



广东优能特五金科技有限公司

Guangdong UNT Cutting Tools Co., Ltd.



专注 · 专业

Professional Manufacture

End Mills

For Titanium alloy & Stainless Steel

EMD 不锈钢专用铣刀

- Stainless steel, titanium alloy, nickel-based alloy and other heat-resistant alloys difficult to process materials
- Machinable hardness \leq HRC40

- 不锈钢、钛合金、镍基合金等耐热合金难加工材料
- 可加工硬度 \leq HRC40

www.unt-tools.com

INTRODUCTION

公司简介

广东优能特五金科技有限公司

优能特是一家CNC铣削刀具的大型制造商。

优能特在中国东莞拥有一个9,000平方米的工业园区，进口了35台澳大利亚ANCA数控磨床，5台Walter数控磨床、55个工程师和35个销售员。

我们建立了ISO9001质量控制体系，使用优质稳定的德国硬质合金棒，SWISS SOERLIKON新涂层技术以提高抗氧化性和热硬度。我们进口德国ZOLLER数字测量仪器等精密测试设备，以确保稳定的尺寸精度和优良的表面质量。

我们已经成为知名品牌工具的OEM合作伙伴15年，我们的仓库1500 SQM拥有数百万库存，可在24小时内发货给立铣刀。

优能特切削刀具已分布在欧洲，亚洲，北美和许多其他城市，热销产品包括高性能硬质合金立铣刀EMC /X5070系列，HRC55硬质合金立铣刀，EMF金刚石涂层刀具，螺纹和丝锥，冷却液钻头，超微型立铣刀，用于不锈钢的EMD等，以及各种定制尺寸的CNC铣削工具。

我们拥有提供全方位服务的设计和工程人员，以及Markets销售人员，可以根据您的特定规格构建自定义工具的多层次结构。

我们的目标是帮助每个客户获得最大的利益，建立世界一流的优质切削刀具品牌。

选择好的工具，选择“优能特”精密工具！

Guangdong UNT Cutting Tools Co., Ltd.

UNT' is a big manufacturer of CNC Milling tools.

UNT' owned an industrial park 9,000 SQM in Dongguan China, imported Australian ANCA CNC grinding machines 35 sets, Walter CNC Cutter Grinders 5 sets, and 55 engineer design teams and 30 salesmen.

We established an ISO9001 quality control system, use high-quality and stable German Carbide Rods, SWISS OERLIKON new coating technologies, to improve the oxidation resistance and hot hardness. We import Germany ZOLLER Digital Measuring Instruments, such as precision testing equipment, to ensure stable dimensional accuracy and fine surface quality.

We have been an OEM Partner for Well-known brand tools for 15 years, Our warehouse 1500 SQM with millions of in-stock, ready to shipping end mills in 24 hours.

UNT Cutting tools have been distributed in Europe, Asia, North America, and many other cities, Hot sales products include High-performance Carbide end mills EMC/X5070 series, HRC55 Carbide end mills, EMF Diamond Coated Tools, Thread & tap, Coolant drills, Super-micro end mills, EMD for Stainless steels, etc, and all kinds of custom-sized CNC Milling tools.

We have a full-service design and engineering staff, and Markets sales to build a multilevel of variations of custom tools to your specific specifications.

Our aim is to help every customer achieve maximum benefits, to build a world-class quality cutting tool brand.

Choose the good Tools, Choose "UNT" Precision Tools.



