Trustworthy Tailift Equipment

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Tailift

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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.

■ CO_2雷射切割機 / CO_2Laser Cutting Machine

■ CNC 電腦沖床 / CNC Punch Press

■ 加工中心機 / Machining Center

■ 旋臂鑽床 / Radial Drill Machine

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

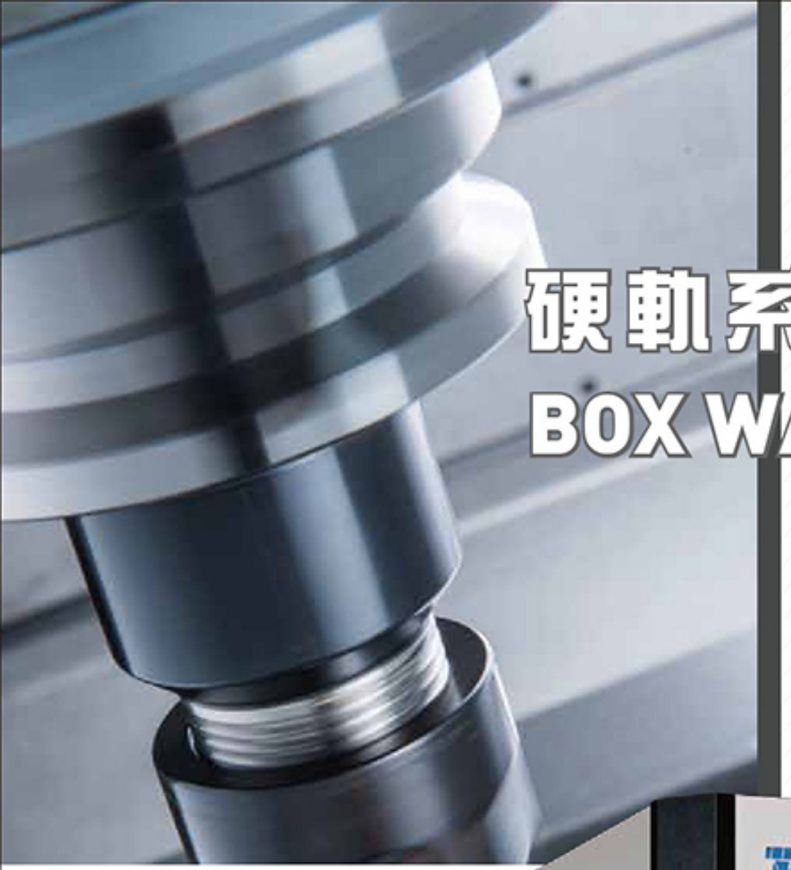
■ 台灣－成功四廠
Taiwan-Cheng Kung Plant IV

■ 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



硬軌系列
BOX WAY SERIES

台勵福 TMV 系列
立式綜合加工中心機

專為重切削及加工效率而打造

在當今競爭劇烈的企業環境，加工業者一直尋找節省成本之道。採用重切削機器，將是降低零件加工成本的致勝利器。台勵福所推出的TMV系列加工中心機，讓您輕易達成您的期許，因為此系列機種之設計理念，就是在於強調重切削能力及機器之穩定性。

Tailift® TMV *series*
Vertical Machining Center

Designed and engineered to boost your cutting capacity and machining efficiency

In today's competitive environment, where users are constantly demanding for more cost savings, the use of heavy duty machines is one way to reduce part cost. Now, this can be achieved with TMV series heavy duty vertical machining center from Tailift. The series of machine is designed to enhance heavy cutting and stability.

