



RD072
-D203
-S20
-150

RD

High Precision Indexable Radius End Mills

高效捨棄式圓刀片

Multi-Purpose by ONE Insert, Stable Machining of High Hardness Steel, Stainless Steel, and General Purpose.

多功能捨棄式刀片-實現了單一刀具可穩定加工於高硬度、不銹鋼、和一般鋼材的通用性。

- Class E, H high accuracy E、H 研磨級高精度
- New ultra-toughened carbide UF1025 新超強韌鎢鋼母材
- Nano composite, super high hardness SH coating 奈米級 SH 超硬塗層
- Easy cut strengthened-shape design 強化快削設計
- New launch: RDH Insert for Aluminum 新發表 RDH 鋁用刀片
- TB (DLC) coating for non-ferrous material 非鐵材質專用 TB 類鑽塗層



RD - Indexable Radius End Mills for efficient machining 高效捨棄式圓刀片

Features 特色

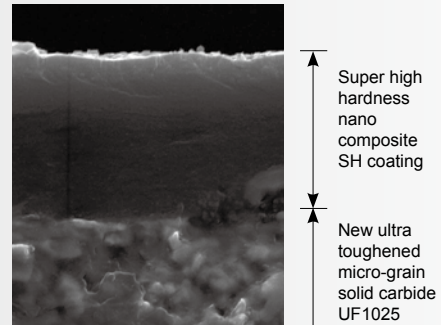
Easy Cut Strengthened-Shape Design 強化快削設計

Improve feed rate, and processing efficiency
 提高進給率與加工效能



New ultra toughened micro-grain solid carbide UF1025 Super high hardness nano composite SH coating 新型超強韌的微晶硬質合金 UF1025，奈米級超高硬度 SH 塗層

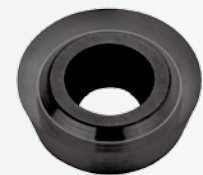
- Achieve stable machining of high hardness steel, stainless steel, and general purpose by ONE tool.
- Super high hardness and superior adhesion; also be good at high feed machining of hard materials application.
- 實現了單一刀具可穩定加工於高硬度、不銹鋼、和一般鋼材的通用性。
- 超高塗層硬度、超強附著力，適用於高硬度材質與高進給加工。



TB coating shows outstanding performance in machining non-ferrous material. Surpass 6 ~ 8 times efficacy in uncoated tool TB 塗層展現了優異的表現於非鐵材質加工，超越未塗層刀具 6~8 倍的效能。

TB coating is super high hardness and accuracy coating. The material removal rate (MRR) and the productivity in non-ferrous material process are greatly improved, due to the super low friction coefficient and the low metal content.

超高硬度與精度的 TB 塗層；同時具備了超低摩擦係數，及抗沾黏低金屬親和性，大幅地提升了非鐵材質加工的移除效率與生產效率。



		TB Ta:C	PVD a:CH	PVD Me:CH	CVD	PaCVD
Deposition temp	沉積溫度	under 150°C	under 200° C	under 200° C	over 900° C	under 200° C
Range of substrates	基材限制	Broad	Broad	Broad	Limited	Broad
Oxidation temp	氧化溫度	500°C	350° C	300° C	700° C	300° C
Adhesion	附著力	Very good	Good	Very Good	Excellent	Good
Smoothness	平滑度	Good	Very good	Good	Good	Excellent
Hardness (GPA)	硬度	60-95	25	10-15	40-90	20-40
Coefficient of friction	摩擦係數	<0.1	<0.1	0.15	<0.4	<0.1
Hydrogenated	氫化	No	Yes or No	Yes	No	Yes
Metal content	金屬親和性	No	Yes	Yes	No	No

All DLC coatings are not equal : especially on Hardness and Oxidation
 各種類鑽膜都有不同的特性，尤其是硬度和氧化溫度