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UNT-EMD Series Product Features:

- Stable Cutting Edge - With 4/5 Flute design and larger core diameter for high-speed machining
- Differential Helix (DH) - To reduce cutting force & improve machining performance
- Corner Radius (CR) - For edge protection
- One tool for both roughing and finishing process
- Excellent in machining difficult material such as high Ni, Co Alloy, Titanium & SUS of up to 35HRC

UNT-EMD系列产品功能:

- ★ 稳定的切削刃角-具有4/5凹槽设计和更大的铁芯直径, 可进行高速加工
- ★ 不等分螺旋 (DH) -降低切削力并提高加工性能
- ★ 圆角半径 (CR) -用于边缘保护
- ★ 同时用于粗加工和精加工的工具
- ★ 出色地加工难加工的材料, 例如高达35HRC的高镍、钴合金, 钛和不锈钢



Unequal helix 5/6 Flute Milling Cutter

IMPROVED EFFICIENCY FOR DEEP SLOT MILLING

EMD03. 04. .05.06 Revolutionary performance

EMD03.04.05.06 创新型的工具

Latest technology high performance end mills for titanium, stainless steel and difficult-to-cut material.

适用于钛，不锈钢和难切削材料的最新技术高性能立铣刀。

Unequal Helix-Angle design 不等分的螺旋角设计

Chatter and vibration are controlled even during deep shoulder machining.

在深肩加工中，也能控制颤振和振动

Corner Radius (Emphasis on Edge Sharpness)

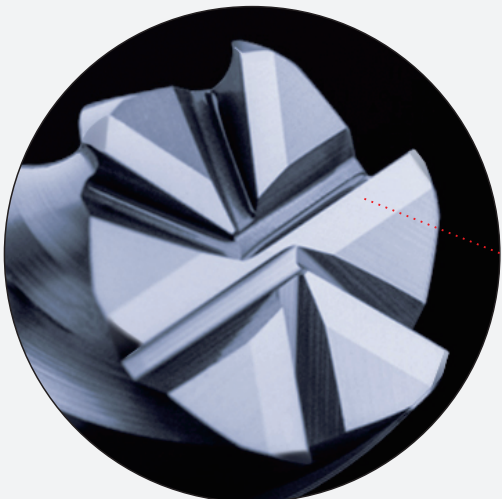
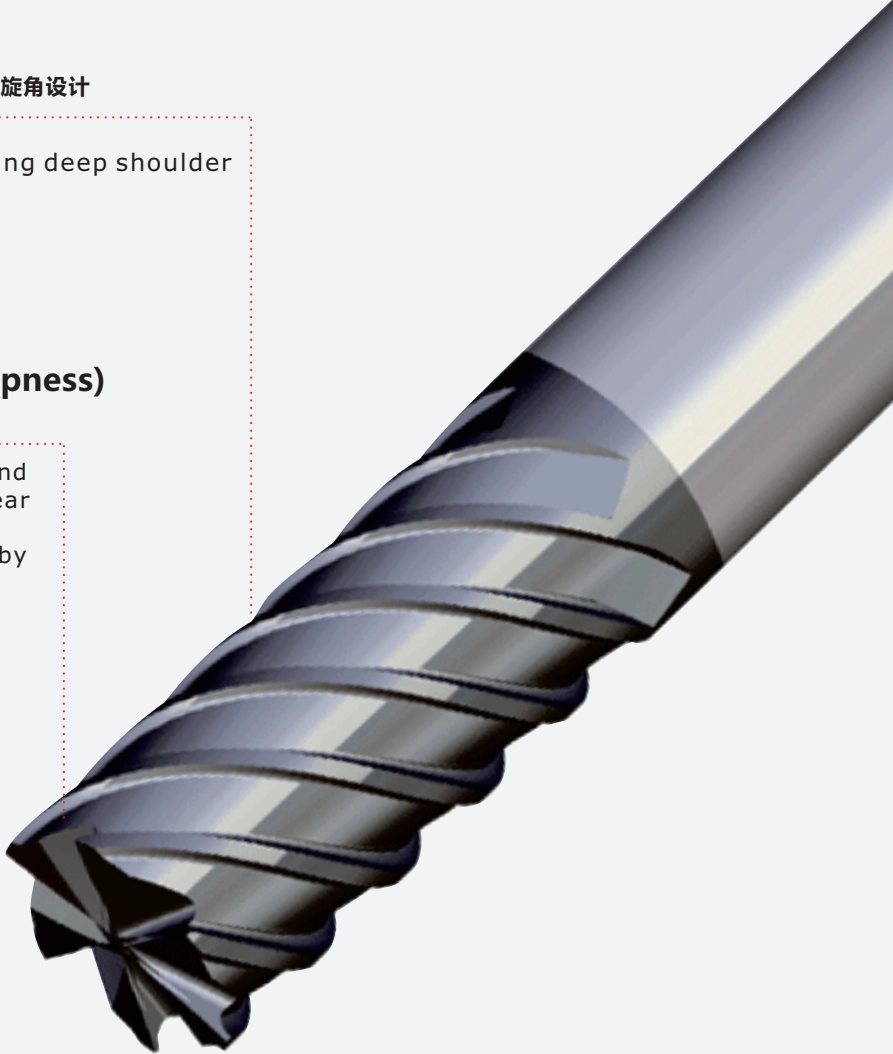
半圆角（边缘角线更清晰）