Tailift® **TMV-1165/1365**

完美的結構體設計

穩重！ 高剛性！

專為重切削精心設計打造

■ **米漢納鑄件　不易變形**

主要結構鑄件完全採用台灣高級米漢納鑄鐵製成，並經應力消除，材質穩定、不易變形。

■ **超大立柱**

立柱為箱形結構，配合各部尺寸加大，以大幅提升機器之剛性及穩定性。

■ **三軸硬軌**

三軸全硬軌設計，可耐重負載，且重切削時具有獨特的穩定性。

■ **精密鏟花**

結構件之接觸面，均經精密鏟花，以確保最佳組裝精度，結構剛性及均勻負載。

■ **主軸頭配重平衡**

Z 軸主軸頭配重平衡機構附有導桿，快速移動時動作平穩順暢。

Optimal Structure Design

Massive！ Rigid！

Designed and built specifically for heavy cutting

■ **Deformation Free Meehanite Casting Parts**

All major structural parts are manufactured from Taiwan's high quality Meehanite cast iron, which are stress relieved for outstanding stability and minimum deformation.

■ **Oversized Column**

The box type column in combination with increased sizes throughout leads to higher rigidity and stability.

■ **Box Ways on Three Axes**

All three axes are designed with box ways for resisting heavy load and exceptional stability during heavy cutting.

■ **Precise Scraping**

All contact surfaces between structural parts are precisely scraped so as to ensure the assembling accuracy, structural rigidity and uniform loading.

■ **Spindle Head Counter-balance**

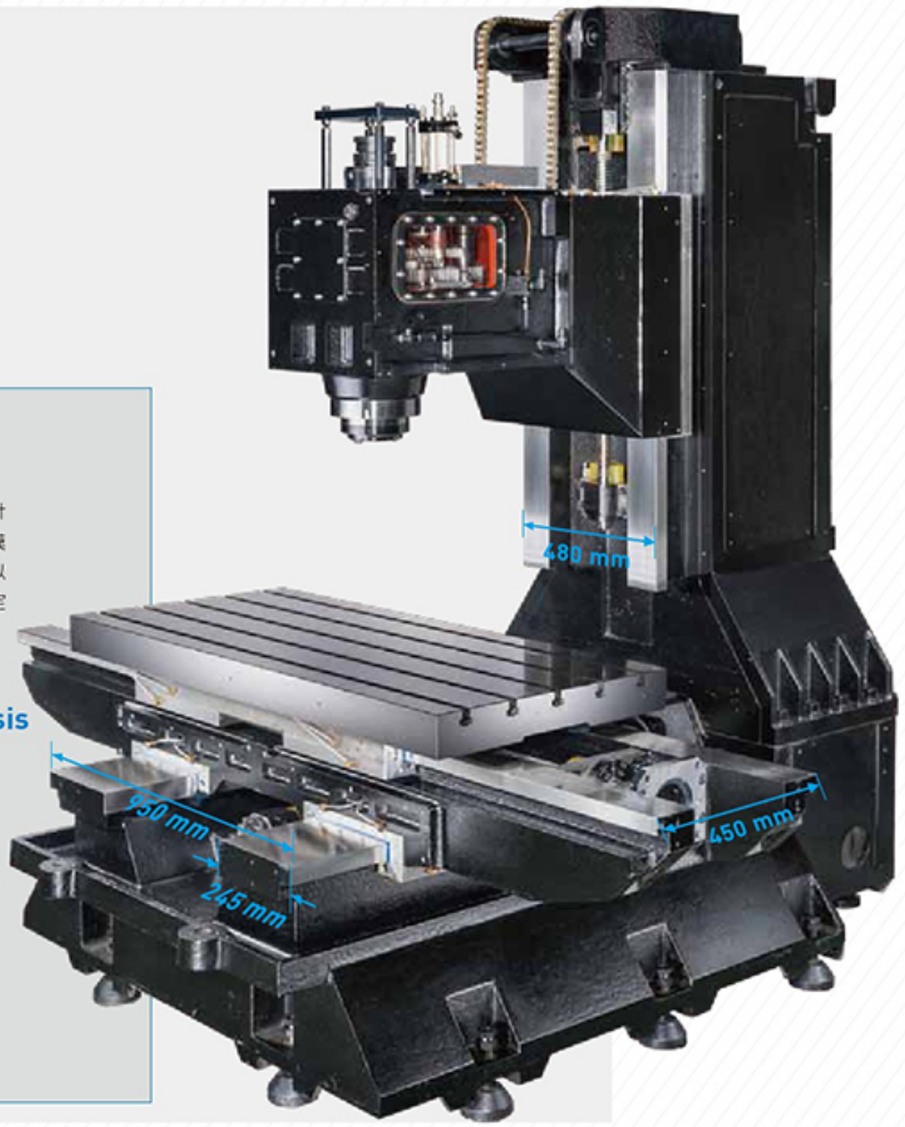
The Z-axis (spindle head) counter-balancing mechanism is equipped with a guide rod, making rapid traverse stable and smooth.

