



MADE IN GERMANY

六萬轉增速器

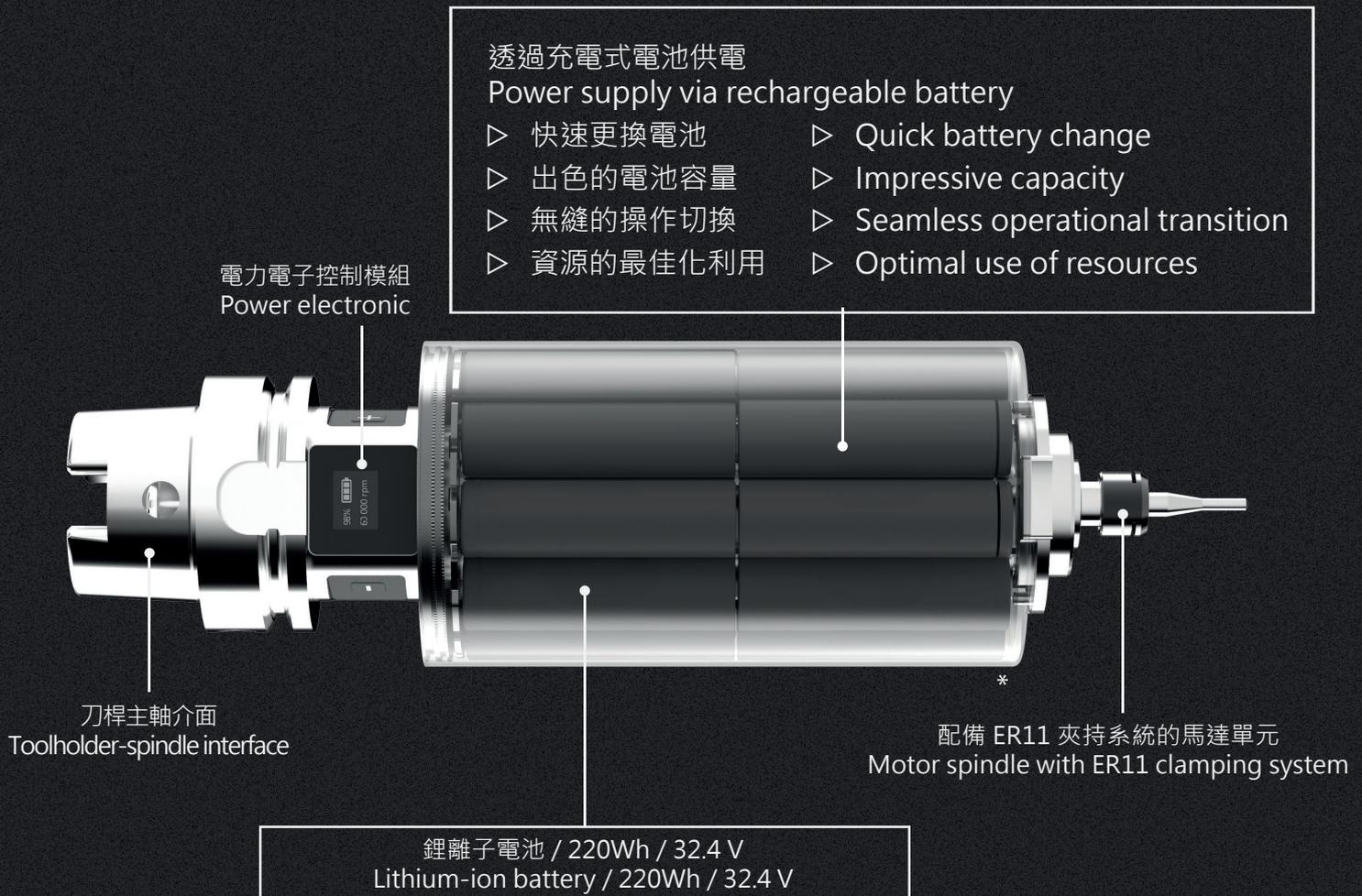
60,000 RPM

High-Speed Battery Spindle



六萬轉增速器的創新設計

THE INNOVATIVE DESIGN OF THE SPEEDER 60 ER11



全方位整合 ALL IN ONE

增速器的核心組件是一個高頻馬達主軸，配備了永磁同步馬達 (PM synchronous motor)，可實現最高達 60,000 rpm 的加工轉速。

所採用的 ER11 夾持系統可夾持直徑最高達 7mm 的刀具。

特別研發的變頻器展現了卓越的技術創新。

儘管體積小巧，卻擁有令人印象深刻的性能，特別是在高精度且穩定的轉速控制方面表現出色，輸出功率最高可達 500 瓦。

透過資訊顯示螢幕與內建按鍵，即可輕鬆直覺地操作增速器。

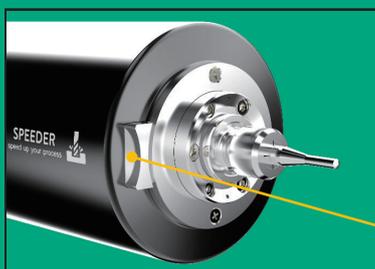
The central component of the SPEEDER is a high-frequency motor spindle, which is equipped with a PM synchronous motor and enables machining speeds of up to 60,000 rpm.

