TOPKING

配件表 標準配件 Standard Accessories

砂輪及砂輪法蘭 x 1組
Grinding Wheel with Wheel Flange x 1 set

頂針 x 2 支
Carbide Tipped Work Centers x 2 pcs

冷卻水箱 x 1 組 Coolant Tank x 1 set

尾座修整座 x 1組
Daimond Tool Holder (Table Mounted Type) x 1 pc

滑台固定式修整機構
(T-1012 & T-1020標配)x1組
Diamond Tool Holder
(Slider Mound Type)
(Standard accessory for
T-1012 & T-1020) x 1 pc

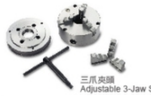
工作燈 x 1 組
Workp Lamp x 1 set

工具箱 x 1組 Kits and Tool Box x 1 set

潤滑油箱 x 1組
Hydraulic Unit

選擇配件 Optional Accessories

內徑研磨裝置
Internal Grinding Attachment


三爪夾頭
Adjustable 3-Jaw Scroll Chuck

四爪夾頭 Adjustable 4-Jaw Scroll Chuck

磁鐵紙袋過濾裝置
Magnetic with Paper Filter

二端支持座 Work Holder (2pcs/set)

二點式支持座 2-point Steady Rest

三點式中心架
Adjustable 3-point Steady rest

帶動環
Cam Locked Driving Dogs

平衡台及平衡棒
Wheel Balancing Stand and Arbor

端面量測 Touch Probe Gauge

外徑自動量測
Auto. In-Process Gauge

砂輪動平衡裝置
Auto. Grinding Wheel Balancer

音頻防撞裝置 Gap Control
油壓尾座 Hydraulic Tailstock
油霧收集裝置 Oil Mist Collector
滾輪式修整機構 Roller Dresser
全罩式版金 Fully Splash Guard

表粗比較表 Roughness of surface cmparison form

	Ra μm	CLA μ"	Rt μm	Rz μm	RMS μm	RMS μ"	France	England SUIZE	Russia Raμm
	0.008	0.32	0.08	0.04	0.009	0.30			
	0.010	0.40	0.10	0.05	0.011	0.40			▽14
	0.012	0.50	0.12	0.06	0.013	0.50			
	0.016	0.63	0.16	0.08	0.018	0.70	9	N1	▽13
	0.020	0.80	0.20	0.10	0.022	0.90			
	0.025	1	0.25	0.12	0.027	1.10			
	0.030	1.20	0.30	0.15	0.033	1.30			
	0.032	1.25							
	0.040	1.60	0.40	0.20	0.044	1.80	10	N2	▽12
	0.050	2	0.50	0.25	0.055	2.20			
	0.060	2.40	0.60	0.30	0.066	2.65			
	0.063	2.50	0.63	0.32	0.073	2.87			
	0.080	3.2	0.80	0.40	0.088	3.50	11	N3	▽11
	0.090	3.6			0.10	4.20			
	0.10	4	0.90	0.50	0.11	4.40			
	0.125	5	1.05	0.60	0.137	5.40			
	0.14	5.60							
	0.16	6.30	1.30	0.85	0.177	7	12	N4	▽10
	0.18	7.20			0.20	8			
	0.20	8	1.60	1	0.22	8.80			
	0.25	10	2	1.20	0.27	10.80			
	0.30	12	2.50	1.60	0.33	13.20			
	0.32	12.50			0.35	14	13	N5	▽9
	0.35	14							
	0.40	16	3	2	0.44	17.60			
	0.45	18	3.50	2.25	0.50	20			
	0.50	20	4	2.50	0.55	22	14	N6	▽8
	0.63	25	5	3	0.73	28.70			
	0.80	32			0.88	35			
	1	40							
	1.25	50	10	6	1.37	54.60			
	1.50	60					15	N7	▽7
	1.60	63			1.77	69.70			
	1.80	72							
	2	80			2.20	88			
	2.50	100	15	10	2.70	108	16	N8	▽6
	3.2	125			3.55	140			
	4	160			4.40	176			
	5	200	30	20	5.50	220	17	N9	▽5
	6	240							
	6.30	250			7.30	287			
	8	320			8.8	350			
	10	400	50	40	11	440	18	N10	▽4
	12.5	500			13.7	546			
	16	630			17.7	697			
	20	800	100	80	22	880	19	N11	▽3
	25	1000			27	1080			
	32	1250							
	40	1600	200	160	44	1760	20	N12	▽2
	50	2000							
	63	2500							
	80	3200	400	320	88	3500			▽1
	100	4000							

