

THN-1050

機台特性

OUTSTANDING FEATURE

HIGH RIGIDITY
ACCURACY SPEED



機台規格 Specifications

THN-1050

工作台 Table	工作台尺寸 Table Size	mm	1150 x 550
	T型槽 T Slot	mm	CD100 x 18 x 5
	最大荷重 Max. Table Load	kg	500
行程 Travel	X軸 X Axis	mm	1050
	Y軸 Y Axis	mm	550
	Z軸 Z Axis	mm	600
	主軸鼻端到工作台距離 Dis. From Spindle Nose To Table	mm	150 ~ 750
	主軸中心至Z軸伸縮護蓋距離 Dis. From Spindle Center To Z Axis Telescopic Cover	mm	575

優異切削剛性 高穩定加工精度

Excellent Rigidity And Highly Stability

- 強化加寬立柱，並採用X型肋骨設計，增加切削剛性、高速運行不晃動。
- Strengthened and widened column, X type ribs design, increase the rigidity and ensure the highest stability during high speed movement.

精度壽命提升

Improve Accuracy Life

- 下鎖式刀庫設計，提升機台幾何精度。
- Tool magazine sit on the column, improve the geometric accuracy of the machine.

刀庫容量提升(選購)

ATC Capacity Improvement(Opt.)

- 第二刀庫設計，加大刀庫容量。提供模組化刀庫即時加裝可能。
- Double tool magazine design, increase the capacity of the tool magazine, can be replaced by module.

全時溫控系统

Full Time Temperature Control System

- 全時VDI3441標準定位精度0.01mm以內。
- VDI3441 standard positioning accuracy within 0.01mm during machining.

效率提升

Improve Efficiency

- G00加減速提升30%，達到0.7G，量產加工效率升級。
- G00 acceleration and deceleration increased by 30% to reach 0.7G, and mass production processing efficiency was upgraded.

