

4 CNC SLOTTING MACHINE

CNC 精密插床

X,Y,C,Z AXIS AUTO FEEDING 四軸自動 ●●●●



● Machine features 機台特性:

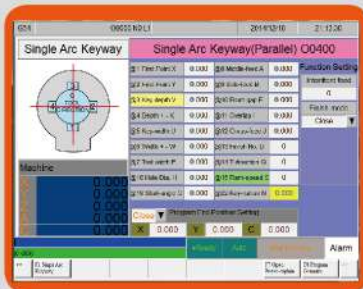
1. The main machine structure is made of high quality cast iron , X,Y axis and Ram guideway are hardened and ground.
機器主結構皆採用高級鑄件，X,Y 軸軌道及刨頭滑軌經完善的熱處理研磨。
2. All the slideways ,main Ram guideway ,and X,Y,Z axis ballscrews are complete with automatic lubrication system to ensure the machine running smoothly and long life.
刨頭滑道及X,Y,Z 軸軌道，圓盤座及滾珠螺桿皆設有完善的自動潤滑系統。
3. The machine is equipped with hydraulic clamping system to lock the connection block between linking Rod and Ram.
刨頭位置調整採油壓夾持系統配合Z軸伺服馬達及滾珠螺桿。
4. The swivel head can rotate right and left smoothly via worm & worm gear for taper keyway slotting purpose.
刨頭可經由蝸輪蝸桿進行左右旋轉以便進行斜鍵插削作業。
5. The X,Y,Z axis are complete with high precision C3 class double nut ballscrews and precision bearings specially for precision ballscrew to ensure position accuracy.
X,Y,Z 軸皆採用高精密 C3 級滾珠螺桿搭配精密滾珠螺桿專用軸承以確保機械的定位精度。
6. The C axis rotary working table is driven by 4.4kw AC servo motor with high torque coupling to directly drive "Dual lead worm shaft" and "high class bronze alloy worm gear set" to ensure the high indexing accuracy.
圓型工作台由高扭力4.4kw伺服馬達直接傳動雙導程精密蝸桿，再搭配特殊鋁青銅合金蝸輪以達到高精密度。

CNC CONTROLLER CNC 控制器



● Features 特性:

1. SYNTEC(WIN-CE)CNC control system, high compatibility and good stability.
新代 (WIN-CE) CNC 控制器、功能強、穩定性高、親和性佳。
2. Complete with standard international G.M code and friendly conversation program edit function.
具備標準 G/M Code 功能及強大的對話式程式編輯功能，簡單好學。
3. Complete with ladder and I/O diagnosis function, and modularized electric circuit system ,Easy to maintain.
模組化配電系統及完善的 Ladder 與 I/O 診斷功能，維修容易。
4. With MPG simulation function to help operator to test run the program avoiding crash accident.
可用手搖輪邊轉邊動作程式測試，免除撞車疑慮。
5. Adopt USB , Ethernet interface with high stability.
採用 USB、網路介面 作程式儲存介面，穩定度高。



● Conversational programming function

對話式程式編輯，簡單好學

Special design conversational program edit function. Operator just needs to input data into dialog box. The processing program will be created automatically.

特殊對話式程式編輯功能，使用者只需輸入各項尺寸，即可產生所需程式，簡單、方便。

User friendly controller interface 容易操作的控制介面：

● Conversational programming function 對話式程式編輯功能：

1

The CNC controller offers a simple programming function to generate program. User just needs to enter necessary data into the conversational programming edit screen then press "Generate program" key, the processing program can be automatically generated.

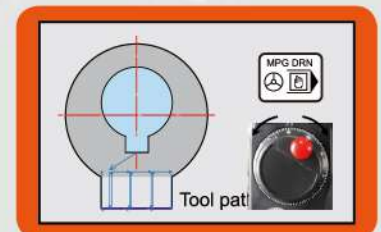
本控制器提供簡易式的對話式程式，只要在螢幕畫面上輸入所需的數字資料後，按 "Generate Program" 程式產生按鈕即可自動產生程式，所產生的程式可被命名儲存，程式組數無限制，可依不同加工需求，叫出所需程式執行加工，方便實用且具高工作效率。

● Hand wheel (MPG) simulation function 手搖輪 (MPG) 模擬功能

2

Use hand wheel to simulate the newly generated program running path, It's easy to test run the program and avoid machine crash accident.