1μm = 0.001mm=39.37μ" 1μ"0.000.001=0.0254μm

OGC-series

CNC數控外圓磨床

TOP KING PRODUCTION SERIES

Centerless Grinding Machine Economic / Servo Motor / NC / CNC
Cylindrical Grinding Machine Universal / NC / NCII / CNC / CAM
Internal Grinding Machine NC / NCII / CNC-D / CNC-DS
Vertical Composite Grinding Machine CNC
Special Purpose Grinding Machine Design / Produce
Diamond Wheel Dressing Grinding Machine

CNC CYLINDRICAL GRINDING MACHINE

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TOPKING

OGC-series

CNC數控外圓磨床

CNC CYLINDRICAL GRINDING MACHINE

OGC系列CNC數控外圓磨床，是高精度研磨的最佳夥伴，X軸及Z軸皆採用精密級滾珠螺桿搭配伺服馬達驅動，搭載高性能的CNC控制系統配合內建圖形對話式(GUI)操作介面，研磨應用廣泛，使操作與加工更貼近使用者的需求。

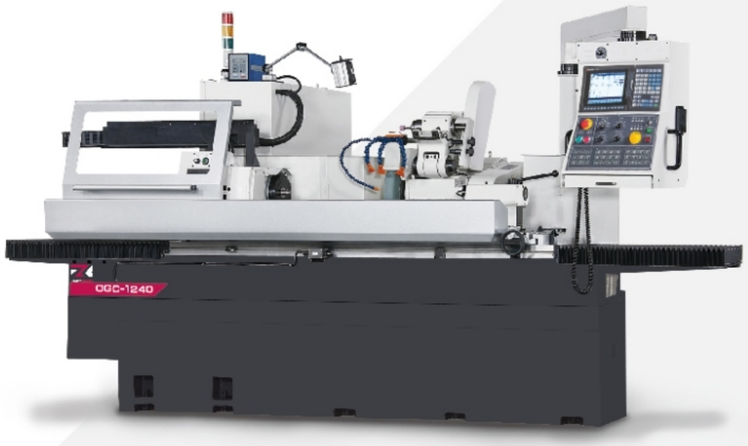
TOP KING CNC cylindrical grinder – OGC-series is your best choice for high precision grinding work. The X axis and Z axis are driven by NC servo motor with precision ball screw. The CNC controller equipped with high performance control system and graphical user operation interface for variable grinding jobs to create a user friendly operation environment to the operator.

OGC-1012

工作台旋徑 Swivel Over Table: Φ250mm
兩頂心間距 Distance Between Centers: 300mm
最大研磨外徑 Max. Grinding Dia.: Φ250mm
CNC 控制 Control
選配(OPT) : 全罩式板金 Fully Splash Guard

OGC-1020

工作台旋徑 Swivel Over Table: Φ250mm
兩頂心間距 Distance Between Centers: 500mm
最大研磨外徑 Max. Grinding Dia.: Φ250mm
CNC 控制 Control



OGC-1240

工作台旋徑 Swivel Over Table: Φ320mm
兩頂心間距Distance Between Centers: 1000mm
最大研磨外徑 Max. Grinding Dia.: Φ300mm
CNC 控制 Control
選配(OPT) : 內徑研磨裝置
Internal Grinding Attachment

OGA-1214

工作台旋徑 Swivel Over Table: Φ320mm
兩頂心間距Distance Between Centers: 650mm
最大研磨外徑 Max. Grinding Dia.: Φ300mm
CNC 控制 Control
特殊斜進式樣 Special Angular Type

機體

本機的結構不同於以往的輕量結構的設計理念，大幅提升機體及結構的剛性，達到更加穩固的訴求，滑台採用更厚實的1V1平的設計結構，及潤滑油系統採用靜壓原理，在研磨時提供最佳的精度及穩定性。

Machine Base

The machine's structure is different from the light weight design philosophy in the past; it substantially consolidates the rigidity of body and parts structure, takes being more stable as the appeal, and adopts thick and solid sliding seat mechanism, slide way 1V 1flat structure, and lubrication system designed by the hydrostatic principle providing the best precision and stability of moving when doing grinding.