動態精度提升

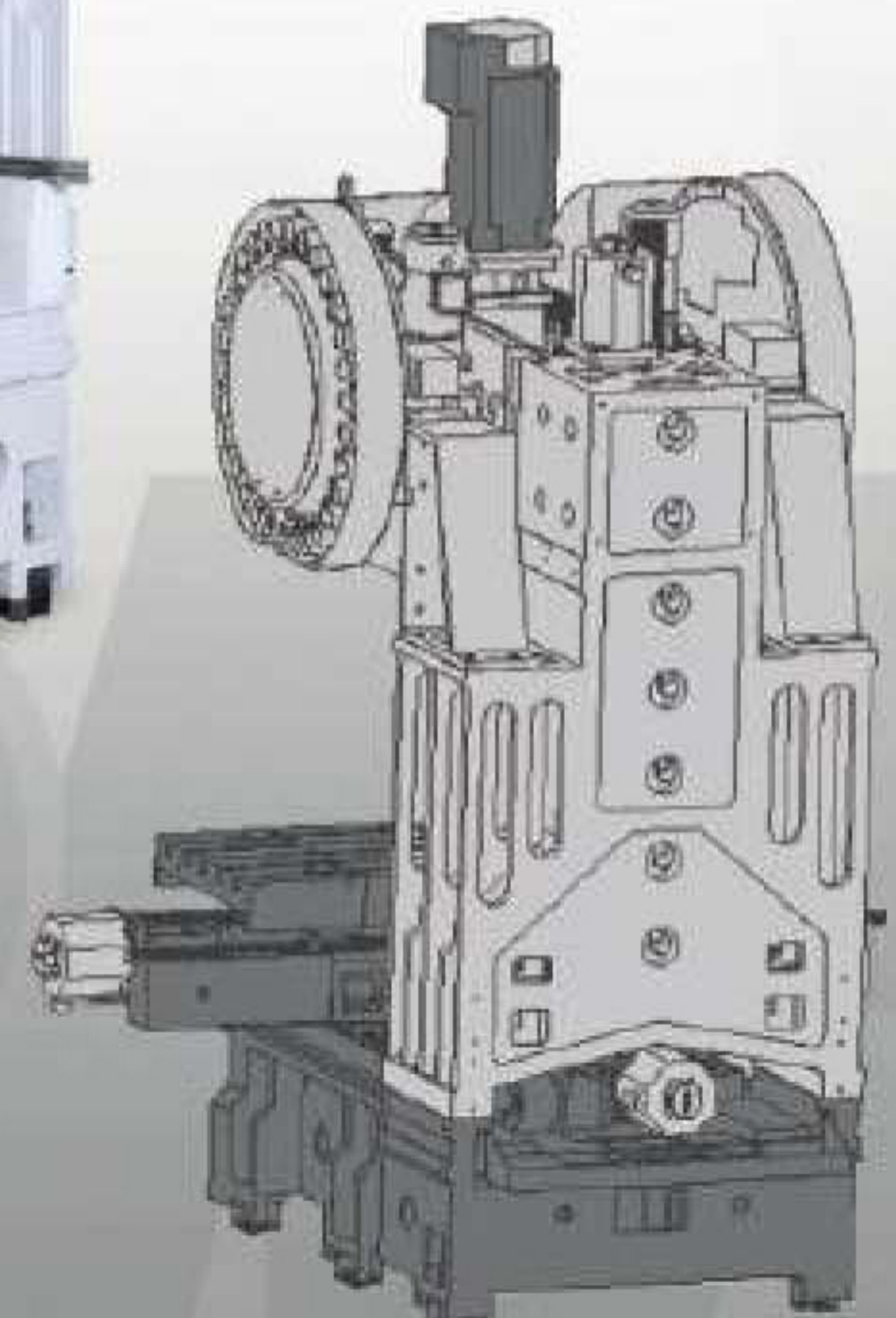
