Trustworthy Tailift Equipment

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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

Tailift® TLV-962/1162

線軌系列
LINEAR WAY SERIES

台勵福 TLV 系列
立式綜合加工中心機
高速、精密加工之首選！

台勵福**TLV**系列加工中心機之設計重點著重在於凸顯高速、高效率之加工特色。**TLV**系列以其獨特的高剛性機體結構，使機器在執行高速加工時，更徹底表露其非凡的機器穩定性。

Tailift® TLV *series*
Vertical Machining Center
Your NO.1 choice in high speed and high precision machining.

The TLV series vertical machining center from Tailift is designed with high speed and high efficiency in mind. With the highly rigid structure, the TLV series will fully exhibit its extraordinary stability when performing high speed machining.

TLV-962

- X, Y, Z軸行程920x620x610mm。
- 三軸全線軌。
- 8,000rpm皮帶式主軸（標準）。
- 12,000rpm直結式主軸（選配）。
- X, Y, Z-axis travel: 920x620x610mm.
- Linear ways on 3 axes.
- 8,000rpm belt-drive spindle (Standard).
- 12,000rpm direct-drive spindle (Optional).

TLV-1162

- X, Y, Z軸行程1120x620x610mm。
- 三軸全線軌。
- 8,000rpm皮帶式主軸（標準）。
- 12,000rpm直結式主軸（選配）。
- X, Y, Z-axis travel: 1120x620x610mm.
- Linear ways on 3 axes.
- 8,000rpm belt-drive spindle (Standard).
- 12,000rpm direct-drive spindle (Optional).

高剛性
機體結構

穩定性&抗震能力優異
專為高速加工而打造

■ **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。

■ **三軸線性滑軌**

本機之X, Y, Z軸均配置線性滑軌，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。

■ **快速進給率24米/分**

X, Y, Z軸之快速進給率可達24米/分，適合高速加工之需求。

■ **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。

Highly Rigid Structure

Superb Stability And Dampening Capacity

Designed and built specifically for
high speed machining

■ **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.

■ **Linear Ways on Three Axes**

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

■ **24 M/min Rapid Traverse Rate**

The rapid traverse rates on X, Y, Z-axis reach 24 M/min that meets the requirement of high speed machining.

■ **Spindle Head Counter-balance**

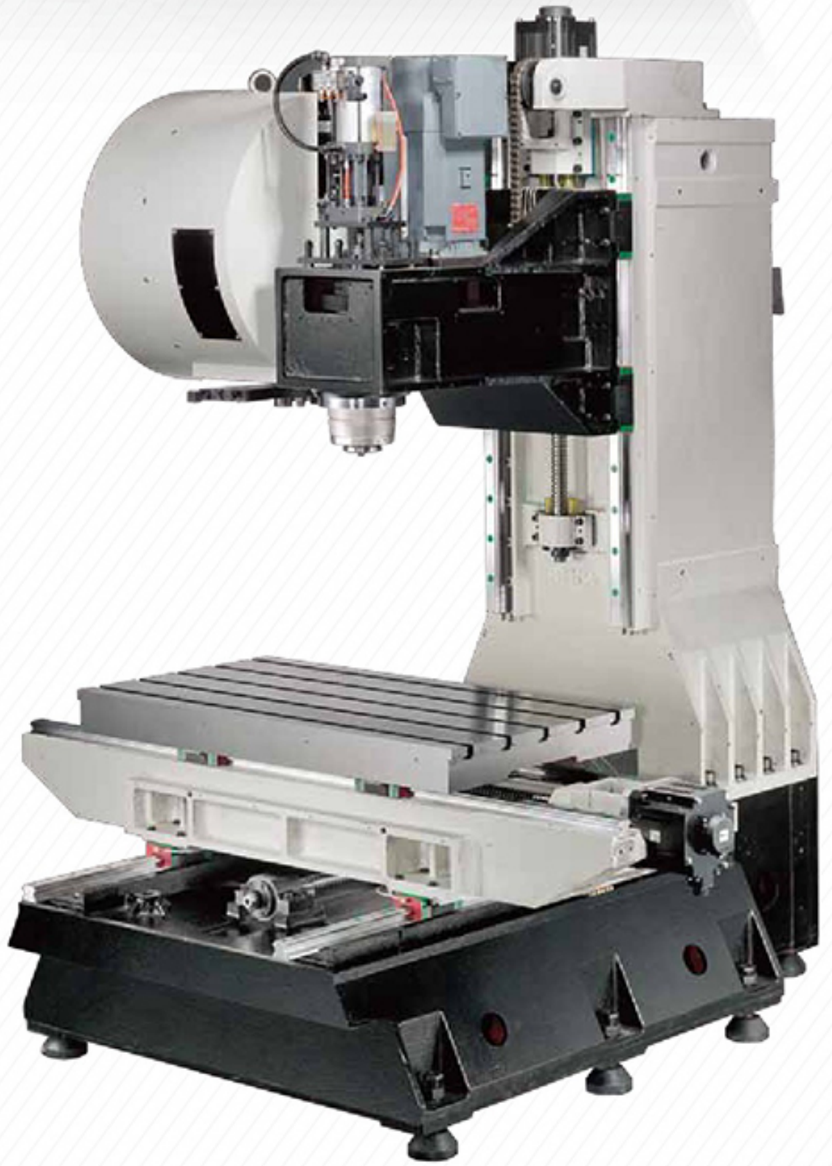
The Z-axis (spindle head) counter-balancing mechanism is equipped with a guide rod, making rapid traverse stable and smooth.