當新程式產生，您可使用手搖輪測試新程式，避免機械碰撞意外。



● Powerful slotting canned cycle (Marco) 強大的插削專用巨集指令

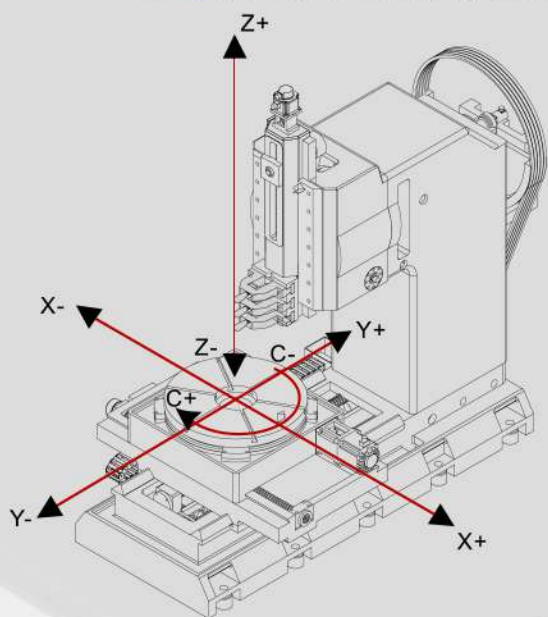
3

Our powerful slotting canned cycles is the result of our 45 years experience and research in design and development of CNC slotting processing. We offer the following software functions and application.

東星自行研發的插削巨集指令，解決了各種插鍵、插齒加工需求，此乃結合了多年來本公司在插床領域的經驗及各種 CNC 插削功能指令的研發，以下是本機所提供的各種功能：

4 Axis CNC slotting Machine 四軸自動插床

●●●● 4 CNC controlled axis (X-Y-Z-C)



● The 4 axis CNC slotting machine offers following slotting functions:

四軸自動插床提供以下功能：

- Basic single keyway slotting
基本單鍵插削
- Regular multi-keyways (Spline) slotting
規則性多鍵插削（例如：花鍵）
- Irregular multi-keyways slotting
不規則性的多鍵槽插削
- Use small width tool to cut big width keyway
小刀寬刀具切削大鍵槽
- Square, Hexagon, polygon profile slotting
方形、六角形、多邊形 等……外型插削
- Special profile slotting
特殊形狀的插削

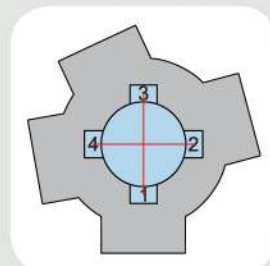
● keyway cutting 鍵槽插削



Single keyway
單鍵槽插削



Multi - keyway
多槽等角度插削

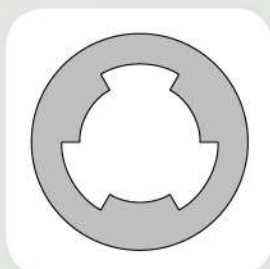


Irregular keyway
任意角度切割

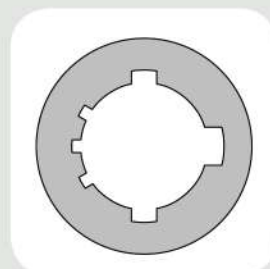
● Special shape cutting 特殊形狀插削



Polygon
多邊形插削



Arc keyway
弧形鍵槽插削



Different widths
多鍵寬插削

● Standard Accessories 標準配件:

