



GE FONG GO-265/325

PRECISION SWISS TURN
GANG TOOL TYPE CNC LATHE
走心櫛式CNC精密車床



錡傘機械股份有限公司
GE FONG MACHINERY CO., LTD.

Simultaneous complex machining
with main and back spindles!

主軸/副主軸同時複合加工

GO-265/325

可加工更大棒材(Ø 26/32mm)、剛性更高、主軸馬達馬力更大、更多刀具配置選擇。

More innovative features available

- Larger bar capacity (Ø 26/32mm)
- Higher Rigidity
- Powerful spindle motors
- Greater tooling layout choices



Simultaneous complex machining with main and back spindles!

主軸/副主軸同時複合加工

- 更多側面刀(共7支), 彈夾式刀具轉軸設計(右邊側面刀及背面刀),可與其他不同刀具轉軸或固定刀轉換座互換, 可提供更多之刀具配置選擇。
- More cross tools (7 in total)
- Cartridge type design for tool spindle (Right cross tool and back tool)
- Available to be equipped with other different tool spindle or fixed tool adaptor
- Wider choices for tooling layout



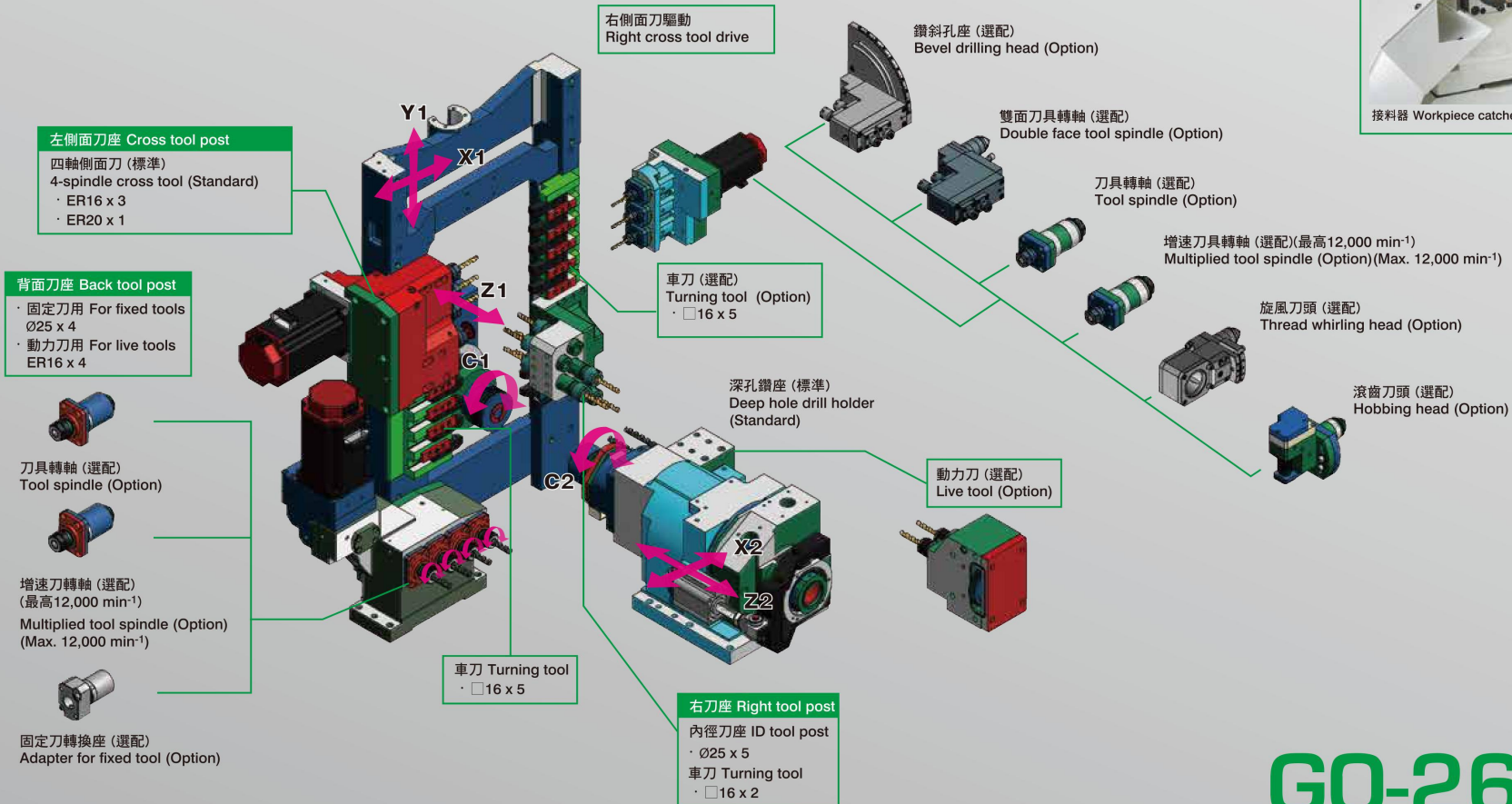
背面主軸 Back spindle



工件輸送帶 Workpiece conveyor



接料器 Workpiece catcher



GO-265/325

特點

- 內藏式雙主軸馬達，提高兩主軸同步旋轉時轉速、相位角之精確性，因此可提高加工精度。
- 馬達直接驅動旋轉導套，供高速及精密加工。
最高轉速: 10,000 / 8,000 min⁻¹ (GO265/365)
最大加工長度: 320 mm
大幅改善外形精度、尺寸精度及表面光滑度，且即使在高轉速下，也可減少噪音。
- 因有獨立之背面刀座，且有X2軸供背面主軸左右移動，所以主軸側(S1)及背面主軸側(S2)之加工，確實能同時個別獨立進行，無須互相等待，可大幅降低加工時間。
- 根據工件可選用有導套式或無導套式加工。
無導套式加工時，不須使用研磨棒材，可使用冷抽棒材，且可減少殘材長度。
- 背面主軸旁，另設有正面深孔鑽孔座(2支刀)，最大鑽深可達100 mm。另外此2支刀可選配改裝為動力刀，供偏心鑽孔，攻牙等用。
- 直接C軸分度定位，可縮短分度定位時間，並附額外之主軸煞車裝置度位置，可協助確保C軸分度後之主軸保持力度。
- 旋風刀頭或滾齒刀頭，可裝於右邊側面刀座上，供骨釘或齒輪加工用。
- 大容量鐵屑盤，可供長時間運轉。且加工中，也可取出成品、去除鐵屑。
- 工件輸送帶是標準配備。
將背主軸排出的工件經由斜槽回收至輸送帶，再至工件桶。
- GO-325 採用油壓缸以夾緊加工棒材，確保加工中棒材不退縮。

Features

- Built-in main/back spindle motors increase tooling accuracy. Increase speed and phase angle accuracies of the two synchronized spindles.
- Direct motor-drive rotary guide bushing available for high speed and accurate machining.
Max. speed: 10,000 / 8,000 min⁻¹ (GO265/365)
Max. machining length : 320 mm.
Geometrical accuracy, dimensional accuracy and surface roughness are greatly improved with low noise levels, even at high speeds.
