

KINWA  
金和車床

[www.kinwa-lathe.com](http://www.kinwa-lathe.com)

## 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.

KINWA  
金和車床

金 屹 精 密 股 份 有 限 公 司  
CHIN HUNG MACHINERY CO., LTD.

台中市大雅區田心街10號  
No.10, Tianxin St., Daya Dist.,  
Taichung City 428, Taiwan  
Tel: +886-4-25663114 · 25666113  
Fax: +886-4-25665254  
E-mail: [ufkinwa@ms15.hinet.net](mailto:ufkinwa@ms15.hinet.net)  
[www.kinwa-lathe.com](http://www.kinwa-lathe.com)



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).

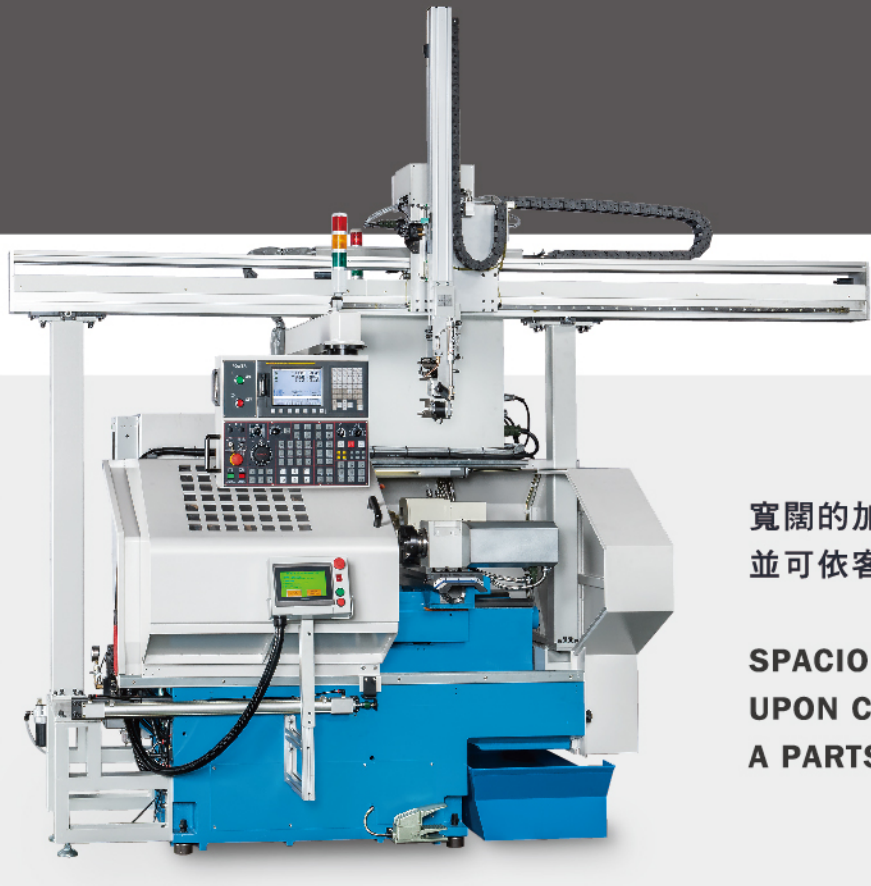
| 項目 Item                            | CL-10                    |
|------------------------------------|--------------------------|
| 最大旋徑<br>Max. swing                 | Ø320 mm                  |
| 鞍面上旋徑<br>Swing over cross slide    | Ø100 mm                  |
| 標準加工徑<br>Standard turning diameter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

