

Trustworthy Tailift Equipment

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Tailift

Tailift®
台勵福集團

TH-630

臥式綜合加工中心機
Horizontal Machining Center



www.tailiftgroup.com

7家生產工廠 遍佈台灣、中國、美國

創立於1973年的台勵福股份有限公司，致力於搬運機械與工具機等之研發與製造。歷經40多年的辛勤耕耘，公司規模在穩定中持續成長，逐步蛻變為今天的台勵福集團。

目前台勵福集團擁有7個生產工廠，遍佈在台灣、中國(青島)、美國(加州)。產品種類涵蓋堆高機、CNC電腦沖床、CNC工具機、懸臂鑽床等。行銷市場遍及全球50餘國。放眼未來，我們將在現有的基礎上，不斷開發新產品，並積極拓展市場，讓台勵福產品深入全球每一個角落。

7 Manufacturing Plants

Based in Taiwan, China and U.S.A

Established in 1973, Tailift Co., Ltd. has been dedicated to the research, development and manufacturing of material handling equipment and machine tools. With over 40 years of hard cultivation, the company's size has continued to grow with a steady pace and has gradually transformed into today's Tailift group.

At present, Tailift group has 7 manufacturing plants, located in Taiwan, China (Qingdao) and U.S. (California). Our products lineup include forklifts, CNC punch presses, CNC machine tools and radial drilling machines, which have been sold to over 50 countries around the world. Looking ahead, we will constantly develop new products based on our existing foundation. Moreover, we will actively explore markets, so that Tailift products will reach every corner of the world.



Tailift® 台勵福集團

Tailift®

Group



■ 台灣 - 大雅一廠
Taiwan-Taya Plant I



■ 台灣 - 大雅二廠
Taiwan-Taya Plant II



■ 台灣 - 成功三廠
Taiwan-Cheng Kung Plant III



■ 台灣 - 成功四廠
Taiwan-Cheng Kung Plant IV



■ 台灣 - 中華五廠
Taiwan-Zhong Hua Plant V



■ 中國 - 青島廠
China-Qing Dao Plant



■ 美國 - 加州廠
USA-Tailift USA



■ OEM / ODM 合作
OEM / ODM Business

台勵福 TH-630

臥式綜合加工中心機

效率與精度的融匯

精心打造的台勵福 TH-630 臥式加工中心機，在高效率加工方面深受產業界肯定。無論是機體結構之穩定性或高速加工特性，TH-630 成功的塑造了卓越特出的性能表現。

- 動柱式結構。
- X軸階梯式線軌配置。
- 迴轉式自動工作台交換。
- 工作台分度 1° (標準), 0.001° (選配)。
- 最大加工尺寸 Ø1000mm。
- 三軸快移速度 24 M/min (標準), 30 M/min (選配)。
- 三軸全滾柱型線軌。
- Traveling column.
- Step type linear ways deployment on X-axis.
- Rotary type auto pallet change.
- Table indexing 1° (standard), 0.001° (optional).
- Max. cutting capacity Ø1000mm.
- Three axes rapid traverse: 24 M/min. (standard), 30 M/min. (optional).
- Roller type linear ways on three axes.