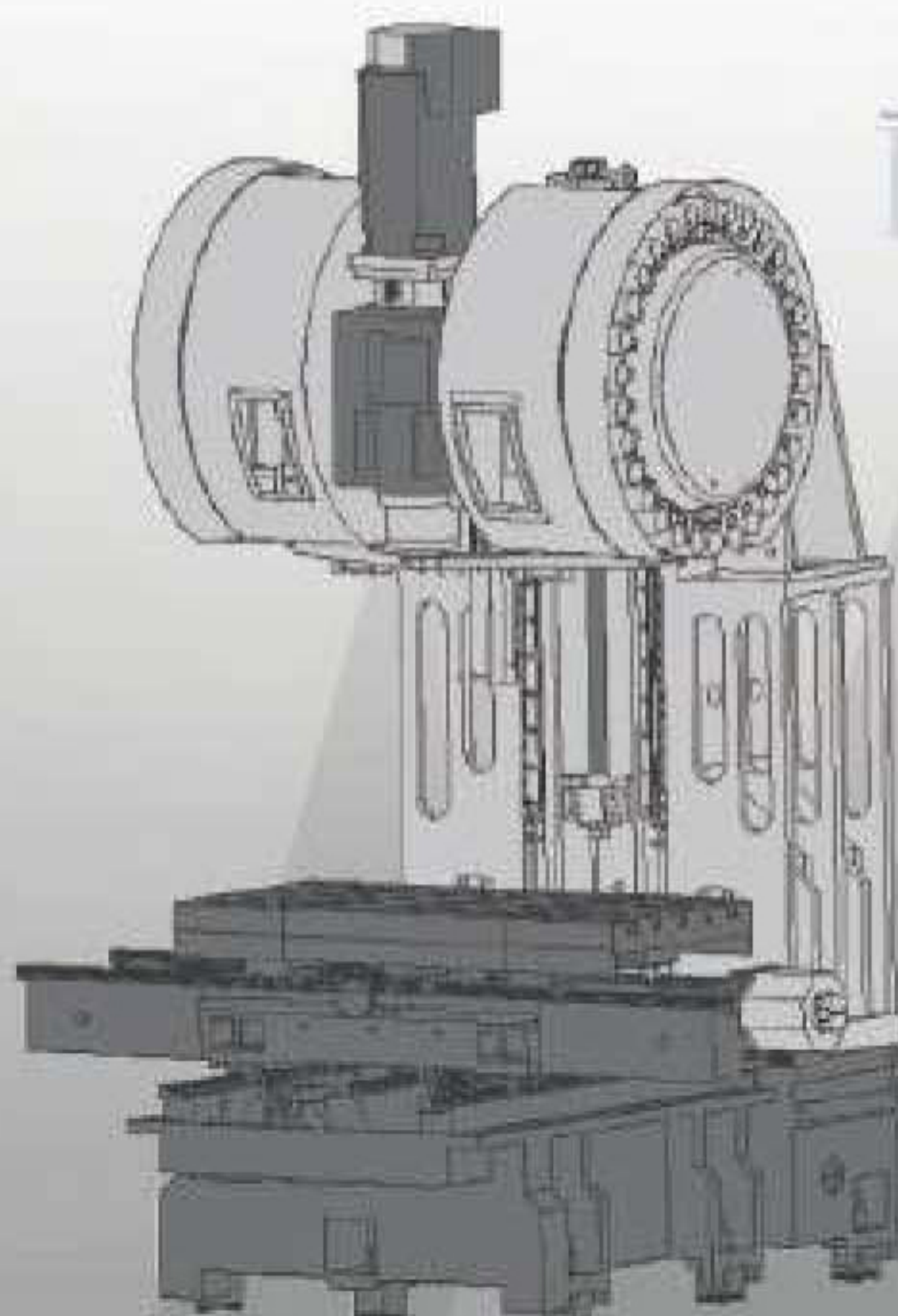
Improve Dynamic Accuracy