獨特靜壓自動潤滑系統

工作台與砂輪座滑動面，採用先進的靜壓自動潤滑系統。大幅提升潤滑動順暢性，進刀精準，加工精度高。

Hydrostatic Lubrication System

The slideways of the table and the wheel head are lubricated by an advanced automatic hydrostatical lubrication system. This provides various features, such as extremely smooth movement, added feed accuracy and superior grinding accuracy.

砂輪頭座機構

砂輪主軸採用SNCM-220高級合金鋼材，經正常化、調質、滲炭熱處理、深冷處理等多重處理。再作精密研磨與鏡面處理，表面硬度達HRC62°以上。保證不變形、耐磨耗、永保高精度。

Wheel Head

The grinding wheel spindle is precision machined from high quality alloy steel SNCM-220, normalized, tempered, carburized and sub-zero treated, precision ground and mirror-effect treated. Hardness reaches to over HRC 62°. No deformation, maximum wear resistance and lifetime accuracy are assured.

工作主軸

- 工作主軸採用精密級軸承，展現最佳的穩定性。
- 採伺服馬達驅動，無段變速可依需求變更速度。
- 工作台固定式工作主軸，增加精度穩定性。

Workhead

- The spindle runs on precision bearing, assuring max. spindle stability.
- Drive by servo motor, providing variable speed.
- Workhead fixed on work table. To increase accuracy stability.

尾座

- 尾座潤滑油採用油浴式潤滑系統，隨時確保尾座的高精度。
- 潤滑系統有附油量檢視計，方便操作者檢視油量。

Tailstock

An auto. oil bath lubrication system has been provide for tailstock to maintain high-level accuracy. An oil level gauge enables quickly and oil level check.

多樣化的修整機構，可依工件需求選擇

Various diamond tool holder types could be chosen according work request.

滑台固定式修整機構

修整機構固定於Z軸滑台上，降低因調整工作台角度後反覆修整對刀動作而造成的誤差。

Diamond Tool Holder (Slider Mound Type) (Standard accessory

Dressing device fixed on Z axis slider. Could reduce the dressing position calibration frequency and increase the dressing accuracy.

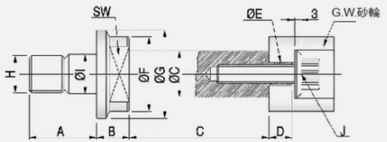
人性化操作環境

- 內建先進的CNC控制系統搭配圖形對話式的操作界面，操作者可藉著圖形的導引，將複雜的工件分成數個研磨工序，以數值化的方式簡化研磨及修整的工序編輯，不需另外進行繁瑣的程式編寫(G碼、M碼)，提供最便捷的操作環境。
- 內建多樣化的研磨及修整方式，可數值化編輯外徑、內徑(選配)、端面、成型的研磨及修整工序。
- 彈性的程式設定方式，可依操作者習慣或工件需求切換為編寫G碼、M碼的程式編輯模式或是GUI編輯模式。
- 人性化的操作面板設計，配置多項快捷鍵及緊急停止按鍵，使操作更安全、更簡便。
- 可搭配各式自動量測裝置，提升加工品質及效率

User Friendly Operation

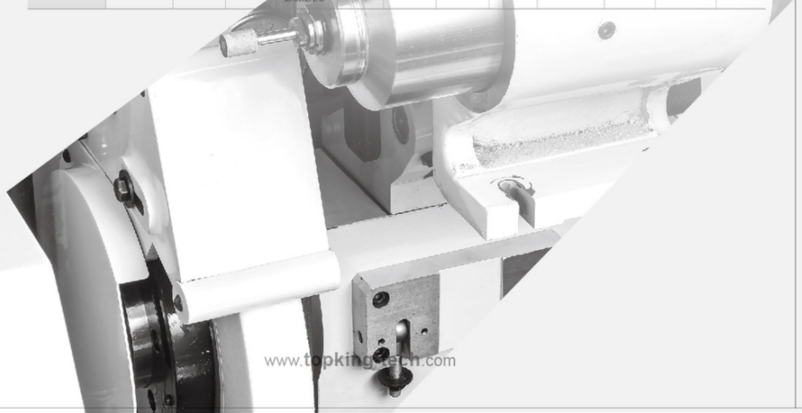
- High performances CNC control system with GUI. The operator could input the grinding & dressing value follow the graphical description step by step for a complicated workpiece. The work process could turn to steps into the controller. Do not need to edit complex program as G CODE, M CODE as usual, provided the most convenient operation environment.
- GUI operation system equipped with variable work modes such as OD, ID, END-FACE and PROFILE for grinding & dressing applied for different work jobs. It could input the grinding & dressing value by numeralization way.
- Not only GUI mode but also CNC mode for operation could be chosen by operator.
- Install several shortcuts for practical function and emergency stop button on operation panel. Increase operational safety and convenience.
- Variable automatically measuring device could be chosen. Increase work quality and efficiency

