

KINWA  
金和車床

CL430 series

對話式車床  
CONVERSATION  
LATHE

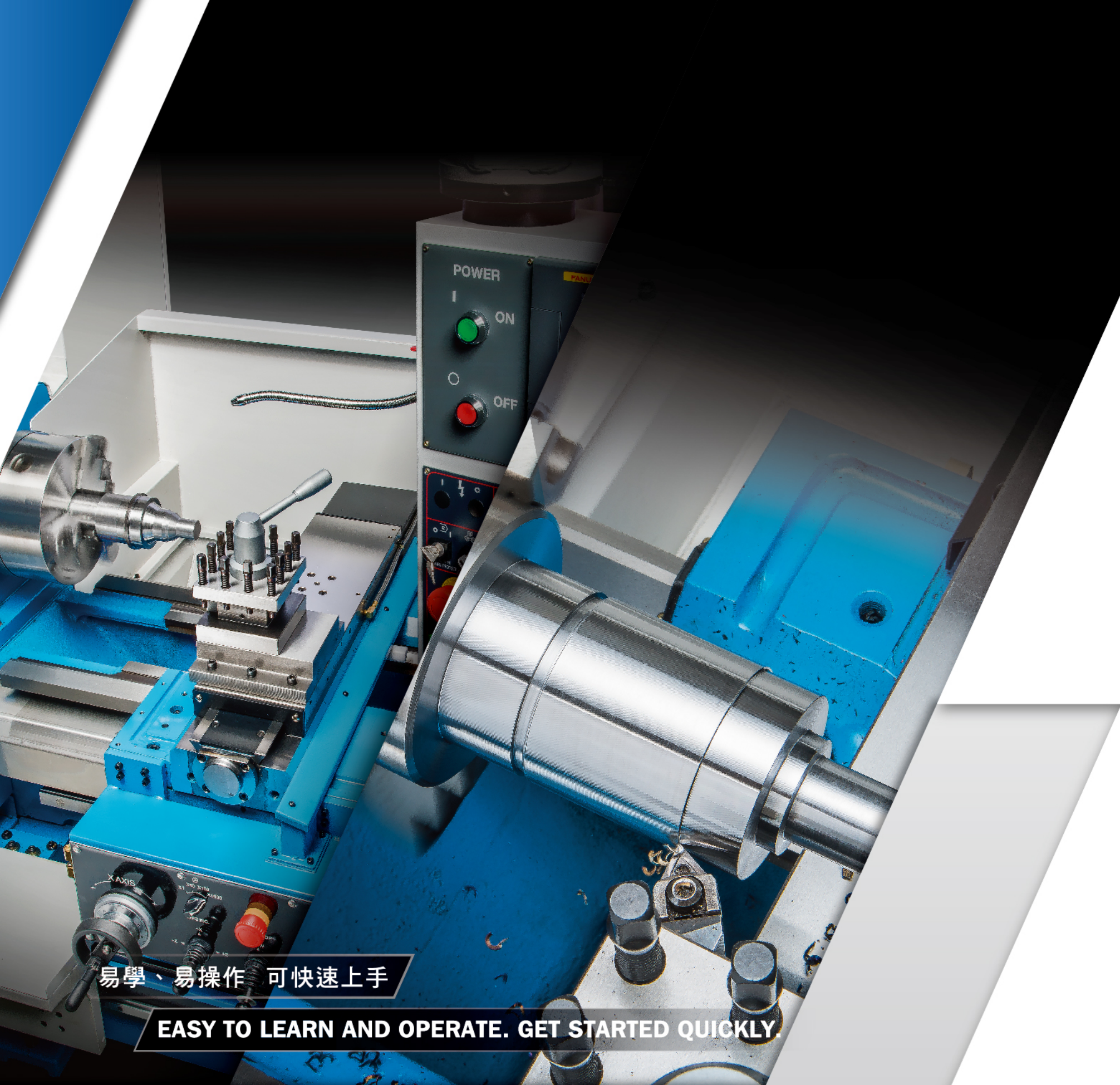


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金和車床

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精度準確 品質卓越

SUPREME ACCURACY. EXCELLENT QUALITY.



