
FQ21264-095-1100	11	10	12.64	10	45	95
FQ21264-120-1100	11	10	12.64	10	70	120
FQ21264-150-1100	11	10	12.64	10	70	150
FQ21264-080-1250	12.5	10	12.64	10	40	80
FQ21264-095-1250	12.5	10	12.64	10	45	95
FQ21264-120-1250	12.5	10	12.64	10	70	120
FQ21264-150-1250	12.5	10	12.64	10	70	150

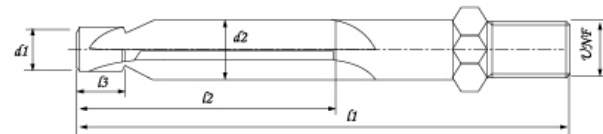
▲该系列产品可根据用户实际需要定制

▲ Additional dimensions are available upon the customers' requests.



硬质合金螺纹柄扩铰刀（FQT20000系列）

Carbide Threaded Shank Piloted Core Drills (FQT20000 Series)



手用制孔：应用于航空各种叠层制孔

★ 采用直槽设计，螺纹柄可选。

★ 对于复合材料和金属叠层，能扩出高质量、高精度的孔，可以省去铰孔工序。

Hand held: for CFRP and CFRP – AI – Ti – Stacks

★ Straight Groove Design. Available Threaded Shank at the request of customers

★ It can expand smooth accurate holes. The reaming can often be eliminated.

Unit: mm

EDP NO.	d1	d2	l3	l2	l1	UNF
FQT20400-040-326	3.26	4.00	5	20	40	1/4"-28
FQT20400-055-326	3.26	4.00	5	30	55	1/4"-28
FQT20475-040-326	3.26	4.75	5	20	40	1/4"-28
FQT20475-055-326	3.26	4.75	5	30	55	1/4"-28
FQT20475-040-400	4.0	4.75	5	20	40	1/4"-28
FQT20475-055-400	4.0	4.75	5	30	55	1/4"-28
FQT20500-040-326	3.26	5.00	5	20	40	1/4"-28
FQT20500-055-326	3.26	5.00	5	30	55	1/4"-28
FQT20500-040-400	4.0	5.00	5	20	40	1/4"-28
FQT20500-055-400	4.0	5.00	5	30	55	1/4"-28
FQT20600-040-400	4.0	6.00	5	20	40	1/4"-28
FQT20600-055-400	4.0	6.00	5	30	55	1/4"-28
FQT20600-040-475	4.75	6.00	5	20	40	1/4"-28
FQT20600-055-475	4.75	6.00	5	30	55	1/4"-28
FQT20620-040-475	4.75	6.20	5	20	40	1/4"-28
FQT20620-055-475	4.75	6.20	5	30	55	1/4"-28

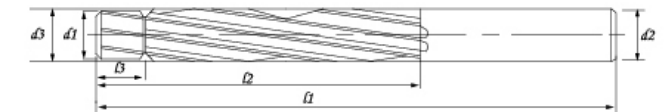
▲该系列产品可根据用户实际需要定制

▲ Additional dimensions are available upon the customers' requests.



硬质合金直柄铰刀（FQ30000系列）

Carbide Straight Shank Reamers (FQ30000 Series)



手用制孔：应用于航空复合材料金属各种叠层制孔

★ 整体硬质合金

★ 精度高，孔壁光洁度高

Hand held: for CFRP and CFRP – AI – Ti – Stacks

★ Solid Carbide

★ High precision. Improved Surface Conditions of Work Piece

Unit: mm

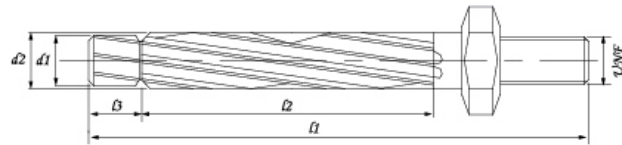
EDP NO.	d1	d2	d3	l3	l2	l1
FQ30336-080-326	3.26	3.36	3.36	8	40	80
FQ30336-095-326	3.26	3.36	3.36	8	45	95
FQ30336-120-326	3.26	3.36	3.36	8	70	120
FQ30336-150-326	3.26	3.36	3.36	8	70	150
FQ30418-080-400	4.0	4.18	4.18	8	40	80
FQ30418-095-400	4.0	4.18	4.18	8	45	95
FQ30418-120-400	4.0	4.18	4.18	8	70	120
FQ30418-150-400	4.0	4.18	4.18	8	70	150
FQ30418-080-410	4.1	4.18	4.18	8	40	80
FQ30418-095-410	4.1	4.18	4.18	8	45	95
FQ30418-120-410	4.1	4.18	4.18	8	70	120
FQ30418-150-410	4.1	4.18	4.18	8	70	150
FQ30484-080-475	4.75	4.84	4.84	8	40	80
FQ30484-095-475	4.75	4.84	4.84	8	45	95
FQ30484-120-475	4.75	4.84	4.84	8	70	120
FQ30484-150-475	4.75	4.84	4.84	8	70	150
FQ30485-080-475	4.75	4.85	4.85	8	40	80
FQ30485-095-475	4.75	4.85	4.85	8	45	95
FQ30485-120-475	4.75	4.85	4.85	8	70	120
FQ30485-150-475	4.75	4.85	4.85	8	70	150
FQ30500-080-485	4.85	5.0	5.00	8	40	80
FQ30500-095-485	4.85	5.0	5.00	8	45	95
FQ30500-120-485	4.85	5.0	5.00	8	70	120
FQ30500-150-485	4.85	5.0	5.00	8	70	150

▲该系列产品可根据用户实际需要定制

▲ Additional dimensions are available upon the customers' requests.

硬质合金螺纹柄铰刀 (FQT30000系列)

Carbide Threaded Shank Reamers (FQT30000 Series)



手工制孔: 应用于航空复合材料金属各种叠层制孔

★ 整体硬质合金螺纹柄可选

★ 精度高, 孔壁光洁度高

Hand held: for CFRP and CFRP – Al – Ti - Stacks

★ Solid carbide thread shank optional

★ High precision. Improved Surface Conditions of Work Piece

Unit: mm

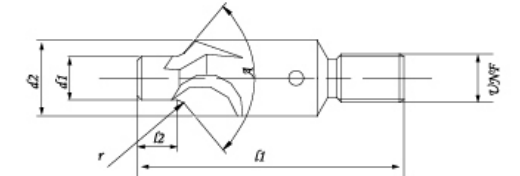
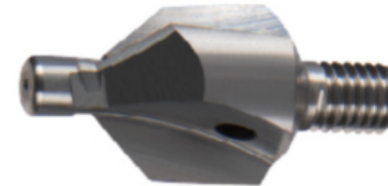
EDP NO.	d1	d2	l3	l2	l1	UNF
FQT30336-040-326	3.26	3.36	5.0	20	40	1/4"-28
FQT30336-055-326	3.26	3.36	5.0	30	55	1/4"-28
FQT30418-040-400	4.0	4.18	5.0	20	40	1/4"-28
FQT30418-055-400	4.0	4.18	5.0	30	55	1/4"-28
FQT30484-040-475	4.75	4.84	5.0	20	40	1/4"-28
FQT30484-055-475	4.75	4.84	5.0	30	55	1/4"-28
FQT30485-040-475	4.75	4.85	5.0	20	40	1/4"-28
FQT30485-055-475	4.75	4.85	5.0	30	55	1/4"-28
FQT30635-040-620	6.2	6.35	5.0	20	40	1/4"-28
FQT30635-055-620	6.2	6.35	5.0	30	55	1/4"-28
FQT30636-040-620	6.2	6.36	5.0	20	40	1/4"-28
FQT30636-055-620	6.2	6.36	5.0	30	55	1/4"-28
FQT30795-040-780	7.8	7.95	5.0	20	40	1/4"-28
FQT30795-055-780	7.8	7.95	5.0	30	55	1/4"-28
FQT30954-040-940	9.4	9.54	5.0	20	40	3/8"-24
FQT30954-055-940	9.4	9.54	5.0	30	55	3/8"-24

▲ 该系列产品可根据用户实际需要定制

▲ Additional dimensions are available upon the customers' requests.

硬质合金螺纹柄铰窝钻 (FQT40000系列)

Carbide Threaded Shank Countersinks (FQT40000 Series)



手工制孔: 应用于航空复合材料、钛合金、铝合金等材料的铰窝

★ 整体硬质合金螺纹柄可选

★ 与相应定深套配合使用

Hand held: for Composite materials, Titanium and Aluminum Alloys

★ Solid carbide thread shank optional

★ Used with MICROSTOP CAGES

Unit: mm

EDP NO.	A	d1	d2	l2	l1	UNF
FQT40250-100	100°	2.5	8	5.0	35	1/4"-28
FQT40250-100	130°	2.5	8	5.0	35	1/4"-28
FQT40326-100	100°	3.26	10	5.0	35	1/4"-28
FQT40326-130	130°	3.26	10	5.0	35	1/4"-28
FQT40414-100	100°	4.18	10	5.0	35	1/4"-28
FQT40414-130	130°	4.18	10	5.0	35	1/4"-28
FQT40484-100	100°	4.84	12.7	5.0	35	1/4"-28
FQT40484-130	130°	4.84	12.7	5.0	35	1/4"-28
FQT40485-100	100°	4.85	12.7	5.0	35	1/4"-28
FQT40485-130	130°	4.85	12.7	5.0	35	1/4"-28
FQT40635-100	100°	6.35	12.7	8.0	36	1/4"-28
FQT40635-130	130°	6.35	12.7	8.0	36	1/4"-28
FQT40636-100	100°	6.36	12.7	8.0	36	1/4"-28
FQT40636-130	130°	6.36	12.7	8.0	36	1/4"-28
FQT40795-100	100°	7.95	16	8.0	37	3/8"-24
FQT40795-130	130°	7.95	16	8.0	37	3/8"-24
FQT40954-100	100°	9.54	18	8.0	37	3/8"-24
FQT40954-130	130°	9.54	18	8.0	37	3/8"-24
FQT41113-100	100°	11.13	25	10	40	3/8"-24
FQT41113-130	130°	11.13	25	10	40	3/8"-24
FQT41272-100	100°	12.72	25	10	40	3/8"-24
FQT41272-130	130°	12.72	25	10	40	3/8"-24

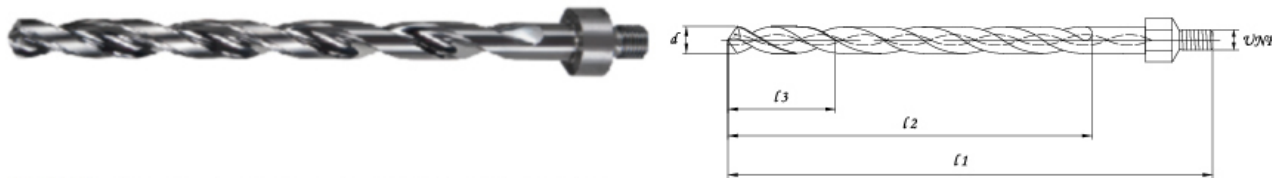
▲ 螺纹规格、R角可根据客户需要定制

▲ Additional dimensions are available upon the customers' requests.



自动进给钻（ADU）用硬质合金螺纹柄钻头（FQT50000-Z系列）

Carbide Threaded Shank ADU Drills with coolant feed (FQT50000-Z Series)



ADU制孔：应用于航空复合材料金属叠层制孔以及普通材料制孔

★ 与ADU设备配合使用

★ 内冷

ADU Drilling: for CFRP and CFRP – Al – Ti - Stacks

★ Used with Advanced Drilling Unit (ADU)

★ Inner Coolant

Unit: mm

EDP NO.	d	l3	l2	l1	UNF
FQT50600-Z	6.0	60	125	165	1/4"-28
FQT50650-Z	6.5	60	125	165	1/4"-28
FQT50700-Z	7.0	70	140	175	1/4"-28
FQT50750-Z	7.5	70	140	175	3/8"-24
FQT50800-Z	8.0	70	140	175	7/16"-20
FQT50850-Z	8.5	70	140	175	7/16"-20
FQT50900-Z	9.0	70	140	175	7/16"-20
FQT50950-Z	9.5	70	140	175	7/16"-20
FQT51000-Z	10.0	70	140	175	7/16"-20
FQT51050-Z	10.5	70	140	175	7/16"-20
FQT51100-Z	11.0	70	140	175	7/16"-20
FQT51150-Z	11.5	70	140	175	7/16"-20
FQT51200-Z	12.0	70	140	175	7/16"-20

螺纹柄1/4"-28、3/8"-24、5/16"-24、7/16"-20可选，订货前请咨询

Thread handle 1/4 "-28,3 / 8" -24,5 / 16 "-24,7 / 16" -20 optional, please consult before ordering

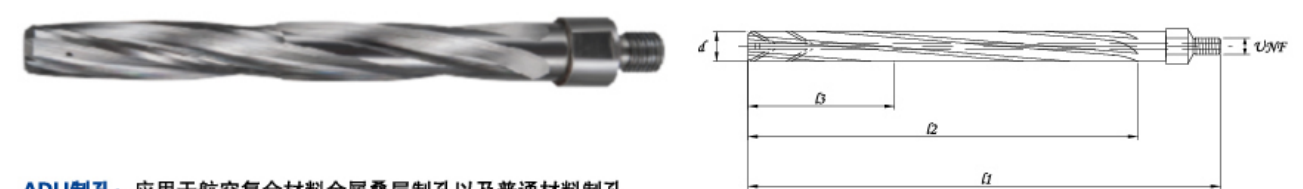
▲ 该系列产品可根据用户实际需要定制

▲ Additional dimensions are available upon the customers' requests.



