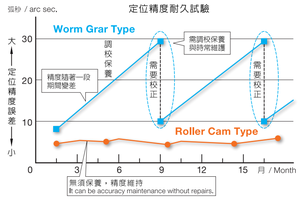
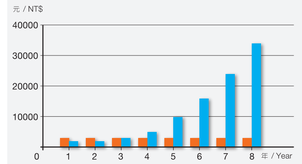
The Comparison Diagram of Roller Gear Cam and Worm Gear



長時間使用後的精度的比較
Comparison of Accuracy for Long-time Used

滾子凸輪運轉5年，即使未維護，也能保持最初的精度。
蝸桿蝸輪長時間運轉後，精度會下降，需定期保養。

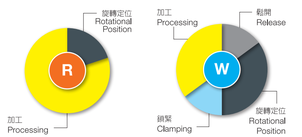
Even though roller gear rotating for 5 years, it can keep the precision at the first, without maintenance.
After long-time rotating, worm gears precision has diminished and needs to repair.



維修費用的比較
Comparison of Maintenance Fee

滾子凸輪不用調整背隙，大幅降低維修成本。
蝸桿蝸輪一年需調整精度1~2次，需花費背隙調整費用及停機所造成的損失。

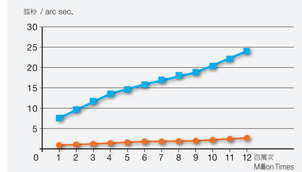
Roller gear didn't need to adjusted backlash. Therefore, it can reduce cost of maintenance.
Worm gear needs to adjusted 1 to 2 times per year, and it have to cost of maintenance. Moreover, it brings about loss by shut down machine.



旋轉定位時間比較
Comparison the Time of Rotational Position

滾子凸輪無背隙、高剛性，可節省鬆開鎖緊時間。
蝸桿蝸輪要固定動作，需花費時間鬆開鎖緊。

Roller gear is zero backlash, high rigidity and reduce the time to clamping and releasing.
Worm gear has to fired act pattern, it would be take time to clamping and releasing.



機構旋轉1200萬轉以後精度的比較
Comparison of Precision After Rotating 12 Million Times

滾子凸輪旋轉1200萬轉後，定位精度微幅增加1秒左右，穩定性極佳。
蝸桿蝸輪旋轉100萬轉後，隨著磨損，精度將逐步變差。

After roller gear has rotated for 12 million times, the precision is slight increase in 1 second, and super stability.
After worm gear has rotated for 1 million times, whereas the precision changes for the worse.

康普國際精密機械股份有限公司
42753台中市潭子區潭富路一段144巷31號1樓
Campower International Precision Machinery Co., Ltd.
1F., No. 31, Ln. 144, Sec. 1, Tanfu Rd., Tanzi Dist., Taichung City 42753, Taiwan
Tel: +886-4-2535-1570
Fax: +886-4-2535-1571
campower1@campower.com.tw
www.campower.com.tw

TAN TZU® Indexing Drives
潭子精密機械技術合作
TAN TZU PRECISION MACHINERY TECHNICAL COOPERATION

+

CAMPOWER
ALWAYS ACCURATE

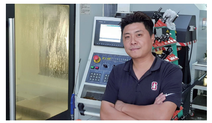
RTD SERIES 滾子凸輪 與 蝸桿蝸輪 比較圖表

- **Improve Productivity** 增加產能
- **Solved Problems** 解決問題

易發精機 生產技術部協理
Easy Field Corp.
Production Planning Section
Assistant Vice President

公司使用它牌分度盤都有背隙及精度不佳的問題，康普國際生產的滾子凸輪迴轉盤，徹底解決我們製造上多年的困擾，推薦給大家。

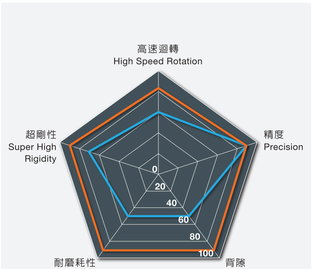
We had used other brand of worm gear, but it still have problem of backlash and precision did not well. Finally, we have been using Roller Gear Cam Rotary Table, and it completely had solved the years of problems for manufacturing, I'm really recommend this product to everyone.