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，以確保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.



高速主軸
High Speed Spindle

BT40, 8000RPM 皮帶式主軸(標準)

- 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 (standard)

- 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.

BT40, 12000RPM 直結式主軸(選配)

- 主軸錐度BT40。
- 最高主軸轉速12000rpm。
- 馬達與主軸直結傳動，可避免噪音、背隙、振動等問題。
- 主軸高速運轉，加工效率高，且加工面細緻。

BT40, 12000RPM Direct-Drive Spindle (optional)

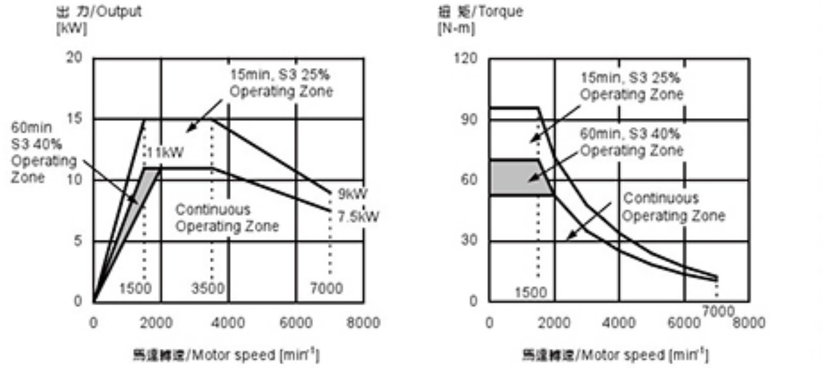
- Spindle nose taper BT40.
- Maximum spindle speed 12000 rpm.
- The motor is coupled with the spindle for direct drive to eliminate noise, backlash and chatter problems.
- High running speed drastically increases machining efficiency and creates fine finishes on machining surfaces.