易學、易操作 可快速上手

EASY TO LEARN AND OPERATE. GET STARTED QUICKLY.

## 對話式車床 CONVERSATION LATHE

金茲再度成功的開發出CL430系列對話式車床，免除製作NC程式之麻煩。不需要程式背景之人員，即可輕鬆操作機台。

- 搭載FANUC Oi-TF電腦控制器，配合使用FANUC TURN MATE i 對話軟體。
- 利用圖形導引，輕鬆輸入加工參數。
- 主軸鼻端A2-6。
- 主軸2檔變速，適合重切削及精加工。
- X、Z軸伺服馬達驅動。
- 高剛性機器結構，展現非凡加工穩定性。

Chin Hung has successfully developed the CL430 series conversation lathe that aims to eliminate troublesome NC programming. An operator, without a background in programming, can easily operate the machine.

- Equipped with FANUC Oi-TF computer control in combination with the use of FANUC TURN MATE i conversation software.
- Easy to input machining parameters through the guidance of graphs.
- Spindle nose: A2-6.
- The spindle allows for 2 ranges of speed change, making it possible to perform rough cutting and fine finishing.
- X, Z axes are driven by servo motors.
- Highly rigid machine construction exhibits exceptional machining stability.



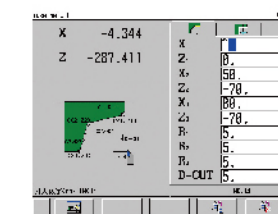
### FANUC Oi-TF 電腦控制器 / COMPUTER CONTROL

#### 內建FANUC TURN MATE i 對話軟體

- 8.4"彩色液晶螢幕(LCD) ■ 不需寫入NC程式，只需依據圖形導引，輸入加工參數，即可執行加工。

#### BUILT-IN FANUC TURN MATE i CONVERSATION SOFTWARE

- 8.4" LCD Color Screen.
- No writing of NC programs required. The operator only needs to input machining parameters according to the graphic guidance before performing machining.

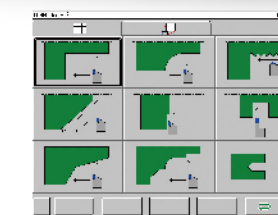


#### 圖形導引畫面

提供簡易的加工資料輸入。操作者只需依據圖形輸入所需的加工數據即可。

#### GRAPHIC GUIDANCE DISPLAY

This display provides easy input of machining data. It allows the operator to simply enter the desired machining data.

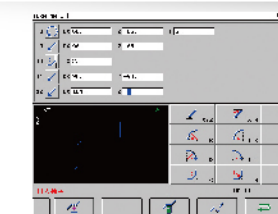


#### 圖形選擇畫面

FANUC TURN MATE i 對話軟體內建37個圖形，提供各種零件加工之選擇。

#### GRAPH SELECTION DISPLAY

FANUC TURN MATE i conversation software provides up to 37 graphs to select to suit various workpiece types for machining.

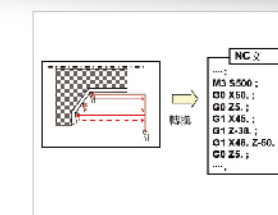


#### 自設圖形畫面

如果欲加工之工件，無法在內建的圖形找到相對應的圖形，操作者也可自設圖形。

#### CUSTOMIZED GRAPHIC DISPLAY

In case a workpiece machining cycle can't corresponded to the built-in graphs, the operator may draw a specific graph by using the customized graph function.

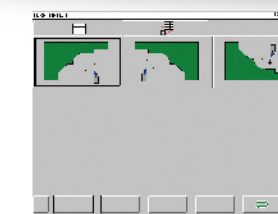


#### NC程式產生

FANUC TURN MATE i 可經由加工循環產生NC程式。

#### GENERATION OF NC PROGRAM

FANUC TURN MATE i enables NC programs to be generated through a machining cycle.



#### 加工程序快速設定

工件之各種加工程序，例如：外徑車削、溝槽加工、車螺紋等，都可利用內建的圖形輸入加工尺寸。

#### FAST SETTING OF MACHINING SEQUENCES

The operator may use the built-in graphs to input machining sizes for various machining sequences, such as, outside diameter turning, grooving and thread cutting, etc.