自动进给钻（ADU）用硬质合金螺纹柄扩孔刀（FQT50000-K系列）

Carbide Threaded Shank ADU Core Drills with coolant feed (FQT50000-K Series)



ADU制孔：应用于航空复合材料金属叠层制孔以及普通材料制孔

★ 与ADU设备配合使用

★ 内冷

ADU Drilling: for CFRP and CFRP – Al – Ti - Stacks

★ Used with Advanced Drilling Unit (ADU)

★ Inner Coolant

Unit: mm

EDP NO.	d	l3	l2	l1	UNF
FQT50800-K	8.0	70	140	175	7/16"-20
FQT50950-K	9.5	70	140	175	7/16"-20
FQT51000-K	10.0	70	140	175	7/16"-20
FQT51100-K	11.0	70	140	175	7/16"-20
FQT51105-K	11.05	70	140	175	7/16"-20
FQT51190-K	11.9	70	140	175	7/16"-20
FQT51200-K	12.0	70	140	175	7/16"-20
FQT51250-K	12.5	70	140	175	7/16"-20
FQT51264-K	12.64	70	140	175	7/16"-20
FQT51300-K	13.0	70	140	175	7/16"-20
FQT51385-K	13.85	70	140	175	7/16"-20
FQT51420-K	14.2	70	140	175	7/16"-20
FQT51548-K	15.48	70	140	175	7/16"-20
FQT51570-K	15.7	70	140	175	7/16"-20
FQT51600-K	16.0	70	140	175	7/16"-20

螺纹柄1/4"-28、3/8"-24、5/16"-24、7/16"-20可选，订货前请咨询

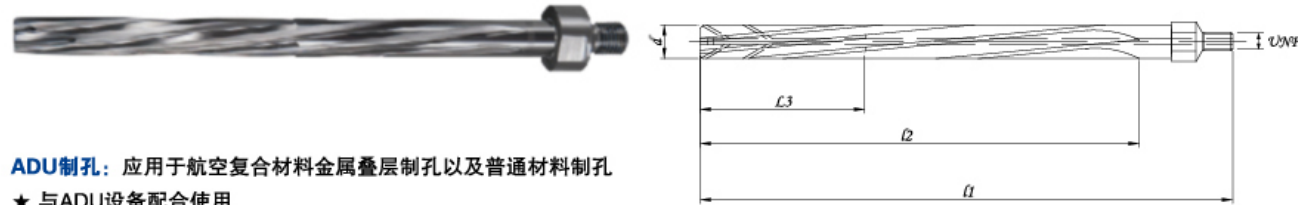
Thread handle 1/4 "-28,3 / 8" -24,5 / 16 "-24,7 / 16" -20 optional, please consult before ordering

▲ 该系列产品可根据用户实际需要定制

▲ Additional dimensions are available upon the customers' requests.

自动进给钻（ADU）用硬质合金螺纹柄铰刀（FQT50000-J系列）

Carbide Threaded Shank ADU Reamers with coolant feed (FQT50000-J Series)



ADU制孔：应用于航空复合材料金属叠层制孔以及普通材料制孔

★ 与ADU设备配合使用

★ 内冷

ADU Drilling: for CFRP and CFRP – Al – Ti - Stacks

★ Used with Advanced Drilling Unit (ADU)

★ Inner Coolant

Unit: mm

EDP NO.	d	l3	l2	l1	UNF
FQT50800-J	8.0	70	140	175	7/16"-20
FQT50955-J	9.55	70	140	175	7/16"-20
FQT51000-J	10.0	70	140	175	7/16"-20
FQT51100-J	11.0	70	140	175	7/16"-20
FQT51113-J	11.13	70	140	175	7/16"-20
FQT51195-J	11.95	70	140	175	7/16"-20
FQT51200-J	12.0	70	140	175	7/16"-20
FQT51272-J	12.72	70	140	175	7/16"-20
FQT51300-J	13.0	70	140	175	7/16"-20
FQT51394-J	13.94	70	140	175	7/16"-20
FQT51430-J	14.3	70	140	175	7/16"-20
FQT51553-J	15.53	70	140	175	7/16"-20
FQT51580-J	15.8	70	140	175	7/16"-20
FQT51590-J	15.9	70	140	175	7/16"-20

螺纹柄1/4"-28、3/8"-24、5/16"-24、7/16"-20可选，订货前请咨询

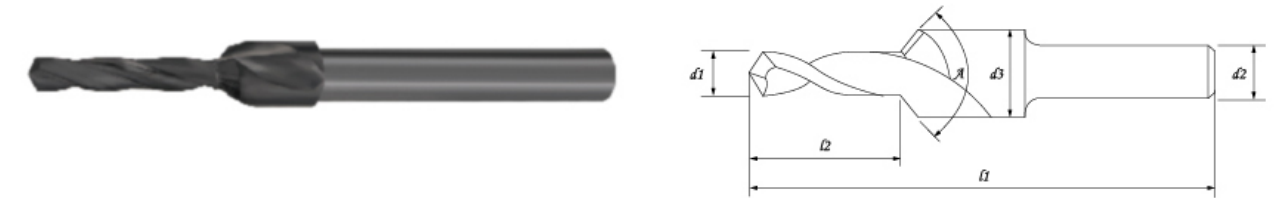
Thread handle 1/4"-28, 3/8"-24, 5/16"-24, 7/16"-20 optional, please consult before ordering

▲ 该系列产品可根据用户实际需要定制

▲ Additional dimensions are available upon the customers' requests.

硬质合金复合钻（FQ60000系列）

Carbide Drill Countersinks (FQ60000 Series)



数控制孔：应用于航空复合材料叠层制孔

★ 可一次完成钻、铰、镗窝。极大地提高生产效率

★ 可选金刚石涂层

Used on CNC machines: for CFRP and CFRP – Al – Ti - Stacks

★ Drilling, Reaming and Countersinking in one pass. Greater Process Efficiencies

★ Available with Diamond Coating or Non-coating

Unit: mm

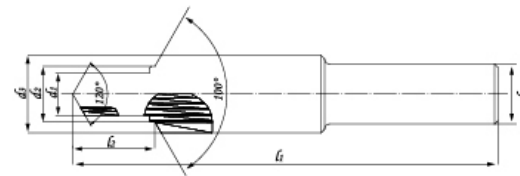
EDP NO.	A	d1	d2	d3	l2	l1
FQ60250-100	100°	2.5	10	10	15	85
FQ60250-130	130°	2.5	10	10	15	85
FQ60326-100	100°	3.26	10	10	15	85
FQ60326-130	130°	3.26	10	10	15	85
FQ60350-100	100°	3.5	10	10	20	85
FQ60350-130	130°	3.5	10	10	20	85
FQ60360-100	100°	3.6	10	10	20	85
FQ60360-130	130°	3.6	10	10	20	85
FQ60400-100	100°	4.0	10	10	25	85
FQ60400-130	130°	4.0	10	10	25	85
FQ60420-100	100°	4.2	10	10	25	85
FQ60420-130	130°	4.2	10	10	25	85
FQ60483-100	100°	4.83	10	10	25	85
FQ60483-130	130°	4.83	10	10	25	85
FQ60486-100	100°	4.86	10	10	25	85
FQ60486-130	130°	4.86	10	10	25	85
FQ60635-100	100°	6.35	10	12	25	85
FQ60635-130	130°	6.35	10	12	25	85
FQ60638-100	100°	6.38	10	14	25	85
FQ60638-130	130°	6.38	10	14	25	85
FQ60650-100	100°	6.50	10	14	25	85
FQ60650-130	130°	6.50	10	14	25	85

▲ 该系列产品可根据用户实际需要定制。订货前请咨询是否需要金刚石涂层。

▲ Additional dimensions are available upon the customers' requests. Please consult before requesting diamond coating

PCD钻铰镗一体刀具

PCD Drill Countersinks (FQ60000 Series)



数控制孔：应用于航空复合材料制孔

★ 采用硬质合金镶PCD，刀具寿命长

★ 可一次完成钻、铰、镗窝工序，极大地提高生产效率

★ 孔壁光洁度更高

Used on CNC machines: for Composite materials

★ PCD Tipped, Longer tool life

★ Drilling, Reaming and Countersinking in one pass. Greater Process Efficiencies

★ Improved finishes

Unit: mm

EDP NO.	A	d1	d2	d3	d4	l2	l1
FQ60483P-100	100°	4.83	10	10	8	25	85
FQ60483P-130	130°	4.83	10	10	8	25	85
FQ60486P-100	100°	4.86	10	10	8	25	85
FQ60486P-130	130°	4.86	10	10	8	25	85
FQ60635P-100	100°	6.35	10	12	8	25	85
FQ60635P-130	130°	6.35	10	12	8	25	85
FQ60638P-100	100°	6.38	10	14	8	25	85
FQ60638P-130	130°	6.38	10	14	8	25	85
FQ60650P-100	100°	6.50	10	14	8	25	85
FQ60650P-130	130°	6.50	10	14	8	25	85

▲ 该系列产品可根据用户实际需要定制

▲ Additional dimensions are available upon the customers' requests.

振动切削螺纹柄铰刀

Vibration Cutting Reamers

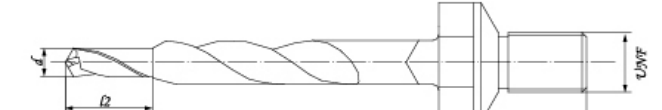


Unit: mm

EDP NO.	d	l2	l1	z	UNF
FQ-201D-1000	5.950	65	105	6	3/8-24UNF-2A
FQ-201D-1001	6.280	65	105	6	3/8-24UNF-2A
FQ-201D-1002	7.250	65	105	6	3/8-24UNF-2A
FQ-201D-1003	7.924	65	105	6	3/8-24UNF-2A
FQ-201D-1005	8.331	65	105	6	3/8-24UNF-2A
FQ-201D-1006	8.500	65	105	6	3/8-24UNF-2A
FQ-201D-1007	9.000	65	105	6	3/8-24UNF-2A
FQ-201D-1008	9.220	65	105	6	3/8-24UNF-2A
FQ-201D-1009	9.512	65	105	6	3/8-24UNF-2A
FQ-201D-1011	9.626	65	105	6	3/8-24UNF-2A
FQ-201D-1012	10.080	65	105	6	3/8-24UNF-2A
FQ-201D-1013	10.500	65	105	6	3/8-24UNF-2A
FQ-201D-1014	11.100	65	105	6	3/8-24UNF-2A
FQ-201D-1015	11.557	65	105	6	3/8-24UNF-2A
FQ-201D-1016	12.000	65	105	6	3/8-24UNF-2A

振动切削螺纹柄钻头

Vibration Cutting Drills



Unit: mm

EDP NO.	d	l2	l1	UNF
FQ-202D-1000	3.5	22	75	3/8-24UNF-2A
FQ-202D-1001	4	22	75	3/8-24UNF-2A
FQ-202D-1002	5.5	22	75	3/8-24UNF-2A
FQ-202D-1000	7.5	22	92	3/8-24UNF-2A

▲ 该系列产品可根据用户实际需要定制

▲ Additional dimensions are available upon the customers' requests.

振动切削螺纹柄套切刀

Vibration Cutting sets



Unit: mm

EDP NO.	d	l2	l1	UNF
FQ-250D-1000	5.5	55	72	3/8-24UNF-2A
FQ-250D-1001	5	65	102	3/8-24UNF-2A
FQ-250D-1002	7	65	102	3/8-24UNF-2A
FQ-250D-1003	7.5	65	102	3/8-24UNF-2A
FQ-250D-1004	10.5	65	102	3/8-24UNF-2A

▲该系列产品可根据用户实际需要定制
 ▲ Additional dimensions are available upon the customers' requests.

可换导柱PCD镗窝钻

PCD Countersinks with Interchangeable Pilot



Angle	Diameter	Overall Length	UNF
100°	10	36	1/4-28UNF-2A
100°	10	36.6	1/4-28UNF-2A
100°	18	39.7	1/4-28UNF-2A
100°	23	51	3/8-24UNF-2A

螺纹尺寸有1/4-28UNF-2A 和3/8-24UNF-2A 可选
 Thread size 1 / 4-28UNF-2A and 3 / 8-24UNF-2A optional

螺纹柄带导柱PCD镗窝钻

PCD Countersinks with threaded shank



Angle	Pillar	Diameter	Overall Length	UNF
100°	4.143	10	36	1/4-28UNF-2A
100°	5.532	10	36.6	1/4-28UNF-2A
100°	7.915	18	39.7	1/4-28UNF-2A
100°	11.093	23	51	3/8-24UNF-2A

螺纹尺寸有1/4-28UNF-2A 和3/8-24UNF-2A 可选
 Thread size 1 / 4-28UNF-2A and 3 / 8-24UNF-2A optional

锥柄带导柱PCD镗窝钻

PCD Countersinks With Taper Shank

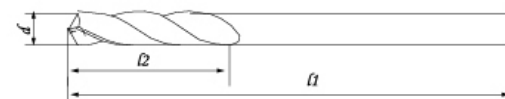


Angle	Pillar	Diameter	Overall Length
100°	4.143	10	36
100°	5.532	10	36.6
100°	7.915	18	39.7
100°	11.093	23	51
100°	4.143	10	36
100°	5.532	10	36.6
100°	7.915	18	39.7
100°	11.093	23	51

▲该系列产品可根据用户实际需要定制
 ▲ Additional dimensions are available upon the customers' requests.