主軸轉速/扭力曲線圖

Spindle Speed / Torque Diagram

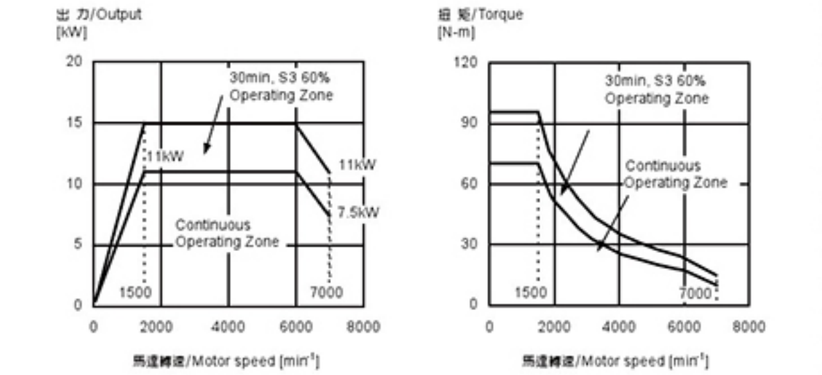
FANUC β12/7000*i*

標 準/Standard

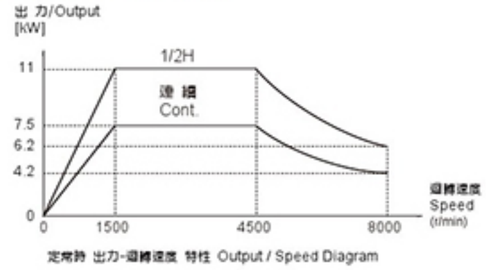


FANUC α12/7000*i*

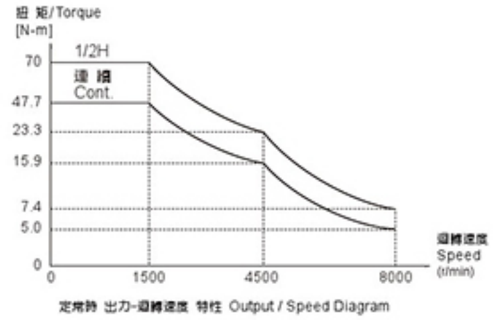
選 配/Optional



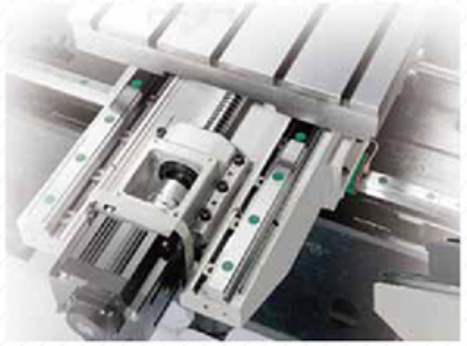
MITSUBISHI M70A



定常時 出力-迴轉速度 特性 Output / Speed Diagram



定常時 出力-迴轉速度 特性 Output / Speed Diagram



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.

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 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 tool shank.

履帶式排屑機（選配）

Link Chain Type Chip Conveyor (optional)

加工測試報告

Cutting Test Report

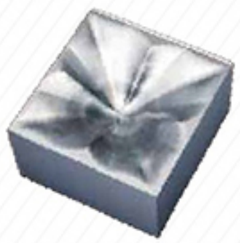
台勵福TLV系列立式加工中心機，秉持獨特的高剛性機器結構，在銑削、鑽孔等加工作業，徹底表露重切削能力及卓越非凡的加工效率。

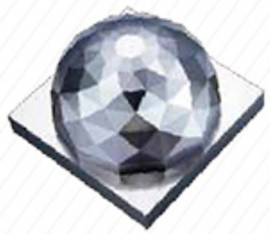
Based on the uniquely rigid machine structure, Tailift TLV series vertical machining centers will fully exhibit their heavy cutting capabilities and outstanding machining efficiency in milling and drilling operations.

Ø80mm 面銑刀
材料移除率

Ø80mm Face Milling Cutter
Material removal rate

300
cm³/min.





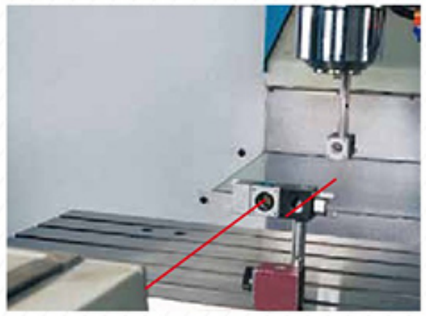
工件材料 Workpiece material	鋁 Aluminum
工件尺寸 Workpiece size	60 x 60 x 50mm
刀具尺寸 Tool size	端銑刀 End mill 6mm x 2S 球刀 Ball nose end mill 6mm x 3R
主軸轉速 Spindle speed	12,000rpm
切削進給率 Cutting feed rate	F3000
加工時間 Machining time	30 min. (approx.)

註：上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 above cutting data are for reference only. Actual cutting results may vary with different machining conditions.

