

The Tailift logo, featuring the word "Tailift" in a stylized blue font with a registered trademark symbol.

台勵福集團



三軸硬軌

3 AXES BOX WAYS

三軸線軌

3 AXES LINEAR WAYS

二線軌一硬軌

2 LINEAR 1 BOX WAYS

VMC-147/168/188 *series*

立式綜合加工中心機

Vertical Machining Center

Tailift®

VMC-147 VMC-168 *series* VMC-188

立式綜合加工中心機

9 種機型選擇！

高速加工或重切削，性能超乎您的期許

台勵福VMC系列立式綜合加工中心機，擁有極穩重的機體結構，無論是在高速加工或重切削，此系列機型都將展現卓越特出的穩定性。各種軌道形式設計，搭配各種主軸選擇，台勵福VMC系列為您提供高性能及最佳性價比。

Vertical Machining Center

9 Models To Select !

High Speed or Heavy Cutting Performance
That Exceeds Your Expectations

The VMC series Vertical Machining Center from Tailift features extremely stable structure, and will exhibit extraordinary stability in high speed machining and heavy cutting. With various slideways design in combination with various types of spindle to select, Tailift VMC series will bring you a new level of efficiency as well as optimal cost-performance ratio.



Tailift®
VMC series

三軸全硬軌

Three Axes Box Ways

VMC-147G

- | | | |
|---------------|---------------------|----------------|
| • X, Y, Z 軸行程 | X, Y, Z-axis travel | 1400/720/700mm |
| • 工作台尺寸 | Working surface | 1500 x 700mm |

VMC-168G

- | | | |
|---------------|---------------------|----------------|
| • X, Y, Z 軸行程 | X, Y, Z-axis travel | 1600/850/700mm |
| • 工作台尺寸 | Working surface | 1800 x 820mm |

VMC-188G

- | | | |
|---------------|---------------------|----------------|
| • X, Y, Z 軸行程 | X, Y, Z-axis travel | 1800/850/700mm |
| • 工作台尺寸 | Working surface | 1900 x 850mm |

三軸全硬軌

耐重負載！耐重切削！

Three Axes Box Ways

Superior Resistance To Heavy Load
and Heavy Cutting

■ 米漢納鑄件

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。

■ 穩重的結構

雙層包覆式箱型底座，配合超大立柱設計，以大幅提升機器之剛性及穩定性。

■ 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.

■ Massive Structure

The double-wall box type base combined with oversized column design lead to higher rigidity and stability.



齒輪式主軸頭

Gear-drive Spindle Head

- 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。
- 齒輪皆採用日製齒輪，經熱處理硬化，及精密研磨。運轉順暢、無噪音。
- The gear-drive spindle head provides two ranges of high low speed change. High torque output in low speed range allows for heavy cutting.
- All gears used are Japanese made, hardened and precision ground, featuring extra smooth running and no noise.



BT50, 6000 RPM
齒輪式主軸

BT 50, 6000 RPM
Gear-drive Spindle

- 套筒式主軸，直徑100mm。
- 主軸採用P4級精密軸承，並經動平衡校正，具有最佳動態精度及使用壽命長。
- Cartridge type spindle structure with diameter of 100 mm.
- The spindle runs in class P4 precision bearings and is dynamically balanced, which exhibits optimal dynamic accuracy with long lifespan.

三軸全硬軌

Three Axes Box Ways

VMC-168B

- X, Y, Z 軸行程 X, Y, Z-axis travel 1600/850/700mm
- 工作台尺寸 Working surface 1800 x 820mm

VMC-188B

- X, Y, Z 軸行程 X, Y, Z-axis travel 1800/850/700mm
- 工作台尺寸 Working surface 1900 x 820mm

- 主軸傳動 Spindle transmission 皮帶式或直結式 Belt or direct-drive
- 主軸轉速 Spindle speed 6000rpm (皮帶式) (Belt drive)
10000rpm (直結式) (Direct drive)

三軸全硬軌

Three Axes Box Ways

- 結構鑄件為高級米漢納鑄鐵。
- 雙層包圍式底座。
- 超大立柱結構設計。
- Structural parts are manufactured from high quality Meehanite cast iron.
- Double-wall box type base.
- Oversized column structure.