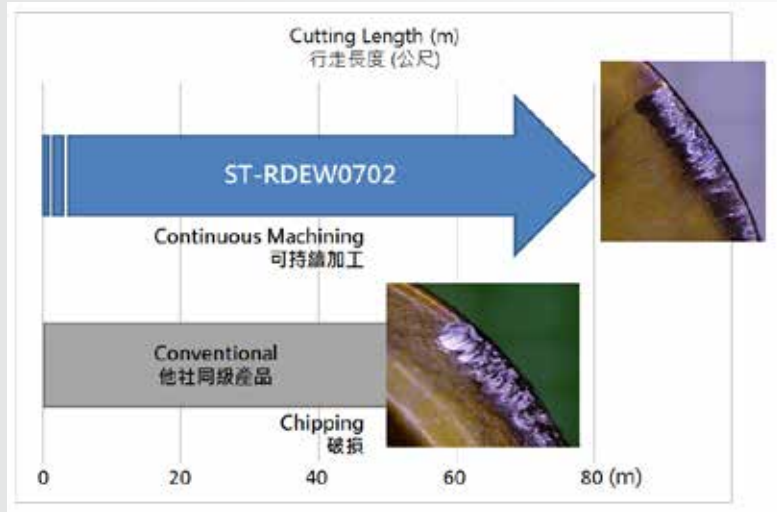


RD - Cutting Performance 切削效能

Carbon Steel - Heavy Duty Milling 碳素鋼 - 重切削

Excellent wear resistance when machining heavy duty carbon steel, and also can prolong tool life by **60%**!
優異的抗磨損效能於碳素鋼重切削，刀具壽命提升達 **60%**

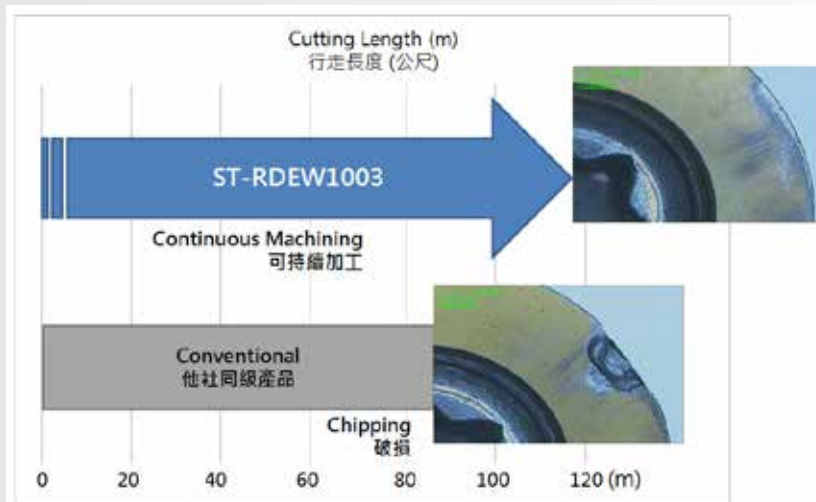
Cutting Conditions 切削條件	
Work material 工件 : S45C	fz 每刃進給 : 0.3mm/rev
Tool 刀架 : RD072 D203 S20-150	Feed 進給速度 : 2500mm/min
Insert 刀片 : RDEW0702	Ap : 1 mm Ae : 4 mm
Vc 切削速度 : 176m/min	Speed 轉速 : 2800rpm



Stainless Steel - Heavy Duty Milling 不鏽鋼 - 重切削

Excellent wear resistance when heavy duty Stainless steel machining , achieved **35%** tool life beyond the competitor.
優異的抗磨損效能於不鏽鋼重切削，刀具壽命提升達 **35%**

Cutting Conditions 切削條件	
Work material 工件 : SUS316	fz 每刃進給 : 0.17mm/rev
Tool 刀架 : RD103 D202 S20-150	Feed 進給速度 : 1050mm/min
Insert 刀片 : RDEW1003	Ap : 1 mm Ae : 4 mm
Vc 切削速度 : 129 m/min	Speed 轉速 : 2050rpm





