

新穎機械工業股份有限公司
SIGMA CNC Technology Machinery Co., Ltd.

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Products

- CNC Double Column Machining Center
- CNC Double Column High Speed Machining Center
- CNC Double Column 5-Face Machining Center
- CNC Double Column 5-Axis Machining Center
- CNC Double Column Crossrail Machining Center
- CNC High Speed Horizontal Machining Center with APC
- CNC Moving Column Horizontal Machining Center
- CNC High Precision Grinding Machine

產品

- CNC 龍門型切削加工中心機
- CNC 龍門型高速切削加工中心機
- CNC 龍門型五面切削加工中心機
- CNC 龍門型五軸切削加工中心機
- CNC 橫樑升降式龍門型切削加工中心機
- CNC 高速臥式加工中心機
- CNC 動柱式臥式加工中心機
- CNC 高精密次微米龍門磨床



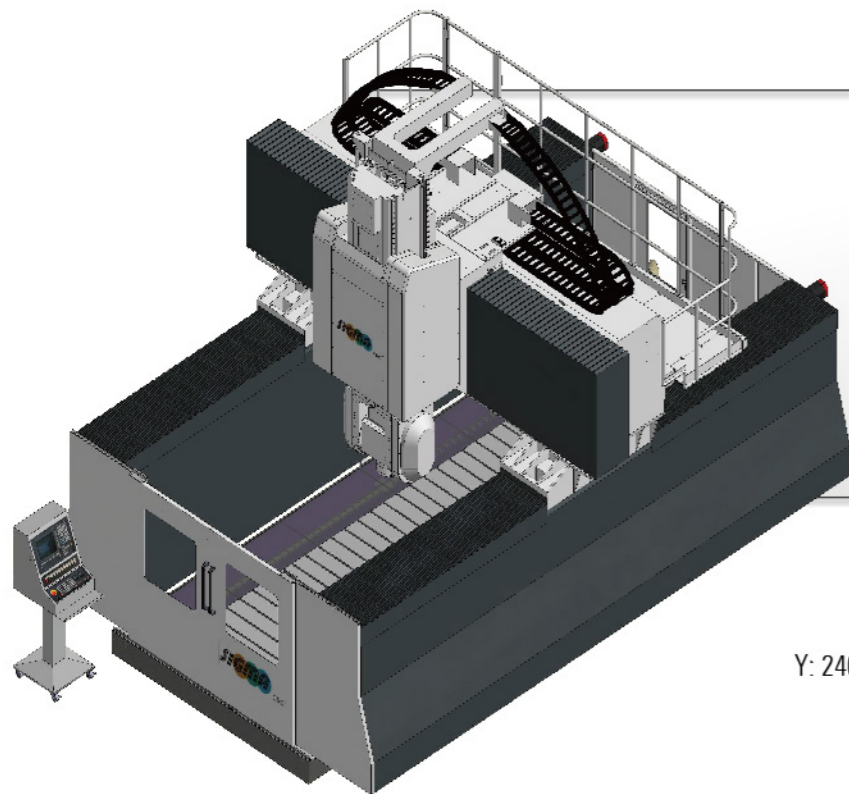
CNC 5-Axis Double Column Machine Center

www.sigmacnc.com.tw

**CNC五軸龍門
加工中心機**

S5A-GT series

Gantry type 天車式龍門



SIGMA CNC S5A series & S5A-GT series are Large CNC 5-Axis Machining Center, it could machining complex plane and surface. All Task can be machined in one clamping and high precision is ensured that reducing the processing time and raising work performance. Suit for the manufacturing of Mold making, Automotive parts making, Aerospace parts making and biotechnology medical parts making etc.

Z: 1000 / 1200 / 1400mm
Y: 2400 ~ 3900mm
X: 3200 ~ 6200mm

S5A series

Fixed Column type 定柱式龍門

新穎機械 S5A系列與S5A-GT系列皆是大型CNC五軸加工中心機，可加工複雜的平面與曲面，並且其工件僅需一次的夾持，便能完成所需的加工及達到高精度的要求，進而節省加工時間，提高整體工作效率；特別適合應用於汽車產業，航太產業，造船產業，生技醫療產業等等的複雜零件之加工。