動作輕巧靈活 高性價比

EXTREMELY SMOOTH MOTIONS  
GOOD VALUE

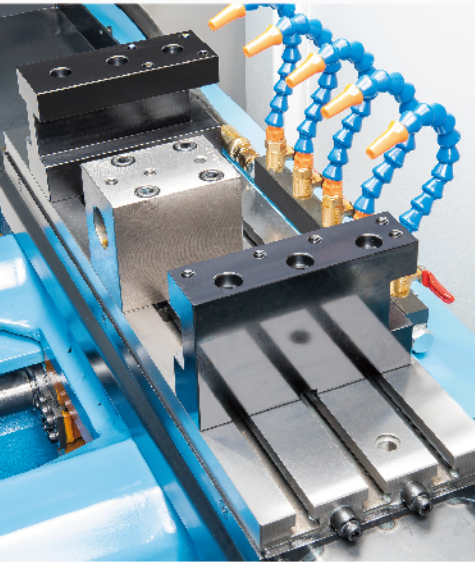
CL-100

| 項目 Item                            | CL-100                        |
|------------------------------------|-------------------------------|
| 最大旋徑<br>Max. swing                 | Ø420 mm                       |
| 鞍面上旋徑<br>Swing over cross slide    | Ø170 mm                       |
| 標準加工徑<br>Standard turning diameter | Ø350 mm                       |
| 最大加工長度<br>Max. turning length      | 200 mm<br>(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.

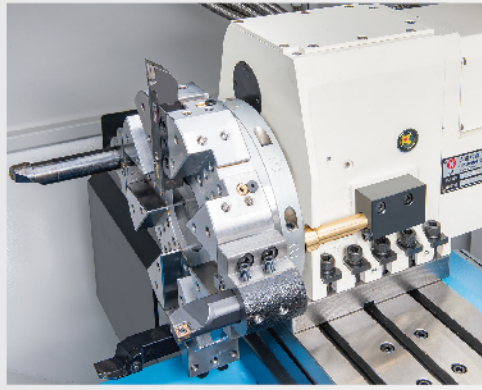
精密主軸

- 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)



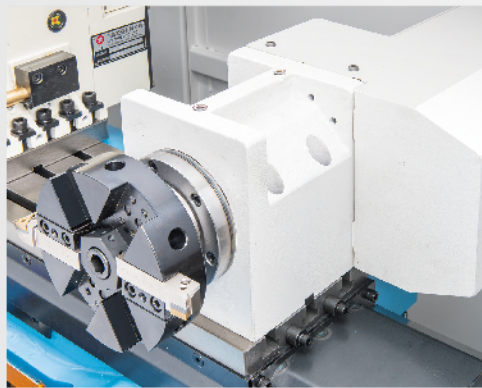


#### V8油壓刀塔（選配）

- 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.

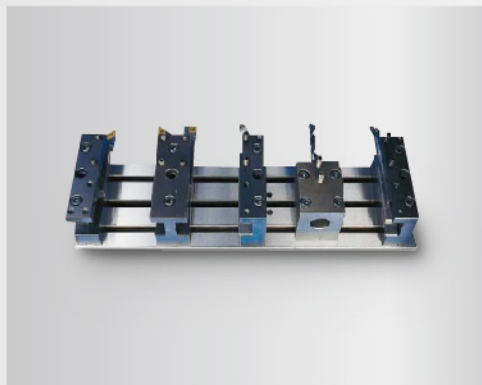


#### 銑角刀塔（選配）

- 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)