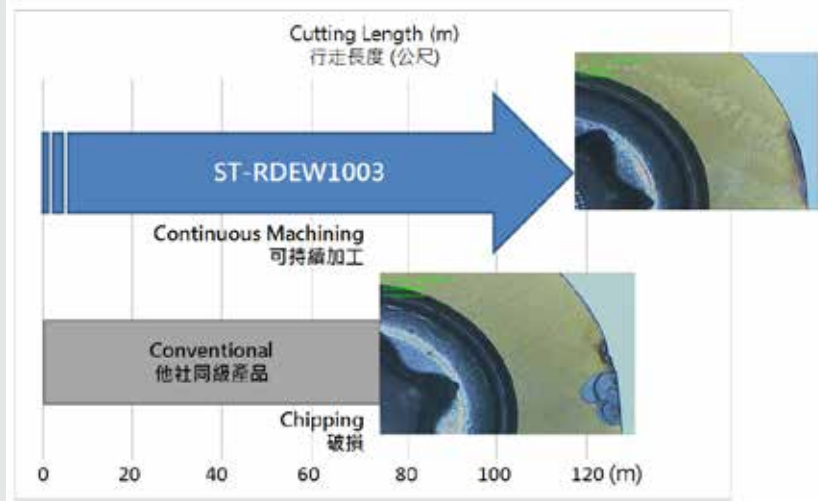
RD - Cutting Performance 切削效能

High Hardness Steel - Heavy Duty Milling 高硬度鋼 - 重切削

Excellent wear resistance when heavy duty High Hardness steel machining , achieved **53%** tool life beyond the competitor.

優異的抗磨損效能於預硬鋼重切削，刀具壽命提升達 **53%**

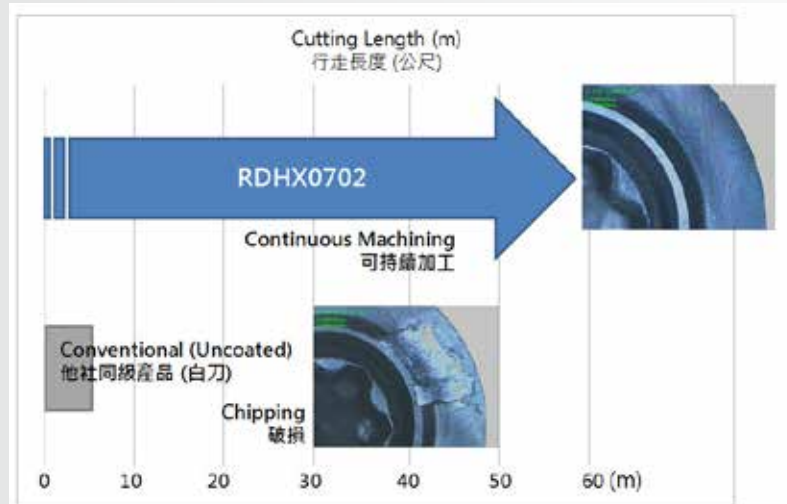
Cutting Conditions 切削條件	
Work material 工件 : Pre-Hardened SKD61 (HRC55)	fz 每刃進給 : 0.1mm/rev
Tool 刀架 : RD103 D202-S20-150	Feed 進給速度 : 450mm/min
Insert 刀片 : RDEW1003	Ap : 0.2 mm Ae : 3 mm
Vc 切削速度 : 94.3m/min	Speed 轉速 : 1500



Aluminum Application - Heavy Duty Milling 鋁材 - 重切削

- Tools with TB coating are good at non-ferrous material process. Under dry-heavy duty machining, the tool life is prolonged to **1000%**.
TB 類鑽塗層 (DLC) 於非鐵金屬加工中展現了優異的切削效能，在乾式重切削模式下，刀具壽命可提升達 **1000%**。
- Dry machining is available; it not only reduces the cost of coolant oil, but also makes the economical environmentally manufacturing come true.
可乾式切削，降低切削液使用成本，同時實現綠色加工可行性。

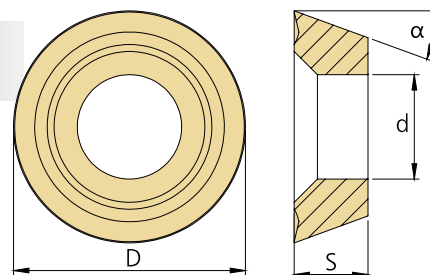
Cutting Conditions 切削條件	
Work material 工件 : AL6061	fz 每刃進給 : 0.25mm/rev
Tool 刀架 : RD072 D203 S20-150	Feed 進給速度 : 3000mm/min
Insert 刀片 : RDHX0702	Ap : 1.0 mm Ae : 12.0 mm
Vc 切削速度 : 220m/min	Speed 轉速 : 3342