嚴格檢驗　鉅細靡遺

Rigorous Quality Inspection
Care To Every Detail



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.

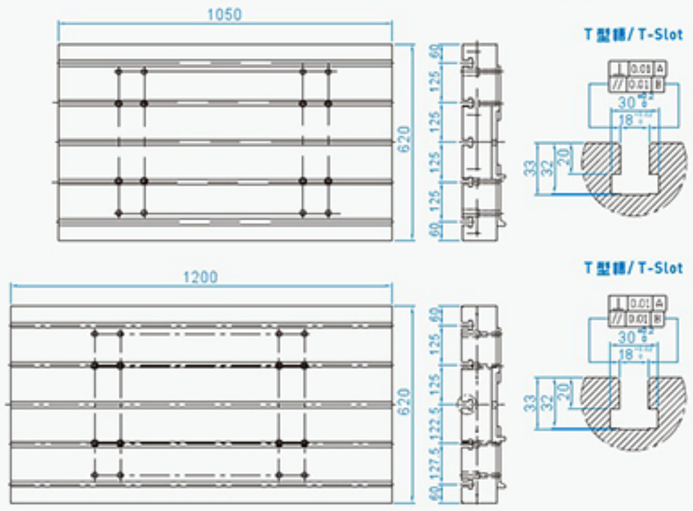
循圓測試

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

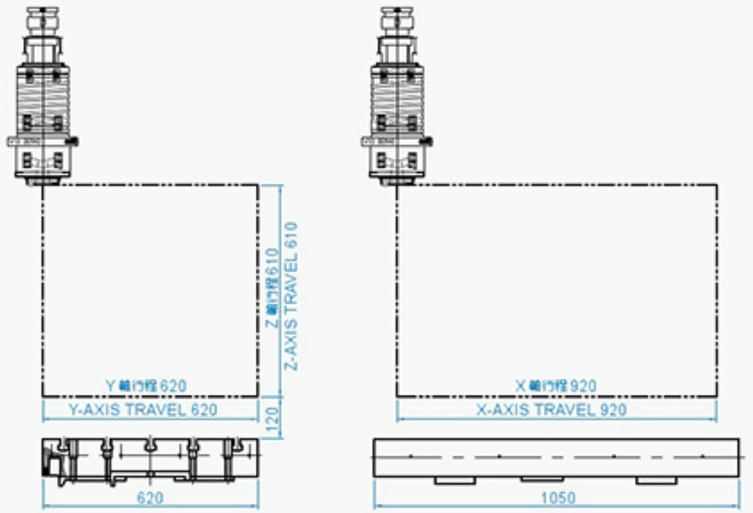
We also employ a ball bar tester to calibrate circularity and the machine's geometrical accuracy.