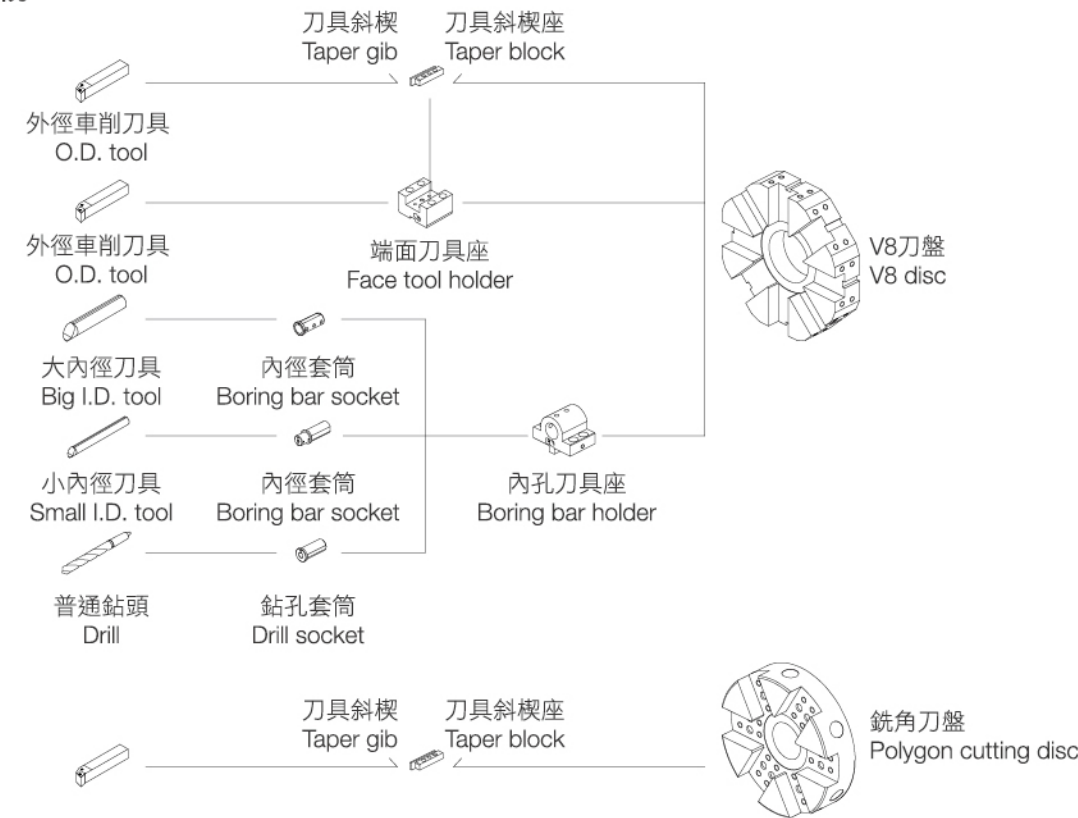
- 直徑Ø32 mm滾珠螺桿，經預拉處理，提高定位精度。
- 滾珠螺桿附有保護套管，可避免切屑及切削液之污染。
- 增加螺桿使用壽命。