- 機台低重心，Y軸三軌道設計，大幅提升動態精度。
- Low center of gravity, 3 wide-span linear guideways on Y axis, greatly improve dynamic accuracy.

變頻器控制刀庫

Frequency-Controlled Tool Magazine

- 變頻器控制刀庫馬達動作，電阻式煞車，防止煞車作動異常，確保換刀動作順暢。
- Inverter controls the movement of the tool magazine motor, resistive braking, prevents abnormal braking operation, ensures smooth tool change.



全時溫控系统

Full Time Temperature Control System



- 油氣潤滑主軸可直接帶走主軸熱源，有效抑制主軸熱伸長。(選購)
- IDD spindle with oil air lubrication, can take away the heat from spindle directly, reduce thermal temperature effectively. (OPT.)

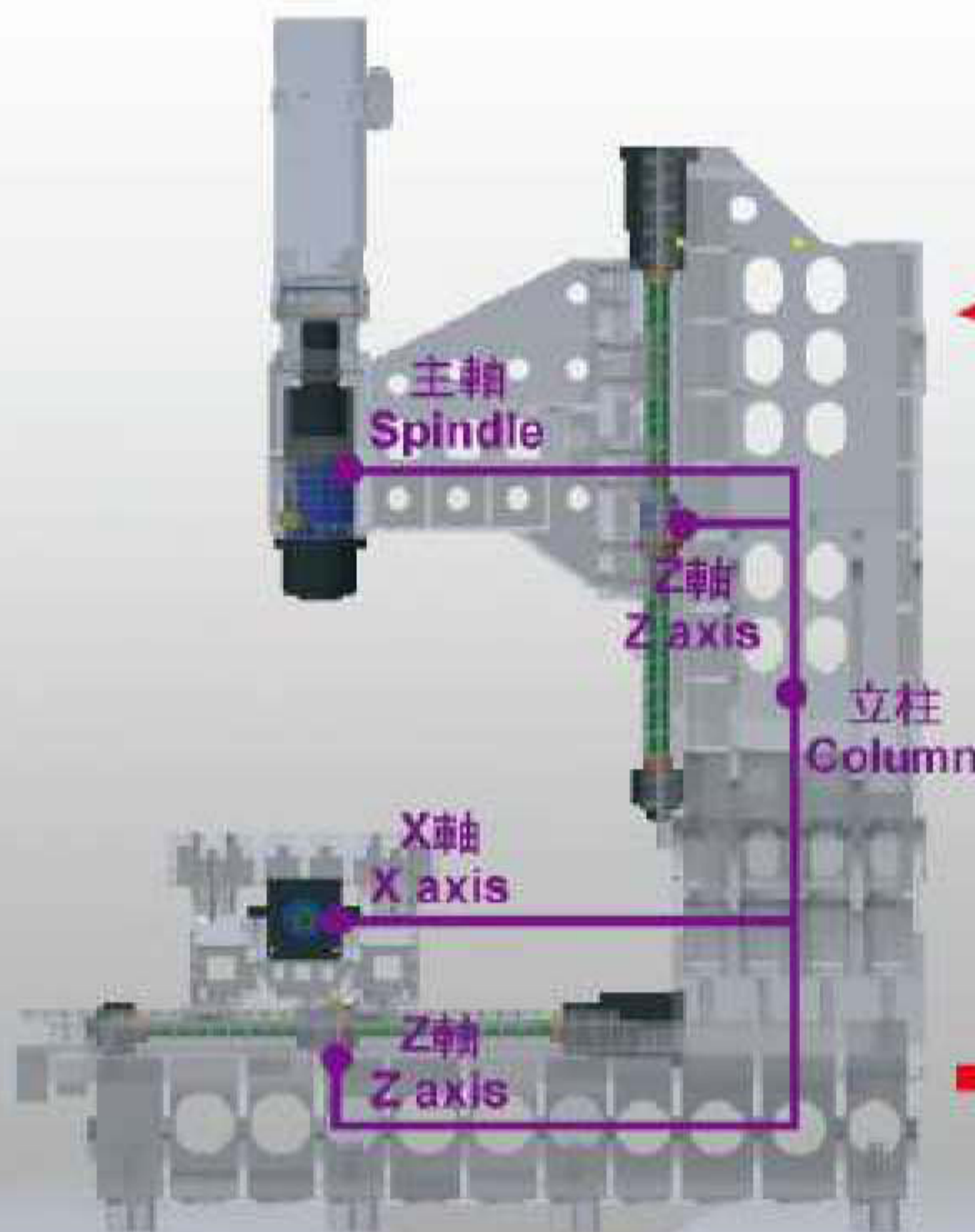
- 三軸螺桿配置冷卻系統，有效抑制熱伸長量，大幅減少冷熱機誤差，提升加工精度及穩定性。
- Ball screw cooling system can reduce thermal elongation effectively, improve cutting accuracy and stability.

