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MACH & TOOLS
SINCE 1972

優廉機器有限公司
金友聯工業股份有限公司

滾牙機 滾牙輪
THREAD ROLLING MACHINES & THREAD ROLLING DIES



本公司保有產品修改之權力，產品修改恕不另行通知。
All specifications and designs are subject to change without notice.

Contents

目錄

- ① Business concept
 - ① Hydraulic thru feed rolling machines
 - ① Cam rolling machines
 - ① 3-die rolling machines
 - ① Serration gear rolling machines
 - ① Set screw rolling machines
 - ① Features
 - ① Optional accessories
 - ① Thread rolling dies
 - ① Thread rolling die categories
 - ① Thread rolling die manufacturing
 - ① Serration/knurling rolling dies
 - ① Serration rolling die manufacturing
 - ① Flat thread (knurling) rolling dies
 - ① QC of thread rolling dies - hardness & profile
 - ① You-Mei Factory (Dong Guan, China)
- 經營理念
 - 油壓滾通式滾牙機系列
 - 凸輪式滾牙機系列
 - 三輪式滾牙機系列
 - 漸開線花鍵(固定齒)滾齒機系列
 - 止附螺絲專用機
 - 機械特點
 - 選購配備
 - 滾牙輪系列
 - 滾牙輪種類
 - 滾牙輪製造特點
 - 滾齒輪/滾花輪系列
 - 滾齒輪製造特點
 - 搓牙板/搓花板系列
 - 滾牙輪牙形品檢特點
 - 中國：優美五金機械有限公司





經 · 營 · 理 · 念 BUSINESS CONCEPT

本公司自1972成立以來為追求更高品質，以不斷的研發，改進的態度，40年來以豐富的經驗，優良的技術製造出**物美價廉**的全系列滾牙機與精密的滾牙輪。

本公司的產品已進入批量生產的模式，在國內外已獲得客戶一致採用及讚賞。優廉滾牙機與滾牙輪將為您創造更快的效率，更大的產能，最高的品質。謹此，至上誠摯的謝意與祝禱，誠然本公司以為您服務為榮。

Our factory was established in 1972. To create good thread rolling machines and thread rolling dies, we have kept on "Research" and "Development" continuously. **"The best quality with inexpensive price"** is always the promise we give to the customers.

The production lines are planned as "batch process mode". Our products - thread rolling machines and thread rolling dies will bring the customers higher efficiency of work pieces, larger production value, and the best quality. We appreciate for choosing **Unify thread rolling**, we are also honored to return our best service to customers.



量 · 產 · 化 · 的 · 模 · 式 Batch Process Mode

本公司標準型滾牙機均以計劃性的生產，所以可提供客戶大量需求。生產滾牙輪部門擁有10多台瑞士REISHAUER螺紋磨床，各廠牌的滾牙機所使用的滾牙輪均可大量生產，歡迎訂購。

The standard thread rolling machines are planned manufacturing as batch process mode, we can provide the larger demands for the customers.

In the other hand, we have more than 10 units of Swiss REISHAUER thread grinding machines, and gear grinding machines for the thread rolling die department. Any special requirements, or other brands thread rolling dies are welcomed to ask the quotation.



油壓滾通式滾牙機系列 HYDRAULIC THRU FEED ROLLING MACHINES

特 · 性 Features

- 滾通固定兩用：機台裝有微動感應開關，可以任意調整滾牙時間及工件滾過定長。
- 油壓力道強勁：滑板(右邊牙輪)採用油壓驅動，定位精準，力道強勁不失真。
- 結構堅強：機身採用FC-25高強韌鑄鐵，經調質回火堅固耐用。
- 進退運動穩定：方型軌道設計的進退滑板，在高週波表面硬化後再精工研磨使滑板施壓滾牙中定位精準，不會躍升鬆動，不易磨損。
- 完全傳動：渦桿經熱處理後再經牙部研磨，配合上磷青銅渦輪使渦輪、渦桿更密切配合，傳動更為順暢，無噪音。
- 特別適用於長條螺絲，歐姆螺絲，滾造級滾珠螺絲，及機械、五金工具、汽機車零件的螺紋轉造加工。

- Thru feed and in feed both available: The rolling time and rolling length are adjustable by limited switches with "hydraulic thru feed type" thread rolling machines.
- Powerful rolling pressure: the slide way feeding is driven by hydraulic unit which is ensured accurate position, and avoided the distortion of feeding power.
- Solid structure: Heat treatment of high tension cast iron FC-25 frame is durable.
- Steady feed motion: square rail slide cased and accurately ground can avoid the jumping, vibration, and wear away.
- Perfect transmission: heat-treat and thread-ground worm with phosphoric bronze worm wheel gear completely and smooth.
- Specially suitable for: long length screws, ACME screws, Ball screws, machine parts, tool and automobile / motorcycle parts.

加 · 工 · 實 · 例 Processing Examples





油壓滾通式滾牙機系列



HYDRAULIC THRU FEED ROLLING MACHINES

UM-50 (50A) 規格 SPECIFICATION:

能力 Capacity	形式 Model	UM-50 (50A)
滾製螺絲外徑	Work piece diameter (mm)	ø6 - ø50
螺距範圍	Axial pitch for ISO threads (mm)	1.0p - 6.35p
滾製長度	Length of thread rolling (mm)	固定式 Plunge rolling (In feed): 148 滾透式 Thru feed rolling: no limited (無限制)
滾轉轉數	Spindle speed	25 - 85 r.p.m (變頻主軸) variable speed
外徑	Thread rolling die (mm)	Diameter
內孔		Bore
厚度		Length
螺槽	Keyway	10 x 5 (50A = 14 x 7)
滾轉軸行程間距	Distance of the rolling spindles (mm)	155 - 255
滾製量	Output (pieces/min)	4 - 20
滾轉軸傾角	Swivel of roll-axis	± 7°
滾轉馬力	Main power motor	15 HP (11 kw)
油壓馬力	Hydraulic motor	5 HP (3.7 kw)
最高滾製壓力	Max rolling pressure	40 TON
淨重	Net weight	3250 kgs
毛重 (裝箱)	Gross weight	3600 kgs
佔地面積	Operation required space	1900 mm x 2300 mm x 2300 mm
裝箱尺寸	Shipping measurement	1790 mm x 2270 mm x 2200 mm