- With separate back tool post and X2 axis for back spindle cross travel. Perfectly achieve simultaneous machining with main spindle (S1) and back spindle (S2) with reduced cycles and no waiting time.
- No-guide-bushing kit available upon request for machining short parts. Ground bar stock is not required, reducing the remaining bar length.
- Additional deep face hole drilling post (2 drills) is attached to the back spindle. Max. drilling depth is up to 100 mm. Besides, these 2 drills can be adapted to driven drills as option for off-center drilling and tapping.
- Direct C-axis indexing helps reducing spindle indexing time by avoiding to return to reference point when indexing is done from spindle rotating state.
- Thread whirling head or hobbing head can be mounted on the right cross tool post for processing bone screws or gear hobbing.
- The large chip tray is perfect for long-time operation. It is also possible to take the products out and remove the chips during machining operations.
- Workpiece conveyor is standard
The workpiece is discharged from the back spindle to the workpiece conveyor, moving then to the workpiece container.
- Model GO-325 uses hydraulic cylinder for clamping the bar to be machined, ensuring no bar shrinkage during machining.

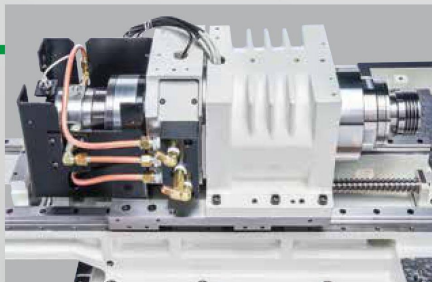


馬達直接驅動旋轉導套座
Motor for direct-drive rotary guide bushing holder

Higher Rigidity

剛性更高

- 加強了主軸側刀座及進給軸滑板導引之剛性度，確保不受切削負荷之變化而影響加工精度。
- 根據熱物理學原理，主/副主軸頭及X軸(X1、X2) 採水平配置，可將熱變形程度降至最小。
- Increase rigidity of main spindle's tool posts and feed axis sliding guide without affecting tooling accuracy, even for variable load cutting.
- Based on thermal physics, the main and back headstocks on X axes (X1, X2) are all mounted horizontally, reducing the heat-induced deformation to a minimum.



