

CNC 高精度CAM外圓磨床 CNC High Precision CAM Cylindrical Grinder

SCS-2040B (滾珠螺桿傳動 / Ballscrew transmission)

SCS-2040L (X軸線性馬達驅動 / Linear motor drive on X-axis)



- 液靜壓式砂輪主軸
- 標準圓度 ≤ 0.0015mm
- 表面粗度 ≤ Ra0.2
- Hydrostatic type wheel spindle
- Standard roundness ≤ 0.0015mm
- Surface roughness ≤ Ra0.2

SCS-3205 X軸(線性馬達驅動 / Linear motor drive)

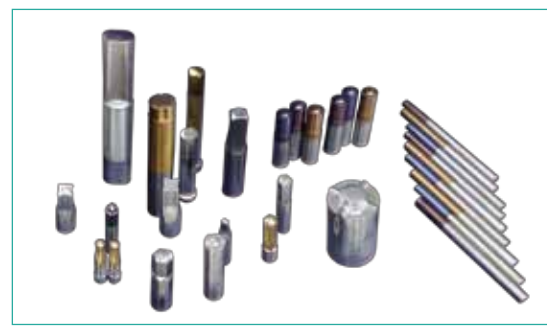
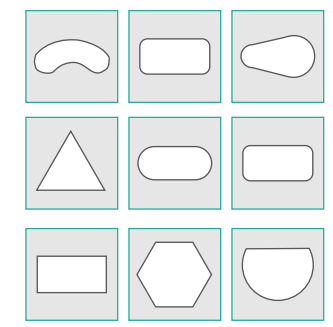
Z, C 軸(伺服馬達驅動 / Servomotor drive)



- 液靜壓式砂輪主軸
- 圓度 ≤ 0.002mm
- 曲線輪廓度 ≤ 0.004mm
- Hydrostatic type wheel spindle
- Roundness ≤ 0.002mm
- Curve contour accuracy ≤ 0.004mm



適用研磨工件：
偏心軸 / 凸輪 / 異形工件 / 沖頭



Applicable Grinding Parts:
Eccentric shafts / Cams / Profiled parts / Punches

規格 SPECIFICATIONS		SCS-2040B	SCS-2040L	SCS-3205
工作能力 Capacity	兩頂尖孔最大距離	Distance between centers	400 mm	500 mm
	工作台最大旋徑	Swing over table	200 mm	320 mm
	最大承受重量	Max. load of centers	80 kg	100 kg
	最大加工直徑	Max. grinding diameter	190 mm	300 mm
系統規格 Control system	西門子	Siemens	-	-
主軸台(頭架) Work Spindle Head	主軸驅動	Spindle drive	D,D MOTOR	D,D MOTOR
	鼻端尺寸	Spindle nose specif.	A2-4	A2-6
	回轉角度	Swivel angle	固定式 Fixed	固定式 Fixed
	通孔徑	Thru-hole diameter	37 mm	45 mm
尾座 Tailstock	主軸驅動	Quill drive	油壓(選配) Hyd. (Opt.)	油壓(選配) Hyd. (Opt.)
	頂尖	Center taper	MT4	MT4
	回裝角度	Swivel angle	固定式 Fixed	固定式 Fixed
	行程	Travel	32 mm	32 mm
砂輪進刀 (縱向進給X軸) Wheel Feed (Long. Feed X-axis)	X軸進給速度	X-axis feed rate	0.1~6 m/min	0.1~6 m/min
	X軸行程	X-axis travel	180 mm	230 mm
	X軸定位精度	X-axis positioning accuracy	≤0.003 mm	≤0.003 mm
	X軸重複定位精度	X-axis repeatability	≤0.002 mm	≤0.002 mm
	最小設定單位	Min. setting unit	0.0001 mm	0.0001 mm
	X軸進給控制精度	X-axis feed accuracy	0.001 mm	0.001 mm
	砂輪尺寸	Wheel sizes	405 mm x MAX70 mm x 47 mm	600 mm x MAX100 mm x 304.8 mm
	砂輪線速度	Linear speed of wheel	45 m/s	45 m/s / 80 m/s(Opt.)
工作臺 (橫向進給Z軸) Table (Cross Feed Z-axis)	Z軸方向進給速度	Z-axis feed rate	0.1~6 m/min	0.1~6 m/min
	Z軸方向最小脈衝當量	Min. pulse equivalent on Z-axis	0.001 mm	0.001 mm
	Z軸方向行程	Z-axis travel	650 mm	750 mm
	Z軸進給控制精度	Z-axis feed accuracy	≤0.003 mm	≤0.003 mm
	Z軸定位精度	Z-axis positioning accuracy	≤0.005 mm	≤0.005 mm
	Z軸重複定位精度	Z-axis repeatability	≤0.003 mm	≤0.003 mm
馬達功率 Motor	砂輪主軸伺服馬達	Wheel spindle servomotor	5 KW	10 KW
	工作主軸伺服馬達	Work spindle servomotor	1.5 KW	1.5 KW
	X軸伺服馬達	X-Axis servomotor	1.5 KW	2700N (直線電機)
	Z軸伺服馬達	Z-Axis servomotor	1.5 KW	3400N (直線電機)
機床占地 Machine Dimensions	冷卻液馬達	Coolant motor	0.2 KW	0.2 KW
	油壓馬達	Hyd. motor	1.5 KW	1.5 KW
	機器尺寸	Machine dimensions	2730 mm x 2500 mm x 1980 mm	3450 mm x 2500 mm x 1980 mm
	淨重	Net weight	3350 KG	4300 KG
	毛重	Gross weight	3600 KG	4500 KG