UM-75 (75A) 規格 SPECIFICATION:

能力 Capacity	形式 Model	UM-75 (75A)
滾製螺絲外徑	Work piece diameter (mm)	ø10 - ø75
螺距範圍	Axial pitch for ISO threads (mm)	1.0P - 10.0P
滾製長度	Length of thread rolling (mm)	固定式 Plunge rolling (In feed): 148 (75A) / 200 滾透式 Thru feed rolling: no limited (無限制)
滾轉轉數	Spindle speed	20 - 50 r.p.m (變頻主軸) variable speed
外徑	Thread rolling die (mm)	Diameter
內孔		Bore
厚度		Length
螺槽	Keyway	14 x 7 (75A = 18 x 9)
滾轉軸行程間距	Distance of the rolling spindles (mm)	275 - 195 (75A: 300 - 220)
滾製量	Output (pieces/min)	4 - 20
滾轉軸傾角	Swivel of roll-axis	± 5°
滾轉馬力	Main power motor	25 HP (18.75 kw) (75A = 30HP)
油壓馬力	Hydraulic motor	7.5 HP (5.5 kw) (75A = 10HP)
最高滾製壓力	Max rolling pressure	60 TON
淨重	Net weight	6000 kgs
毛重 (裝箱)	Gross weight	6500 kgs
佔地面積	Operation required space	2500 mm x 2600 mm x 2400 mm
裝箱尺寸	Shipping measurement	2700 mm x 2500 mm x 2200 mm





油壓滾通式滾牙機系列



UM-40(40A)

規格 SPECIFICATION:

能力 Capacity	形式 Model	UM-40 (40A)
滾製螺絲外徑	Work piece diameter (mm)	ø0 - ø40
螺距範圍	Axial pitch for ISO threads (mm)	0.8P - 4.0P
滾製長度	Length of thread rolling (mm)	固定式 Plunge rolling (In lead): 148 滾通式 Thru feed rolling: no limited (無限長)
滾轉轉數	Spindle speed	20, 35, 50, 70 r.p.m
外徑	Diameter	ø150 (ø180) MAX
內孔	Bore	ø54
厚度	Length	35, 70, 100, 150
鍵槽	Keyway	10 x 5
滾轉軸行程間距	Distance of the rolling spindles (mm)	125 - 200 (155 - 230)
滾製量	Output (pieces/min)	4 - 20
滾轉軸傾角	Swivel of roll-axis	±4°
滾轉軸馬力	Main power motor	10 HP (7.5 kw)
油壓馬力	Hydraulic motor	5 HP (3.7 kw)
最高滾製壓力	Max rolling pressure	27 TON
淨重	Net weight	2500 kgs
毛重 (裝箱)	Gross weight	2500 kgs
佔地面積	Operation required space	1800 mm x 2100 mm x 2000 mm
裝箱尺寸	Shipping measurement	2210 mm x 1510 mm x 2000 mm

HYDRAULIC THRU FEED ROLLING MACHINES

UM-30 規格 SPECIFICATION:

能力 Capacity	形式 Model	UM-30
滾製螺絲外徑	Work piece diameter (mm)	ø5 - ø30
螺距範圍	Axial pitch for ISO threads (mm)	0.8P - 3.5P
滾製長度	Length of thread rolling (mm)	固定式 Plunge rolling (In lead): 70 滾通式 Thru feed rolling: no limited (無限長)
滾轉轉數	Spindle speed	30 - 65 r.p.m (變頻主軸) variable speed
外徑	Diameter	ø150 MAX
內孔	Bore	ø54
厚度	Length	35, 70
鍵槽	Keyway	10 x 5
滾轉軸行程間距	Distance of the rolling spindles (mm)	142 - 185
滾製量	Output (pieces/min)	4 - 20
滾轉軸傾角	Swivel of roll-axis	±7°
滾轉軸馬力	Main power motor	5 HP (3.7 kw)
油壓馬力	Hydraulic motor	3 HP (2.2 kw)
最高滾製壓力	Max rolling pressure	17 TON
淨重	Net weight	1220 kgs
毛重 (裝箱)	Gross weight	1370 kgs
佔地面積	Operation required space	1800 mm x 1800 mm x 1800 mm
裝箱尺寸	Shipping measurement	1700 mm x 1270 mm x 1000 mm





油壓滾通式滾牙機系列 HYDRAULIC THRU FEED ROLLING MACHINES



UM-16 規格 SPECIFICATION:

能率 Capacity	形式 Model	UM-16
滾製螺絲外徑	Work piece diameter (mm)	ø2 - ø16
螺距範圍	Axial pitch for ISO threads (mm)	0.4P - 2.0P
滾製長度	Length of thread rolling (mm)	固定式 Plunge rolling (In feed): 40 滾通式 Thru feed rolling: no limited (無限長)
滾輪轉數	Spindle speed	30 - 65 r.p.m (變頻主軸) variable speed
外徑	Diameter	ø100 MAX
內孔	Bore	ø50.5
滾牙輪厚度	Length	10, 15, 30, 40
滾槽	Keyway	8 x 4
滾輪軸行程間距	Distance of the rolling spindles (mm)	90 - 120
滾製量	Output (pieces/min)	8 - 30
滾輪軸傾角	Swivel of roll-axis	± 6°
滾輪軸馬力	Main power motor	3 HP (2.2 kw)
液壓馬力	Hydraulic motor	2 HP (1.5 kw)
最高滾製壓力	Max rolling pressure	6 TON
淨重	Net weight	600 kgs
毛重 (裝箱)	Gross weight	680 kgs
佔地面積	Operation required space	1400 mm x 1500 mm x 1200 mm
裝箱尺寸	Shipping measurement	1430 mm x 1150 mm x 1400 mm