內徑研磨砂輪主軸 INTERNAL GRINDING SPINDLE



研磨孔徑與長度比例為1:3
研磨長度最長不超過150mm
The ration of grinding hole diameter to length is 1:3
The max.grinding length is 150mm

適用孔徑 Grinding Dia.	油脂式 Grease type	A	B	C	D	E	F	G	H	I	J	SW
Ø65~Ø150	8,000rpm	42	16	Ø40xØ100 Ø40xØ85 Ø40xØ55	12	Ø12	Ø50	Ø58	M26 x 2P	Ø28	M8 x 1.25P	41
Ø40~Ø80	10,000rpm	29	14	Ø30xØ90 Ø25xØ70 Ø20xØ60	10	Ø10	Ø32	Ø38	M16 x 1.5P	Ø17	M8 x 1.25P	24
Ø35~Ø70	15,000rpm	29	14	Ø30xØ90 Ø25xØ70 Ø20xØ60	10	Ø10	Ø32	Ø38	M16 x 1.5P	Ø17	M8 x 1.25P	24
Ø24~Ø40	20,000rpm	28	11	Ø24xØ80 Ø20xØ60 Ø16xØ40	8	Ø8	Ø26	Ø32	M14 x 1.5P	Ø15	M6 x 1.0P	19
Ø15~Ø25	30,000rpm	21	9	Ø16xØ40 Ø13xØ30 Ø10xØ25	6	Ø6	Ø21	Ø26	M10 x 1.5P	Ø10.5	M4 x 0.7P	17
Ø12~Ø16	40,000rpm	20	8	Ø12xØ35 Ø10xØ30 Ø8xØ25	x	x	Ø18	Ø23	M8 x 1.25P	Ø8.5	M4 x 0.7P	14
Ø9~Ø13	50,000rpm	18	7	Ø8xØ30 Ø7xØ25 Ø6xØ20	x	x	Ø15	Ø20	M7 x 1P	Ø7.5	M4 x 0.7P	11