Tailift® TH-630

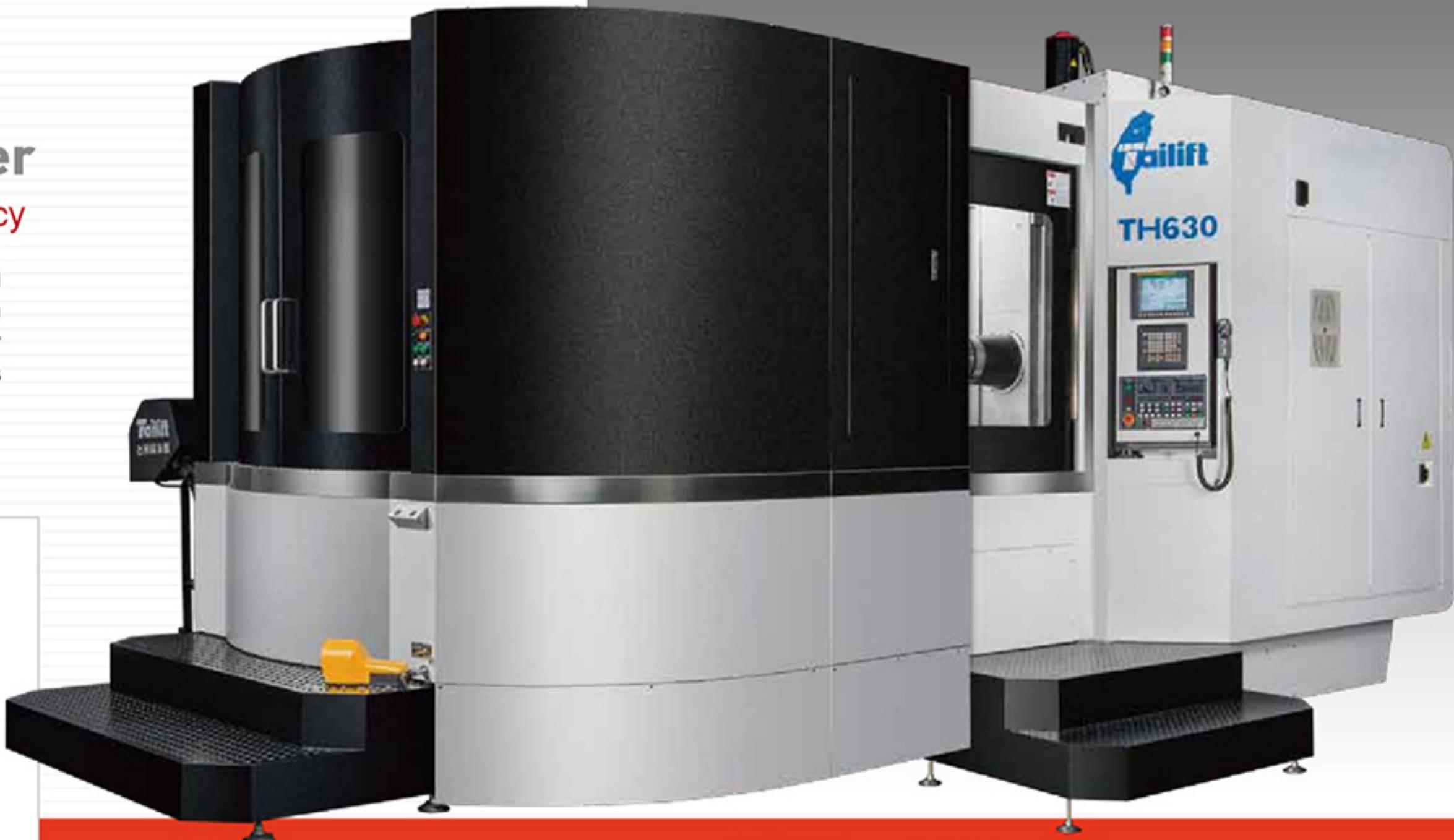
Horizontal Machining Center

A Perfect Combination of Efficiency and Accuracy

Carefully built by Tailift, the TH-630 Horizontal Machining Center has been widely recognized by industries in machining efficiency. No matter what structural rigidity or high speed machining, the TH-630 will fully demonstrate its exceptional performance.

適用產業 : Applicable Industries:

- 汽機車零件
- 精密模具
- 機械零件
- Automotive and motorcycle parts
- High precision molds and dies
- Machine parts



Tailift® TH-630

最佳化結構設計

高效率加工
穩定！順暢！

米漢納鑄件 材質穩定

機器之主要結構件完全採用米漢納鑄鐵製成，並經應力消除，材質穩定、不變形。

三軸全支撐

X, Y, Z 軸全線軌，配合全支撐設計，展現最佳剛性。

有限元素分析(FEA)

台勵福加工中心機之機體結構設計，採用先進的有限元素分析軟體模擬機器結構之應力/應變情況，以確保機器達到最佳的結構剛性、穩定性、抗震能力及動態性能。



X 軸與 Z 軸一體成型

• X 軸與 Z 軸為一體鑄造成型，確保機器之高剛性與低振動。且有助於提升加工精度。

One-piece Fabricated X, Z-axis

• X, Z-axis are one-piece fabricated with high-quality cast iron so as to ensure the machine rigidity and minimum vibration. It also assists in upgrading machining accuracy.

Optimized Structure Design

High Efficiency Machining
Stable ! Smooth !

Meehanite Casting Parts Deformation Free

All major structural parts are manufactured from high quality Meehanite cast iron, which are stress relieved for outstanding stability without deformation.

Three Axes Fully Supported

X, Y, Z-axis are all equipped with linear ways combined with fully supported design to demonstrate outstanding rigidity.

Finite Element Analysis (FEA)

The structural parts of the Tailift machining centers have been designed by using the advanced Finite Element Analysis software to simulate stress / strain conditions. This analysis will ensure Tailift machines to achieve the optimal structural rigidity and stability, dampening capacity and dynamic performance.

三軸全超寬滾柱型線軌

• X, Y, Z 軸全配置超寬(SR65)，重負荷滾柱型線性滑軌，配合線軌間之大跨距設計，具有耐重負載能力、快速進給、低摩擦等特色。

Extra Wide Roller Type Linear Ways on Three Axes

• The X, Y, Z-axis are all mounted with extra wide (SR65) heavy duty linear motion guides together with great span between linear ways, featuring heavy load resisting capability, high feed rate and low friction.



