

震澤精密機械股份有限公司

SHINZAWA PRECISION MACHINERY CO., LTD.

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SHINZAWA 震澤精機

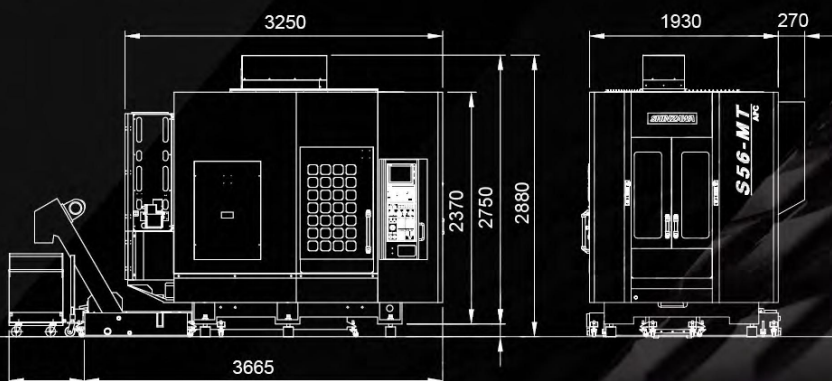
動柱式立式加工中心機

TRAVELING COLUMN VERTICAL MACHINING CENTER

S56-MT APC

機械外觀尺寸

MACHINE DIMENSION



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www.shinzawa.com.tw

2021/03



動柱式立式加工中心機
TRAVELING COLUMN VERTICAL MACHINING CENTER

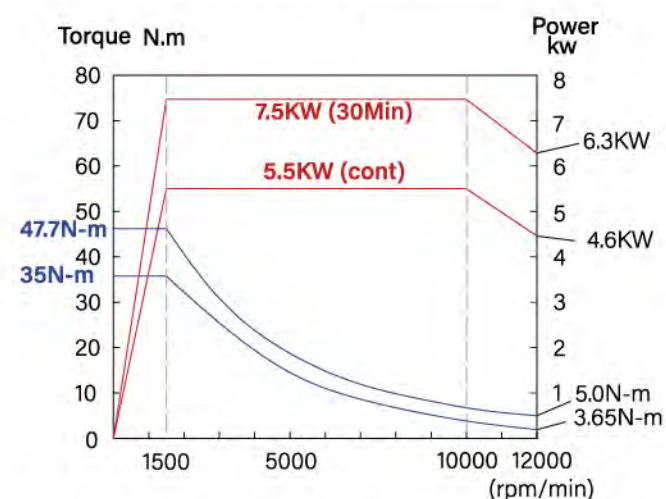
S56-MT APC

- ✓ 超大加工能力, 高速及結構緊湊等非凡特色
- ✓ 擁有鑽孔攻牙中心機的靈活性, 更兼具立式加工中心機之加工能力
- ✓ 寬闊的工作台面, 配合高速設計, 締造難以抗衡的加工性能及效率
- ✓ Offers big capacity, together with superior speed, all in a compact construction.
- ✓ It combines the smoothness of a drilling tapping center and the capacity of a VMC in one machine.
- ✓ It has a spacious table to handle big cutting jobs in combination with extra high speed design, making it unmatched in performance and efficiency.

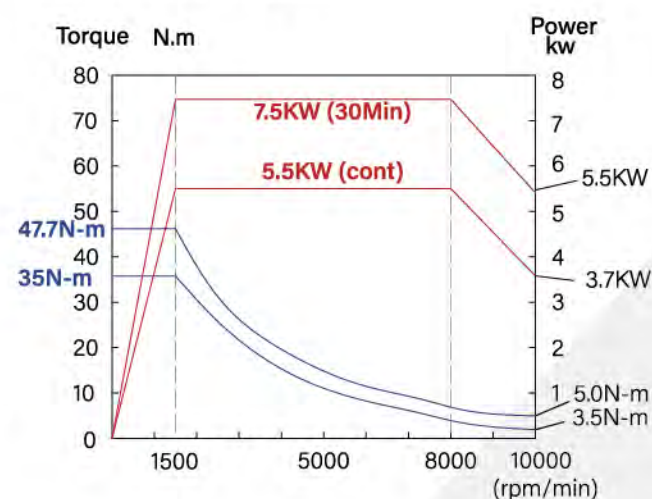


主軸馬達扭力曲線圖 SPINDLE MOTOR TORQUE DIAGRAM

mitsubishi (10HP)



FANUC (10HP)