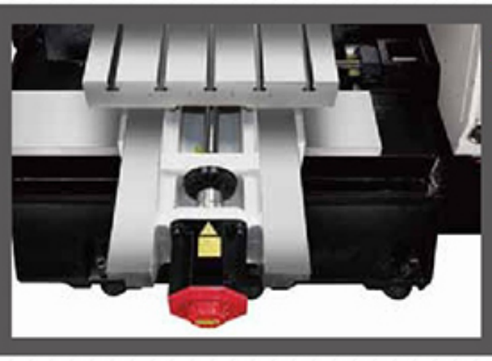
有限元素分析（FEA）

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，以確機器達到最佳的結構剛性、穩定性、抗震能力及動態性能。

Finite Element Analysis (FEA)

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





三軸進給直結傳動

- 三軸滾珠螺桿與伺服馬達為直結傳動，以提高傳動剛性及加工精度。
- 螺桿經預拉處理，可避免熱變形所導致的定位誤差。

Direct Transmission of Three Axes Feeds

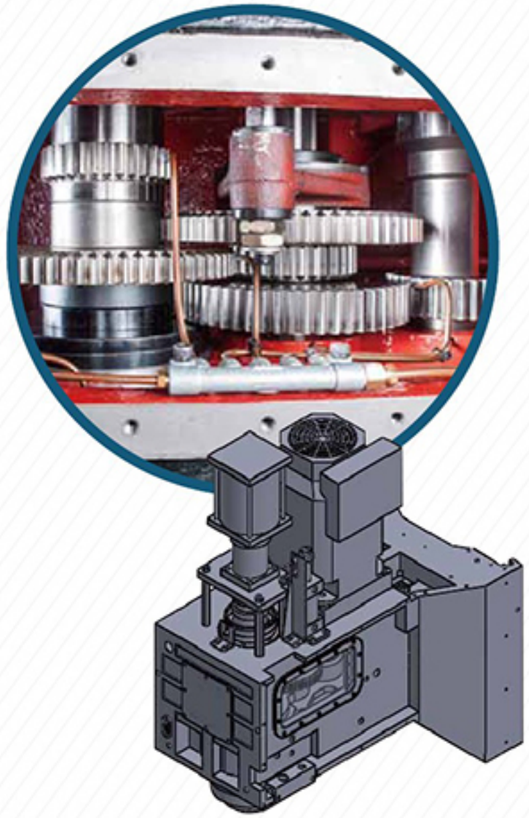
- Three axes ball screws are directly coupled with servo motors to upgrade transmitting rigidity and machining accuracy.
- Ball screws are preloaded to eliminate positioning error due to thermal deformation.

底座二硬軌

- 穩重的底座結構，上面配置寬闊的雙硬軌。配合硬軌之間的超大跨距，耐重負荷能力優異，且重切削時穩定性佳。

Two Box Ways on Base

- The massive base is designed with two extra wide box ways. This combined with large span between ways, resulting in outstanding heavy load resisting capability and maximum stability in heavy cutting.



齒輪式主軸頭

- 齒輪式主軸頭提供2段高低速範圍。低速檔具有高扭力輸出，適合重切削。高速檔適合細加工。
- 齒輪箱內部可配合油溫冷卻，避免主軸之熱變形，確保加工精度。

Gear-drive Head

- The gear-drive head provides two ranges of high low speed change. High torque output in low speed range allows for heavy cutting. High speed range is ideal for fine cutting.
- The gearbox is available to use an oil cooler to prevent the spindle from thermal deformation while ensuring cutting accuracy.

