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GANG-TYPE CNC LATHE

櫛式CNC車床



CL-10 / CL-12
CL-100 / CL-120 series

精度準確 品質卓越

SUPREME ACCURACY. EXCELLENT QUALITY.

櫛式CNC車床 GANG-TYPE CNC LATHE

金和CL-10 / CL-12系列CNC車床，擁有紮實的機械結構，占地空間小。加工動作輕巧靈活。並可安裝各種不同的刀具系統，大幅提升加工效率。

- 可使用櫛式工作台、卡式刀座板、V8油壓刀塔。
- 銑角刀塔 (選配)，適用於多邊形加工。
- 主軸採用P級斜角滾珠軸承，有效提升加工穩定性。
- 使用Ø6"中空油壓三爪夾頭或彈性夾頭。
- 高剛性機體結構，加工穩定性優異。
- 棒材送料機 (選配)。

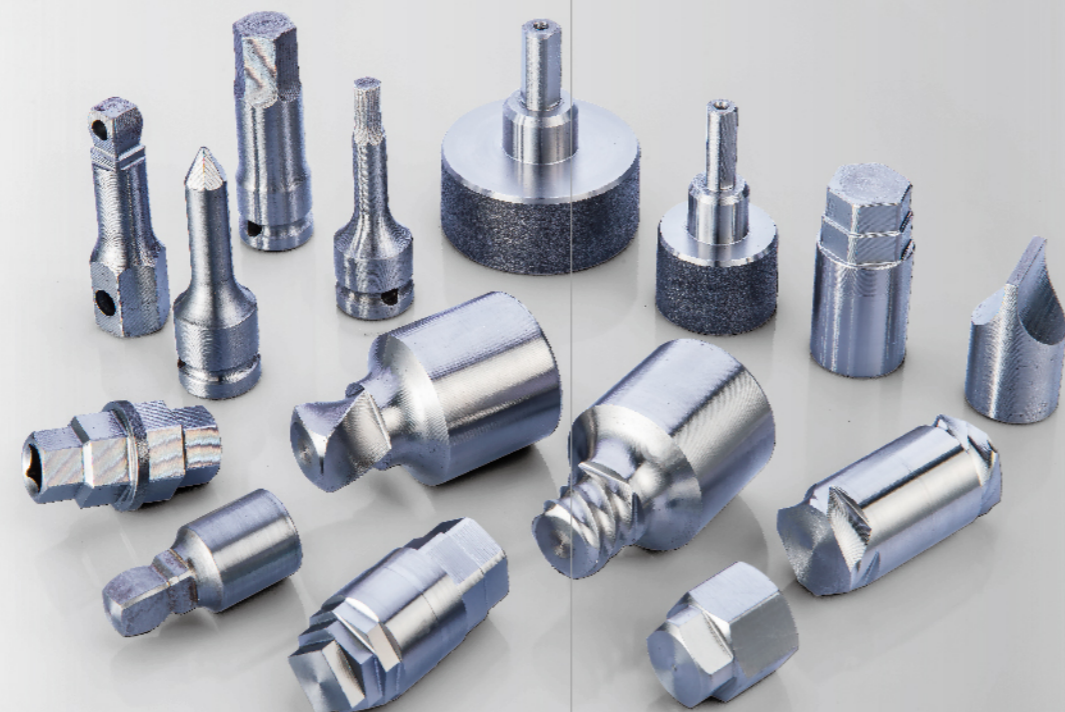


CL-10

Kinwa CL-10 / CL-12 series CNC lathes are compactly constructed with minimal approach. The series of machines provides extremely smooth machining motions, and can be equipped with various tooling systems that dramatically increases machining efficiency.

- Available to equip with gang type table, and V8 hydraulic turret.
- Polygon milling turret (optional) is applicable for milling polygon workpiece.
- The spindle installs with P class angular contact ball bearings for upgrading machining stability.
- Equipped with a 6" hollow 3-jaw hydraulic chuck or a collet chuck.
- Highly rigid machine structure with outstanding machining stability.
- Automatic barfeeder (optional).