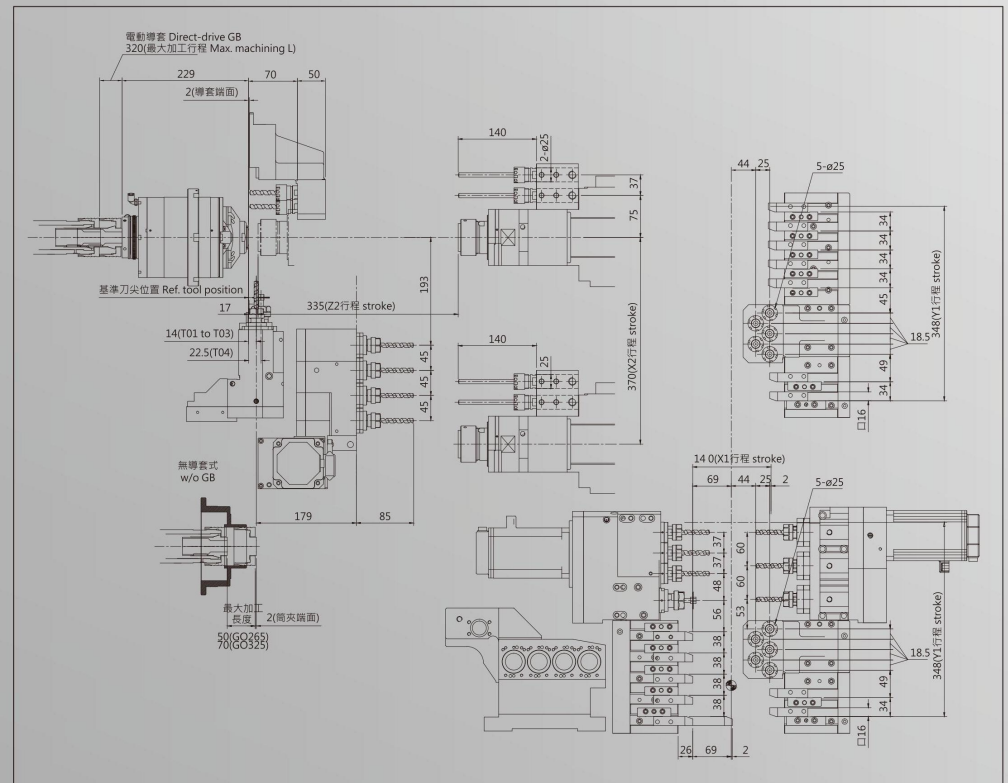
主軸夾頭用油壓缸 (僅適用於GO-325)
Hydraulic cylinder for main collet chuck (For GO-325 only)

標準NC規格 Standard NC Specifications

項目	ITEM	GO-265	GO-325
控制器	Controller	FANUC 0i-TF	FANUC 0i-TF
控制軸數	No. of controlled axes	7 (X1, Y1, Z1, C1, X2, Z2, C2)	
主軸同步 (S1, S2)	Spindle synchronization (S1, S2)	S1-S2 (Main spindle-Back spindle) 正主軸一副主軸	
控制軸同步	Z1, Z2-axis synchronization	Yes 有	
控制軸同動	Simultaneously controlled axes	Max. 4 axes / path (最多4軸 / 每一路徑)	
最小輸入增量	Min. input increment	0.001mm (Diametrical designation for X1, X2 axes X1, X2直徑指令)	
最小指令增量	Min. command increment	0.0005 mm for X1, X2 axes, 0.001 mm for other axes X1, X2軸: 0.0005 mm, 其他各軸: 0.001 mm	
最大可程式數字	Max. programmable dimension	±8 digits / 位數字	
快速進給速率	Rapid traverse rate	32 m / min (X1, Y1, Z2: 24 m / min) 米 / 分	
主軸 / 進給百分比	Spindle/feed rate override	0 -150%, 10% increment / 0 -150%, 10%增量	
絕對 / 增量指令	Absolute/incremental command	X, Z, Y, C: Absolute 絕對 U, W, V, H: Incremental 增量	
刀具補正組數	Tool offset pairs	±6 digits 200 pairs / ±6位數字 200組	
顯示器	Display unit	10.4" color LCD / 10.4"彩色液晶顯示	
語言顯示	Display language	Chinese, English (standard) 中、英文 (標準)※	
程式記憶容量	Part program storage length	2 megabytes 百萬位元 (S1-S2)	
記憶卡輸入 / 輸出介面	Memory card I/O interface	Yes 有	
RS-232C 介面	RS-232C interface RS-232C	Yes 有	
剛性攻牙 (主軸、副主軸、側面刀)	Rigid tapping (Main/back spindle, cross tool spindle, back tool spindle)	Yes 有	
轉軸、背面刀轉軸	Tool spindle	Yes 有	
切斷檢出 (差速型)	Cut-off detection (Speed differential type)	Yes 有	
刀具壽命計數器	Tool life counter	Yes 有	
刀轉軸負載監視	Tool spindle load monitor	Yes 有	