The seamless blend between the corner radius and peripheral cutting edge suppresses abnormal wear and provides a stable tool life.

(Non-standard corner radius sizes are available by special order.)

圆角半径和周边的切削刃之间的无缝整合可抑制异常磨损，提供稳定的刀具寿命。

（非标准尺寸可进行订购。）



Optimum Flute 优化刃长

5/6 Flute geometry suitable for deep slotting and effective chip evacuation. Sharp cutting edges provide long tool life when machining titanium alloys.

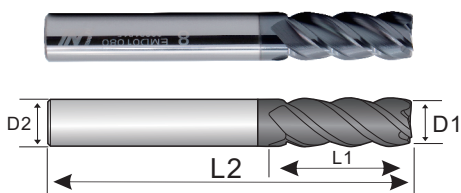
5/6刃刀具设计适合深槽加工和有效排屑。切削钛合金时，锋利的切削刃可延长刀具寿命。

EMD 不锈钢专用钨钢四刃平底铣刀

Carbide, Square 4 Flute for Stainless steels - Economical Type

- ★ 设计用于加工低硬度材料 (≤HRC35), 不锈钢, 合金钢, 碳素钢, 预硬化钢等低硬度材料。
- ★ 4D刃部与灵活的螺旋角设计 (约35°), 可以改善插削加工和粗加工。

- Designed to low hardness materials (under HRc35), stainless steel, alloy steel, carbon steel, prehardened steel, etc low hardness materials
- 4D flute, variable helix design (Approx 35°) for improved slotting and roughing.



加工材料 Material Description											
碳钢	合金钢	预硬钢	硬化钢	高硬钢	铜	石墨	铸铁	铝	不锈钢	钛	镍钴铁合金
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels	High Hardened steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
-HB225	+HB225-325	-HRc30-40	HRc40-45	HRc45-55	HRc55-70						
	○				○		○	○	○	○	○

◎ 非常适合 ○ 适合

EMD01 标准型 SERIES

Unit:mm

优能特订货代码	刃径	柄径	刃长	全长	刃数
UNT EDP NO.	Mill Dia D1	Shank Dia D2	Flute length L1	O. A. L. L2	Flutes
EMD01010	1.0	4	3	50	4
EMD01015	1.5	4	4	50	4
EMD01020	2.0	4	6	50	4
EMD01025	2.5	4	6	50	4
EMD01030	3.0	4	8	50	4
EMD01040	4.0	4	11	50	4
EMD010306	3.0	6	8	50	4
EMD010406	4.0	6	11	50	4
EMD01050	5.0	6	13	50	4
EMD01060	6.0	6	16	50	4
EMD01070	7.0	8	20	60	4
EMD01080	8.0	8	20	60	4
EMD01090	9.0	10	25	75	4
EMD01100	10.0	10	25	75	4
EMD01120	12.0	12	30	75	4
EMD01140	14.0	14	30	90	4
EMD01160	16.0	16	40	100	4
EMD01200	20.0	20	40	100	4

以上产品未列明细的非标规格尺寸或产品参数, 可根据客户需求订制作。
Non-standard size or product parameters not listed above, can be customized according to customer needs.