項目 Item	CL-10
最大旋徑 Max. swing	Ø320 mm
鞍面上旋徑 Swing over cross slide	Ø100 mm
標準加工徑 Standard turning diameter	Ø150 mm
最大加工長度 Max. turning length	100 mm (櫛式 gang-type)

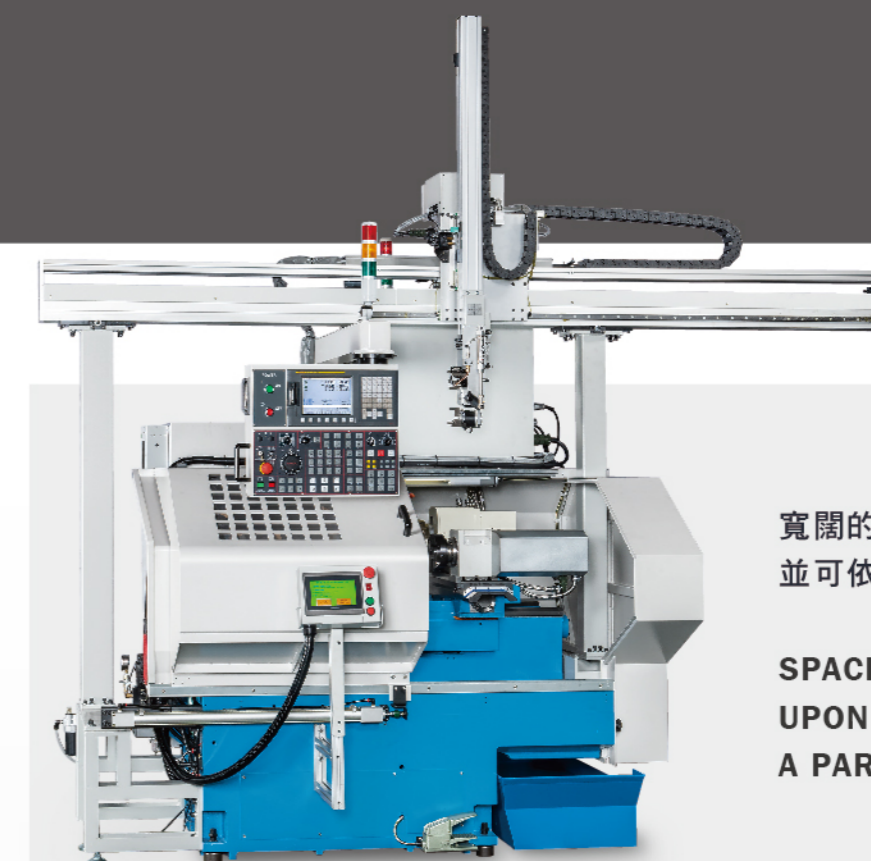


動作輕巧靈活 高性價比
EXTREMELY SMOOTH MOTIONS
GOOD VALUE



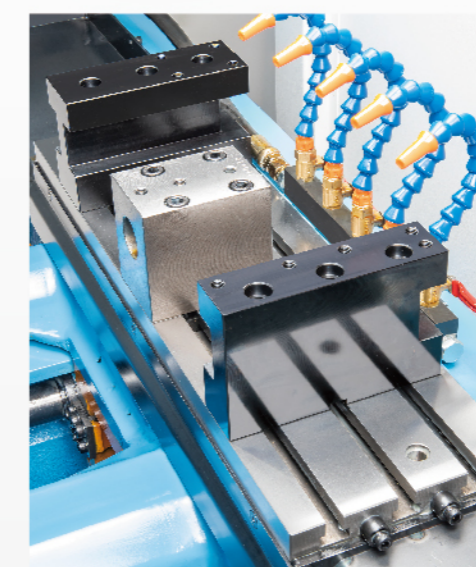
CL-100

項目 Item	CL-100
最大旋徑 Max. swing	Ø420 mm
鞍面上旋徑 Swing over cross slide	Ø170 mm
標準加工徑 Standard turning diameter	Ø350 mm
最大加工長度 Max. turning length	200 mm (櫛式 gang-type / V8)



寬闊的加工空間
並可依客戶要求，加裝機械手

SPACIOUS MACHINING SPACE.
UPON CUSTOMER'S REQUIREMENT,
A PARTS LOADER IS AVAILABLE.



櫛式工作台

- 櫛式工作台換刀時間短。相較於一般NC車床，可大幅節省退刀、換刀、進刀之時間。
- 工件少量多樣時，使用普通刀座固定。加工件更換時，只需設定程式即可。與單能機、自動車床相比較，可減少刀具更換時間。

GANG TYPE TABLE

- The gang type table features shorter tools change time. When comparing with general NC lathe, it can save considerable time in tool returning, changing and feeding.
- For small-volume, large-variety production, common tool holders are applied. In case workpiece is varied, simply to change programs. Comparing with single-purpose machine or an automatic lathe, it can help reduce tools change time.

