



青岛万基万工具有限公司
Qingdao YG-1 Tool Co.,Ltd

地址:胶南市青岛临港经济开发区北京路北端
电话:+86-532-85197366
传真:+86-532-85197959
E-mail:qyg@qyg1.com
<http://www.qyg1.com>

青岛优先出锐工具有限公司
Qingdao New Century Tool Co.,Ltd

地址:青岛保税区纽约路3号
电话:+86-532-86769779
传真:+86-532-86769105
E-mail: qnct@qnct.cn
<http://www.qnct.cn>

YG-1 总公司

大韩民国仁川市富平区清川洞68
邮编 403-030
电话: +82-32-526-0909
传真: +82-32-526-4373
E-mail: yg1@yg1.co.kr
<http://www.yg1.co.kr>

END MILLS

2009 / 2010

NEW CENTURY

NEW CENTURY

END MILLS

2009 / 2010 (Carbide End Mills Series)

- ALPHA-G (多功能用)
- ALPHA-PLUS (高硬度用)
- ALPHA-SUS (不锈钢用)
- ALPHA-ALU (铝用)
- ALPHA-DIAMOND (石墨用)



青岛万基万工具有限公司
<http://www.qyg1.com>





北京中水卓越认证有限公司

Beijing Zhongshui Brilliant Certification Co.,Ltd

CERTIFICATE OF CONFORMITY OF QUALITY
MANAGEMENT SYSTEM CERTIFICATION

NO: 08907Q0747R1M

This is to certify that the quality management system of

QINGDAO NEW CENTURY TOOL CO.,LTD

NO.3 NEW YORK ROAD QINGDAO FREE TRADE ZONE CHINA

PC: 266555

is in conformity with

GB/T19001-2000 idt ISO9001:2000 Standard

This system is valid for the

PRODUCING OF THE DRILL、ENDMILL、CUTTER AND TAP

Date of issue:2007-12-26

Term of validity of this certificate:from 2007-12-26 to 2010-12-25 inclusive

The certificate owner should accept the surveillance audit

at 6th,16th and 26th month since the date of issue

Approval of the first
surveillance audit
Zhongshui Brilliant
Certification Co.,Ltd.

Approval of the second
surveillance audit
Zhongshui Brilliant
Certification Co.,Ltd.

Approval of the third
surveillance audit
Zhongshui Brilliant
Certification Co.,Ltd.



Representative of The Company



MANAGEMENT SYSTEM

CNAS C089-Q

Further to the certificate applicability, please enquire to the organization, contact 010-82235010 or visit www.zsbc.net for enquiry



北京中水卓越认证有限公司

Beijing Zhongshui Brilliant Certification Co.,Ltd

质量管理体系认证证书

NO: 08907Q0747R1M

兹 证 明

青岛优先出锐工具有限公司

青岛保税区纽约路3号

邮编: 266555

建立的质量管理体系符合

质量管理体系标准

GB/T19001-2000 idt ISO9001:2000 标准

通过的认证范围如下

钻头、铣刀、盘铣刀、丝锥系列产品的生产

颁证日期: 2007年12月26日

本证书有效期自2007年12月26日始(第6-16-26个月监督审核合格)至2010年12月25日

第一次监督合格标志
(贴花)

第二次监督合格标志
(贴花)

第三次监督合格标志
(贴花)



公司代表(签名)



体系认证

CNAS C089-Q

证书时效及适用性可向获证组织查询, 或电话: 010-82235010 网址: WWW.ZSBC.NET 向认证机构查询

青岛优先出锐工具有限公司简介

青岛优先出锐工具有限公司是2001年11月5日由韩国(株)YG-1公司在青岛保税区注册成立的独资企业,总投资额为2400万美元,占地73260平方米,主要生产铣刀,钻头,丝锥等精密金属切削工具。(株)YG-1公司是在韩国上市的最大的切削工具生产企业,公司产品出口世界80多个国家,年出口额达到一亿美元。

工业用切削工具行业是汽车工业,电子工业,模具工业,医学,光学及航天航空宇宙工业零部件加工必备的消耗性切削工具,是推动机械精密加工的支柱产业。公司自投产以来,以YG-1“接受挑战”的精神,做到质量第一,向客户提供最优质的产品,极大地满足客户的需求。公司在丰富的经验和技术支持下,平稳,迅速发展,并在切削工具行业内逐步壮大,展现了广阔的发展前景。

2003年03月 钻头工厂投产(建筑面积4600平方米)达到月产壹百万支钻头的生产能力;

2003年09月 铣刀工厂投产,具备了月产伍拾万支铣刀的生产能力;

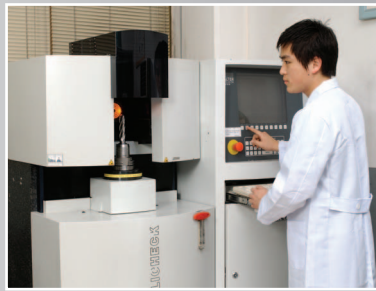
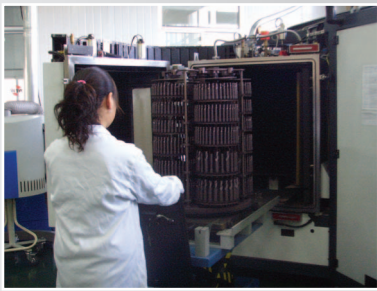
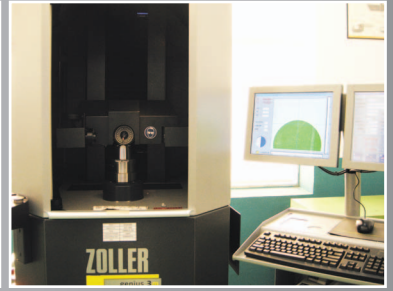
2005年12月 福利馆建成并向员工免费开放,是集大礼堂,理发室,健身房,阅览室,网吧,休息室,桑拿浴等为一体的综合性福利设施;

2006年04月 二期建设竣工并投产(建筑面积17200平方米),增设丝锥生产线,非标生产线,再研磨生产线;

2007年10月 综合办公大楼竣工并投入使用。

基于多年的技术,在精密切削工具行业的成熟经验和影响力,青岛优先出锐工具有限公司在发展过程中迅速提高,规模不断扩大,不断开拓创新,公司奉行追求完美无暇的产品,时刻以客户的立场为其着想,迅速正确地对待客户的要求,以平等,公正,诚实的态度,为全球客户提供无微不至的服务。





韩国(株)YG-1公司大事记

1981	12	公司成立
1982	10	仁川第一工厂竣工
1983	2	开始对美出口(铣刀)
1985	12	设立美国办事处(芝加哥)
1986	8	更改法人(养志园工具株式会社)
1989	12	获世界一流产品评比大奖(KOTRA)
1991	12	仁川第二工厂竣工
1992	5	建立美国的本地法人(PCT)
1993	6	获得KS标志许可(钻头)
1995	8	安山工厂竣工
1996	8	光州工厂竣工
1996	10	建立英国的本地法人(Europa Tool)
1997	3	获EM标志(攻立技术品质院)
1997	4	设立德国办事处
1997	8	在韩国证券市场 KOSDAQ上市
1998	2	被评为最佳出口中小企业(中小企业振兴工团)
1999	7	开办工具技术研究所
1999	8	被评为品质竞争力最优50强企业
1999	10	变更公司名为YG-1株式会社
1999	11	被评为一级精密技术企业(产业技术试验院)
1999	12	获得ISO9001认证(TUV Cert)
2000	2	被评为技术竞争力优秀企业(中小企业厅)
2000	7	被评为品质竞争力优秀企业(产业资源部)
2000	10	被评为大韩民国优秀制造工厂(韩国能率协会)
2001	7	获得ISO14001认证(TUV Cert)
2001	10	建立中国本地法人(New Century Tool)
2001	11	获零部件, 原辅料出口龙头企业认证(产业资源部)
2001	11	获世界一流商品认证(产业资源部)
2002	4	建立法国本地法人(YG-1 France SAS)
2002	7	被评为品质竞争力优秀企业50强(产业资源部)
2002	9	建立印度的本地法人
2003	10	被评为品质竞争力优秀企业50强(产业资源部)
2004	7	总公司新建
2005	9	YG-1研发中心新建
2006	5	建立美国本地法人(Regal Cutting Tools)
2006	11	建立英国本地法人(Clarkson Osborn Internation Co., Ltd.)
2006	11	设立中国本地法人(Qingdao YG-1 Tool)
2007	7	设立巴西本地法人(YG-1 Latin America)
2007	8	设立日本本地法人(YG-1 Japan)
2007	11	设立印度PUNE本地法人(YG-1 Industries India Pvt.Ltd.)

获奖经历

1991	11	产业表彰
1992	6	风险企业奖(优秀奖)
1994	12	获产业类'94优秀韩国人大奖(MBC)
1995	11	于贸易之日被授予1,000万美元的出口纪念塔
1996	3	获新韩国人奖(仁川市长)
1996	3	获世界最优秀青年企业家奖(Worldcom Group)
1996	7	获中小企业人奖(通商产业部)
1997	5	获银塔产业勋章
1998	5	获贸易振兴大奖(韩国贸易学会)
2000	3	于纳税之日获国家税务厅厅长表彰
2000	7	获优秀出口商品大奖(韩国贸易协会)
2000	11	于贸易之日被授予3,000万美元的出口纪念塔
2000	12	获出口领域优秀企业表彰(中小企业厅)
2001	11	于贸易之日获总统奖
2004	11	于贸易之日获5000万美元的出口纪念塔
2005	9	受总理表彰
2006	11	于贸易之日被授予7000万美元的出口纪念塔
2007	10	优秀生产资料开发 优秀企业表彰

HISTORY



○ ALPHA-G

- General Purpose Carbide Endmills
- For Machining of Carbon Steel, Tool Steel, Alloy Steel and Stainless Steel
- Applicable in High Speed Maching, Wet and Dry Cutting Condition
- 多功能硬质合金铣刀
- 用于加工碳钢, 工具钢, 合金钢和不锈钢
- 适合于高速加工, 湿式和干式的切削条件



● ALPHA-PLUS

- High Grade Carbide Endmills
- For Machining of Hardened Mold, Die and Alloy Steels up to HRC65
- For High Speed Maching in Dry Cutting Condition
- 高级硬质合金铣刀
- 用于加工硬度高达HRC65的铸型, 冲模和合金钢
- 适合于干式切削条件下的高速加工



● ALPHA-SUS

- For 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



● ALPHA-ALU
























- For Machining of Aluminium with Good Surface Finishes
- Unique Design to Improve Surface Finishes
- 用于加工铝, 并能得到良好的表面照度
- 提高表面照度的独特设计



● ALPHA-DIAMOND

- For Machining Graphite and Non-Ferrous Materials
- Ultra Fine Film of Diamond Coating
- 用于加工石墨和非铁制材料
- 极其优秀的金刚石涂层

INDEX

BRAND 商标	ITEM 型号	MODEL 外形	DESCRIPTION 描述
ALPHA-G	EMB95		Carbide 2Flute 35 Helix Short 硬质合金, 2刃, 35° 螺旋角, 短型
	EMB96		Carbide 4Flute 35 Helix Short 硬质合金, 4刃, 35° 螺旋角, 短型
	EMB97		Carbide 2Flute Ball Short 硬质合金, 2刃, 球头, 短型
	EMB98		Carbide 4&6Flute 45 Helix, Short 硬质合金, 4&6刃, 45° 螺旋角, 短型
	EMB99		Carbide 4&6Flute 45 Helix, Long 硬质合金, 4&6刃, 45° 螺旋角, 加长型
	EMC01		Carbide 2Flute Long Neck 硬质合金, 2刃, 颈部长型
	EMC02		Carbide 2Flute Long Neck Ball 硬质合金, 2刃, 颈部长型球头铣刀
	EMC03		Carbide 2Flute Corner Radius 硬质合金, 2刃, 圆弧角铣刀
	EMC04		Carbide 4Flute Corner Radius 硬质合金, 4刃, 圆弧角铣刀
ALPHA-PLUS	GFC05		Carbide 2Flute with Extended Neck 硬质合金, 2刃, 颈部延伸铣刀
	GFC06		Carbide 4Flute with Extended Neck 硬质合金, 4刃, 颈部延伸铣刀
	GFC07		Carbide 2Flute Ball Short 硬质合金, 2刃, 球头, 短型铣刀
	GFC08		Carbide 2Flute Ball Stub with Extended Neck 硬质合金, 2刃, 球头, 超短型, 刃部延伸铣刀
ALPHA-SUS	EMC09		Carbide 4Flute Short 硬质合金, 4刃, 短型铣刀
	EMC10		Carbide 4Flute Long 硬质合金, 4刃, 加长型铣刀
	EMC11		Carbide Multi Flute 45 Helix ROUGH 硬质合金, 多种刃, 45° 螺旋角, 螺纹铣刀
ALPHA-ALU	E5C12 E5C13		Carbide 2Flute 45 Helix 硬质合金, 2刃, 45° 螺旋角
	E5C14 E5C15		Carbide 3Flute 45 Helix 硬质合金, 3刃, 45° 螺旋角
	E5C16		Carbide 3Flute 45 Helix Ex-Long 硬质合金, 3刃, 45° 螺旋角, 超长型铣刀
ALPHA-DIAMOND	EIC17		Carbide 2Flute Ball Miniature 硬质合金, 2刃, 球头, 微型铣刀
	EIC18		Carbide 2Flute Ball Short 硬质合金, 2刃, 球头, 短型铣刀
	EIC19		Carbide 2Flute Ball Long 硬质合金, 2刃, 球头, 加长型铣刀
	EIC20		Carbide 2Flute Ball Long Reach 硬质合金, 2刃, 球头, 颈部延伸铣刀

CARBON STEELS ~HB225 S45C, S55C 种类	ALLOY STEELS ~HRc 30 SCM, SK 种类	PRE-HARDEN STEELS HRc 30~50 NAK,SKD 种类	HARDENED STEELS ~55HRc~ SKD61, STAVAX 种类		CAST IRON	SUS TITANIUM INCONEL	ALUMINUM	GRAPHITE NON FERROUS MEATLS
○	○	○	○		○	○		
○	○	○	○		○	○		
○	○	○	○		○	○	○	
	○	○	○	○	○		○	
	○	○	○	○	○		○	
○	○	○	○					
○	○	○	○					
○	○	○	○		○	○		
○	○	○	○		○	○		
	○	○	○	○				
	○	○	○	○				
	○	○	○	○	○			
	○	○	○	○	○			
○						○		
○						○		
○	○					○		
							○	
							○	
							○	○
							○	○
							○	○
							○	○



EMB95 (p.13)



EMB96 (p.14)



EMB97 (p.16)



EMB98 (p.17)



EMB99 (p.17)



EMC01 (p.19-23)



EMC02 (p.25-29)



EMC03 (p.31)



EMC04 (p.33)



GFC05 (p.37)



GFC06 (p.39)



GFC07 (p.41)



GFC08 (p.42)



EMC09 (p.47)



EMC10 (p.48)



EMC11 (p.50)



E5C12

E5C13 (p.55)



E5C14

E5C15 (p.57)



E5C16 (p.58-59)



EIC17 (p.63)



EIC18 (p.64)



EIC19 (p.65)



EIC20 (p.66)

CONTENTS

ALPHA-G

多功能用

ALPHA-PLUS

高硬度用

ALPHA-SUS

不锈钢用

ALPHA-ALU

铝用

ALPHA-DIAMOND

石墨用

再研磨 指南

ICON GUIDE

MATERIALS

材质

MG Micro Grain Carbide
超微粒粒

UMG Ultra Micro Grain Carbide
极超微粒粒

COATING

涂层

AlTiN AlTiN 涂层

TiAlN TiAlN 涂层

Dia DIAMOND 涂层

S S涂层

BALL RADIUS TOLERANCE

球头半径公差

R
±0.005

R
±0.010

R
±0.020

CUTTING CONDITION

切削条件

DATA Indicates the pages of cutting conditions
切削条件指示页

CORNER RADIUS TOLERANCE

圆弧半径公差

R
±0.010

R
±0.020

HELIX ANGLE

螺旋角度

30°

35°

45°

NUMBER OF FLUTES

刃数

2 2 flutes
2刃

3 3 flutes
3刃

4 4 flutes
4刃

4&6 4&6 flutes
4&6刃

MACHINING DIRECTOR

机械加工方式

Side
侧铣

Profile
侧铣, 轮廓铣

Side, Profile, Slot
侧铣, 轮廓铣, 插削铣

SHANK TYPE

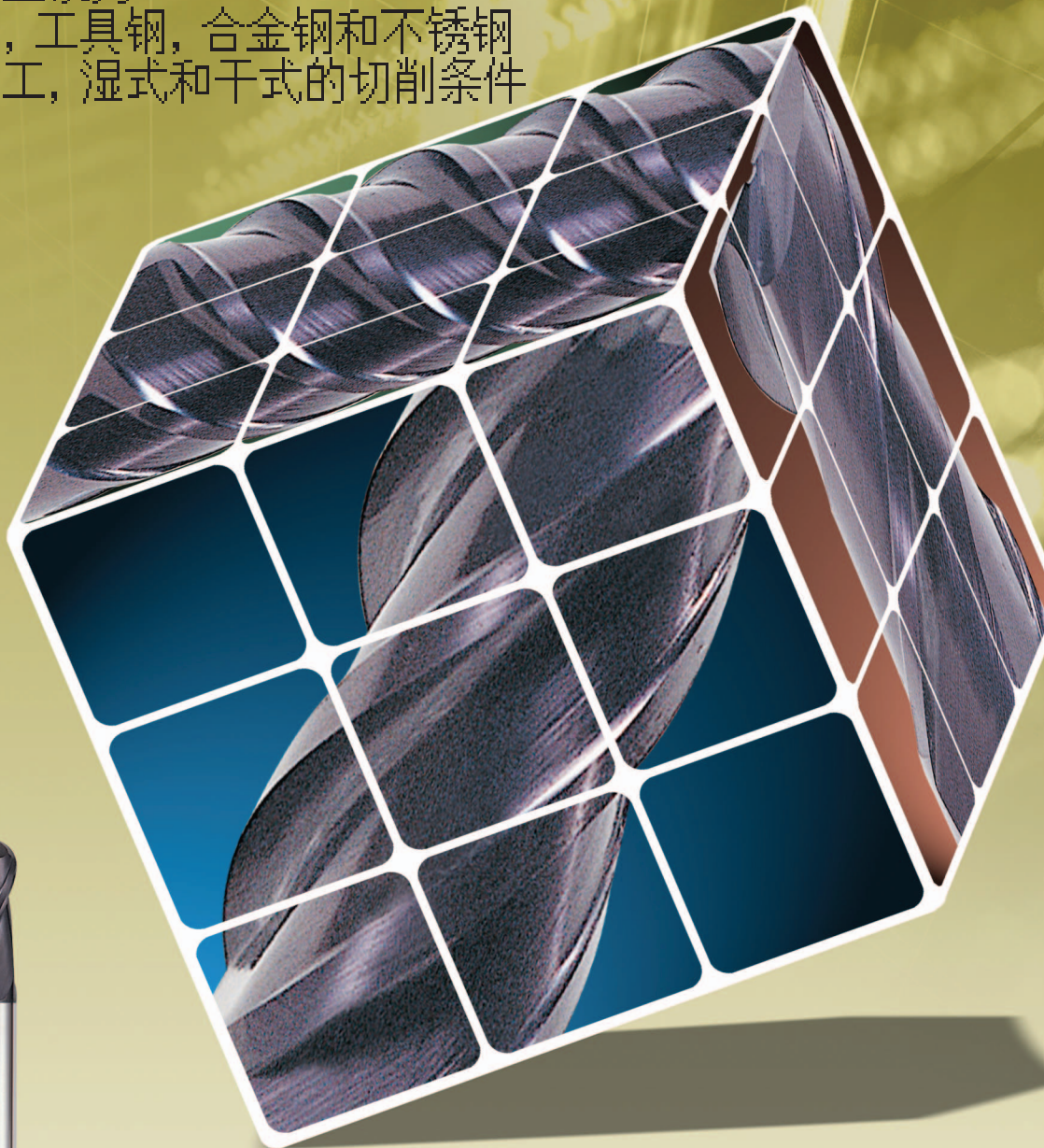
柄部类型

PLAIN PLAIN Shank
直柄










FLAT FLAT Shank
键槽柄部

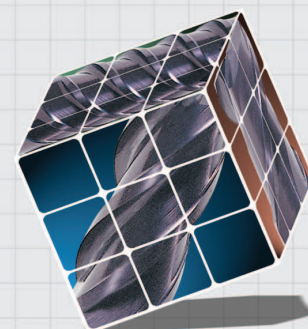
ALPHA-G

- General Purpose Carbide Endmills
- For Machining of Carbon Steel, Tool Steel, Alloy Steel and Stainless Steel
- Applicable in High Speed Machining, Wet and Dry Cutting Condition
- 多功能硬质合金铣刀
- 用于加工碳钢，工具钢，合金钢和不锈钢
- 适合于高速加工，湿式和干式的切削条件



ALPHA-G INDEX

EDP No	MODEL	ITEM	PAGE
EMB95		CARBIDE, 2 FLUTE, SHORT LENGTH 硬质合金, 2刃, 短型	13
EMB96		CARBIDE, 4 FLUTE, SHORT LENGTH 硬质合金, 4刃, 短型	14
EMB97		CARBIDE, 2 FLUTE, BALL, SHORT LENGTH 硬质合金, 2刃, 球头, 短型	16
EMB98		CARBIDE, 4(6) FLUTE, SHORT 45° HELIX 硬质合金, 4(6)刃, 45°螺旋角铣刀, 短型	17
EMB99		CARBIDE, 4(6) FLUTE, LONG 45° HELIX 硬质合金, 4(6)刃, 45°螺旋角铣刀, 加长型	17
EMC01		2F LONG NECK END MILLS 2刃, 颈部防卡型铣刀	19-23
EMC02		2F LONG NECK BALL END MILLS 2刃, 颈部防卡型球头铣刀	25-29
EMC03		2F CORNER RADIUS END MILLS 2刃, 圆弧角铣刀	31
EMC04		4F CORNER RADIUS END MILLS 4刃, 圆弧角铣刀	33



ALPHA-G

CARBIDE, 2 FLUTE, SHORT LENGTH

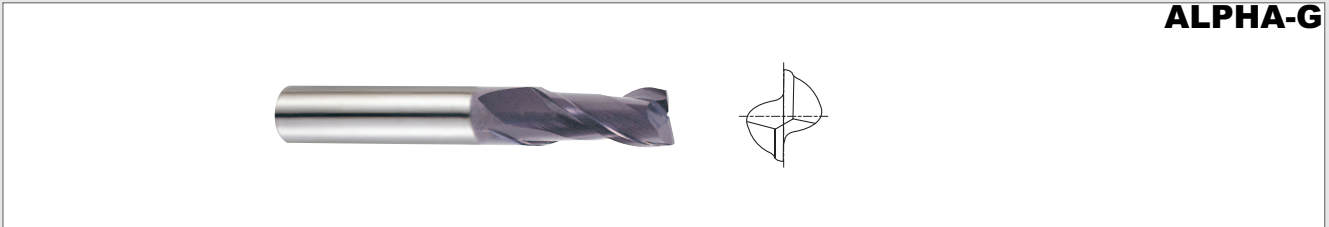
硬质合金, 2刃, 短型



- ▶ Designed for a general performance to carbon steel, tool steel, alloy steel, and stainless steel .
- ▶ Excellent wear resistance.
- ▶ Application in high speed machining, coolant and dry Cutting Condition.

- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢
- ▶ 高耐磨性
- ▶ 适合于高速加工, 冷却液及干式切削条件

ALPHA-G



ALPHA-G



MILL DIA. TOLERANCE(mm) 刃径公差 (mm)	SHANK DIA. TOLERANCE 柄径公差
0 - 0.030	h6

EMB95 Series

SHORT LENGTH

短型

Unit : mm

EDP No.	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	OVERALL LENGTH	STOCK
型号	刃部直径	柄部直径	刃长	全长	库存
EMB95010KN	1.0	4	3	50	●
EMB95015KN	1.5	4	4	50	●
EMB95020KN	2.0	4	6	50	●
EMB95025KN	2.5	4	8	50	●
EMB95030KN	3.0	4	8	50	●
EMB95035KN	3.5	4	10	50	●
EMB95040KN	4.0	4	11	50	●
EMB95901KN	3.0	6	8	50	●
EMB95902KN	3.5	6	10	50	●
EMB95903KN	4.0	6	11	50	●
EMB95045KN	4.5	6	11	50	●
EMB95050KN	5.0	6	13	50	●
EMB95055KN	5.5	6	13	50	●
EMB95060KN	6.0	6	16	50	●
EMB95065KN	6.5	8	16	60	●
EMB95070KN	7.0	8	20	60	●
EMB95075KN	7.5	8	20	60	●
EMB95080KN	8.0	8	20	60	●
EMB95085KN	8.5	10	20	75	●
EMB95090KN	9.0	10	20	75	●
EMB95095KN	9.5	10	22	75	●
EMB95100KN	10.0	10	25	75	●
EMB95110KN	11.0	12	30	75	●
EMB95120KN	12.0	12	32	75	●
EMB95140KN	14.0	16	40	100	●
EMB95160KN	16.0	16	40	100	●
EMB95180KN	18.0	20	40	100	●
EMB95200KN	20.0	20	45	100	●

※ 上記产品的参数可根据特别的要求制作加工.

- : 标准品在库
- : 询问营业部

CARBIDE, 4 FLUTE, SHORT LENGTH

硬质合金, 4刃, 短型

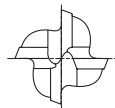


- ▶ Designed for a general performance to carbon steel, tool steel, alloy steel, and stainless steel .
- ▶ Excellent wear resistance.
- ▶ 4 flute allows for better work piece finishes.
- ▶ Application in high speed machining, coolant and drys Cutting Condition.

- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢
- ▶ 高耐磨性
- ▶ 4刃可得到较好的表面粗糙度
- ▶ 适合于高速加工, 冷却液及干式切削条件

ALPHA-G

ALPHA-G



MILL DIA. TOLERANCE(mm) 刃径公差 (mm)	SHANK DIA. TOLERANCE 柄径公差
0 - 0.030	h6

EMB96 Series

SHORT LENGTH

短型

Unit : mm

EDP No.	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	OVERALL LENGTH	STOCK
型号	刃部直径	柄部直径	刃长	全长	库存
EMB96010KN	1.0	4	3	50	●
EMB96015KN	1.5	4	4	50	●
EMB96020KN	2.0	4	6	50	●
EMB96025KN	2.5	4	8	50	●
EMB96030KN	3.0	4	8	50	●
EMB96035KN	3.5	4	10	50	●
EMB96040KN	4.0	4	11	50	●
EMB96901KN	3.0	6	8	50	●
EMB96902KN	3.5	6	10	50	●
EMB96903KN	4.0	6	11	50	●
EMB96045KN	4.5	6	11	50	●
EMB96050KN	5.0	6	13	50	●
EMB96055KN	5.5	6	13	50	●
EMB96060KN	6.0	6	16	50	●
EMB96065KN	6.5	8	16	60	●
EMB96070KN	7.0	8	20	60	●
EMB96075KN	7.5	8	20	60	●
EMB96080KN	8.0	8	20	60	●
EMB96085KN	8.5	10	20	75	●
EMB96090KN	9.0	10	20	75	●
EMB96095KN	9.5	10	22	75	●
EMB96100KN	10.0	10	25	75	●
EMB96110KN	11.0	12	30	75	●
EMB96120KN	12.0	12	32	75	●
EMB96140KN	14.0	16	40	100	●
EMB96160KN	16.0	16	40	100	●
EMB96180KN	18.0	20	40	100	●
EMB96200KN	20.0	20	45	100	●

※ 上記产品的参数可根据特别的要求制作加工.

● : 标准品在库
□ : 询问营业部

2 FLUTE, FINISH, SLOTTING

2刃, 精铣, 开槽



ALPHA-G

● EMB95 Series

SLOTTING

MATERIAL	CARBON STEELS, ALLOY STEELS, TOOL STEELS		ALLOY STEELS, PRE-HARDENED STEELS		STAINLESS STEELS		CAST IRON		ALUMINUM ALLOYS	
材质	碳钢, 合金钢, 工具钢		合金钢, 预硬度钢		不锈钢		铸铁		铝合金	
HARDNESS	~ HRC 30		HRC 30 ~ HRC 50							
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
1	14300	105	8500	65	7150	50	18700	205	44000	330
1.5	9350	150	5550	85	5600	80	12100	205	27500	385
2	7850	160	5150	100	4300	80	9350	220	22000	460
3	6100	180	3800	120	3150	100	6050	220	15400	460
4	5150	255	3150	155	2650	130	4600	220	11000	460
5	4300	270	2550	160	2150	135	3650	220	9150	460
6	3800	300	2300	190	1950	155	2950	255	7600	485
8	2850	325	1700	170	1450	155	2200	275	5700	485
10	2200	280	1350	135	1150	135	1850	285	4600	485
12	1850	240	1150	110	950	110	1450	295	3750	485
14	1700	215	1050	100	850	100	1300	310	3300	485
16	1500	185	950	95	700	95	1100	320	2850	485
20	1150	145	700	70	550	70	900	340	2200	485

0.5D
(Up to Ø3 : 0.2D)
1.0D

D
D

※ The FEED, in long & extra long types, should be reduced by around 50%
进给量, LONG & EX-LONG 的时候, 应该大约减少 50%

RPM = REVOLUTION PER MIN. 转速/分钟
FEED = mm/min.
D = DIAMETER

4 FLUTE, FINISH, SIDE CUTTING

4刃, 精铣, 侧铣

● EMB96 Series

SIDE CUTTING

MATERIAL	CARBON STEELS, ALLOY STEELS, TOOL STEELS		ALLOY STEELS, PRE-HARDENED STEELS		STAINLESS STEELS		CAST IRON		ALUMINUM ALLOYS	
材质	碳钢, 合金钢, 工具钢		合金钢, 预硬度钢		不锈钢		铸铁		铝合金	
HARDNESS	~ HRC 30		HRC 30 ~ HRC 50							
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
1	17600	150	10250	85	8650	75	18700	620	44000	1050
1.5	11800	215	7050	115	7050	120	12100	620	27500	1160
2	9850	240	6450	145	5350	120	9350	640	22000	1320
3	7600	270	4750	170	3950	145	6050	640	15400	1320
4	6450	485	3950	300	3300	240	4600	640	11000	1320
5	5350	510	3200	305	2700	255	3650	640	9150	1320
6	4750	560	2850	350	2400	280	2950	770	7600	1430
8	3550	605	2150	325	1800	300	2200	815	5700	1430
10	2750	520	1700	255	1450	255	1850	860	4600	1430
12	2350	440	1450	215	1150	205	1450	900	3750	1430
14	2100	395	1300	195	1050	190	1300	945	3300	1430
16	1850	350	1150	170	950	170	1100	970	2850	1430
20	1450	270	900	135	700	130	900	1035	2200	1430

1.0D
0.1D

1.5D
0.1D

※ The FEED, in long & extra long types, should be reduced by around 50%
进给量, LONG & EX-LONG 的时候, 应该大约减少 50%

RPM = REVOLUTION PER MIN. 转速/分钟
FEED = mm/min.
D = DIAMETER

CARBIDE, 2 FLUTE, BALL, SHORT LENGTH

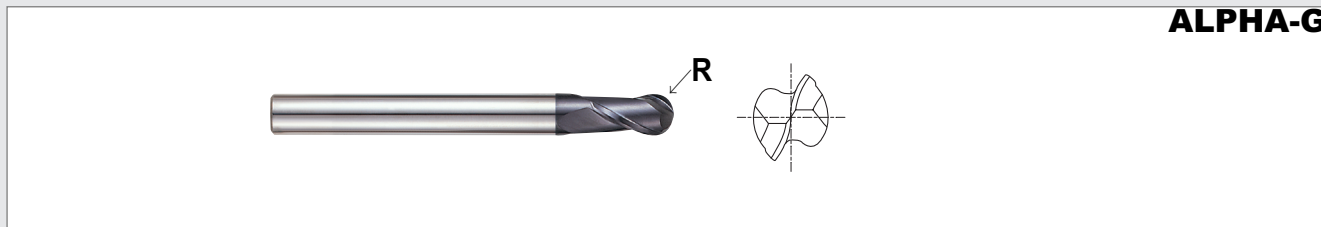
硬质合金, 2刃, 球头, 短型



ALPHA-G

- ▶ Designed for a general performance to carbon steel, tool steel, alloy steel, and stainless steel .
- ▶ Excellent wear resistance.
- ▶ Designed for milling of radius bottom slots, fillets and special contours.
- ▶ Application in high speed machining, coolant and drys Cutting Condition.

- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢
- ▶ 高耐磨性
- ▶ 设计用于铣削圆形底部的槽, 带和特殊轮廓
- ▶ 适合于高速加工, 冷却液及干式切削条件



ALPHA-G



MILL DIA. TOLERANCE(mm) 刃径公差 (mm)	SHANK DIA. TOLERANCE 柄径公差
0 - 0.030	h6

EMB97 Series

SHORT LENGTH
短型

Unit : mm

EDP No.	RADIUS OF BALL NOSE	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	OVERALL LENGTH	STOCK
型号	球头半径	刃部直径	柄部直径	刃长	全长	库存
EMB97002KN	R 0.1	0.2	4	0.4	50	●
EMB97003KN	R 0.15	0.3	4	0.6	50	●
EMB97004KN	R 0.2	0.4	4	0.8	50	●
EMB97005KN	R 0.25	0.5	4	1	50	●
EMB97006KN	R 0.3	0.6	4	1.2	50	●
EMB97008KN	R 0.4	0.8	4	1.6	50	●
EMB97010KN	R 0.5	1.0	4	2	50	●
EMB97015KN	R 0.75	1.5	4	4	50	●
EMB97020KN	R 1.0	2.0	4	5	50	●
EMB97025KN	R 1.25	2.5	4	6	50	●
EMB97030KN	R 1.5	3.0	4	6	50	●
EMB97040KN	R 2.0	4.0	4	8	50	●
EMB97901KN	R 1.5	3.0	6	6	50	●
EMB97902KN	R 2.0	4.0	6	8	50	●
EMB97050KN	R 2.5	5.0	6	10	50	●
EMB97060KN	R 3.0	6.0	6	12	50	●
EMB97070KN	R 3.5	7.0	8	14	60	●
EMB97080KN	R 4.0	8.0	8	14	60	●
EMB97090KN	R 4.5	9.0	10	18	75	●
EMB97100KN	R 5.0	10.0	10	20	75	●
EMB97120KN	R 6.0	12.0	12	24	75	●
EMB97160KN	R 8.0	16.0	16	32	100	●
EMB97200KN	R 10.0	20.0	20	40	100	●

❖ 上記产品的参数可根据特别的要求制作加工.

● : 标准品在库
□ : 询问营业部

CARBIDE, 4(6) FLUTE 45° HELIX

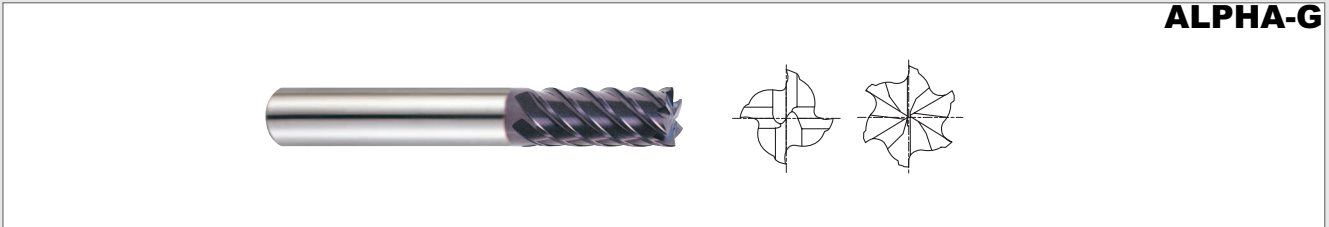
硬质合金, 4(6)刃铣刀, 45°螺旋角铣刀



- ▶ High speed cutting and finish milling with high feed rate.
- ▶ Excellent surface finishes.
- ▶ Application in high speed machining, coolant and drys Cutting condition.

- ▶ 高速切削和高进给量的精切削
- ▶ 卓越的工件表面粗糙度
- ▶ 适合于高速加工, 冷却液及干式切削条件

ALPHA-G



ALPHA-G



MILL DIA. TOLERANCE(mm) 刃径公差 (mm)	SHANK DIA. TOLERANCE 柄径公差
0 - 0.030	h6

EMB98 Series

SHORT LENGTH

短型

Unit : mm

EDP No.	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	OVERALL LENGTH	NO. OF FLUTE	STOCK
型号	刃部直径	柄部直径	刃长	全长	刃数	库存
EMB98010KN	1.0	4	3	45	4	●
EMB98015KN	1.5	4	4	45	4	●
EMB98020KN	2.0	4	6	45	4	●
EMB98025KN	2.5	4	8	45	4	●
EMB98030KN	3.0	4	8	50	4	●
EMB98040KN	4.0	4	11	50	4	●
EMB98050KN	5.0	6	13	50	6	●
EMB98060KN	6.0	6	16	50	6	●
EMB98080KN	8.0	8	19	60	6	●
EMB98100KN	10.0	10	22	75	6	●
EMB98120KN	12.0	12	26	75	6	●
EMB98140KN	14.0	14	30	90	6	●
EMB98160KN	16.0	16	32	100	6	●
EMB98180KN	18.0	18	38	100	6	●
EMB98200KN	20.0	20	38	100	6	●

EMB99 Series

LONG LENGTH

加长型

Unit : mm

EDP No.	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	OVERALL LENGTH	NO. OF FLUTE	STOCK
型号	刃部直径	柄部直径	刃长	全长	刃数	库存
EMB99060KN	6.0	6	25	80	6	●
EMB99080KN	8.0	8	35	90	6	●
EMB99100KN	10.0	10	45	100	6	●
EMB99120KN	12.0	12	50	100	6	●
EMB99160KN	16.0	16	65	150	6	●
EMB99200KN	20.0	20	70	150	6	●

- ❖ 上記产品的参数可根据特别的要求制作加工.
- ❖ Ø4mm以下产品时, 为4FL

● : 标准品在库
□ : 询问营业部

2 FLUTE, BALL NOSE

2刃, 球头



ALPHA-G

● EMB97 Series

MATERIAL	CARBON STEELS, ALLOY STEELS, TOOL STEELS		CARBON STEELS, ALLOY STEELS, PRE-HARDENED STEELS		HARDENED STEELS		CAST IRON		ALUMINUM ALLOYS	
材质	碳钢, 合金钢, 工具钢		碳钢, 合金钢, 预硬度钢		硬化钢		铸铁		铝合金	
HARDNESS	~ HRc 30		HRc 30 ~ HRc 50		HRc 50 ~					
STRENGTH	~ 1000N/mm ²		1000 ~ 1500N/mm ²		1500N/mm ² ~					
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
2	12350	640	9150	415	4000	125	10500	220	30800	395
3	11400	575	8550	390	3800	125	7050	230	20500	395
4	8950	630	7150	450	3600	150	5150	285	15400	395
5	7800	700	6200	490	3100	150	4150	330	12100	470
6	7250	870	5900	705	2700	160	3400	360	10300	470
8	6100	1090	4900	785	2050	190	2500	460	7900	540
10	5450	1330	4350	870	1750	190	2050	460	6150	540
12	4990	1500	3950	950	1500	210	1750	460	5150	630
14	4530	1495	3600	925	1300	210	1400	460	4300	630
16	4085	1470	3200	905	1150	210	1300	460	3850	540
18	3800	1425	3000	890	1050	210	1100	460	3400	540
20	3550	1425	2800	885	950	210	1050	420	2950	540

Ae : D1-D6=0.2mm
D8-D20=0.3mm
Ap : 0.2D

※ The FEED, in long & extra long types, should be reduced by around 50%
进给量, LONG & EX-LONG 的时候, 应该大约减少50%

RPM = REVOLUTION PER MIN.
转速/分钟
FEED = mm/min.
D = DIAMETER

4&6 FLUTE, 45° HELIX

4(6)刃铣刀, 45°螺旋角

● EMB98, EMB99 Series

MATERIAL	NON-ALLOYED STEELS ALLOY STEELS CAST IRON		ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS			
材质	非合金钢, 合金钢, 铸铁		合金钢, 耐热钢		硬化钢			
HARDNESS	~ HRc 30		HRc 30 ~ HRc 50		HRc 50 ~ HRc 60		HRc 60 ~ HRc 65	
STRENGTH	~ 1000N/mm ²		1000 ~ 1750N/mm ²		1750 ~ 2080N/mm ²		2080N/mm ² ~	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
1	19000	693	12750	468	10250	284	8000	179
2	13000	825	8750	555	7250	344	5500	212
3	8650	825	5750	555	4750	344	3750	212
4	6600	858	4400	581	3600	357	2800	221
5	6250	990	4150	660	3200	383	2550	245
6	5175	924	3450	627	2650	369	2100	231
8	3900	891	2600	594	2000	344	1600	218
10	3075	831	2050	555	1600	317	1275	204
12	2625	831	1750	555	1825	317	1050	198
16	1950	726	1300	482	1000	278	800	179
20	1550	641	1025	429	800	251	650	165

RPM = REVOLUTION PER MIN.
转速/分钟
FEED = mm/min.
D = DIAMETER

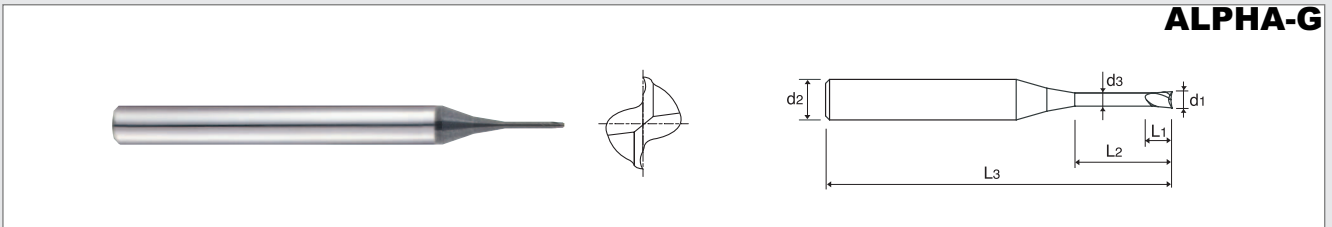
2F LONG NECK END MILLS

2刃, 颈部细长型铣刀



- ▶ Designed for a general performance to carbon steel, tool steel, alloy steel, and stainless steel.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Excellent wear-resistance.

- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢
- ▶ 由于颈部稍细能够加工深槽。
- ▶ 高耐磨性。



MILL DIA. TOLERANCE(mm) 刃径公差 (mm)		SHANK DIA. TOLERANCE 柄径公差
DIAMETER 直径	TOLERANCE 公差	
~Ø3 以下	-0.015 ~ 0	h6
Ø3 超过~	-0.020 ~ 0	

EMC01 Series

Unit : mm

EDP No. 型号	MILL DIAMETER 刃部直径 d ₁	SHANK DIAMETER 柄部直径 d ₂	LENGTH OF CUT 刃长 L ₁	LENGTH BELOW SHANK 颈长 L ₂	OVERALL LENGTH 全长 L ₃	NECK DIAMETER 颈径 d ₃	STOCK 库存
EMC01004010	0.4	4	0.6	1	45	0.37	●
EMC01004020	0.4	4	0.6	2	45	0.37	□
EMC01004030	0.4	4	0.6	3	45	0.37	□
EMC01004040	0.4	4	0.6	4	45	0.37	●
EMC01004050	0.4	4	0.6	5	45	0.37	□
EMC01005020	0.5	4	0.7	2	45	0.45	●
EMC01005030	0.5	4	0.7	3	45	0.45	□
EMC01005040	0.5	4	0.7	4	45	0.45	●
EMC01005060	0.5	4	0.7	6	45	0.45	□
EMC01005080	0.5	4	0.7	8	45	0.45	□
EMC01006020	0.6	4	0.9	2	45	0.55	●
EMC01006030	0.6	4	0.9	3	45	0.55	□
EMC01006040	0.6	4	0.9	4	45	0.55	□
EMC01006060	0.6	4	0.9	6	45	0.55	□
EMC01006080	0.6	4	0.9	8	45	0.55	●
EMC01006100	0.6	4	0.9	10	45	0.55	□
EMC01007020	0.7	4	1.0	2	45	0.65	●
EMC01007040	0.7	4	1.0	4	45	0.65	□
EMC01007060	0.7	4	1.0	6	45	0.65	□
EMC01007080	0.7	4	1.0	8	45	0.65	●
EMC01007100	0.7	4	1.0	10	45	0.65	□

※ 上記产品的参数可根据特别的要求制作加工。

● : 标准品在库
□ : 询问营业部

2F LONG NECK END MILLS

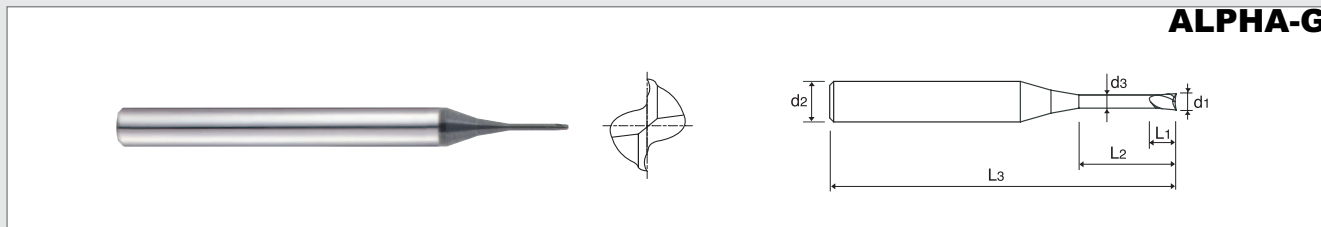
2刃, 颈部细长型铣刀



- ▶ Designed for a general performance to carbon steel, tool steel, alloy steel, and stainless steel.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Excellent wear-resistance.

- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢
- ▶ 由于颈部稍细能够加工深槽。
- ▶ 高耐磨性。

ALPHA-G



ALPHA-G



MILL DIA. TOLERANCE(mm) 刃径公差 (mm)		SHANK DIA. TOLERANCE 柄径公差
DIAMETER 直径	TOLERANCE 公差	
~Ø3 以下	-0.015 ~ 0	h6
Ø3 超过~	-0.020 ~ 0	

EMC01 Series

Unit : mm

EDP No. 型号	MILL DIAMETER 刃部直径 d ₁	SHANK DIAMETER 柄部直径 d ₂	LENGTH OF CUT 刃长 L ₁	LENGTH BELOW SHANK 颈长 L ₂	OVERALL LENGTH 全长 L ₃	NECK DIAMETER 颈径 d ₃	STOCK 库存
EMC01008020	0.8	4	1.2	2	45	0.75	●
EMC01008040	0.8	4	1.2	4	45	0.75	□
EMC01008060	0.8	4	1.2	6	45	0.75	□
EMC01008080	0.8	4	1.2	8	45	0.75	●
EMC01008100	0.8	4	1.2	10	45	0.75	□
EMC01008120	0.8	4	1.2	12	45	0.75	□
EMC01009060	0.9	4	1.4	6	45	0.85	●
EMC01009080	0.9	4	1.4	8	45	0.85	□
EMC01009100	0.9	4	1.4	10	45	0.85	□
EMC01009150	0.9	4	1.4	15	50	0.85	●
EMC01010040	1.0	4	1.5	4	45	0.95	●
EMC01010050	1.0	4	1.5	5	45	0.95	□
EMC01010060	1.0	4	1.5	6	45	0.95	□
EMC01010080	1.0	4	1.5	8	45	0.95	□
EMC01010100	1.0	4	1.5	10	45	0.95	□
EMC01010120	1.0	4	1.5	12	45	0.95	●
EMC01010140	1.0	4	1.5	14	50	0.95	●
EMC01010160	1.0	4	1.5	16	50	0.95	□
EMC01010200	1.0	4	1.5	20	55	0.95	●

❖ 上記产品的参数可根据特别的要求制作加工。

● : 标准品在库
□ : 询问营业部

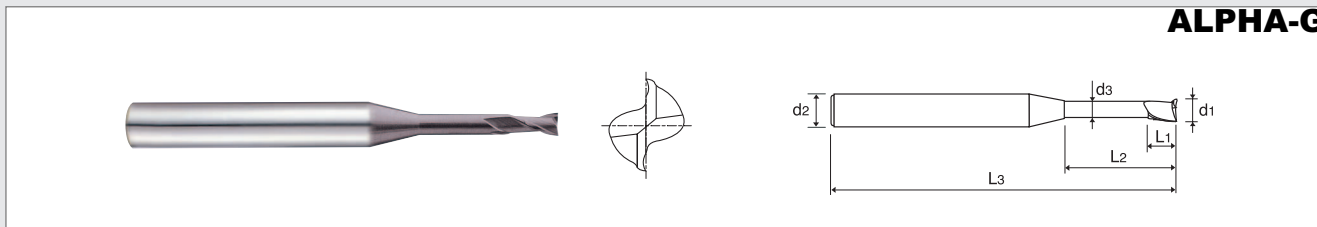
2F LONG NECK END MILLS

2刃, 颈部加长型铣刀



- ▶ Designed for a general performance to carbon steel, tool steel, alloy steel, and stainless steel.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Excellent wear-resistance.

- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢
- ▶ 由于颈部稍细能够加工深槽。
- ▶ 高耐磨性。



ALPHA-G



MILL DIA. TOLERANCE(mm) 刃径公差 (mm)		SHANK DIA. TOLERANCE 柄径公差
DIAMETER 直径	TOLERANCE 公差	
~Ø3 以下	-0.015 ~ 0	h6
Ø3 超过~	-0.020 ~ 0	

EMC01 Series

Unit : mm

EDP No. 型号	MILL DIAMETER 刃部直径 d ₁	SHANK DIAMETER 柄部直径 d ₂	LENGTH OF CUT 刃长 L ₁	LENGTH BELOW SHANK 颈长 L ₂	OVERALL LENGTH 全长 L ₃	NECK DIAMETER 颈径 d ₃	STOCK 库存
EMC01012040	1.2	4	1.8	4	45	1.15	●
EMC01012060	1.2	4	1.8	6	45	1.15	□
EMC01012080	1.2	4	1.8	8	45	1.15	□
EMC01012100	1.2	4	1.8	10	45	1.15	●
EMC01012120	1.2	4	1.8	12	45	1.15	□
EMC01012160	1.2	4	1.8	16	50	1.15	●
EMC01014060	1.4	4	2.1	6	45	1.35	●
EMC01014080	1.4	4	2.1	8	45	1.35	□
EMC01014100	1.4	4	2.1	10	45	1.35	□
EMC01014120	1.4	4	2.1	12	45	1.35	□
EMC01014140	1.4	4	2.1	14	50	1.35	●
EMC01014160	1.4	4	2.1	16	50	1.35	□
EMC01014220	1.4	4	2.1	22	55	1.35	●
EMC01015060	1.5	4	2.3	6	45	1.45	●
EMC01015080	1.5	4	2.3	8	45	1.45	□
EMC01015100	1.5	4	2.3	10	45	1.45	□
EMC01015120	1.5	4	2.3	12	45	1.45	□
EMC01015140	1.5	4	2.3	14	50	1.45	●
EMC01015160	1.5	4	2.3	16	50	1.45	□
EMC01015180	1.5	4	2.3	18	55	1.45	●
EMC01015200	1.5	4	2.3	20	55	1.45	□
EMC01016060	1.6	4	2.4	6	45	1.55	●
EMC01016080	1.6	4	2.4	8	45	1.55	□
EMC01016100	1.6	4	2.4	10	45	1.55	□
EMC01016120	1.6	4	2.4	12	45	1.55	□
EMC01016140	1.6	4	2.4	14	50	1.55	●
EMC01016160	1.6	4	2.4	16	50	1.55	□
EMC01016180	1.6	4	2.4	18	55	1.55	●
EMC01016200	1.6	4	2.4	20	55	1.55	□
EMC01016260	1.6	4	2.4	26	60	1.55	●

❖ 上記产品的参数可根据特别的要求制作加工。

- : 标准品在库
- : 询问营业部

2F LONG NECK END MILLS

2刃, 颈部细长型铣刀

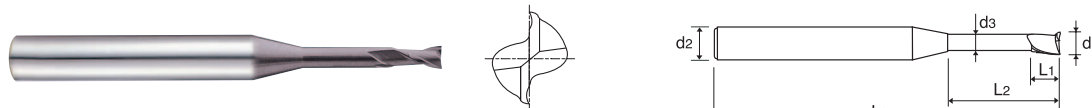


- ▶ Designed for a general performance to carbon steel, tool steel, alloy steel, and stainless steel.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Excellent wear-resistance.

- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢
- ▶ 由于颈部稍细能够加工深槽。
- ▶ 高耐磨性。

ALPHA-G

ALPHA-G



MILL DIA. TOLERANCE(mm) 刃径公差 (mm)		SHANK DIA. TOLERANCE 柄径公差
DIAMETER 直径	TOLERANCE 公差	
~Ø3 以下	-0.015 ~ 0	h6
Ø3 超过~	-0.020 ~ 0	

EMC01 Series

Unit : mm

EDP No. 型号	MILL DIAMETER 刃部直径 d1	SHANK DIAMETER 柄部直径 d2	LENGTH OF CUT 刃长 L1	LENGTH BELOW SHANK 颈长 L2	OVERALL LENGTH 全长 L3	NECK DIAMETER 颈径 d3	STOCK 库存
EMC01018060	1.8	4	2.7	6	45	1.75	●
EMC01018080	1.8	4	2.7	8	45	1.75	□
EMC01018100	1.8	4	2.7	10	45	1.75	□
EMC01018120	1.8	4	2.7	12	45	1.75	●
EMC01018140	1.8	4	2.7	14	50	1.75	●
EMC01018160	1.8	4	2.7	16	50	1.75	□
EMC01018180	1.8	4	2.7	18	55	1.75	●
EMC01018200	1.8	4	2.7	20	55	1.75	□
EMC01018260	1.8	4	2.7	26	65	1.75	●
EMC01020060	2.0	4	3.0	6	45	1.95	●
EMC01020080	2.0	4	3.0	8	45	1.95	□
EMC01020100	2.0	4	3.0	10	45	1.95	□
EMC01020120	2.0	4	3.0	12	45	1.95	□
EMC01020140	2.0	4	3.0	14	50	1.95	●
EMC01020160	2.0	4	3.0	16	50	1.95	□
EMC01020180	2.0	4	3.0	18	55	1.95	●
EMC01020200	2.0	4	3.0	20	55	1.95	□
EMC01020220	2.0	4	3.0	22	60	1.95	●
EMC01020260	2.0	4	3.0	26	60	1.95	□
EMC01020300	2.0	4	3.0	30	70	1.95	●
EMC01025080	2.5	4	3.7	8	45	2.4	●
EMC01025100	2.5	4	3.7	10	45	2.4	□
EMC01025120	2.5	4	3.7	12	45	2.4	□
EMC01025140	2.5	4	3.7	14	50	2.4	●
EMC01025160	2.5	4	3.7	16	55	2.4	●
EMC01025180	2.5	4	3.7	18	55	2.4	□
EMC01025200	2.5	4	3.7	20	60	2.4	●
EMC01025260	2.5	4	3.7	26	70	2.4	●
EMC01025300	2.5	4	3.7	30	80	2.4	●

❖ 上記产品的参数可根据特别的要求制作加工。

● : 标准品在庫
□ : 询问营业部

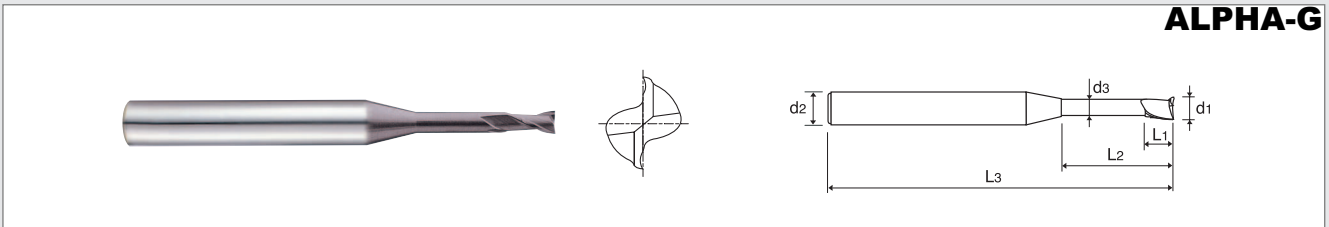
2F LONG NECK END MILLS

2刃, 颈部加长型铣刀



- ▶ Designed for a general performance to carbon steel, tool steel, alloy steel, and stainless steel.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Excellent wear-resistance.

- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢
- ▶ 由于颈部稍细能够加工深槽。
- ▶ 高耐磨性。



ALPHA-G



MILL DIA. TOLERANCE(mm) 刃径公差 (mm)		SHANK DIA. TOLERANCE 柄径公差
DIAMETER 直径	TOLERANCE 公差	
~Ø3 以下	-0.015 ~ 0	h6
Ø3 超过~	-0.020 ~ 0	

EMC01 Series

Unit : mm

EDP No. 型号	MILL DIAMETER 刃部直径 d ₁	SHANK DIAMETER 柄部直径 d ₂	LENGTH OF CUT 刃长 L ₁	LENGTH BELOW SHANK 颈长 L ₂	OVERALL LENGTH 全长 L ₃	NECK DIAMETER 颈径 d ₃	STOCK 库存
EMC01030080	3.0	6	4.5	8	45	2.85	●
EMC01030100	3.0	6	4.5	10	45	2.85	□
EMC01030120	3.0	6	4.5	12	50	2.85	●
EMC01030140	3.0	6	4.5	14	50	2.85	□
EMC01030160	3.0	6	4.5	16	55	2.85	●
EMC01030180	3.0	6	4.5	18	55	2.85	□
EMC01030200	3.0	6	4.5	20	60	2.85	●
EMC01030260	3.0	6	4.5	26	70	2.85	●
EMC01030300	3.0	6	4.5	30	70	2.85	□
EMC01030360	3.0	6	4.5	36	80	2.85	●
EMC01030400	3.0	6	4.5	40	90	2.85	●
EMC01040100	4.0	6	6.0	10	50	3.85	●
EMC01040120	4.0	6	6.0	12	50	3.85	□
EMC01040160	4.0	6	6.0	16	60	3.85	●
EMC01040200	4.0	6	6.0	20	60	3.85	□
EMC01040260	4.0	6	6.0	26	70	3.85	●
EMC01040300	4.0	6	6.0	30	70	3.85	□
EMC01040360	4.0	6	6.0	36	80	3.85	●
EMC01040400	4.0	6	6.0	40	90	3.85	●
EMC01040460	4.0	6	6.0	46	90	3.85	□
EMC01040500	4.0	6	6.0	50	100	3.85	●
EMC01050160	5.0	6	7.5	16	60	4.85	●
EMC01050200	5.0	6	7.5	20	60	4.85	□
EMC01050260	5.0	6	7.5	26	70	4.85	●
EMC01050300	5.0	6	7.5	30	80	4.85	●
EMC01050360	5.0	6	7.5	36	80	4.85	□
EMC01050400	5.0	6	7.5	40	80	4.85	□
EMC01050500	5.0	6	7.5	50	110	4.85	●
EMC01060200	6.0	6	9.0	20	80	5.85	●
EMC01060300	6.0	6	9.0	30	90	5.85	●
EMC01060400	6.0	6	9.0	40	100	5.85	●
EMC01060500	6.0	6	9.0	50	110	5.85	●

※ 上記产品的参数可根据特别的要求制作加工。

● : 标准品在库
□ : 询问营业部

2F LONG NECK

2刃, 颈部防啃长型

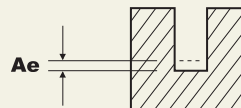


ALPHA-G

EMC01 Series

MATERIAL	NON-ALLOYED STEELS ALLOY STEELS CAST IRON			ALLOY STEELS HEAT RESISTANT STEELS			HARDENED STEELS		
材质	非合金钢, 合金钢, 铸铁			合金钢, 耐热钢			硬化钢		
HARDNESS	~ HRC 30			HRC 30 ~ HRC 45			HRC 45 ~ HRC 55		
STRENGTH	~ 1000N/mm ²			1000N/mm ² ~ 1500N/mm ²			1500N/mm ² ~ 2000N/mm ²		
DIAMETER	RPM	FEED	Ae (mm)	RPM	FEED	Ae (mm)	RPM	FEED	Ae (mm)
0.4	29700~37800	200~440	0.007~0.018	21600~27000	90~340	0.007~0.018	13500~16200	30~90	0.004~0.008
0.5	29700~37800	200~440	0.009~0.022	21600~27000	90~340	0.009~0.022	13500~16200	30~90	0.004~0.009
0.6	29700~37800	250~570	0.011~0.026	21600~27000	110~440	0.011~0.026	13500~16200	40~110	0.005~0.011
0.7	29700~37800	250~570	0.012~0.031	21600~27000	110~440	0.012~0.031	13500~16200	40~110	0.006~0.013
0.8	25650~33300	280~630	0.014~0.035	18450~23400	120~480	0.014~0.035	11700~13950	45~130	0.007~0.015
0.9	23400~29700	280~720	0.030~0.060	17100~21600	160~540	0.030~0.060	10350~12150	50~130	0.008~0.016
1	21600~27000	280~810	0.045~0.090	14850~18900	190~590	0.045~0.090	9450~12150	70~130	0.009~0.018
1.2	17550~21600	280~890	0.055~0.100	12600~15300	190~590	0.055~0.100	8100~9900	70~130	0.010~0.022
1.4	15300~18900	280~890	0.062~0.125	10800~13500	190~590	0.062~0.125	6750~8550	70~130	0.012~0.025
1.5	13950~18000	280~890	0.070~0.135	9900~13050	190~590	0.070~0.135	6300~7650	70~130	0.014~0.028
1.6	13500~17100	280~890	0.075~0.145	9900~12150	190~590	0.075~0.145	5850~7650	70~130	0.015~0.030
1.8	12600~16200	280~890	0.080~0.160	9000~10800	190~590	0.080~0.160	5400~6750	70~130	0.016~0.032
2	11250~13950	280~890	0.090~0.180	8100~9900	190~590	0.090~0.180	4950~6300	70~130	0.018~0.035
2.5	9000~11700	280~890	0.112~0.235	6300~8100	190~590	0.112~0.235	4050~4950	70~130	0.022~0.045
3	7650~9450	280~890	0.135~0.270	5400~6750	190~590	0.135~0.270	3150~4050	70~130	0.028~0.055
4	5850~7200	280~890	0.180~0.360	4050~4950	190~590	0.180~0.360	2430~3150	70~130	0.036~0.072
5	4500~5850	280~890	0.225~0.450	3150~4050	190~590	0.225~0.450	1980~2520	70~130	0.045~0.090
6	40500~4950	280~890	0.270~0.540	2700~3600	190~590	0.270~0.540	1800~2700	70~130	0.054~0.108

(Depth of Cut per one pass)



RPM = REVOLUTION PER MIN.
转速/分钟
FEED = mm/min.

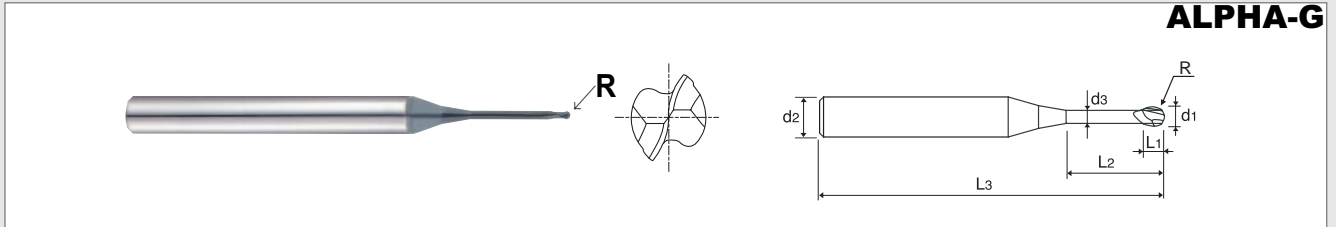
2F LONG NECK BALL END MILLS

2刃, 颈部加长型球头铣刀



- ▶ Designed for a general performance to carbon steel, tool steel, alloy steel, and stainless steel.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Excellent wear-resistance.

- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢
- ▶ 由于颈部稍细能够加工深槽。
- ▶ 高耐磨性。



ALPHA-G



RADIUS TOLERANCE(mm) 半径公差 (mm)	SHANK DIA. TOLERANCE 柄径公差
± 0.010	h6

EMC02 Series

Unit : mm

EDP No.	RADIUS OF BALL NOSE	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	LENGTH BELOW SHANK	OVERALL LENGTH	NECK DIAMETER	STOCK
型号	球头半径 R	刃部直径 d1	柄部直径 d2	刃长 L1	颈长 L2	全长 L3	颈径 d3	库存
EMC02004005	RO.2	0.4	4	0.4	0.5	45	0.37	●
EMC02004010	RO.2	0.4	4	0.4	1	45	0.37	□
EMC02004015	RO.2	0.4	4	0.4	1.5	45	0.37	□
EMC02004020	RO.2	0.4	4	0.4	2	45	0.37	●
EMC02004030	RO.2	0.4	4	0.4	3	45	0.37	□
EMC02004040	RO.2	0.4	4	0.4	4	45	0.37	□
EMC02004050	RO.2	0.4	4	0.4	5	45	0.37	□
EMC02005010	RO.25	0.5	4	0.5	1	45	0.45	●
EMC02005020	RO.25	0.5	4	0.5	2	45	0.45	□
EMC02005030	RO.25	0.5	4	0.5	3	45	0.45	□
EMC02005040	RO.25	0.5	4	0.5	4	45	0.45	□
EMC02005050	RO.25	0.5	4	0.5	5	45	0.45	●
EMC02005060	RO.25	0.5	4	0.5	6	45	0.45	□
EMC02005080	RO.25	0.5	4	0.5	8	45	0.45	□
EMC02006010	RO.3	0.6	4	0.6	1	45	0.55	●
EMC02006020	RO.3	0.6	4	0.6	2	45	0.55	□
EMC02006030	RO.3	0.6	4	0.6	3	45	0.55	□
EMC02006040	RO.3	0.6	4	0.6	4	45	0.55	●
EMC02006050	RO.3	0.6	4	0.6	5	45	0.55	□
EMC02006060	RO.3	0.6	4	0.6	6	45	0.55	□
EMC02006080	RO.3	0.6	4	0.6	8	45	0.55	□
EMC02006100	RO.3	0.6	4	0.6	10	45	0.55	□

※ 上記产品的参数可根据特别的要求制作加工。

● : 标准品在库
□ : 询问营业部

2F LONG NECK BALL END MILLS

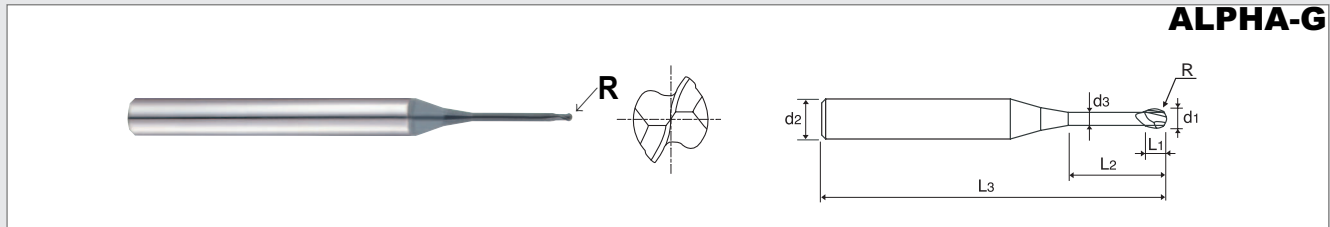
2刃, 颈部细长型球头铣刀



- ▶ Designed for a general performance to carbon steel, tool steel, alloy steel, and stainless steel.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Excellent wear-resistance.

- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢
- ▶ 由于颈部稍细能够加工深槽.
- ▶ 高耐磨性.

ALPHA-G



RADIUS TOLERANCE(mm) 半径公差 (mm)	SHANK DIA. TOLERANCE 柄径公差
± 0.010	h6

EMC02 Series

Unit : mm

EDP No. 型号	RADIUS OF BALL NOSE 球头半径 R	MILL DIAMETER 刃部直径 d ₁	SHANK DIAMETER 柄部直径 d ₂	LENGTH OF CUT 刃长 L ₁	LENGTH BELOW SHANK 颈长 L ₂	OVERALL LENGTH 全长 L ₃	NECK DIAMETER 颈径 d ₃	STOCK 库存
EMC02008020	RO.4	0.8	4	0.8	2	45	0.75	●
EMC02008040	RO.4	0.8	4	0.8	4	45	0.75	□
EMC02008060	RO.4	0.8	4	0.8	6	45	0.75	□
EMC02008080	RO.4	0.8	4	0.8	8	45	0.75	●
EMC02008100	RO.4	0.8	4	0.8	10	45	0.75	□
EMC02010030	RO.5	1	4	1.0	3	45	0.95	●
EMC02010040	RO.5	1	4	1.0	4	45	0.95	□
EMC02010050	RO.5	1	4	1.0	5	45	0.95	□
EMC02010060	RO.5	1	4	1.0	6	45	0.95	□
EMC02010070	RO.5	1	4	1.0	7	45	0.95	□
EMC02010080	RO.5	1	4	1.0	8	45	0.95	●
EMC02010100	RO.5	1	4	1.0	10	45	0.95	□
EMC02010120	RO.5	1	4	1.0	12	45	0.95	□
EMC02010140	RO.5	1	4	1.0	14	50	0.95	□
EMC02010160	RO.5	1	4	1.0	16	50	0.95	●
EMC02010200	RO.5	1	4	1.0	20	55	0.95	●

❖ 上記产品的参数可根据特别的要求制作加工.