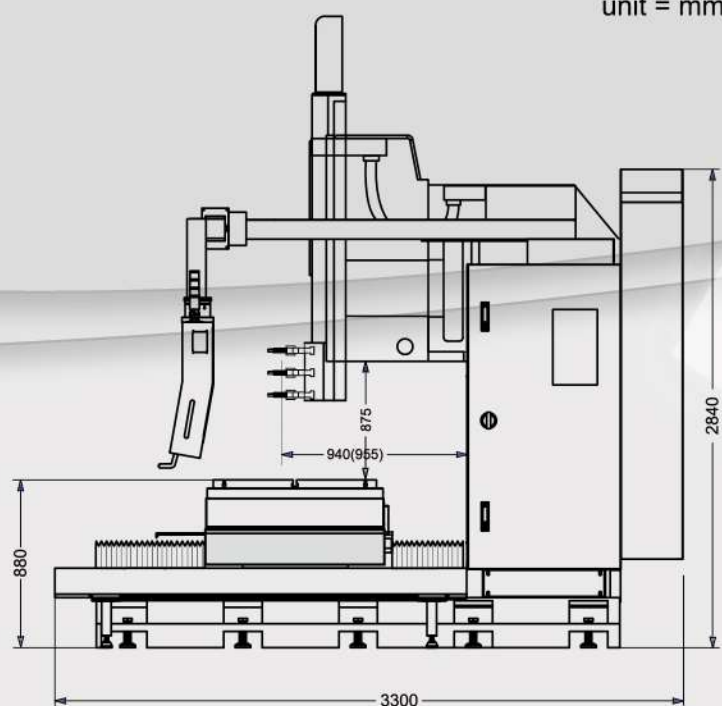
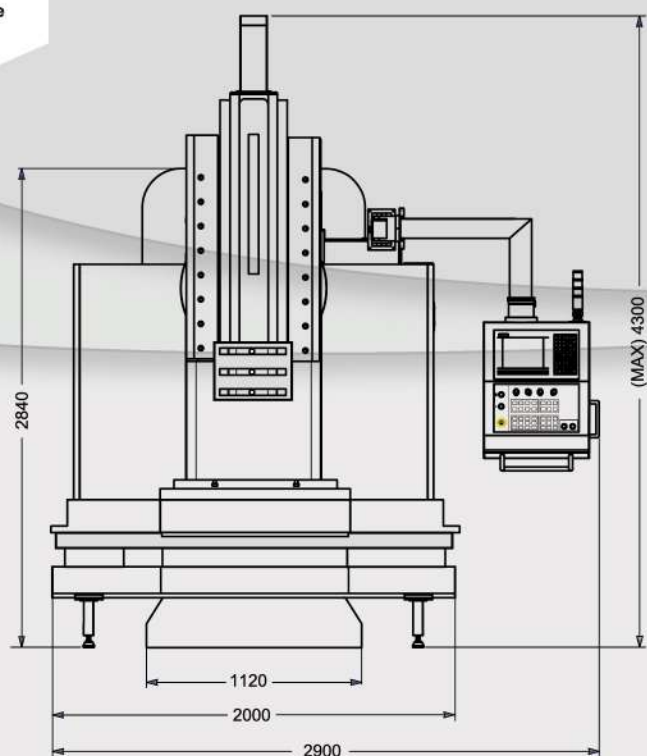
1. X,Y,Z axis C3 ballscrews X,Y,Z 軸 C3滾珠螺桿
2. Y axis slideway covers Y軸 防塵護套
3. Air-Driven Hydraulic ram clamping device 氣動增壓油壓衝頭夾緊裝置
4. Rotary table Ø850mm 旋轉工作台
5. Coolant system 冷卻系統
6. Centralized automatic lubrication system 自動潤滑系統
7. Chip conveyor and chip box 鐵屑輸送裝置(含鐵屑盒)
8. Portable MPG Handwheel 手搖輪
9. Halogen work light 石英工作燈
10. Alarm light 3色警示燈
11. Adjusting tools & box 工具箱
12. Programmable auto tool backing off 程式自動退刀

● Optional Accessories 選用配件:

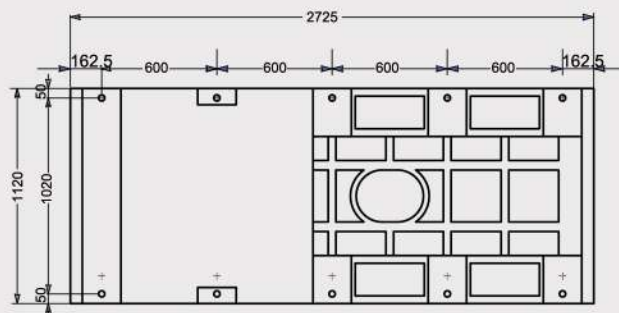
1. Transformer (except for 220V)
變壓器 (220V除外)
2. 3 jaws scroll chuck 三爪夾頭
3. Clamping kits set 夾持套
4. Slotting bar 刀桿



Estar
Machine
Tools
Corp.



unit = mm



● SPECIFICATION (MECHANISM) 機械規格表

單位: UNIT MM(INCH)

ITEM項目	MODEL型式	CNC-550
Maximum stroke of ram 插頭最大衝程		550 mm (21.6")
Ram adjustable distance 鉋頭位置垂直調整距離		725 mm (28.5")
No. of stroke per minute (SPM) 插削速度 (次/分)		5~60
Swivel angle of ram (Left/Right) 插頭左右旋轉角度		± 20°
Distance from end of ram guide to working table 插頭導路下端至工作台距離		875 mm (34.4")
Distance from tool center to column 刀桿中心至機身面距離 (喉深)		Φ90 mm / 940 mm ; □ 95 mm / 955 mm
Distance from table center to column 工作台中心至機身距離		650~1450 mm (25.5"~57.1")
Distance from working table to ground 工作台面距離地面高度		880 mm (34.6")
Diameter of working table 工作台直徑		Ø850 mm (Ø33.5")
Bore of working table 工作台孔徑		Ø200 mm (Ø8") [Ø250mm (Ø10") OPT. 選配]
Maximum table load 工作台最大載重		2000 kg
T slots size of working table (Size x No) 工作台T型槽尺寸 (尺寸 x 槽數)		22 mm x 12
Cross travel of working table(Y axis) 工作台前後移動距離 (Y 軸)		800 mm (31.8")
Horizontal travel of working table(X axis) 工作台左右移動距離 (X 軸)		850 mm (33.5 ")
Rapid feedrate (100%) (c:swiveling axis) 工作台快速移動速度100%(C:旋轉軸)		X.Y. 15000 mm/min , C:30rev/min
Cutting feedrate (c:swiveling axis) 工作台進給速度100%(C:旋轉軸)		X.Y. 10000 mm/min , C:20rev/min
Maximum size of tool holder 可挾持最大刀柄尺寸		Round Φ 90 mm / Square □ 96 mm
Ram driving motor 主電動機		15 kw (20 HP)
Positioning accuracy 定位精度		X.Y.± 0.005 C:40"
Reciprocating feed accuracy 往復定位精度		X.Y.± 0.005 C:±5"
Coolant pump motor 冷卻馬達		1/2 HP
Net weight 淨重		9450 KGS
Overall machine dimension L x W x H(Maximum height) 機台尺寸 長x寬x高(最大高度)		3300x2000x4300 (130 " x 78.7" x 169")
Packing dimension 包裝尺寸		3800 x 2250 x 3320 mm (150" x 88.5" x 131")

● SPECIFICATION C CNC CONTROL CNC 控制規格表

ITEM項目	MODEL型式	CNC-550
X Axis AC servo motor X 軸伺服馬達		4.4kw
Y Axis AC servo motor Y 軸伺服馬達		5.5kw
Z Axis AC servo motor Z 軸伺服馬達		2kw
C Axis AC servo motor 旋轉軸伺服馬達		4.4kw

※ All specifications and designs are subject to change without notice. 本公司對產品不斷研究改良，上述規格及設計如有變更，恕不另行通知。