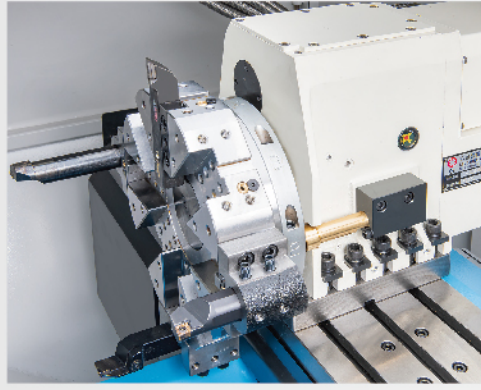


精密主軸

- 主軸採用高精密P級斜角滾珠軸承，具有優異的軸向及徑向負載能力，加工穩定性高。
- 最高主軸轉速：
4000 r.p.m. (CL-10 / CL-100)
3000 r.p.m. (CL-12 / CL-120)

HIGH PRECISION SPINDLE

- The spindle installs with high precision P class angular contact ball bearings, providing outstanding axial and radial loading capacity and extreme machining stability.
- Max. spindle speed:
4000 r.p.m. (CL-10 / CL-100)
3000 r.p.m. (CL-12 / CL-120)

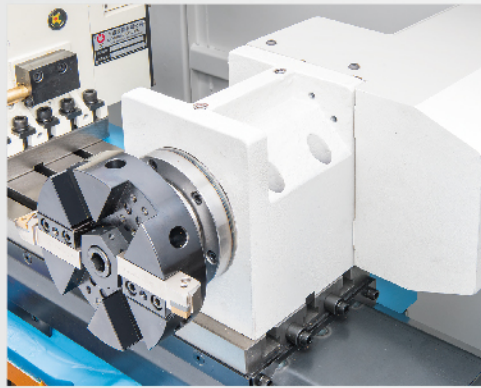


V8油壓刀塔 (選配)

- 8刀位油壓刀塔。
- 刀塔可雙向任意式選刀。換刀快速。

V8 HYDRAULIC TURRET (OPTIONAL)

- 8-position hydraulic turret.
- Bi-direction, random tools selection and fast tool change.

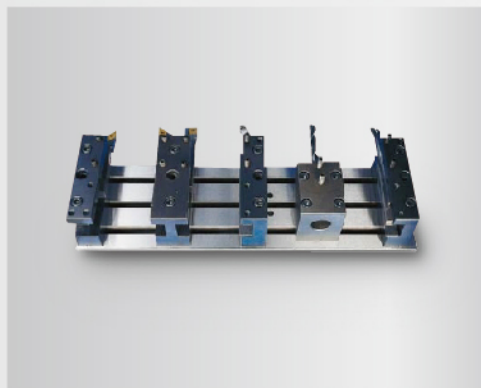


銑角刀塔 (選配)

- 銑角刀塔適用於將圓形棒材加工出多邊形。
- 需配合多邊形加工功能使用。

POLYGON CUTTING TURRET (OPTIONAL)

- Suitable for cutting polygon on a round bar.
- The turret is used together with the polygon turning software.



卡式刀座板 (選配)

- 獨特設計的卡式刀座板，可以整體更換。當加工件為長期性，且大量加工時，可預先將所有刀具安裝在刀架上。

- 加工不同工件時，只需將刀座板取下存放即可。不需逐一更換刀具，可大幅節省刀具校正時間。

SUBPLATE (OPTIONAL)

- The specially designed subplate can be changed entirely. For long-term machining and mass production, the operator may mount all tools on the subplate.
- In case of machining for different workpieces, simply remove the subplate without need to change tools one by one. This saves considerable time in tool setup.



滾珠螺桿 (CL-100 / CL-120)