钻削刀具 Drilling Tools

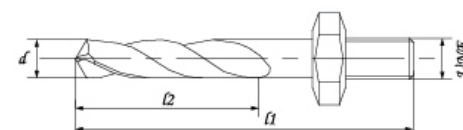
含钴高速钢钻头 HSS Drills



EDP NO.	d	l2	l1
FQ-058D-0001~0009	Φ0.1~Φ0.99	16	38
FQ-058D-0010~0019	Φ1~Φ1.99	22	46
FQ-058D-0020~0029	Φ2~Φ2.99	30	57
FQ-058D-0030~0039	Φ3~Φ3.99	39	70
FQ-058D-0040~0048	Φ4~Φ4.89	42	75
FQ-058D-0049	Φ4.9~Φ5.0	43	75
FQ-058D-0050	Φ5.1~Φ6.0	52	93
FQ-058D-0051	Φ6.1~Φ7.0	63	102

EDP NO.	d	l2	l1
FQ-058D-0052	Φ7.1~Φ8.0	75	117
FQ-058D-0053	Φ8.1~Φ9.0	81	125
FQ-058D-0054	Φ9.1~Φ10.0	81	125
FQ-058D-0055	Φ10.1~Φ11.0	87	133
FQ-058D-0056	Φ11.1~Φ12.0	94	142
FQ-058D-0057	Φ12.1~Φ13.0	101	151
FQ-058D-0058	Φ13.1~Φ14.0	101	151
FQ-058D-0059	Φ14.1~Φ15	101	151

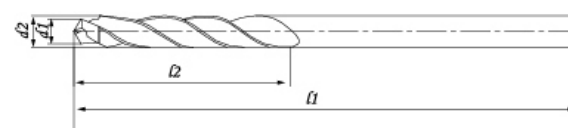
高速钢螺纹柄钻头 HSS Threaded Shank Drills



EDP NO.	d	l2	UNF	l1
FQ-270G-0001	Φ2	40	1/4-28UNF-2A	55
FQ-270G-0002	Φ3	40	1/4-28UNF-2A	55
FQ-270G-0003	Φ4	40	1/4-28UNF-2A	55
FQ-270G-0004	Φ5	40	1/4-28UNF-2A	55
FQ-270G-0005	Φ6	40	1/4-28UNF-2A	55
FQ-270G-0006	Φ7	40	1/4-28UNF-2A	55

EDP NO.	d	l2	UNF	l1
FQ-270G-0007	Φ8	40	1/4-28UNF-2A	55
FQ-270G-0008	Φ9	40	1/4-28UNF-2A	55
FQ-270G-0009	Φ10	40	1/4-28UNF-2A	55
FQ-270G-0010	Φ11	40	1/4-28UNF-2A	55
FQ-270G-0011	Φ12	40	1/4-28UNF-2A	55

高速钢直柄复合钻头(带挤光带) HSS Straight Shank Step Drills with Double Margin

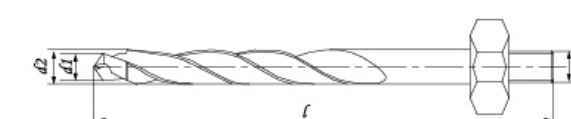


EDP NO.	d1	d2	l2	l1
FQ-274G-0001	Φ3.26	Φ4.01	55	153
FQ-274G-0002	Φ3.26	Φ4.064	55	153
FQ-274G-0003	Φ4.0	Φ4.8	55	153
FQ-274G-0004	Φ6.4	Φ7.1	55	153

▲该系列产品可根据用户实际需要定制
▲ Additional dimensions are available upon the customers' requests.

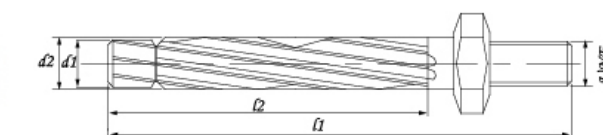
钻削刀具 Drilling Tools

高速钢螺纹柄复合钻头(带挤光带) HSS Threaded Shank Step Drills with Double Margin



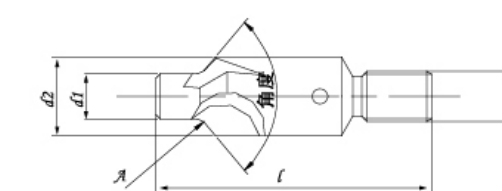
EDP NO.	d1	d2	l	UNF
FQ-273G-0001	Φ3.26	Φ4.01	38.1	1/4-28UNF-2A
FQ-273G-0002	Φ3.26	Φ4.01	50.8	1/4-28UNF-2A
FQ-273G-0003	Φ4.0	Φ4.8	38.1	1/4-28UNF-2A
FQ-273G-0004	Φ4.0	Φ4.8	50.8	1/4-28UNF-2A
FQ-273G-0005	Φ4.8	Φ5.0	50.8	1/4-28UNF-2A
FQ-273G-0006	Φ4.8	Φ5.1	38.1	1/4-28UNF-2A

高速钢螺纹柄铰刀 HSS Threaded Shank Reamers



EDP NO.	d1	d2	l2	UNF	l1
FQ-271G-0001	Φ3	Φ3.175	40	1/4-28UNF-2A	55
FQ-271G-0002	Φ4.4	Φ4.76	40	1/4-28UNF-2A	55
FQ-271G-0003	Φ6	Φ6.35	40	1/4-28UNF-2A	55
FQ-271G-0004	Φ7.6	Φ7.937	40	1/4-28UNF-2A	55
FQ-271G-0005	Φ9.3	Φ9.525	40	1/4-28UNF-2A	55
FQ-271G-0006	Φ12.3	Φ12.7	40	1/4-28UNF-2A	55

高速钢铰钻 HSS Countersinks



EDP NO.	d1	d2	UNF	A
FQ-272G-0001	Φ2.5	Φ6	1/4-28UNF-2A	120°
FQ-272G-0002	Φ3	Φ6.2	1/4-28UNF-2A	120°
FQ-272G-0003	Φ3.5	Φ7.2	1/4-28UNF-2A	120°
FQ-272G-0004	Φ5	Φ10.5	1/4-28UNF-2A	120°
FQ-272G-0005	Φ6	Φ12.5	1/4-28UNF-2A	120°

▲该系列产品可根据用户实际需要定制
▲ Additional dimensions are available upon the customers' requests.

< 铣削刀具 >

Milling Tools



以质求存，追求卓越，
用户至上，恪守信誉。
Premier Quality Beyond Excellence

铣削刀具 Milling Tools

整体硬质合金蜂窝铣刀 Carbide Honeycomb End Mills



Grooving of the nomex and aluminum honeycomb on CNC machines

EDP NO.	Cutting Diameter	Slot Length	Shank Diameter	Overall Length
FQ-031D-0635	1/4(6.35mm)	1-1/4	1/4	4
FQ-031D-0952	3/8(9.52mm)	2	3/8	4
FQ-031D-1270	1/2(12.7mm)	3	1/2	6
FQ-031D-1270	1/2(12.7mm)	4-1/2	1/2	6-1/2
FQ-031D-1905	3/4(19.05mm)	3	3/4	6
FQ-031D-1905	3/4(19.05mm)	4-1/2	3/4	6-1/2
FQ-032D-1200	12(.473")	60	12	150
FQ-032D-1600	16(.629")	80	16	150

高速钢蜂窝铣刀(不带刀片)

HSS Honeycomb End Mills(Without Cutter)



EDP NO.	Cutting Diameter	Cutting Depth	Shank Diameter	Overall Length
FQ-034D-0001	7/8(22.22mm)	1 1/2	1/2	3 1/2
FQ-034D-0002	1 1/4(31.75mm)	1 1/2	1/2	3 1/2
FQ-034D-0003	1 3/4(44.45mm)	1 1/2	1/2	3 1/2

▲该系列产品可根据用户实际需要定制
▲ Additional dimensions are available upon the customers' requests.

铣削刀具 Milling Tools

高速钢蜂窝铣刀 HSS HOGGER/CUTTER COMBINATION



Honeycomb Milling Cutter					Cutting Blade Selection					Spare Parts	
EDP NO.	Cutting Diameter	Cutting Depth	Shank Diameter	Overall Length	Blade Diameter	Carbide	Carbide Serrated	Diamond Coating	High-speed steel Saw blade	Bonding ring	Screw
FQ-034D-2222	7/8(22.22mm)	1 1/2	1/2	3 1/2	1(25.4mm)	8012630	8313630	8113630	8113630	-	8011630-2
FQ-034D-3175	1 1/4(31.75mm)	1 1/2	1/2	3 1/2	1 1/2(38.1mm)	8014630	8314630	8114630	8114630	8020630-3	8020630-4
FQ-034D-4445	1 3/4(44.45mm)	1 1/2	1/2	3 1/2	2(50.8mm)	8022630	8322630	8122630	8122630	8020630-3	8020630-4
FQ-034D-6985	2 3/4(69.85mm)	1	1/2	3 1/2	3(76.2mm)	8032630	8332630	8132630	8132630	8030630-3	8030630-4
FQ-034D-9525	3 3/4(95.25mm)	1	3/4	3 1/2	4(101.6mm)	8042630	8342630	8142630	8142630	8040630-3	8040630-4

高速钢蜂窝铣刀 HSS HOGGER/CUTTER COMBINATION



Honeycomb Milling Cutter					Cutting Blade Selection							Spare Parts	
EDP NO.	Cutting Diameter	Cutting Depth	Shank Diameter	Overall Length	Blade Diameter	High-speed Steel	Serrated	Carbide	Carbide Serrated	Diamond Coating	High-speed steel Saw Blade	Bonding ring	Screw
FQ-035D-0876	.345(8.76mm)	1	1/2	3	3/8(9.52mm)	8016630	8016630	-	-	-	-	-	HRD51646
FQ-035D-1193	.470(11.93mm)	1	1/2	3	1/2(12.7mm)	8017630	8017630	-	-	-	-	-	HRD51646
FQ-035D-1828	.720(18.28mm)	1	1/2	3	3/4(19.05mm)	-	-	8015630	8318630	-	-	-	8011630-2
FQ-035D-2463	.970(24.63mm)	1	1/2	3	1(25.4mm)	-	-	8012630	8313630	8113630	8213630	-	8011630-2
FQ-035D-3733	1.470(37.33mm)	1	1/2	3	1 1/8(38.10mm)	-	-	8014630	8314630	8114630	8214630	8020630-3	8020630-4
FQ-035D-4424	1.742(44.24mm)	1	1/2	3	1.772(45mm)	-	-	8026630	8326630	8126630	8226630	8020630-3	8020630-4
FQ-035D-5003	1.970(50.03mm)	1	5/8	3	2(50.8mm)	-	-	8022630	8322630	8122630	8222630	8020630-6	8020630-4
FQ-035D-6223	2.450(62.23mm)	1	5/8	3	2.480(63mm)	-	-	8036630	8336630	8136630	8236630	8030630-3	8030630-4
FQ-035D-7543	2.970(75.43mm)	1	3/4	3	3(76.20mm)	-	-	8032630	8332630	8132630	8232630	8030630-3	8030630-4
FQ-035D-10083	3.970(100.83mm)	1	3/4	3	4(101.6mm)	-	-	8042630	8342630	8142630	8242630	8040630-3	8040630-4

▲该系列产品可根据用户实际需要定制
▲ Additional dimensions are available upon the customers' requests.

铣削刀具 Milling Tools

高速钢铣刀 HSS Honeycomb Cutter



EDP NO.	Cutting Diameter	Shank Diameter	Overall Length	Core Types	Recommendation
FQ-036D-1270	1/2	1/4	2-1/16	铝, 低密度(低于5#立方英尺)	1
FQ-036D-1905	3/4	1/4	2-3/32	铝, 低密度(低于5#立方英尺)	2
FQ-036D-2540	1	1/4	2-1/8	纸	2
FQ-036D-1270	1-1/2	1/2	2-1/4	强化纸	N
FQ-036D-5080	2	1/2	2-3/4	玻璃纤维	N
FQ-036D-7620	3	1/2	2-15/16	酚醛树脂	N
				聚碳酸脂	N
				芳纶	N

1-很好 2-好 N-不合适
1 - Very good, 2 - Good, N - Not suitable

带齿高速钢蜂窝铣刀 HSS Honeycomb Serrated Cutter

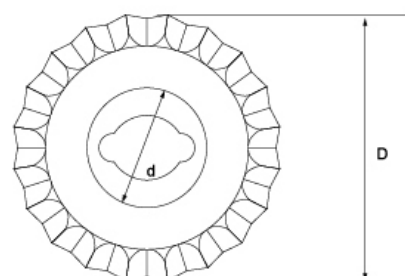


EDP NO.	Cutting Diameter	Shank Diameter	Overall Length
FQ-037D-0952	3/8	1/4	3
FQ-037D-1270	1/2	1/4	3
FQ-037D-1587	5/8	1/4	3
FQ-037D-1905	3/4	1/4	3

▲该系列产品可根据用户实际需要定制
▲ Additional dimensions are available upon the customers' requests.