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規格 SPEC.		OGC-1012	OGC-1020	OGC-12(16)24	OGC-12(16)40	OGC-12(16)60	OGC-12(16)80
能力 Capability	工作台最大旋徑 Swing Over Table	Ø250	Ø250	Ø320 mm / Ø420 mm	Ø320 mm / Ø420 mm	Ø320 mm / Ø420 mm	Ø320 mm / Ø420 mm
	兩頂心間最大距離 Distance Between Centers	300 mm	500 mm	600 mm	1000 mm	1500 mm	2000 mm
	最大研磨直徑 Max. Grinding Diameter	Ø250 mm	Ø250 mm	Ø300 mm / Ø400 mm	Ø300 mm / Ø400 mm	Ø300 mm / Ø400 mm	Ø300 mm / Ø400 mm
	兩頂心間最大承受重量 Max. Load Held Between Centers	60 kg	60 kg	100kg / 150 kg	100kg / 150 kg	100kg / 150 kg	100kg / 150 kg
砂輪 Grinding Wheel	外徑 x 寬 x 內徑 OD x Width x ID	Ø355 x 38 ~ 50 x Ø127 mm	Ø355 x 38 ~ 50 x Ø127 mm	Ø405 x 50 ~ 75 x Ø127 mm	Ø405 x 50 ~ 75 x Ø127 mm	Ø405 x 50 ~ 75 x Ø127 mm	Ø405 x 50 ~ 75 x Ø127 mm
	週速度 Linear Velocity	30 m/s	30 m/s	30 m/s	30 m/s	30 m/s	30 m/s
行程 Travel	X軸快移速度 X-axis Rapid Feedrate	6000mm/Min	6000mm/Min	6000mm/Min	6000mm/Min	6000mm/Min	6000mm/Min
	X軸自動切入速度 X-axis auto. Feeding speed	0.001~2000mm/Min	0.001~2000mm/Min	0.001~2000mm/Min	0.001~2000mm/Min	0.001~2000mm/Min	0.001~2000mm/Min
	X軸最小設定值 X-axis Min. Input Increment	0.001 mm	0.001 mm	0.001 mm	0.001 mm	0.001 mm	0.001 mm
	Z軸快移速度 Z-axis Rapid Feedrate	6000mm/Min	6000mm/Min	6000mm/Min	6000mm/Min	6000mm/Min	6000mm/Min
	Z軸自動切入速度 Z-axis auto. Feeding speed	0.001~2000mm/Min	0.001~2000mm/Min	0.001~2000mm/Min	0.001~2000mm/Min	0.001~2000mm/Min	0.001~2000mm/Min
	Z軸最小設定值 Z-axis Min. Input Increment	0.001 mm	0.001 mm	0.001 mm	0.001 mm	0.001 mm	0.001 mm
迴旋工作台 Swivelling workingtable	旋轉角度 Swiveling Angle	-0° ~ 12°	-0° ~ 12°	-0° ~ 12°	-0° ~ 10°	-3° ~ +8°	-1° ~ +7°
工作主軸頭 Workhead	旋轉角度 Swiveling Angle	-20°~+90° deg	-20°~+90° deg	-30°~+90° deg	-30°~+90° deg	-30°~+90°	-30°~+90°
	頂針斜度 Center	MT. No. 3	MT. No. 4	MT. No. 4	MT. No. 4	MT. No. 4	MT. No. 4
	主軸轉速 Speed	10-600rpm	10-600rpm	10-450rpm	10-450rpm	10-450rpm	10-450rpm
	工作主軸負荷(含夾具) Max. Load of Spindle(tool holder included)	15kg (最長長度:150 mm)	15kg(最長長度:150 mm)	35kg(最長長度:150 mm)	35kg(最長長度:150 mm)	35 kgs (最長長度:150 mm)	35kgs (最長長度:150 mm)
尾座 Tailstock	頂真斜度 Center	MT. No. 3	MT. No. 4	MT. No. 4	MT. No. 4	MT. No. 4	MT. No. 4
	尾座軸移動距離 Tailstock Stroke	35 mm	35 mm	25 mm	25 mm	25 mm	25 mm
馬達 Drive Motors	砂輪軸 Wheel spindle	3.75 kw	3.75 kw	3.75 kw (5.5 kw)	3.75 kw (5.5 kw)	3.75 kw (5.5 kw)	3.75 kw (5.5 kw)
	工作主軸 Work Spindle	0.5kw (AC 伺服馬達 / AC Servo Motor)	0.5kw (AC 伺服馬達 / AC Servo Motor)	0.8kw (AC 伺服馬達 / AC Servo Motor)	1.3kw (AC 伺服馬達 / AC Servo Motor)	1.3kw (AC 伺服馬達 / AC Servo Motor)	1.3kw (AC 伺服馬達 / AC Servo Motor)
	砂輪軸座進給 Wheelhead Feed	1.0kw (AC 伺服馬達 / AC Servo Motor)	1.0kw (AC 伺服馬達 / AC Servo Motor)	1.2kw (AC 伺服馬達 / AC Servo Motor)	1.2kw (AC 伺服馬達 / AC Servo Motor)	1.2kw (AC 伺服馬達 / AC Servo Motor)	1.2kw (AC 伺服馬達 / AC Servo Motor)
	工作台進給 Table Feed	1.5kw (AC 伺服馬達 / AC Servo Motor)"	1.5kw (AC 伺服馬達 / AC Servo Motor)	1.8kw (AC 伺服馬達 / AC Servo Motor)	1.8kw (AC 伺服馬達 / AC Servo Motor)	2.5kw (AC 伺服馬達 / AC Servo Motor)	2.5kw (AC 伺服馬達 / AC Servo Motor)
	油壓泵浦 Hydraulic Pump	0.075 kw	0.075 kw	0.37 kw	0.37 kw	0.37 kw	0.37 kw
	砂輪軸潤滑泵浦 Wheel Spindle Lubricant			0.37 kw	0.37 kw	0.37 kw	0.37 kw
	研削液泵浦 Coolant Pump	0.18 kw	0.18 kw	0.18 kw	0.18 kw	0.18 kw	0.18 kw
容器容量 Tank Capacties	砂輪軸潤滑油箱 Wheel Spindle Bearing Lubricant			18L	18L	18L	18L
	潤滑油箱 Lubrication Oil Tank	15L	15L	60L	60L	60L	60L
	機器重量 Machine Weight	2500 kg	2900 kg	3600 kg	4300 kg	4800 kgs	6000 kgs

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