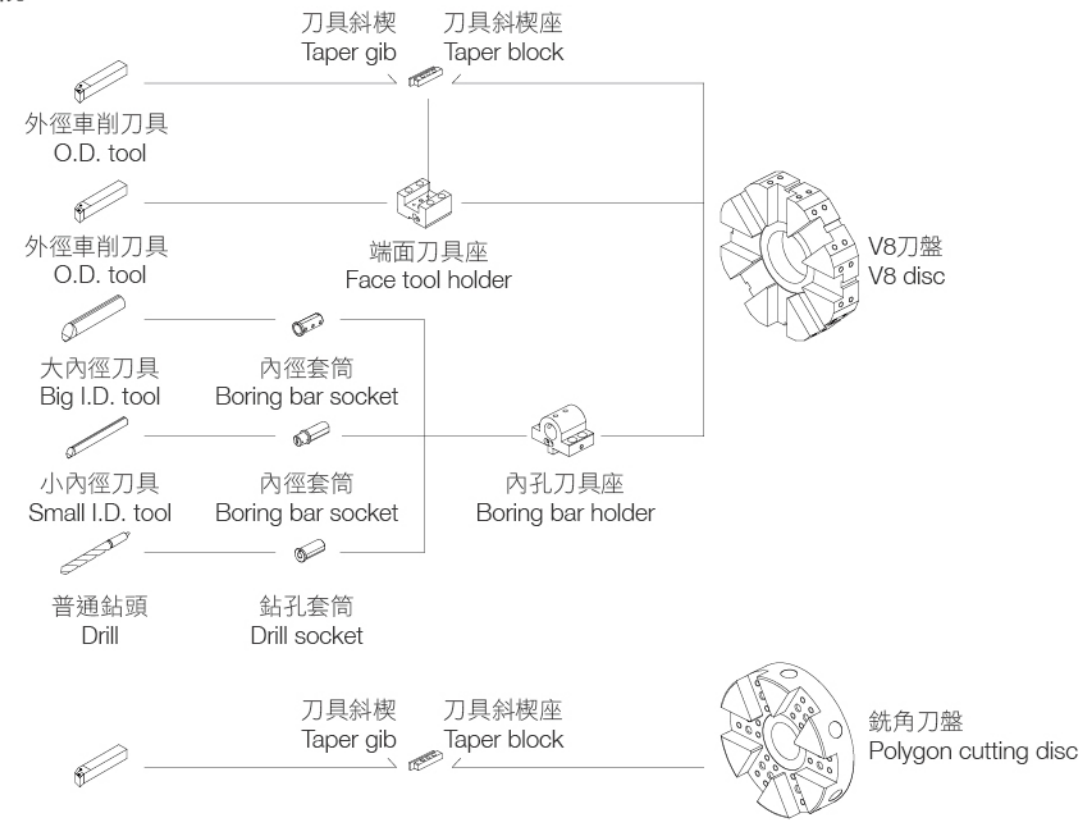
- 直徑 $\varnothing 32$ mm滾珠螺桿，經預拉處理，提高定位精度。
- 滾珠螺桿附有保護套管，可避免切屑及切削液之污染。
- 增加螺桿使用壽命。

BALL SCREW (CL-100 / CL-120)

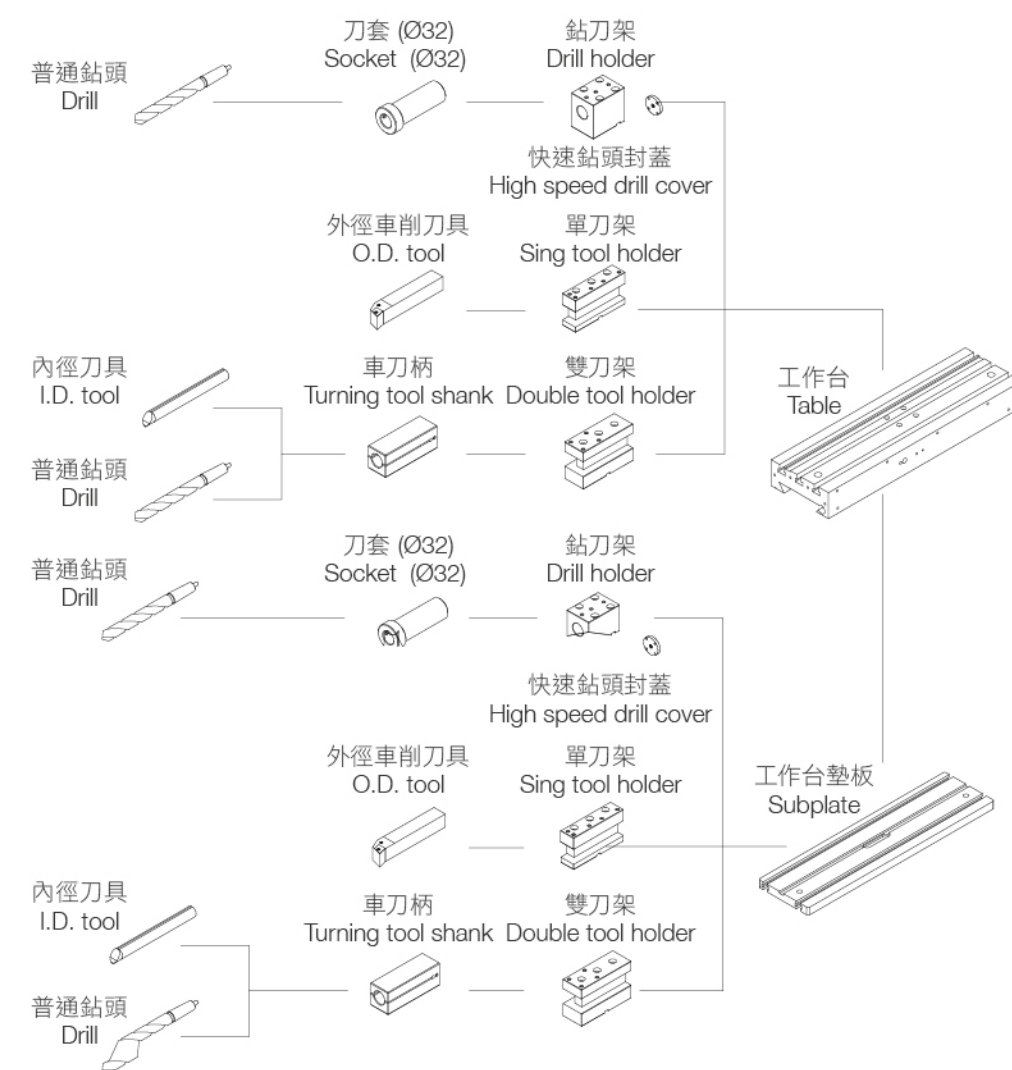
- $\varnothing 32$ mm ball screw is pretensioned to upgrade positioning accuracy.
- The ball screw is protected by a pipe to prevent pollution by chips and cutting coolant.
- Increasing the service life of ball screw.