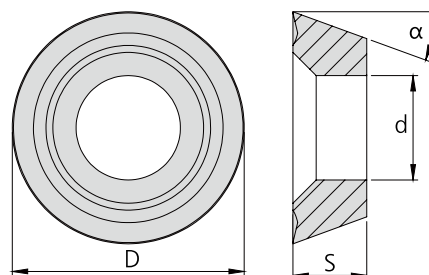
RD - Indexable Radius End Mill 捨棄式圓鼻銼刀

RD INSERTS 刀片



Shape 外觀	Order No. 品號	Item code 規格碼	Dimensions(mm) 規格				Coating 塗層	Available Tools 適用刀架		
			D	S	d	α		Shank Type 直柄式 Page	Shell Type 刀盤式 Page	Screw-in Type 鎖牙式 Page
	JFRD2001-2	RDEW0501M0-3225	5	1.59	2.1	15°	SH	5、6	7、8	9、10
	JFRD2002-2	RDEW0702M0-3225	7	2.38	2.75	15°	SH			
	JFRD2003-2	RDEW1003M0-3225	10	3.18	4.5	15°	SH			
	JFRD2004-2	RDEX0802M0-3225	8	2.38	3.4	15°	SH			
	JFRD2005-2	RDEX10T3M0-3225	10	3.97	4.5	15°	SH			
	JFRD2006-2	RDEX1204M0-3225	12	4.76	4.5	15°	SH			
	JFRD2007-2	RDEX1604M0-3225	16	4.76	5.5	15°	SH			

RD INSERTS for Aluminum 鋁用刀片

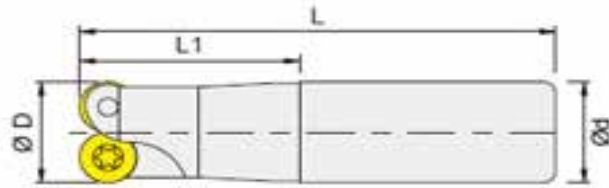
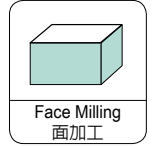
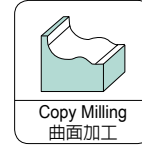
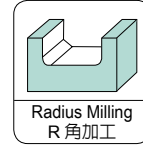


Shape 外觀	Order No. 品號	Item code 規格碼	Dimensions(mm) 規格				Coating 塗層	Available Tools 適用刀架		
			D	S	d	α		Shank Type 直柄式 Page	Shell Type 刀盤式 Page	Screw-in Type 鎖牙式 Page
	JFRD2002-b	RDHX0702EF-0225	7	2.33	2.75	15°	No	5、6	7、8	9、10
	JFRD2003-b	RDHX1003EF-0225	10	3.12	4.5	15°	No			
	JFRD2004-b	RDHX0802EF-0225	8	2.32	3.4	15°	No			
	JFRD2005-b	RDHX10T3EF-0225	10	3.92	4.5	15°	No			
	JFRD2006-b	RDHX1204EF-0225	12	4.72	4.5	15°	No			
	JFRD2007-b	RDHX1604EF-0225	16	4.72	5.5	15°	No			
	JFRD2002-b1	RDHX0702EF-7225	7	2.33	2.75	15°	TB			
	JFRD2003-b1	RDHX1003EF-7225	10	3.12	4.5	15°	TB			
	JFRD2004-b1	RDHX0802EF-7225	8	2.32	3.4	15°	TB			
	JFRD2005-b1	RDHX10T3EF-7225	10	3.92	4.5	15°	TB			
	JFRD2006-b1	RDHX1204EF-7225	12	4.72	4.5	15°	TB			
	JFRD2007-b1	RDHX1604EF-7225	16	4.72	5.5	15°	TB			