# BUILT TO DELIVER EASY, FAST AND HIGH PRECISION CUTTING PERFORMANCE

## 主軸頭 SPINDLE HEAD

- 高剛性主軸箱體結構配合高精度主軸，確保無振顫之車削性能。
- 9"手動三爪夾頭為標準配備。
- 主軸轉速提供2段變速，低速檔具有高扭力輸出，適合重切削。高速檔適合精加工。
- 主軸孔徑Ø78 mm。

- The highly rigid headstock construction, in combination with the high precision spindle, ensures chatter-free turning performance.
- 9" 3-jaw manual scroll chuck is standard.
- Spindle speeds allow for 2-step change. The low speed range provides high torque output, making the machine suitable for heavy cutting. The low speed range is suitable for fine finishing.
- Spindle bore is Ø78 mm.

## 主軸傳動齒輪

### SPINDLE TRANSMISSION GEARS

- 主軸頭內部之所有齒輪均經熱處理硬化，再經研磨至一級齒輪精度，達到最佳的齒輪傳動精度，運轉順暢，無噪音。
- 齒輪採用浸油式潤滑。

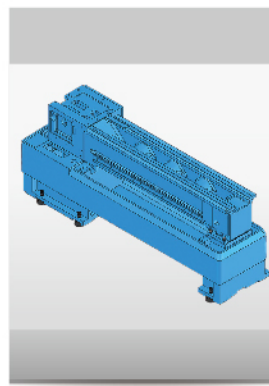
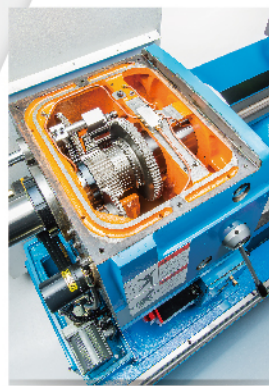
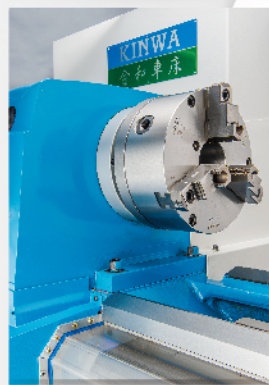
- All gears in the headstock are hardened then precision ground to class1 gear accuracy, leading to an optimal gear transmission accuracy. Smooth running and no noise.
- Gears are oil bathed.

## 穩重的床身及底座

### MASSIVE BED AND BASE

- 床身及底座均為箱形結構體，配合內部肋骨強化，具有優異的剛性。
- 床身及底座採用高級米漢納鑄鐵製成，經應力消除，以確保結構不變形。
- 床身滑道經硬化處理到硬度HS70，再經精密研磨，耐磨耗性佳。

- The bed and base are box type construction with internal rib reinforcement to exhibit outstanding rigidity.
- Both bed and base are made of meehanite and stress relieved to ensure deformation-free performance.
- Bed-ways are hardened to HS70 and precision ground featuring maximum wear-resistance.

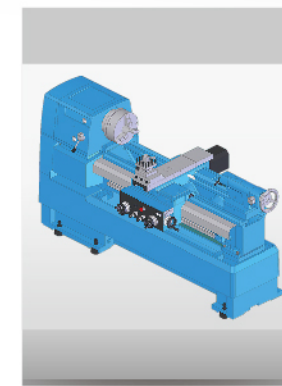


## 最佳化機體結構設計

### OPTIMAL STRUCTURE DESIGN

- 金竝CL430系列對話式車床，擁有紮實的機體結構，占地面積小，動作輕巧靈活。主要結構鑄件採用高級米漢納鑄鐵製成，具有優異的材質穩定性，吸震性能及高剛性。

- Chin Hung CL430 series conversation lathe is provided with compact construction, space saving and extremely smooth motions. Its major structural parts are manufactured from high quality machined cast iron, featuring excellent material-stability and vibration-dampening capacity as well as high rigidity.