超声波刀片(加工铝蜂窝)

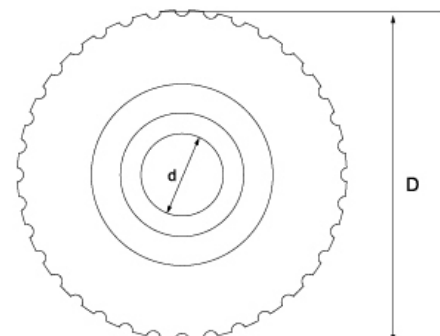
Ultrasonic Honeycomb Cutter (Processing of Aluminum Honeycomb)



EDP NO.	Cutting Diameter D	Bore d	Thickness
FQ-001C-0100	Φ45	Φ13	9.5

超声波刀片(加工纸蜂窝)

Ultrasonic Honeycomb Cutter (Processing of Aramid Honeycomb)



EDP NO.	Cutting Diameter D	Bore d	Thickness
FQ-002C-0100	Φ50.8	Φ12.7	4

▲该系列产品可根据用户实际需要定制
 ▲ Additional dimensions are available upon the customers' requests.

玻璃纤维/复合材料铣刀

Fiberglass/Composite Routers



独特和锋利的切削刃设计大大降低了切削力，避免出现分层现象。

The multi-flute design and positive geometry clearly shear through the material with minimal pressure without fiber break out and delamination issues

铣刀端铣刀

Composite Routers with End Mill Cut

EDP NO.	Cutting Diameter	Slot Length	Shank Diameter	Overall Length
FQ-001D-0317	1/8	1	1/8	2
FQ-001D-0635	1/4	3/4	1/4	2-1/2
FQ-001D-0635	1/4	1-1/8	1/4	3
FQ-001D-0635	1/4	1-1/4	1/4	3
FQ-001D-0635	1/4	1-1/2	1/4	3
FQ-001D-0635	1/4	2-1/8	1/4	4
FQ-001D-0952	3/8	7/8	3/8	2-1/2

铣刀端铣刀

Composite Routers with Bur End

EDP NO.	Cutting Diameter	Slot Length	Shank Diameter	Overall Length
FQ-002D-0952	3/8	1	1/8	2
FQ-002D-0952	3/8	3/4	1/4	2-1/2
FQ-002D-1270	1/2	1-1/8	1/4	3
FQ-002D-1270	1/2	1-1/4	1/4	3
FQ-002D-1270	1/2	1-1/2	1/4	3
FQ-002D-1270	1/2	2-1/8	1/4	4
FQ-002D-0952	3/8	3/4	3/8	2-1/2

钻尖端铣刀

Composite Routers with Drill End

EDP NO.	Cutting Diameter	Slot Length	Shank Diameter	Overall Length
FQ-003D-0635	1/4	3/4	1/4	2-1/2
FQ-003D-0952	3/8	7/8	3/8	2-1/2
FQ-003D-1270	1/2	1	1/2	3

无端铣刀

Composite Routers with No End Cut

EDP NO.	Cutting Diameter	Slot Length	Shank Diameter	Overall Length
FQ-004D-0400	4mm	16mm	6mm	50mm
FQ-004D-0600	6mm	19mm	6mm	63mm
FQ-004D-0600	6mm	25mm	6mm	75mm
FQ-004D-0800	8mm	25mm	8mm	63mm
FQ-004D-1000	10mm	25mm	10mm	75mm
FQ-004D-1200	12mm	25mm	12mm	75mm

2刃毛刺加工刀具

2 Flute Burr processing tools

EDP NO.	Cutting Diameter	Slot Length	Shank Diameter	Overall Length
FQ-005D-0635	1/4	3/4	1/4	2-1/2
FQ-005D-0952	3/8	7/8	3/8	2-1/2

2刃毛刺加工刀具

2 Flute Burr processing tools

EDP NO.	Cutting Diameter	Slot Length	Shank Diameter	Overall Length
FQ-006D-1270	1/2	1	1/2	3

人字形铣刀

Carbide Compression Router for finish milling of CFRP

The cutting pressure to the center of the work piece is compressed, eliminating the fraying of the material by incorporating both a left and right hand helix.



EDP NO.	Cutting Diameter	Slot Length	Shank Diameter	Overall Length
FQ-013D-0635	1/4	7/8	1/4	2-1/2
FQ-013D-0952*	3/8	1-1/8	3/8	3
FQ-013D-1270	1/2	7/8	1/2	3
FQ-013D-1270	1/2	1-1/8	1/2	3

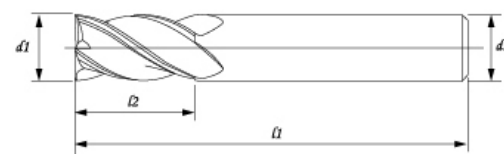
*=标眼压缩
 * = Standard Eye Compression

螺旋角 ≈ 30°
 Spiral angle ≈ 30°

▲该系列产品可根据用户实际需要定制
 ▲ Additional dimensions are available upon the customers' requests.

4刃不等齿距立铣刀

4 Flute End Mills with unequal flute spacing



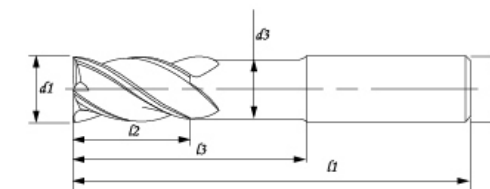
- ★应用于钛合金开槽、外轮廓的粗加工、半精加工和精加工
- ★采用不等齿距、不等螺旋设计，有效的控制加工过程中产生的震颤
- ★采用超细晶粒硬质合金材料，耐磨性更好，寿命更长
- ★带涂层
- ★ Used in slotting, Outer Contour Roughing, Semi-Finishing and Finishing
- ★ Unequal flute spacing and unequal helix help to eliminate the damaging harmonics
- ★ Certified Premium Micro Grain Carbide improves wear resistance and tool life
- ★ Premium Coating

EDP NO.	d1	d2	l2	l1
FQ-ZCT 0300050	3	3	8	50
FQ-ZCT 0400050	4	4	11	50
FQ-ZCT 0500050	5	6	13	50
FQ-ZCT 0600050	6	6	15	50
FQ-ZCT 0800060	8	8	20	60
FQ-ZCT 1000075	10	10	25	75
FQ-ZCT 1200075	12	12	30	75
FQ-ZCT 1600100	16	16	36	100
FQ-ZCT 2000100	20	20	45	100
FQ-ZCT 2500100	25	25	50	100

- ▲该系列产品可根据用户实际需要定制
- ▲ Additional dimensions are available upon the customers' requests.

4刃不等齿距缩颈立铣刀

4 Flute Long Neck End Mills with unequal flute spacing



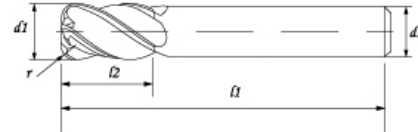
- ★应用于钛合金开槽、外轮廓的粗加工、半精加工和精加工
- ★采用不等齿距、不等螺旋设计，有效的控制加工过程中产生的震颤
- ★采用超细晶粒硬质合金材料，耐磨性更好，寿命更长
- ★带涂层
- ★ Used in slotting, Outer Contour Roughing, Semi-Finishing and Finishing
- ★ Unequal flute spacing and unequal helix help to eliminate the damaging harmonics
- ★ Certified Premium Micro Grain Carbide improves wear resistance and tool life
- ★ Premium Coating

EDP NO.	d1	d2	d3	l2	l3	l1
FQ-ZCTS 0600075	6	6	5.4	8	24	75
FQ-ZCTS 0800075	8	8	7.4	10	32	75
FQ-ZCTS 1000100	10	10	9.4	12	40	100
FQ-ZCTS 1200100	12	12	11.4	15	48	100
FQ-ZCTS 1600115	16	16	15.4	20	65	115
FQ-ZCTS 2000140	20	20	19.4	24	80	140
FQ-ZCTS 2500160	25	25	21.4	30	100	160

- ▲该系列产品可根据用户实际需要定制
- ▲ Additional dimensions are available upon the customers' requests.

4刃不等齿距圆鼻铣刀

4 Flute Radius End Mills with unequal flute spacing



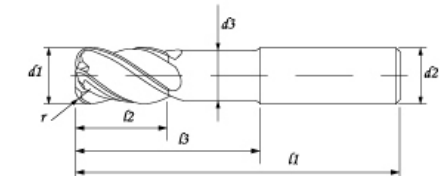
- ★应用于钛合金开槽、外轮廓的粗加工、半精加工和精加工
- ★采用不等齿距、不等螺旋设计，有效的控制加工过程中产生的震颤
- ★采用超细晶粒硬质合金材料，耐磨性更好，寿命更长
- ★带涂层
- ★ Used in slotting, Outer Contour Roughing, Semi-Finishing and Finishing
- ★ Unequal flute spacing and unequal helix help to eliminate the damaging harmonics
- ★ Certified Premium Micro Grain Carbide improves wear resistance and tool life
- ★ Premium Coating

EDP NO.	d1	r	d2	l2	l1
FQ-ZCTR 0605050	6	0.5	6	15	50
FQ-ZCTR 0610050	6	1	6	15	50
FQ-ZCTR 0805060	8	0.5	8	20	60
FQ-ZCTR 0810060	8	1	8	20	60
FQ-ZCTR 1010075	10	1	10	25	75
FQ-ZCTR 1030075	10	3	10	25	75
FQ-ZCTR 1210075	12	1	12	25	75
FQ-ZCTR 1230075	12	3	12	25	75
FQ-ZCTR 1610100	16	1	16	32	100
FQ-ZCTR 1630100	16	3	16	32	100
FQ-ZCTR 2010100	20	1	20	45	100
FQ-ZCTR 2030100	20	3	20	45	100
FQ-ZCTR 2510120	25	1	25	50	120
FQ-ZCTR 2530120	25	3	25	50	120

- ▲该系列产品可根据用户实际需要定制
- ▲ Additional dimensions are available upon the customers' requests.

4刃不等齿距缩颈圆鼻铣刀

4 Flute Long Neck Radius End Mills with unequal flute spacing



- ★应用于钛合金开槽、外轮廓的粗加工、半精加工和精加工
- ★采用不等齿距、不等螺旋设计，有效的控制加工过程中产生的震颤
- ★采用超细晶粒硬质合金材料，耐磨性更好，寿命更长
- ★带涂层
- ★ Used in slotting, Outer Contour Roughing, Semi-Finishing and Finishing
- ★ Unequal flute spacing and unequal helix help to eliminate the damaging harmonics
- ★ Certified Premium Micro Grain Carbide improves wear resistance and tool life
- ★ Premium Coating

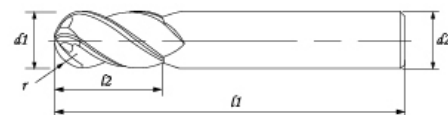
EDP NO.	d1	r	d2	d3	l2	l3	l1
FQ-ZCTSR 0605075	6	0.5	6	5.4	8	24	75
FQ-ZCTSR 0610075	6	1	5.4	8	8	24	75
FQ-ZCTSR 0805075	8	0.5	8	7.4	10	32	75
FQ-ZCTSR 0810075	8	1	7.4	10	10	32	75
FQ-ZCTSR 1005100	10	0.5	10	9.4	12	40	100
FQ-ZCTSR 1010100	10	1	10	9.4	12	40	100
FQ-ZCTSR 1210100	12	1	12	11.4	15	48	100
FQ-ZCTSR 1230100	12	3	12	11.4	15	48	100
FQ-ZCTSR 1610115	16	1	16	15.4	20	65	115
FQ-ZCTSR 1630115	16	3	16	15.4	20	65	115
FQ-ZCTSR 2010140	20	1	20	19.4	24	80	140
FQ-ZCTSR 2030140	20	3	20	19.4	24	80	140
FQ-ZCTSR 2510160	25	1	25	24.4	30	100	160
FQ-ZCTSR 2530160	25	3	25	24.4	30	100	160

- ▲该系列产品可根据用户实际需要定制
- ▲ Additional dimensions are available upon the customers' requests.

钛合金专用铣刀 For machining Titanium Alloys

4刃不等齿距球头铣刀

4 Flute Ball End Mills with unequal flute spacing



- ★ 应用于钛合金开槽、外轮廓、曲面的粗加工、半精加工和精加工
- ★ 采用不等齿距、不等螺旋设计，有效的控制加工过程中产生的震颤
- ★ 采用超细晶粒硬质合金材料，耐磨性更好，寿命更长
- ★ 带涂层
- ★ For Slotting, Roughing complex and Outer Contour shapes in Titanium, Semi-Finishing and Finishing
- ★ Unequal flute spacing and unequal helix help to eliminate the damaging harmonics
- ★ Certified Premium Micro Grain Carbide improves wear resistance and tool life
- ★ Premium Coating

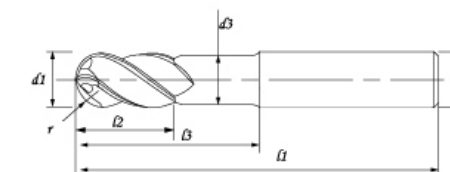
EDP NO.	d1	r	d2	l2	l1
FQ-ZCTB 0315050	3	1.5	3	8	50
FQ-ZCTB 0420050	4	2	4	11	50
FQ-ZCTB 0525050	5	2.5	6	13	50
FQ-ZCTB 0630050	6	3	6	15	50
FQ-ZCTB 0840060	8	4	8	20	60
FQ-ZCTB 1050075	10	5	10	25	75
FQ-ZCTB 1260080	12	6	12	25	80
FQ-ZCTB 1680090	16	8	16	32	90
FQ-ZCTB 20100100	20	10	20	38	100
FQ-ZCTB 25125110	25	12.5	25	45	110

- ▲ 该系列产品可根据用户实际需要定制
- ▲ Additional dimensions are available upon the customers' requests.