凸輪式滾牙機系列 CAM ROLLING MACHINES

特性 Features

- UM-20, 35 採用機械凸輪 (cam) 式進刀施給壓力，完成滾牙的動作，確保進刀定位精準性。
 - 配置精密的渦桿渦輪組合，傳動穩定，無間隙過大的問題，確保螺絲精度。
 - 裝配精密傳動齒輪，經研磨後，不但清除雜音，持久耐用，傳動無間隙。
 - 鳩尾斜度形滑板，進給滾牙時，不鬆動，不躍升，不易磨損。
 - UM-3 採用簡易偏心式進刀施給壓力，操作簡單，精巧玲瓏，最為適合小螺絲，壓花紋之使用。
 - 一般常用之螺絲，自行車、汽機車及小家電軸心，事務機器零件，相當適用本系列滾牙機加工。
- UM-20 and UM-35 adopt mechanical cam feed to complete rolling motion, and to ensure precise feed positioning.
 - The precise worm shaft and worm gear: keep steady transmission, and the accuracy of thread profile.
 - Precise transmission grinding type gear shape: noise-free, durable, transmission operates precisely, and no extra space when transmission.
 - Dove tail-type slide: assuring that jumping, vibration, and wear will not happen during rolling process.
 - UM-3 adopts eccentricity feeding: featuring easy operation and smart design, suitable for small screws and knurling patterns.
 - Designed for the thread rolling of standard screws, bicycle parts, automobile parts, small household electric appliances and various machinery parts.

加工實例 Processing Examples





凸輪式滾牙機系列

CAM ROLLING MACHINES

UM-20 規格 SPECIFICATION:



能力 Capacity	形式 Model	UM-20
滾製螺絲外徑	Work piece diameter (mm)	ø4 - ø20
節距範圍	Axial pitch for ISO threads (mm)	0.7P - 2.5P
滾製長度	Length of thread rolling (mm)	48 MAX
滾轉轉數	Spindle speed	45 r.p.m
外徑	Diameter	ø120 MAX
內孔	Bore	ø40
滾牙輪 厚度	Thread rolling die (mm) Length	25, 50
滾牙輪 鍵槽	Keyway	8 x 4
滾轉軸行程間距	Distance of the rolling spindles (mm)	110 - 145
滾製量	Output (pieces/min)	9 - 30
滾轉馬力	Main power motor	3.1HP (2.2 kw)
淨重	Net weight	780 kgs
毛重(裝箱)	Gross weight	850 kgs
佔地面積	Operation required space	1300 mm x 1400 mm x 1300 mm
裝箱尺寸	Shipping measurement	1330 mm x 1120 mm x 1360 mm

UM-35 規格 SPECIFICATION:

能力 Capacity	形式 Model	UM-35
滾製螺絲外徑	Work piece diameter (mm)	ø6 - ø35
節距範圍	Axial pitch for ISO threads (mm)	1.0P - 3.0P
滾製長度	Length of thread rolling (mm)	148 MAX
滾轉轉數	Spindle speed	40 r.p.m
外徑	Diameter	ø150 MAX
內孔	Bore	ø54
滾牙輪 厚度	Thread rolling die (mm) Length	35, 70, 100, 150
滾牙輪 鍵槽	Keyway	10 x 5
滾轉軸行程間距	Distance of the rolling spindles (mm)	145 - 180
滾製量	Output (pieces/min)	6 - 24
滾轉馬力	Main power motor	7 1/2 HP (5.5 kw)
淨重	Net weight	1200 kgs
毛重(裝箱)	Gross weight	1300 kgs
佔地面積	Operation required space	1500 mm x 1500 mm x 1500 mm
裝箱尺寸	Shipping measurement	1450 mm x 1210 mm x 1050 mm





凸輪式滾牙機系列 CAM THREAD ROLLING MACHINES



UM-3 規格 SPECIFICATION:

能力 Capacity	形式 Model	UM-3
滾製螺絲外徑	Work piece diameter (mm)	ø2 - ø12
節距範圍	Axial pitch for ISO threads (mm)	0.4P - 1.75P
滾製長度	Length of thread rolling (mm)	38 MAX
滾輪轉數	Spindle speed	30 r.p.m
外徑	Diameter	ø100 MAX
內孔	Bore	ø50.5
厚度	Length	10 - 15 - 30
鍵槽	Keyway	8 x 4
滾輪軸行程間距	Distance of the rolling spindles (mm)	95 - 120
滾製量	Output (pieces/min)	30 - 40
滾輪轉馬力	Main power motor	1.1kW (3/2HP) 1kw
淨重	Net weight	270 kgs
毛重 (裝箱)	Gross weight	320 kgs
佔地面積	Operation required space	960 mm x 800 mm x 900 mm
裝箱尺寸	Shipping measurement	820 mm x 690 mm x 1000 mm



三輪式滾牙機系列 3-DIE ROLLING MACHINES

特性 Features

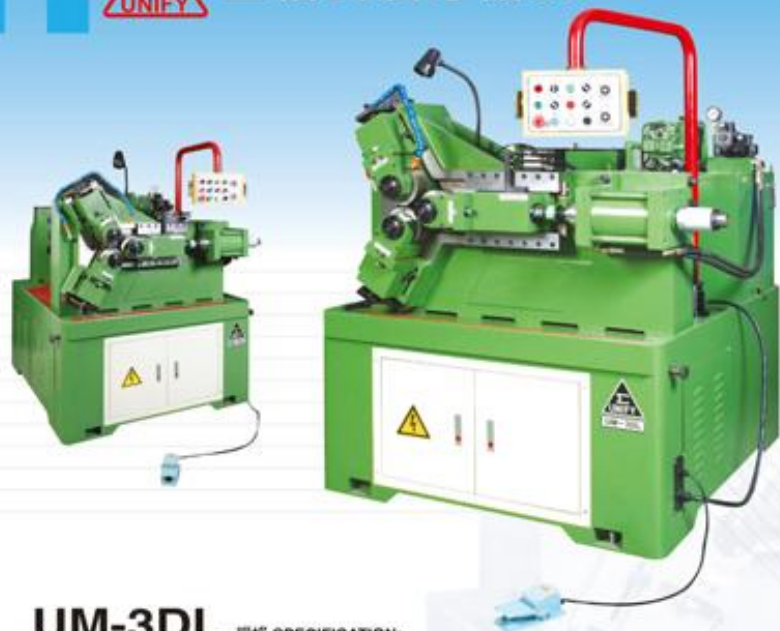
- 專為管狀螺紋工件設計，以等三角支撐原理，進行加工，以確保真圓度。
 - 以等三角支撐方式滾牙可提高工件真圓度、同心度、垂直度。
 - 機台採用油壓電器驅動，操作簡單，施壓力量強大。
 - 傳動齒輪經熱處理後而行齒面研磨，不但消除噪音，持久耐用，傳動無間隙。
 - 特別適用於中空管狀螺紋加工，如油管接頭，自行車，汽機車零件，散熱管，鷹架牙管...等產品滾牙加工。
- * Specially designed for tubular processing. Equilateral triangle supports running to assure the roundness.
 - * Equilateral triangle supports rolling for improving roundness, concentricity and vertical degree.
 - * Driving by hydraulic unit: featuring in easy operation and powerful pressure.
 - * The transmission gear with grinding shape: featuring in noise-free, durable and precise transmission.
 - * Particularly applied to the tubular thread processing, such as oil connectors, bicycle, automobile and motor vehicle parts, radiating pipe etc.