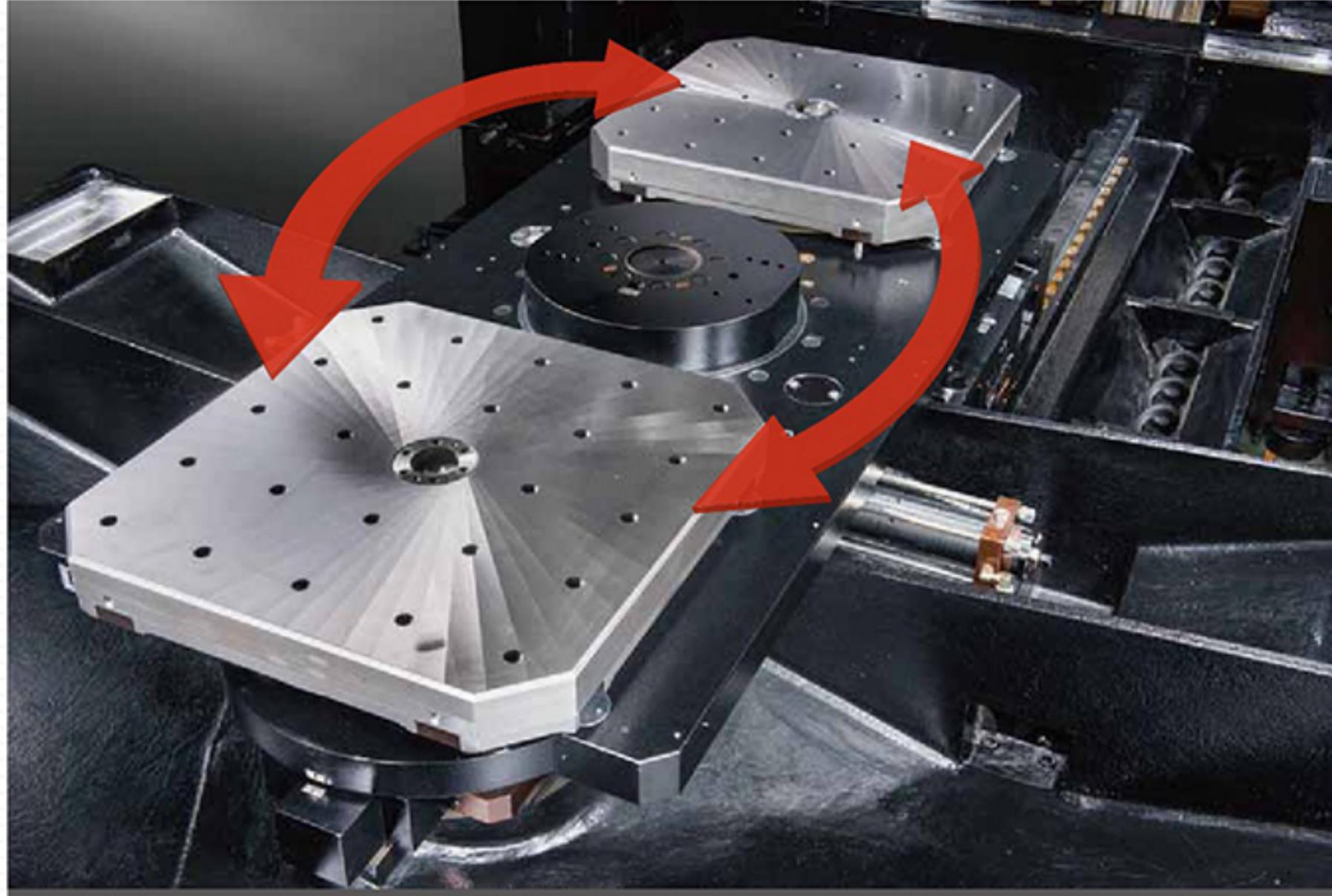
X 軸線軌階梯式配置

• X 軸之兩支線軌採用階梯式配置，線軌間段差達 100mm，使主軸頭於加工時可維持在最穩定的狀態。



Step Type Deployment for X-axis Linear Ways

• The two linear ways on the X-axis are deployed as a step type and the step difference between linear ways reach 100mm. This design will enable the spindle head to maintain at an extremely stable condition during cutting.

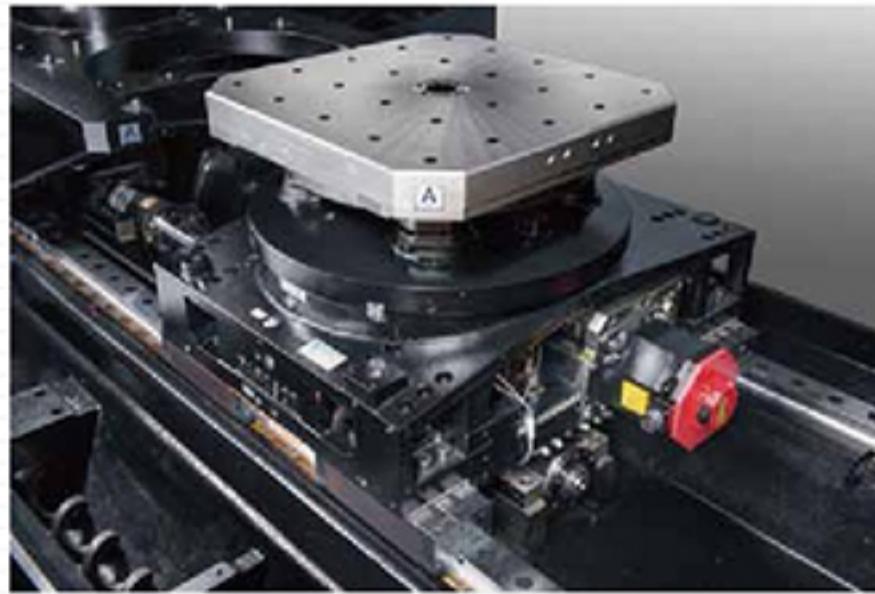


自動工作台交換

- 自動工作台交換動作採用油壓缸驅動，可作180°順時鐘及反時鐘雙向旋轉。
- 工作台交換時間18秒。

Automatic Pallet Change (APC)

- Automatic pallet change is driven by hydraulic cylinder, and pallet change motions can be performed by 180° rotation clockwise or counter-clockwise.
- Pallet change time: 18 sec.



工作台伺服驅動

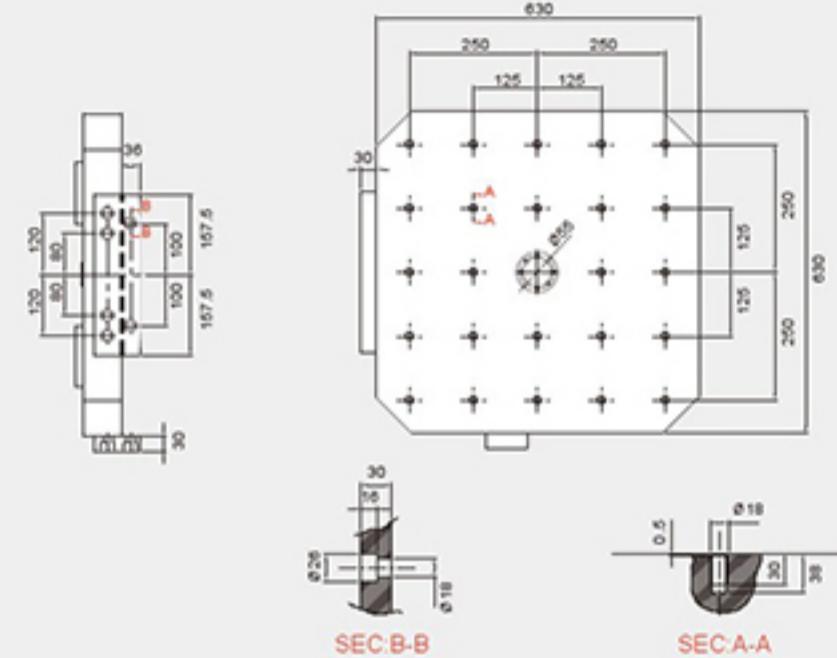
- 工作台採用伺服馬達驅動，配合齒齒離合器作精密定位。
- 標準分度單位為1°。
- 0.001°分度(選配)。

Servo Driven Table

- The table is driven by a servo motor in combination with the use of curvic-teeth clutch for high precision indexing.
- Standard indexing unit: 1°
- 0.001° Indexing (optional).