#### BALL SCREW (CL-100 / CL-120)

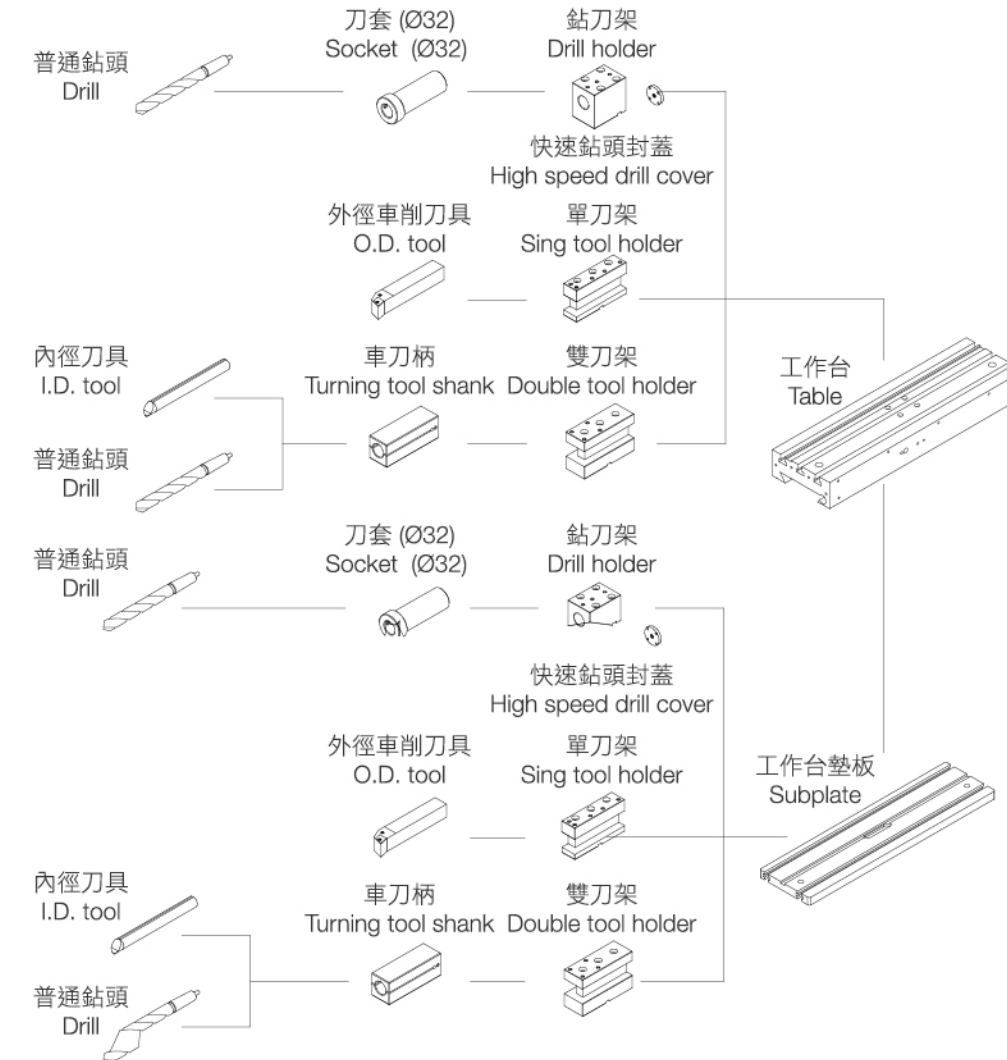
- Ø32 mm ball screw is pretensioned to upgrade positioning accuracy.
- The ball screw is protected by a pipe to prevent pollution by chips and cutting coolant.
- Increasing the service life of ball screw.