Z: 760 / 1000mm
Y: 1500 ~ 3400mm
X: 2000 ~ 4200mm

Technical Data 技術資料

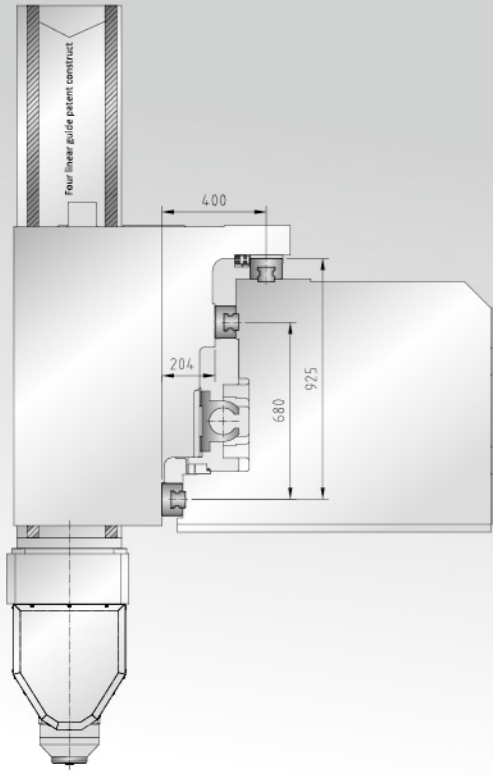
系列	
Controller 控制器	Siemens 840D or Heidenhain iTNC 640HSCI
2-Axis Milling Head 兩軸頭	TRAMEC: AC-5TK, AC-6, AC-8M, AC-11 MAINTECH: SHA-190, SHA-250, SHG, SHM
Drive Technology 三軸傳動	
X-axis	Linear Motor Drive 線性馬達傳動
Y-axis	Linear Motor Drive 線性馬達傳動
Z-axis	Linear Motor Drive 線性馬達傳動
Auto Tool Changer 刀庫	24pcs/32pcs/40pcs/60pcs...more
Travels Distance 三軸行程	X: 3200 ~ 6200 mm Y: 2400 ~ 3900 mm Z: 1000 / 1200 / 1400 mm
Machine Table 工作台	3000~6000 x 1700~3700 mm
Travel Speed 三軸快速進給	
X-axis	60m/min
Y-axis	60m/min
Z-axis	40m/min
Materials 可加工材質	Titanium, Aluminium, Plastic, CFRP, Wooden 鈦合金、鋁合金、塑膠、碳纖維、木型

Technical Data 技術資料

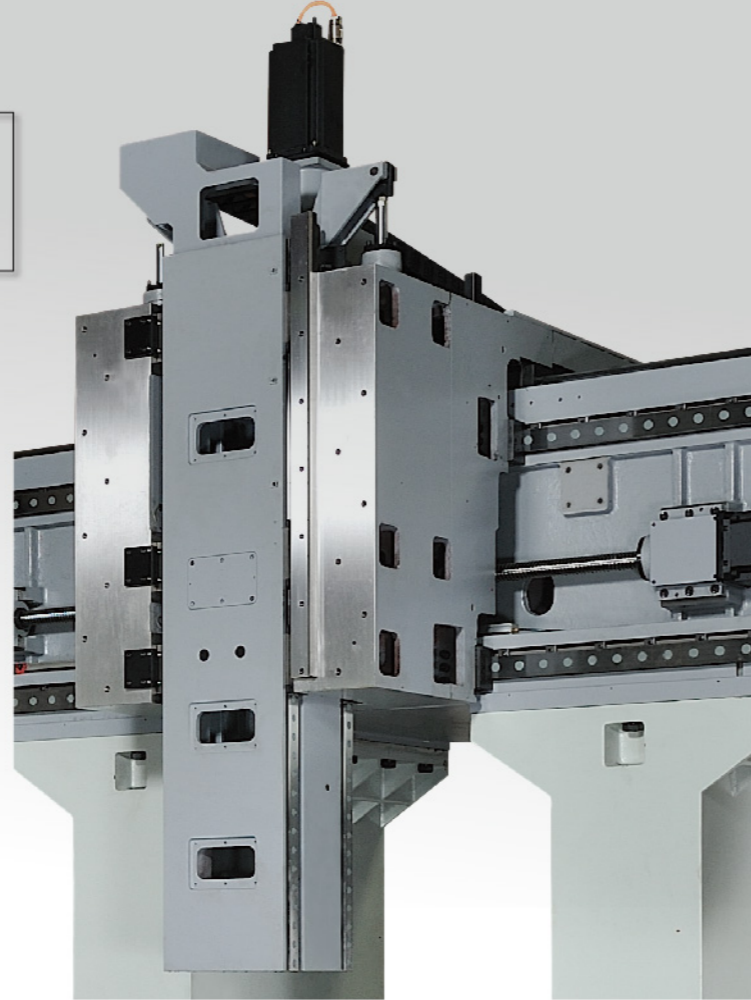
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Drive Technology 三軸傳動	
X-axis	Ball Screw Drive 滾珠螺桿傳動
Y-axis	Ball Screw Drive 滾珠螺桿傳動
Z-axis	Ball Screw Drive 滾珠螺桿傳動
Auto Tool Changer 刀庫	24pcs/32pcs/40pcs/60pcs...more
Travels Distance 三軸行程	X: 2000 ~ 4200 mm Y: 1500 ~ 3400 mm Z: 760 / 1000 mm
Machine Table 工作台	2000~4000 x 1200~3200 mm
Travel Speed 三軸快速進給	
X-axis	20m/min
Y-axis	20m/min
Z-axis	15m/min
Materials 可加工材質	Aluminium, Plastic, CFRP, Wooden 鋁合金、塑膠、碳纖維、木型