巨勤科技 董事長
Chairman
Ju Qin Technology

自從使用康普國際滾子凸輪迴轉盤以後，加工時間節省許多，產能大幅度增加40%，為公司帶來獲利。

Since we have been using Roller Gear Cam Rotary Table, not only time-saving for processing but also improve the productivity for **40%**.



- **High Speed Processing** 高速加工
- **High Precision** 高精度
- **High Rigidity** 高剛性
- **Zero Backlash** 零背隙
- **Wear Resistance** 耐磨耗

檢驗設備及加工機台
The Inspection Equipment and Processing Machine

立式研磨機 / Vertical Grinding Machine

關鍵零組件採用日本進口立式研磨機加工，確保產品高精度及高品質。

We import the vertical grinding machine from japan to process the key components, and make sure the product in high precision and high quality.

定位精度檢測 / The Inspection of Positional Accuracy

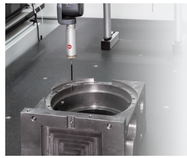
採用全球最大雷射干涉儀製造廠Agilent的雷射動態校準儀，嚴格檢測定位與重覆精度。

We utilize the laser interferometer from the biggest apparatus manufacturer Agilent for strict accuracy of position and repeatability positioning precision.

剎車扭矩測試 / Brake Torque Test Station

高精度交叉滾柱軸承配置，重覆測試鎖緊力，確保剎車性能穩定精準。

High precision of cross roller bearing mounting, and test the power of clamping repeatly, make sure the brake performance stability.



幾何精度檢測 / The Inspection of Geometric Accuracy

採用BROWN & SHARPE 三次元量測系統，完整掌控零件幾何公差，以達到對品質的最高要求。

We use BROWN & SHARPE coordinate measuring machine to gain control of geometric tolerance, and make our products come up to high quality standard.

型號說明 / Illustration of Models

RTD	170	R	F	W
立、臥型CNC數控分度盤 Vertical and Horizontal CNC Digital Cam Indexing	盤面直徑 Table Diameter Ø170 Ø200 Ø250 Ø300	馬達裝配位置 The Position of Motor Mounting	伺服馬達型號 Sever Motor Models F M S Y	接線位置 Connector Position S W

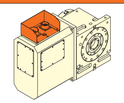
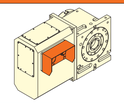
康普CNC數控分度盤
CAMPOWER CNC Numerical Control Rotary Table

- 立臥兩用
  Suitable for Vertical and Horizontal Mounting.
- 使用高精度交叉滾柱軸承
  To Use High Precision "CROSS ROLLER" Bearing.

檢驗精度規格表 / Specification for Inspection Accuracy

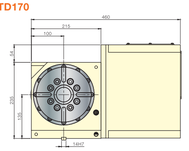
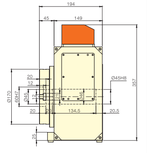
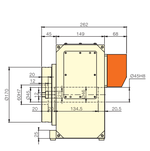
			RTD170	RTD200	RTD250	RTD300
臥式安裝方式，盤面與底面平行度 Parallelism Between Table Surface and Frame Bottom Surface		mm	0.015	0.015	0.02	0.02
盤面旋轉起伏 Runout of Table Surface		mm	0.01	0.01	0.01	0.01
盤面基準孔旋轉偏擺 Runout of Table Reference Bore		mm	0.01	0.01	0.01	0.01
盤面與底面垂直度 Squareness of Table Surface		mm	0.02	0.02	0.02	0.02
迴轉中心線與基準定位鍵平行度 Parallelism Between Rotating Center and Center of Guide Blocks		mm	0.02	0.02	0.02	0.02
迴轉中心線與基準定位鍵偏差值 Deviation Between Rotating Center and Center of Guide Blocks		mm	0.02	0.02	0.02	0.02
迴轉中心線與底面平行度 Parallelism Between Rotating Center and Frame Bottom Surface		mm	0.02	0.02	0.02	0.02
分割定位精度 Indexing Accuracy		arc sec.	18	18	16	16
重複定位精度 Repeatability Accuracy		arc sec.	4	4	4	4