RD - Indexable Radius End Mill 捨棄式圓鼻銼刀

RD SHANK TYPE 直柄式



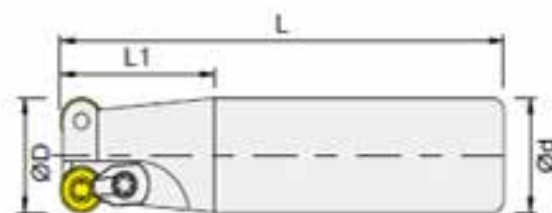
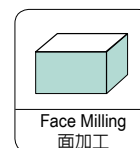
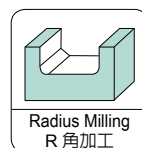
Item code 品名	Dimensions(mm) 規格				Teeth 刃數	Available Insert 適用刀片	Page 頁碼
	D	d	L	L1			
RD051-D122-S12-100	12	12	100	22	2	RDEW0501	4
RD051-D132-S12-100	13	12	100	18	2		
RD051-D164-S16-150	16	16	150	30	4		
RD051-D164-S16-200			200				
RD051-D174-S16-150	17	16	150	20	4		
RD051-D174-S16-200			200				
RD072-D162-S16-150	16	16	150	35	2	RDEW0702	4
RD072-D162-S16-200			200				
RD072-D172-S16-150	17	16	150	20	2		
RD072-D172-S16-200			200				
RD072-D203-S20-150	20	20	150	35	3		
RD072-D203-S20-200			200				
RD072-D213-S20-150	21	20	150	25	3		
RD072-D213-S20-200			200				
RD072-D254-S25-150	25	25	150	40	4		
RD072-D254-S25-200			200				
RD072-D254-S25-250			250				
RD072-D255-S25-150	25	25	150	40	5		
RD072-D255-S25-200			200				
RD072-D255-S25-250			250				
RD072-D264-S25-150	26	25	150	25	4		
RD072-D264-S25-200			200				
RD072-D264-S25-250			250				
RD072-D265-S25-150	26	25	150	25	5		
RD072-D265-S25-200			200				
RD072-D265-S25-250			250				

Item code 品名	Dimensions(mm) 規格				Teeth 刃數	Available Insert 適用刀片	Page 頁碼		
	D	d	L	L1					
RD072-D355-S32-150	35	32	150	30	5	RDEW0702	4		
RD072-D355-S32-200			200						
RD072-D356-S32-150	35	32	150	30	6				
RD072-D356-S32-200			200						
RD103-D202-S20-150	20	20	150	40	2			RDEW1003	4
RD103-D202-S20-200			200						
RD103-D212-S20-150	21	20	150	25	2				
RD103-D212-S20-200			200						
RD103-D253-S25-150	25	25	150	40	3				
RD103-D253-S25-200			200						
RD103-D253-S25-250			250						
RD103-D263-S25-150	26	25	150	25	3				
RD103-D263-S25-200			200						
RD103-D263-S25-250			250						
RD103-D303-S25-150	30	25	150	25	3				
RD103-D303-S25-200			200						
RD103-D303-S25-250			250						
RD103-D323-S32-150	32	32	150	40	3				
RD103-D323-S32-200			200						
RD103-D323-S32-250			250						
RD103-D353-S32-150	35	32	150	40	3				
RD103-D353-S32-200			200						
RD103-D353-S32-250			250						
RD103-D354-S32-150	35	32	150	40	4				
RD103-D354-S32-200			200						
RD103-D354-S32-250			250						



RD - Indexable Radius End Mill 捨棄式圓鼻銑刀

RD EASY-CUT SHANK TYPE 直柄快削式



Item code 品名	Dimensions(mm) 規格				Teeth 刃數	Available Insert 適用刀片	Page 頁碼
	D	d	L	L1			
C 12-4 R 12-130	12	12	130	30	1	RDEX0802	4
C 16-4 R 16-150	16	16	150	35	1		
C 16-4 R 16-200			200				
C 16-4 R 172-150	17	16	150	25	2		
C 20-4 R 20-150	20	20	150	40	2		
C 20-4 R 20-200			200				
C 20-4 R 21-150	21	20	150	25	2		
C 20-4 R 21-200			200				
C 25-5 R 25-150	25	25	150	45	2		
C 25-5 R 25-200			200				
C 25-5 R 25-250			250				
C 25-5 R 26-150	26	25	150	30	2		
C 25-5 R 26-200			200				
C 25-5 R 26-250			250				
C 25-5 R 302-150	30	25	150	35	2		
C 25-5 R 302-200			200				
C 25-5 R 302-250			250				
C 25-5 R 303-150	30	25	150	35	3		
C 25-5 R 303-200			200				
C 25-5 R 303-250			250				
C 32-5 R 32-150	32	32	150	45	3		
C 32-5 R 32-200			200				
C 32-5 R 32-250			250				
C 32-5 R 32-300			300				
C 32-5 R 35-150	35	32	150	50	3		
C 32-5 R 35-200			200				
C 32-5 R 35-250			250				
C 32-5 R 35-300			300				
C 32-5 R 40-150	40	32	150	50	3		
C 32-5 R 40-200			200				
C 32-5 R 40-250			250				
C 32-5 R 40-300			300				