BT50, 6000RPM 齒輪式主軸(標準)

- 主軸錐度BT50。
- 最高主軸轉速6000rpm。
- 高扭力輸出，適合重切削。

BT50, 6000RPM Gear-drive Spindle (standard)

- Spindle nose taper BT50.
- Maximum spindle speed 6000 rpm.
- High torque output makes the spindle ideal for heavy cutting applications.

BT40, 8000RPM 皮帶式主軸(選配)

- 主軸錐度BT40。
- 最高主軸轉速8000rpm。
- 採用高扭力之齒型皮帶傳動，有效降低傳動噪音及溫升。

BT40, 8000RPM Belt-drive Spindle (optional)

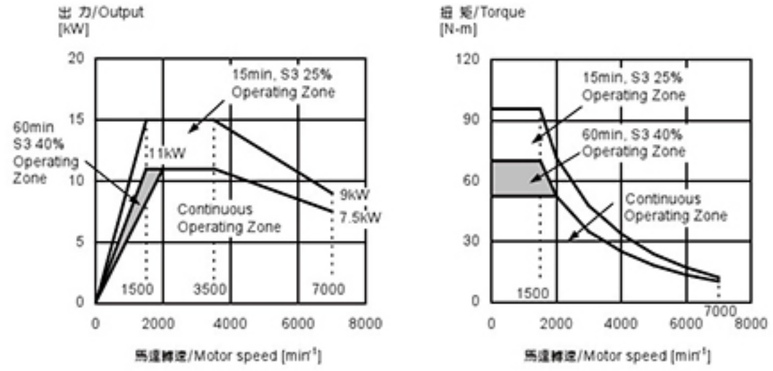
- Spindle nose taper BT40.
- Maximum spindle speed 8000 rpm.
- The spindle is transmitted through high torque timing belt for an effective reduction in transmitting noise and thermal growth.

主軸轉速/扭力曲線圖

Spindle Speed / Torque Diagram

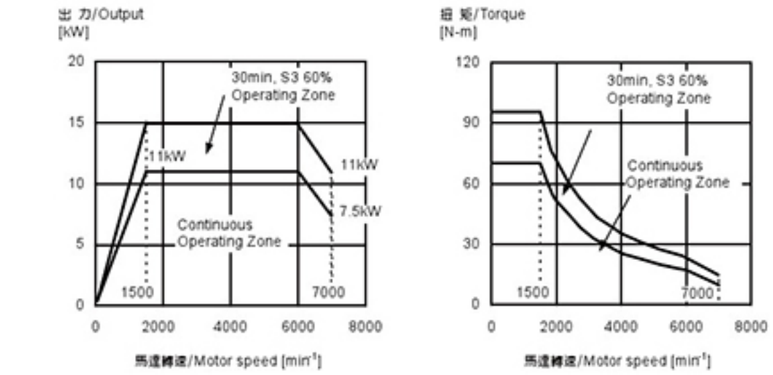
FANUC β12/7000i

標 準/Standard

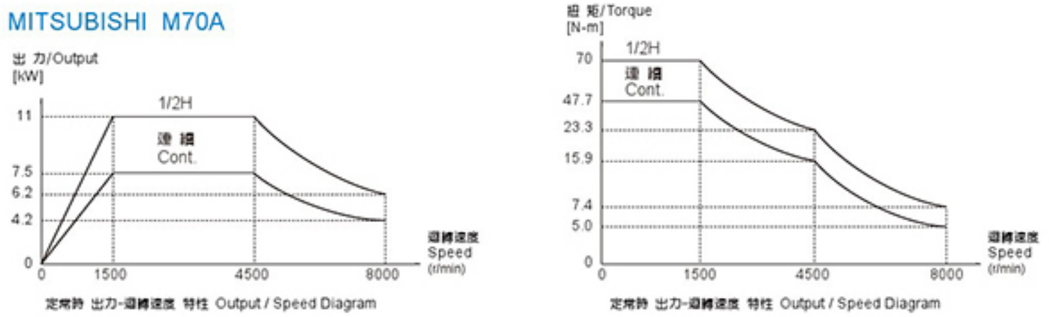


FANUC α12/7000i

選 配/Optional



MITSUBISHI M70A



24刀刀臂式刀庫(標準)