● : 标准品在库
□ : 询问营业部

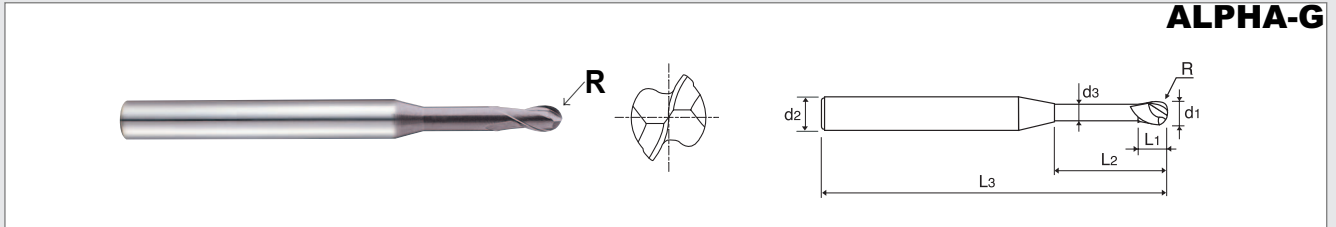
2F LONG NECK BALL END MILLS

2刃, 颈部加长型球头铣刀



- ▶ Designed for a general performance to carbon steel, tool steel, alloy steel, and stainless steel.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Excellent wear-resistance.

- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢
- ▶ 由于颈部稍细能够加工深槽。
- ▶ 高耐磨性。



ALPHA-G



RADIUS TOLERANCE(mm) 半径公差 (mm)	SHANK DIA. TOLERANCE 柄径公差
± 0.010	h6

EMC02 Series

Unit : mm

EDP No. 型号	RADIUS OF BALL NOSE 球头半径 R	MILL DIAMETER 刃部直径 d ₁	SHANK DIAMETER 柄部直径 d ₂	LENGTH OF CUT 刃长 L ₁	LENGTH BELOW SHANK 颈长 L ₂	OVERALL LENGTH 全长 L ₃	NECK DIAMETER 颈径 d ₃	STOCK 库存
EMC02012040	RO.6	1.2	4	1.2	4	45	1.15	●
EMC02012060	RO.6	1.2	4	1.2	6	45	1.15	□
EMC02012080	RO.6	1.2	4	1.2	8	45	1.15	□
EMC02012100	RO.6	1.2	4	1.2	10	45	1.15	●
EMC02012120	RO.6	1.2	4	1.2	12	45	1.15	□
EMC02014080	RO.7	1.4	4	1.4	8	45	1.35	●
EMC02014120	RO.7	1.4	4	1.4	12	45	1.35	□
EMC02014160	RO.7	1.4	4	1.4	16	50	1.35	●
EMC02015040	RO.75	1.5	4	1.5	4	45	1.45	●
EMC02015060	RO.75	1.5	4	1.5	6	45	1.45	□
EMC02015080	RO.75	1.5	4	1.5	8	45	1.45	□
EMC02015100	RO.75	1.5	4	1.5	10	45	1.45	□
EMC02015120	RO.75	1.5	4	1.5	12	45	1.45	□
EMC02015140	RO.75	1.5	4	1.5	14	50	1.45	●
EMC02015160	RO.75	1.5	4	1.5	16	50	1.45	□
EMC02015200	RO.75	1.5	4	1.5	20	55	1.45	●
EMC02016080	RO.8	1.6	4	1.6	8	45	1.55	●
EMC02016120	RO.8	1.6	4	1.6	12	45	1.55	□
EMC02016160	RO.8	1.6	4	1.6	16	50	1.55	●
EMC02016200	RO.8	1.6	4	1.6	20	55	1.55	●
EMC02018080	RO.9	1.8	4	1.8	8	45	1.75	●
EMC02018120	RO.9	1.8	4	1.8	12	45	1.75	□
EMC02018160	RO.9	1.8	4	1.8	16	50	1.75	●
EMC02018200	RO.9	1.8	4	1.8	20	55	1.75	●
EMC02020040	R1.0	2	4	2.0	4	45	1.95	●
EMC02020060	R1.0	2	4	2.0	6	45	1.95	□
EMC02020080	R1.0	2	4	2.0	8	45	1.95	□
EMC02020100	R1.0	2	4	2.0	10	45	1.95	□
EMC02020120	R1.0	2	4	2.0	12	50	1.95	●
EMC02020140	R1.0	2	4	2.0	14	50	1.95	□
EMC02020160	R1.0	2	4	2.0	16	50	1.95	□
EMC02020180	R1.0	2	4	2.0	18	55	1.95	●
EMC02020200	R1.0	2	4	2.0	20	55	1.95	□
EMC02020220	R1.0	2	4	2.0	22	60	1.95	●
EMC02020260	R1.0	2	4	2.0	26	70	1.95	□
EMC02020300	R1.0	2	4	2.0	30	70	1.95	●

2F LONG NECK BALL END MILLS

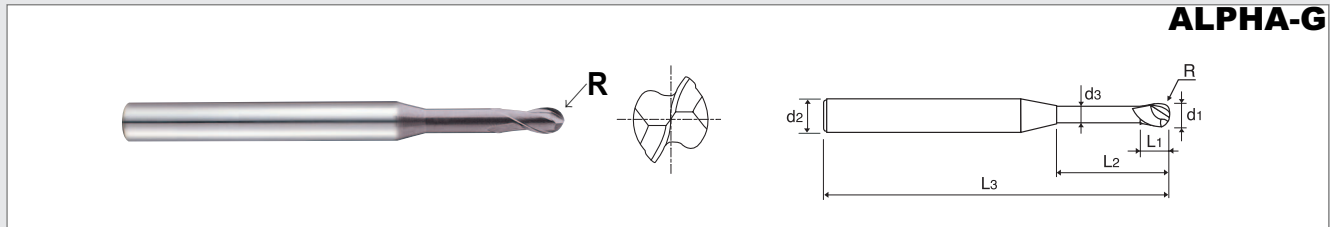
2刃, 颈部细长型球头铣刀



- ▶ Designed for a general performance to carbon steel, tool steel, alloy steel, and stainless steel.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Excellent wear-resistance.

- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢
- ▶ 由于颈部稍细能够加工深槽。
- ▶ 高耐磨性。

ALPHA-G



RADIUS TOLERANCE(mm) 半径公差 (mm)	SHANK DIA. TOLERANCE 柄径公差
± 0.010	h6

EMC02 Series

Unit : mm

EDP No. 型号	RADIUS OF BALL NOSE 球头半径 R	MILL DIAMETER 刃部直径 d ₁	SHANK DIAMETER 柄部直径 d ₂	LENGTH OF CUT 刃长 L ₁	LENGTH BELOW SHANK 颈长 L ₂	OVERALL LENGTH 全长 L ₃	NECK DIAMETER 颈径 d ₃	STOCK 库存
EMC02025080	R1.25	2.5	6	2.5	8	50	2.4	●
EMC02025100	R1.25	2.5	6	2.5	10	50	2.4	□
EMC02025160	R1.25	2.5	6	2.5	16	55	2.4	●
EMC02025200	R1.25	2.5	6	2.5	20	60	2.4	●
EMC02030080	R1.5	3	6	3.0	8	50	2.85	●
EMC02030100	R1.5	3	6	3.0	10	50	2.85	●
EMC02030120	R1.5	3	6	3.0	12	50	2.85	□
EMC02030140	R1.5	3	6	3.0	14	55	2.85	●
EMC02030160	R1.5	3	6	3.0	16	55	2.85	□
EMC02030180	R1.5	3	6	3.0	18	60	2.85	●
EMC02030200	R1.5	3	6	3.0	20	60	2.85	□
EMC02030260	R1.5	3	6	3.0	26	70	2.85	●
EMC02030300	R1.5	3	6	3.0	30	70	2.85	□
EMC02030360	R1.5	3	6	3.0	36	80	2.85	●
EMC02040100	R2.0	4	6	4.0	10	60	3.85	●
EMC02040120	R2.0	4	6	4.0	12	60	3.85	□
EMC02040160	R2.0	4	6	4.0	16	60	3.85	□
EMC02040200	R2.0	4	6	4.0	20	65	3.85	●
EMC02040260	R2.0	4	6	4.0	26	70	3.85	●
EMC02040300	R2.0	4	6	4.0	30	70	3.85	□
EMC02040360	R2.0	4	6	4.0	36	80	3.85	●
EMC02040400	R2.0	4	6	4.0	40	90	3.85	●
EMC02040460	R2.0	4	6	4.0	46	90	3.85	□
EMC02040500	R2.0	4	6	4.0	50	100	3.85	●

❖ 上記产品的参数可根据特别的要求制作加工。

● : 标准品在库
□ : 询问营业部

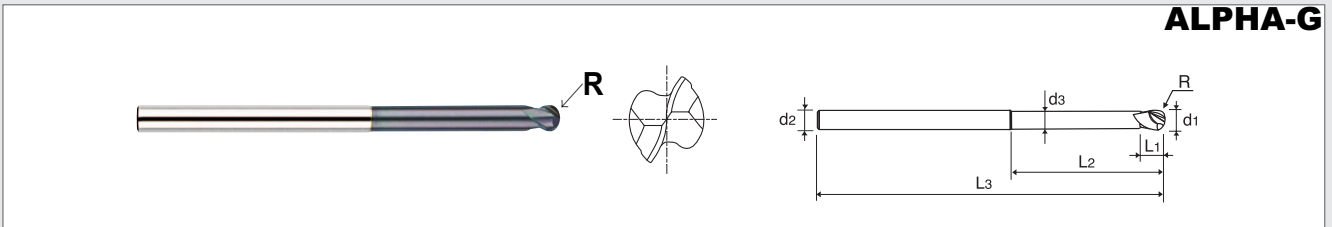
2F LONG NECK BALL END MILLS

2刃, 颈部细长型球头铣刀



- ▶ Designed for a general performance to carbon steel, tool steel, alloy steel, and stainless steel .
- ▶ Deep slotting is possible by reduced neck.
- ▶ Excellent wear-resistance.

- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢
- ▶ 由于颈部稍细能够加工深槽.
- ▶ 高耐磨性.



RADIUS TOLERANCE(mm) 半径公差 (mm)	SHANK DIA. TOLERANCE 柄径公差
± 0.010	h6

EMC02 Series

Unit : mm

EDP No.	RADIUS OF BALL NOSE	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	LENGTH BELOW SHANK	OVERALL LENGTH	NECK DIAMETER	STOCK
型号	球头半径 R	刃部直径 d ₁	柄部直径 d ₂	刃长 L ₁	颈长 L ₂	全长 L ₃	颈径 d ₃	库存
EMC02050160	R2.5	5	6	5.0	16	60	4.85	●
EMC02050200	R2.5	5	6	5.0	20	60	4.85	□
EMC02050260	R2.5	5	6	5.0	26	70	4.85	●
EMC02050300	R2.5	5	6	5.0	30	80	4.85	●
EMC02050360	R2.5	5	6	5.0	36	80	4.85	□
EMC02060200	R3.0	6	6	6.0	20	80	5.85	□
EMC02060300	R3.0	6	6	6.0	30	90	5.85	●
EMC02060400	R3.0	6	6	6.0	40	100	5.85	●
EMC02060500	R3.0	6	6	6.0	50	110	5.85	●

❖ 上記产品的参数可根据特别的要求制作加工.

● : 标准品在库
□ : 询问营业部

2F LONG NECK BALL

2刃, 颈部防啃长型球头铣刀

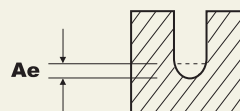


ALPHA-G

EMC02 Series

MATERIAL	NON-ALLOYED STEELS ALLOY STEELS CAST IRON			ALLOY STEELS HEAT RESISTANT STEELS			HARDENED STEELS		
材质	非合金钢, 合金钢, 铸铁			合金钢, 耐热钢			硬化钢		
HARDNESS	~ HRC 30			HRC 30 ~ HRC 45			HRC 45 ~ HRC 55		
STRENGTH	~ 1000N/mm ²			1000N/mm ² ~ 1500N/mm ²			1500N/mm ² ~ 2000N/mm ²		
DIAMETER	RPM	FEED	Ae (mm)	RPM	FEED	Ae (mm)	RPM	FEED	Ae (mm)
R 0.2	29700~37800	180~490	0.018~0.036	21600~27000	90~270	0.018~0.036	13500~17100	90~180	0.004~0.007
R 0.25	29700~37800	180~490	0.023~0.045	21600~27000	90~270	0.023~0.045	13500~17100	90~180	0.005~0.009
R 0.3	29700~37800	225~630	0.027~0.054	21600~27000	110~350	0.027~0.054	13500~17100	110~225	0.005~0.011
R 0.4	29700~37800	225~630	0.036~0.072	21600~27000	110~350	0.036~0.072	13500~17100	110~225	0.007~0.014
R 0.5	27000~34200	250~690	0.045~0.090	19800~24300	130~390	0.045~0.090	12150~15750	130~250	0.009~0.018
R 0.6	22500~28800	250~770	0.055~0.100	16200~20700	130~390	0.055~0.100	10350~13050	130~250	0.010~0.022
R 0.7	19800~24300	250~770	0.062~0.125	14400~17100	130~390	0.062~0.125	9000~11250	130~250	0.012~0.025
R 0.75	1800~22500	250~770	0.070~0.135	13050~16650	130~390	0.070~0.135	8550~10350	130~250	0.014~0.028
R 0.8	17100~22500	250~770	0.075~0.145	12600~15750	130~390	0.075~0.145	8100~9900	130~250	0.015~0.030
R 0.9	16200~20700	250~770	0.080~0.160	11250~14400	130~390	0.080~0.160	7200~9000	130~250	0.016~0.032
R 1	14400~18000	250~770	0.090~0.180	10350~13050	130~390	0.090~0.180	6750~8100	130~250	0.018~0.035
R 1.5	9900~12600	250~770	0.135~0.270	6750~8550	130~390	0.135~0.270	4500~5400	130~250	0.028~0.055
R 2	8100~10800	250~770	0.180~0.360	5490~7380	130~390	0.180~0.360	3600~4500	130~250	0.035~0.070
R 2.5	6300~8100	250~770	0.225~0.450	4500~5850	130~390	0.225~0.450	2930~3690	130~250	0.044~0.088
R 3	5400~7200	250~770	0.270~0.540	3600~4950	130~390	0.270~0.540	2250~3150	130~250	0.053~0.105

(Depth of Cut per one pass)



RPM = REVOLUTION PER MIN.
转速/分钟
FEED = mm/min.

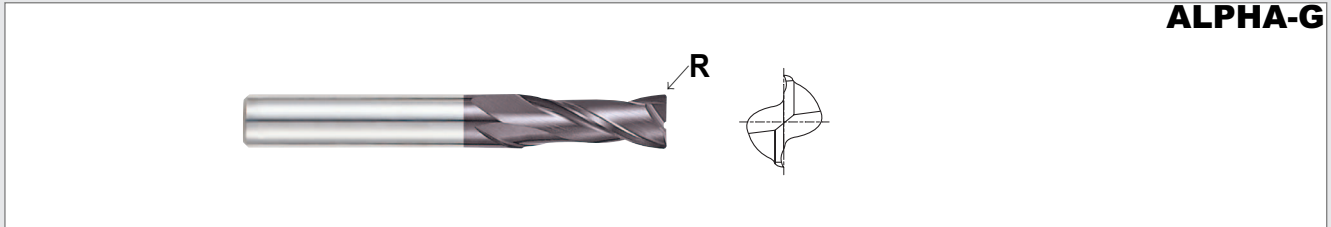
2F CORNER RADIUS END MILLS

2刃, 圆弧角铣刀



- ▶ Designed for a general performance to carbon steel, tool steel, alloy steel, and stainless steel .
- ▶ Excellent wear resistance.
- ▶ Corner radius against chipping in high speed machining.
- ▶ Application in high speed machining, coolant and drys Cutting Condition.

- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢
- ▶ 高耐磨性
- ▶ 弧形角可防止高速切削时崩刃
- ▶ 适合于高速加工, 冷却液及干式切削条件



ALPHA-G



MILL DIA. TOLERANCE(mm) 刃径公差(mm)	SHANK DIA. TOLERANCE 柄径公差
0 - 0.030	h6

EMC03 Series

Unit : mm

EDP No.	CORNER RADIUS	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	OVERALL LENGTH	STOCK
型号	圆弧半径	刃部直径	柄部直径	刃长	全长	库存
EMC0303002	R0.2	3.0	6	10	70	□
EMC0303003	R0.3	3.0	6	10	70	□
EMC0303005	R0.5	3.0	6	10	70	●
EMC0304002	R0.2	4.0	6	12	70	□
EMC0304003	R0.3	4.0	6	12	70	□
EMC0304005	R0.5	4.0	6	12	70	●
EMC0304010	R1.0	4.0	6	12	70	●
EMC0305002	R0.2	5.0	6	15	80	□
EMC0305003	R0.3	5.0	6	15	80	□
EMC0305005	R0.5	5.0	6	15	80	●
EMC0305010	R1.0	5.0	6	15	80	●
EMC0306002	R0.2	6.0	6	15	90	□
EMC0306003	R0.3	6.0	6	15	90	□
EMC0306005	R0.5	6.0	6	15	90	●
EMC0306010	R1.0	6.0	6	15	90	●
EMC0308003	R0.3	8.0	8	20	100	□
EMC0308005	R0.5	8.0	8	20	100	●
EMC0308010	R1.0	8.0	8	20	100	●
EMC0308015	R1.5	8.0	8	20	100	●
EMC0308020	R2.0	8.0	8	20	100	●
EMC0310003	R0.3	10.0	10	25	100	□
EMC0310005	R0.5	10.0	10	25	100	●
EMC0310010	R1.0	10.0	10	25	100	●
EMC0310015	R1.5	10.0	10	25	100	●
EMC0310020	R2.0	10.0	10	25	100	●
EMC0310025	R2.5	10.0	10	25	100	●
EMC0312003	R0.3	12.0	12	30	110	□
EMC0312005	R0.5	12.0	12	30	110	●
EMC0312010	R1.0	12.0	12	30	110	●
EMC0312015	R1.5	12.0	12	30	110	●
EMC0312020	R2.0	12.0	12	30	110	●
EMC0312025	R2.5	12.0	12	30	110	●
EMC0312030	R3.0	12.0	12	30	110	●

❖ 上記产品的参数可根据特别的要求制作加工.

● : 标准品在库
□ : 询问营业部

2F CORNER RADIUS

2刃, 圆弧角铣刀

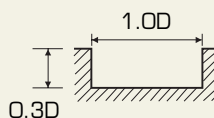


ALPHA-G

EMC03 Series

SLOTTING

MATERIAL	NON-ALLOYED STEELS ALLOY STEELS CAST IRON		ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS	
材质	非合金钢, 合金钢, 铸铁		合金钢, 耐热钢		硬化钢	
HARDNESS	~ HRC 30		HRC 30 ~ HRC 45		HRC 45 ~ HRC 55	
STRENGTH	~ 1000N/mm ²		1000N/mm ² ~ 1500N/mm ²		1500N/mm ² ~ 2000N/mm ²	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED
3	6255	140	4050	70	2970	50
4	5040	180	3240	90	2430	50
5	4320	220	2745	100	2115	70
6	3735	260	2385	130	1845	80
8	2835	190	1800	130	1440	80
10	1935	225	1530	130	1125	80
12	1620	180	1350	120	945	70
16	1620	190	990	90	670	50
20	1170	140	770	60	560	40

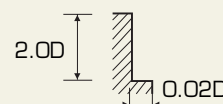


RPM = REVOLUTION PER MIN.
转速/分钟
FEED = mm/min.

EMC03 Series

SIDE CUTTING

MATERIAL	NON-ALLOYED STEELS ALLOY STEELS CAST IRON		ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS	
材质	非合金钢, 合金钢, 铸铁		合金钢, 耐热钢		硬化钢	
HARDNESS	~ HRC 30		HRC 30 ~ HRC 45		HRC 45 ~ HRC 55	
STRENGTH	~ 1000N/mm ²		1000N/mm ² ~ 1500N/mm ²		1500N/mm ² ~ 2000N/mm ²	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED
3	6255	180	4050	135	2970	90
4	5040	220	3240	150	2430	95
5	4320	225	2745	190	2115	110
6	3735	225	2385	190	1845	110
8	2835	240	1800	190	1440	110
10	1935	240	1530	190	1125	110
12	1620	190	1350	170	945	95
16	1620	170	990	125	760	80
20	1170	120	770	95	560	60



RPM = REVOLUTION PER MIN.
转速/分钟
FEED = mm/min.

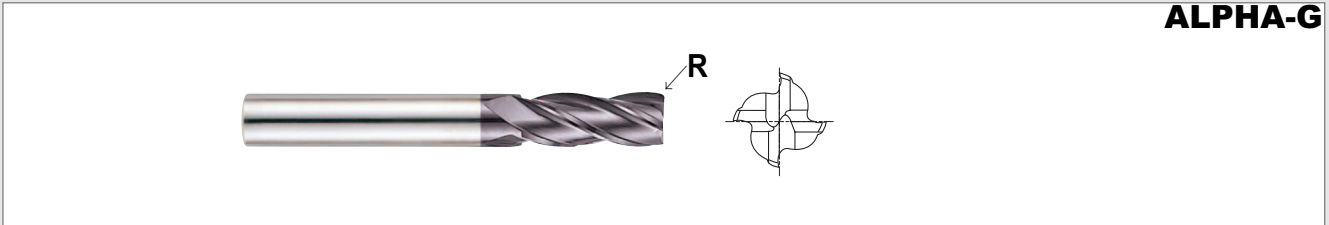
4F CORNER RADIUS END MILLS

4刃, 圆弧角铣刀



- ▶ Designed for a general performance to carbon steel, tool steel, alloy steel, and stainless steel .
- ▶ Excellent wear resistance.
- ▶ 4 flute allows for better work piece finishes.
- ▶ Corner radius against chipping in high speed machining.
- ▶ Application in high speed machining, coolant and dry Cutting Condition.

- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢
- ▶ 高耐磨性
- ▶ 4刃可得到较好的表面粗糙度
- ▶ 弧形角可防止高速切削时崩刃
- ▶ 适合于高速加工, 冷却液及干式切削条件



ALPHA-G



MILL DIA. TOLERANCE(mm) 刃径公差 (mm)	SHANK DIA. TOLERANCE 柄径公差
0 - 0.030	h6

EMC04 Series

Unit : mm

EDP No.	CORNER RADIUS	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	OVERALL LENGTH	STOCK
型号	圆弧半径	刃部直径	柄部直径	刃长	全长	库存
EMC0403002	R0.2	3.0	6	10	70	<input type="checkbox"/>
EMC0403003	R0.3	3.0	6	10	70	<input type="checkbox"/>
EMC0403005	R0.5	3.0	6	10	70	<input checked="" type="checkbox"/>
EMC0404002	R0.2	4.0	6	12	70	<input type="checkbox"/>
EMC0404003	R0.3	4.0	6	12	70	<input type="checkbox"/>
EMC0404005	R0.5	4.0	6	12	70	<input checked="" type="checkbox"/>
EMC0404010	R1.0	4.0	6	12	70	<input checked="" type="checkbox"/>
EMC0405002	R0.2	5.0	6	15	80	<input type="checkbox"/>
EMC0405003	R0.3	5.0	6	15	80	<input type="checkbox"/>
EMC0405005	R0.5	5.0	6	15	80	<input checked="" type="checkbox"/>
EMC0405010	R1.0	5.0	6	15	80	<input checked="" type="checkbox"/>
EMC0406002	R0.2	6.0	6	15	90	<input type="checkbox"/>
EMC0406003	R0.3	6.0	6	15	90	<input type="checkbox"/>
EMC0406005	R0.5	6.0	6	15	90	<input checked="" type="checkbox"/>
EMC0406010	R1.0	6.0	6	15	90	<input checked="" type="checkbox"/>
EMC0408003	R0.3	8.0	8	20	100	<input type="checkbox"/>
EMC0408005	R0.5	8.0	8	20	100	<input checked="" type="checkbox"/>
EMC0408010	R1.0	8.0	8	20	100	<input checked="" type="checkbox"/>
EMC0408015	R1.5	8.0	8	20	100	<input checked="" type="checkbox"/>
EMC0408020	R2.0	8.0	8	20	100	<input checked="" type="checkbox"/>
EMC0410003	R0.3	10.0	10	25	100	<input type="checkbox"/>
EMC0410005	R0.5	10.0	10	25	100	<input checked="" type="checkbox"/>
EMC0410010	R1.0	10.0	10	25	100	<input checked="" type="checkbox"/>
EMC0410015	R1.5	10.0	10	25	100	<input checked="" type="checkbox"/>
EMC0410020	R2.0	10.0	10	25	100	<input checked="" type="checkbox"/>
EMC0410025	R2.5	10.0	10	25	100	<input checked="" type="checkbox"/>
EMC0412005	R0.5	12.0	12	30	110	<input checked="" type="checkbox"/>
EMC0412010	R1.0	12.0	12	30	110	<input checked="" type="checkbox"/>
EMC0412015	R1.5	12.0	12	30	110	<input checked="" type="checkbox"/>
EMC0412020	R2.0	12.0	12	30	110	<input checked="" type="checkbox"/>
EMC0412025	R2.5	12.0	12	30	110	<input checked="" type="checkbox"/>
EMC0412030	R3.0	12.0	12	30	110	<input checked="" type="checkbox"/>

❖ 上記产品的参数可根据特别的要求制作加工.