銅製油管
Bronze Oil Tubes

- 潤滑系統採用容積式配油器，並使用銅製油管，可耐酸鹼性及抗腐蝕。

- The lubrication system employs a volumetric type oil distributor and bronze oil tubes to resist acid / alkaline and corrosion.



BT50, 6000 RPM
皮帶式主軸

BT 50, 6000 RPM
Belt-drive Spindle

- 主軸採用大鋼珠系列軸承，配合100 mm 主軸直徑設計，有助於提升主軸剛性及重切削能力。

- The spindle runs in high precision bearings with 100 mm spindle diameter to upgrade the spindle's rigidity and heavy cutting capability.

二線一硬

2 Linear 1 Box Ways

VMC-168GL

- X, Y, Z 軸行程 X, Y, Z-axis travel 1600/850/700mm
- 工作台尺寸 Working surface 1800 x 850mm

VMC-188GL

- X, Y, Z 軸行程 X, Y, Z-axis travel 1800/850/700mm
- 工作台尺寸 Working surface 1900 x 850mm

X, Y 軸線軌 Z 軸硬軌

兼具重切削與高效率加工！

X, Y 軸線軌；Z 軸硬軌

- X, Y 軸線軌設計，快速進給率可達24米/分。
- Z 軸硬軌，確保加工之穩定性。

穩重的結構

- 雙層包圍箱型底座，配合超大立柱設計，以大幅提升機器之剛性及穩定性。

X, Y-axis Linear Ways Z-axis Box Ways

A Combination of Heavy Cutting And High Efficiency!

X, Y-axis Linear Ways Z-axis Box Ways

- 24 m/min of rapid traverse rates can be achieved with the design of linear ways on X, Y-axis.
- Box ways on Z-axis ensures high stability during cutting.
- The double-wall box type base combined with oversized column design lead to higher rigidity and stability.



高性CNC控制器

- 本機標準配備FANUC高級機種0iMD A型控制器，搭配α型伺服馬達驅動。附有1G CF記憶卡，並具有高速加工AICC功能。
- 可選擇FANUC經濟型0iMD型控制器，搭配β型伺服馬達驅動。
- 也可選擇0i Mate MD 型控制器，搭配β型伺服馬達驅動。

High Performance CNC Control

- The machine comes equipped with a high performance FANUC 0iMD A controller in combination with the use of α type servo motor. The controller has 1G CF memory card and provides AICC function for high speed machining.
- An economical type FANUC 0iMD controller is available, together with the use of β type servo motor.
- In addition, another model of control 0i Mate MD is also available to select with the use of β type servo motor.



三軸全線軌

Three Axes Linear Ways

VMC-168DH

- X, Y, Z 軸行程 X, Y, Z-axis travel 1600/850/700mm
- 工作台尺寸 Working surface 1800 x 850mm

VMC-188DH

- X, Y, Z 軸行程 X, Y, Z-axis travel 1800/850/700mm
- 工作台尺寸 Working surface 1900 x 850mm



直結式主軸
Direct-drive Spindle

15000 RPM (BBT40)
10000 RPM (BBT50)

三軸全線軌

高速、高效率加工最佳選擇！

Three Axes Linear Ways

Your Best Choice in High Speed, High Efficiency Machining!

■ 高速快速進給率

X, Y, Z 軸快速進給率 24/24/20 米/分，
可滿足高速加工之需求。

■ Z 軸滾柱線軌

Z 軸配置 2 支 55mm 寬之滾柱型線性滑軌，
具有高剛性且耐重負荷特性。

■ High Rapid Traverse Rates

24/24/20 M/min. rapid traverse rates on X, Y, Z-axis are
able to meet high speed machining requirements.

■ Roller Type Linear Ways on Z-axis

Z-axis is mounted with two pieces of 55 mm wide roller type
linear ways, featuring high rigidity and heavy load resistance.