- 快速換刀時間1.8秒(刀對刀)。
- 雙向任意式選刀，動作順暢、快速。
- 可使用BT40 / BT50刀柄。

24-tool Arm Type Magazine (standard)

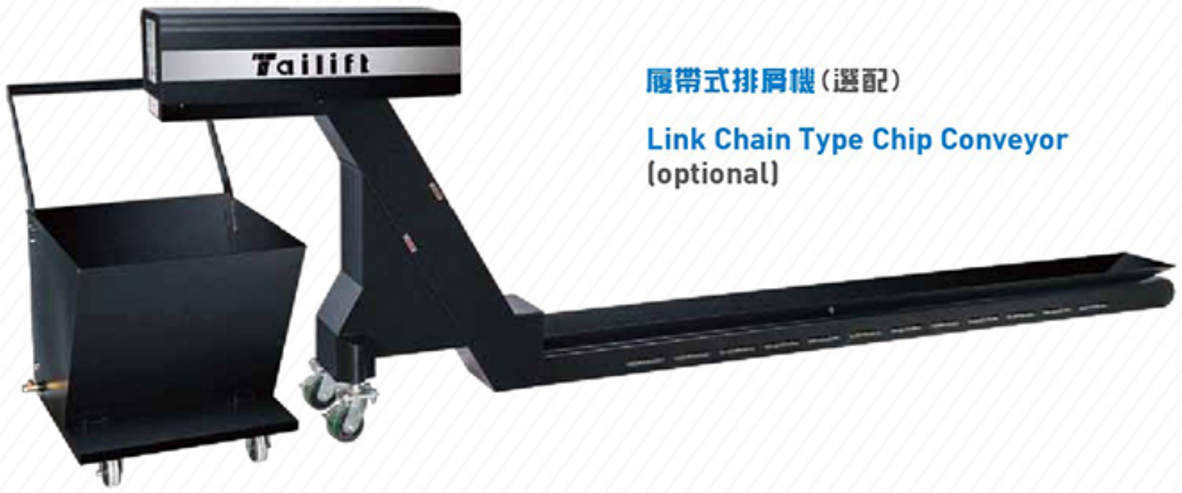
- Fast tool change can be accomplished in 1.8 seconds (tool to tool).
- Bi-directional, random tool selection features smooth and quick motions.
- Accommodates BT40 / BT50 tool shank.

底座沖屑系統(標準)

底座後面之高壓沖屑系統，可徹底避免切屑積聚在機器內部。

Flushing System on Base (standard)

The high pressure flushing device at the rear side of base may thoroughly prevent chips from depositing in the machine.



履帶式排屑機(選配)

Link Chain Type Chip Conveyor (optional)

加工測試報告 Cutting Test Report

台勵福TMV系列立式加工中心機，秉持獨特的高剛性機器結構，在銑削、鑽孔等加工作業，徹底表露重切削能力及卓越非凡的加工效率。

Based on the uniquely rigid machine structure, Tailift TMV series vertical machining centers will fully exhibit their heavy cutting capabilities and outstanding machining efficiency in milling and drilling operations.

註：下列加工數據僅供參考。實際加工數據將依加工條件而有所不同。

NOTE: The following cutting data are for reference only. Actual cutting results may vary with different machining conditions.