刀具系統 TOOLING SYSTEM

伺服刀塔 + 銑角刀具系統 SERVO TURRET + POLYGON CUTTING TOOLING SYSTEM



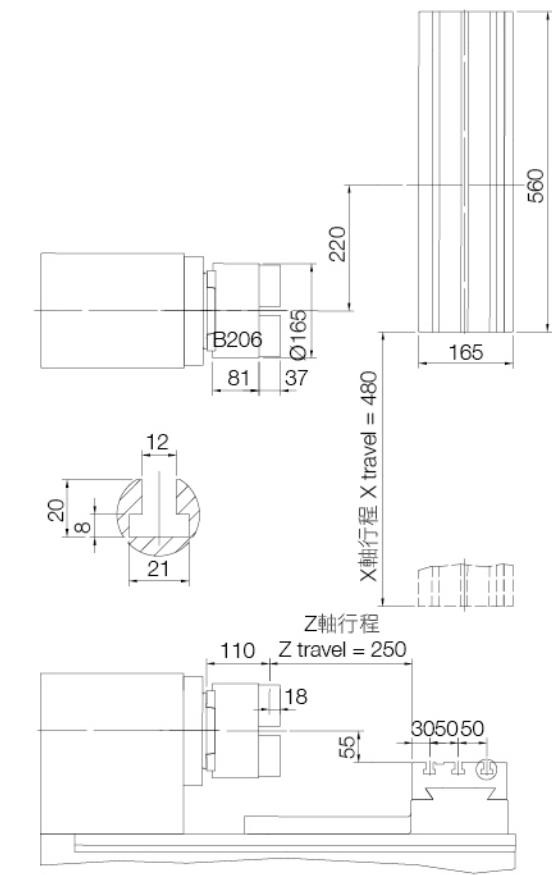
櫛式刀具系統 GANG TYPE TOOLING SYSTEM



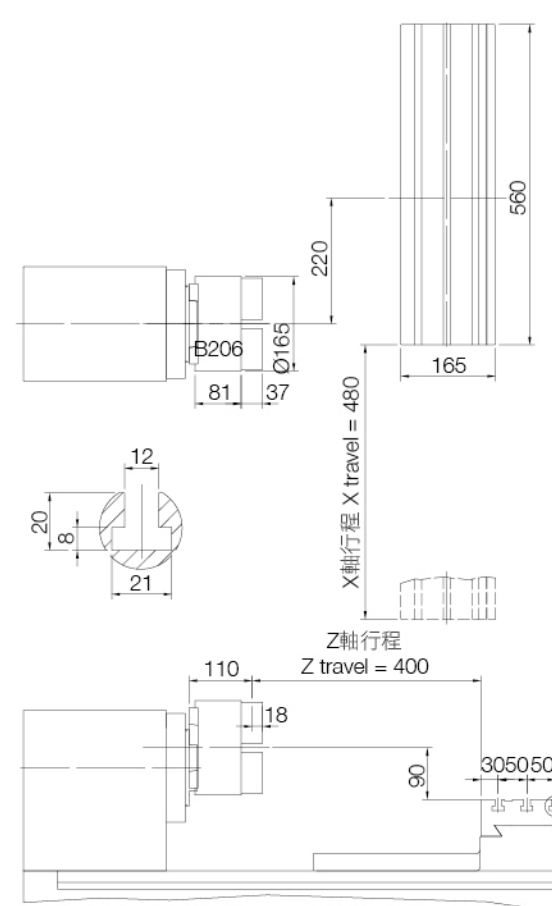
工作行程圖

WORKING TRAVEL DIAGRAM