Features 結構特性

High Rigidity Special Structure Design (Patent) 高剛性的特殊專利結構設計



專利編號
No. 282769
No. 286082
No. 459057



Z-axis Special Design

- The spindle head and Z-axis are designed with 4 roller linear guideways (RG45) and a box-way construction with double closed type hydraulic balance system. During heavy cutting vibrations are eliminated, and during fine cutting inert does not occur, resulting in higher surface accuracy.

Z軸主軸頭四滾柱線性滑軌結構設計

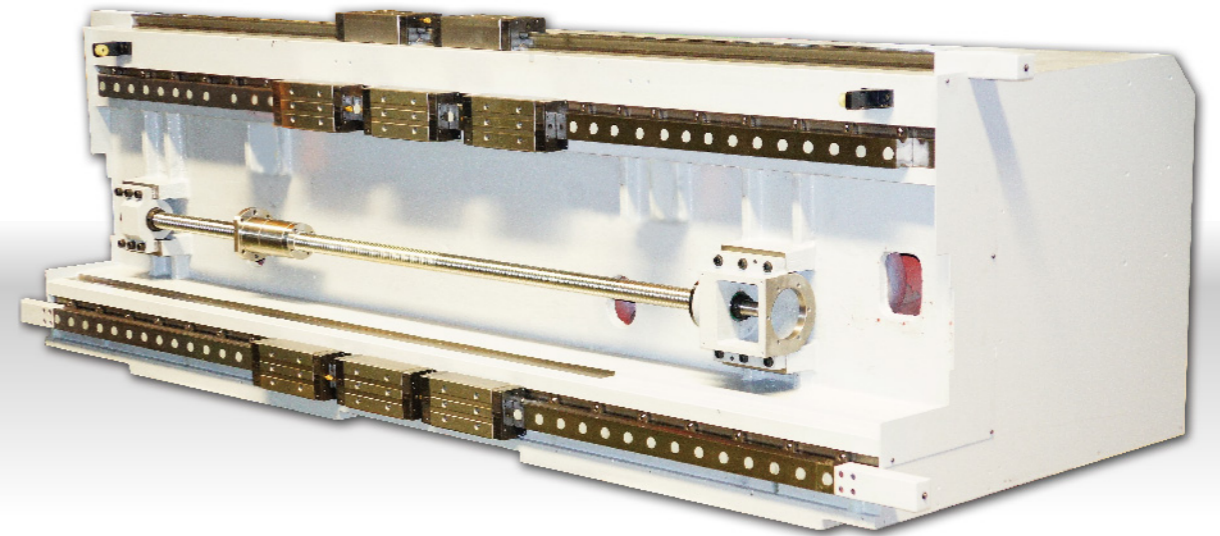
- Z軸主軸頭使用RG45型滾柱型線性滑軌，並以四線軌開放式箱型結構體設計及雙閉迴路油壓配重平衡系統，當重切削時能予以緩和吸震，精加工時不會有遲滯現象，能使機台得到更好的加工表面精度。

Y-axis Cross Bridge with 3 roller linear guideways

- Cross bridge and Y-axis configured by 3 roller linear guideways (RG65) on horizontal and vertical directions (two on the front face of bridge, one on the top face of bridge) that offer greater stability and rigidity for the machine. (Patent)

Y軸橫樑3滾柱線性滑軌專利結構設計

- Y軸橫樑與主軸頭滑座間使用3支RG65型滾柱行線性滑軌，排列方式以水平及垂直方向搭配，比一般平行排列方式之剛性增加50%以上 (獨家結構專利)