面銑 FACE MILLING

工件材料 Workpiece material	S45C (SAE 1045)
刀具尺寸 Tool size	Ø80mm
主軸轉速 Spindle speed	700rpm
切削進給 Cutting feed rate	1500mm/min
進刀深度與寬度 Cutting depth / width	4mm / 70mm

端銑 END MILLING

工件材料 Workpiece material	S45C (SAE 1045)
刀具尺寸 Tool size	Ø40mm
主軸轉速 Spindle speed	350rpm
切削進給 Cutting feed rate	150mm/min
進刀深度 Cutting depth	40mm

鑽孔 DRILLING

工件材料 Workpiece material	S45C (SAE 1045)
刀具尺寸 Tool size	Ø50mm
主軸轉速 Spindle speed	700rpm
切削進給 Cutting feed rate	180mm/min

攻牙 TAPPING

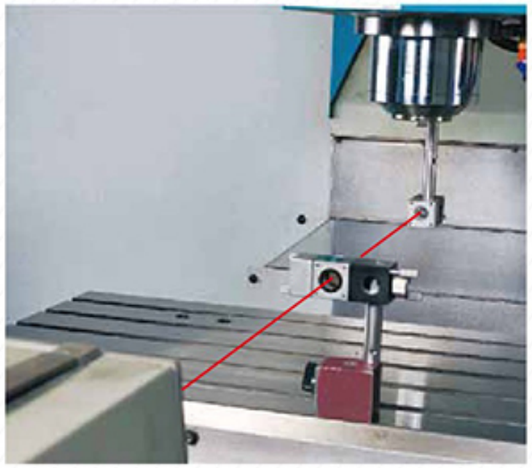
工件材料 Workpiece material	S45C (SAE 1045)
刀具尺寸 Tool size	M30x3.5P
主軸轉速 Spindle speed	200rpm
切削進給 Cutting feed rate	700mm/min

嚴格檢驗　鉅細靡遺

Rigorous Quality Inspection Care To Every Detail

台勵福機器除了徹底落實嚴格的製程標準，並且採用各種先進的量測儀器以檢測機器之所有幾何精度。

In addition to thoroughly conduct rigorous in-process standards, we also apply various sophisticated inspection instruments for inspecting complete geometrical accuracy on each machine.

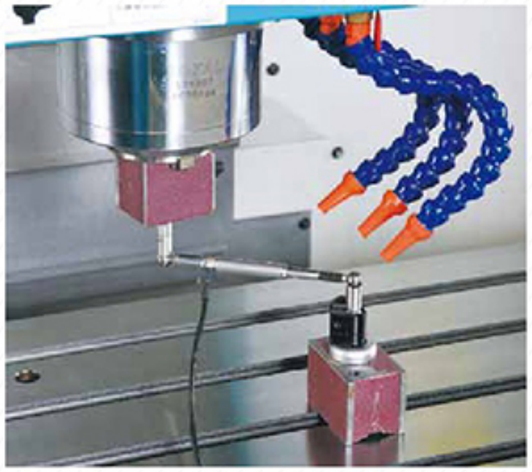


雷射檢驗

台勵福機器採用先進的雷射儀器，以檢驗及校準螺桿節距誤差、背隙、三軸定位精度及重複精度。

Laser Inspection

Tailift machines are subject to inspection with the advanced laser instrument, which allows us to inspect and calibrate the screw pitch error, backlash, positioning accuracy and repeatability on three axes.