RD - Indexable Radius End Mill 捨棄式圓鼻銑刀

RD SHELL TYPE 刀盤式

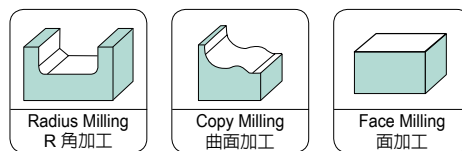
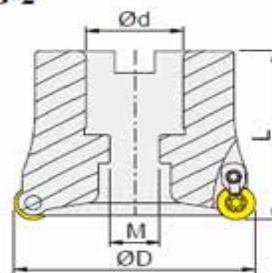


FIG-2

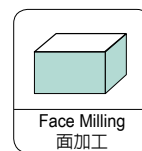
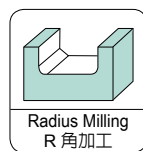


Item code 品名	Dimensions(mm) 規格				Teeth 刃數	Available Insert 適用刀片	Page 頁碼
	D	d	L	L1			
RD103-D504-22.0	50	22	40	11	4	RDEW1003	4
RD103-D505-22.0	50				5		
RD103-D504-25.4	50	25.4	40	11	4		
RD103-D505-25.4					5		
RD103-D635-25.4	63	25.4	50	13	5		
RD103-D636-25.4	63				6		

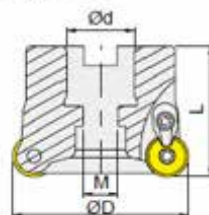


RD - Indexable Radius End Mill 捨棄式圓鼻銑刀

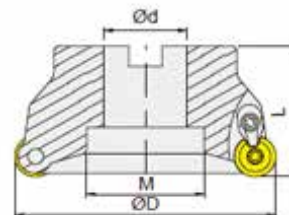
RD EASY-CUT SHELL TYPE 刀盤快削式



Ø50 / Ø63 / Ø66 / Ø80



Ø100



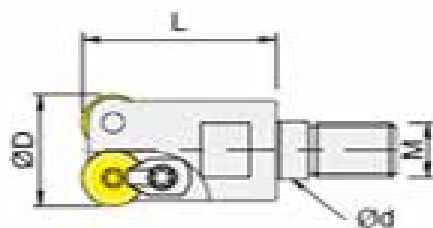
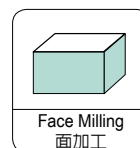
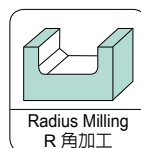
Item code 品名	Dimensions(mm) 規格				Teeth 刃數	Available Insert 適用刀片	Page 頁碼	
	D	d	L	L1				
RM-5R504-22.0	50	22	50	11	4	RDEX10T3	4	
RM-5R504-25.4		25.4	50	13	4			
RM-5R635-25.4	63	25.4	50	13	5			
RM-5R806-25.4	80	25.4	50	13	6			
RM-6R504-22.0	50	22	50	11	4			RDEX1204
RM-6R504-25.4		25.4	50	13	4			
RM-6R635-25.4	63	25.4	50	13	5			
RM-6R635-27.0		27						
RM-6R665-25.4	66	25.4	50	13	5			
RM-6R806-25.4	80	25.4	50	13	6			
RM-6R805-27.0		27	50	13	5			
RM-6R806-27.0		27	50	13	6			
RM-8R634-25.4		66	25.4	50	13	4		
RM-8R635-25.4	25.4		50	13	5			
RM-8R635-27.0	27		50	13	5			
RM-8R664-25.4	25.4		50	13	4			
RM-8R665-25.4	25.4		50	13	5			
RM-8R664-27.0	27		50	13	4			
RM-8R665-27.0	27		50	13	5			
RM-8R805-25.4	80		25.4	55	13	5		
RM-8R805-27.0			27	55	13	5		
RM-8R806-27.0			27	55	13	6		