钛合金专用铣刀 For machining Titanium Alloys

4刃不等齿距缩颈球头铣刀

4 Flute Long Neck Ball End Mills with unequal flute spacing



- ★ 应用于钛合金开槽、外轮廓、曲面的粗加工、半精加工和精加工
- ★ 采用不等齿距、不等螺旋设计，有效的控制加工过程中产生的震颤
- ★ 采用超细晶粒硬质合金材料，耐磨性更好，寿命更长
- ★ 带涂层
- ★ For Slotting, Roughing complex and Outer Contour shapes in Titanium, Semi-Finishing and Finishing
- ★ Unequal flute spacing and unequal helix help to eliminate the damaging harmonics
- ★ Certified Premium Micro Grain Carbide improves wear resistance and tool life
- ★ Premium Coating

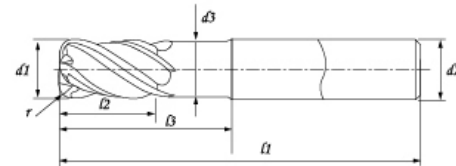
EDP NO.	d1	r	d2	d3	l2	l3	l1
FQ-ZCTSB 0630075	6	3	6	5.4	15	30	75
FQ-ZCTSB 0840080	8	4	8	7.4	15	40	80
FQ-ZCTSB 1050090	10	5	10	9.4	15	50	90
FQ-ZCTSB 1260105	12	6	12	11.4	20	60	105
FQ-ZCTSB 1680130	16	8	16	15.4	26	80	130
FQ-ZCTSB 20100152	20	10	20	19.4	32	100	152
FQ-ZCTSB 25125190	25	12.5	25	24.5	50	125	190

- ▲ 该系列产品可根据用户实际需要定制
- ▲ Additional dimensions are available upon the customers' requests.

钛合金专用铣刀 For machining Titanium Alloys

5刃不等齿距圆鼻铣刀

5 Flute Radius End Mills with unequal flute spacing



- ★ 应用于钛合金、耐热合金的高效加工
- ★ 采用不等齿距、不等螺旋设计，有效的控制加工过程中产生的震颤
- ★ 采用超细晶粒硬质合金材料，耐磨性更好，寿命更长
- ★ 带涂层
- ★ Improved productivity in milling Titanium Alloys and High Temperature Alloys
- ★ Unequal flute spacing and unequal helix help to eliminate the damaging harmonics
- ★ Certified Premium Micro Grain Carbide improves wear resistance and tool life
- ★ Premium Coating

适用于钛合金、耐热合金、奥氏体不锈钢等难切削材料。

Suitable for hard cutting materials, such as titanium alloy, heat-resistant alloy, austenitic stainless steel, etc..

EDP NO.	Cutting Diameter d1	Radius r	Appx. Length of Cut l2	Neck Length l3	Overall Length l1
FQ-VCTSR 0605075	6	R0.5	13	25	75
FQ-VCTSR 0610075	6	R1	13	25	75
FQ-VCTSR 0805080	8	R0.5	20	32	80
FQ-VCTSR 0810080	8	R1	20	32	80
FQ-VCTSR 1005080	10	R0.5	22	40	80
FQ-VCTSR 1010080	10	R1	22	40	80
FQ-VCTSR 1020080	10	R2	22	40	80
FQ-VCTSR 1205100	12	R0.5	25	48	100
FQ-VCTSR 1210100	12	R1	25	48	100
FQ-VCTSR 1220100	12	R2	25	48	100
FQ-VCTSR 1610100	16	R1	32	47	100
FQ-VCTSR 1620100	16	R2	32	47	100
FQ-VCTSR 1630100	16	R3	32	47	100
FQ-VCTSR 2010117	20	R1	40	67	117
FQ-VCTSR 2020117	20	R2	40	67	117
FQ-VCTSR 2030117	20	R3	40	67	117
FQ-VCTSR 2510130	25	R1	50	67	130
FQ-VCTSR 2520130	25	R2	50	67	130
FQ-VCTSR 2530130	25	R3	50	67	130
FQ-VCTSR 2510138	25	R1	50	82	138
FQ-VCTSR 2520138	25	R2	50	82	138
FQ-VCTSR 2530138	25	R3	50	82	138

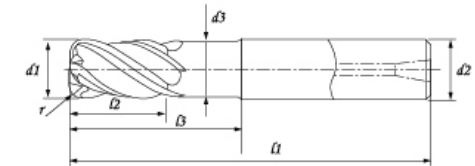
▲ 该系列产品可根据用户实际需要定制

▲ Additional dimensions are available upon the customers' requests.

钛合金专用铣刀 For machining Titanium Alloys

5刃不等齿距圆鼻铣刀（内冷）

5 Flute coolant feed Radius End Mills with unequal flute spacing



- ★ 应用于钛合金、耐热合金的高效加工
- ★ 采用不等齿距、不等螺旋设计，有效的控制加工过程中产生的震颤
- ★ 采用超细晶粒硬质合金材料，耐磨性更好，寿命更长
- ★ 带涂层
- ★ Improved productivity in milling Titanium Alloys and High Temperature Alloys
- ★ Unequal flute spacing and unequal helix help to eliminate the damaging harmonics
- ★ Certified Premium Micro Grain Carbide improves wear resistance and tool life
- ★ Premium Coating

EDP NO.	Cutting Diameter d1	Radius r	Appx. Length of Cut l2	Neck Length l3	Overall Length l1
FQ-VCTSR 0605075	6	R0.5	13	25	75
FQ-VCTSR 0610075	6	R1	13	25	75
FQ-VCTSR 0805080	8	R0.5	20	32	80
FQ-VCTSR 0810080	8	R1	20	32	80
FQ-VCTSR 1005080	10	R0.5	22	40	80
FQ-VCTSR 1010080	10	R1	22	40	80
FQ-VCTSR 1020080	10	R2	22	40	80
FQ-VCTSR 1205100	12	R0.5	25	48	100
FQ-VCTSR 1210100	12	R1	25	48	100
FQ-VCTSR 1220100	12	R2	25	48	100
FQ-VCTSR 1610100	16	R1	32	47	100
FQ-VCTSR 1620100	16	R2	32	47	100
FQ-VCTSR 1630100	16	R3	32	47	100
FQ-VCTSR 2010117	20	R1	40	67	117
FQ-VCTSR 2020117	20	R2	40	67	117
FQ-VCTSR 2030117	20	R3	40	67	117
FQ-VCTSR 2510130	25	R1	50	67	130
FQ-VCTSR 2520130	25	R2	50	67	130
FQ-VCTSR 2530130	25	R3	50	67	130
FQ-VCTSR 2510138	25	R1	50	82	138
FQ-VCTSR 2520138	25	R2	50	82	138
FQ-VCTSR 2530138	25	R3	50	82	138

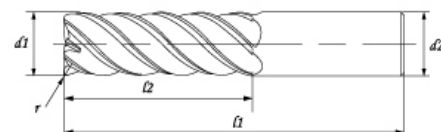
▲ 该系列产品可根据用户实际需要定制

▲ Additional dimensions are available upon the customers' requests.

钛合金专用铣刀 For machining Titanium Alloys

5刃不等齿距长刃圆鼻铣刀

5 Flute Long Cut Radius End Mills with unequal flute spacing



- ★应用于钛合金、耐热合金的高效加工，主要用于半精加工和精加工。
- ★采用不等齿距、不等螺旋设计，有效的控制加工过程中产生的震颤
- ★采用超细晶粒硬质合金材料，耐磨性更好，寿命更长
- ★径向让刀少，能获得更好的侧面垂直度和表面光洁度
- ★带涂层
- ★ Improved productivity in milling Titanium Alloys and High Temperature Alloys, For Semi-Finishing and Finishing
- ★ Unequal flute spacing and unequal helix help to eliminate the damaging harmonics
- ★ Certified Premium Micro Grain Carbide improves wear resistance and tool life
- ★ Increased rigidity, Reduced radial side deflection and Improved surface finishes
- ★ Premium Coating

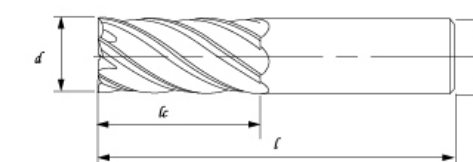
EDP NO.	Cutting Diameter d1	Radius r	Shank Diameter d2	Appx. Length of Cut l2	Overall Length l1
FQ-VCTLR 0605075	6	0.5	6	25	75
FQ-VCTLR 0805075	8	0.5	8	25	75
FQ-VCTLR 1005100	10	0.5	10	38	100
FQ-VCTLR 1205100	12	0.5	12	45	100
FQ-VCTLR 1605100	16	0.5	16	50	100
FQ-VCTLR 2005125	20	0.5	20	75	125
FQ-VCTLR 2505190	25	0.5	25	125	190

- ▲该系列产品可根据用户实际需要定制
- ▲ Additional dimensions are available upon the customers' requests.

钛合金专用铣刀 For machining Titanium Alloys

6刃不等齿距立铣刀

6 Flute End Mills with unequal flute spacing



- ★应用于钛合金、耐热合金的高效加工，主要用于半精加工和精加工。
- ★采用不等齿距、不等螺旋设计，有效的控制加工过程中产生的震颤
- ★采用超细晶粒硬质合金材料，耐磨性更好，寿命更长
- ★6刃加工，表面光洁度更高
- ★带涂层
- ★ Improved productivity in milling Titanium Alloys and High Temperature Alloys, For Semi-Finishing and Finishing
- ★ Unequal flute spacing and unequal helix help to eliminate the damaging harmonics
- ★ Certified Premium Micro Grain Carbide improves wear resistance and tool life
- ★ 6 Flutes improves surface finishes
- ★ Premium Coating

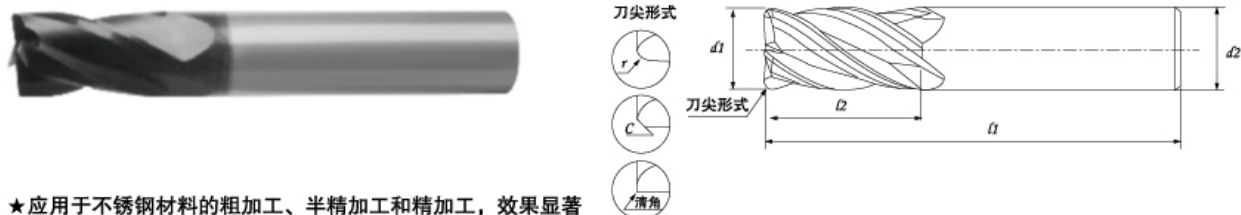
EDP NO.	Cutting Diameter d1	Shank Diameter d2	Appx. Length of Cut l2	Overall Length l1
FQ-TCT 0600063	6	6	19	63
FQ-TCT 0800075	8	8	20	75
FQ-TCT 1000075	10	10	25	75
FQ-TCT 1200080	12	12	26	80
FQ-TCT 1600090	16	16	32	90
FQ-TCT 2000100	20	20	38	100
FQ-TCT 2500110	25	25	45	110

- ▲该系列产品可根据用户实际需要定制
- ▲ Additional dimensions are available upon the customers' requests.