CL-10 / CL-12



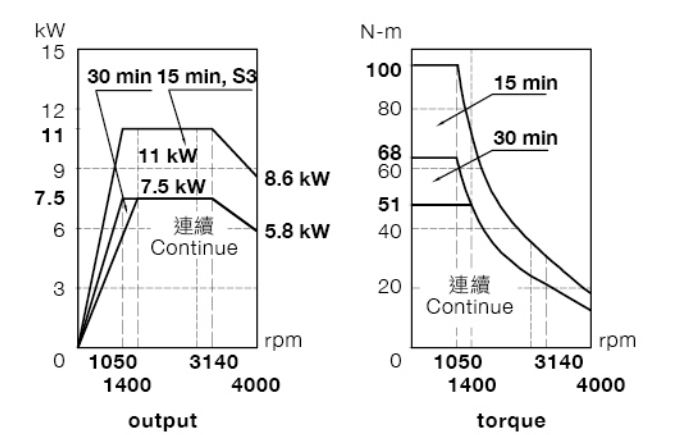
CL-100 / CL-120



主軸轉速 / 馬達輸出曲線圖

SPINDLE SPEED / OUTPUT DIAGRAM

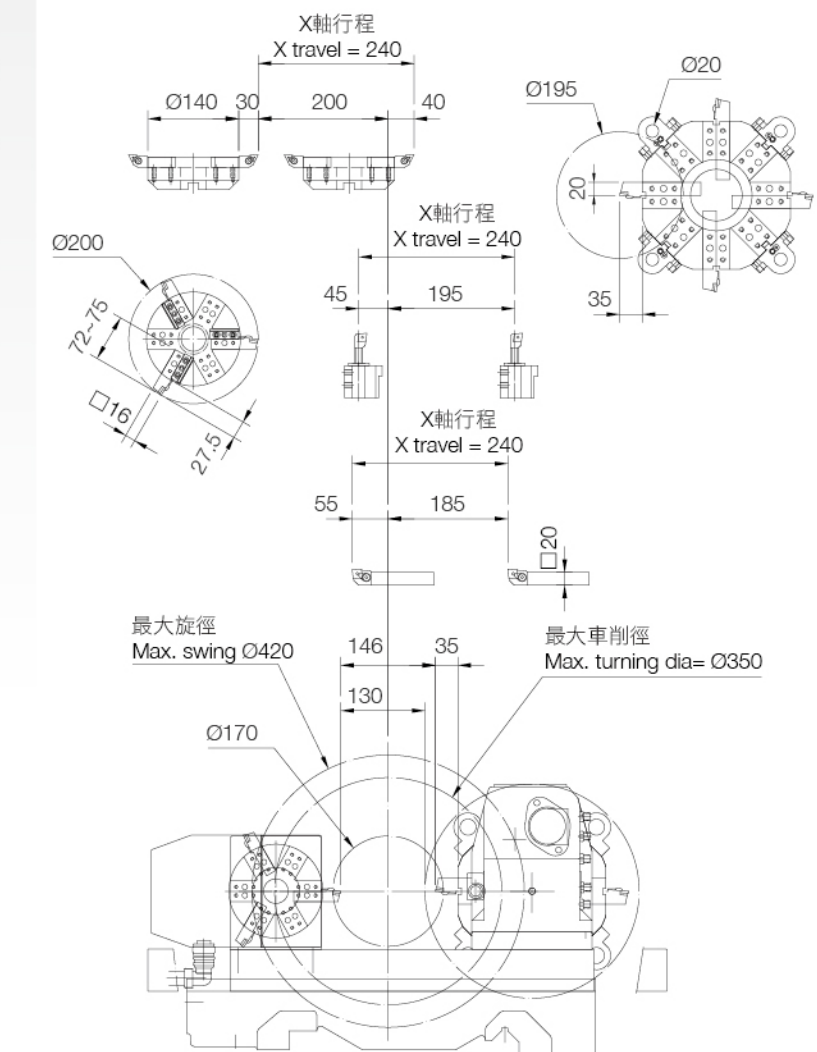
搭配 $\beta 18/10000$ Equipped with $\beta 18/10000$