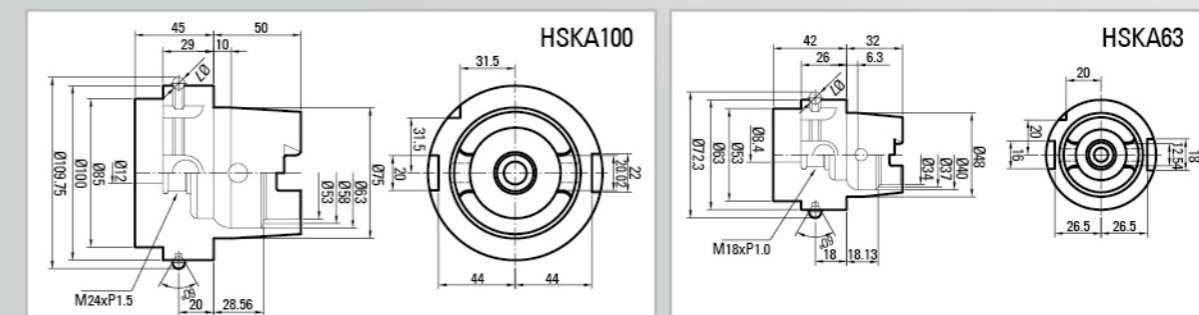
Auto Tool Length Diameter Measuring System & Auto Touch Probe System (option)

自動刀長刀徑量測系統及自動定中心量測系統 (選配)



Auto Tool Change System 自動換刀系統

24pcs/32pcs/40pcs/60pcs...more
HSK-A63 or HSK-A100



Optional Accessories
選配附件

Technical Detail and Equipment Options

技術資料及選配

2-axis Milling Head 2軸銑頭

TRAMEC (Made in Germany 德製進口)



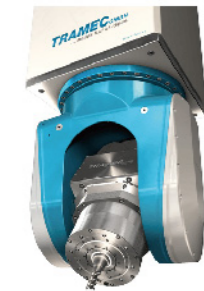
AC-5TK

- Spindle Speed: 18000rpm, HSK-A63
 - Spindle Power(S1): 28KW
 - Spindle Torque (S1): 89Nm
 - A-axis Simultaneous Torque: 1000Nm
 - A-axis Clamping Torque: 2000Nm
 - C-axis Simultaneous Torque: 1000Nm
 - C-axis Clamping Torque: 2000Nm
- 主軸轉速: 18000rpm, HSK-A63
 - 主軸馬力(S1): 28KW
 - 主軸扭力 (S1): 89Nm
 - A軸連續軸向扭矩: 1000Nm
 - A軸軸向煞車扭矩: 2000Nm
 - C軸連續軸向扭矩: 1000Nm
 - C軸軸向煞車扭矩: 2000Nm



AC-6

- Spindle Speed: 15000rpm, HSK-A100
 - Spindle Power(S1): 63KW
 - Spindle Torque (S1): 300Nm
 - A-axis Simultaneous Torque: 1500Nm
 - A-axis Clamping Torque: 6000Nm
 - C-axis Simultaneous Torque: 1500Nm
 - C-axis Clamping Torque: 6000Nm
- 主軸轉速: 18000rpm, HSK-A63
 - 主軸馬力(S1): 63KW
 - 主軸扭力 (S1): 300Nm
 - A軸連續軸向扭矩: 1500Nm
 - A軸軸向煞車扭矩: 6000Nm
 - C軸連續軸向扭矩: 1500Nm
 - C軸軸向煞車扭矩: 6000Nm



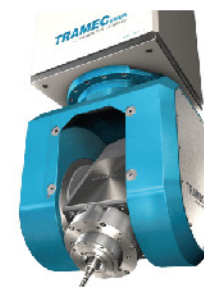
AC-8M_150

- Spindle Speed: 15000rpm, HSK-A100
 - Spindle Power(S1): 63KW
 - Spindle Torque (S1): 300Nm
 - A-axis Simultaneous Torque: 1500Nm
 - A-axis Clamping Torque: 6000Nm
 - C-axis Simultaneous Torque: 1500Nm
 - C-axis Clamping Torque: 6000Nm
- 主軸轉速: 15000rpm, HSK-A100
 - 主軸馬力(S1): 63KW
 - 主軸扭力 (S1): 300Nm
 - A軸連續軸向扭矩: 1500Nm
 - A軸軸向煞車扭矩: 6000Nm
 - C軸連續軸向扭矩: 1500Nm
 - C軸軸向煞車扭矩: 6000Nm