## 手動四方刀架

### MANUAL FOUR-WAY TOOL HOLDER

- 手動四方刀架可安裝四支外徑刀(口25 mm)，可作360°轉動定位。
- 四方刀架轉動採用二片式離合齒，以提升刀架之定位精度。

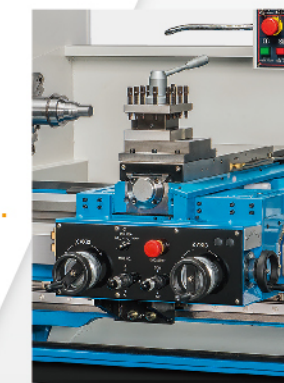
- The manual four-way tool holder holds four O.D. cutting tools (□25 mm) and can be rotated through 360 degrees.
- The tool holder rotation employs a curvic coupling for upgrading the positioning accuracy of the tool holder.



## 鞍座 CARRIAGE

- 寬闊的鞍座結構，在重切削時仍保有最佳穩定性。
- 橫向滑板進給(X軸)採用鳩尾槽式滑道。
- 所有滑道均有自動潤滑。

- The extra wide saddle structure features high stability in heavy cutting.
- The cross slides (X-axis) moves on a dove tailed slideway.
- All slideways on the carriage are auto-matically lubricated.



## 手動操作台

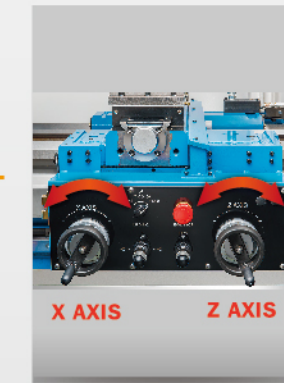
### MANUAL OPERATOR STATION

手輪及把手控制功能

- X, Z軸手動移動
- X, Z自動進給
- X, Z同動控制
- 主軸正逆轉切換
- 緊急停止

The handwheels and levers on the front of the apron provide the following functions:

- Manual movement on X, Z-axis
- Automatic feed on X, Z-axis
- Simultaneous control on X, Z-axis.
- Spindle clockwise or counter-clockwise rotation change.
- Emergency stop.



## 手動尾座 MANUAL TAILSTOCK

- 高剛性尾座結構，可穩固支撐長工件。
- 尾座心軸直徑Ø60 mm，並具有MT4錐度。
- 尾座心軸經熱處理及精密研磨，且附有公制 / 英制刻度。

- Featuring a highly rigid structure, the tailstock is able to hold a long workpiece firmly.
- The tailstock quill diameter is Ø60 mm with MT4 taper.
- The tailstock quill is hardened and precisely ground with inch/metric graduations.