Y 軸四線軌

• Y 軸配置 4 支 45mm 寬之
滾柱型線性滑軌。

4 Linear Ways on Y-axis

• Y-axis is equipped with 4 pieces of
55 mm wide roller type linear ways.



X 軸兩線軌

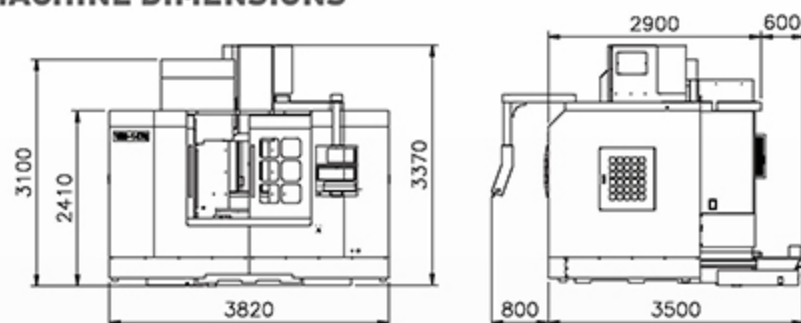
• X 軸配置 2 支 45mm 寬之滾柱
線軌，配合使用 6 個滑塊。

2 Linear Ways on X-axis

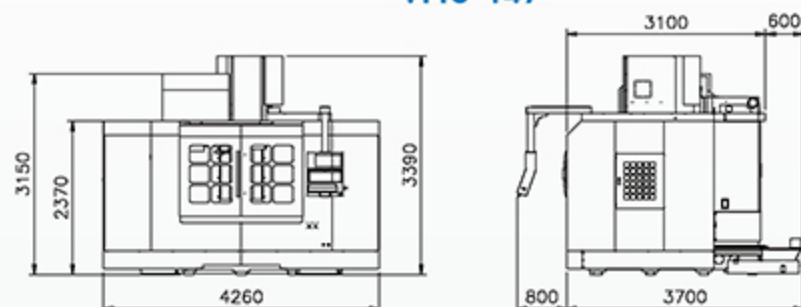
• X-axis is equipped with 2 pieces of
55 mm wide roller type linear ways
combined with the use of 6 blocks.

機械外型尺寸圖

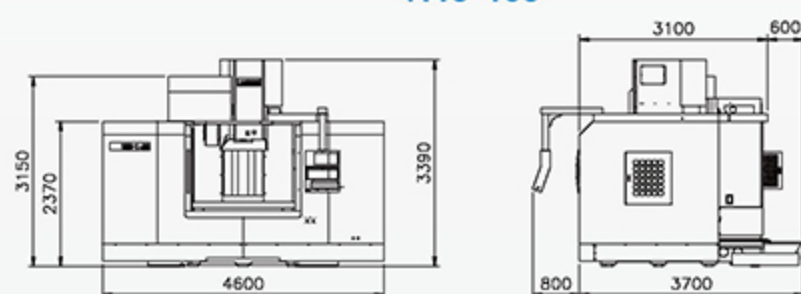
MACHINE DIMENSIONS



VMC-147

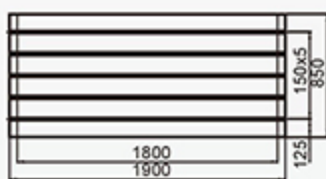
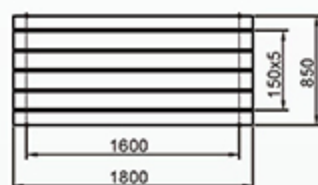
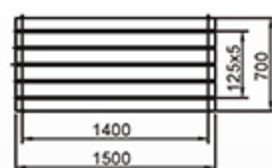


VMC-168



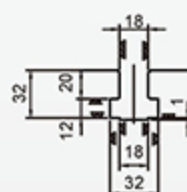
VMC-188

工作台尺寸圖 WORKING SURFACE



(本公司保有更改外觀設計、規格的權力，上述規格若有變更，恕不另行通知。)