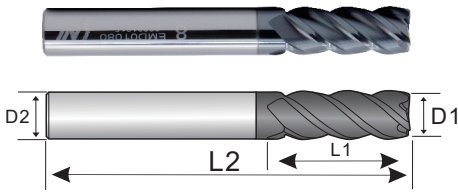
MILL DIA. TOLERANCE (mm) 刃径公差 (mm)	SHANK DIA. TOLERANCE 柄径公差
0 -0.030	H6

EMD 不锈钢专用四刃平底铣刀 精加工

Carbide, Square 4 Flute for Titanium & Stainless - High Precision Type

- ★ 专为高精度铣削而设计，具有更好的工件光洁度。
- ★ 在加工钛合金，不锈钢，合金钢等低硬度材料 (≤HRC35) 时具有出色的性能。
- ★ 新涂层优化了的插削加工和精加工。

- Designed for high Precision Milling, with better workpieces finishes.
- Excellent performance when cutting Titanium, stainless steel, alloy steel etc low hardness materials (under Hrc35).
- New Coating offer superior slotting and finishing.



加工材料 Material Description													
碳钢	合金钢	预硬钢	硬化钢		高硬钢	铜	石墨	铸铁	铝	不锈钢	钛	镍钴合金	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels	HRc40-45	HRc45-55	High Hardened steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
	-HB225	-HRc25-325											

● 非常适合 ○ 适合

EMD02 耐用型 SERIES

优能特订货代码 UNT EDP NO.	刃径 Mill Dia D1	柄径 Shank Dia D2	刃长 Flute length L1	全长 O. A. L.		刃数 Flutes
				L1	L2	
EMD02010	1.0	4	3	50	4	
EMD02015	1.5	4	4	50	4	
EMD02020	2.0	4	6	50	4	
EMD02025	2.5	4	6	50	4	
EMD02030	3.0	4	8	50	4	
EMD02040	4.0	4	11	50	4	
EMD020306	3.0	6	8	50	4	
EMD020406	4.0	6	11	50	4	
EMD02050	5.0	6	13	50	4	
EMD02060	6.0	6	16	50	4	
EMD02070	7.0	8	20	60	4	
EMD02080	8.0	8	20	60	4	
EMD02090	9.0	10	25	75	4	
EMD02100	10.0	10	25	75	4	
EMD02120	12.0	12	30	75	4	
EMD02140	14.0	14	30	90	4	
EMD02160	16.0	16	40	100	4	
EMD02200	20.0	20	40	100	4	

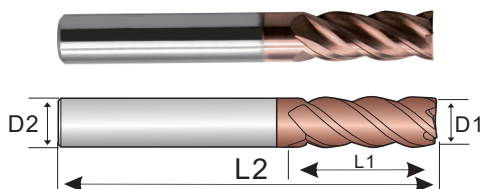
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MILL DIA. TOLERANCE (mm) 刃径公差 (mm)	SHANK DIA. TOLERANCE 柄径公差
0 -0.030	H6

EMD 钛合金专用不等分四刃平底铣刀 Carbide, 4 Flute, Unequal Reed Type for Titanium & Stainless

- ★ 高性能设计—不等齿距和不规则的螺旋角，确保加工难切削材料的稳定性和高效率，适用于粗加工和精加工。
- ★ 出色地加工高镍、钴合金、钛合金、不锈钢等,如40HRC难加工的材料。
- ★ 适用于高速机床，深切及金属去除。

- HIGH PERFORMANCE - Unequal flute spacing and irregular helix flutes ensure stable machining of difficult-to-cut materials and higher efficiency, suitable for Roughing and Finishing.
- Excellent in machining difficult material such as high Ni, Co Alloy, Titanium & SUS of up to 40HRC.
- Fit for High-speed machine, deeper Cuts and Metal removal rates.