## 機械規格 SPECIFICATIONS

| 項目               | MODEL                               | CL430x1100  | CL430x1700 |
|------------------|-------------------------------------|---|------------|
| 最大旋徑             | Max. swing                          | Ø430 mm   |            |
| 鞍面上旋徑            | Swing over carriage                 | Ø185 mm   |            |
| 床面寬度             | Width of bed                        | 346 mm  |            |
| 兩心距離             | Distance between centers            | 1067 mm   | 1667 mm    |
| 主軸孔徑             | Spindle bore                        | Ø78 mm  |            |
| 主軸鼻端             | Spindle nose                        | A2-6  |            |
| 主軸轉速             | Spindle speeds                      | 3~1650 rpm  |            |
| 主軸變速檔數           | Number of spindle speed range       | 2   |            |
| 主軸馬達 (15min./連續) | Spindle motor (15 min./cont.)       | βil6 (10 HP / 7.4 HP)   |            |
| H4手動刀架           | H4 manual tool holder               | □25 mm  |            |
| 移動量              | X軸                                  | 240 mm  |            |
|                  | Z軸                                  | 910 mm  | 1510 mm    |
| X軸快速進給速度         | Rapid traverse rates (X Axis)       | 8000 mm/min   |            |
| Z軸快速進給速度         | Rapid traverse rates (Z Axis)       | 8000 mm/min   |            |
| 螺紋切削             | 螺紋切削方法 (種)                          | 6種 (螺紋種類任意) 6 kinds (Arbitrary threading)   |            |
|                  | 公制螺紋範圍 (mm)                         | Range of metric pitches (mm) 0.001~500 (任意), 進給量 mm x 主軸轉速 (min <sup>-1</sup> ) 限制6000以下      |            |
|                  | 英制螺紋範圍 (TPI)                        | Range of inch pitches (TPI) 999.9999~0.0508 (任意), 進給量 mm x 主軸轉速 (min <sup>-1</sup> ) 限制6000以下 |            |
|                  | 切削進給範圍                              | Range of turning 0.001~500.000 (mm/rev)   |            |
| 伺服馬達             | Servo motor                         | X: βiS 8 (1.6 HP) / Z: βiS 8 (1.6 HP)   |            |
| 手動心軸移動量          | Manual Quill stroke                 | 185 mm  |            |
| 尾座套筒直徑           | tailstock Quill diameter            | Ø60 mm / MT4  |            |
| 切削液馬達            | Coolant pump motor                  | 1/8 HP  |            |
| 控制器              | 控制器型式                               | Controller type FANUC 0i-TF   |            |
|                  | 控制軸數                                | Controlled axes 2軸 2 axes   |            |
|                  | 可同時控制軸數                             | Simultaneously controlled axes 2軸 2 axes  |            |
|                  | 最小設定單位                              | Min. setting unit 0.001 mm  |            |
|                  | 對話機能                                | Conversation function FANUC TURN MATE i   |            |
| G code NC 編譯機能   | G code NC editing function Standard |   |            |
| 機械長度             | Length of machine                   | 2800 mm   | 3450 mm    |
| 機械寬度             | Width of machine                    | 1410 mm   |            |
| 機械高度             | Height of machine                   | 1940 mm   |            |
| 機械重量             | Machine weight                      | 2700 kgs  | 3100 kgs   |

### 標準配備 STANDARD ACCESSORIES

標配依報價單為主  
Standard accessory depends on quotation.

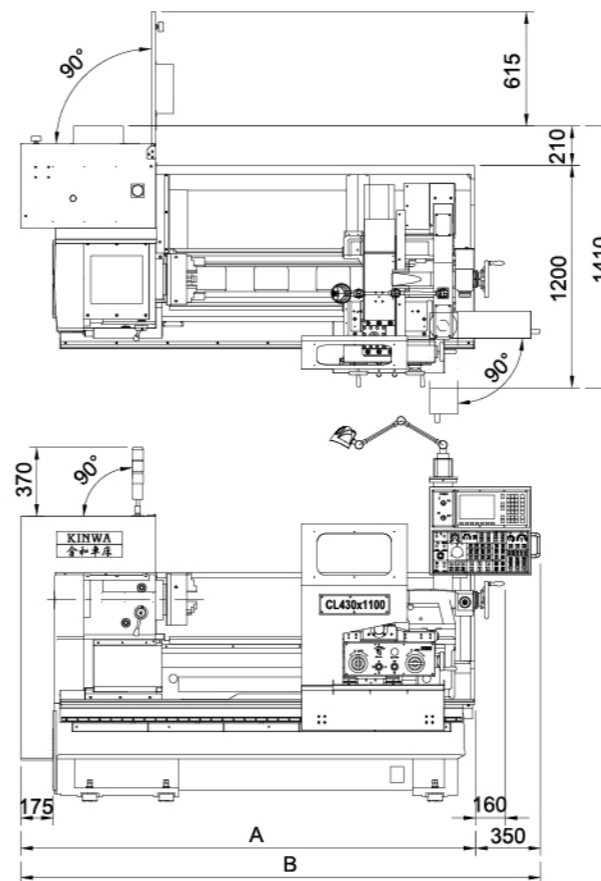
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|--------------------------------------|---|---------------------------------|
| ■ 電腦FANUC 0i-TF TURN MATE i          | ■ 手動四方刀架 (齒式離合)                             | ■ 拉門及擋屑板                        |
| ■ 彩色螢幕8.4"                           | ■ 軸承中心架                                     | ■ 工作燈                           |
| ■ 主軸馬達10HP, βil6                     | ■ 手動尾座及固定頂針MT#4                             | ■ 工具箱及調整工具                      |
| ■ 主軸孔徑Ø78 mm                         | ■ 冷卻水槽及冷卻系統                                 | ■ 主軸套筒MT#4                      |
| ■ 手動三爪連動夾頭9"                         |   |                                 |
| ■ Controller FANUC 0i-TF TURN MATE i | ■ Manual four-way tool post (coupling type) | ■ Coolant pan & coolant system  |
| ■ 8.4" color screen                  | ■ Steady rest with roller jaw               | ■ Sliding door & splash guard   |
| ■ Spindle motor 10HP, βil6           | ■ Manual tailstock & MT#4                   | ■ Work light                    |
| ■ Spindle bore Ø78 mm                | ■ Manual tailstock & MT#4 dead center       | ■ Tool box with adjusting tools |
| ■ 9" 3-jaw manual scroll chuck       |   | ■ Spindle center sleeve MT#4    |