裝備一覽表

STANDARD&OPTIONAL ACCESSORIES

○ 標配 Standard △ 選配 Optional ☆ 需要詢問 Need to inquire

主軸 SPINDLE			自動換刀系統 ATC SYSTEM		
主軸轉速10000轉	Spindle speed : 10000RPM	○	自動換刀機構	Automatic tool changer(ATC)	○
主軸轉速12000轉	Spindle speed : 12000RPM	△	刀具規格BT-40	Spindle taper : BT-40	○
主軸轉速15000轉	Spindle speed : 15000RPM	△	刀具規格BBT-40	Spindle taper : BBT-40	△☆
主軸油冷機	Spindle oil cooler	○	刀臂式刀庫24T	Arm type tool magazine 24T	○
主軸吹氣裝置	Spindle air blast system	○			
主軸中心出水	Coolant Through Spindle(CTS)	△☆			
冷卻系統 COOLING SYSTEM			三軸傳動系統 3 AXES TRANSMISSION SYSTEM		
主軸外可程式吹氣系統	Spindle external programmable air blow system	○	三軸滾柱線軌	3 axes Roll type linear guideway	○
切削液冷卻系統與水箱	Coolant flush system and water tank	○	Z軸煞車馬達系統	Z axis motor with brake	○
環狀噴水(限刀臂式)	Splash ring(Arm type only)	△☆	三軸自動潤滑系統	Automatic lubrication system	○
			三軸光學尺	3 axes linear scales	△
排屑系統 CHIP REMOVAL SYSTEM			控制器 CONTROLLER		
鍊板式輸送機+鐵屑車	Link/chain type chip conveyor with chip cart	○	三菱 M80A	Mitsubishi M80	○
水槍&風槍	Water gun & air gun	○	發那科	Fanuc	△
全罩式板金	Fully enclosed splash guard	○	西門子	Siemens	△
側邊沖屑	Chip flushing device	○	海德漢	Heidenhain	△
量測系統 MEASURE SYSTEM			電氣部分 ELECTRICAL PART		
紅外線斷刀檢知系統	Infrared detector for tool broken	△	剛性攻牙	Rigid tapping	○
刀長量測系統	Tool length measurement	△	M30自動斷電系統	M30 Auto power off system	○
工件量測系統	Work piece measurement	△☆	LED工作燈	LED Work lamp	○
CCD量測系統	CCD(Charge Coupled Device) measurement	△☆	三色警示燈 + 蜂鳴器	3-color alarm lamp with buzzer	○
			電氣箱熱交換器	Heat exchanger for electrical cabinet	○
			電氣箱空調系統	Air conditioner for electrical cabinet	△
出貨配件 PARTS FOR SHIPPING			其它 OTHERS		
地基螺栓與墊塊	Foundation bolts and blocks	○	第四軸旋轉工作台 (旋轉軸)	4th rotary table (rotary axis)	△
工具箱與工具	Tool box and tools	○	刀具組件	Tooling	△
操作與維護手冊	Operation and maintenance manual	○	CE安全規格	CE conformity	△
			變壓器	Transformer	△
油水分離機 OIL SKIMMER					
圓盤式油水分離機	Disk type oil skimmer	△			
油霧回收機	Oil mist recycle system	△			



嚴謹製程管理、品質驗證測試, 提供客戶放心使用的承諾
Attentive in-process management, combined with rigorous quality inspection, equates to maximum operational dependability.