● : 标准品在库
□ : 询问营业部

4F CORNER RADIUS

4刃, 圆弧角铣刀



ALPHA-G

EMC04 Series

MATERIAL	NON-ALLOYED STEELS ALLOY STEELS CAST IRON		ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS	
材质	非合金钢, 合金钢, 铸铁		合金钢, 耐热钢		硬化钢	
HARDNESS	~ HRC 30		HRC 30 ~ HRC 45		HRC 45 ~ HRC 55	
STRENGTH	~ 1000N/mm ²		1000N/mm ² ~ 1500N/mm ²		1500N/mm ² ~ 2000N/mm ²	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED
3	6255	180	4050	135	2970	90
4	5040	220	3240	150	2430	95
5	4320	225	2745	190	2115	110
6	3735	225	2385	190	1845	110
8	2835	240	1800	190	1440	110
10	1935	240	1530	190	1125	110
12	1620	190	1350	170	945	95
16	1620	170	990	130	760	80
20	1170	120	770	95	560	60

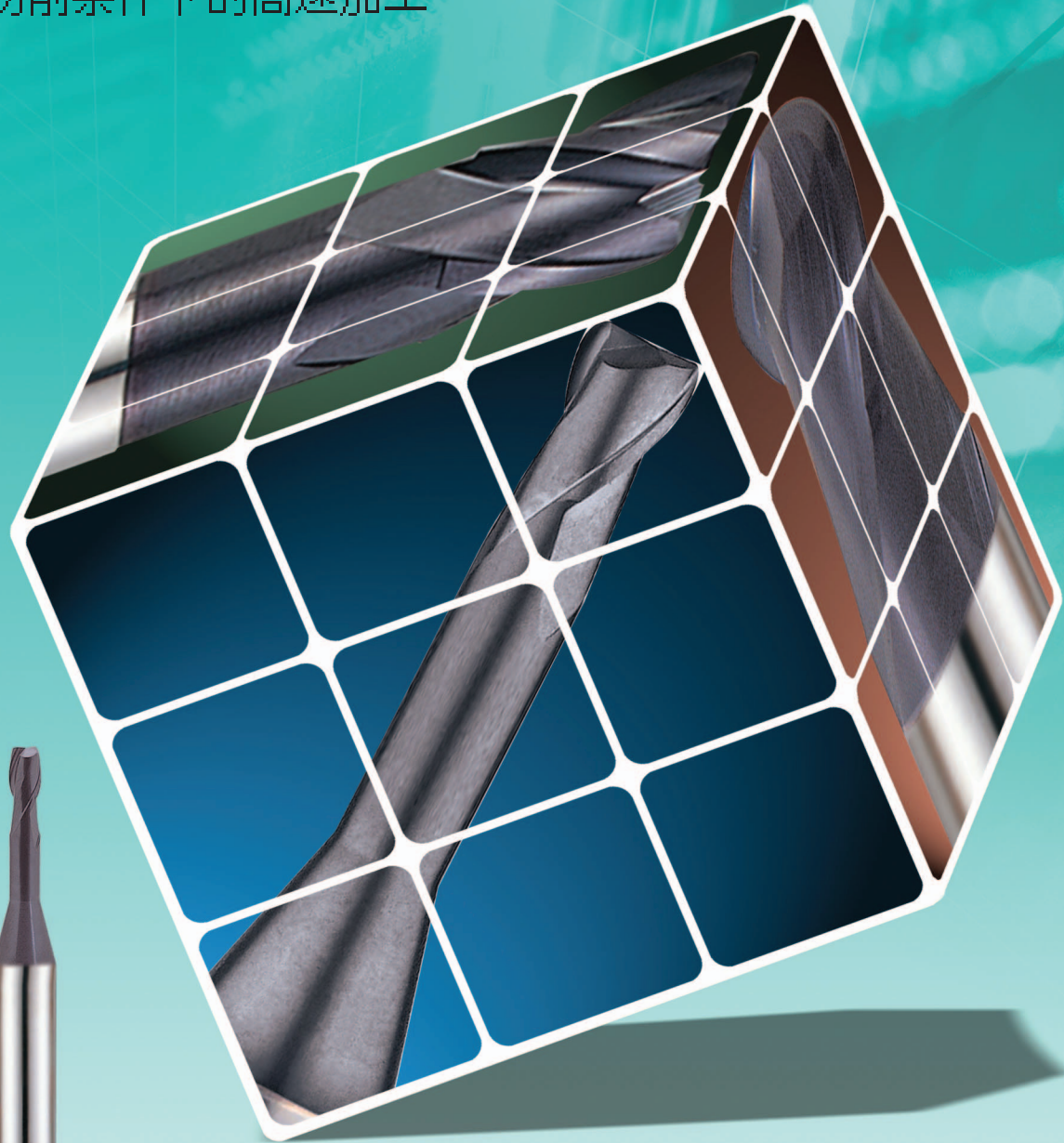
2.0D
0.05D

2.0D
0.02D

RPM = REVOLUTION PER MIN.
转速/分钟
FEED = mm/min.

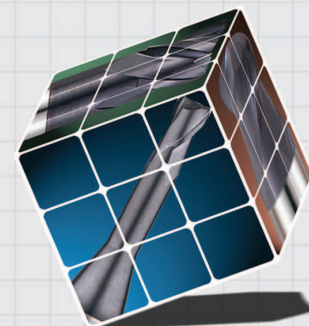
ALPHA-PLUS

- High Grade Carbide Endmills
- For Machining of Hardened Mold, Die and Alloy Steels up to HRc65
- For High Speed Maching in Dry Cutting Condition
- 高级硬质合金铣刀
- 用于加工硬度高达HRc65的铸型,冲模和合金钢
- 适合于干式切削条件下的高速加工



ALPHA-PLUS INDEX

EDP No	MODEL	ITEM	PAGE
GFC05		2 FLUTE, EXTENDED NECK 2刃, 颈部延伸铣刀	37
GFC06		4 FLUTE, EXTENDED NECK 4刃, 颈部延伸铣刀	39
GFC07		2 FLUTE, SHORT LENGTH, BALL NOSE 2刃, 短型, 球头铣刀	41
GFC08		2 FLUTE, STUB CUT LENGTH, BALL NOSE WITH EXTENDED NECK 2刃, 超短型切削刃, 颈部延伸的球头铣刀	42



ALPHA-PLUS

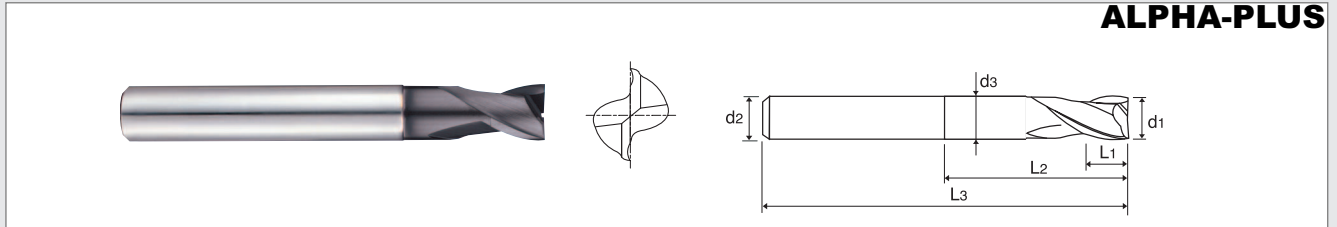
2 FLUTE, EXTENDED NECK

2刃, 颈部延伸

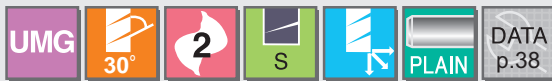


- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finishes.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Superior wear-resistance.

- ▶ 为加工高硬度材料设计。
- ▶ 适于干式切削, 高速切削, 最新开发的原材料和涂层。
- ▶ 卓越的工件表面粗糙度。
- ▶ 由于颈部精细能够加工深槽。
- ▶ 极高的耐磨性。



ALPHA-PLUS



MILL DIA. TOLERANCE (mm) 刃径公差 (mm)		SHANK DIA. TOLERANCE 柄径公差
DIAMETER 直径	TOLERANCE 公差	
~Ø6 以下	-0.015 ~ 0	h6
Ø6 超过~	-0.020 ~ 0	

GFC05 Series

Unit : mm

EDP No. 型号	MILL DIAMETER 刃部直径 d ₁	SHANK DIAMETER 柄部直径 d ₂	LENGTH OF CUT 刃长 L ₁	LENGTH BELOW SHANK 颈长 L ₂	OVERALL LENGTH 全长 L ₃	NECK DIAMETER 颈径 d ₃	STOCK 库存
GFC05004	0.4	4	0.8	-	40	-	●
GFC05005	0.5	4	1	-	40	-	●
GFC05006	0.6	4	1.2	-	40	-	●
GFC05007	0.7	4	1.4	-	40	-	●
GFC05008	0.8	4	1.6	-	40	-	●
GFC05009	0.9	4	2	-	40	-	●
GFC05010	1.0	6	1.5	3	50	0.95	●
GFC05015	1.5	6	1.7	4	50	1.45	●
GFC05020	2.0	6	2	5	50	1.95	●
GFC05025	2.5	6	2.5	6	55	2.4	●
GFC05030	3.0	6	3	8	55	2.85	●
GFC05035	3.5	6	3.5	9	55	3.35	●
GFC05040	4.0	6	4	10	55	3.85	●
GFC05050	5.0	6	5	13	55	4.85	●
GFC05060	6.0	6	6	15	55	5.85	●
GFC05080	8.0	8	8	20	65	7.7	●
GFC05100	10.0	10	10	25	75	9.7	●
GFC05120	12.0	12	12	28	85	11.7	●
GFC05160	16.0	16	16	32	90	15.7	●
GFC05200	20.0	20	20	40	105	19.7	●

❖ 上記产品的参数可根据特别的要求制作加工。

● : 标准品在库
□ : 询问营业部

2 FLUTE, EXTENDED NECK

2刃, 颈部延伸



ALPHA-PLUS

GFC05 Series

SLOTTING

MATERIAL	HARDENED STEELS HEAT RESISTANT STEELS		HARDENED STEELS							
材质	硬化钢, 耐热钢		硬化钢							
HARDNESS	HRc 30 ~ HRc 40		HRc 40 ~ HRc 50		HRc 50 ~ HRc 55		HRc 55 ~ HRc 60		HRc 60 ~ HRc 65	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
0.5	18750	130	16875	100	15000	80	12375	50	9375	30
0.6	18750	165	16875	130	15000	100	11250	55	9375	40
0.8	18750	210	16875	150	11250	100	9375	60	7125	40
1	18000	260	14250	200	9560	130	7690	80	6000	50
2	12490	300	9750	240	6560	150	5440	90	4125	55
3	8175	300	6490	240	4310	150	3560	90	2810	55
4	6260	310	4950	250	3300	160	2700	95	2100	60
5	5890	350	4690	280	3110	180	2400	100	1910	60
6	4910	330	3880	270	2590	170	1990	100	1575	60
8	3705	330	2925	250	1950	160	1500	90	1200	60
10	2925	300	2310	240	1540	150	1200	85	960	50
12	2490	300	1970	240	1310	150	990	85	790	50

RPM = REVOLUTION PER MIN.
转速/分钟
FEED = mm/min.
D = DIAMETER

2 FLUTE, EXTENDED NECK

2刃, 颈部延伸

GFC05 Series

SIDE CUTTING

MATERIAL	HARDENED STEELS HEAT RESISTANT STEELS		HARDENED STEELS							
材质	硬化钢, 耐热钢		硬化钢							
HARDNESS	HRc 30 ~ HRc 40		HRc 40 ~ HRc 50		HRc 50 ~ HRc 55		HRc 55 ~ HRc 60		HRc 60 ~ HRc 65	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
0.5	18750	90	16875	70	15000	55	12375	35	9375	20
0.6	18750	120	16875	90	15000	70	11250	40	9375	30
0.8	18750	150	16875	110	11250	70	9375	40	7125	30
1	18000	370	14250	290	9560	180	7690	110	6000	70
2	12490	420	9750	340	6560	210	5440	130	4125	80
3	8175	420	6490	340	4310	210	3560	130	2810	80
4	6260	440	4950	350	3300	220	2700	135	2100	85
5	5890	510	4690	405	3110	250	2400	140	1910	90
6	4910	475	3880	390	2590	240	1990	140	1575	90
8	3705	465	2925	360	1950	220	1500	130	1200	80
10	2925	420	2310	340	1540	210	1200	120	960	80
12	2490	420	1970	340	1310	210	990	120	790	80

RPM = REVOLUTION PER MIN.
转速/分钟
FEED = mm/min.
D = DIAMETER

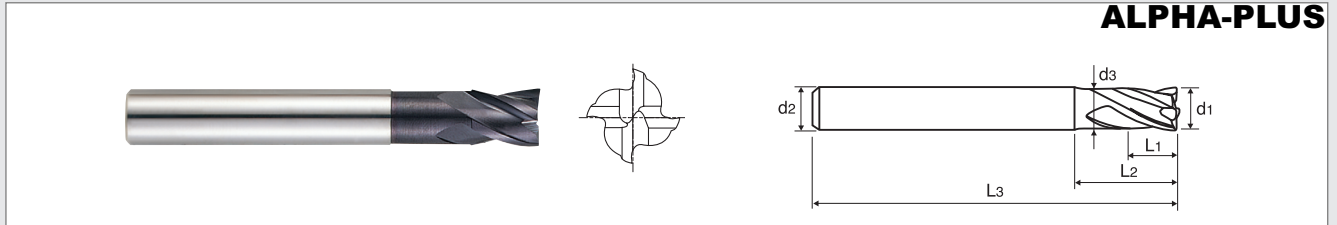
4 FLUTE, EXTENDED NECK

4刃, 颈部延伸

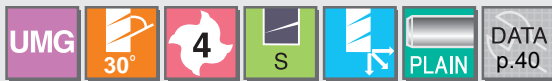


- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finishes.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Superior wear-resistance.

- ▶ 为加工高硬度材料设计。
- ▶ 适于干式切削, 高速切削, 最新开发的原材料和涂层。
- ▶ 卓越的工件表面粗糙度。
- ▶ 由于颈部精细能够加工深槽。
- ▶ 极高的耐磨性。



ALPHA-PLUS



MILL DIA. TOLERANCE(mm) 刃径公差 (mm)		SHANK DIA. TOLERANCE 柄径公差
DIAMETER 直径	TOLERANCE 公差	
~Ø6 以下	-0.015 ~ 0	
Ø6 超过~	-0.020 ~ 0	h6

GFC06 Series

Unit : mm

EDP No.	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	LENGTH BELOW SHANK	OVERALL LENGTH	NECK DIAMETER	STOCK
型号	刃部直径 d1	柄部直径 d2	刃长 L1	颈长 L2	全长 L3	颈径 d3	库存
GFC06010	1.0	6	1.5	3	50	0.95	●
GFC06020	2.0	6	2	5	50	1.95	●
GFC06030	3.0	6	3	8	55	2.85	●
GFC06040	4.0	6	4	10	55	3.85	●
GFC06050	5.0	6	5	13	55	4.85	●
GFC06060	6.0	6	6	15	55	5.85	●
GFC06080	8.0	8	8	20	65	7.7	●
GFC06100	10.0	10	10	25	75	9.7	●
GFC06120	12.0	12	12	28	85	11.7	●
GFC06160	16.0	16	16	32	90	15.7	●
GFC06200	20.0	20	20	40	105	19.7	●

❖ 上記产品的参数可根据特别的要求制作加工.

- : 标准品在库
- : 询问营业部

4 FLUTE, EXTENDED NECK

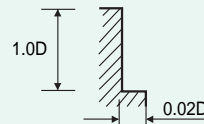
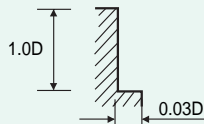
4刃, 颈部延伸



GFC06 Series

SIDE CUTTING

MATERIAL	HARDENED STEELS HEAT RESISTANT STEELS		HARDENED STEELS							
材质	硬化钢, 耐热钢		硬化钢							
HARDNESS	HRc 30 ~ HRc 40		HRc 40 ~ HRc 50		HRc 50 ~ HRc 55		HRc 55 ~ HRc 60		HRc 60 ~ HRc 65	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
1	24000	814	19000	578	12750	391	10250	237	8000	149
2	16650	963	13000	688	8750	462	7250	286	5500	176
3	10900	963	8650	688	5750	462	4750	286	3750	176
4	8350	990	6600	715	4400	484	3600	297	2800	184
5	7850	1100	6250	825	4150	550	3200	319	2550	204
6	6550	1073	5175	770	3450	523	2650	308	2100	193
8	4940	1034	3900	743	2600	495	2000	286	1600	182
10	3900	963	3075	693	2050	462	1600	264	1275	171
12	3325	963	2625	693	1750	462	1325	264	1050	165
16	2450	825	1950	605	1300	402	1000	231	800	149
20	1950	715	1550	534	1025	358	800	209	650	138



RPM = REVOLUTION PER MIN.
转速/分钟
FEED = mm/min.
D = DIAMETER

ALPHA-PLUS

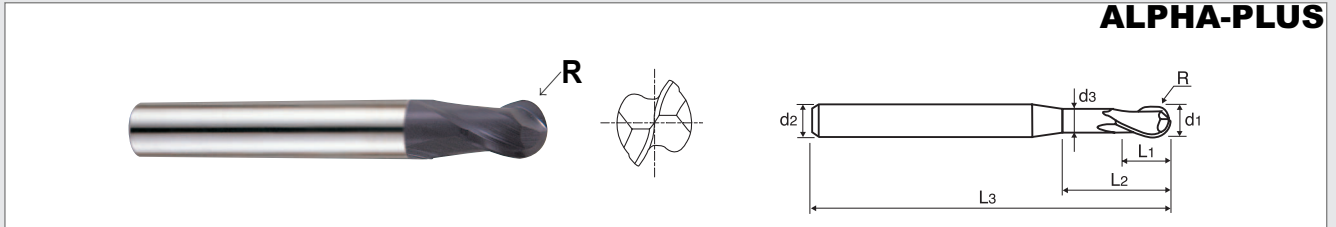
2 FLUTE, SHORT LENGTH, BALL NOSE

2刃, 短型, 球头铣刀

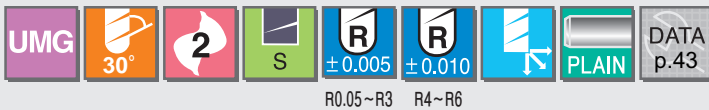


- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finishes.
- ▶ Designed for high precision milling operation.
- ▶ Superior wear-resistance.

- ▶ 为加工高硬度材料设计.
- ▶ 适于干式切削, 高速切削, 最新开发的原材料和涂层.
- ▶ 卓越的工件表面粗糙度.
- ▶ 为高精度铣削设计.
- ▶ 极高的耐磨性.



ALPHA-PLUS



R0.05~R3 R4~R6

BALL RADIUS TOLERANCE(mm) 球头半径公差 (mm)		SHANK DIA. TOLERANCE 柄径公差
DIAMETER 直径	TOLERANCE 公差	
R3 以下	± 0.005	h6
R3 超过~	± 0.010	

GFC07 Series

SHORT LENGTH

短型

Unit : mm

EDP No.	RADIUS OF BALL NOSE	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	LENGTH BELOW SHANK	OVERALL LENGTH	NECK DIAMETER	STOCK
型号	球头半径 R	刃部直径 d ₁	柄部直径 d ₂	刃长 L ₁	颈长 L ₂	全长 L ₃	颈径 d ₃	库存
GFC07002	R0.1	0.2	4	0.3	-	40	-	●
GFC07003	R0.15	0.3	4	0.5	-	40	-	●
GFC07004	R0.2	0.4	4	0.6	-	40	-	●
GFC07005	R0.25	0.5	4	0.7	-	40	-	●
GFC07006	R0.3	0.6	4	0.9	-	40	-	●
GFC07007	R0.35	0.7	4	1.1	-	40	-	●
GFC07008	R0.4	0.8	4	1.2	-	40	-	●
GFC07009	R0.45	0.9	4	1.4	-	40	-	●
GFC07010	R0.5	1.0	6	1.5	3	50	0.95	●
GFC07015	R0.75	1.5	6	2	4	50	1.45	●
GFC07020	R1.0	2.0	6	2.5	5	50	1.95	●
GFC07025	R1.25	2.5	6	3	7	50	2.4	●
GFC07030	R1.5	3.0	6	4	10	60	2.85	●
GFC07040	R2.0	4.0	6	5	10	60	3.85	●
GFC07050	R2.5	5.0	6	6	12	60	4.85	●
GFC07060	R3.0	6.0	6	7	15	60	5.85	●
GFC07080	R4.0	8.0	8	9	15	60	7.7	●
GFC0708080	R4.0	8.0	8	9	15	80	7.7	●
GFC07100	R5.0	10.0	10	11	25	60	9.7	●
GFC0710080	R5.0	10.0	10	11	25	80	9.7	●
GFC07120	R6.0	12.0	12	14	25	80	11.7	●

❖ 上記产品的参数可根据特别的要求制作加工.

● : 标准品在库
□ : 询问营业部

ALPHA-PLUS

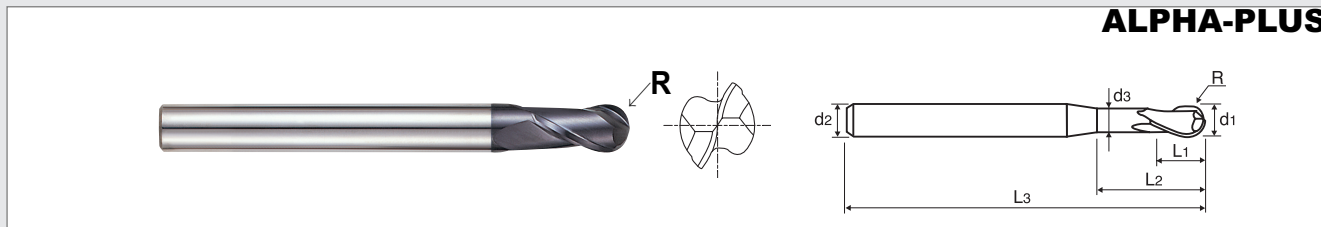
2 FLUTE, STUB CUT LENGTH, BALL NOSE WITH EXTENDED NECK

2刃, 超短, 球头, 颈部延伸

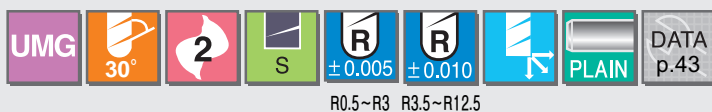
NEW CENTURY

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finishes.
- ▶ Designed for high precision milling operation.
- ▶ Superior wear-resistance.