4刃不等齿距立铣刀

4 Flute Carbide End Mills with unequal flute spacing



- ★应用于不锈钢材料的粗加工、半精加工和精加工，效果显著
- ★采用不等齿距、不等螺旋设计，有效的控制加工过程中产生的震颤
- ★采用超细晶粒硬质合金材料，耐磨性更好，寿命更长
- ★带涂层
- ★ Excellent performance in Roughing, Semi-Finishing and Finishing of Stainless Steel
- ★ Unequal flute spacing and unequal helix help to eliminate the damaging harmonics
- ★ Certified Premium Micro Grain Carbide improves wear resistance and tool life
- ★ Premium Coating

EDP NO.	Cutting Diameter d1	Radius r	Shank Diameter d2	Appx. Length of Cut l2	Overall Length l1
FQ-ZCBR 0305038	3	0.5	3	8	38
FQ-ZCBR 0405043	4	0.5	4	11	43
FQ-ZCBR 0510047	5	1	5	13	47
FQ-ZCBR 0610057	6	1	6	13	57
FQ-ZCBR 0810063	8	1	8	19	63
FQ-ZCBR 0820063	8	2	8	19	63
FQ-ZCBR 1010072	10	1	10	22	72
FQ-ZCBR 1020072	10	2	10	22	72
FQ-ZCBR 1030072	10	3	10	22	72
FQ-ZCBR 1210076	12	1	12	22	76
FQ-ZCBR 1220076	12	2	12	22	76
FQ-ZCBR 1230076	12	3	12	22	76
FQ-ZCBR 1410083	14	1	14	26	83
FQ-ZCBR 1420083	14	2	14	26	83
FQ-ZCBR 1430083	14	3	14	26	83
FQ-ZCBR 1610089	16	1	16	32	89
FQ-ZCBR 1620089	16	2	16	32	89
FQ-ZCBR 1630089	16	3	16	32	89
FQ-ZCBR 1640089	16	4	16	32	89
FQ-ZCBR 1650089	16	5	16	32	89
FQ-ZCBR 2010101	20	1	20	38	101
FQ-ZCBR 2020101	20	2	20	38	101
FQ-ZCBR 2030101	20	3	20	38	101
FQ-ZCBR 2040101	20	4	20	38	101
FQ-ZCBR 2050101	20	5	20	38	101

▲刀尖有R角、倒角、尖角3种形式供选择，订货前请说明，可接受非标定制。

▲ Tip R angle, chamfer, sharp corners for the choice of three forms, please specify before ordering. Non-standard tools are available on request



4刃不等齿距球头铣刀

4 Flute Carbide Ball End Mills with unequal flute spacing



- ★应用于不锈钢材料的粗加工、半精加工和精加工，效果显著
- ★采用不等齿距、不等螺旋设计，有效的控制加工过程中产生的震颤
- ★采用超细晶粒硬质合金材料，耐磨性更好，寿命更长
- ★带涂层
- ★ Excellent performance in Roughing, Semi-Finishing and Finishing of Stainless Steel
- ★ Unequal flute spacing and unequal helix help to eliminate the damaging harmonics
- ★ Certified Premium Micro Grain Carbide improves wear resistance and tool life
- ★ Premium Coating

EDP NO.	Cutting Diameter d1	Radius r	Shank Diameter d2	Appx. Length of Cut l2	Overall Length l1
FQ-ZCBB 0315038	3	1.5	3	8	38
FQ-ZCBB 0420043	4	2	4	11	43
FQ-ZCBB 0525047	5	2.5	5	13	47
FQ-ZCBB 0630057	6	3	6	13	57
FQ-ZCBB 084063	8	4	8	19	63
FQ-ZCBB 0840063	8	4	8	19	63
FQ-ZCBB 1040072	10	5	10	22	72
FQ-ZCBB 1040072	10	5	10	22	72
FQ-ZCBB 1040072	10	5	10	22	72
FQ-ZCBB 1260076	12	6	12	22	76
FQ-ZCBB 12260076	12	6	12	22	76
FQ-ZCBB 1260076	12	6	12	22	76
FQ-ZCBB 1470083	14	7	14	26	83
FQ-ZCBB 1470083	14	7	14	26	83
FQ-ZCBB 1470083	14	7	14	26	83
FQ-ZCBB 1680089	16	8	16	32	89
FQ-ZCBB 1680089	16	8	16	32	89
FQ-ZCBB 1680089	16	8	16	32	89
FQ-ZCBB 1680089	16	8	16	32	89
FQ-ZCBB 1680089	16	8	16	32	89
FQ-ZCBB 1680089	16	8	16	32	89
FQ-ZCBB 20100101	20	10	20	38	101
FQ-ZCBB 20100101	20	10	20	38	101
FQ-ZCBB 20100101	20	10	20	38	101
FQ-ZCBB 20100101	20	10	20	38	101
FQ-ZCBB 23100101	20	10	20	38	101

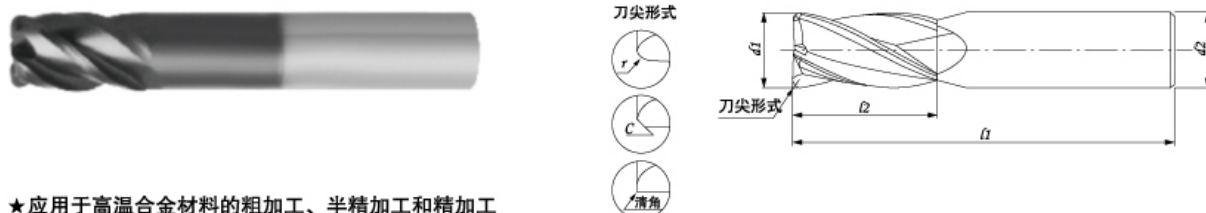
▲该系列产品可根据用户实际需要定制

▲ Additional dimensions are available upon the customers' requests.



4刃不等齿距立铣刀

4 Flute Carbide End Mills with unequal flute spacing



- ★ 应用于高温合金材料的粗加工、半精加工和精加工
- ★ 采用不等齿距、不等螺旋设计，有效的控制加工过程中产生的震颤
- ★ 采用超细晶粒硬质合金材料，耐磨性更好，寿命更长
- ★ 带涂层
- ★ For Roughing, Semi-Finishing and Finishing of High Temperature Alloys
- ★ Unequal flute spacing and unequal helix help to eliminate the damaging harmonics
- ★ Certified Premium Micro Grain Carbide improves wear resistance and tool life
- ★ Premium Coating

EDP NO.	Cutting Diameter d1	Radius r	Shank Diameter d2	Appx. Length of Cut l2	Overall Length l1
FQ-ZCHR 0305038	3	0.5	3	8	38
FQ-ZCHR 0405043	4	0.5	4	11	43
FQ-ZCHR 0510047	5	1	5	13	47
FQ-ZCHR 0610057	6	1	6	13	57
FQ-ZCHR 0810063	8	1	8	19	63
FQ-ZCHR 0820063	8	2	8	19	63
FQ-ZCHR 1010072	10	1	10	22	72
FQ-ZCHR 1020072	10	2	10	22	72
FQ-ZCHR 1030072	10	3	10	22	72
FQ-ZCHR 1210076	12	1	12	22	76
FQ-ZCHR 1220076	12	2	12	22	76
FQ-ZCHR 1230076	12	3	12	22	76
FQ-ZCHR 1410083	14	1	14	26	83
FQ-ZCHR 1420083	14	2	14	26	83
FQ-ZCHR 1430083	14	3	14	26	83
FQ-ZCHR 1610089	16	1	16	32	89
FQ-ZCHR 1620089	16	2	16	32	89
FQ-ZCHR 1630089	16	3	16	32	89
FQ-ZCHR 1640089	16	4	16	32	89
FQ-ZCHR 1650089	16	5	16	32	89
FQ-ZCHR 2010101	20	1	20	38	101
FQ-ZCHR 2020101	20	2	20	38	101
FQ-ZCHR 2030101	20	3	20	38	101
FQ-ZCHR 2040101	20	4	20	38	101
FQ-ZCHR 2050101	20	5	20	38	101

▲ 刀尖有R角、倒角、尖角3种形式供选择，订货前请说明，可接受非标定制。

▲ Tip R angle, chamfer, sharp corners for the choice of three forms, please specify before ordering, can accept non-standard custom.



4刃不等齿距球头铣刀

4 Flute Carbide Ball End Mills with unequal flute spacing



- ★ 应用于高温合金材料的粗加工、半精加工和精加工
- ★ 采用不等齿距、不等螺旋设计，有效的控制加工过程中产生的震颤
- ★ 采用超细晶粒硬质合金材料，耐磨性更好，寿命更长
- ★ 带涂层
- ★ For Roughing, Semi-Finishing and Finishing of High Temperature Alloys
- ★ Unequal flute spacing and unequal helix help to eliminate the damaging harmonics
- ★ Certified Premium Micro Grain Carbide improves wear resistance and tool life
- ★ Premium Coating

EDP NO.	d1	r	d2	l2	l1
FQ-ZCHB 0315050	3	1.5	3	8	50
FQ-ZCHB 0420050	4	2	4	11	50
FQ-ZCHB 0525050	5	2.5	6	13	50
FQ-ZCHB 0630050	6	3	6	15	50
FQ-ZCHB 0840060	8	4	8	20	60
FQ-ZCHB 1050075	10	5	10	25	75
FQ-ZCHB 1260080	12	6	12	25	80
FQ-ZCHB 1680090	16	8	16	32	90
FQ-ZCHB 20100100	20	10	20	38	100
FQ-ZCHB 25125110	25	12.5	25	45	110

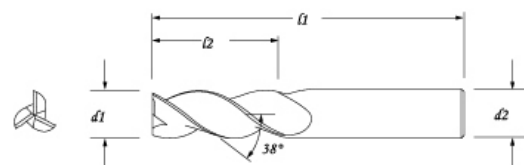
▲ 该系列产品可根据用户实际需要定制

▲ Additional dimensions are available upon the customers' requests.

航空铝合金加工 For machining Aluminum Alloys

航空铝合金用3刃立铣刀

3 Flute Carbide End Mills for Aluminum Alloys



- ★应用于航空铝合金的高效加工
- ★独特的锋利切削刃设计，切削过程轻快顺畅
- ★提高加工效率和工件表面质量
- ★ Effective chip removal at high feed rates
- ★ Lower cutting forces due to engineered sharp cutting edges
- ★ Improved productivity and improved surface finishes

EDP NO.	d1	d2	l2	l1
FQ-SKC 0300038	3.0	3.0	8.0	38.0
FQ-SKC 0400050	4.0	4.0	11.0	50.0
FQ-SKC 0500050	5.0	5.0	13.0	50.0
FQ-SKC 0600057	6.0	6.0	13.0	57.0
FQ-SKC 0600072	6.0	6.0	13.0	72.0
FQ-SKC 0800063	8.0	8.0	19.0	63.0
FQ-SKC 1000072	10.0	10.0	22.0	72.0
FQ-SKC 1200083	12.0	12.0	26.0	83.0
FQ-SKC 1600092	16.0	16.0	32.0	92.0
FQ-SKC 2000104	20.0	20.0	38.0	104.0
FQ-SKC 2500104	25.0	25.0	44.0	104.0

备注：1、刀尖有R角、倒角、尖角3种形式供选择，订货前请说明。可接受非标定制。

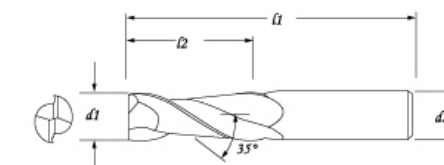
2、此系列刀具具有内冷供选，订货请咨询

Note: 1, The tip of the R angle, chamfer, sharp three options, please specify before ordering. Acceptable non-standard custom.
2, Internal Coolant End Mills are available on request

航空铝合金加工 For machining Aluminum Alloys

航空铝合金用2刃立铣刀

2 Flute Carbide End Mills for Aluminum Alloys



- ★应用于航空铝合金的高效加工
- ★独特的锋利切削刃设计，切削过程轻快顺畅
- ★提高加工效率和工件表面质量
- ★ Effective chip removal at high feed rates
- ★ Lower cutting forces due to engineered sharp cutting edges
- ★ Improved productivity and improved surface finishes

EDP NO.	d1	d2	l2	l1
FQ-SC 0300038	3.0	3.0	8.0	38.0
FQ-SC 0400050	4.0	4.0	11.0	50.0
FQ-SC 0500050	5.0	5.0	13.0	50.0
FQ-SC 0600057	6.0	6.0	13.0	57.0
FQ-SC 0800063	8.0	8.0	19.0	63.0
FQ-SC 1000072	10.0	10.0	22.0	72.0
FQ-SC 1200083	12.0	12.0	26.0	83.0
FQ-SC 1400083	14.0	14.0	26.0	83.0
FQ-SC 1600092	16.0	16.0	32.0	92.0
FQ-SC 2000104	20.0	20.0	38.0	104.0
FQ-SC 2500104	25.0	25.0	44.0	104.0

备注：1、刀尖有R角、倒角、尖角3种形式供选择，订货前请说明。可接受非标定制。

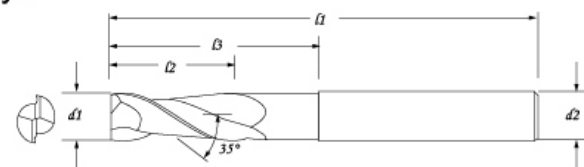
2、此系列刀具具有内冷供选，订货请咨询

Note: 1, The tip of the R angle, chamfer, sharp three options, please specify before ordering. Acceptable non-standard custom.
2, Internal Coolant End Mills are available on request

航空铝合金加工 For machining Aluminum Alloys

航空铝合金用2刃缩颈立铣刀

2 Flute Carbide Neck End Mills for Aluminum Alloys



- ★ 应用于航空铝合金的高效加工
- ★ 独特的锋利切削刃设计，切削过程轻快顺畅
- ★ 提高加工效率和工件表面质量
- ★ Effective chip removal at high feed rates
- ★ Lower cutting forces due to engineered sharp cutting edges
- ★ Improved productivity and improved surface finishes

EDP NO.	d1	d2	l3	l2	l1
FQ-SCS 0600100	6.0	6.0	54.0	10.0	100.0
FQ-SCS 0800100	8.0	8.0	54.0	12.0	100.0
FQ-SCS 1000100	10.0	10.0	54.0	12.0	100.0
FQ-SCS 1200150	12.0	12.0	80.0	16.0	150.0
FQ-SCS 1600150	16.0	16.0	80.0	20.0	150.0
FQ-SCS 2000150	20.0	20.0	80.0	25.0	150.0

备注：1、刀尖有R角、倒角、尖角3种形式供选择，订货前请说明。可接受非标定制。
2、此系列刀具具有内冷供选，订货请咨询

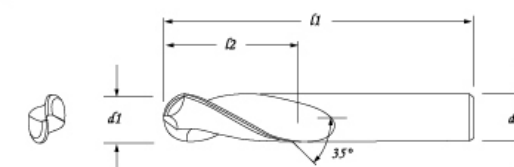
Note: 1, The tip of the R angle, chamfer, sharp three options, please specify before ordering. Acceptable non-standard custom.
2, Internal Coolant End Mills are available on request

- ▲ 该系列产品可根据用户实际需要定制
- ▲ Additional dimensions are available upon the customers' requests.