規格表

SPECIFICATION

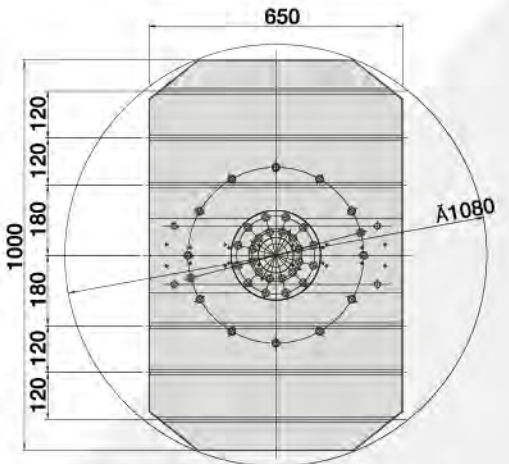
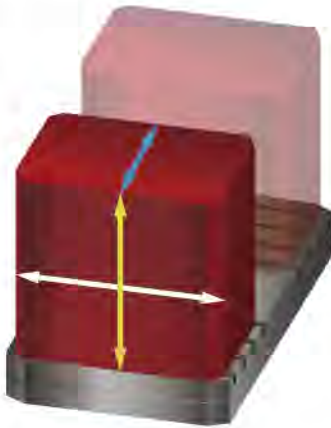
機型	MODEL	單位 UNIT	S56-MT
行程	TRAVEL		
三軸行程	Three axes travel	mm	560 x 400 x 400
主軸鼻端至工作台中心距離	Spindle nose to table face	mm	200-600
工作台	WORK TABLE		
工作台尺寸	Table size	mm	650 x 405 (One side)
T型槽	T-Slot WxNo.xP	mm	14 x 3 x 120
最大載重	Max. loading capacity	kgs	200 x 2
交換工作台	PALLET		
型式	Type	-	0°/180° Turnable system
工作台尺寸	Table size	mm	650 x 405 (Two surface)
最大治具高度	Max. jig height	mm	330
最大旋徑	Max. turning daimeter	mm	Ø1200
最大載重	Max. loading capacity	kgs	200
工作台旋轉機構	Table turning system	-	AC馬達及滾齒凸輪機構 AC motor of roller gear cam drive
定位時間	Table position time	-	3.2 sec/180°
主軸	SPINDLE		
主軸錐度	Spindle taper	-	BT-40
主軸轉速	Spindle speed	mm	10000 (12000/15000)
主軸馬達	Spindle motor	kW	5.5/7.5
進給速度	FEED RATE		
三軸快速位移	Rapid Traverse Speed of three axes	m/min.	36/36/36
三軸切削進給	Max. cutting feed rate of three axes	m/min.	1-12
三軸馬達	Servo motor of three axes	kW	三菱 Mitsubishi 2.0/2.0/3.5B 發那科 Fanuc 1.6/1.6/3.0B
自動換刀	AUTOMATIC TOOL CHANGER		
換刀方式	ATC type	-	刀臂式 Arm Type
刀庫容量	Tool capacity	pcs	24T
刀具最大直徑	Max. tool diameter	mm	ø75
刀具最大長度	Max. tool length	mm	200
刀具最大重量	Max. Tool weight	kg	4
鄰空刀最大直徑	Max. tool diameter without adjacent tool	mm	ø90
換刀時間(刀對刀)	Tool change time (T to T)	sec	1.6
其它項目	OTHER		
佔地面積	Machine Dimension (L x W)	mm	2200 x 4435
機台高度	Machine Height	mm	2500
機械淨重	Net Weight	kgs	5500
所需電源容量	Total required power	kVA	20

本公司保有設計變更之權利，如有變動恕不另行通知。
We reserve the right to modify the design and specifications without notice in advance.

工作台尺寸

WORKING SPECIFICATIONS

- X 560mm
- Y 400mm
- Z 400mm



控制器規格

CONTROLLER SYSTEM



○ 標配 Standard △ 選配 Optional × 不適用 Not available

控制器規格	SPECIFICATION	三菱 MITSUBISHI M80A	發那科 FANUC OiF-Plus
最大控制軸數	Max. number of control axes	11	9
最大同動軸數	Max. number of simultaneous axes		4
程式記憶容量	Memory capacity	500K	2M
巨集指令變數	Macro variable command	8000	700
刀具補償記憶	Tool compensation	○	○
對話式程式編程	Programming function	○	○
螢幕	Display Unit	10.4"	10.4"
多種語言顯示	Multi-language	○	○
絕對式伺服系統及編碼器	Absolute type servo system& encoder	○	○
記憶卡	Memory card	○	○
乙太網路	Ethernet	○	○
高速高精度切削模式	High speed, high precision cutting mode	○	○
半滑表面控制	Smooth Surface control	○	○
高速同步攻牙OMR-DD	Synchronized tapping OMR-DD	○	×
RS-232介面	RS-232 interface	○	○
程式路徑模擬	Programming routes simulation	○	△
手輪控制模擬程式路徑	MPG control stimulate programming routes	△	△
程式緩衝修正	Buffer correction	○	×

優異結構特性

FEATURES OF OUTSTANDING STRUCTURE

- 整機FC-300以上材質鑄造，注入力流與美學設計，事先FEA分析，具高剛性及靈敏性的運動體。
- 底座參考臥式結構的抬高設計，讓移動件輕量化，結合高剛性數位設計，高速位移不晃動。
- 三軸全部使用高剛性滾柱線軌，更能展現機台加工剛性。
- The machine is made of high quality cast iron of FC-300, the structure design processes with the Finite Element Analysis (FEA) to inject the mechanical as well as aesthetic factors for the maximum rigidity and flexibility.
- Referring the structure concept of horizontal machine base, the lift-up design allows high speed and smooth motion control for the moving parts on machine base and table.
- 3 axes employ high rigidity roller type linear guideways for outstanding machining rigidity.