RD - Indexable Ball-nose End Mill Holder

高效捨棄式球刀架

HAR SCREW-IN TYPE 鎖牙式



Item code 品名	Dimensions(mm) 規格				Teeth 刃數	Available Insert 適用刀片	Page 頁碼
	D	d	L	M			
HAR08-162-MD14	16	8.5	23	M8	2	RDEX0802	4
HAR08-172-MD14	17	8.5	23	M8	2		
HAR08-202-MD18	20	10.5	30	M10	2		
HAR08-212-MD18	21	10.5	30	M10	2		
HAR08-253-MD23	25	12.5	35	M12	3		
HAR10-202-MD18	20	10.5	30	M10	2	RDEX10T3	
HAR10-212-MD18	21	10.5	30	M10	2		
HAR10-252-MD23	25	12.5	35	M12	2		
HAR10-253-MD23	25	12.5	35	M12	3		
HAR10-262-MD23	26	12.5	35	M12	2		
HAR10-263-MD23	26	12.5	35	M12	3		
HAR10-302-MD29	30	17	43	M16	2		
HAR10-323-MD29	32	17	43	M16	3		
HAR10-353-MD29	35	17	43	M16	3		
HAR10-354-MD29	35	17	43	M16	4		
HAR10-404-MD29	40	17	43	M16	4	RDEX1204	
HAR10-424-MD29	42	17	43	M16	4		
HAR10-425-MD29	42	17	43	M16	5		
HAR12-252-MD23	25	12.5	35	M12	2		
HAR12-353-MD29	35	17	43	M16	3	RDEX1204	
HAR12-404-MD29	40	17	43	M16	4		
HAR12-424-MD29	42	17	43	M16	4		



RD - Indexable Ball-nose End Mill Holder

高效捨棄式球刀架

RD SCREW-IN TYPE 鎖牙式

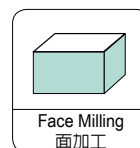
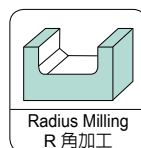
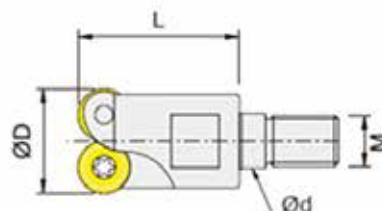


FIG-1

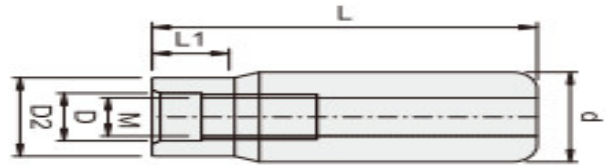


Item code 品名	Dimensions(mm) 規格				Teeth 刃數	Available Insert 適用刀片	Page 頁碼
	D	d	L	M			
RD051-D122-MD11	12	6.5	18	M6	2	RD..0501..	4
RD051-D123-MD11	12	6.5	18	M6	2		
RD051-D132-MD11	13	6.5	18	M6	2		
RD051-D133-MD11	13	6.5	18	M6	2		
RD051-D164-MD14	16	8.5	23	M8	4		
RD051-D174-MD14	17	8.5	23	M8	4		
RD072-D152-MD14	15	8.5	23	M8	2	RD..0702..	
RD072-D162-MD14	16	8.5	23	M8	2		
RD072-D163-MD14	16	8.5	23	M8	3		
RD072-D172-MD14	17	8.5	23	M8	2		
RD072-D173-MD14	17	8.5	23	M8	3		
RD072-D203-MD18	20	10.5	30	M10	3		
RD072-D212-MD18	21	10.5	30	M10	2		
RD072-D213-MD18	21	10.5	30	M10	3		
RD072-D223-MD18	22	10.5	30	M10	3		
RD072-D254-MD23	25	12.5	35	M12	4		
RD072-D255-MD23	25	12.5	35	M12	5		
RD072-D264-MD23	26	12.5	35	M12	4		
RD072-D265-MD23	26	12.5	35	M12	5		
RD072-D355-MD29	35	17	43	M16	5		
RD072-D356-MD29	35	17	43	M16	6		
RD103-D202-MD18	20	10.5	30	M10	2		
RD103-D212-MD18	21	10.5	30	M10	2		
RD103-D253-MD23	25	12.5	35	M12	3		
RD103-D263-MD23	26	12.5	35	M12	3		
RD103-D303-MD23	30	12.5	35	M12	3		
RD103-D323-MD29	32	17	43	M16	3		
RD103-D353-MD29	35	17	43	M16	3		
RD103-D354-MD29	35	17	43	M16	4		