(The machine manufacturer reserves the rights for modifying the machine appearance and specifications. Above specifications are subject to change without prior notice)

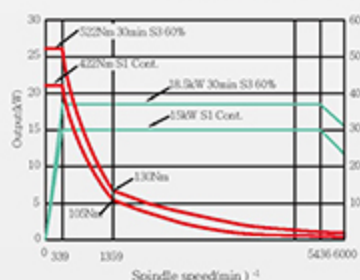


**T型槽
T-SLOT**

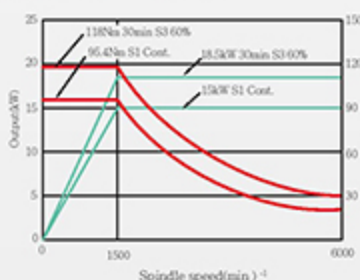
主軸功率和扭力曲線圖

SPINDLE POWER AND TORQUE DIAGRAM

主軸電機型號 α 15/7000i SPINDLE MOTOR α 15/7000i

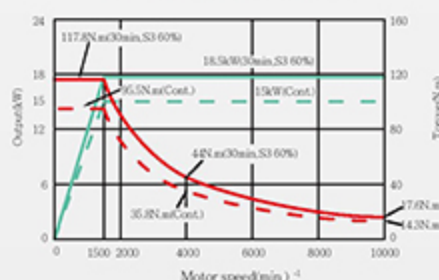


全齒式高低檔傳動
Gear drive high / low speed



齒式皮帶傳動
Timing belt drive

主軸電機型號 α 15/10000i
SPINDLE MOTOR α 15/10000i



直結傳動
Direct drive

檢驗測試 無微不至

Comprehensive Inspection and Test

台勵福VMC系列機器均經過徹底的檢驗與實際加工測試，以確保每一台機器都能展現最高的精度、性能及可靠度。

Tailift VMC series of machine is subject to the most comprehensive inspection and cutting tests, enabling each machine to exhibit the highest level of accuracy, performance and dependability.

主要檢測項目包括：

- 機器幾何精度。
- 循環檢驗。
- 雷射檢驗。
- 3D 加工測試。
- 主軸動平衡校正。

Major inspection items are :

- **Geometric accuracy of machine**
- **Ball bar testing**
- **Laser inspection**
- **3D cutting test**
- **Dynamic balance calibration for spindle**



雷射檢驗

- 三軸行程採用精密雷射儀器，檢測螺桿節距誤差、背隙、三軸定位精度及重複精度。

Laser Inspection

- All three axes travels are inspected by using a sophisticated laser instrument. Inspecting items include screw pitch error, backlash, positioning accuracy and repeatability.



3D 加工測試

- 經由實際3D加工測試，以確實掌握機器的加工能力、精度及切削面粗糙度。

3D Cutting Test

- Through actual 3D cutting tests, we can accurately control the machine's cutting capabilities, accuracy and surface finishes on machined surfaces.



圓棒檢驗

- 本公司採用圓棒測試儀，以校準真實度及機器之幾何精度，並可確保3D加工之垂直精度。

Ball Bar Testing

- We also employ a ball bar tester to calibrate circularity and the machine's geometrical accuracy. This also ensures a high perpendicularity accuracy in 3D cutting.