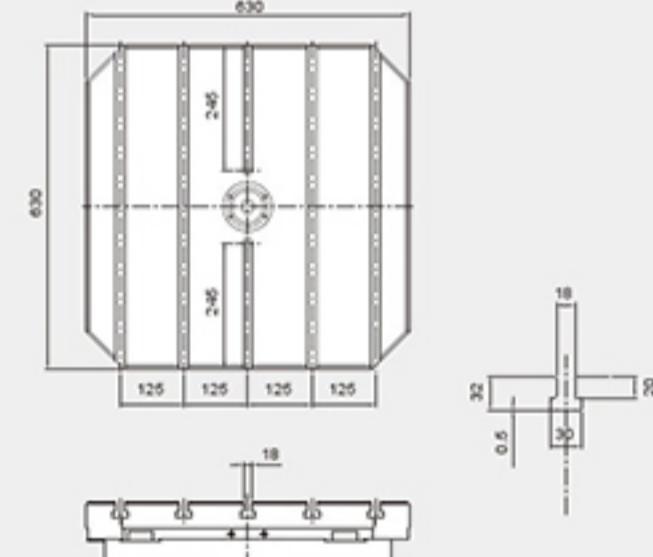
工作台附螺絲孔(標準)

Table with Bolt Holes (Standard)

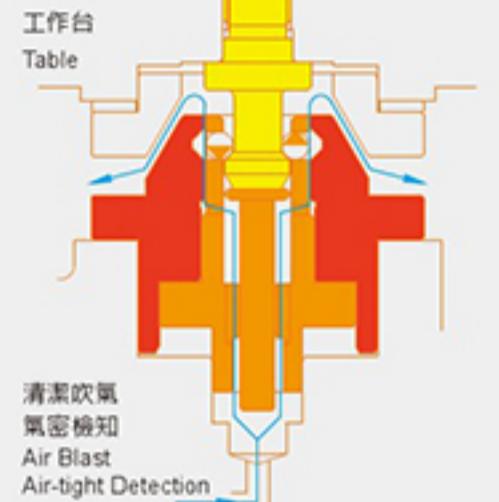


工作台附T型槽(選配)

Table with T-slots (Optional)



選配工作台 T 型溝
Table with T-slots (optional)



定位氣密檢知

- 工作台交換完成後，再經由氣密檢知，以確認工作台與定位錐塊的結合度。

Air-tight Detection for Positioning

- Once pallet change has been finished, an air-tight detection is conducted to confirm if the table and the conic cones are properly jointed.



工作台定位錐塊

- 交換工作台採用4個精密錐塊作定位，保證工作台定位精準。

Pallet Positioning Cones

- The pallet positions on 4 precision cones to achieve high positioning accuracy.

動柱式立柱

超大立柱尺寸為箱形結構體，配合立柱底部加大設計，具有最佳剛性與穩定性。

Traveling Column

The extra large column is a box type structural combined with increased column bottom, resulting in the highest rigidity and stability.

Y 軸無配重平衡

- Y 軸進給採用伺服馬達直接驅動滾珠螺桿，不需配重平衡機構，可選免 Y 軸進給時之抖動問題。

No Counter-balance on Y-axis

- Y-axis feed is driven by a servo motor that directly drives a ball screw and without the use of a counter-balance device. This design will eliminate the vibration problem during Y-axis feeding.



三軸光學尺 (選配)

- X, Y, Z 軸可依客戶需求加裝光學尺，提供閉迴路回饋控制，使三軸定位更精準。

Linear Scales on Three Axes (Optional)

- Upon request, the X, Y, Z-axis are available to equip with linear scales providing close-loop feedback control. This allows for higher positioning accuracy on three axes.



頂蓋沖屑系統

頂蓋沖屑具有廣泛的沖屑範圍，可避免切屑在護蓋內飛濺積屑。

Top Flushing Device

The flushing device on the top of splash guard provides a wide area of flushing to prevent chips build-up inside the splash guard.

各種 CNC 控制器選擇 Choice of Various CNC Controls



發那科 / FANUC



三菱 / MITSUBISHI

20 bar / 70bar

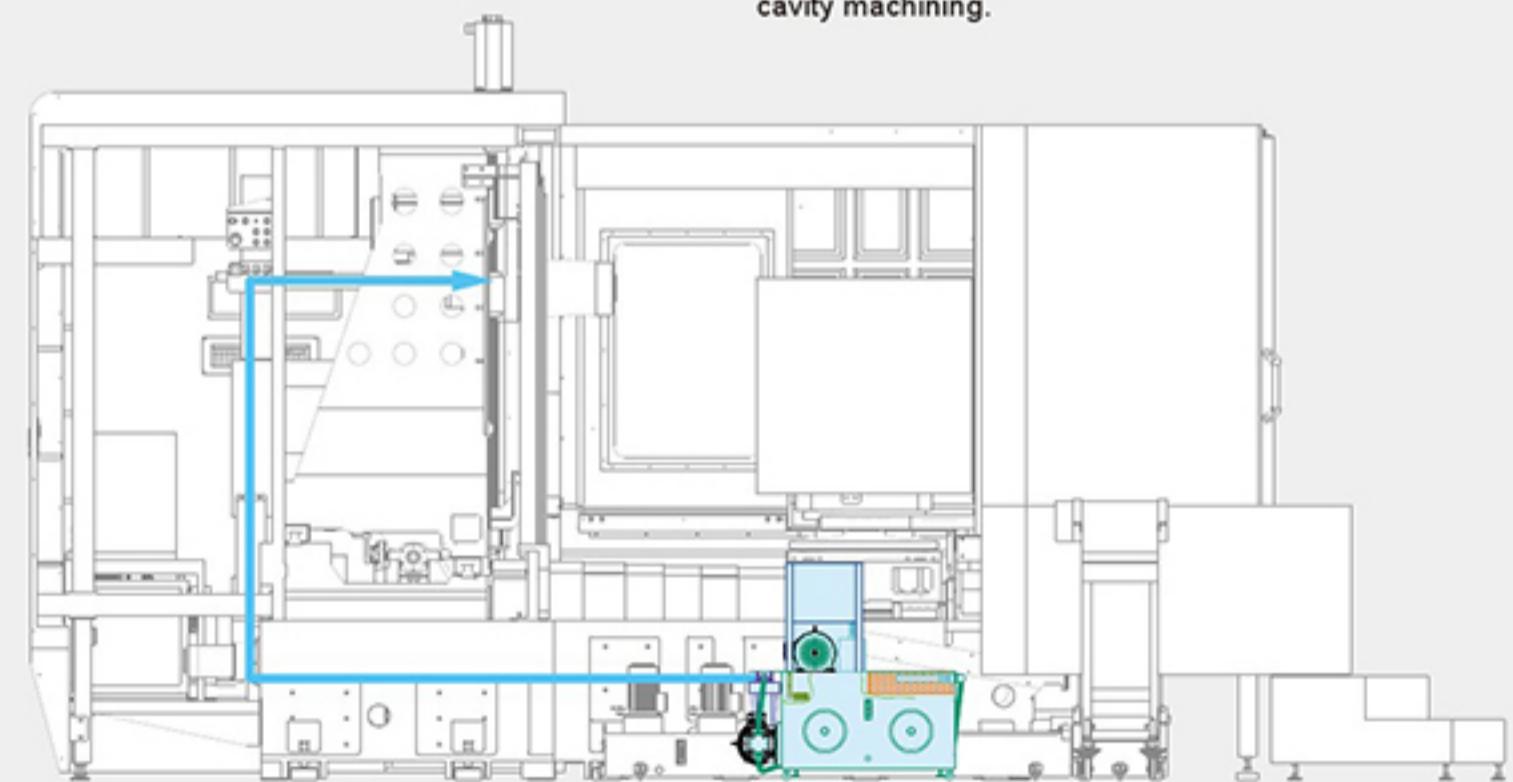
主軸中心出水裝置 (選配)