加工實例 Processing Examples





三輪式滾牙機系列



3-DIE ROLLING MACHINES

UM-3DX 規格 SPECIFICATION:

能力 Capacity	形式 Model	UM-3DX
滾製螺絲外徑	Work piece diameter (mm)	ø18 - ø50
螺距範圍	Axial pitch for ISO threads (mm)	1.0P - 6.0P
滾製長度	Length of thread rolling (mm)	固定式 Plunge rolling: (In feed): 48 滾滾式 Thru feed rolling: no limited (無限長)
滾轉轉數	Spindle speed	220 - 380 - 580 - 720 r.p.m
外徑	Diameter	ø120
內孔	Bore	ø40
厚度	Length	25 - 50
鍵槽	Keyway	8 x 4
滾轉軸行程距離	Distance of the rolling spindles (mm)	105 - 190
滾製量	Output (pieces/min)	4 - 25
滾轉傾角	Swivel of roll-axis	± 3°
滾轉馬力	Main power motor	5 HP (3.7 kw)
油壓馬力	Hydraulic motor	3 HP (2.2 kw)
最高滾製壓力	Max rolling pressure	12 TON
淨重	Net weight	1300 kgs
毛重(裝箱)	Gross weight	1450 kgs
佔地面積	Operation required space	1600 mm x 1500 mm x 1600 mm
裝箱尺寸	Shipping measurement	1500 mm x 1500 mm x 1700mm

UM-3DL 規格 SPECIFICATION:

能力 Capacity	形式 Model	UM-3DL
滾製螺絲外徑	Work piece diameter (mm)	ø27 - ø90
螺距範圍	Axial pitch for ISO threads (mm)	1.0P - 6.0P
滾製長度	Length of thread rolling (mm)	固定式 Plunge rolling: (In feed): 68 滾滾式 Thru feed rolling: no limited (無限長)
滾轉轉數	Spindle speed	150 - 240 - 370 - 500 r.p.m
外徑	Diameter	ø150 MAX
內孔	Bore	ø54
厚度	Length	35 - 70
鍵槽	Keyway	10 x 5
滾轉軸行程距離	Distance of the rolling spindles (mm)	150 - 240
滾製量	Output (pieces/min)	4 - 25
滾轉傾角	Swivel of roll-axis	± 3°
滾轉馬力	Main power motor	10 HP (6P) (7.5 kw)
油壓馬力	Hydraulic motor	5 HP (3.7 kw)
最高滾製壓力	Max rolling pressure	12 TON
淨重	Net weight	2420 kgs
毛重(裝箱)	Gross weight	2570 kgs
佔地面積	Operation required space	2200 mm x 1800 mm x 2200 mm
裝箱尺寸	Shipping measurement	2270 mm x 1800 mm x 2240 mm





三輪式滾牙機系列 3-DIE ROLLING MACHINES



UM-3D 規格 SPECIFICATION:

能力 Capacity	形式 Model	UM-3D
滾製螺絲外徑	Work piece diameter (mm)	ø9 ~ ø40
螺距範圍	Axial pitch for ISO threads (mm)	0.5P ~ 2.5P
滾製長度	Length of thread rolling (mm)	固定式 Plunge rolling (in feed): 98 穿過式 Thru feed rolling: no limited (無限制)
滾轉轉數	Spindle speed	350 - 600 r.p.m
外徑	Thread rolling die (mm)	Diameter
內孔		Bore
厚度		Length
鍵槽		Keyway
滾轉行程間距	Distance of the rolling spindles (mm)	90 - 95
滾製量	Output (pieces/min)	4 - 25
滾轉傾角	Swivel of roll-axis	±3
滾轉馬力	Main power motor	2HP (1.5 kw)
油壓馬力	Hydraulic motor	2HP (1.5 kw)
最高滾製壓力	Max rolling pressure	6.50N
淨重	Net weight	540 kgs
毛重 (裝箱)	Gross weight	650 kgs
佔地面積	Operation required space	1100 mm x 1300 mm x 1500 mm
裝箱尺寸	Shipping measurement	1150 mm x 1300 mm x 1510 mm



漸開線花鍵(固定齒)滾齒機系列 SERRATION GEAR ROLLING MACHINES

特性 Features

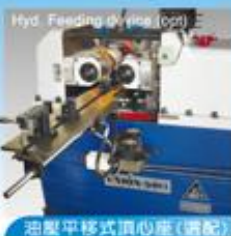
- 漸開線花鍵(固定齒)滾齒機，以滾齒機裝上平移式頂心座滾製漸開線花鍵(固定齒)，以確保齒型的穩定，工件的同軸度，垂直度。
 - 依客戶的需求製造以滾牙機為主，工件治具為輔的專用型滾齒機。
 - 依客戶的需求製造以自動送料滾牙，或半自動滾牙的自動型滾齒機。
 - 利用滾牙機轉造的功能，滾製出客戶所需的產品如滾字形、圓形、滾油溝、滾直花、十字花...等。
- * Set up with the movable center-seat holder which ensures the steady teeth shape, concentricity of work piece and vertical degrees.
 - * The thread rolling machines and the necessary tools can be special design according to the customers' requirements.
 - * Auto loading systems and semi-loading systems of thread rolling machines are the optional accessories <special made> according to the customers' requirements.
 - * Other types of work pieces as the character rolling, the roundness rolling, the grooving rolling, the straight knurling or diamond knurling are able to be rolled by thread rolling machine.