※亦支援其他語言顯示 Also supporting other language displays.

切削區域 Tooling zone



機器規格 Machine Specifications

機型	MODEL	GO-265	GO-325
加工最大能力 Machining capacity			
正面主軸 Main spindle	棒材徑	Bar stock diameter	ø8-26 mm / ø8-32 mm
	加工長度	Machining length	320 mm (Direct-drive guide bushing 電動導套) 50 / 70 mm (No guide bushing 無導套)
	鑽孔	Drilling	ø12 mm
	攻牙	Tapping	M10
背面主軸 Back spindle	深鑽孔	Deep hole drilling	ø10 mm
	工作物夾持外徑	Working chuck diameter	ø26 mm / 32 mm
	鑽孔	Drilling	ø10 mm
	攻牙	Tapping	M8
刀具轉軸 Tool spindle	鑽孔 / 攻牙 (左邊側面刀)	Drilling/tapping (Left cross tool)	ø8mm / M6
	鑽孔 / 攻牙 (右邊側面刀)	Drilling/tapping (Right cross tool)	ø8 mm / M6
	鑽孔 / 攻牙 (背面刀)	Drilling/tapping (Back tool)	ø8 mm / M6
	圓鋸片	Slitting saw	ø45 mm (Right cross tool T04 右側面刀 T04)
轉速 Speed			
正面主軸	Main spindle	200-10,000 min ⁻¹	200-8,000 min ⁻¹
背面主軸	Back spindle	200-10,000 min ⁻¹	200-8,000 min ⁻¹
電動導套	Direct-drive guide bushing	200-10,000 min ⁻¹	200-8,000 min ⁻¹
刀具轉軸	Tool spindle	200-6,000 min ⁻¹ (標準Standard: 4,800 min ⁻¹)	
刀具尺寸 Tool size			
外徑刀柄	OD tool shank	16 × 16 × 100 mm	
摻孔刀柄 (正 / 背面共用內徑刀座或背面刀座用)	Boring tool shank (For face/back ID tool or back tool post)	ø25 mm	
左側面刀夾頭	Chuck for left cross tool	ER16 × 3 / ER20 × 1	
右側面刀夾頭	Chuck for right cross tool	ER16	
背面動力夾頭	Chuck for back live tool	ER16	
背面固定刀夾頭	Chuck for back fixed tool	ER16 (選配Opt.: ER20)	
深孔鑽夾頭	Chuck for deep hole drill	ER16	
刀位數 (最大可裝刀具數) Tool position No. (Max. mountable tool No.)		27 (39)	
左外徑車刀座	Left OD turn tool post	5	
右外徑車刀	Right OD turn tool post	7	
正 / 背面一體式內徑刀座	Front/back ID tool post (One body)	5	
背面刀座	Back tool post	4	
左邊側面刀刀座	Left cross tool post	4	
右邊側面刀刀座 (選配)	Right cross live tool post (Opt.)	3	
正面深孔鑽	Deep face drill	2	
馬達 Motor			
正面主軸	Main spindle	3.7 / 7.5 kW (額定Rated / 10分 min.)	
背面主軸	Back spindle	2.2 / 3.7 kW (額定Rated / 10分 min.) (≠1)	
左邊側面刀	Left cross tool	1.0 kW	
右邊側面刀	Right cross tool	1.0 kW	
背面刀	Back tool	1.0 kW	
電動導套	Direct-drive guide bushing	2.2 / 3.7 kW (額定Rated / 10分 min.)	
X1, Y1, Z1, X2, Z2 軸	X1, Y1, Z1, X2, Z2 axes	0.75 kW	
冷卻泵浦	Coolant pump	0.75 kW	
潤滑泵浦	Lubricating pump	0.011 kW	
油壓泵浦 ※ 2	Hydraulic pump ※ 2	None(無)	0.75 kW
Axis 軸行程 Axis travel			
X1	X1	142 mm	
Y1	Y1	348 mm	
Z1	Z1	320 mm (Direct-drive guide bushing 電動導套)	
X2	X2	370 mm	
Z2	Z2	335 mm	
其他 Others			
重量	Weight	3,500 kg	
設備功率 (容量) ※ 3	Rated power (Capacity) ※ 3	15.36 kW(21.4 kVA)	16.11 kW(22.5 kVA)
壓縮空氣要求	Compressed air requirement	≥ 4 kg / cm ²	
壓縮空氣消耗量	Air consumption	≥ 100 NL / min	
冷卻液箱容量	Coolant tank capacity	180 L	
機器尺寸 (寬×深×高)	Machine dimensions (W × D × H)	2,150 × 1,280 × 1,930 mm	