三軸全硬軌

THREE AXES BOX WAYS

Specifications

MODEL		UNIT	VMC-147G	VMC-168G	VMC-168B	VMC-188G	VMC-188B
加工行程 TRAVEL							
X軸	X-axis travel	mm	1400	1600		1800	
Y軸	Y-axis travel	mm	720	850		850	
Z軸	Z-axis travel	mm	700	700		700	
主軸鼻端至工作台距離	Distance from spindle nose to table	mm	200 ~ 900	150 ~ 850		150 ~ 850	
主軸中心至立柱軌道面	Distance from spindle center to column face	mm	800	930		930	
工作台 TABLE							
工作台尺寸	Working surface	mm	1500 x 700	1800 x 820		1900 x 850	
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 150		18 x 5 x 150	
工作台最大負載	Max. table load	kg	1800	2500		3000	
主軸系統 SPINDLE							
主軸轉速	Spindle speed	rpm	6000	6000	6000 / 10000	6000	6000 / 10000
傳動方式	Transmission		齒輪式 Gear	齒輪式 Gear	皮帶/齒輪 Belt/Dire. drive	齒輪式 Gear	皮帶/齒輪 Belt/Dire. drive
主軸錐度	Spindle nose taper		BT50 (BBT50 Opt.)	BT50 (BBT50 Opt.)		BT50 (BBT50 Opt.)	
進給系統 FEED							
快速進給-X/Y/Z軸	Rapid traverse (X, Y, Z-axis)	M/min	16 / 16 / 12	16 / 16 / 12		16 / 16 / 12	
切削進給	Cutting feed rate	M/min	1 ~ 12	1 ~ 12		1 ~ 12	
刀庫系統 AUTO TOOL CHANGER							
刀庫容量	Tool storage capacity	pcs	24 (32 Opt.)	24 (32 Opt.)		24 (32 Opt.)	
換刀時間(刀對刀)	Tool change time (tool to tool)	sec.	3.5	3.5		3.5	
最大刀具直徑/鄰空刀	Max. tool diameter / adj. empty tool	mm	110 / 210	110 / 210		110 / 210	
最大刀具長度	Max. tool length	mm	300	300		300	
最大刀具重量	Max. tool weight	kg	15	15		15	
其他 MISCELLANEOUS							
冷卻水箱容量	Coolant tank capacity	L	330	330		330	
電力需求	Electric power required	KVA	35	35		35	
氣壓需求	Air pressure required	kg/cm ²	6	6		6	
機器尺寸(WxLxH)	Machine dimensions (W x L x H)	mm	3820x4250x3370	4260 x 4420 x 3390		4600 x 4420 x 3375	
機械重量	Machine weight	kg	13200	16500	15500	17000	16500

- 備註: 1. 控制系統標準採用發那科0iMD包, 客戶可依需求選擇發那科0i Mate MD或西門子828系列或三菱M70系列。
2. 本公司保有更改設計、規劃權利, 上述規格如有變更, 恕不另行通知。
3. 立柱可依用戶加工需求, 選擇加高200mm。

- NOTE: 1. Standard controller is FANUC 0iMD A. Optional controllers are FANUC 0i Mate MD, SIEMENS 828 series and MITSUBISHI M70 series.
2. Machine design and specifications are subject to change without prior notice.
3. Upon request, the height of column may be increased by 200 mm.

二線一硬

X, Y, Z-AXIS LINEAR WAYS Z-AXIS BOX WAYS

Specifications

MODEL		UNIT	VMC-168GL	VMC-188GL
加工行程	TRAVEL			
X軸	X-axis travel	mm	1600	1800
Y軸	Y-axis travel	mm	850	850
Z軸	Z-axis travel	mm	700	700
主軸鼻端至工作台距離	Distance from spindle nose to table	mm	150 ~ 850	150 ~ 850
主軸中心至立柱軌道面	Distance from spindle center to column face	mm	930	930
工作台	TABLE			
工作台尺寸	Working surface	mm	1800 x 850	1900 x 850
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 150
工作台最大負載	Max. table load	kg	2000	2500
主軸系統	SPINDLE			
主軸轉速	Spindle speed	rpm	6000	6000
傳動方式	Transmission		齒輪式 Gear	齒輪式 Gear
主軸錐度	Spindle nose taper		BBT50	BBT50
進給系統	FEED			
快速進給-X/Y/Z軸	Rapid traverse (X, Y, Z-axis)	M/min	24 / 24 / 12	24 / 24 / 12
切削進給	Cutting feed rate	M/min	1 ~ 12	1 ~ 12
刀庫系統	AUTO TOOL CHANGER			
刀庫容量	Tool storage capacity	pcs	24 (32 Opt.)	24 (32 Opt.)
換刀時間(刀對刀)	Tool change time (tool to tool)	sec.	3.5	3.5
最大刀具直徑/鄰空刀	Max. tool diameter / adj. empty tool	mm	110 / 210	110 / 210
最大刀具長度	Max. tool length	mm	300	300
最大刀具重量	Max. tool weight	kg	15	15
其他	MISCELLANEOUS			
冷卻水箱容量	Coolant tank capacity	L	330	330
電力需求	Electric power required	KVA	35	35
氣壓需求	Air pressure required	kg/cm ²	6	6
機器尺寸(WxLxH)	Machine dimensions (W x L x H)	mm	4260 x 4420 x 3390	4600 x 4420 x 3375
機械重量	Machine weight	kg	16500	17000