循圓測試

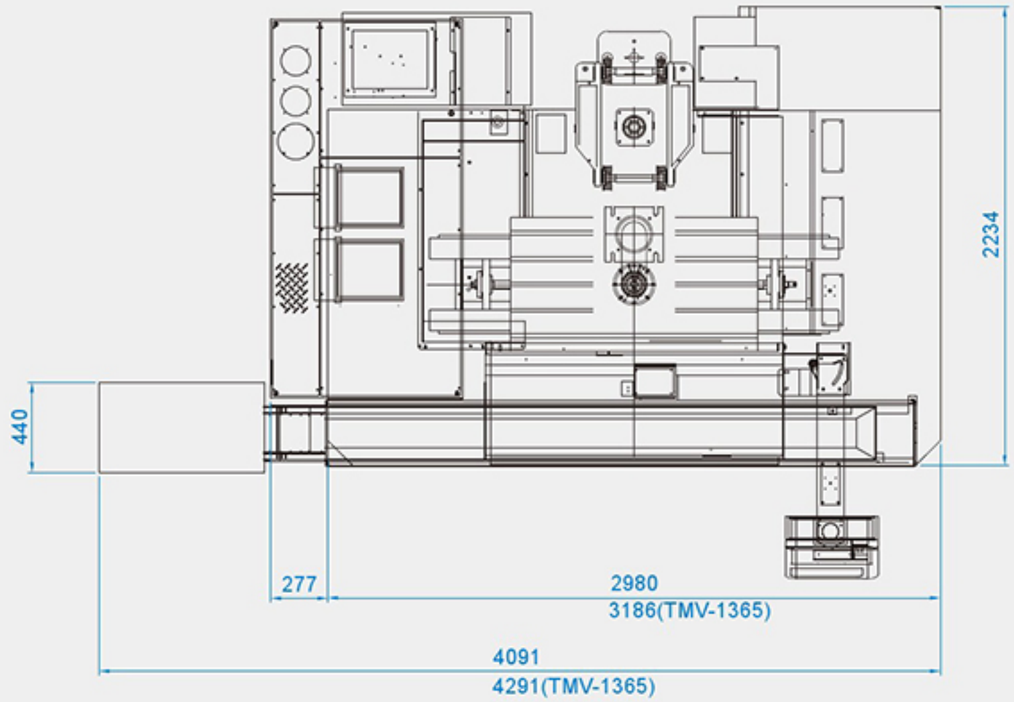
本公司同時採用循圓測試儀校準真圓度及機器之幾何精度。

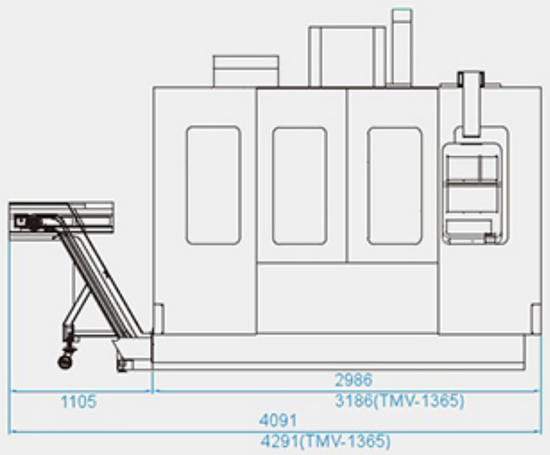
Ball Bar Testing

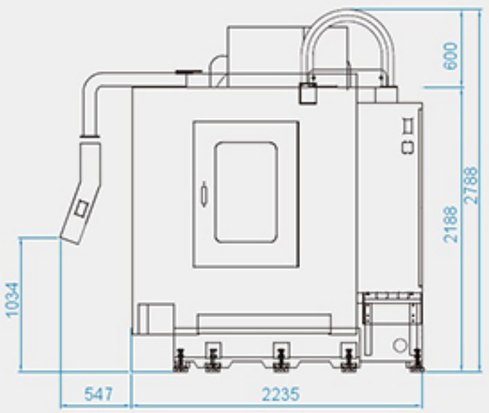
We also employ a ball bar tester to calibrate circularity and the machine's geometrical accuracy.