- 採用高壓泵浦，可提供高壓大流量之切削液至切削位置。
- 適合高速加工，深孔加工及凹穴加工。

20 bar / 70 bar

Coolant Through Spindle Device (Optional)

- The device operates through a high pressure pump that delivers high pressure cutting fluid to the cutting position.
- Suitable for machining applications such as high speed machining, deep hole machining and cavity machining.



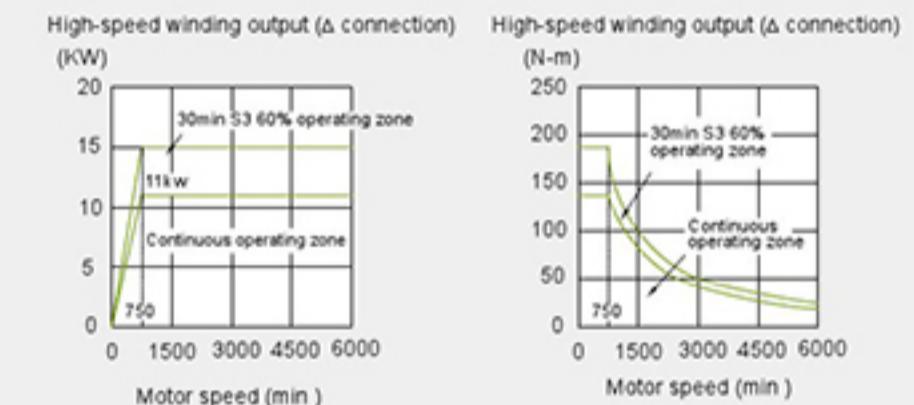
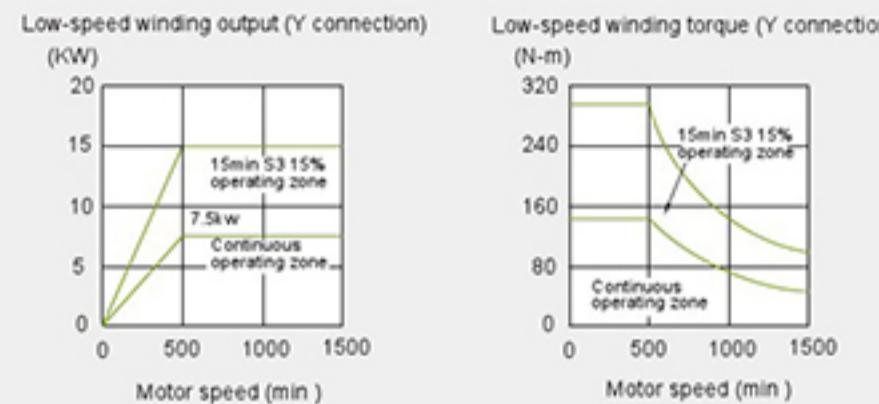
主軸轉速/扭力曲線圖

Spindle Speed / Torque Diagram

標準配置主軸馬達(皮帶式)

Standard Spindle Motor (Belt-drive)

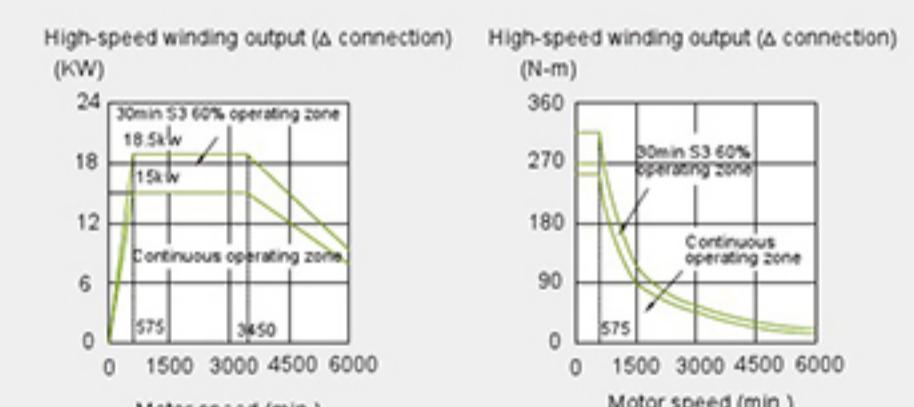
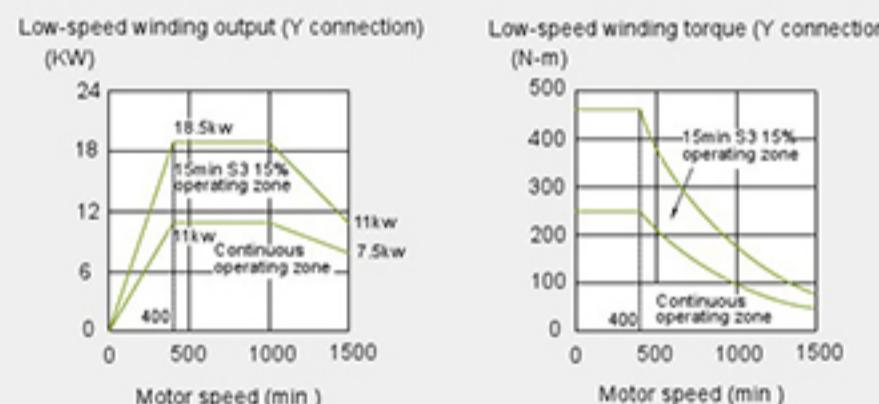
MODEL α Pi 22/6000i