- 暖機時可直接確認主軸實際溫度，確保主軸熱伸長量。主軸切削時，亦可即時監看溫度變化及提供溫升保護功能。
- To check thermal elongation of spindle when warming-up machine. Monitor spindle temperature during machining, provide a safety system to protect spindle when temperature is too high.



機台溫度監控

Machine Temperature Monitor System



CNC監控
CNC Monitor

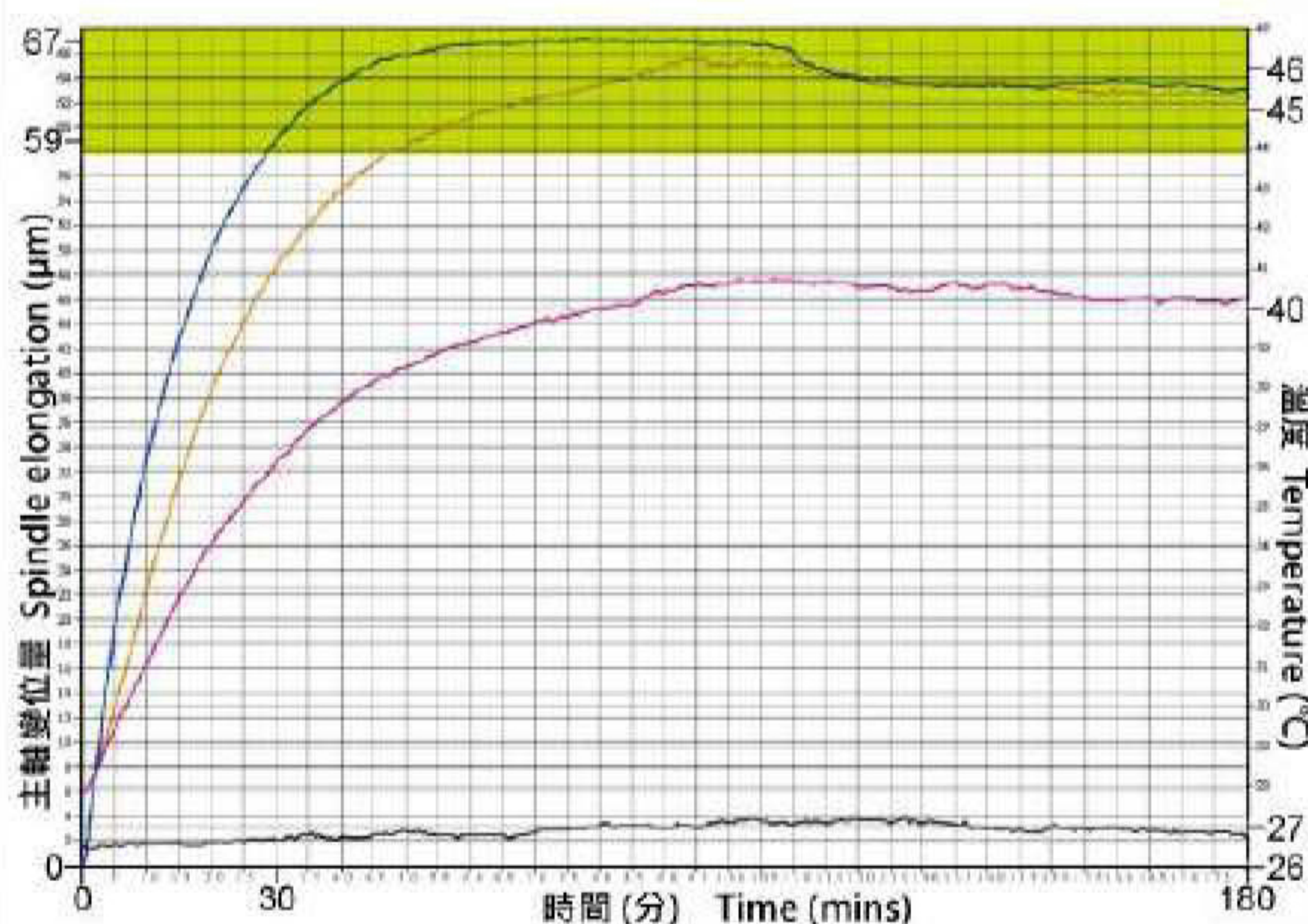


- 提供適當的冷卻能力，穩定各軸精度。
- Provide proper cooling to stabilize the accuracy of each axis.

- 工作溫度異常時，發出警告訊息，確保加工良率。
- When the temperature is abnormal, controller will show the message to ensure the processing yield.

- 機台監控狀態設定為良好、普通、停機，做為機台工作及排修時程依據。
- Machine monitoring is set to be good, normal, and stop, as the basis for the work and maintenance time of the machine.

油氣潤滑主軸 Big Plus Oil-air Idd Type Spindle



主軸最高速度運轉30分鐘後，熱伸長量可保持在0.008mm以內。
Warm-up spindle in max. speed in 30 minutes, thermal elongation of spindle can be maintained less than 0.008mm.

- 主軸鼻端伸長量 Spindle nose thermal elongation
- 前軸承 Front bearing
- 後軸承 Rear bearing
- 室溫 Room temperature



- 主軸轉速可選購12000 / 15000 / 20000轉。
- 採用油氣潤滑可直接帶走主軸熱源，有效減少熱伸長。
- 藉由油氣常態性潤滑可連續高速運轉。
- 氣幕設計可隔絕冷卻液及切屑。

- Spindle speed 12000 / 15000 / 20000 rpm for option.
- Oil-air lubrication can take away the heat from spindle directly, reduce thermal temperature effectively.
- Oil-air lubrication spindle can work continuously.
- Air curtain design can separate coolant and chip.