※ 1: 2.2 / 3.7 kW 是以轉速 6,000 min⁻¹ 時為基準，若轉速是 10,000 min⁻¹ 時，則為 1.5 / 2.2 kW。

※ 2: GO-325 採用油壓缸以夾緊加工棒材。

※ 3: 所需電源容量至少為 19.6 / 20.6 kVA (GO265 / 325)，供機器本身及周邊設備用(送料機、排屑機、油霧分離器等以 2 kVA 計)。

※ 1: 2.2 / 3.7 kW is based on 6,000 min⁻¹ speed, but limited to 1.5 / 2.2 kW at 10,000 min⁻¹ speed.

※ 2: GO-325 uses hydraulic cylinder for clamping the bar to be machined.

※ 3: The required power source should be ≥ 19.6 / 20.6 kVA (GO-265 / 325), including extra 2 kVA for bar feeder, chip conveyor and oil mist separator.

標準配件

- 門連鎖開關 (切削區側門 / 主軸側門)
- 冷卻液流量開關
- 主軸冷卻裝置
- 工件輸送帶
- 標準工具
- 滑板固定具 (搬運時用)
- 背面主軸噴氣
- 側面動力刀噴氣
- 冷卻液泵浦 (1 HP)
- 機內工作燈
- 手輪
- 3-層警示燈組
- 自動切斷電源
- 送料機介面
- 主軸分度煞車裝置
- 副主軸分度煞車裝置

工件排出

- 由背面主軸前方排出裝置
- 由背面主軸後方排出裝置

選擇配件

- 馬達直接驅動式旋轉導套
- 無導套式加工配備

右邊側面刀座用刀具

- 刀具轉軸
- 增進刀具轉軸
- 雙面刀轉軸
- 雙面鑽斜孔座 (角度可調整)
- 旋風刀頭
- 滾齒刀頭

背面刀座用刀具

- 刀具轉軸
- 增進刀具轉軸
- 固定刀轉換座

冷卻系統

- 高壓冷卻液泵浦

油霧分離器

排屑機及切屑車

刀具設定用塊規

異形棒材用主軸套筒

異形棒材用背主軸套筒

小孔徑主軸套管 (棒材減震用)

固定式內徑刀座用鑽夾座

- 單頭鑽夾座
- 雙頭鑽夾座

安全及其他

- 自動滅火器
- 冷卻液液位開關

Standard Accessories

- Door interlock (Tooling zone door side / Main spindle door side)
- Coolant flow switch
- Spindle cooling unit
- Work conveyor
- Standard tools
- Slide fixing blocks (For transit)
- Back spindle air purge
- Cross live drill air purge
- Coolant pump (1 HP)
- Internal work light
- Manual pulse generator
- 3-tiered warning lamp set
- Automatic power shut-off
- Bar feeder interface
- Main spindle brake for indexing
- Back spindle brake for indexing

Work discharge system

- Front discharge from back spindle
- Rear discharge from back spindle

Optional Accessories

Guide bushing system

- Motor direct-drive rotary guide bushing
- No guide bushing kit

Tools for right cross tool post

- Tool spindle
- Multiplied tool spindle
- Double face tool spindle
- Double face bevel drilling head (Adjustable angle)
- Thread whirling head
- Hobbing head

Tools for back tool post

- Tool spindle
- Multiplied tool spindle
- Adaptor for fixed tool

Coolant system

- High pressure coolant pump

Oil mist separator

Chip conveyor and chip cart

Tool setting block gauge

Main spindle adaptor (For non-rounded bar machining)

Back spindle adaptor (For non-rounded bar machining)

Small bore spindle sleeve (For reducing bar vibration)

Drill collet holders for fixed ID tool post

- Single-face drill collet holder
- Double-face drill collet holder

Safety and others

- Automatic fire extinguisher
- Coolant level switch



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