加工實例 Processing Examples





漸開線花鍵(固定齒)滾齒機



UM-50H 規格 SPECIFICATION:

能率 Capacity	形式 Model	UM-50H
滾製花鍵外徑	Work piece diameter (mm)	ø5 - ø50
齒距範圍	pitch (mm)	0.8P - 6.0P M0.3 - M1.5
滾製長度	Length of thread rolling (mm)	98 MAX
滾轉轉數	Spindle speed	15 - 20 - 30 - 45 - 60 - 70 r.p.m
外徑	Diameter	ø200 MAX
內孔	Bore	ø70
滾牙輪 厚度	Thread rolling die (mm) Length	35, 70, 100
滾牙輪 鍵槽	Keyway	14 x 7
滾轉軸行程間距	Distance of the rolling spindles (mm)	155 - 255
滾製量	Output (pieces/min)	4 - 15
滾轉軸馬力	Main power motor	10 HP 6P (7.5 kw)
油壓馬力	Hydraulic motor	5 HP (3.7 kw)
最高滾製壓力	Max rolling pressure	40 TON
淨重	Net weight	4050 kgs
毛重 (裝箱)	Gross weight	4450 kgs
佔地面積	Operation required space	1900 mm x 2300 mm x 2300 mm
裝箱尺寸	Shipping measurement	2000 mm x 1920 mm x 2240 mm

SERRATION GEAR ROLLING MACHINES

UM-35H 規格 SPECIFICATION:

能率 Capacity	形式 Model	UM-35H
滾製花鍵外徑	Work piece diameter (mm)	ø5 - ø35
齒距範圍	pitch (mm)	0.8P - 3.0P M0.3 - M0.75
滾製長度	Length of thread rolling (mm)	148 MAX
滾轉轉數	Spindle speed	20 - 30 - 45 - 60 r.p.m
外徑	Diameter	ø150 MAX
內孔	Bore	ø54
滾牙輪 厚度	Thread rolling die (mm) Length	35, 70, 100, 150
滾牙輪 鍵槽	Keyway	10 x 5
滾轉軸行程間距	Distance of the rolling spindles (mm)	145 - 180
滾製量	Output (pieces/min)	6 - 24
滾轉軸馬力	Main power motor	7 1/2 HP (5.5 kw)
油壓馬力	Hydraulic motor	5 HP (3.7 kw)
最高滾製壓力	Max rolling pressure	17 TON
淨重	Net weight	1450 kgs
毛重 (裝箱)	Gross weight	1700 kgs
佔地面積	Operation required space	2100 mm x 2200 mm x 2000 mm
裝箱尺寸	Shipping measurement	2150 mm x 1900 mm x 2000 mm





止付螺絲專用機 SET SCREW ROLLING MACHINES



滾牙機裝上震動送料機，將止付螺絲送入兩牙輪中間完成滾牙後自動下料，以達到自動滾牙下料的止付螺絲專用機。

Thru feed type thread rolling machines equip with the vibration feeding bowls which are suitable for thread rolling set screws. The blanks are fed to the thread rolling dies by vibration bowls. The screws are formed by thread rolling dies, and unloaded through the guide ways.

註：所有油壓式滾牙機均可修改，依止付螺絲的規格選擇適合滾牙機的型號。
Note: all hydraulic thread rolling machines can be modified, according to set screw specifications.

UM-16 規格 SPECIFICATION:

能力 Capacity	形式 Model	UM-16 止付專用機
滾製螺絲外徑	Work piece diameter (mm)	ø2 - ø8
螺距範圍	Axial pitch for ISO threads (mm)	0.4P - 1.25P
滾製長度	Length of thread rolling (mm)	選通 (長度無限)
滾輪轉數	Spindle speed	30 - 65 r.p.m (變速主軸) variable speed
外徑	Diameter	ø100 MAX
內孔	Bore	ø50.5
滾牙輪厚度	Length	30 - 40
鍵槽	Keyway	8 x 4
滾輪轉行程間距	Distance of the rolling spindles (mm)	90 - 120
滾製量	Output (pieces/min)	8 - 30
滾輪傾角	Swivel of roll-axis	± 6°
滾輪馬力	Main power motor	3 HP (2.2 kw)
淨重	Net weight	600 kgs
毛重 (裝箱)	Gross weight	680 kgs
佔地面積	Operation required space	700 mm x 1170 mm x 1000 mm
裝箱尺寸	Shipping measurement	1330 mm x 1050 mm x 1050 mm

機械特點 FEATURES



齒輪

傳動齒輪經由熱處理後在本廠研齒部進行齒輪研齒加工，大幅提高傳動精度，耐用性。
After the heat treatment process, the transmission gears are ground by our gear grinding machines, the quality is greatly improved for transmission precision and durability.



齒輪研齒



渦桿渦輪

傳動渦桿經由熱處理後在本廠研齒部進行螺旋研齒，配上鋼青銅渦輪更密切結合使得動平順，耐用性高。
After the heat treatment process, the transmission worm shafts are ground by our thread grinding machines, the precise positioning and smooth motion can be ensured for matching with bronze gears.



渦桿研齒



進刀螺桿

進退牙輪的進刀螺桿經由本廠研齒部進行螺旋研齒，使滾牙機調整進退刀時，定位精準，進退平順。
The feed and return movements of right thread rolling die are controlled by stroke shafts. The shafts are ground by our thread grinding machines, the precision and the feed point can be ensured.