### 選購配備 OPTIONAL ACCESSORIES

選配依報價單為主  
Optional accessory depends on quotation.

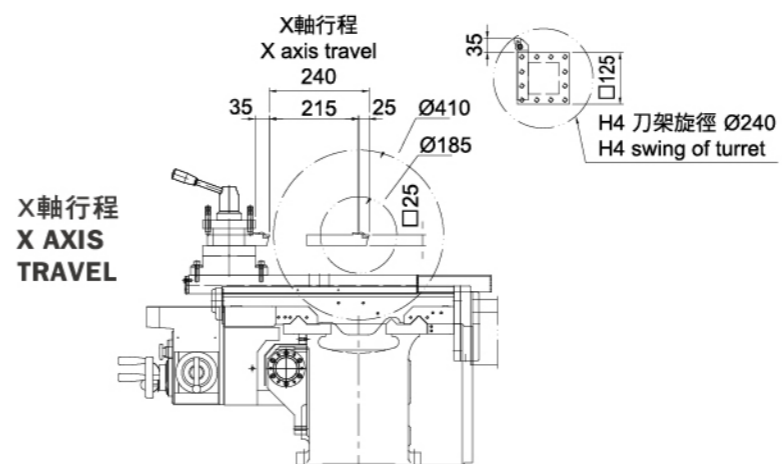
- |                                  |                  |                    |                     |
|----------------------------------|------------------|--------------------|---------------------|
| ■ 控制器品牌可選擇                       | ■ 14" 面板         | ■ 跟刀架              | ■ 兩段式尾座             |
| ■ 電動四方刀架                         | ■ 變壓器            | ■ 活動頂針MT#4         |                     |
| ■ Controller alternative         | ■ 14" Face plate | ■ Follow rest      | ■ 2-speed tailstock |
| ■ Electrical Automatic tool post | ■ Transformer    | ■ Live center MT#4 |                     |

## 機械外觀圖 DIMENSIONAL DRAWING

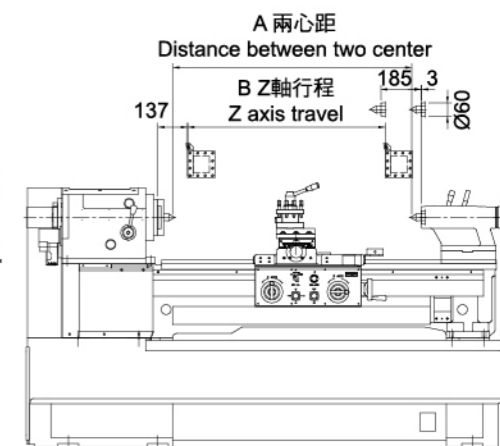


| MODEL      | A    | B    |
|------------|------|------|
| CL430x1100 | 2450 | 2800 |
| CL430x1700 | 3065 | 3415 |

## 行程圖 WORKING RANGE



| MODEL      | A    | B    |
|------------|------|------|
| CL430x1100 | 1067 | 910  |
| CL430x1700 | 1667 | 1510 |



## 主軸扭力圖 SPINDLE MOTOR