選配 主軸馬達(皮帶式)

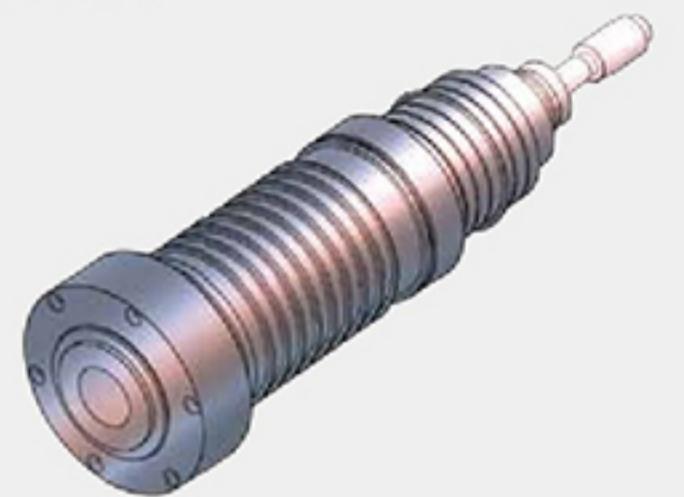
Optional Spindle Motor (Belt-drive)

MODEL α Pi 30/6000i



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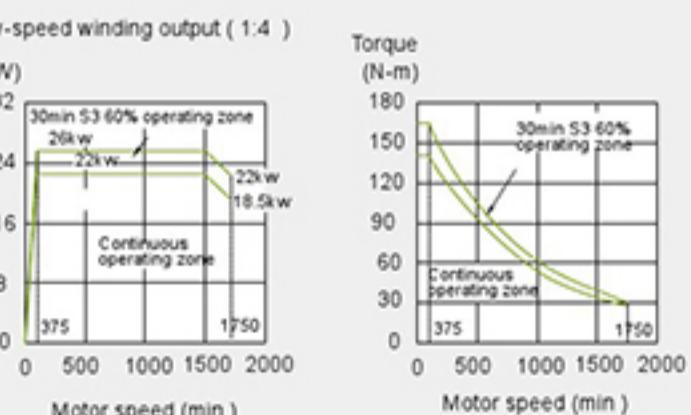
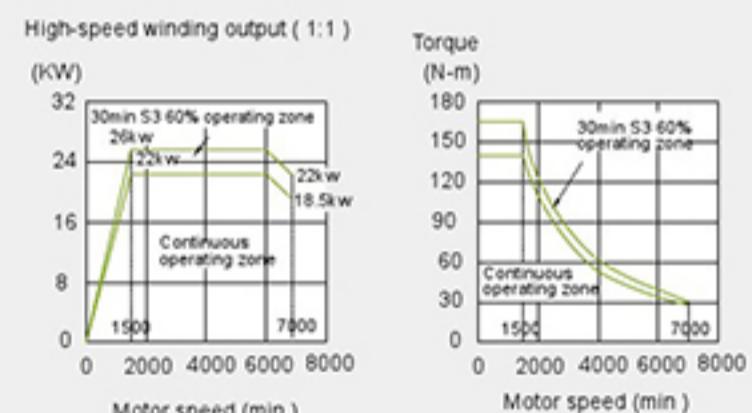
TH-630



選配 主軸馬達(齒輪式)

Optional Spindle Motor (Gear-drive)

MODEL α 22/7000i



鏈條式刀庫

40刀 (標準)

60/90/120 (選配)

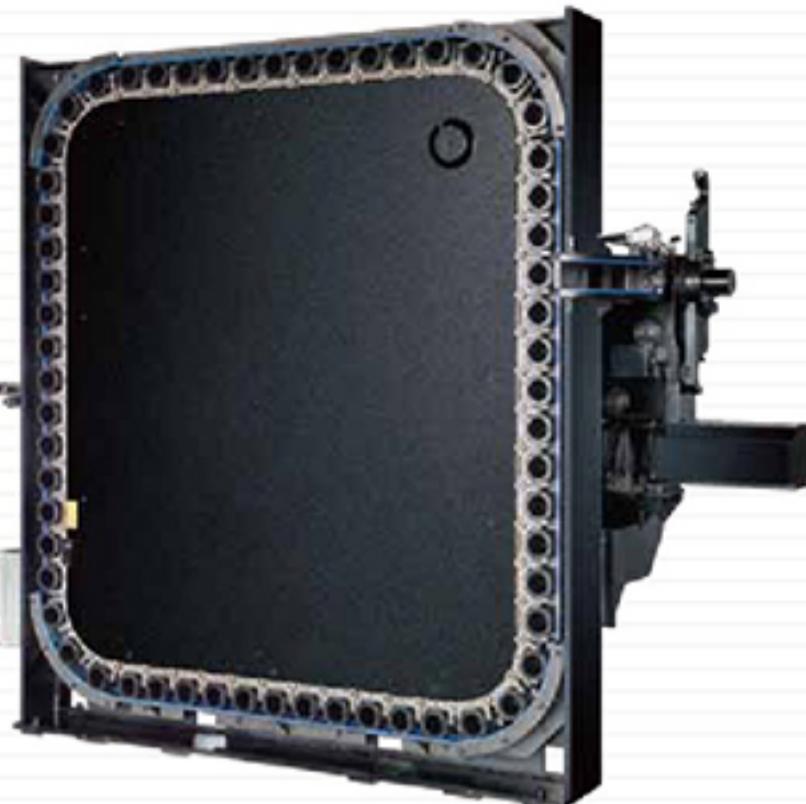
- 刀庫驅動：馬達（標準）。伺服馬達（選配）。
- 選刀方式為雙向任意式選刀。
- 快整換刀可於3.2秒內完成（刀對刀）。
- 適用刀柄：BT50

Chain Type Tool Magazine

40 tools (Standard)

60/90/120 tools (Optional)

- Magazine drive: motor (standard)
Servo motor (optional)
- Bi-directional, random tool selection.
- Tool change can be fast accomplished in 3.2 seconds
(tool to tool)
- Accommodates BT50 tool shank.