精實的結構設計 平穩的高速移動 創造加工效率

STURDY STRUCTURAL DESIGN
STABLE HIGH SPEED MOTION CONTROL
OPTIMUM MACHINING EFFICIENCY

刀庫 TOOL MAGAZINE

刀庫獨立安裝

SEPARATELY MOUNTED MAGAZINE

刀庫獨立安裝配合護門設計，使刀庫完全隔離於加工區域之外。不僅可避免切屑或切削液之汙染，並且維修更方便。

The tool magazine is separately mounted in combination with a door for complete isolation from the machining area. This not only prevents chips flushing on magazine side, but also makes chips on the magazine are removed efficiently.

30刀圓盤式刀庫 (選配)

30 TOOLS DISC TYPE TOOL MAGAZINE (OPT)

本機可使用24刀之刀臂式刀庫，也可依客戶需求裝置30刀之圓盤式刀庫，使機器之加工能力更多元化。高速換刀系統 (刀對刀:1.8秒)

In addition to the use of a 24 tools magazine, this machine is also available to equip with an optional 30 tools disc type magazine. It provides greater flexibility of machining. High speed ATC system (T to T 1.8 sec)



工作台 WORK TABLE

高效率工作台交換機構

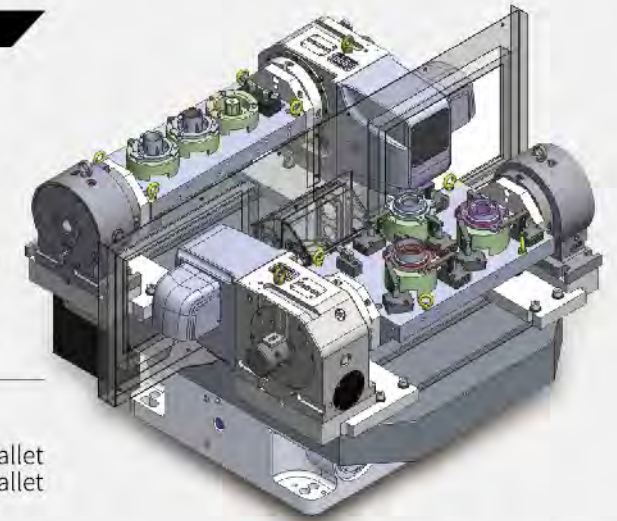
HIGH EFFICIENT PALLET CHANGE SYSTEM

快速迴轉式工作台

- 高精度三片式離合器定位設定，工作台直接迴轉不必上升，以節省工作台交換時間與穩定性。
- 可任意搭配A/C軸或夾治具使工作更具彈性與效率。

High speed rotary type APC

- Employs high precision 3-piece coupling for direct pallet change without raising up the pallet, featuring short pallet exchange time with high reliability.
- Capable of working with A/C axis or clamping fixtures for further machining flexibility and efficiency.



V: 可以裝 (Installable)
X: 不可裝 (Not installable)

標準化第四軸管線設計

WIRE PREPARATION 4TH AXIS WIRING DESIGN

工作台中間預留第四軸空油壓與電源線孔位，具有使用方便性。

The hydraulic pneumatic pipes and power cables for 4th axis equipment is pre-wired in the center hole of worktable.

	S56-MT Shinzawa	其他APC 機台 Other brand
第四軸裝置 (4th axis rotary table)	V	X
油壓裝置 (Hydraulic device)	V	X
電磁吸盤 (Electromagnetic chuck)	V	X



鐵屑處理 CHIP REMOVAL

完整性防屑加工區

CLEAN MACHINING AREA

加工區域周邊使用不銹鋼片拉簾與工作台中隔板設計，讓加工區域獨立具有高效沖屑能力與防止鐵屑亂飛現象。

With the stainless steel curtain, the cutting area is well separated from the standby area, allowing the coolant shower flushes the cutting chips completely.

完善的排屑系統

COMPREHENSIVE CHIP DISPOSING SYSTEM

擁有特殊設計的完善排屑系統，底座下方中央排屑系統讓排屑更容易。

Specially designed with a comprehensive chip disposal system under the machine base, which features high efficient chip evacuation.