刀具干涉圖 TOOL INTERFERENCE

前銑角裝置 + 後V8刀塔

FRONT POLYGON CUTTING + REAR V8 TURRET



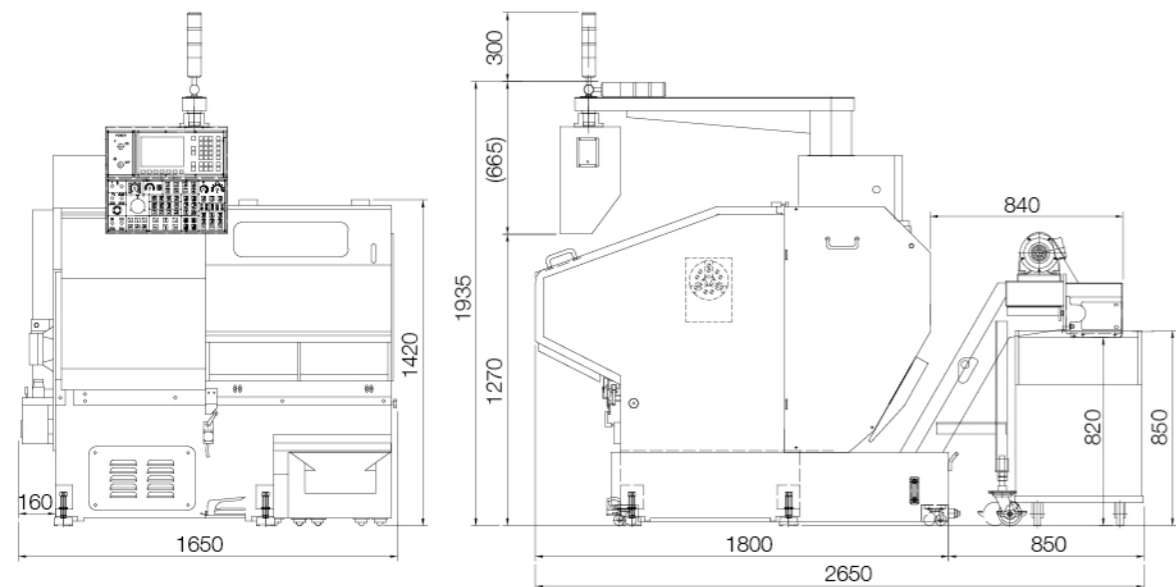
機械規格 MACHINE SPECIFICATIONS

項目	ITEM	CL-10	CL-100	CL-12	CL-120				
最大旋徑	Max. swing	Ø320 mm	Ø420 mm	Ø320	Ø420 mm				
鞍面上旋徑	Swing over cross slide	Ø100 mm	Ø170 mm	Ø100	Ø170 mm				
標準加工徑	Standard turning diameter	Ø150 mm	Ø350 mm	Ø150	Ø350 mm				
最大加工長度	Max. turning length	100 mm (櫛式 gang-type)	200 mm (櫛式 gang-type / V8)	100 mm (櫛式 gang-type)	200 mm (櫛式 gang-type / V8)	200 mm (VDI)			
主軸轉速	Spindle speed	80~4000 r.p.m.			60~3000 r.p.m.				
主軸鼻端	Spindle nose	A2-5			A2-6				
主軸孔徑	Spindle bore	Ø55 mm			Ø75 mm				
棒材容量	Bar capacity	Ø45 mm			Ø65mm				
X軸移動量	Travel of X-axis	480 mm (櫛式 gang-type)	480 mm (V8) 240 mm (V8+銑角 polygon cutting)	260 mm (VDI)	480 mm (櫛式 gang-type) 240 mm (V8+銑角 polygon cutting)	260 mm (VDI)			
Z軸移動量	Travel of Z-axis	250 mm	400 mm	300 mm (VDI)	250 mm 400 mm	300 mm (VDI)			
刀具	型式	Tool	Type	櫛式 gang-type	櫛式 gang-type / V8 / 銑角 polygon cutting (選配 opt.)	V8 (VDI 20)	櫛式 gang-type	櫛式 gang-type / V8 / 銑角 polygon cutting (選配 opt.)	V8 (VDI 20)
	外徑刀具	Holder	O.D. tool shank	□20 mm	□20 mm, □16 mm (銑角 polygon cutting)	□16 mm	□20 mm	□20 mm, □16 mm (銑角 polygon cutting)	□16 mm
	內徑刀具		I.D. tool shank	Ø32 mm	Ø25 mm	Ø25 mm, ER16	Ø32 mm	Ø25 mm	Ø25 mm, ER16
主軸馬達(15 min./連續)	Spindle motor (15 min./cont.)	βi18 (14.7 HP /10 HP)							
伺服馬達	Servo motor	X: βiS 8 (1.6 HP) / Z: βiS 8 (1.6 HP)							
油壓單元馬達	Hydraulic unit motor	1 HP							
切削液馬達	Coolant pump motor	1/2 HP							
機械長度	Height of machine	1650 mm	2070 mm	1650 mm	2070 mm	1650 mm	2070 mm		
機械寬度	Length of machine	1800 mm	1800 mm	1800 mm	1800 mm	1800 mm	1800 mm		
機械高度	Width of machine	1935 mm	2015 mm	1935 mm	2015 mm	1935 mm	2015 mm		
機械重量	Weight of machine	2100 kg	2300 kg	2200 kg	2400 kg	2100 kg	2300 kg		