螺桿研齒

機 械 特 點 FEATURES

Roller Shaft & Lock Nuts



滾輪軸鋼緊螺帽

滾輪軸選用SNCM-21經正常化，滲碳處理後再由螺紋磨床研磨後段牙部，再配合精密鎖緊螺帽，以確保主軸同心度，提高垂直鎖緊度。

The material (SNCM-21) is with normalizing & cementation (hardening progresses), and the end screw parts were ground by thread grinding machine. Matching the screw parts with lock nuts to ensure the concentricity and vertical block degree.

Roller Shaft grinding



滾輪軸研磨

Scraping



平面刮花

機床平面和滑板刮板經刮花後含油量高，移動平穩，持久耐用。

The scraping process is featuring in high oil content, steady motion and durability.

Taper pin scraping



斜柄刮花

Led Work Lamp



工作燈

滾牙工作面有LED燈照明加工時更為方便。

lub. System



手/自動注油器

手/自動注油器，可定時定量將滑潤油送到滑板，使滑板耐磨耐用。

選 購 配 備 OPTIONAL ACCESSORIES

CE (Hyd. Thru feed type)



CE安全電控護罩

CE (3 die type)



CE安全電控護罩

6-speed transmission gear box (grinding gears)



六段變速箱(齒輪研磨級)



半自動/自動送料系統

Main Shaft Frequency Inverter



主軸變頻器

Work rest (carbide & roller types)



鑄鋼式滾珠式支持片(案內板)



滾牙輪 系列

THREAD ROLLING DIES

滾製螺紋所需的滾牙輪，需要優良的工具鋼作為素材材料，本公司所選用名廠之工具鋼材質為SKD11 (JIS) · 1.2379 (DIN) 為素材，經由本公司熱處理部(豐源工業)的日本TECHNO真空油淬火處理爐的高溫處理，使滾牙輪具有高硬度、高耐磨性，完成熱處理之後再由研磨部門的瑞士REISHAUER螺紋研磨，精磨螺紋成形後再送回熱處理部門做研磨內應力的消除，完成品質檢驗後再送交客戶使用，可達到高精度的需求更能延長牙輪使用壽命可大幅的降低成本。使用本公司滾牙輪和滾牙輪一定能大量的生產高精度、高拉力的螺紋工件。除製造本公司自製型式滾牙輪用之滾牙輪外，其他型式之滾牙輪均可大量供應，歡迎訂製。

The superior tool steel is a very important element of thread rolling dies. SKD11 (JIS) and 1.2379 (DIN) are the named raw material which we have chosen for the past years. The blank of thread rolling dies are heat treated by Japanese TECHNO vacuum & oil quenching furnace by heat treating dep. (Toyogen Industrial Co.) It will render the higher rigidity and higher wear-resistance of thread rolling dies.

After the heat treatment progress, the thread rolling dies are ground by Swiss REISHAUER thread grinding machines. And another progress of tempering to reduce the grinding stress is necessary for thread rolling dies. The thread rolling dies are ready for sale after the quality exam. The good quality of thread rolling dies is able to offer higher precision, longer working life, and reduced the cost to customers.

We also produce the thread rolling dies for other brands thread rolling machines. Your special specifications and requirements are very welcomed.

本公司擁有十多部瑞士REISHAUER螺紋磨床。

We have 10 units of the Swiss REISHAUER thread grinding machines.



螺紋磨床 Thread grinding machines



螺紋研磨 Thread grinding progress



熱處理後牙輪材料 Die material-after heat treatment



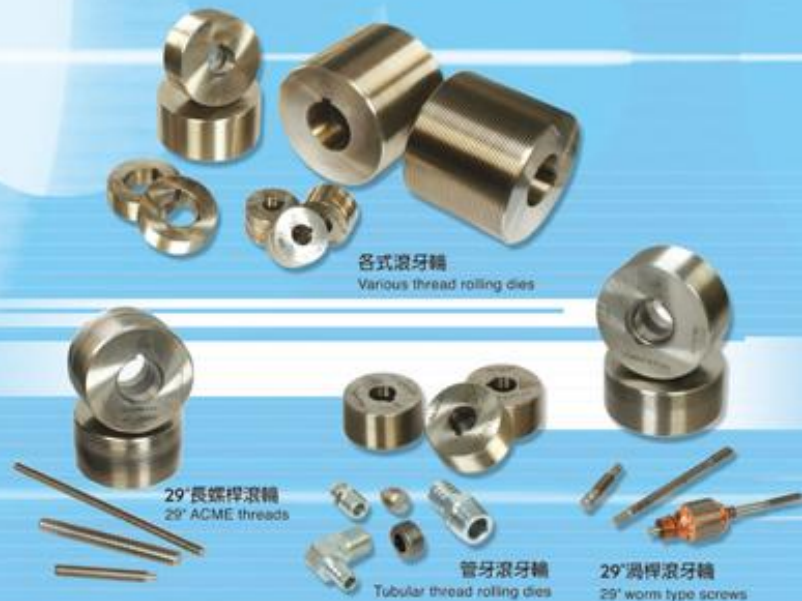
熱處理爐 TECHNO vacuum & oil heat treatment furnace



MACH & TOOLS
SINCE 1972

滾牙輪

THREAD ROLLING DIES



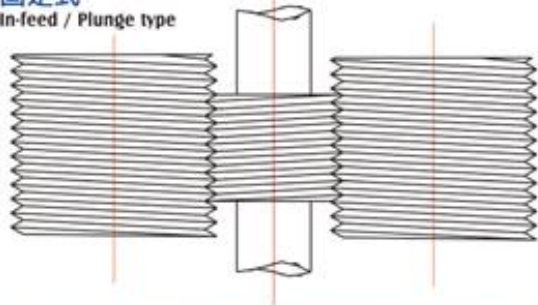


滾牙輪 種類

THREAD ROLLING DIE CATEGORIES

當滾製工件螺紋長度不超過滾牙輪厚度時所使用
The thread rolling length is shorter than the length of thread rolling die