- ▶ 为加工高硬度材料设计.
- ▶ 适于干式切削, 高速切削, 最新开发的原材料和涂层.
- ▶ 卓越的工作表面粗糙度.
- ▶ 为高精度铣削设计.
- ▶ 极高的耐磨性.



ALPHA-PLUS



R0.5~R3 R3.5~R12.5

BALL RADIUS TOLERANCE(mm) 球头半径公差 (mm)		SHANK DIA. TOLERANCE 柄径公差
DIAMETER 直径	TOLERANCE 公差	
R3 以下	± 0.005	h6
R3 超过~	± 0.010	

GFC08 Series

STUB CUT LENGTH

短切削刃长度

Unit : mm

EDP No.	RADIUS OF BALL NOSE	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	LENGTH BELOW SHANK	OVERALL LENGTH	NECK DIAMETER	STOCK
型号	球头半径 R	刃部直径 d ₁	柄部直径 d ₂	刃长 L ₁	颈长 L ₂	全长 L ₃	颈径 d ₃	库存
GFC08010	R0.5	1.0	4	1	2.2	50	0.95	●
GFC08012	R0.6	1.2	4	1.2	2.6	50	1.15	●
GFC08015	R0.75	1.5	4	1.5	3.0	50	1.45	●
GFC08020	R1.0	2.0	6	2	4.0	50	1.95	●
GFC08030	R1.5	3.0	6	3	6.0	60	2.85	●
GFC08040	R2.0	4.0	6	4	8.0	70	3.85	●
GFC08050	R2.5	5.0	6	5	10.0	80	4.85	●
GFC08060	R3.0	6.0	6	6	12.0	90	5.85	●
GFC08070	R3.5	7.0	8	7	14.0	90	6.85	●
GFC08080	R4.0	8.0	8	8	16.0	100	7.7	●
GFC08090	R4.5	9.0	10	9	18.0	100	8.7	●
GFC08100	R5.0	10.0	10	10	20.0	100	9.7	●
GFC08120	R6.0	12.0	12	12	24.0	110	11.7	●
GFC08140	R7.0	14.0	14	14	28.0	110	13.7	●
GFC08160	R8.0	16.0	16	16	32.0	140	15.7	●
GFC08180	R9.0	18.0	18	18	36.0	140	17.7	●
GFC08200	R10.0	20.0	20	20	40.0	160	19.7	●

❖ 上記产品的参数可根据特别的要求制作加工.

● : 标准品在库
□ : 询问营业部

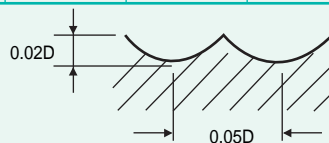
2 FLUTE, BALL NOSE

2刃, 球头铣刀



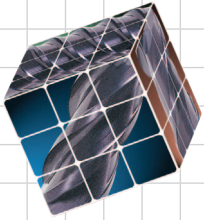
GFC07, GFC08 Series

MATERIAL	HARDENED STEELS HEAT RESISTANT STEELS		HARDENED STEELS							
材质	硬化钢, 耐热钢		硬化钢							
HARDNESS	HRc 30 ~ HRc 40		HRc 40 ~ HRc 50		HRc 50 ~ HRc 55		HRc 55 ~ HRc 60		HRc 60 ~ HRc 65	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
R0.1	25000	660	25000	578	22500	528	20000	424	17500	371
R0.15	25000	825	25000	743	22500	660	20000	531	17500	462
R0.2	25000	1045	25000	935	22500	825	20000	660	17500	578
R0.25	25000	1320	25000	1155	22500	1045	20000	825	17500	715
R0.3	25000	1595	25000	1375	22500	1210	20000	990	17500	880
R0.4	25000	2145	25000	1815	22500	1650	20000	1320	17500	1155
R0.5	25000	2640	25000	2310	22500	2090	20000	1650	17500	1430
R0.6	25000	2805	24000	2365	21500	2118	19000	1650	17000	1485
R0.75	25000	2970	24000	2475	21500	2200	18500	1705	16500	1485
R1	24850	3135	23900	2640	20000	2200	17500	1733	16000	1540
R1.5	16550	3300	15900	2915	13250	2200	11750	1733	10500	1540
R2	12450	3300	11950	2915	10000	2200	8750	1733	8000	1540
R2.5	9300	3190	8900	2695	7500	2063	6750	1678	5750	1403
R3	6950	2668	6700	2255	5500	1705	5000	1375	4400	1183
R4	5550	2310	5350	1925	4500	1485	4000	1183	3500	1018
R5	4650	2035	4450	1705	3750	1320	3300	1045	2900	908
R6	3475	1623	3340	1375	2800	1045	2500	853	2200	688
R8	2785	1458	2675	1210	2250	935	2000	743	1750	550
R10	2225	1293	2150	1073	1800	825	1600	660	1400	440



RPM = REVOLUTION PER MIN.
转速/分钟
FEED = mm/min.
D = DIAMETER

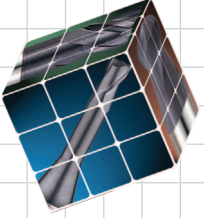
ALPHA-PLUS



ALPHA-G

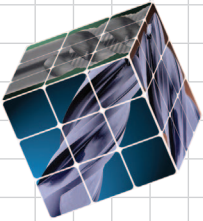
EMB95 (p.13)
EMB96 (p.14)
EMB97 (p.16)
EMB98, EMB99 (p.17)

EMC01 (p.19-23)
EMC02 (p.25-29)
EMC03 (p.31)
EMC04 (p.33)



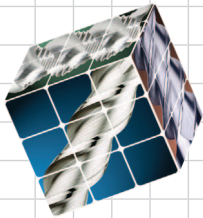
ALPHA-PLUS

GFC05 (p.37)
GFC06 (p.39)
GFC07 (p.41)
GFC08 (p.42)



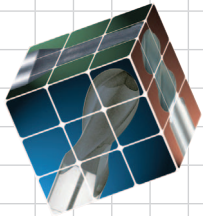
ALPHA-SUS

EMC09 (p.47)
EMC10 (p.48)
EMC11 (p.50)



ALPHA-ALU

E5C12, E5C13 (p.55)
E5C14, E5C15 (p.57)
E5C16 (p.58-59)



ALPHA-DIAMOND

EIC17 (p.63)
EIC18 (p.64)
EIC19 (p.65)
EIC20 (p.66)

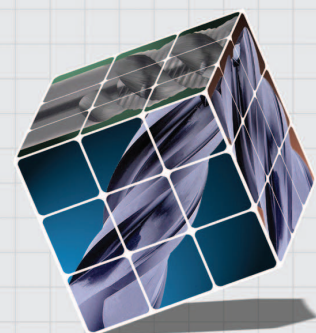
ALPHA-SUS

- For 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



ALPHA-SUS INDEX

EDP No	MODEL	ITEM	PAGE
EMC09		4 FLUTE, SHORT LENGTH 4刃, 短型	47
EMC10		4 FLUTE, LONG LENGTH 4刃, 加长型	48
EMC11		MULTI FLUTE, ROUGHING END MILLS 多种刃, 螺纹铣刀	50



ALPHA-SUS

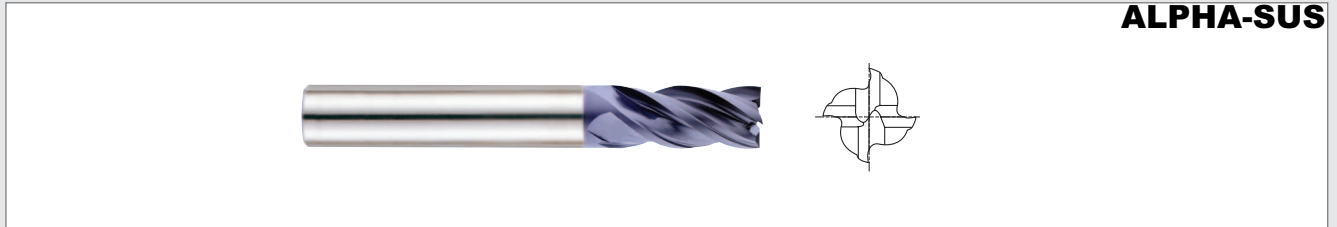
4 FLUTE, SHORT LENGTH

4刃, 短型



- ▶ Low amplitude sign have design eliminates vibration
- ▶ Designed to stainless steels, titanium alloys and low hardness material under HRc 40
- ▶ Higher speeds, deeper cuts and metal removal rates

- ▶ 低音的设计减少振动.
- ▶ 适于加工不锈钢, 钛合金和硬度低于HRc40的低硬度材料.
- ▶ 高速, 深切削和大切削量



EMC09 Series *SHORT LENGTH*

短型

Unit : mm

EDP No.	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	OVERALL LENGTH	STOCK
型号	刃部直径	柄部直径	刃长	全长	库存
EMC09060	6.0	6	10	54	●
EMC09080	8.0	8	12	58	●
EMC09100	10.0	10	14	66	●
EMC09120	12.0	12	16	73	●
EMC09140	14.0	14	18	75	●
EMC09160	16.0	16	22	82	●
EMC09180	18.0	18	24	84	●
EMC09200	20.0	20	26	92	●

❖ 上記产品的参数可根据特别的要求制作加工.

- : 标准品在库
- : 询问营业部

ALPHA-SUS

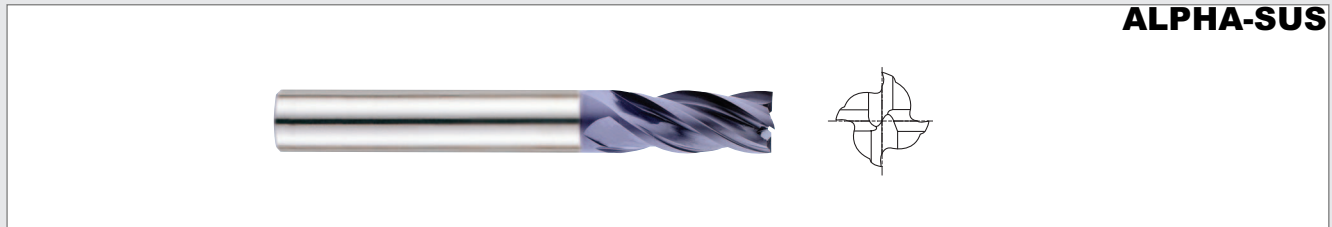
4 FLUTE, LONG LENGTH

4刃, 加长铣刀



- ▶ Low amplitude sign have design eliminates vibration
- ▶ Designed to stainless steels, titanium alloys and low hardness material under HRc 40
- ▶ Higher speeds, deeper cuts and metal removal rates

- ▶ 低音的设计减少振动.
- ▶ 适于加工不锈钢,钛合金和硬度低于HRc40的低硬度材料.
- ▶ 高速, 深切削和大切削量



EMC10 Series

LONG LENGTH

加长型

Unit : mm

EDP No.	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	OVERALL LENGTH	STOCK
型号	刃部直径	柄部直径	刃长	全长	库存
EMC10060	6.0	6	13	57	●
EMC10080	8.0	8	19	63	●
EMC10100	10.0	10	22	72	●
EMC10120	12.0	12	26	83	●
EMC10140	14.0	14	26	83	●
EMC10160	16.0	16	32	92	●
EMC10180	18.0	18	32	92	●
EMC10200	20.0	20	38	104	●

❖ 上記产品的参数可根据特别的要求制作加工.

● : 标准品在库
□ : 询问营业部

ALPHA-SUS

SPEED & FEED DATA

速度和进给率数据



● EMC09, EMC10 Series

MATERIAL	ALLOY STEELS CAST IRON		ALLOY STEELS CAST IRON		STAINLESS STEELS 300SERIES		STAINLESS STEELS 400SERIES		TITANIUM		INCONEL	
材质	合金钢, 铸铁		合金钢, 铸铁		不锈钢, 300SERIES		不锈钢, 400SERIES		钛		镍铬铁合金	
HARDNESS	~HRc 30		HRc 30~HRc 45									
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 STEELS CAST IRON / STAINLESS STEELS 300, 400SERIES / TITANIUM 合金钢铸铁/300, 400系列不锈钢/钛	INCONEL 镍铬铁合金

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

RPM = REVOLUTION PER MIN.
转速/分钟
FEED = mm/min.
D = DIAMETER

TOLERANCE 公差

METRIC 公制		INCH 英制	
MILL DIA. 刃部直径	SHANK DIA. 柄部直径	MILL DIA. 刃部直径	SHANK DIA. 柄部直径
0 ~ -0.03	h6	0 ~ -.0012	h6

ALPHA-SUS

MULTI FLUTE, ROUGHING END MILLS

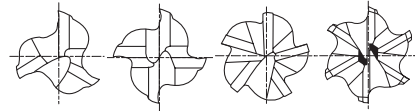
多种刃, 螺纹铣刀



- ▶ Suitable for Rough machining of SUS, Ti/Ni Inconel and etc.
- ▶ Fine pitch ware Profile for high speed machining

- ▶ 适用于SUS (不锈钢)系列, Ti/Ni, INCONEL (钴镍铁合金)等的粗加工
- ▶ 采用细螺纹, 适合高速加工

ALPHA-SUS



MILL DIA. TOLERANCE(mm) 刃径公差 (mm)	SHANK DIA. TOLERANCE 柄径公差
h10	h6

EMC11 Series

Unit : mm

EDP No.	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	OVERALL LENGTH	NO. OF FLUTE	STOCK
型号	刃部直径	柄部直径	刃长	全长	刃数	库存
EMC11060	6.0	6	13	60	4	●
EMC11080	8.0	8	19	65	4	●
EMC11090	9.0	10	20	70	4	●
EMC11100	10.0	10	22	70	4	●
EMC11120	12.0	12	26	80	4	●
EMC11160	16.0	16	42	110	5	●
EMC11200	20.0	20	48	110	6	●

❖ 上記产品的参数可根据特别的要求制作加工.

● : 标准品在库
□ : 询问营业部

ALPHA-SUS

ALPHA-SUS, MULTI FLUTE, ROUGHING - SLOTTING

不锈钢 多种刃, 螺纹-开槽



EMC11 Series

SLOTTING

MATERIAL	NON-ALLOYED STEELS ALLOY STEELS CAST IRON		ALLOY STEELS HEAT RESISTANT STEELS		STAINLESS STEELS		INCONEL	
材质	非合金钢, 合金钢, 铸铁		合金钢, 耐热钢		不锈钢		铬镍铁合金	
HARDNESS	~ HRc 30		HRc 30 - HRc 45					
STRENGTH	~ 1000N/mm ²		1000 ~ 1500N/mm ²					
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
6	14740	2410	11720	870	7940	600	2700	260
8	10960	2410	8690	870	5950	600	2025	240
10	8690	2410	7180	870	4820	590	1460	260
12	7560	2490	5670	830	3970	590	1350	260
16	5670	2490	4540	790	3120	530	900	150
20	4540	2250	3400	585	2270	370	740	135

0.5D
D

Ae
D

Ae : $\varnothing 4 - \varnothing 10 = 0.25 \times D$
 $\varnothing 12 - \varnothing 16 = 0.15 \times D$
 $\varnothing 18 - \varnothing 20 = 0.10 \times D$

0.5D
D

RPM = REVOLUTION PER MIN.
转速/分钟
FEED = mm/min.
D = DIAMETER

ALPHA-SUS, MULTI FLUTE, ROUGHING - SIDE CUTTING

不锈钢 多种刃, 螺纹-侧铣

EMC11 Series

SIDE CUTTING

MATERIAL	NON-ALLOYED STEELS ALLOY STEELS CAST IRON		ALLOY STEELS HEAT RESISTANT STEELS		STAINLESS STEELS		INCONEL	
材质	非合金钢, 合金钢, 铸铁		合金钢, 耐热钢		不锈钢		铬镍铁合金	
HARDNESS	~ HRc 30		HRc 30 - HRc 45					
STRENGTH	~ 1000N/mm ²		1000 ~ 1500N/mm ²					
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
6	14740	2410	11720	870	7940	600	2700	260
8	10960	2410	8690	870	5950	600	2025	240
10	8690	2410	7180	870	4820	590	1460	260
12	7560	2490	5670	830	3970	590	1350	260
16	5670	2490	4540	790	3120	530	900	150
20	4540	2250	3400	590	2270	370	740	135

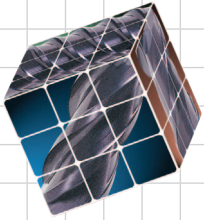
1.5D
0.3D

1.5D
Ae

Ae : $\varnothing 4 - \varnothing 10 = 0.25 \times D$
 $\varnothing 12 - \varnothing 16 = 0.15 \times D$
 $\varnothing 18 - \varnothing 20 = 0.10 \times D$

1.0D
0.05D

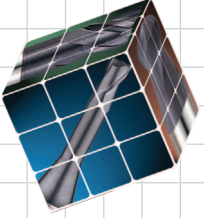
RPM = REVOLUTION PER MIN.
转速/分钟
FEED = mm/min.
D = DIAMETER



ALPHA-G

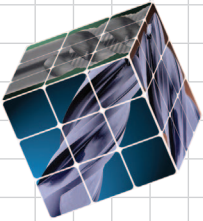
EMB95 (p.13)
EMB96 (p.14)
EMB97 (p.16)
EMB98, EMB99 (p.17)

EMC01 (p.19-23)
EMC02 (p.25-29)
EMC03 (p.31)
EMC04 (p.33)



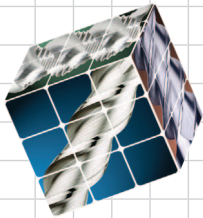
ALPHA-PLUS

GFC05 (p.37)
GFC06 (p.39)
GFC07 (p.41)
GFC08 (p.42)



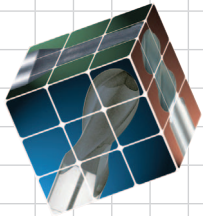
ALPHA-SUS

EMC09 (p.47)
EMC10 (p.48)
EMC11 (p.50)



ALPHA-ALU

E5C12, E5C13 (p.55)
E5C14, E5C15 (p.57)
E5C16 (p.58-59)



ALPHA-DIAMOND

EIC17 (p.63)
EIC18 (p.64)
EIC19 (p.65)
EIC20 (p.66)

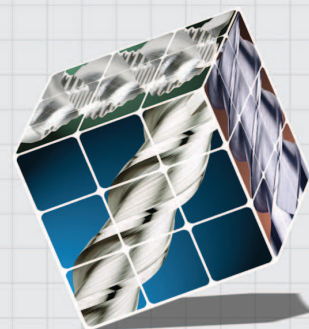
ALPHA-ALU

- For Machining of Aluminium with Good Surface Finishes
- Unique Design to Improve Surface Finishes
- 用于加工铝，并能得到良好的面照度
- 提高面照度的独特设计



ALPHA-ALU INDEX

EDP No	MODEL	ITEM	PAGE
E5C12 E5C13		2 FLUTE, END MILLS 2刃, 铣刀	55
E5C14 E5C15		3 FLUTE, END MILLS 3刃, 铣刀	57
E5C16		3 FLUTE, EX-LONG END MILLS 3刃, 超长铣刀	58-59



ALPHA-ALU

2 FLUTE, END MILLS

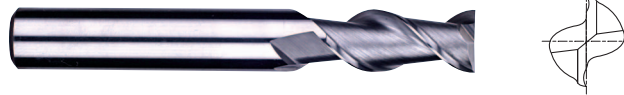
2刃, 铣刀



- ▶ Applied for Aluminum and Aluminum alloy.
- ▶ Designed to minimize vibration.
- ▶ Fine surface roughness caused by "Mirror Face" of cutting edge.
- ▶ Precision of cutting diameter tolerance.

- ▶ 适用铝及铝合金材质加工
- ▶ 其设计使振动最小化
- ▶ 体现刃部“Mirror Face”，使被削质面照度优秀
- ▶ 刃部直径公差高精密化

ALPHA-ALU



MILL DIA. TOLERANCE(mm)
刃径公差 (mm)
- 0.020 ~ 0

E5C12 Series

SHORT LENGTH

短型

Unit : mm

EDP No.	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	OVERALL LENGTH	STOCK
型号	刃部直径	柄部直径	刃长	全长	库存
E5C12010	1.0	6	3	40	●
E5C12015	1.5	6	5	40	●
E5C12020	2.0	6	6	40	●
E5C12025	2.5	6	8	40	●
E5C12030	3.0	6	11	50	●
E5C12040	4.0	6	13	50	●
E5C12050	5.0	6	17	55	●
E5C12060	6.0	6	17	55	●
E5C12070	7.0	8	22	65	●
E5C12080	8.0	8	22	65	●
E5C12090	9.0	10	27	70	●
E5C12100	10.0	10	27	70	●
E5C12120	12.0	12	32	80	●
E5C12140	14.0	14	37	85	●
E5C12160	16.0	16	42	100	●
E5C12180	18.0	16	48	110	●
E5C12200	20.0	20	48	110	●

E5C13 Series

MEDIUM LENGTH

中等长度

Unit : mm

EDP No.	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	OVERALL LENGTH	STOCK
型号	刃部直径	柄部直径	刃长	全长	库存
E5C13040	4.0	6	16	70	●
E5C13050	5.0	6	22	70	●
E5C13060	6.0	6	22	70	●
E5C13080	8.0	8	28	80	●
E5C13100	10.0	10	32	90	●
E5C13120	12.0	12	38	95	●
E5C13160	16.0	16	52	110	●
E5C13200	20.0	20	55	110	●

※ 上記产品的参数可根据特别的要求制作加工。

● : 标准品在库
□ : 询问营业部

2 FLUTE, END MILLS

2刃, 铣刀



● E5C12, E5C13 Series

MATERIAL	ALLOY STEELS CAST IRON		ALUMINUM	
材质	合金钢, 铸铁		铝合金	
HARDNESS	~HB 230			
DIAMETER	RPM	FEED	RPM	FEED
1.0	15180	455	15180	760
1.5	11840	20	11835	710
2.0	10170	510	10170	710
2.5	9510	570	9510	760
3.0	9000	630	9000	810
4.0	9000	810	9000	990
5.0	9000	900	9000	1170
6.0	9000	1080	9000	1350
7.0	7965	1120	7965	1355
8.0	7200	1260	7200	1620
9.0	7200	1395	7200	1510
10.0	7200	1530	7200	1890
12.0	7200	1890	7200	2340
14.0	5400	1620	5400	1980
16.0	5400	1710	5400	2160
18.0	3600	1260	3600	1620
20.0	3600	1440	3600	1710

0.5D
D

1.0D
A

A : $\varnothing 3 \sim \varnothing 10 = 0.25 \times D$
 $\varnothing 12 \sim \varnothing 20 = 0.5 \times D$

RPM = REVOLUTION PER MIN.
 转速/分钟
 FEED = mm/min.
 D = DIAMETER

3 FLUTE, END MILLS

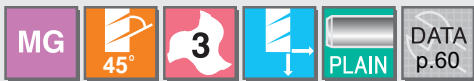
3刃, 铣刀



- ▶ Applied for Aluminum and Aluminum alloy.
- ▶ Designed to minimize vibration.
- ▶ Fine surface roughness caused by "Mirror Face" of cutting edge.
- ▶ Precision of cutting diameter tolerance.