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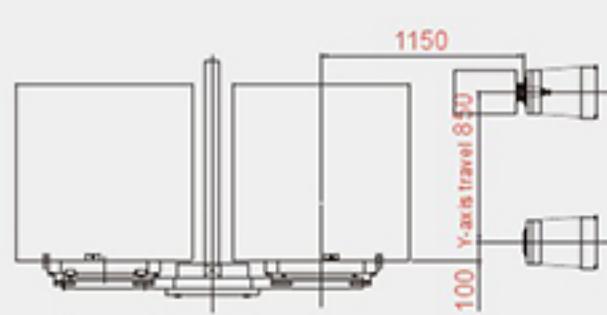
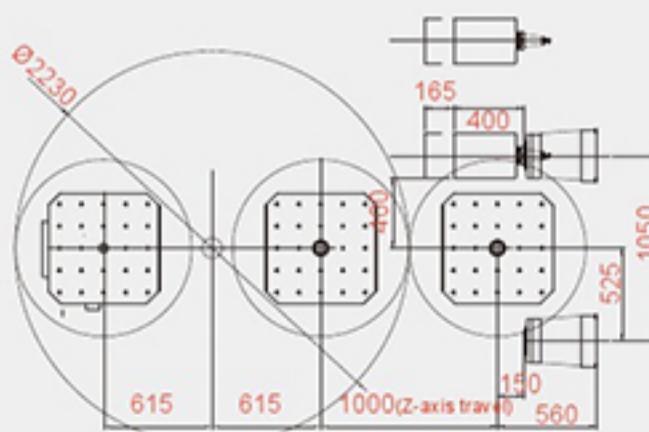
履帶式鐵屑輸送機與鐵屑車

Link Type Chip Conveyor with
Chip Bucket

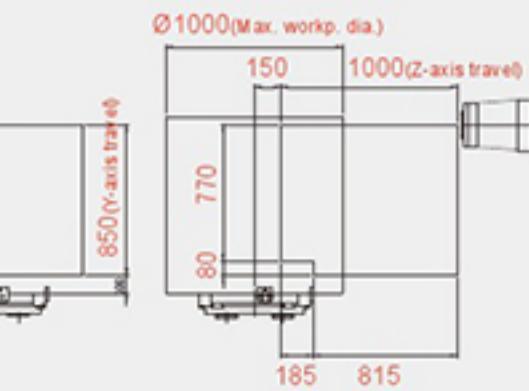


刀具干涉圖

Tool Interference Diagram



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TH-630



Specifications

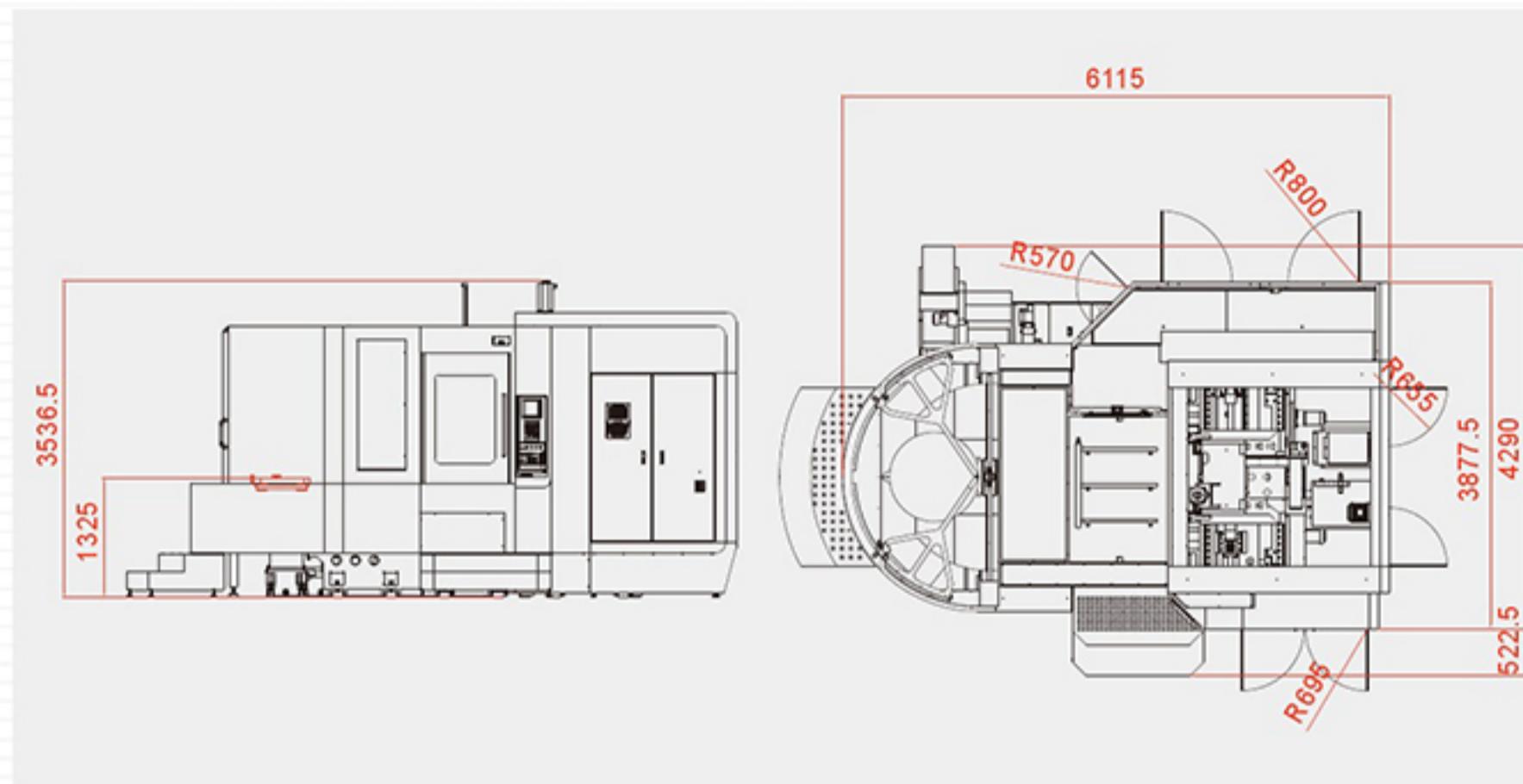
項目 / 機型 MODEL		單位 UNIT	TH-630
加工行程 TRAVEL			
X軸	X-axis travel	mm	1050
Y軸	Y- axis travel	mm	850
Z軸	Z- axis travel	mm	1000
工作台 TABLE			
工作台尺寸	Working surface	mm	630 x 630
工作台數量	No. of tables	pcs	2
工作台表面配置	Table surface type	type	24-M16Pitch125
工作台定位角度	Table indexing unit	degree	1° (0.001° Optional)
重複精度	Repeatability	sec.	± 1"
工作台至地面距離	Table height from floor	mm	1315
工件最大尺寸	Max. workpiece size	mm	Ø1000
工作台最大荷重	Max. table load	kg	1200
工件最大高度	Max. height of workpiece	mm	1000
主軸 SPINDLE			
主軸轉速	Spindle speed	rpm	6000 (4500 Optional)
主軸型式	Spindle type		Belt (Direct-drive / Gear Optional)
主軸端孔斜度	Spindle nose taper	mm	7/24 Taper, No.50
主軸中心至工作台面	Distance from spindle center to table surface	mm	100 ~ 950
主軸鼻端至工作台中心	Distance from spindle nose to table center	mm	150 ~ 1150
主軸錐孔規格	Spindle nose taper		BT50
主軸軸承內徑	Inside dia. of spindle bearing	mm	Ø100
進給速度 FEED RATE			
三軸快移 (X, Y, Z)	Rapid traverse (X, Y, Z-axis)	M/min	24 (30 Optional)
切削速度	Cutting feed rate	M/min	1 ~ 10
刀庫 AUTO TOOL CHANGER			
刀庫規格	Tool shank type		BT50
刀具數量	Tool storage capacity	tools	40 (60/90/120 Optional)
最大刀具直徑	Max. tool diameter	mm	Ø115
未放夾刀刀具直徑	Max. tool dia. (adjacent empty tool)	mm	Ø230
最大刀具重量	Max. tool weight	kg	20
最大刀具長度	Max. tool length	mm	400
換刀時間 / 刀對刀	Tool change time (tool to tool)	sec.	3.2 (60Hz)
交換工作台 AUTO PALLET CHANGER			
工作台數量	No. of pallets	piece	2
交換方式	Pallet change type		Rotary type
交換時間	Pallet change time	sec	18
機械尺寸 MACHINE DIMENSIONS			
機械高度	Machine height	mm	3540
佔地面積	Area occupied	mm	4820 x 6820
機械重量	Machine weight	kg	23000