航空铝合金加工 For machining Aluminum Alloys

航空铝合金用2刃球头铣刀

2 Flute Carbide Ball End Mills for Aluminum Alloys



- ★ 应用于航空铝合金的高效加工
- ★ 独特的锋利切削刃设计，切削过程轻快顺畅
- ★ 提高加工效率和工件表面质量
- ★ Effective chip removal at high feed rates
- ★ Lower cutting forces due to engineered sharp cutting edges
- ★ Improved productivity and improved surface finishes

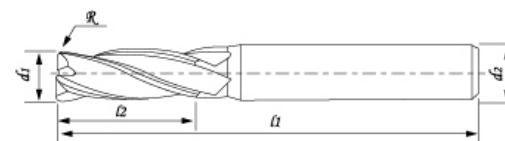
EDP NO.	d1	d2	l2	l1
FQ-SCB 0315038	3.0	3.0	8.0	38.0
FQ-SCB 0420050	4.0	4.0	11.0	50.0
FQ-SCB 0525050	5.0	5.0	13.0	50.0
FQ-SCB 0630057	6.0	6.0	13.0	57.0
FQ-SCB 0840063	8.0	8.0	19.0	63.0
FQ-SCB 1050072	10.0	10.0	22.0	72.0
FQ-SCB 1260083	12.0	12.0	26.0	83.0
FQ-SCB 1470083	14.0	14.0	26.0	83.0
FQ-SCB 1680092	16.0	16.0	32.0	92.0
FQ-SCB 20100104	20.0	20.0	38.0	104.0
FQ-SCB 25125104	25.0	25.0	44.0	104.0

备注：此系列刀具具有内冷供选，订货请咨询。
Note: Internal Coolant End Mills are available on request

- ▲ 该系列产品可根据用户实际需要定制
- ▲ Additional dimensions are available upon the customers' requests.

高硬材料用4刃圆鼻铣刀

4 Flute Carbide Radius End Mills for Hardened Mold & Die Applications



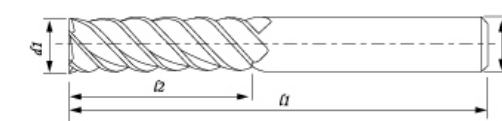
- ★一般未处理材料一直加工到淬火锅，适用范围广
- ★最适合模具和机械零部件的内圆偶角和仿形加工
- ★Usually untreated material has been processed to hardened steel, wide application
- ★The most suitable mold and mechanical parts inner circle even angle and profiling

EDP NO.	d1	l2	l1	d2	R
FQ-PC 0303050	3	12	50	6	0.3
FQ-PC 0405050	4	15	50	6	0.5
FQ-PC 0505060	5	20	60	6	0.5
FQ-PC 0610060	6	20	60	6	1
FQ-PC 0810070	8	25	70	8	1
FQ-PC 0820070	8	25	70	8	2
FQ-PC 1015090	10	30	90	10	1.5
FQ-PC 1020090	10	30	90	10	2
FQ-PC 1210090	12	30	90	12	1
FQ-PC 1220090	12	30	90	12	2
FQ-PC 1620110	16	50	110	16	2
FQ-PC 2010110	20	55	110	20	1
FQ-PC 2020110	20	55	110	20	2

- ▲该系列产品可根据用户实际需要定制
- ▲ Additional dimensions are available upon the customers' requests.

硬质合金多刃精加工立铣刀

Carbide Multi-edge Finishing Milling Cutter



- ★适用于加工淬硬钢，硬度可超过60HRC
- ★适合槽和侧面的精加工
- ★For machining hardened steels up to 60HRC
- ★Suitable for slotting and contour finishing

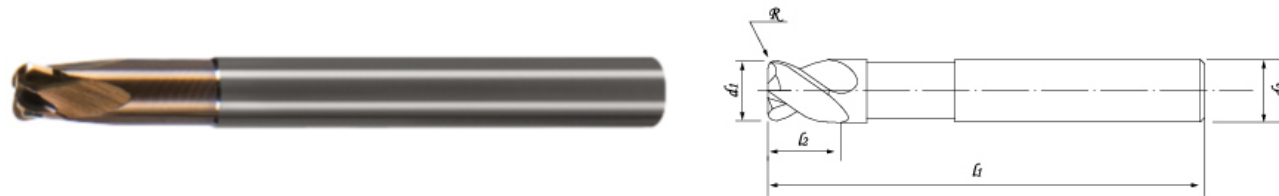
EDP NO.	d1	l2	l1	d2
FQ-PCJ 0300050	3	10	50	6
FQ-PCJ 0400050	4	13	50	6
FQ-PCJ 0500050	5	16	50	6
FQ-PCJ 0600050	6	16	50	6
FQ-PCJ 0800060	8	22	60	8
FQ-PCJ 1000070	10	26	70	10
FQ-PCJ 1200075	12	32	75	12
FQ-PCJ 1600090	16	40	90	16
FQ-PCJ 2000100	20	46	100	20

- ▲该系列产品可根据用户实际需要定制
- ▲ Additional dimensions are available upon the customers' requests.

高硬材料加工 For machining hardened Steels

高硬材料用4刃缩颈圆鼻铣刀

4 Flute Carbide Neck Radius End Mills for Hardened Mold & Die Applications



★采用大螺旋角与专门设计的圆弧头结构，最适宜加工超过60HRC的淬火钢等难加工材料。

★High helix/Enhanced corner geometry design for milling hard cutting materials up to 60HRc

EDP NO.	d1	l2	l1	d2	R
FQ-PCS 0202040	2	6	40	4	0.2
FQ-PCS 0302050	3	8	50	6	0.2
FQ-PCS 0405050	4	11	50	6	0.5
FQ-PCS 0505060	5	13	60	6	0.5
FQ-PCS 0805070	8	19	70	8	0.5
FQ-PCS 0810070	8	19	70	8	1
FQ-PCS 1010090	10	22	90	10	1
FQ-PCS 1020090	10	22	90	10	2
FQ-PCS 1210090	12	26	90	12	1
FQ-PCS 1220090	12	26	90	12	2
FQ-PCS 1615110	16	32	110	16	1.5
FQ-PCS 1630110	16	32	110	16	3
FQ-PCS 1820110	18	32	110	16	2
FQ-PCS 1830110	18	32	110	16	3
FQ-PCS 2020110	20	38	110	20	2
FQ-PCS 2030110	20	38	110	20	3
FQ-PCS 2220140	22	38	140	20	2
FQ-PCS 2230140	22	38	140	20	3
FQ-PCS 2520140	25	45	140	25	2
FQ-PCS 2530140	25	45	140	25	3

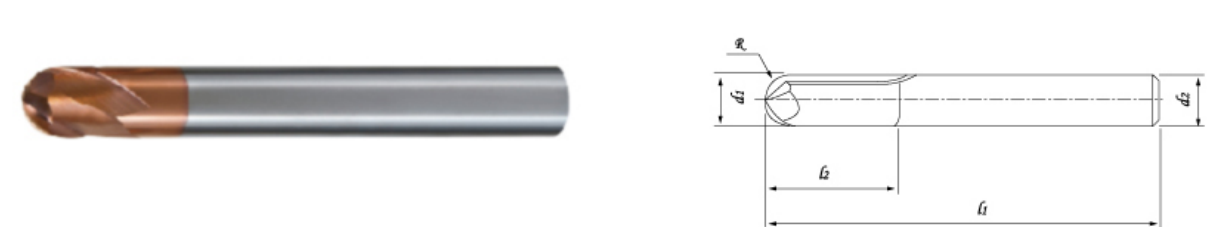
▲该系列产品可根据用户实际需要定制

▲ Additional dimensions are available upon the customers' requests.

高硬材料加工 For machining hardened Steels

高硬材料用2刃球头铣刀

2 Flute Carbide Ball End Mills for Hardened Mold & Die Applications



★能进行硬度超过HRC60的淬火材料的高速、高效率加工。

★在模具加工时，能进行淬火材料的直接刻模加工。

★Maximize your milling performance of mold grade steels up to 60HRc

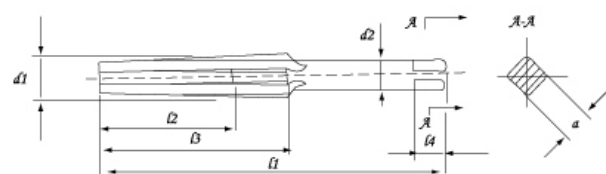
★Excellent for cutting prehardened steels of molds and dies

EDP NO.	d1	l2	l1	d2	R
FQ-PCB 0315057	3	4	57	6	1.5
FQ-PCB 0420057	4	5	57	6	2
FQ-PCB 0525057	5	6	57	6	2.5
FQ-PCB 0630057	6	7	57	6	3
FQ-PCB 0840063	8	9	63	8	4
FQ-PCB 1050072	10	11	72	10	5
FQ-PCB 1260083	12	12	83	12	6
FQ-PCB 1680092	16	16	92	16	8
FQ-PCB 20100104	20	20	104	20	10

▲该系列产品可根据用户实际需要定制

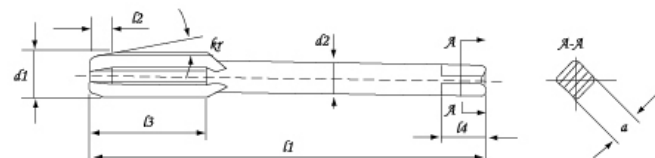
▲ Additional dimensions are available upon the customers' requests.

硬质合金螺母丝锥 Carbide Nut Taps



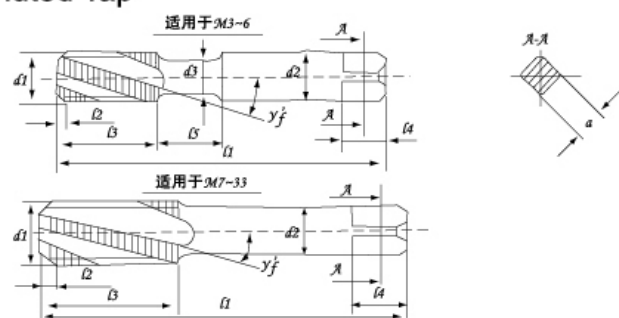
Code	d1	Pitch	d2	l2	l3	l1	Square Head	
							a	l4
M6	6.0	1.00	4.50	24	30	60	3.55	6
M8	8.0	1.25	6.30	31	36	65	5.00	8
M10	10.0	1.50	8.00	34	40	70	6.30	9
M12	12.0	1.75	9.00	40	47	80	7.10	10
M16	16.0	2.00	12.5	50	58	95	10.0	13
M24	24.0	3.00	18.0	60	72	130	14.0	18

硬质合金机用丝锥 Carbide Machine Taps



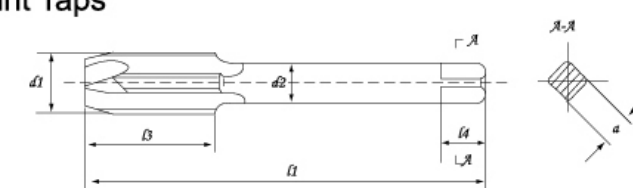
Code	d1	Pitch	d2	l3	l1	Square Head	
						a	l4
M4	4.0	0.70	3.15	13.0	53	2.50	5
M6	6.0	1.00	4.50	19.0	66	3.55	6
M8	8.0	1.25	6.30	22.0	72	5.00	8
M10	10.0	1.50	8.00	24.0	80	6.30	9
M12	12.0	1.75	9.00	29.0	89	7.10	10

硬质合金螺旋槽丝锥 Carbide Spiral Fluted Tap



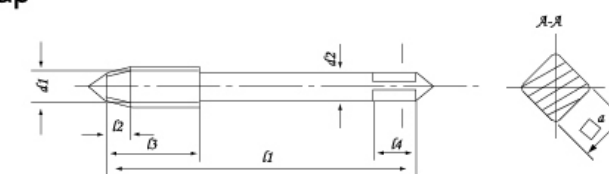
Code	d1	Pitch	d2	l3	l5	l1	d3	Square Head	
								a	l4
M4	4.0	0.70	4.00	13	8	53	2.80	3.15	6
M6	6.0	1.00	6.30	19	11	66	4.50	5.00	8
M8	8	1.25	6.3	22	-	72	-	5.0	8
M10	10	1.50	8.0	24	-	80	-	6.3	9
M12	12	1.75	9.0	29	-	89	-	7.1	10

硬质合金螺尖丝锥 Carbide Spiral Point Taps



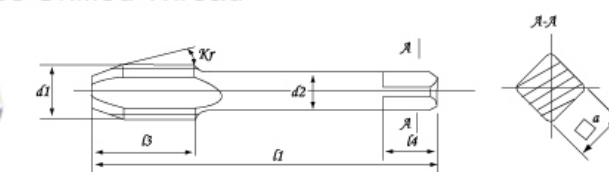
Code	d1	Pitch	d2	l3	l1	Square Head	
						a	l4
M4	4.0	0.70	3.15	13.0	53	2.50	5
M6	6.0	1.00	4.50	19.0	66	3.55	6
M8	8.0	1.25	6.30	22.0	72	5.00	8
M10	10.0	1.50	8.00	24.0	80	6.30	9
M12	12.0	1.75	9.00	29.0	89	7.10	10