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CNC外圓磨床
SRU 系列直進式
SRA 系列斜進式
CAM外圓磨床
SCS 系列

CNC CYLINDRICAL GRINDER
SRU Series Plunge Grinding
SRA Series Angular Grinding
CAM CYLINDRICAL GRINDER
SCS Series

CNC 高精度外圓磨床

CNC High Precision Cylindrical Grinder

SRU-2040 (直進式 / Plunge Grinding)

SRA-2040 (斜進式 / Angular Grinding)



SRU-3205 (直進式 / Plunge Grinding)

SRA-3205 (斜進式 / Angular Grinding)



SIGMA TOP GRINDER MACHINERY CO., LTD.

技術與精度的結晶

A Combination of Technology and Precision

先進CNC控制器

本機配備最先進的CNC控制器，附教導式畫面。易學易操控。自動以圖形對話產生加工程式。可大幅降低準備前置時間，提升加工效率。

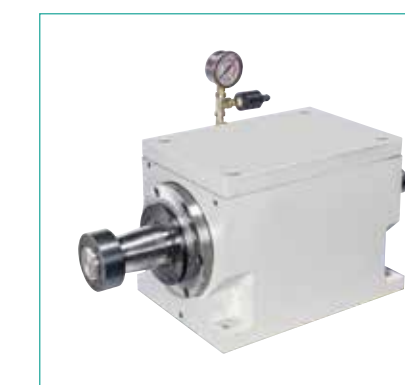
Advanced CNC Control

The machine is equipped with the latest CNC control with teach-in programming and is easy to operate. Machining programs are automatically generated through graphic dialog. This greatly saves on preparation time while increasing efficiency.