■ 本公司對產品樣式及規格不斷研發創新，如規格變動，恕不另行通知。

■ As the machine manufacturer conducts constant research and improvement, above specifications are subject to change without prior notice.

機器尺寸圖 / Machine Dimensions

單位 Unit: mm



Tailift® TH-630

標準附件 / STANDARD EQUIPMENT

- | | | | |
|---------------------|-----------------|---|--------------------------------------|
| 1. 週轉式自動交換工作台-APC | 11. 水平調整螺栓與螺帽墊塊 | 1. Rotary type automatic pallet changer (APC) | 11. Leveling bolts and blocks |
| 2. 1°分割旋轉工作台 | 12. 工具箱 | 2. 1° indexing rotary table | 12. Tool box |
| 3. 層帶式鐵屑輸送機與鐵屑車 | 13. 操作及維護保養手冊 | 3. Link type chip conveyor with chip bucket | 13. Operation and maintenance manual |
| 4. 40刀鏈條式刀庫 | 14. 主軸氣幕系統 | 4. 40 tools chain type magazine | 14. Spindle air curtain |
| 5. BT-50 6000rpm皮帶式 | 15. 頂罩沖屑系統 | 5. BT-50, 6000rpm belt-drive spindle | 15. Top flushing device |
| 6. 主軸油冷卻系統 | 16. 螺旋排屑器(兩側) | 6. Spindle oil cooler | 16. Chip augers (both sides) |
| 7. 電器箱熱交換器 | 17. 主軸外環噴水 | 7. Heat exchanger for electrical cabinet | 17. Coolant jets around spindle |
| 8. 自動潤滑系統 | 18. 簡易油水分離系統 | 8. Automatic lubrication system | 18. Simple oil fluid separator |
| 9. 全罩式鋸金 | 19. 三色警示燈 | 9. Fully enclosed splash guard | 19. Three-color warning lamp |
| 10. 三菱或發那科控制器 | 20. 工作燈 | 10. Mitsubishi or Fanuc CNC control | 20. Working light |

選配附件 / OPTIONAL EQUIPMENT

- | | | | |
|------------------------------|--------------|--|--|
| 1. 0.001°分割旋轉工作台 | 11. 自動刀具量測裝置 | 1. 0.001° indexing rotary table | 11. Automatic tool measuring device |
| 2. 60刀、90刀,或120刀鏈條式刀庫 | 12. 自動工件量測裝置 | 2. 60/90/120 tools chain type magazine | 12. Automatic workpiece measuring device |
| 3. #50, 4500 rpm主軸-齒輪式 | 13. 變壓器 | 3. #50, 4500rpm gear-drive spindle | 13. Transformer |
| 4. #50, 8000~12000 rpm主軸-直結式 | 14. 油霧收集器 | 4. #50, 8000~12000rpm direct-drive spindle | 14. Oil mist collector |
| 5. #50, 10000 rpm主軸-內藏式 | 15. T型槽工作台 | 5. #50, 10000rpm built-in type spindle | 15. Rotary table with T-slots |
| 6. 主軸中心出水 (20 bar) | 16. CE規格 | 6. Coolant through spindle device (20 bar) | 16. CE specifications |
| 7. 主軸中心出水 (70 bar) | | 7. Coolant through spindle device (70 bar) | |
| 8. 三軸光學尺 | | 8. Linear scales on three axes | |
| 9. 油水分離機 | | 9. Oil fluid separator | |
| 10. 電器箱空調冷卻機 | | 10. Air conditioner for electrical cabinet | |