循圓及雷射 Ball Bar And Laser Inspection

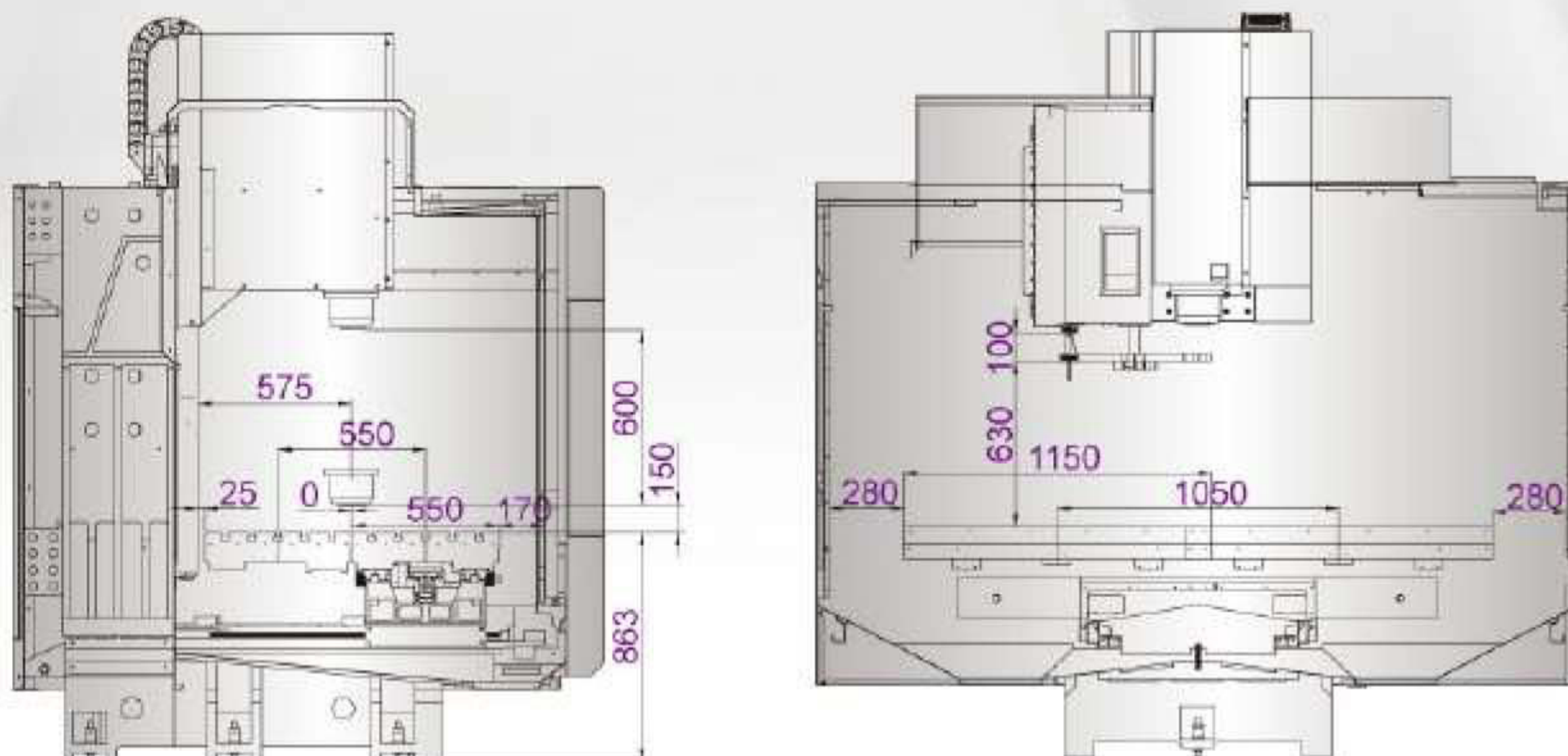
- 每台機台均會以循圓及雷射檢驗，依德國VDI 3441規定檢測。
- Each machine will be inspected by Ball Bar testing and Laser calibration according to VDI 3441.

試加工工件成品 Cutting Test

- 每台機台，於組裝過程中檢驗靜態精度，調機完成後進行雷射及循圓檢驗，最後進行加工件測試，以確認組裝品質及動態精度。
- Each machine will do actual cutting performance tests to confirm the quality and accuracy before shipping.