加工材料 Material Description											
碳钢	合金钢	预硬钢	硬化钢	高硬钢	铜	石墨	铸铁	铝	不锈钢	钛	镍钴钛合金
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels	High Hardened steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
-HB225	-HB225-325	-HRc30-40	HRc40-45	HRc45-55 HRc55-70							
	○				○		○	○	○	○	○

◎ 非常适合 ○ 适合

EMD03 SERIES

Unit:mm					
优能特订货代码	刃径	柄径	刃长	全长	刃数
UNT EDP NO.	Mill Dia D1	Shank Dia D2	Flute length L1	O. A. L. L2	Flutes
EMD03030	3.0	4	8	50	4
EMD03040	4.0	4	11	50	4
EMD030306	3.0	6	8	50	4
EMD030406	4.0	6	11	50	4
EMD03050	5.0	6	13	50	4
EMD03060	6.0	6	16	50	4
EMD03080	8.0	8	20	60	4
EMD03100	10.0	10	25	75	4
EMD03120	12.0	12	30	75	4
EMD03160	16.0	16	45	100	4
EMD03200	20.0	20	45	100	4

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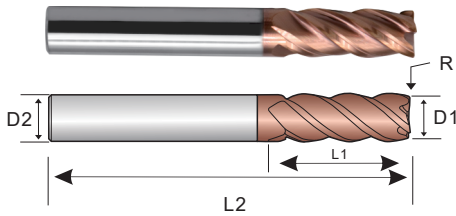
MILL DIA. TOLERANCE (mm) 刃径公差 (mm)	SHANK DIA. TOLERANCE 柄径公差
0 -0.030	H6

EMD 不锈钢专用不等分四刃圆鼻铣刀

Carbide, 4 Flute Corner Radius, for Titanium & Stainless

- ★ 不等螺旋角 (DH), 减少切削阻力, 提高加工性能。
- ★ 拐角半径 (CR) -用于边角保护, 提供稳定的刀具寿命。
- ★ 出色地加工高镍、钴合金、钛合金、不锈钢等,如40HRC难加工的材料。
- ★ 适用于高速机床, 粗加工和精加工的处理。

- Differential Helix (DH) - To reduce cutting force & improve machining performance.
- Corner Radius (CR) - For edge protection and provides a stable tool life.
- Excellent in machining difficult material such as high Ni, Co Alloy, Titanium & SUS of up to 40HRC.
- Fit for High-speed machine, One tool for both roughing and finishing process.



加工材料 Material Description											
碳钢	合金钢	预硬钢	硬化钢	高硬钢	铜	石墨	铸铁	铝	不锈钢	钛	镍钴合金
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels	High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
-HB225	-HB225-325	-HRc30-40	HRc40-45	HRc45-55	HRc55-70						
	○				○		○	○	○	○	○

○ 非常适合 ○ 适合

EMD04 SERIES

Unit:mm

优能特订货代码	R角	刃径	柄径	刃长	全长	刃数
UNT EDP NO.	Corner radius R	Mill Dia D1	Shank Dia D2	Flute length L1	O. A. L. L2	Flutes
EMD040101	0.1	1.0	4	3	50	4
EMD040102	0.2	1.0	4	3	50	4
EMD040201	0.1	2.0	4	6	50	4
EMD040202	0.2	2.0	4	6	50	4
EMD040205	0.5	2.0	4	6	50	4
EMD040302	0.2	3.0	4	8	50	4
EMD040303	0.3	3.0	4	8	50	4
EMD040305	0.5	3.0	4	8	50	4
EMD040402	0.2	4.0	4	11	50	4
EMD040403	0.3	4.0	4	11	50	4
EMD040405	0.5	4.0	4	11	50	4
EMD040605	0.5	6.0	6	16	50	4
EMD040610	1.0	6.0	6	16	50	4
EMD040805	0.5	8.0	8	20	60	4
EMD040810	1.0	8.0	8	20	60	4
EMD041005	0.5	10.0	10	25	75	4
EMD041010	1.0	10.0	10	25	75	4
EMD041205	0.5	12.0	12	30	75	4
EMD041210	1.0	12.0	12	30	75	4
EMD041605	0.5	16.0	16	45	100	4
EMD041610	1.0	16.0	16	45	100	4
EMD041620	2.0	16.0	16	45	100	4
EMD042010	1.0	20.0	20	45	100	4
EMD042020	2.0	20.0	20	45	100	4