- 備註：1. 控制器標準採用發那科0iMD，客戶可選需求選擇發那科0i Mate MD或西門子828系列或三菱M70系列。
2. 本公司保有更改設計、規劃權利，上述規格如有變更，恕不另行通知。
3. 立柱可依用戶加工需求，選擇加高200mm。

- NOTE: 1. Standard controller is FANUC 0iMD A. Optional controllers are FANUC 0i Mate MD, SIEMENS 828 series and MITSUBISHI M70 series.
2. Machine design and specifications are subject to change without prior notice.
3. Upon request, the height of column may be increased by 200 mm.

三軸全線軌

THREE AXES LINEAR WAYS

Specifications

MODEL		UNIT	VMC-168DH	VMC-188DH
加工行程	TRAVEL			
X軸	X-axis travel	mm	1600	1800
Y軸	Y-axis travel	mm	850	850
Z軸	Z-axis travel	mm	700	700
主軸鼻端至工作台距離	Distance from spindle nose to table	mm	150 ~ 850	150 ~ 850
主軸中心至立柱軌道面	Distance from spindle center to column face	mm	930	930
工作台	TABLE			
工作台尺寸	Working surface	mm	1800 x 850	1900 x 850
T型槽 (寬x數量x間距)	T-slots (width x number x pitch)	mm	18 x 5 x 150	18 x 5 x 150
工作台最大負載	Max. table load	kg	2000	2500
主軸系統	SPINDLE			
主軸轉速	Spindle speed	rpm	10000 / 15000	10000 / 15000
傳動方式	Transmission		直結式 Direct-drive	直結式 Direct-drive
主軸錐度	Spindle nose taper		BBT50 / BBT40	BBT50 / BBT40
進給系統	FEED			
快速進給-X/Y/Z軸	Rapid traverse (X, Y, Z-axis)	M/min	24 / 24 / 20	24 / 24 / 20
切削進給	Cutting feed rate	M/min	1 ~ 12	1 ~ 12
刀庫系統	AUTO TOOL CHANGER			
刀庫容量	Tool storage capacity	pcs	24 (32 Opt.)	24 (32 Opt.)
換刀時間 (刀對刀)	Tool change time (tool to tool)	sec.	3.5	3.5
最大刀具直徑/鄰空刀	Max. tool diameter / adj. empty tool	mm	110 / 210	110 / 210
最大刀具長度	Max. tool length	mm	300	300
最大刀具重量	Max. tool weight	kg	15	15
其他	MISCELLANEOUS			
冷卻水箱容量	Coolant tank capacity	L	330	330
電力需求	Electric power required	KVA	35	35
氣壓需求	Air pressure required	kg/cm ²	6	6
機器尺寸(WxLxH)	Machine dimensions (W x L x H)	mm	4260 x 4420 x 3390	4600 x 4420 x 3375
機械重量	Machine weight	kg	15000	15500

- 備註：1. 控制系統標準採用發那科0iMD包，客戶可依需求選擇發那科0i Mate MD或西門子828系列或三菱M70系列。
2. 本公司保有更改設計、規劃權利，上述規格如有變更，恕不另行通知。
3. 立柱可依用戶加工需求，選擇加高200mm。

- NOTE: 1. Standard controller is FANUC 0iMD A. Optional controllers are FANUC 0i Mate MD, SIEMENS 828 series and MITSUBISHI M70 series.
2. Machine design and specifications are subject to change without prior notice.
3. Upon request, the height of column may be increased by 200 mm.