硬质合金挤压丝锥 Carbide Fluteless Tap



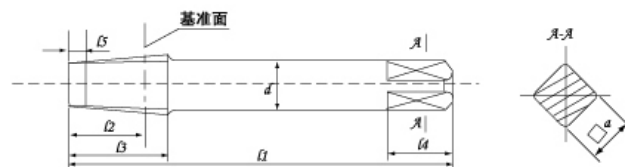
Code	d1	Pitch	d2	l3	l1	Square Head	
						a	l4
M6	6.0	1.00	4.50	19	66	3.55	6
M8	8.0	1.25	6.30	22	72	5.00	8
M10	10.0	1.50	8.00	24	80	6.30	9
M12	12.0	1.75	9.00	29	89	7.10	10

硬质合金统一螺纹丝锥 Carbide Taps Unified Thread



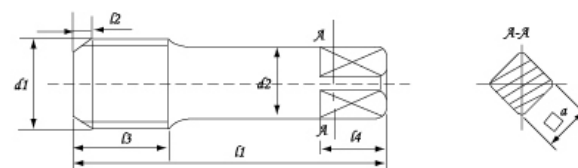
Code	Number of teeth per 25.4mm	d1	Pitch	d2	l3	l1	Square Head	
							a	l4
1/4-20UNC	20	6.350	1.270	6.48	25.40	63.50	4.85	7.94
5/16-18UNC	18	7.938	1.411	8.08	29.63	69.06	6.05	9.53
3/8-16UNC	16	9.525	1.588	9.68	31.75	74.61	7.26	11.11
7/16-14UNC	14	11.112	1.814	8.20	30.51	76.99	6.15	10.32
1/2-13UNC	13	12.700	1.954	9.32	42.07	79.38	6.99	11.11
1/4-28UNF	28	6.350	0.907	6.48	25.40	63.50	4.85	7.94
5/16-24UNF	24	7.938	1.058	8.08	29.63	69.06	6.05	9.53
3/8-24UNF	24	9.525	1.058	9.68	31.71	74.61	7.26	11.11
7/16-20UNF	20	11.112	1.270	8.20	30.51	76.99	6.15	10.32

硬质合金60° 圆锥管螺纹丝锥 Carbide 60° Taper Pipe Thread Taps



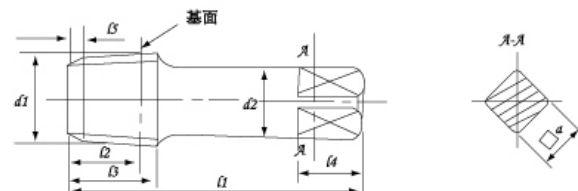
Code	Number of teeth per 25.4mm	Pitch	d	l2	l3	l1	l5	Square Head	
								a	l4
1/8	27	0.941	8.0	11	19	54	6.3	9	2.8
1/4	18	1.411	11.2	16	27	62	9	12	4.3
3/8	18	1.411	14	16	27	65	11.2	14	4.3
1/2	14	1.814	18	21	35	79	14	18	5.5

硬质合金55° 圆柱管螺纹丝锥 Carbide 55° Parallel Pipe Tap



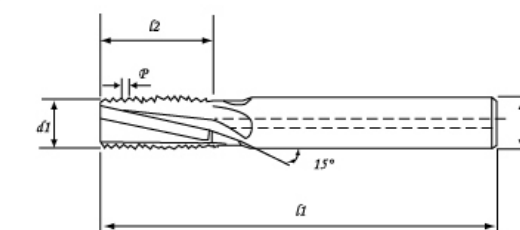
Code			d1	Number of teeth per 25.4mm	Pitch	d2	l3	l1	Square Head	
									a	l4
G1/4	G1/4D	Rp1/4	13.157	19	1.337	10.0	19	67	8.0	11
G3/8	G3/8D	Rp3/8	16.662	19	1.337	12.5	21	75	10.0	13
G1/2	G1/2D	Rp1/2	20.955	14	1.814	16.0	26	87	12.5	16

硬质合金55° 圆锥管螺纹丝锥 Carbide 55° Taper Pipe Thread Taps



Code	Number of teeth per 25.4mm	Pitch	d2	l3	l1	l2	l5	Square Head	
								a	l4
Rc1/4	19	1.337	10.0	19	67	15.0	4.0	8.0	11
Rc3/8	19	1.337	12.5	21	75	15.4	4.0	10.0	13
Rc1/2	14	1.814	16.0	26	87	20.5	5.5	12.5	15

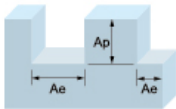
硬质合金螺纹铣刀 Carbide Thread Milling Cutter



M coarse	Pitch	M Fine	d2	d1	Flute	l2	l1
M4	0.70	>5	6.00	3.10	3	7.40	58.00
-	0.50	>5	6.00	3.80	3	10.30	58.00
-	0.75	>6	6.00	4.50	3	10.10	58.00
M5	0.80	>6	6.00	3.80	3	9.20	58.00
-	0.75	>12	10.00	10.00	4	24.40	73.00
-	1.00	>9	6.00	6.00	3	12.50	58.00
M6	1.00	>7	6.00	4.60	3	10.50	58.00
-	1.00	>10	8.00	8.00	4	16.50	64.00
M6	1.00	>6	6.00	4.60	3	14.50	58.00
-	1.00	>12	10.00	10.00	4	14.40	58.00
-	1.50	>14	10.00	10.00	4	21.80	73.00
M8	1.25	>10	6.00	6.00	3	14.40	58.00
-	1.50	>20	16.00	16.00	6	33.80	105.00
M8	1.25	>10	6.00	6.00	3	19.40	58.00
-	2.00	>26	20.00	20.00	6	41.00	105.00
M10	1.50	>12	8.00	7.80	3	17.00	64.00
M10	1.50	>12	8.00	7.80	3	24.80	64.00
M12	1.75	>12	10.00	9.00	3	20.10	73.00
M12	1.75	>12	10.00	9.00	3	28.90	73.00
M14	2.00	>15	10.00	10.00	3	27.00	73.00
M16	2.00	>17	12.00	11.80	4	27.00	84.00
M16	2.00	>17	12.00	11.80	4	39.00	105.00
-	1.50	>16	12.00	12.00	4	26.30	84.00
M20	2.50	>22	16.00	15.00	5	33.80	105.00
M20	2.50	>22	16.00	15.00	5	48.80	105.00
M24	3.00	>25	20.00	18.00	4	40.50	105.00
M24	3.00	>25	20.00	18.00	4	58.50	120.00
M27	3.00	>27	20.00	20.00	4	43.50	105.00



铣削加工参数推荐 Technical Recommendations

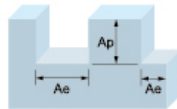


被加工材料 Material	加工示意图 Application	加工形式 Processing Type	线速度Vc (m/min)	切深 Ap×D1	切宽 Ae×D1	每齿进给 Fz(mm)	刃径 Cutting Diameter (mm)						
							3	6	8	10	12	16	20
钛合金(易加工) 纯钛、Ti6Al4V等 Titanium Alloys (Easy Cutting)、 Titanium or Ti6Al4V etc.		开槽 Slotting	50~70	≤1D	1D		0.004	0.01	0.016	0.022	0.027	0.035	0.043
		铣侧壁 Profiling	60~80	≤1.5D	≤0.5D	Fz	0.004	0.01	0.016	0.022	0.027	0.035	0.043
		精加工 Finishing	70~100	≤2D	≤0.05D		0.01	0.026	0.046	0.08	0.09	0.1	0.11
钛合金(难加工) Ti6Al6VSn, Ti7Al4Mo, Ti10Al2Fe3Al 等 Titanium Alloys (Hard Cutting)、 Ti6Al6VSn、Ti7Al4Mo、 Ti10Al2Fe3Al etc.		开槽 Slotting	50~70	≤1D	1D		0.004	0.01	0.016	0.022	0.027	0.035	0.043
		铣侧壁 Profiling	60~80	≤1.5D	≤0.5D	Fz	0.004	0.01	0.016	0.022	0.027	0.035	0.043
		精加工 Finishing	70~100	≤2D	≤0.05D		0.01	0.026	0.046	0.08	0.09	0.1	0.11

被加工材料 Material	加工示意图 Application	加工形式 Processing Type	线速度Vc (m/min)	切深 Ap×D1	切宽 Ae×D1	每齿进给 Fz(mm)	刃径 Cutting Diameter (mm)						
							3	6	8	10	12	16	20
不锈钢(易加工) 303, 416, 420F, 430F, 440F等 Stainless Steels (Easy Cutting)、 303、416、 420F、430F、 440F.etc.		开槽 Slotting	60~100	≤1D	1D		0.005	0.013	0.025	0.035	0.04	0.055	0.06
		铣侧壁 Profiling	80~140	≤1.5D	≤0.5D	Fz	0.005	0.015	0.03	0.035	0.04	0.055	0.06
		精加工 Finishing	100~160	≤2D	≤0.05D		0.01	0.03	0.05	0.08	0.1	0.11	0.125
不锈钢(难加工) 304,304L,316,316L等 Stainless Steels (Hard Cutting)、 304、304L、 316、316L.etc.		开槽 Slotting	60~80	≤1D	1D		0.004	0.01	0.018	0.024	0.029	0.04	0.05
		铣侧壁 Profiling	70~100	≤1.5D	≤0.5D	Fz	0.004	0.01	0.02	0.025	0.03	0.041	0.05
		精加工 Finishing	80~120	≤2D	≤0.05D		0.01	0.026	0.046	0.08	0.09	0.1	0.11
沉淀不锈钢(PH) 15-5PH,13-8PH, 17-4PH 等 Stainless Steels PH Series、15-5PH、 13-8PH、 17-4PH.etc.		开槽 Slotting	50~70	≤1D	1D		0.004	0.01	0.016	0.022	0.027	0.035	0.043
		铣侧壁 Profiling	60~80	≤1.5D	≤0.5D	Fz	0.004	0.01	0.017	0.024	0.028	0.04	0.045
		精加工 Finishing	70~100	≤2D	≤0.05D		0.01	0.022	0.04	0.07	0.077	0.087	0.1



铣削加工参数推荐 Technical Recommendations



被加工材料 Material	加工示意图 Application	加工形式 Processing Type	线速度Vc (m/min)	切深 Ap×D1	切宽 Ae×D1	每齿进给 Fz(mm)	刃径 Cutting Diameter (mm)						
							3	6	8	10	12	16	20
高温合金(镍、钴、铁基) Inconel 601,617, 625,Incoloy, 蒙乃尔合金400 High Temp.Alloys (Nickel Based Alloys).		开槽 Slotting	15~22	≤1D	1D		0.004	0.01	0.016	0.02	0.022	0.03	0.032
		铣侧壁 Profiling	20~26	≤1.5D	≤0.5D	Fz	0.004	0.01	0.016	0.02	0.024	0.03	0.032
		精加工 Finishing	25~35	≤2D	≤0.05D		0.01	0.025	0.04	0.06	0.08	0.09	0.1
高温合金(镍、钴、铁基) Inconel 718, 710,X-750 High Temp.Alloys (Nickel Based Alloys)		开槽 Slotting	13~20	≤1D	1D		0.002	0.006	0.01	0.011	0.015	0.018	0.022
		铣侧壁 Profiling	15~25	≤1.5D	≤0.5D	Fz	0.002	0.006	0.01	0.011	0.015	0.018	0.022
		精加工 Finishing	20~30	≤2D	≤0.05D		0.01	0.015	0.03	0.05	0.06	0.065	0.075

被加工材料 Material	加工示意图 Application	加工形式 Processing Type	线速度Vc (m/min)	切深 Ap×D1	切宽 Ae×D1	每齿进给 Fz(mm)	刃径 Cutting Diameter (mm)						
							3	6	8	10	12	16	20
铝合金 2024,5052, 6073,7075,5086 Aluminum Alloys		开槽 Slotting	300~500	≤1D	1D		0.02	0.045	0.07	0.11	0.125	0.14	0.16
		铣侧壁 Profiling	400~600	≤1.5D	≤0.5D	Fz	0.02	0.05	0.07	0.11	0.125	0.14	0.16
		精加工 Finishing	600~800	≤2D	≤0.05D		0.04	0.1	0.15	0.22	0.24	0.3	0.4
高硅铝合金 A-390,A-392, B-390 Aluminum Alloys-High Silicon		开槽 Slotting	100~200	≤1D	1D		0.02	0.045	0.07	0.11	0.125	0.14	0.16
		铣侧壁 Profiling	150~250	≤1.5D	≤0.5D	Fz	0.02	0.045	0.07	0.011	0.125	0.14	0.16
		精加工 Finishing	200~400	≤2D	≤0.05D		0.04	0.1	0.15	0.22	0.24	0.3	0.4

被加工材料 Material	加工示意图 Application	加工形式 Processing Type	线速度Vc (m/min)	切深 Ap×D1	切宽 Ae×D1	每齿进给 Fz(mm)	刃径 Cutting Diameter (mm)						
							3	6	8	10	12	16	20
淬硬钢(HRC65 以下) Heat Treatable Steel (Up to HRC65)		开槽 Slotting	15~22	≤0.2D	1D		0.01	0.02	0.025	0.033	0.043	0.053	0.063
		铣侧壁 Profiling	18~30	≤1.5D	≤0.1D	Fz	0.012	0.025	0.035	0.045	0.055	0.075	0.8
		精加工 Finishing	50~80	≤1.5D	≤0.04D		0.02	0.03	0.045	0.055	0.075	0.085	0.1