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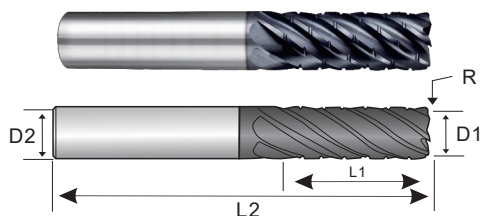
MILL DIA. TOLERANCE (mm) 刃径公差 (mm)	SHANK DIA. TOLERANCE 柄径公差
0 -0.030	H6

EMD 多功能高速加工五刃圆角铣刀

Carbide, 5 Flute Corner Radius High-speed milling

- ★ 适用于高速铣削，在高标准的生产条件下，提供更优质的光洁度。
- ★ 拐角半径 (CR) -用于边角保护，提供稳定的刀具寿命。
- ★ 出色地加工高镍、钴合金、钛合金、不锈钢等,如40HRC难加工的材料。
- ★ 5刃带圆角和断屑槽 (标准和加长型, 英制或公制可选)

- Suitable for high-speed milling to produce good finishes at high production conditions.
- Corner Radius (CR) - For edge protection and provides a stable tool life.
- Excellent in machining difficult material such as high Ni, Co Alloy, Titanium & SUS of up to 40HRC.
- 5-flute with corner chamfer and chipbreakers (std and long, inch or metric)



加工材料 Material Description											
碳钢	合金钢	预硬钢	硬化钢	高硬钢	铜	石墨	铸铁	铝	不锈钢	钛	镍钴合金
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels	High Hardened steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
-HB225	-HB225-325	-HRc30-40	HRc40-45	HRc45-55 HRc55-70							
	○				○		○	○	○	○	○

◎ 非常适合 ○ 适合

EMD05 SERIES

Unit:mm

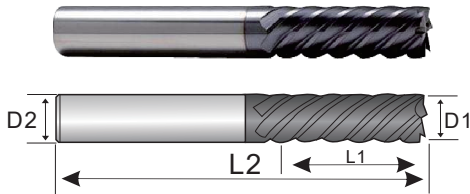
优能特订货代码	R角	刃径	柄径	刃长	全长	刃数
UNT EDP NO.	Corner radius R	Mill Dia D1	Shank Dia D2	Flute length L1	O. A. L. L2	Flutes
EMD050805	0.5	8.0	8	12	60	4
EMD050810	1.0	8.0	8	16	60	4
EMD051005	0.5	10.0	10	25	75	4
EMD051010	1.0	10.0	10	25	75	4
EMD051605	0.5	16.0	16	45	100	5
EMD051610	1.0	16.0	16	45	100	5
EMD051620	2.0	16.0	16	45	100	5
EMD052010	1.0	20.0	20	45	100	5
EMD052020	2.0	20.0	20	45	100	5
EMD052030	3.0	20.0	25	50	100	5
EMD052510	1.0	25.0	25	50	120	5
EMD052520	2.0	25.0	25	50	120	5
EMD052530	3.0	25.0	25	50	120	5

EMD 多功能高速加工五刃平底铣刀

Carbide, 6 flute end mills for High-speed Machining

- ★ 稳定的切削刃-5/6槽设计, 为高速加工时, 提供更大的切角直径。
- ★ 出色地加工高镍、钴合金、钛合金、不锈钢等,如40HRC难加工的材料。
- ★ 适用粗加工和精加工。

- Stable Cutting Edge - With 5/6 Flute design and larger core diameter for high-speed machining.
- Excellent in machining difficult material such as high Ni, Co Alloy, Titanium & SUS of up to 40HRC.
- One tool for both roughing and finishing process.