AC-8M_300

- Spindle Speed: 8000rpm, HSK-A100
 - Spindle Power(S1): 93KW
 - Spindle Torque (S1): 445Nm
 - A-axis Simultaneous Torque: 3000Nm
 - A-axis Clamping Torque: 6000Nm
 - C-axis Simultaneous Torque: 3000Nm
 - C-axis Clamping Torque: 6000Nm
- 主軸轉速: 8000rpm, HSK-A100
 - 主軸馬力(S1): 93KW
 - 主軸扭力 (S1): 445Nm
 - A軸連續軸向扭矩: 3000Nm
 - A軸軸向煞車扭矩: 6000Nm
 - C軸連續軸向扭矩: 3000Nm
 - C軸軸向煞車扭矩: 6000Nm



AC11

- Spindle Speed: 22000rpm, HSK-A63
 - Spindle Power(S1): 20KW
 - Spindle Torque (S1): 30Nm
 - A-axis Simultaneous Torque: 350Nm
 - A-axis Clamping Torque: 760Nm
 - C-axis Simultaneous Torque: 350Nm
 - C-axis Clamping Torque: 760Nm
- 主軸轉速: 18000rpm, HSK-A63
 - 主軸馬力(S1): 20KW
 - 主軸扭力 (S1): 30Nm
 - A軸連續軸向扭矩: 350Nm
 - A軸軸向煞車扭矩: 760Nm
 - C軸連續軸向扭矩: 350Nm
 - C軸軸向煞車扭矩: 760Nm

MAINTECH PRECISION (Made in Taiwan 台灣製造)



DD Motor



DD Motor



Warm Gear Drive

電主軸 Electric spindle
適用系列 Applied for:
SHA、SHE、SHS、
SHU、SHG

SHA-190

二軸頭 Simultaneous milling head	C 軸 (旋轉) C-Axis(rotation)	A 軸 (搖擺) A-Axis(swing)
旋轉扭力 (連續/最大) Rotational torque (Continuous / Maximum)	688 / 1250 N·m	634 / 1164 N·m
旋轉速度 Rotational speed	100 rpm	
旋轉角度 Rotational angle	±200° (±360° opt.)	±110°
夾緊力 Clamping force	1680 N·m	2000 N·m

SHA-250

二軸頭 Simultaneous milling head	C 軸 (旋轉) C-Axis(rotation)	A 軸 (搖擺) A-Axis(swing)
旋轉扭力 (連續/最大) Rotational torque (Continuous / Maximum)	1376 / 2500 N·m	1106 / 1980 N·m
旋轉速度 Rotational speed	100 rpm	
旋轉角度 Rotational angle	±200° (±360° opt.)	±110°
夾緊力 Clamping force	3000 N·m	4000 N·m

SHG

二軸頭 Simultaneous milling head	C 軸 (旋轉) C-Axis(rotation)	A 軸 (搖擺) A-Axis(swing)
旋轉扭力 (連續/最大) Rotational torque (Continuous / Maximum)	1320 / 4560 N·m	1584 / 5472 N·m
旋轉速度 Rotational speed	30rpm	
旋轉角度 Rotational angle	±200°	±110°
齒數比 Gear ratio	1 / 60	1 / 72
夾緊力 Clamping force	4000 N·m	

主軸 Spindle	HCS-170g	HCS-190g	HCS-220g	HCS-250g
扭力 S6 (60%) Torque S6	39	79.8 N·m	197.3 N·m	303 N·m
功率 S6 (60%) Power S6	24 kw	38 kw		31 kw
旋轉速度 Rotational speed	20000 rpm		10000 rpm	
刀具 Cutter	HSK-A63		HSK-A100	
潤滑 Lubrication	油脂 / 油氣 Grease / Oil air			

選配：中心出水 20BAR ~ 70BAR+ 過濾機
Optional : Coolant through spindle 20BAR ~ 70BAR + Filter

SHM (特適用於難削材切削 Applied for difficult-to-cut Materials processing)

二軸頭 Simultaneous milling head	C 軸 (旋轉) C-Axis(rotation)	A 軸 (搖擺) A-Axis(swing)
齒數比 Gear ratio	1 / 360	
旋轉扭力 (連續/最大) Rotational torque (Continuous / Maximum)	1476 / 5760N·m	
旋轉速度 Rotational speed	5 rpm	
旋轉角度 Rotational angle	±200°	±110°
夾緊力 Clamping force	4000 N·m	
主軸 Spindle	BT-50	
最大輸出轉速 Maximum output rotational speed	2000 rpm / 4000 rpm (opt.)	
最大馬力 Maximum horsepower	30 kw	
最大扭力 Maximum torque	1500 N·m	



Warm Gear Drive
& Mechanical Spindle