規格 SPECIFICATIONS		SRU-2040	SRA-2040	SRU-3205	SRA-3205	SRU-3207	SRA-3207	SRU-3205W	SRU-3207W
能力 Capacity	兩頂心間最大距離	Distance between centers		420 mm		520 mm		720 mm	720 mm
	工作台最大旋徑	Swivel over table		200 mm		320 mm		320 mm	
	兩頂心間最大承受重量	Max. load of centers		80 kg		100 kg		100 kg	
	研磨最大外徑	Max. external grinding diameter		190 mm		300 mm		300 mm	300 mm
	真圓度	Roundness		0.8 μ		0.8 μ		0.8 μ	0.8 μ
	機械定位精度	Machine Position Accuracy		1 μ		1 μ		1 μ	1 μ
研磨座 Wheel head	旋轉角度	Swivel angle		±30°		-		-	-
	砂輪尺寸外徑×寬×內徑	Wheel O.D. x width x I.D.		405 mm x MAX 70 mm x 127 mm		600 mm x MAX 100 mm x 304.8 mm		600 mm x MAX 200 mm x 304.8 mm	
	砂輪座行程	Wheel head travel		180 mm		230 mm		230 mm	230 mm
	最大行程	Max. travel		180 mm		230 mm		230 mm	230 mm
	最小設定單位	Min. setting unit		0.001 mm		0.001 mm		0.001 mm	0.001 mm
	快速進給速率	Rapid traverse rate		6 m/min		6 m/min		6 m/min	6 m/min
	研磨進給速率	Grinding feed rate		0.01-6000 mm/min		0.01 - 6000 mm/min		0.01 - 6000 mm/min	0.01 - 6000 mm/min
	旋轉角度	Swivel angle		-3°~+12°		-3°~+12°		520 mm -3°~+12°	
工作台 Table	最大行程	Max. travel		420 mm		520 mm		720 mm	720 mm
	快速進給速率	Rapid traverse rate		8 m/min		8 m/min		8 m/min	8 m/min
	最小設定單位	Min. setting unit		0.001 mm		0.001 mm		0.001 mm	0.001 mm
	研磨進給速率	Grinding feed rate		0.01 - 6000 mm/min		0.01 - 6000 mm/min		0.01 - 6000 mm/min	0.01 - 6000 mm/min
主軸台 Work spindle head	主軸驅動	Spindle motor		SERVO MOTOR		SERVO MOTOR		SERVO MOTOR	SERVO MOTOR
	傳動型式	Transmission type		fixed / chuck workhead		-		-	-
	旋轉角度	Swivel angle		90°~30°		90°~30°		90°~30°	90°~30°
	頂針	Center taper		MT4		MT4		MT4	MT4
尾座 Tailstock	行程	Travel		20 mm		25 mm		25 mm	25 mm
	頂針	Center taper		MT4		MT4		MT4	MT4
馬達 Motor	驅動馬達	Drive motor		X-axis 1 kw		X-axis 1.5 kw		X-axis 1.5 kw	X-axis 1.5 kw
	砂輪主軸馬達	Wheel spindle		Z-axis 1.5 kw		Z-axis 2.2 kw		Z-axis 2.2 kw	Z-axis 2.2 kw
	工作主軸伺服馬達	Workload spindle		5HP		10HP		10HP	10HP
	油壓泵浦	Hydraulic pump		0.75 kw		1 kw		1 kw	1 kw
	冷卻液泵浦	Coolant pump		2HP		2 HP		2 HP	2 HP
機器尺寸 Machine dimensions	機器尺寸	Machine dimensions		1/4HP		1/4 HP		1/4 HP	1/4 HP
	淨重	Net weight		2730 x 2500 x 1980 mm		3450 x 2500 x 1980 mm		3450 x 2500 x 1980 mm	3700 x 2500 x 1980 mm
	毛重	Gross weight		3350 kg		4300 kg		4500 kg	4700 kg

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砂輪主軸靜壓軸承

砂輪主軸採用鍍鉻鉬合金鋼(SNCM-220)精密加工而成。搭配靜壓軸承支撐，大幅提升主軸運轉的穩定性與最小溫升。

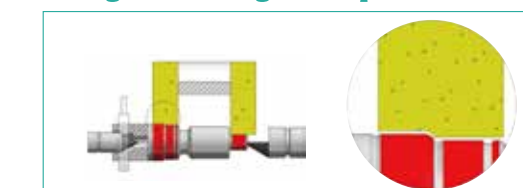
Grinding Wheel Spindle Supported by Hydro-static Bearing

The grinding wheel spindle is precision machined from Nickel Chromolybedenum alloy steel (SNCM-220). It is supported by hydro-static bearing, which greatly upgrades the spindle running stability while reducing temperature growth to a minimum.



SRU系列

直進式研磨示意圖 Plunge Grinding Examples



SRA系列

斜進式研磨示意圖 Angular Grinding Examples