- ▶ 适用铝及铝合金材质加工
- ▶ 其设计使振动最小化
- ▶ 体现刃部“Mirror Face”，使被削质面照度优秀
- ▶ 刃部直径公差高精密化

ALPHA-ALU



MILL DIA. TOLERANCE(mm)
刃径公差 (mm)
- 0.020 ~ 0

E5C14 Series

SHORT LENGTH

短型

Unit : mm

EDP No.	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	OVERALL LENGTH	STOCK
型号	刃部直径	柄部直径	刃长	全长	库存
E5C14010	1.0	6	3	50	●
E5C14015	1.5	6	5	50	●
E5C14020	2.0	6	6	50	●
E5C14025	2.5	6	8	50	●
E5C14030	3.0	6	11	50	●
E5C14040	4.0	6	13	50	●
E5C14050	5.0	6	17	55	●
E5C14060	6.0	6	17	55	●
E5C14070	7.0	8	22	65	●
E5C14080	8.0	8	22	65	●
E5C14090	9.0	10	27	70	●
E5C14100	10.0	10	27	70	●
E5C14120	12.0	12	32	80	●
E5C14140	14.0	14	37	85	●
E5C14160	16.0	16	42	100	●
E5C14180	18.0	16	48	110	●
E5C14200	20.0	20	48	110	●

E5C15 Series

MEDIUM LENGTH

中等长度

Unit : mm

EDP No.	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	OVERALL LENGTH	STOCK
型号	刃部直径	柄部直径	刃长	全长	库存
E5C15040	4.0	6	16	70	●
E5C15050	5.0	6	22	70	●
E5C15060	6.0	6	22	70	●
E5C15080	8.0	8	28	80	●
E5C15100	10.0	10	32	90	●
E5C15120	12.0	12	38	95	●
E5C15160	16.0	16	52	110	●
E5C15200	20.0	20	55	110	●

※ 上記产品的参数可根据特别的要求制作加工。

● : 标准品在库
□ : 询问营业部

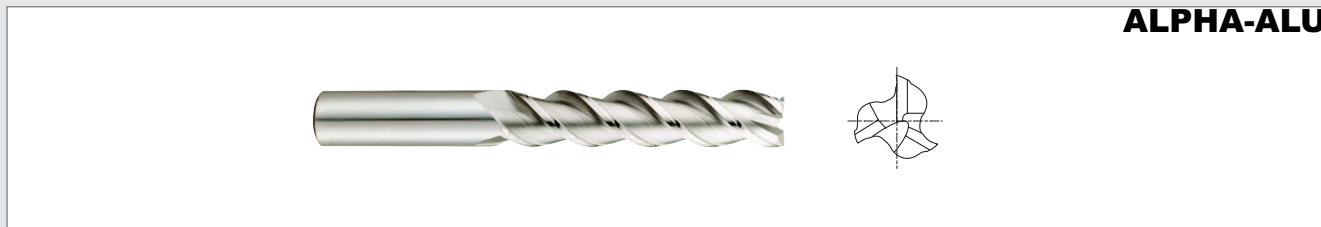
3 FLUTE, EX-LONG END MILLS

3刃, 超长铣刀



- ▶ Applied for Aluminum and Aluminum alloy.
- ▶ Designed to minimize vibration.
- ▶ Fine surface roughness caused by "Mirror Face" of cutting edge.
- ▶ Precision of cutting diameter tolerance.

- ▶ 适用 铝及铝合金材质加工
- ▶ 其设计使振动最小化
- ▶ 体现刃部“Mirror Face”，使被削质面照度优秀
- ▶ 刃部直径公差高精密化



ALPHA-ALU



MILL DIA. TOLERANCE(mm) 刃径公差 (mm)
- 0.020 ~ 0

E5C16 Series

EX-LONG LENGTH

超长

Unit : mm

EDP No.	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	OVERALL LENGTH	STOCK
型号	刃部直径	柄部直径	刃长	全长	库存
E5C16030015	3.0	6	15	65	●
E5C16030020	3.0	6	20	70	●
E5C16030025	3.0	6	25	75	●
E5C16040020	4.0	6	20	70	●
E5C16040025	4.0	6	25	75	●
E5C16040030	4.0	6	30	80	●
E5C16050025	5.0	6	25	70	●
E5C16050030	5.0	6	30	75	●
E5C16050035	5.0	6	35	80	●
E5C16050040	5.0	6	40	85	●
E5C16060025	6.0	6	25	70	●
E5C16060030	6.0	6	30	75	●
E5C16060035	6.0	6	35	80	●
E5C16060042	6.0	6	42	90	●
E5C16080030	8.0	8	30	80	●
E5C16080035	8.0	8	35	85	●
E5C16080040	8.0	8	40	90	●
E5C16080045	8.0	8	45	95	●
E5C16080050	8.0	8	50	100	●
E5C16080055	8.0	8	55	105	●
E5C16100035	10.0	10	35	90	●
E5C16100045	10.0	10	45	100	●
E5C16100055	10.0	10	55	110	●
E5C16100065	10.0	10	65	120	●
E5C16120040	12.0	12	40	95	●
E5C16120045	12.0	12	45	100	●
E5C16120055	12.0	12	55	110	●
E5C16120060	12.0	12	60	110	●
E5C16120065	12.0	12	65	120	●
E5C16120075	12.0	12	75	135	●

❖ 上記产品的参数可根据特别的要求制作加工。

● : 标准品在库
□ : 询问营业部

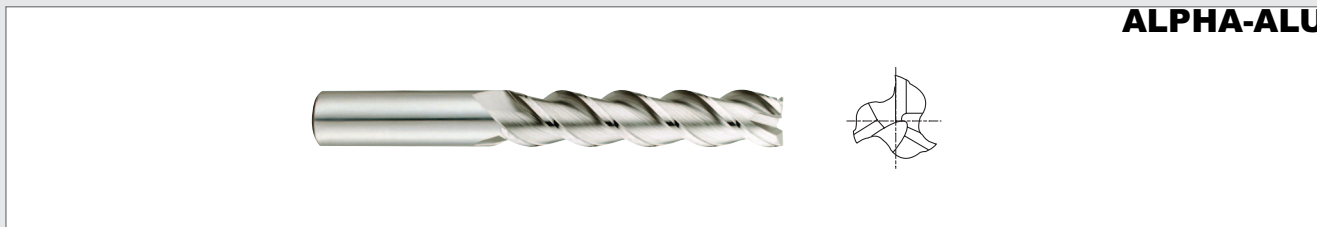
3 FLUTE, EX-LONG END MILLS

3刃, 超长铣刀



- ▶ Applied for Aluminum and Aluminum alloy.
- ▶ Designed to minimize vibration.
- ▶ Fine surface roughness caused by "Mirror Face" of cutting edge.
- ▶ Precision of cutting diameter tolerance.

- ▶ 适用铝及铝合金材质加工
- ▶ 其设计使振动最小化
- ▶ 体现刃部“Mirror Face”，使被削质面照度优秀
- ▶ 刃部直径公差高精化



MILL DIA. TOLERANCE(mm) 刃径公差 (mm)
- 0.020 ~ 0

E5C16 Series EX-LONG LENGTH

超长

Unit : mm

EDP No.	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	OVERALL LENGTH	STOCK
型号	刃部直径	柄部直径	刃长	全长	库存
E5C16160055	16.0	16	55	120	●
E5C16160065	16.0	16	65	135	●
E5C16160075	16.0	16	75	150	●
E5C16160085	16.0	16	85	160	●
E5C16160095	16.0	16	95	180	●
E5C16160105	16.0	16	105	190	●
E5C16160115	16.0	16	115	200	●
E5C16200055	20.0	20	55	125	●
E5C16200065	20.0	20	65	140	●
E5C16200075	20.0	20	75	150	●
E5C16200085	20.0	20	85	160	●
E5C16200095	20.0	20	95	180	●
E5C16200105	20.0	20	105	190	●
E5C16200115	20.0	20	115	200	●
E5C16200125	20.0	20	125	220	●

❖ 上記产品的参数可根据特别的要求制作加工.

● : 标准品在库
□ : 询问营业部

ALPHA-ALU

3 FLUTE, EX-LONG END MILLS

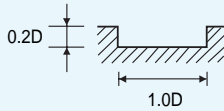
3刃, 超长铣刀



E5C16 Series

SLOTTING 开槽

MATERIAL	ALUMINIUM NONFERROUS METALS	
材质	铝合金, 非铁制金属	
DIAMETER	RPM	FEED
3	6300	315
4	6300	400
5	6300	450
6	6300	545
8	5040	630
10	5040	680
12	5040	945
14	3780	810
16	3780	850
18	2520	630
20	2520	725

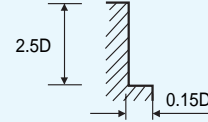


RPM = REVOLUTION PER MIN.
转速/分钟
FEED = mm/min.
D = DIAMETER

E5C16 Series

SIDE CUTTING 侧铣

MATERIAL	ALUMINIUM NONFERROUS METALS	
材质	铝合金, 非铁制金属	
DIAMETER	RPM	FEED
3	6300	410
4	6300	490
5	6300	590
6	6300	680
8	5040	775
10	5040	945
12	5040	790
14	3780	995
16	3780	1090
18	2520	820
20	2520	860



RPM = REVOLUTION PER MIN.
转速/分钟
FEED = mm/min.
D = DIAMETER

3 FLUTE, END MILLS

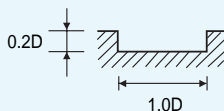
3刃, 铣刀

ALPHA-ALU

E5C14, E5C15 Series

SLOTTING 开槽

MATERIAL	ALUMINIUM NONFERROUS METALS	
材质	铝合金, 非铁制金属	
DIAMETER	RPM	FEED
3	9000	450
4	9000	570
5	9000	650
6	9000	780
8	7200	900
10	7200	1100
12	7200	1350
14	5400	1160
16	5400	1215
18	3600	900
20	3600	1035

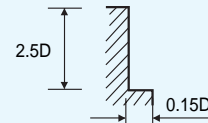


RPM = REVOLUTION PER MIN.
转速/分钟
FEED = mm/min.
D = DIAMETER

E5C14, E5C15 Series

SIDE CUTTING 侧铣

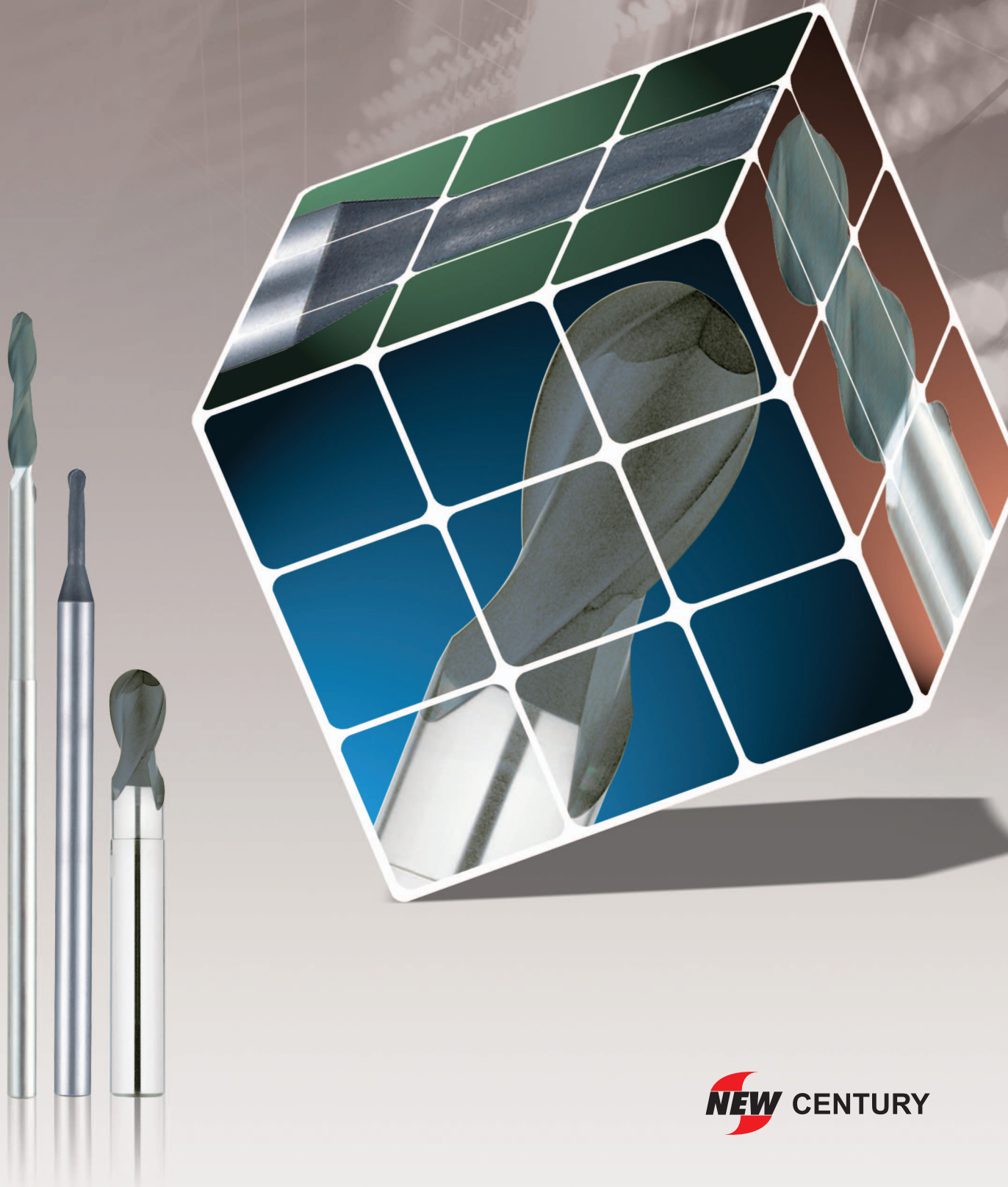
MATERIAL	ALUMINIUM NONFERROUS METALS	
材质	铝合金, 非铁制金属	
DIAMETER	RPM	FEED
3	9000	585
4	9000	700
5	9000	840
6	9000	970
8	7200	1110
10	7200	1350
12	7200	1130
14	5400	1420
16	5400	1560
18	3600	1170
20	3600	1230



RPM = REVOLUTION PER MIN.
转速/分钟
FEED = mm/min.
D = DIAMETER

ALPHA-DIAMOND

- For Machining Graphite and Non-Ferrous Materials
- Ultra Fine Film of Diamond Coating
- 用于加工石墨和非铁制材料
- 极其优秀的金刚石涂层



ALPHA-DIAMOND INDEX

EDP No	MODEL	ITEM	PAGE
EIC17		2 FLUTE, MINIATURE, BALL NOSE 2刃, 微型, 球头	63
EIC18		2 FLUTE, SHORT LENGTH, BALL NOSE 2刃, 短型, 球头	64
EIC19		2 FLUTE, LONG LENGTH, BALL NOSE 2刃, 加长型, 球头	65
EIC20		2 FLUTE, LONG LENGTH, BALL NOSE 2刃, 加长型, 球头	66



ALPHA-DIAMOND

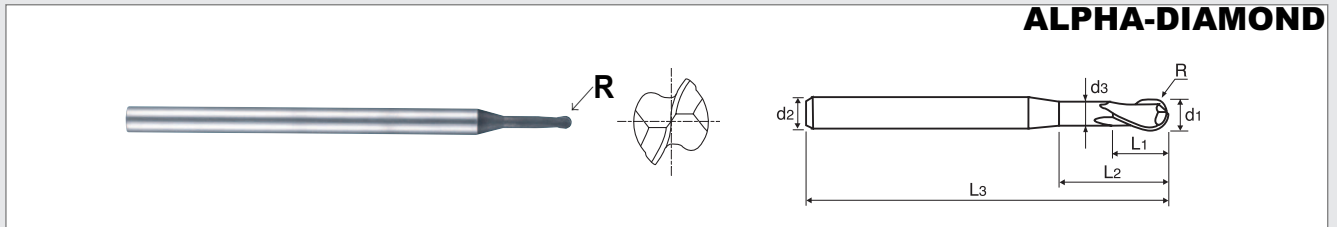
2 FLUTE, MINIATURE, BALL NOSE

2刃, 微型, 球头



- ▶ Higher hardness of film and excellent wear-resistance increase the tool life surprisingly.
- ▶ Ultra fine film of diamond coated carbide end mills ensure the smooth and excellent surface on work materials.
- ▶ High performance on graphite, wrought aluminum, bakelite, plastics, wood, brass etc. diamond coated carbide end mills may have good result for the machining of non-ferrous metals and non-metallic materials.

- ▶ 较高硬度的涂层和优秀的耐磨性, 极大的提高了工具寿命.
- ▶ 极优秀的金刚石涂层硬质合金球头铣刀确保了工件表面平滑优良.
- ▶ 加工石墨, 精铸铝, 胶木, 塑料, 木头, 黄铜等有较高的性能, 金刚石涂层硬质合金球头铣刀在加工非铁制金属和非铁制材料时有卓越的表面粗糙度.



MILL DIA. TOLERANCE(mm) 刃径公差 (mm)	SHANK DIA. TOLERANCE 柄径公差
0 - 0.020	h6

EIC17 Series

MINIATURE 微型

Unit : mm

EDP No.	RADIUS OF BALL NOSE	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	LENGTH BELOW SHANK	OVERALL LENGTH	NECK DIAMETER	STOCK
型号	球头半径 R (±0.010)	刃部直径 d ₁	柄部直径 d ₂	刃长 L ₁	颈长 L ₂	全长 L ₃	颈径 d ₃	库存
EIC17006030	RO.30	0.6	3	0.6	3.0	40	0.55	●
EIC17008040	RO.40	0.8	3	0.8	4.0	40	0.75	●
EIC17010050	RO.50	1.0	3	1.0	5.0	40	0.95	●
EIC17010085	RO.50	1.0	3	1.0	8.5	40	0.95	●
EIC17012060	RO.60	1.2	3	1.2	6.0	50	1.15	●
EIC17015075	RO.75	1.5	3	1.5	7.5	50	1.40	●
EIC17015120	RO.75	1.5	3	1.5	12.0	50	1.40	●
EIC17020100	R1.00	2.0	3	2.2	10.0	60	1.90	●
EIC17020160	R1.00	2.0	3	2.2	16.0	60	1.90	●

❖ 上記产品的参数可根据特别的要求制作加工.

● : 标准品在库
□ : 询问营业部

2 FLUTE, SHORT LENGTH, BALL NOSE

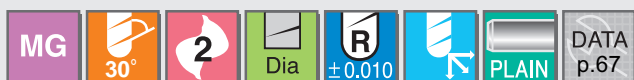
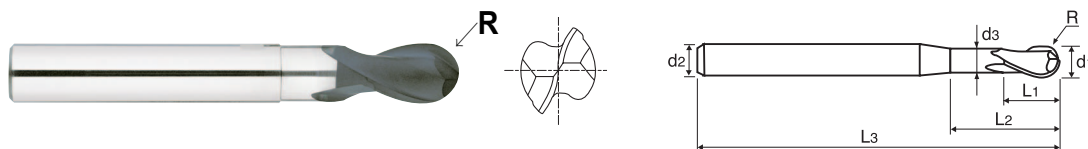
2刃, 短型, 球头铣刀



- ▶ Higher hardness of film and excellent wear-resistance increase the tool life surprisingly.
- ▶ Ultra fine film of diamond coated carbide end mills ensure the smooth and excellent surface on work materials.
- ▶ High performance on graphite, wrought aluminum, bakelite, plastic, wood, brass etc. diamond coated carbide end mills may have good result for the machining of non-ferrous metals and non-metallic materials.

- ▶ 较高硬度的涂层和优秀的耐磨性, 极大的提高了工具寿命.
- ▶ 极优秀的金刚石涂层硬质合金球头铣刀确保了工件表面平滑优良.
- ▶ 加工石墨, 精练铝, 胶木, 塑料, 木头, 黄铜等有较高的性能. 金刚石涂层硬质合金球头铣刀在加工非铁制金属和非铁制材料时有卓越的表面粗糙度.

ALPHA-DIAMOND



MILL DIA. TOLERANCE(mm) 刃径公差 (mm)	SHANK DIA. TOLERANCE 柄径公差
0 - 0.030	h6

EIC18 Series

SHORT LENGTH

短型

Unit : mm

EDP No.	RADIUS OF BALL NOSE	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	LENGTH BELOW SHANK	OVERALL LENGTH	NECK DIAMETER	STOCK
型号	球头半径 R(±0.010)	刃部直径 d ₁	柄部直径 d ₂	刃长 L ₁	颈长 L ₂	全长 L ₃	颈径 d ₃	库存
EIC18020	R1.0	2.0	6	3	5	60	1.9	●
EIC18025	R1.25	2.5	6	4	6	60	2.4	●
EIC18030	R1.5	3.0	6	4.5	6.5	60	2.8	●
EIC18035	R1.75	3.5	6	5	7	65	3.2	●
EIC18040	R2.0	4.0	6	6	8	65	3.7	●
EIC18050	R2.5	5.0	6	7.5	10	65	4.6	●
EIC18060	R3.0	6.0	6	9	12	75	5.6	●
EIC18080	R4.0	8.0	8	12	25	75	7.4	●
EIC18100	R5.0	10.0	10	15	30	80	9.4	●
EIC18120	R6.0	12.0	12	18	36	90	11.4	●

❖ 上記产品的参数可根据特别的要求制作加工.

● : 标准品在库
□ : 询问营业部

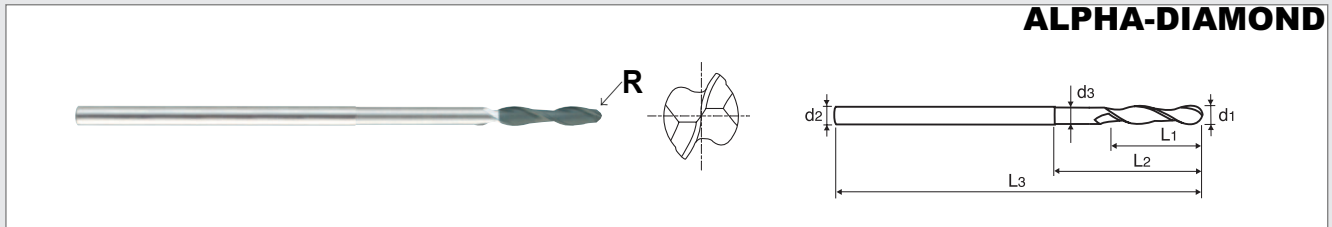
2 FLUTE, LONG LENGTH, BALL NOSE

2刃, 球头, 加长铣刀



- ▶ Higher hardness of film and excellent wear-resistance increase the tool life surprisingly.
- ▶ Ultra fine film of diamond coated carbide end mills ensure the smooth and excellent surface on work materials.
- ▶ High performance on graphite, wrought aluminum, bakelite, plastic, wood, brass etc. diamond coated carbide end mills may have good result for the machining of non-ferrous metals and non-metallic materials.

- ▶ 较高硬度的涂层和优秀的耐磨性, 极大的提高了工具寿命.
- ▶ 极优秀的金刚石涂层硬质合金球头铣刀确保了工件表面平滑优良.
- ▶ 加工石墨, 精练铝, 胶木, 塑料, 木头, 黄铜等有较高的性能. 金刚石涂层硬质合金球头铣刀在加工非铁制金属和非铁制材料时有卓越的表面粗糙度.