## 刀具系統 TOOLING SYSTEM

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



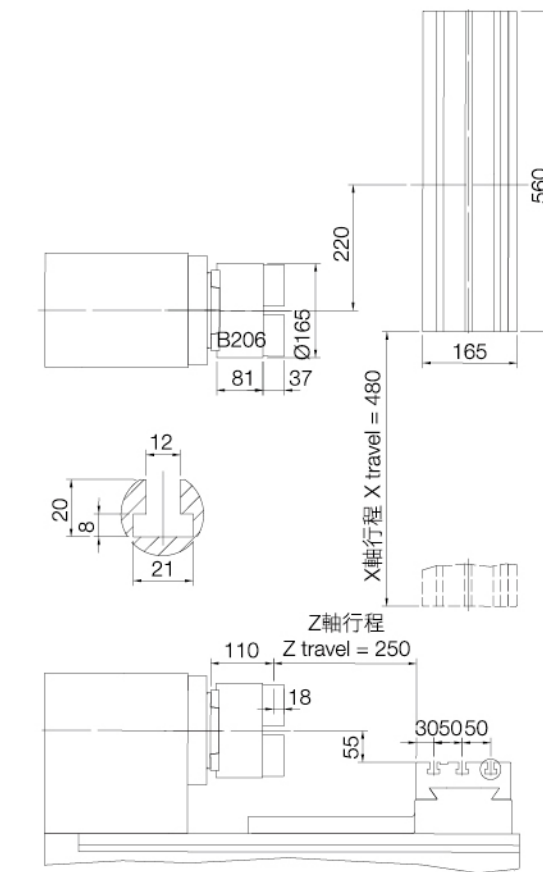
### 櫛式刀具系統 GANG TYPE TOOLING SYSTEM



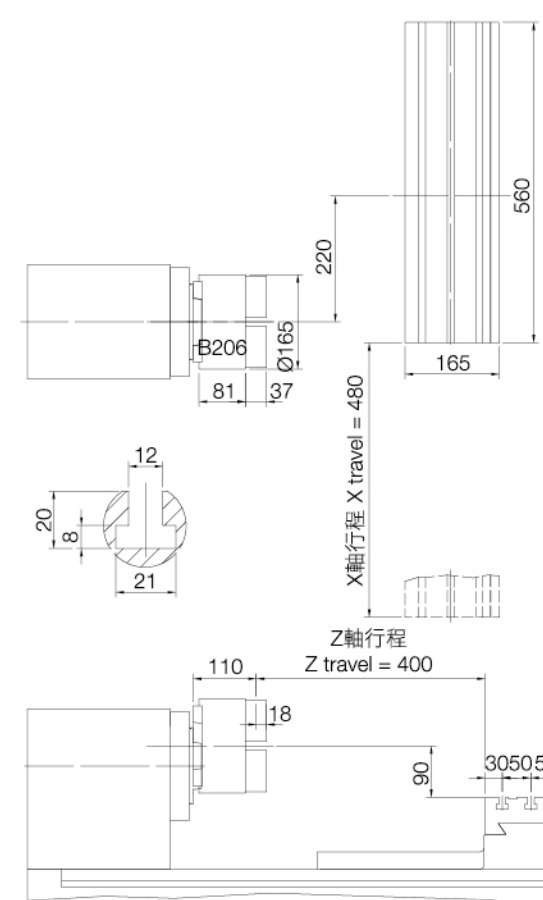