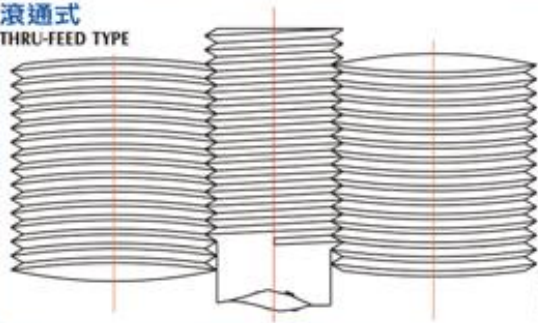
固定式 In-feed / Plunge type



固定式滾製示意圖
In feed type Display

當滾製工件螺紋長度超過滾牙輪厚度時所使用
The thread rolling length is longer than the length of thread rolling die

滾通式 THRU-FEED TYPE



滾通式滾製示意圖
Thru-Feed Rolling Display

- 打製滾通 Annular ring type
- 無頭滾通 Continuous rolling type
- 差速滾通 Helical slow feed type (for multiple start threads)
- 快速滾通 Speed-up type

本公司滾牙輪製造範圍 Manufacturing thread rolling die range:

外徑 Outside diameter Max 300mm	節距 Pitch 0.4~10.0 P(60~2 1/2 TPI)
厚度 Length Max 400mm	模數 Module 0.2~2.0
壓力角 Pressure angle 10°~45°	螺旋角 Helix angle ±45°



滾牙輪製造 特點

THREAD ROLLING DIE MANUFACTURING

鋸床/鋼材 Bandsaws & die blanks

歐洲知名的鋼條胚料，直接進口到本公司倉庫，可保持材質的穩定性，而且擁有大量的庫存，可接受客戶大量訂購。

Large inventory of Named tool steel raw material imported from European for keeping the material stability, and expecting the customers large orders.



研磨級滾牙輪 Thread rolling die, grinding type



CNC螺紋磨床

Reishauer thread grinding machine, CNC mode



螺紋磨床

Reishauer thread grinding machine



滾齒輪/滾花輪 系列

SERRATION/KNURLING DIES

固定齒 Serration spline rolling die

在滾製汽、機車之傳動軸，機械花鍵軸和手工具等固定齒數之滾齒輪。本公司擁有多台瑞士 REISHAUER 齒輪磨床，精磨滾齒輪，形成漸開線的滾齒輪，能確保精度，表面細膩光滑，延長滾齒輪壽命。

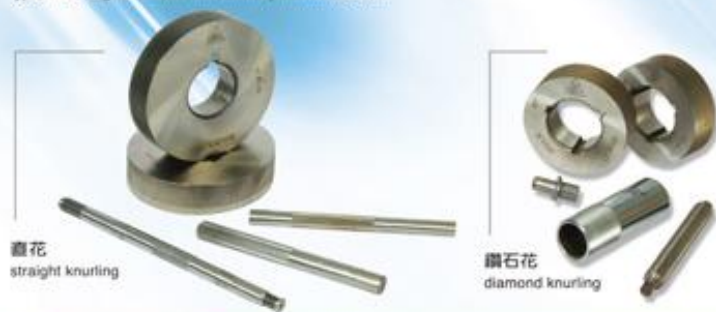
The serration type work pieces as transmission shafts of automobiles/motor-vehicles, machine model spline shafts, and hardware tools are all suitable to form by serration spline rolling dies. High precision quality spline rolling dies are ground by Swiss REISHAUER gear grinding machines with fine and delicate surface.



滾花輪 Knurling rolling die

印在手工具上的防滑而美觀的直線或十字交叉的花紋，均由滾花輪壓製而來。花輪在銑齒輪機精銑成形後再熱處理使用，表面精度雖然無研磨後的精度，但花輪的同心度、直線度，也使工件達到防滑美觀的效果。

The knurling patterns (straight pattern or diamond pattern) on the surface of work pieces are formed by the knurling dies for preventing the skid, or the attractive appearance. The knurling dies are hobbled by gear hobbing machines before the heat treatment progress. Though, the precision is less good as the grinding type, the straightness and concentricity can be assured.



直花
straight knurling

鑽石花
diamond knurling

本公司滾齒輪製造範圍 Manufacturing knurling die range:

外徑 Outside diameter Max 240mm 節距 Pitch 0.4~5.0 P (60~5TPI)

厚度 Length Max 180mm 模數 Module 0.2~2.0

壓力角 Pressure angle 20°~45° 螺旋角 Helix angle ±45°



固定齒/滾花輪製造 特點

SERRATION/KNURLING DIE MANUFACTURING

研磨級固定齒 Grinding teeth

當漸開線花鍵(固定齒)滾齒機，要滾製工件時，除了滾齒機(UM-35H, UM-50H)，平移式頂心座的配合外，最重要的就是具有漸開線的滾齒輪，利用瑞士 REISHAUER 齒輪磨床，進行創成磨法的加工工程，讓滾齒輪有漸開線的形成，使滾齒輪提升精度，增長滾齒輪壽命。

To make a good serration spline work piece, we need:

A good steady way to keep the work piece in center while serrationing, so that we have the center seat holder for UM-35H & UM-50H.

Good serration spline rolling dies also play a very important factors. The involute serration spline rolling dies are ground by Swiss REISHAUER gear grinding machines with generating grinding method. The precision of serration spline rolling dies is improving, as well as the life of the rolling dies is extending.



磨齒(花)輪製程

Gear Grinding Process



齒(花)輪磨床

Reishauer Gear Grinding Machine

銑齒級滾花輪 Hobbing teeth

滾花輪是先由滾齒機，配合錳鋼滾刀精銑後再施以熱處理後使用，不但可確保直花直線度，而且表面光滑耐用。

Knurling patterns are hobbled by gear hobbing machines with tungsten steel hobbing cutters before heat treatment progress. The straightness, and durable surface can be ensured.