加工材料 Material Description											
碳钢	合金钢	预硬钢	硬化钢	高硬钢	铜	石墨	铸铁	铝	不锈钢	钛	镍钴合金
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels	High Hardened steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
-HB225	-HB225-325	-HRc30-40	HRc40-45	HRc45-55	HRc55-70						
	○				○		○	○	○	○	○

◎ 非常适合 ○ 适合

EMD06 SERIES

Unit:mm

优能特订货代码	刃径	柄径	刃长	全长	刃数
UNT EDP NO.	Mill Dia D1	Shank Dia D2	Flute length L1	O. A. L. L2	Flutes
EMD06060	6.0	6	13	60	5
EMD06070	7.0	8	16	60	5
EMD06080	8.0	8	19	60	5
EMD06090	9.0	10	19	75	5
EMD06100	10.0	10	22	75	5
EMD06120	12.0	12	26	75	5
EMD06140	14.0	14	26	80	5
EMD06160	16.0	16	32	80	5
EMD06180	18.0	18	32	90	5
EMD06200	20.0	20	38	100	5
EMD06250	25.0	25	44	100	5

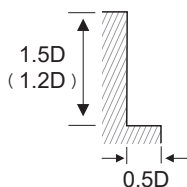
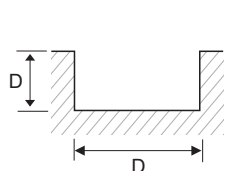
以上产品未列明细的非标规格尺寸或产品参数, 可根据客户需求定制制作。
Non-standard size or product parameters not listed above, can be customized according to customer needs.

MILL DIA. TOLERANCE (mm) 刃径公差 (mm)	SHANK DIA. TOLERANCE 柄径公差
0 -0.030	H6

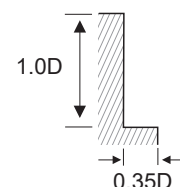
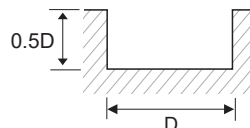
EMD01/02 SERIES

材质	合金钢,铸铁		合金钢,铸铁		不锈钢,300SERIES		不锈钢,400SERIES		钛		铬镍铁合金	
MATERIAL	ALLOY STEEL CAST IRON		ALLOY STEEL CAST IRON		STAINLESS STEEL 300SERIES		STAINLESS STEEL 400SERIES		TITANIUM		INCONEL	
HARDNESS	~HRc 30		~Hrc 30~HRc45									
STRENGTH	1000N/mm ²		1000N/mm ² ~1300N/mm ²									
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
6	6060	390	4240	350	4590	320	6420	320	4590	320	1220	90
8	4545	500	3180	350	3440	390	4810	420	2950	420	910	110
10	4010	620	2800	430	2750	530	3850	530	2750	530	730	140
12	3340	630	2340	440	2290	510	3210	510	2290	410	610	135
14	2860	560	2000	390	1960	470	2750	470	1960	470	520	130
16	2510	530	1755	370	1720	430	2400	430	1720	430	455	120
18	2230	530	1560	370	1530	430	2140	430	1530	430	405	110
20	2000	520	1400	365	1370	420	1930	420	1370	420	365	110
25	1600	405	1120	280	1090	340	1540	340	1090	340	290	100

ALLOY STEEL/CAST IRON/STAINLESS STEEL 300, 400SERIES /TITANIUM
合金钢铸铁/300,400系列不锈钢钛



INCONEL
铬镍铁合金



1.2X D AXial cutting depth should be applied for Short length series DIA over 8mm
1.2XD轴向切削深度应用于短系列刃径超过8mm的产品

RPM= rev /min.转速/分钟
FEED=mm/min.(进给量)
D= DIAMETER(刃部直径)

- **Or Machining of Stainless Steel and Titanium**
- **Unique Design to Eliminates Vibration**

- 用于加工不锈钢和钛
- 消除振动的独特设计



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