VMC-147/168/188 series

標準附件 / STANDARD EQUIPMENT

- | | | | |
|--------------------|----------------------|--|--|
| 1. 全密封濺護罩 | 13. 油水分離裝置 (比重式) | 1. Fully enclosed splash guard | 14. Leveling bolts and blocks |
| 2. 雙螺桿排屑機 | 14. 水平調整螺絲及墊塊 | 2. Twin chip augers | 15. Warning lamp |
| 3. 三軸伸縮護罩 | 15. 動作警示燈 | 3. Telescopic guards on three axes | 16. Coolant gun and air gun |
| 4. 雙氣箱熱交換器 | 16. 清潔用水槍及氣槍 | 4. Heat exchanger for electrical cabinet | 17. Fluorescent lights at both sides |
| 5. 主軸油溫冷卻裝置 | 17. 兩側照明日光燈 | 5. Spindle oil cooler | 18. Auto power off |
| 6. 主軸切削吹氣M07程式自動控制 | 18. M30自動斷電功能 | 6. Cutting air blast device (M07 program controlled) | 19. RS-232 interface port |
| 7. 切削水冷却系統 | 19. RS-232C介面接口 | 7. Coolant system | 20. Adjustment tools with tool box |
| 8. 兩側沖屑裝置 | 20. 調整工具和工具箱 | 8. Flushing devices at both sides | 21. Accuracy inspection report |
| 9. 自動潤滑液系統 | 21. 精度檢驗報告書 | 9. Automatic lubrication system | 22. Machine operation and maintenance manual |
| 10. 移動式手輪 | 22. 機器操作及維護手冊 | 10. MPG handwheel | 23. Electronic book for FANUC program maintenance and operation manual |
| 11. 主軸吹氣裝置 | 23. FANUC程式維護操作手冊電子書 | 11. Air blast through spindle | |
| 12. 外部電源變壓器 | | 12. Transformer for external power | |
| | | 13. Oil fluid separator (specific gravity type) | |

選配附件 / OPTIONAL EQUIPMENT

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|--------------------|--------------------|---|---|
| 1. 兩側沖屑裝置 (獨立水泵追加) | 11. 三軸光學尺 | 1. Flushing devices at both sides (Independent coolant pump optional) | 11. Linear scales on three axes |
| 2. 深孔油路鑽頭冷卻裝置 | 12. 油霧吹氣裝置 | 2. Coolant device through tool holder | 12. Oil mist device |
| 3. 刀庫容量24/32把刀選擇 | 13. 油霧收集裝置 | 3. 24/32 tool magazine | 13. Oil mist collector |
| 4. 斜昇式切削輸送機 | 14. 圓盤式油水分離器 | 4. Lifting type chip conveyor | 14. Disk type oil skimmer |
| 5. 電氣箱空調式散熱裝置 | 15. 主軸中心出水及外置式過濾水箱 | 5. Air conditioner for electrical cabinet | 15. Coolant through spindle and external-mount filtering coolant tank |
| 6. CNC第四軸旋轉工作台 | 16. 人員工作台階 | 6. CNC rotary table (4th axis) | 16. Working step |
| 7. 自動刀具長度量測裝置 | | 7. Automatic tool length measuring device | |
| 8. 自動工件量測裝置 | | 8. Automatic workpiece measuring device | |
| 9. 加工程序高速處理伺服器 | | 9. High speed data server | |
| 10. AICC 2高速高精度控制 | | 10. AICC2 high speed high accuracy control | |

Group head office:

No. 269, Sec. 1, Shenlin Rd., Daya Dist., Taichung City 428, Taiwan

台灣428台中市大雅區神林路一段269號

TEL: +886-4-2566-6100 FAX: +886-4-2567-1670

E-mail: insales@tailift.com.tw www.tailiftgroup.com