滾齒(花)機

Gear Hobbing Machine



滾齒(花)輪製程

Manufacturing of Gear Hobbing

UNIFY THREAD ROLLING

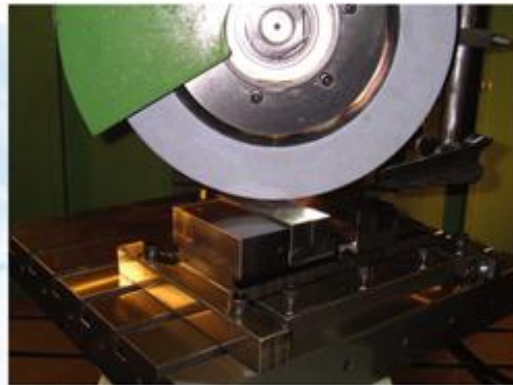


搓牙板/搓花板 系列

FLAT THREAD (KNURLING) ROLLING DIES

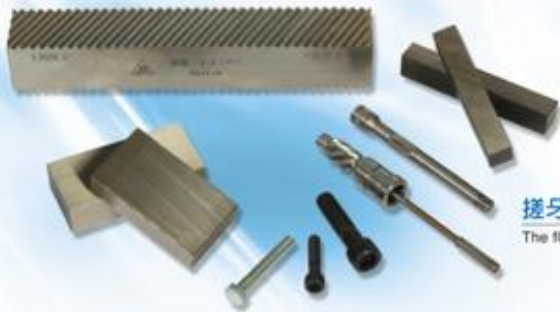
要生產大量緊固件螺絲，除了使用滾牙輪之外，還可選用搓壓成形的搓牙板來加工，可降低生產成本，適合大量生產。本公司結合30多年滾牙輪的製造經驗，全新推出研磨級的搓牙板和搓花板，同樣選用歐洲名牌工具鋼SKD11 (JIS)、SKH9為素材胚料。施以先進的熱處理技術，再由CNC電腦磨床研磨牙形，完成品質檢驗後送交客戶使用，讓客戶的產品提高品質，降低成本。

The mass production of fastener screws, it may also another good choice: the flat type thread rolling, which may reduce production cost, applied to big-volume production. With 30 years of experience in circular thread rolling die manufacturing, we set up the new production line of grinding type flat rolling dies and knurling dies. With the same European named tool steel SKD11 (JIS), and SKH9, together with advanced heat treatment technology, and thread grinding CNC machine to offer the customers another choice.



搓牙板製程

Manufacturing of flat rolling die



搓牙板/搓齒板

The flat knurling die

本公司搓牙板製造範圍 Manufacturing flat rolling die range:

長度 Length Max 900mm 高度 H Max 400mm

厚度 Length Max 200mm 節距 Pitch 0.4~6.0 P (60~4TPI)

螺旋角 Helix angle ±45°



滾牙輪牙形品檢 特點

QC OF THREAD ROLLING DIES - HARDNESS & PROFILE



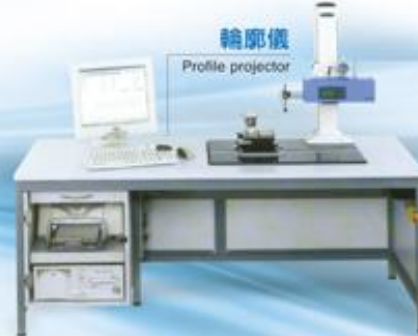
當滾牙輪經由本公司熱處理部(豐源工業)的日本TECHNO真空油淬火爐理爐的高溫處理之後，依滾牙輪的材質分別回火完成所需的硬度，施以硬度的檢查，再轉交研磨部完成牙形的研磨。



The hardening progress of thread rolling dies is done by TECHNO vacuum & oil quenching furnace in the heat treatment dep. (TOYOGAN Industry). The tempering progresses are different setting according to die hardness requirement. After checking the hardness of die materials by hardness testers, the die materials are ready for thread grinding progress.

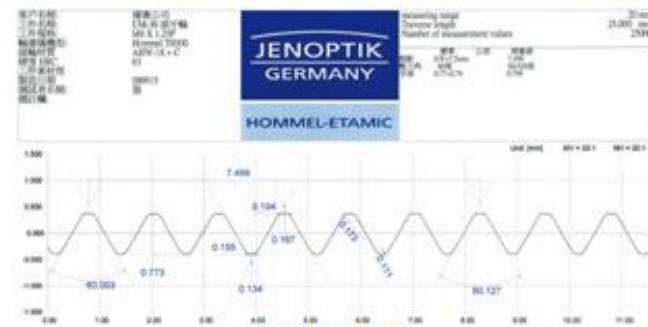
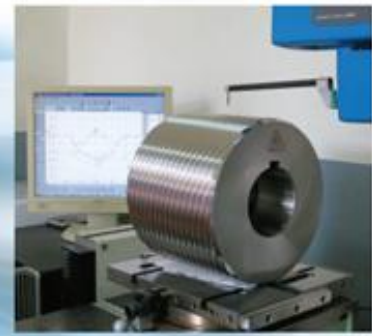
滾牙輪在研磨成形之後，不但使用投影機做第一階段的檢驗，本公司並使用精密輪廓儀來量測牙形，確保本公司產品精度。

The thread rolling dies are checked by both the projector and the profile projector to ensure the precision.



輪廓儀

Profile projector



牙形檢查報告

The Profile Report Of Thread Rolling Dies

UNIFY THREAD ROLLING



中國東莞-優美廠 YOU-MEI FACTORY (DONG GUAN, CHINA)

為了服務廣大的客戶，本公司於2007年在東莞設立優美五金機械公司，專業於滾牙輪的製造、翻修和優廉滾牙機的售後服務。在優美廠同樣是引用瑞士REISHAUER螺紋磨床，研磨滾牙輪，為確保滾牙輪的品質不變，優美廠的牙輪胚件和技術，同樣由台灣優廉公司提供，以保證牙輪壽命的质量，可依客戶所需牙輪的外觀尺寸、牙形的尺寸製作滾牙輪，各式滾牙機所用的滾牙輪均可大量的生產，歡迎訂製。

For offering the better service in China, YOU-MEI factory was found in Dong Guan, China 2007. The production lines are including new thread rolling dies, re-thread rolling dies, knurling dies. "You-mei" chose the same equipments Swiss REISHAUER thread grinding machines. The blank material are also offered from KIM UNION Taiwan. Therefore, the same quality of thread rolling dies can be assured. You are welcome to pass any inquires for various type of thread rolling dies.

(Special dimensions & thread shapes are all acceptable)



磨床車間



車間一角

MEMO

Handwriting area with horizontal lines.



優廉全廠 Our factory

UNIFY THREAD ROLLING