機器尺寸圖 / Machine Dimensions

單 位 Unit: mm







Specifications

項目 / 機型 MODEL		單位 UNIT	TMV-1165	TMV-1365
加工行程	**TRAVEL**			
X軸	X-axis travel	mm	1120	1320
Y軸	Y- axis travel	mm	650	650
Z軸	Z- axis travel	mm	610	610
主軸鼻端至工作台距離	Distance from spindle nose to table	mm	150 ~ 760	150 ~ 760
工作台至地面高度	Table height from floor	mm	850	850
工作台	**TABLE**			
工作台尺寸	Working surface	mm	1200 x 650	1400 x 650
T型槽（寬x數量x間距）	T-slots (width x number x pitch)	mm	18 x 5 x 125	18 x 5 x 125
工作台最大負載	Max. table load	kg	1000	1000
主軸系統	**SPINDLE**			
主軸轉速	Spindle speed	rpm	6000	6000
傳動方式	Transmission		2段齒輪式 2-Step gear drive	2段齒輪式 2-Step gear drive
主軸錐度	Spindle nose taper		BT50	BT50
進給系統	**FEED**			
快速進給-X/Y/Z軸	Rapid traverse (X, Y, Z-axis)	M/min	20 / 20 / 20	20 / 20 / 20
切削進給	Cutting feed rate	M/min	1 ~ 4	1 ~ 4
刀庫系統	**AUTO TOOL CHANGER**			
刀庫容量	Tool storage capacity	pcs	24	24
換刀時間（刀對刀）	Tool change time (tool to tool)	sec.	2.5	2.5
最大刀具直徑/鄰空刀	Max. tool diameter / adj. empty tool	mm	115 / 160	115 / 160
最大刀具長度	Max. tool length	mm	350	350
最大刀具重量	Max. tool weight	kg	20	20
馬達系統	**MOTORS**			
主軸馬達（連續/15分）	Spindle motor (cont./15 min)	kW	(F) 11 / 15 (M) 7.5 / 11	(F) 11 / 15 (M) 7.5 / 11
進給馬達(X, Y, Z)	Feed motor (X, Y, Z)	kW	(F) 2.5 / 2.5 / 2.5 (M) 3.5 / 3.5 / 3.5	(F) 2.5 / 2.5 / 2.5 (M) 3.5 / 3.5 / 3.5
切削液馬達	Cutting fluid motor	kW	0.75	0.75
其他	**MISCELLANEOUS**			
冷卻水箱容量	Coolant tank capacity	L	330	360
電力需求	Electric power required	KVA	20	20
氣壓需求	Air pressure required	kg/cm²	6	6
機器尺寸(WxLxH)	Machine dimensions (W x L x H)	mm	3215 x 2910 x 2600	3660 x 2910 x 2600
機械重量	Machine weight	kg	7400	8200

■ 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.

Tailift®

TMV-1165/1365

標準附件 / STANDARD EQUIPMENT

1. 工具、工具箱
2. 工作燈
3. 警示燈
4. 機台清洗噴槍
5. 噴槍吹屑
6. 切削液系統
7. 切削吹屑裝置
8. 主軸吹屑裝置
9. 底座沖屑系統
10. 中央自動潤滑系統
11. 自動斷電系統
12. RS-232介面
13. 熱交換器
14. 主軸油冷卻機
15. 刀臂式刀庫24把刀
16. 水平調整塊及螺絲
17. 密閉式防護鈑金
18. 機械、電氣、操作說明書

1. Tool box with tools
2. Work lamp
3. Warning lamp
4. Coolant gun
5. Air gun
6. Coolant system
7. Cutting air blast device
8. Air blast through spindle
9. Flushing device on base
10. Centralized automatic lubrication system
11. Auto power off
12. RS-232 interface
13. Heat exchanger
14. Spindle oil cooler
15. 24-tool arm type magazine
16. Leveling blocks and bolts
17. Enclosed splash guard
18. Machine and electrical operation manual

選配附件 / OPTIONAL EQUIPMENT

1. 主軸中心出水裝置(20bar)(皮帶頭)
2. BT-40皮帶式主軸/8000rpm
3. 光學尺
4. 治具油壓系統
5. 油霧收集機裝置
6. 旋轉工作台
7. 安全門
8. 油水分離機
9. 油路刀桿功能裝置
10. 工件量測系統裝置
11. 自動刀具長度量測器裝置
12. 全密閉式防護鈑金（加上蓋）
13. 電氣箱冷氣機
14. 變壓器
15. 鏈帶式排屑機

1. Coolant through spindle device (20bar) (belt-drive)
2. BT-40, 8000rpm belt-drive spindle
3. Linear scale
4. Hydraulic system for jig
5. Oil mist collector
6. Rotary table
7. Safety door
8. Oil fluid separator
9. Coolant device through tool holder
10. Automatic workpiece measuring device
11. Automatic tool length measuring device
12. Fully enclosed splash guard (with top guard)
13. Heat exchanger for electrical cabinet
14. Transformer
15. Link chain type chip conveyor