## 工作行程圖

## WORKING TRAVEL DIAGRAM

### CL-10 / CL-12



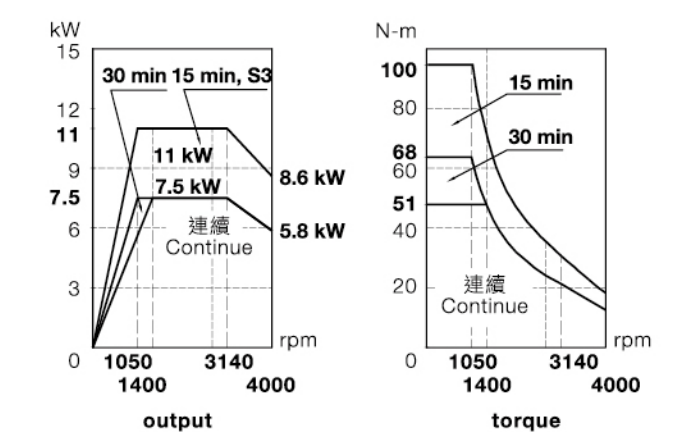
### CL-100 / CL-120



## 主軸轉速 / 馬達輸出曲線圖

## SPINDLE SPEED / OUTPUT DIAGRAM

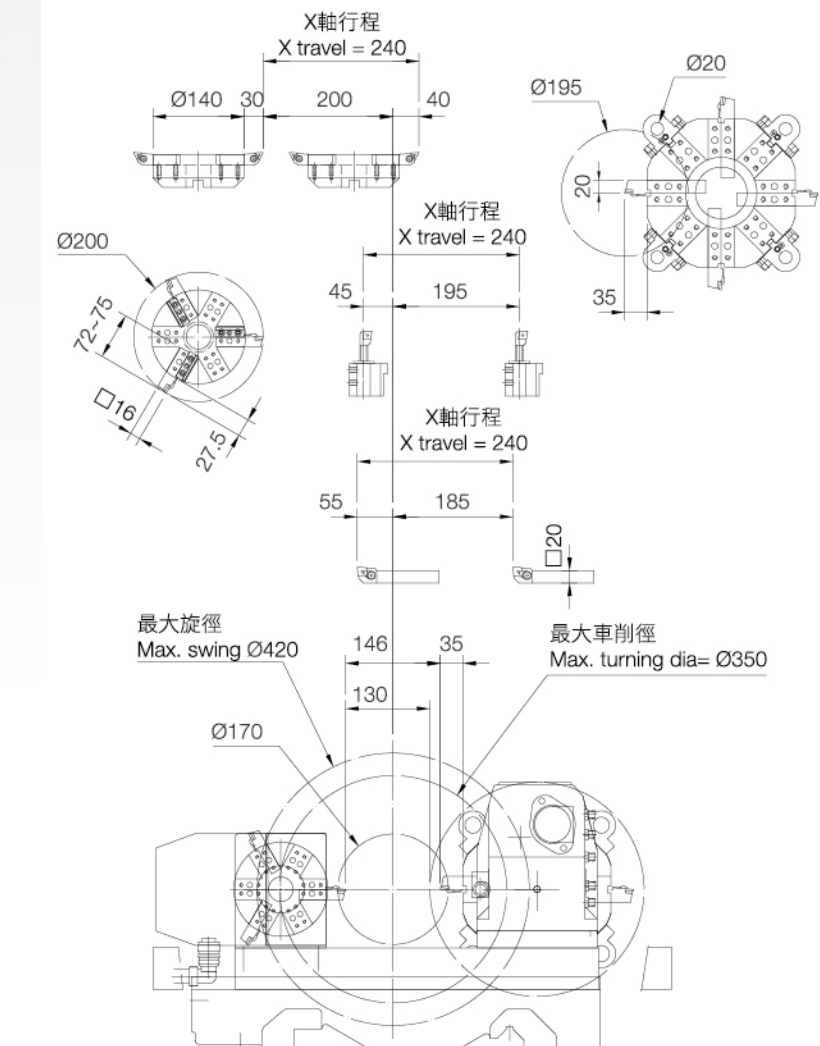
### 搭配βi18/10000 Equipped with βi18/10000