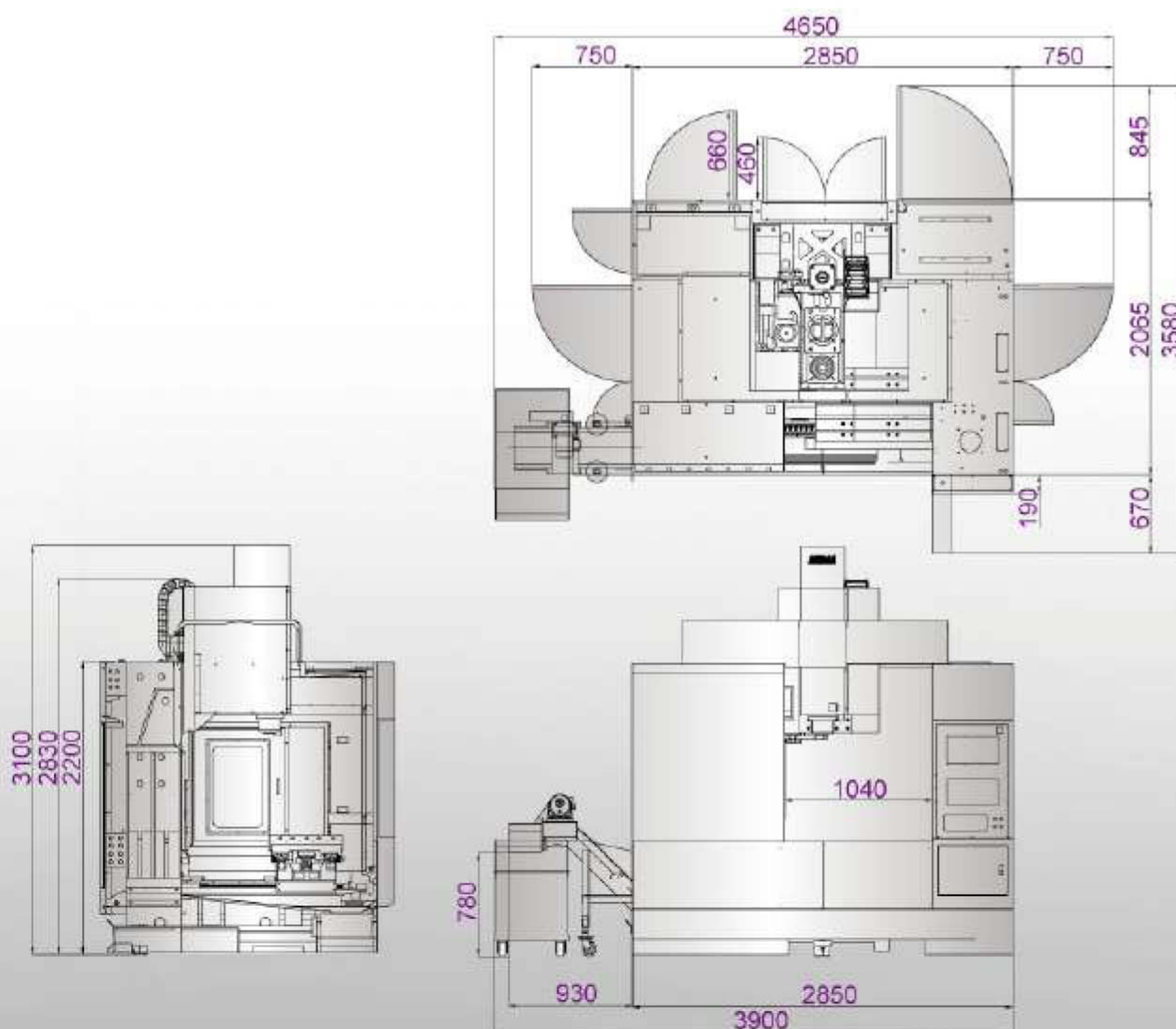
加工行程圖 Work Range

unit:mm



佔地面積圖 Floor Space

unit:mm



項目 Item	Unit	THN-1050
工作台 TABLE		
工作台尺寸 Table Size	mm	1150 x 550
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最大荷重 Max. Table Load	kg	500
行程 TRAVEL		
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主軸 SPINDLE		
錐度 Taper		#40
轉速 Speed	RPM	10000 / 12000 / 15000 / 20000
馬力 Power	KW	7.5 / 11 (FANUC)
軌道 SLIDE WAY		
形式 Type	Linear Guide Way	Roller Type 滾柱線軌
軌道數量 No. of slide way		2 / 3 / 2
進給 FEEDRATE		
切削進給 Cutting feed	mm/min.	10000
快送速度 Rapid Feedrate X/Y/Z	M/min.	48 / 48 / 32
刀庫 ATC		
刀數 Tool No.		24
刀把形式 Tool shank		BT
#40 最大刀長 #40 Max. tool DIA.x length	mm	75 x 300
#40 最大刀具重量 #40 Max. tool weight	kg	7
其他規格 GENERAL		
電源容量 Power capacity	KVA	30
氣壓 Air Pressure	kg/cm	6
機械尺寸(門關) Machine Size (Door Close)	mm	2850 x 2285 x 3100
機械尺寸(門開) Machine Size (Door Open)	mm	4350 x 3580 x 3100
機械尺寸(搭配輸送機最大占地面積) Machine Size(Max. floor space with chip conveyor)	mm	4650 x 3580 x 3100
機械尺寸(搭配螺旋排屑最大占地面積) Machine Size(Max. floor space with screw type chip conveyor)	mm	4350 x 3580 x 3100
重量 Machine Weight	kg	5500