工作台尺寸圖
Table Dimensions

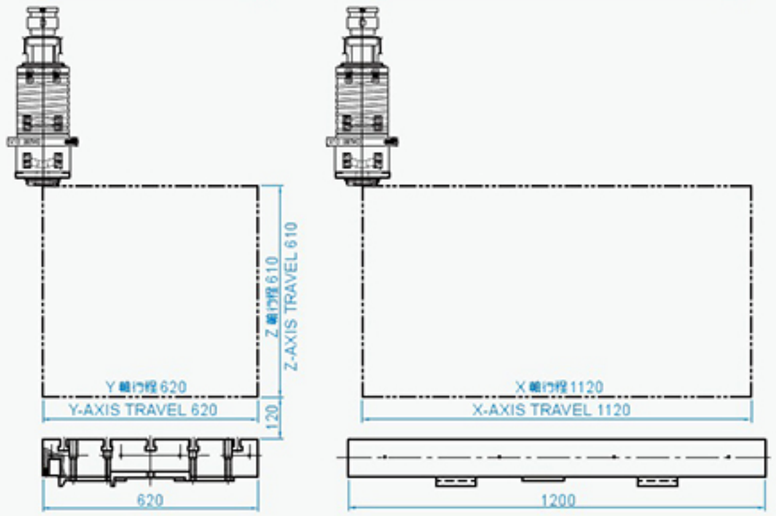


加工範圍圖
Working Range

TLV-962

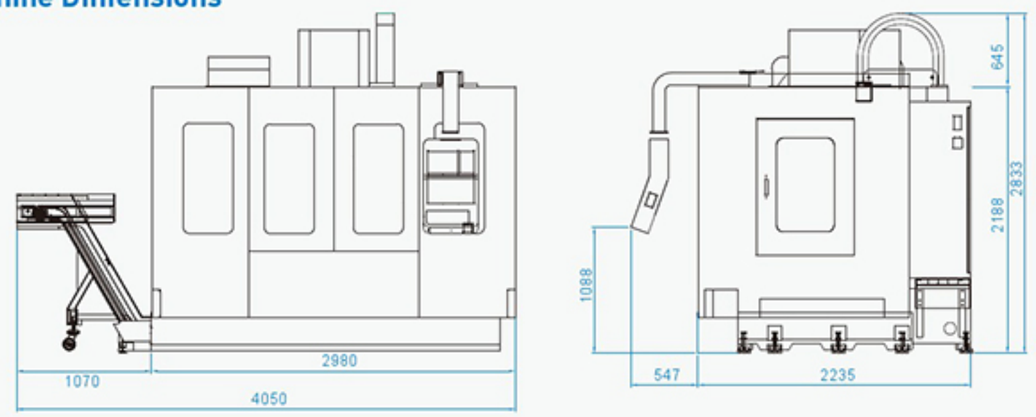


TLV-1162



機器尺寸圖
Machine Dimensions

單 位 Unit: mm



Specifications

項目 / 機型 MODEL		單位 UNIT	TLV-962	TLV-1162
加工行程	**TRAVEL**			
X軸	X-axis travel	mm	920	1120
Y軸	Y- axis travel	mm	620	620
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	150
工作台至地面高度	Table height from floor	mm	870	870
工作台	**TABLE**			
工作台尺寸	Working surface	mm	1050 x 610	1200 x 610
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	500	500
主軸系統	**SPINDLE**			
主軸轉速	Spindle speed	rpm	8000 / 12000	8000 / 12000
傳動方式	Transmission		皮帶/直結 Belt / Direct drive	皮帶/直結 Belt / Direct drive
主軸錐度	Spindle nose taper		BT40	BT40
進給系統	**FEED**			
快速進給-X/Y/Z軸	Rapid traverse (X, Y, Z-axis)	M/min	24/24/24 (32/32/32opt.)	24/24/24 (32/32/32opt.)
切削進給	Cutting feed rate	M/min	15	15
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.	1.8	1.8
最大刀具直徑/鄰空刀	Max. tool diameter / adj. empty tool	mm	81 / 150	81 / 150
最大刀具長度	Max. tool length	mm	300	300
最大刀具重量	Max. tool weight	kg	8	8
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) 2.0 / 2.0 / 3.0	(F) 2.5 / 2.5 / 2.5 (M) 2.0 / 2.0 / 3.0
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	330
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	2900 x 2705 x 2675	3220 x 2705 x 2675
機械重量	Machine weight	kg	6200	6500

■ 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®

TLV-962/1162

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. 螺旋式動力捲屑裝置
17. 水平調整塊及螺絲
18. 密閉式防護鈑金
19. 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. Chip auger
17. Leveling blocks and bolts
18. Enclosed splash guard
19. Machine and electrical operation manual

選配附件 / OPTIONAL EQUIPMENT

1. 主軸中心出水裝置
2. 光學尺
3. 油壓系統
4. 油霧收集機裝置
5. 旋轉工作台（第四軸）
6. 鐵屑輸送機（履帶式）
7. 安全門
8. 油水分離機
9. 自動刀具長度量測器
10. 油路刀桿功能
11. 工件量測系統
12. 變壓器
13. 全密閉式防護鈑金（加上蓋）

1. Coolant through spindle device
2. Linear scale
3. Hydraulic system
4. Oil mist collector
5. Rotary table (4th axis)
6. Chip conveyor (link chain type)
7. Safety door
8. Oil fluid separator
9. Automatic tool length measuring device
10. Coolant through tool holder device
11. Automatic workpiece measuring device
12. Transformer
13. Fully enclosed splash guard (with top guard)