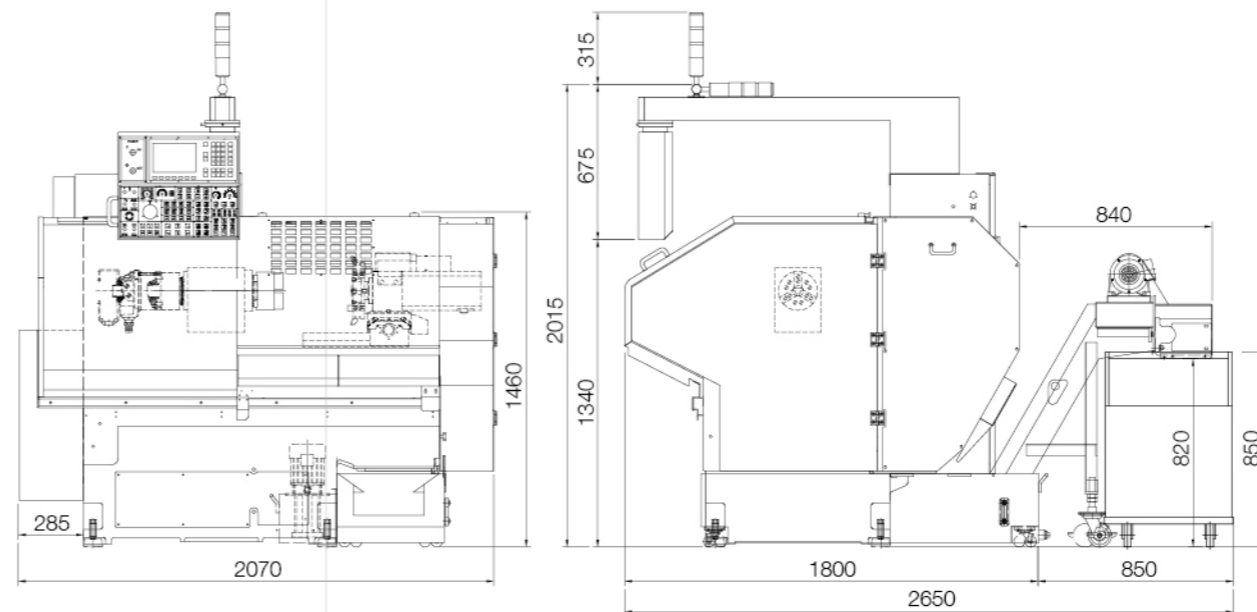
• 以上規格如有變更恕不另行通知。 Specifications are subject to change without notice.

機械外觀 MACHINE DIMENSIONS

CL-10 / CL-12



CL-100 / CL-120



標準配備及附件

- FANUC Oi TF控制器
- 主軸馬達
- 油壓系統
- 6"中空油壓三爪夾頭
- 硬爪及軟爪各1組
- 冷卻水槽及冷卻系統
- 活動門及擋屑板
- 工作燈
- 單刀座4只
- 雙刀座1只
- 鑽孔刀座1只
- 內孔刀套 (M8, 10, 12, 16, 20, 25)各1只
- 莫氏套筒 (MT#2, #3)各1只

特別配備及附件

- 卡式刀座板
- 鐵屑輸送機及集屑車
- 變壓器
- V8油壓刀塔
- V8動力刀塔
- 銑角裝置

STANDARD EQUIPMENT & ACCESSORIES

- FANUC Oi TF controller
- Main motor
- Hydraulic system
- 6" hollow 3-jaw hydraulic chuck
- Hard jaws & soft jaw 1 set/each
- Coolant tank & coolant system
- Moving door & splash guard
- Work light
- Single tool holder 4 pcs
- Double tool holder 1 pc
- Drill holder 1 pc
- Boring bar socket 1 set
- Drill socket 1 set

OPTIONAL EQUIPMENT & ACCESSORIES

- Subplate
- Chip conveyor & chip bucket
- Transformer
- V8 hydraulic turret
- V8 live turring turret
- Polygon cutting device