接線位置 / Connector Position Pictures of RTD Connector Position

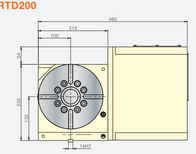
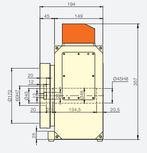
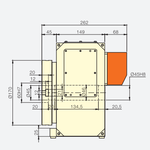
連接位置：S	連接位置：W
	

尺寸圖 / Dimensions

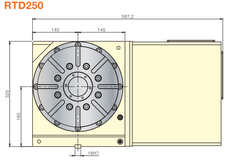
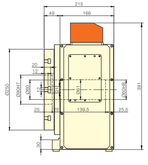
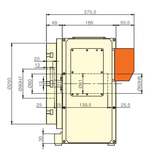
RTD170

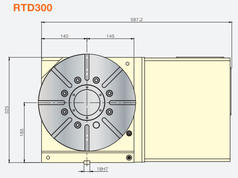
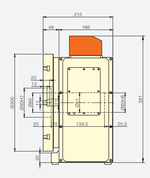
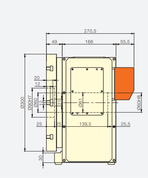
RTD200

RTD250

RTD300

規格 / Specification

					RTD170	RTD200	RTD250	RTD300
盤面直徑	Table Diameter			mm	Ø170	Ø200	Ø250	Ø300
盤面基準孔徑	Table Reference Hole Diameter			mm	Ø60H7	Ø60H7	Ø90H7	Ø90H7
中心高度（立式使用）	Center Height（Vertical）			mm	135	135	185	185
底部到盤面高度（臥式使用）	Table Surface Height（Horizontal）			mm	195	195	215	215
盤面T型槽寬	Table Width			mm	12H7	12H7	12H7	12H7
基準導槽寬	Degree of Reference Channel Width			mm	14H7	14H7	18H7	18H7
最小設定單位	Min. Increment			Degree	0.001°	0.001°	0.001°	0.001°
最高轉速 數值由搭載伺服馬達決定	Max. Rotation Speed Values are Determined by the Servo Motor			rpm	83	83	50	50
總減速比	Gear Ratio				1/36, 1/45	1/36, 1/45	1/60	1/60
分割定位精度	Indexing Accuracy			arc sec.	18	18	16	16
重覆定位精度	Repeatability Accuracy			arc sec.	4	4	4	4
伺服馬達	Servo Motor	F	Fanuc	αif	αif4/5000	αif4/5000	αif8/3000	αif8/3000
				βis	βis8/3000	βis8/3000	βis12/3000	βis22/3000
		M	Mitsubishi		HG104S	HG104S	HG154S	HG154S
		S	SIEMENS		1FK7060	1FK7060	1FK7063	1FK7063
		Y	YASKAWA		SGM7G-09	SGM7G-09	SGM7G-13	SGM7G-13
鎖緊動力源（空壓 / 油壓）	Clamp System (Pneumatic / Hydraulic)				P / H	P / H	H	H
空壓/油壓鎖緊壓力	Pneumatic / Hydraulic Pressure			kg/cm²	5/35	5/35	-/35	-/35
空壓/油壓鎖緊扭矩	Pneumatic / Hydraulic Clamping Torque			kg-m	13/50	13/50	-/110	-/110
總重量	Net .Weight			kg	60	65	120	130
最大容許荷重 MAX. Allowable Load on the Table	立式 Vertical			kg	80	100	260	260
	立式使用尾座 Vertical with Tailstock			kg	160	200	525	525
	臥式 Horizontal			kg	160	200	525	525
最大容許切削推力（油壓鎖緊狀態） MAX. Allowable Thrust Load on the Table (When clamped)	容許軸向負荷 Allowable Axial Load			kgf	2200	2200	5300	5300
	最大輸出扭矩 Max. Output Torque			kg-m	35	35	120	120
	容許彎曲扭矩 Allowable Bending Torque			kg-m	140	140	560	560
最大容許轉動慣量 Max. Allowable Moment of Inertia				kg-m²	1.2	1.2	8.5	8.5