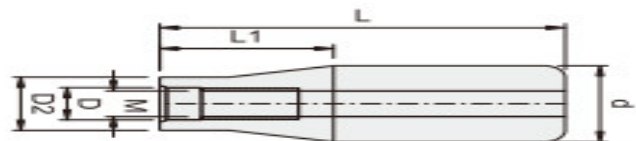


RD - Indexable Shank 替換式延長桿

MD SHANK FOR SCREW-IN HEAD 鎖牙式刀桿



Item code	Dimensions(mm) 規格						Screw-In Holder 鎖牙式刀架
	d	L	M	D	D2	L1	
MD14-A16-150K	16	150	M8	8.5	14	10	9、10
MD14-A16-200K		200					
MD18-A20-150K	20	150	M10	10.5	18	12	
MD18-A20-250K		250					
MD23-A25-200K	25	200	M12	12.5	23	15	
MD23-A25-300K		300					
MD29-A32-200K	32	200	M16	17	29	18	
MD29-A32-350K		350					



Item code	Dimensions(mm) 規格						Screw-In Holder 鎖牙式刀架
	d	L	M	D	D2	L1	
MD14-A20-200K	20	200	M8	8.5	14	50	9、10
MD14-A20-250K	20	250	M8	8.5	14	50	
MD18-A25-200K	25	200	M10	10.5	18	60	
MD18-A25-250K	25	250	M10	10.5	18	60	
MD23-A32-250K	32	250	M12	12.5	23	70	
MD23-A32-350K	32	350	M12	12.5	23	70	
MD29-A42-250K	42	250	M16	17	29	100	
MD29-A42-350K	42	350	M16	17	29	100	



RD - Cutting CONDITION

切削條件表

Work Material 加工材質	Hardness 硬度	Cutting Speed 切削速度	Feed	Feed per Tooth 進給 fz(mm /tooth)				
			進給	Diameter 直徑 ØD (mm)				
		(m/min)	fz(mm/t)	2.5R	3.5R	5R	6R	8R
Carbon Steel 碳素鋼	HB 160~260	140~200	0.15~0.35	0.1~0.5	0.15~1.	0.2~1.	0.5~1.5	0.5~2.
Pre-Hardened Steel 預硬鋼	HB 280~400	100~160	0.1~0.2	0.1~0.5	0.15~0.8	0.2~1.	0.2~1.2	0.3~1.5
Hardened steel 淬火鋼	HRC 40~52	80~120	0.1~0.15	0.07~0.2	0.1~0.6	0.15~0.8	0.15~1.2	0.2~1.2
	HRC 52~63	60~80	0.07~0.15	0.05~0.1	0.05~0.2	0.07~0.5	0.1~0.8	0.15~1.
Stainless Steel 不銹鋼	HB 150~250		0.1~0.15	0.1~0.3	0.1~0.5	0.15~0.8	0.2~1.	0.2~1.2
Gray Cast Iron 灰口鑄鐵	HB 170~300	120~185	0.12~0.3	0.1~0.5	0.15~1.	0.2~1.	0.5~1.5	0.5~2.
Aluminum Alloy 鋁合金(un-coating 無塗層)	HB 90~150	250~400	0.05~0.35		0.15~0.8	0.2~1.	0.5~1.5	0.5~2.
Aluminum Alloy 鋁合金(TB coating 塗層)		300~700	0.05~0.35		0.15~0.8	0.2~1.	0.5~1.5	0.5~2.

ST **SPEED TIGER**

SPEED TIGER PRECISION TECHNOLOGY Co.,Ltd.

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