ALPHA-DIAMOND



MILL DIA. TOLERANCE(mm) 刃径公差 (mm)	SHANK DIA. TOLERANCE 柄径公差
0 - 0.030	h6

EIC19 Series *LONG LENGTH* 加长型

Unit : mm

EDP No.	RADIUS OF BALL NOSE	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	LENGTH BELOW SHANK	OVERALL LENGTH	NECK DIAMETER	STOCK
型号	球头半径 R (±0.010)	刃部直径 d ₁	柄部直径 d ₂	刃长 L ₁	颈长 L ₂	全长 L ₃	颈径 d ₃	库存
EIC19020	R1.0	2.0	4	10	20	80	1.95	●
EIC19030	R1.5	3.0	4	15	25	80	2.9	●
EIC19040	R2.0	4.0	4	20	30	80	3.9	●
EIC19050	R2.5	5.0	6	30	50	100	4.9	●
EIC19060	R3.0	6.0	6	30	50	100	5.5	●
EIC19080	R4.0	8.0	8	40	60	110	7.5	●
EIC19100	R5.0	10.0	10	50	70	120	9.5	●
EIC19120	R6.0	12.0	12	55	75	130	11.5	●

❖ 上記产品的参数可根据特别的要求制作加工.

● : 标准品在库
□ : 询问营业部

2 FLUTE, LONG LENGTH, BALL NOSE

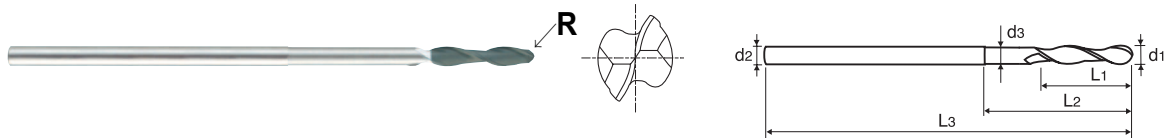
2刃, 球头, 加长铣刀



- ▶ Higher hardness of film and excellent wear-resistance increase the tool life surprisingly.
- ▶ Ultra fine film of diamond coated carbide end mills ensure the smooth and excellent surface on work materials.
- ▶ High performance on graphite, wrought aluminum, bakelite, plastic, wood, brass etc. diamond coated carbide end mills may have good result for the machining of non-ferrous metals and non-metallic materials.

- ▶ 较高硬度的涂层和优秀的耐磨性, 极大的提高了工具寿命.
- ▶ 极优秀的金刚石涂层硬质合金球头铣刀确保了工件表面平滑优良.
- ▶ 加工石墨, 精练铝, 胶木, 塑料, 木头, 黄铜等有较高的性能. 金刚石涂层硬质合金球头铣刀在加工非铁制金属和非铁制材料时有卓越的表面粗糙度.

ALPHA-DIAMOND



MILL DIA. TOLERANCE(mm) 刃径公差 (mm)	SHANK DIA. TOLERANCE 柄径公差
0 - 0.030	h6

EIC20 Series

LONG LENGTH

加长型

Unit : mm

EDP No.	RADIUS OF BALL NOSE	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	LENGTH BELOW SHANK	OVERALL LENGTH	NECK DIAMETER	STOCK
型号	球头半径 R(±0.010)	刃部直径 d ₁	柄部直径 d ₂	刃长 L ₁	颈长 L ₂	全长 L ₃	颈径 d ₃	库存
EIC20020	R1.0	2	4	10	20	100	1.95	●
EIC20030	R1.5	3	4	15	25	100	2.9	●
EIC20040	R2.0	4	4	20	30	100	3.9	●
EIC20050	R2.5	5	6	30	50	120	4.9	●
EIC20060	R3.0	6	6	30	50	150	5.5	●
EIC20070	R3.5	7	6	30	-	120	-	●
EIC20080	R4.0	8	8	40	60	150	7.5	●
EIC20090	R4.5	9	8	40	-	150	-	●
EIC20100	R5.0	10	10	50	70	180	9.5	●
EIC20120	R6.0	12	12	55	75	200	11.5	●

❖ 上記产品的参数可根据特别的要求制作加工.

● : 标准品在库
□ : 询问营业部

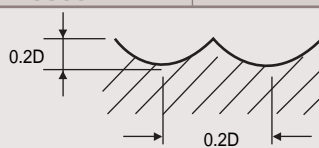
2 FLUTE, MINIATURE, BALL NOSE

2刃, 微型, 球头



● EIC17 Series

MATERIAL	GRAPHITE	
材质	石墨	
DIAMETER	RPM	FEED
0.6	40000	800
0.8	40000	960
1	40000	1200
1.2	40000	1440
1.5	40000	1600
2	40000	2000



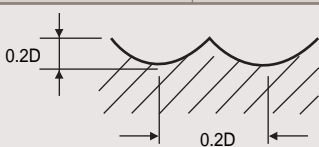
RPM = REVOLUTION PER MIN.
 转速/分钟
 FEED = mm/min.
 D = DIAMETER

2 FLUTE, BALL NOSE

2刃, 球头

● EIC18, EIC19, EIC20 Series

MATERIAL	GRAPHITE	
材质	石墨	
DIAMETER	RPM	FEED
2	16000	800
2.5	16000	1120
3	16000	1450
3.5	16000	1750
4	16000	2100
5	15500	2550
6	15000	2950
8	13000	3000
10	11500	3050
12	10500	3150



RPM = REVOLUTION PER MIN.
 转速/分钟
 FEED = mm/min.
 D = DIAMETER

※ The FEED, in long & extra long types, should be reduced by around 50%
 进给量 LONG&EX-LONG的时候, 应该大约减少50%

再研磨 指南

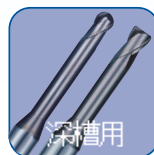
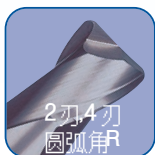
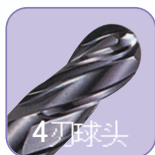
以雄厚的技术力量为基础, 使用最高水准的涂层,
通过CNC设备进行高品质的再研磨和特殊制作

再研磨加工尺寸

D : $\varnothing 1 \sim \varnothing 25$

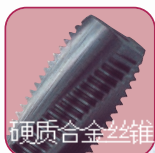
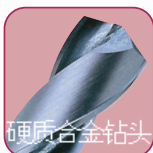
再研磨加工品目

硬质合金铣刀

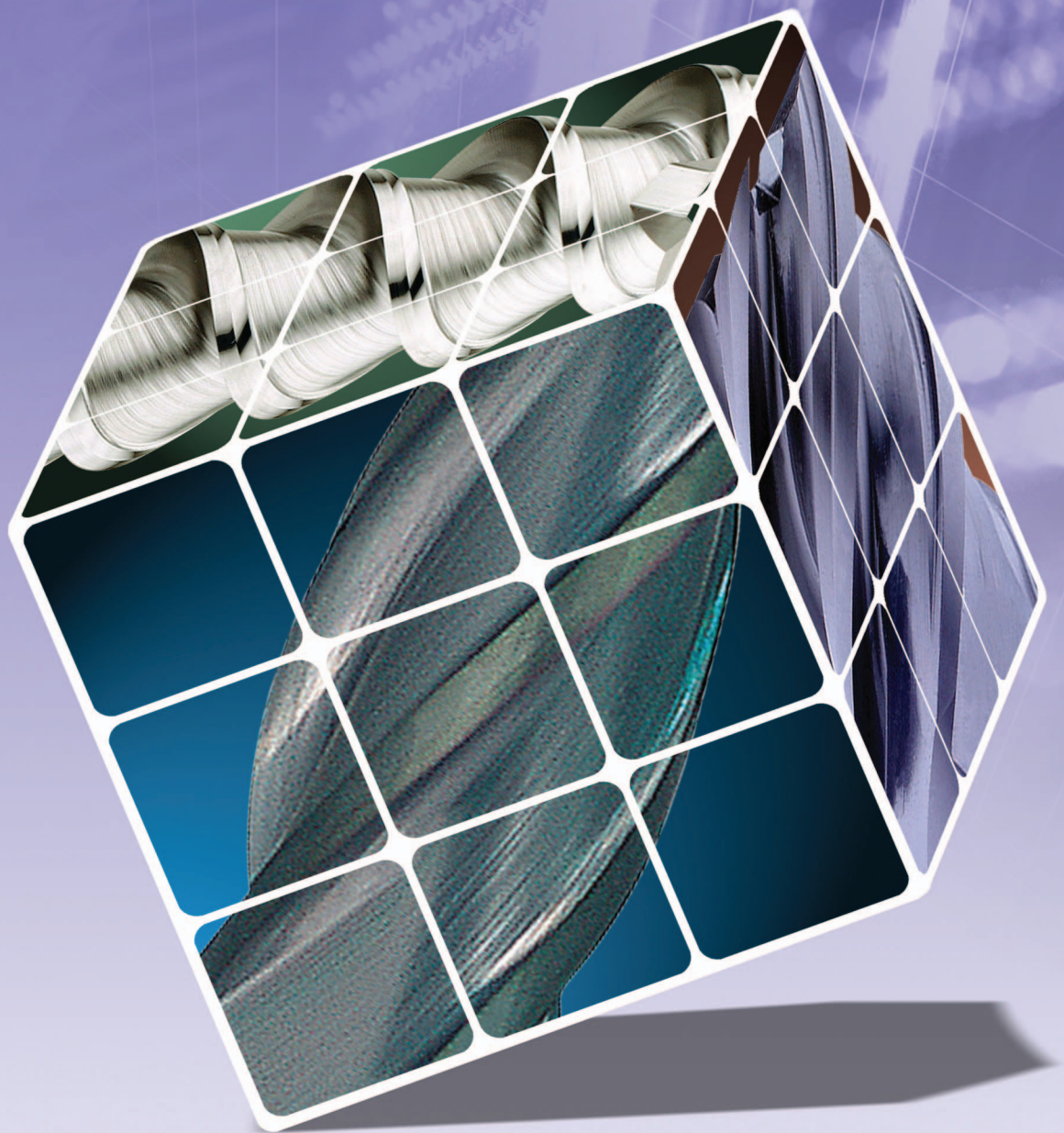


专用

其他

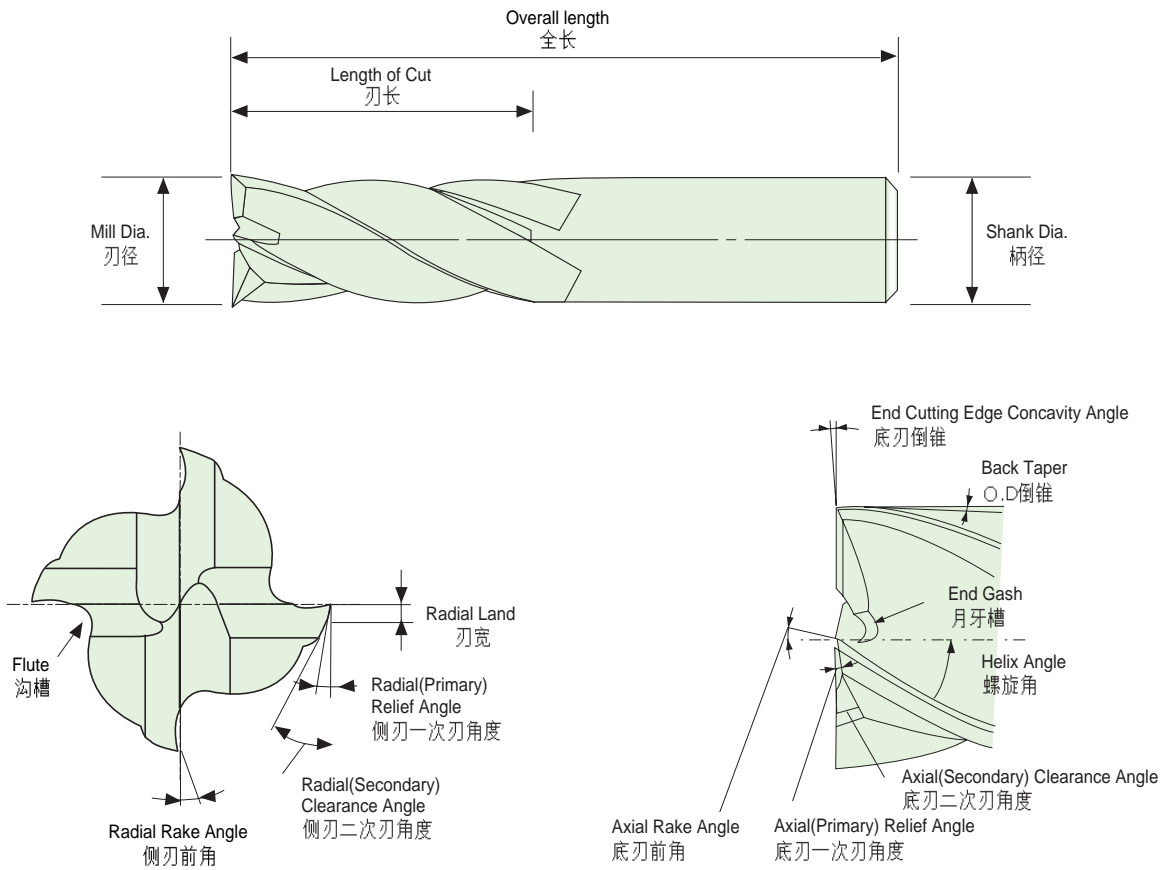


TECHNICAL DATA



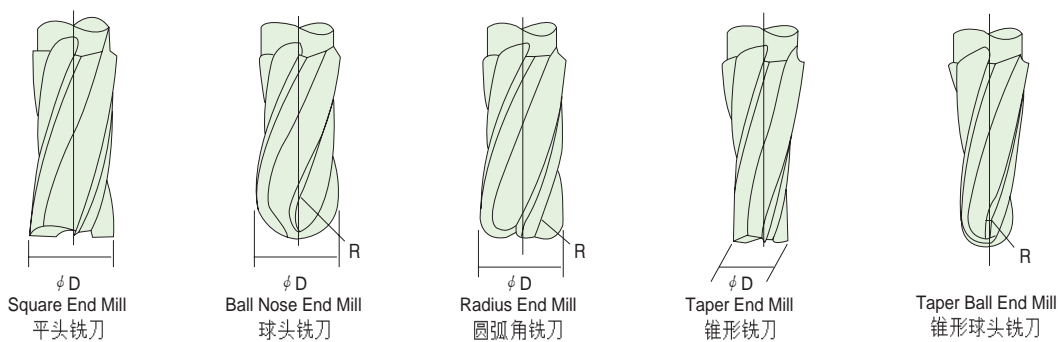
1. NAMES OF END MILL PARTS

铣刀各部分的名称



2. TYPE OF END MILL

铣刀种类

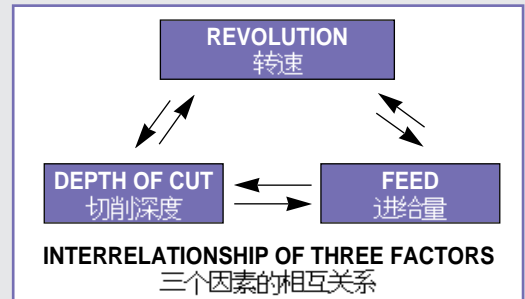


3. SPEEDS FEED CALCULATION

考虑速度&进给量

Speed, feed and depth of cut are the most important factors to consider for best results in milling. Improper feeds and speeds often cause low production, poor work quality and damage to the cutter.

速度，进给量和切削深度是决定切削效果最重要的因素。不合适的进给量和速度常常导致生产量降低，工作质量差和刀具的损坏。



Use Lower Speed Ranges For 使用低速度范围用于

Hard materials	高硬度材料
Tough materials	韧性大的材料
Abrasive materials	难切削材料
Heavy cuts	重切削
Minimum tool wear	最小的刀具磨损
Maximum cutter life	最长的刀具寿命

Use Higher Speed Ranges For 使用高速度范围用于

Softer materials	软质材料
Better finishes	较好的表面质量
Smaller diameter cutters	较小的刀具外径
Light cuts	轻切削
Frail work pieces or set-ups	脆性大的工件
Hand feed operations	手动操作
Maximum production rates	最大的加工效率
Non-metallics	非金属材料

Use Higher Feeds For 使用高进给量用于

Heavy, roughing cuts	重、粗切削
Rigid set-ups	刚性结构
Easy-to-machine work materials	易加工材料
Rugged cutters	粗加工刀具
Slab milling cuts	平面切削
Low tensile strength materials	低抗拉强度材料
Coarse tooth cutters	粗齿铣刀

Use Lower Feeds For 使用低进给量用于

Light, and finishing cuts	轻加工、精切削
Frail set-ups	脆性结构
Hard to machine work materials	难加工材料
Frail and small cutters	细小刀具
Deep slots	深立槽加工
High tensile strength materials	高抗拉强度材料
Fine tooth cutters	精加工刀具

SPEED AND FEED CALCULATIONS FOR MILLING CUTTERS AND OTHER ROTATING TOOLS

TO FIND	HAVING	FORMULA
Surface(or Periphery) Speed in meter Per Minute=S.F.M.	Diameter of Tool in millimeters =D Revolutions per Minute =R.P.M.	$V = \frac{D \times 3.1416 \times R.P.M.}{1000}$
Revolutions Per Minute=R.P.M.	Surface Speed in meter per Minute =S.F.M. Diameter of Tool in millimeters =D	$R.P.M. = \frac{V \times 1,000}{D \times 3.1416}$
Feed per Revolution in millimeters=F.R.	Feed in millimeters per Minute =F.M. Revolution per Minute =R.P.M.	$F.R. = \frac{F.M.}{R.P.M.}$
Feed in millimeters Per Minute=F.M.	Feed per Revolution in millimeters =F.R. Revolution per Minute =R.P.M.	$F.M. = F.R. \times R.P.M.$
Number of Cutting Teeth per Minute=T.M.	Number of Teeth in Tool =T Revolution per Minute =R.P.M.	$T.M. = T \times R.P.M.$
Feed per tooth=F.T.	Number of Teeth in Tool =T Feed per Revolution in millimeters =R.P.M.	$F.T. = \frac{F.R.}{T}$
Feed per Tooth=F.T.	Number of Teeth in Tool =T Feed in millimeters per Minute =F.M. Speed in Revolution per Minute =R.P.M.	$F.T. = \frac{F.M.}{T \times R.P.M.}$

Tolerancias ISO

公差

($\mu\text{m} = 1/1000 \text{ mm}$)

	> 1 ≤ 3	> 3 ≤ 6	> 6 ≤ 10	> 10 ≤ 18	> 18 ≤ 30	> 30 ≤ 50	> 50 ≤ 80	> 80 ≤ 120
d8	- 20 - 34	- 30 - 48	- 40 - 62	- 50 - 77	- 65 - 98	- 80 - 119	- 100 - 146	- 120 - 174
d9	- 20 - 45	- 30 - 60	- 40 - 76	- 50 - 93	- 65 - 117	- 80 - 142	- 100 - 174	- 120 - 207
d11	- 20 - 80	- 30 - 105	- 40 - 130	- 50 - 160	- 65 - 195	- 80 - 240	- 100 - 290	- 120 - 340
e8	- 14 - 28	- 20 - 38	- 25 - 47	- 32 - 59	- 40 - 73	- 50 - 89	- 60 - 106	- 72 - 126
f10	- 6 - 46	- 10 - 58	- 13 - 71	- 16 - 86	- 20 - 104	- 25 - 125	- 30 - 150	- 36 - 176
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16	0 - 19	0 - 22
h7	0 - 10	0 - 12	0 - 15	0 - 18	0 - 21	0 - 25	0 - 30	0 - 35
h8	0 - 14	0 - 18	0 - 22	0 - 27	0 - 33	0 - 39	0 - 46	0 - 54
h10	0 - 40	0 - 48	0 - 58	0 - 70	0 - 84	0 - 100	0 - 120	0 - 140
h11	0 - 60	0 - 75	0 - 90	0 - 110	0 - 130	0 - 160	0 - 190	0 - 220
h12	0 - 100	0 - 120	0 - 150	0 - 180	0 - 210	0 - 250	0 - 300	0 - 350
h13	0 - 140	0 - 180	0 - 220	0 - 270	0 - 330	0 - 390	0 - 460	0 - 540
h14	0 - 250	0 - 300	0 - 360	0 - 430	0 - 520	0 - 620	0 - 740	0 - 870
js11	± 30	± 37.5	± 45	± 55	± 65	± 80	± 95	± 110
js12	± 50	± 60	± 75	± 90	± 105	± 125	± 150	± 175
js14	± 125	± 150	± 180	± 215	± 260	± 310	± 370	± 435
k8	+ 14 0	+ 18 0	+ 22 0	+ 27 0	+ 33 0	+ 39 0	+ 46 0	+ 54 0
k9	+ 25 0	+ 30 0	+ 36 0	+ 43 0	+ 52 0	+ 62 0	+ 74 0	+ 87 0
k10	+ 40 0	+ 48 0	+ 58 0	+ 70 0	+ 84 0	+ 100 0	+ 120 0	+ 140 0
k11	+ 60 0	+ 75 0	+ 90 0	+ 110 0	+ 130 0	+ 160 0	+ 190 0	+ 220 0
k12	+ 100 0	+ 120 0	+ 150 0	+ 180 0	+ 210 0	+ 250 0	+ 300 0	+ 350 0
k14	+ 250 0	+ 300 0	+ 360 0	+ 430 0	+ 520 0	+ 620 0	+ 740 0	+ 870 0

TROUBLE SHOOTING

问题解决指南

具体问题	原因	解决方法
崩刃	进给太快	减慢到合适的进给速度
	切削开始时进给太快	切削开始时减慢进给速度
	机床和刀柄刚性不足	用刚性好的机床和刀柄
	夹紧松(刀具)	夹紧
	夹紧松(工件)	夹紧
	刚性不足(刀具)	用允许的最短的刀,柄部夹的深一点 试一下顺铣
磨损	切削刃太尖	改变脆弱的切削刃角,一次刃
	速度太快	减慢加足够的冷却液
	硬化材料	用高级刀具,工具材料,增加表面处理方式
	切屑粘附	改变进给速度以改变切屑大小或用冷却油或鼓风清理切屑
	进给速度不当(太低)	增加进给速度 试一下顺铣
	切削角度不合适 一次后角太小	改变为适当的切削角度 改变成较大的后角
破损	进给太快	减慢进给速度
	切削量太大	用较小的每刃切削量
	刃长和全长太长	柄部夹的深一点,用短的刀,试一下顺铣
	磨损太大	在初期再研磨
振纹	进给和切削速度太快	修正进给和切削速度
	刚性不足(机床和刀柄)	用较好的机床刀柄或改变切削条件
	后角太大	改变成较小的后角 加工刃带(用油石磨一次刃)
	夹紧松(工件)	夹紧工件
	切削太深	修正为较小切削深度
	刃长和全长太长	柄部夹的深一点,用短的刀或改变切削条件
工具寿命短 (切削刃钝)	切削阻力大	在初期再研磨
	切削材料硬	用高级刀具
	切削角度不合适	改变切削角度和一次刃
切屑堵塞	切削量太大	调整进给和切削速度
	排屑槽小	用较少刃数的铣刀
	冷却液不足	加足够的冷却液 鼓风
表面粗糙度粗糙	进给太快	减慢到合适的进给速度
	速度低	用较高切削速度
	磨损太大	在初期再研磨
	切屑粘附	切的少一点
	无底刃凹度	底刃加工出凹度
毛刺	一次后角磨损太大	在初期再研磨
	切削条件不正确	修正切削条件
	切削角度不合适	改变为适当的切削角度
加工尺寸不正确	切削条件太苛刻	改变为较容易的切削条件
	精度低(机床和刀柄)	修机床,刀柄
	刚性不足(机床和刀柄)	改变机床,刀柄或切削条件
	刃数少	用较多刃数的铣刀
面不垂直	进给太快	减慢到合适的进给速度
	切削量太大	减小切削量
	刃长和全长太长	用适当长度的刀
	刃数少	柄部夹的深一点 用较多刃数的铣刀