## 刀具干涉圖 TOOL INTERFERENCE

### 前銑角裝置 + 後V8刀塔

### FRONT POLYGON CUTTING + REAR V8 TURRET



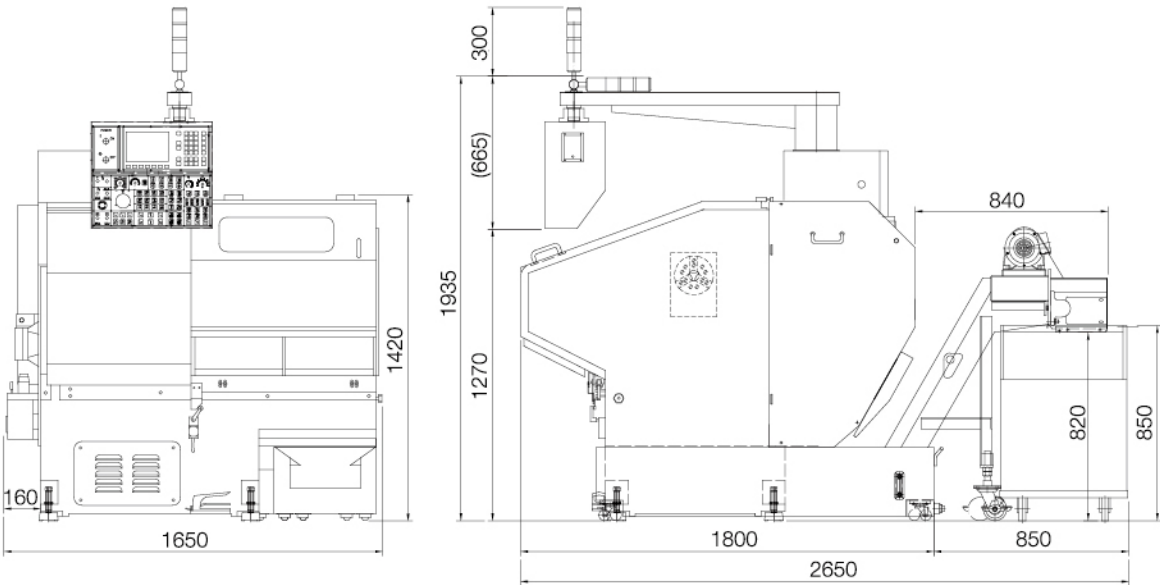
機械規格 MACHINE SPECIFICATIONS

| 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<br>(櫛式 gang-type)              | 200 mm<br>(櫛式 gang-type / V8)                       | 200 mm (VDI) | 100 mm<br>(櫛式 gang-type) | 200 mm<br>(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<br>(櫛式 gang-type)              | 480 mm (V8)<br>240 mm (V8+銑角 polygon cutting)       | 260 mm (VDI) | 480 mm<br>(櫛式 gang-type) | 480 mm (V8)<br>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 Holder                   | Type            | 櫛式 gang-type                          | 櫛式 gang-type / V8 /<br>銑角 polygon cutting (選配 opt.) | V8 (VDI 20)  | 櫛式 gang-type             | 櫛式 gang-type / V8 /<br>銑角 polygon cutting (選配 opt.) | V8 (VDI 20)  |
|                  | 外徑刀具 |                               | 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.) |                 | βiI8 (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      | 1935 mm                  | 2015 mm                                             | 2015 mm      |
| 機械重量             |      | Weight of machine             |                 | 2100 kg                               | 2300 kg                                             | 2200 kg      | 2200 kg                  | 2400 kg                                             | 2400 kg      |

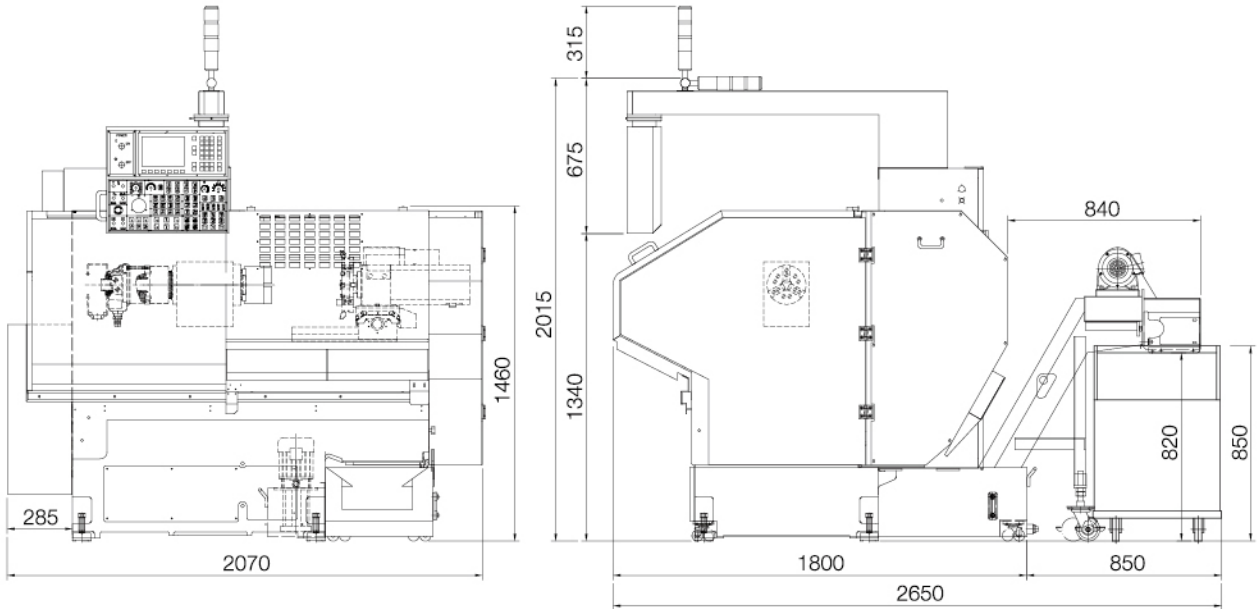
• 以上規格如有變更恕不另行通知。 Specifications are subject to change without notice.

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
- 活動門及檔屑板
- 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