Tool shanks up to \varnothing 7mm can be clamped in the ER11 clamping system used.

The specially developed frequency inverter represents an outstanding technological innovation.

Despite its small size, it offers impressive performance and impresses in particular with highly accurate and stable speed control and an output power of up to 500 watts.

Effortless and intuitive operation of the SPEEDER is possible via the info display and the built-in buttons.



系統的能源供應由充電式電池提供，其電量足以支援長達 8 小時的連續運作。電池透過操作簡易的卡扣鎖 (bayonet lock) 進行更換，僅需數秒鐘即可完成。

The energy supply of the system is provided by a rechargeable battery with a capacity for up to 8 hours of continuous operation. The battery is changed via an easy-to-operate bayonet lock and is done in seconds.

卡扣鎖 Bayonet lock

六萬轉增速器 / 產品亮點

SPEEDER 60 ER 11 / HIGHLIGHTS

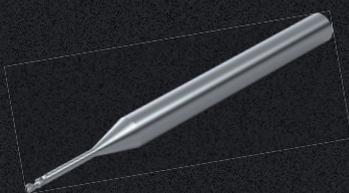


產品亮點HIGHLIGHTS

高速6萬轉 High-speed 60,000 RPM



微小徑鑽孔
Micro-drilling



微小徑銑削
Micro-milling



超硬材料磨削
Grinding of superhard materials

維修服務 / 電池更換

SPINDLE SERVICE / BATTERY CHANGE

除了透過卡扣鎖輕鬆更換電池外，僅需拆卸三顆螺絲即可將主軸單元與馬達單元分離，實現快速維修服務。

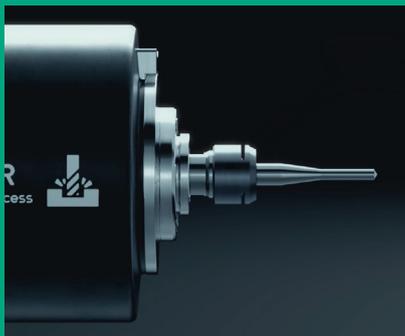
In addition to the simple battery change via the bayonet lock, it is also possible to detach the spindle unit from the base unit using three screws. This enables fast service.



- ▷ 僅需 3 顆螺絲即可更換馬達
- ▷ 無須工具即可更換電池

- ▷ Motor replacement via 3 screws
- ▷ Battery replacement without tools

隨插即用方式 PLUG & PLAY



裝入刀具
Insert tool



設定轉速
Set rotation speed



放入刀庫
Insert into magazine



從刀庫取出
Replace SPEEDER from magazine



開始加工
Start processing

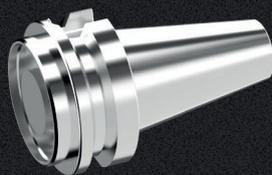
刀桿主軸介面 TOOLHOLDER-SPINDLE INTERFACE

多種不同的刀桿尺寸提供了極佳的靈活性，
使增速器能夠廣泛應用於各類 CNC 機台與加工需求中。

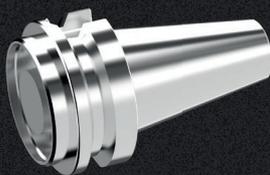
The different tool holder sizes provide flexibility and allow the SPEEDER 60 ER11 spindle to be used in a variety of CNC machines and applications.



HSK-A63,
HSK-A80,
HSK-A100



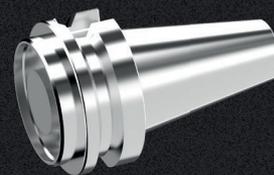
SK40, SK50



CAT40, CAT50



PSC63 (Comp. Capto C6),
PSC80 (Comp. Capto C8)



BT40 (Comp. BBT40),
BT50 (Comp. BBT50)

六萬轉增速器套裝組 60,000 RPM Speed Increaser Set

功能：鑽孔, 銑削, 研磨, 雕刻
Functions : Drilling, Milling, Grinding, Engraving

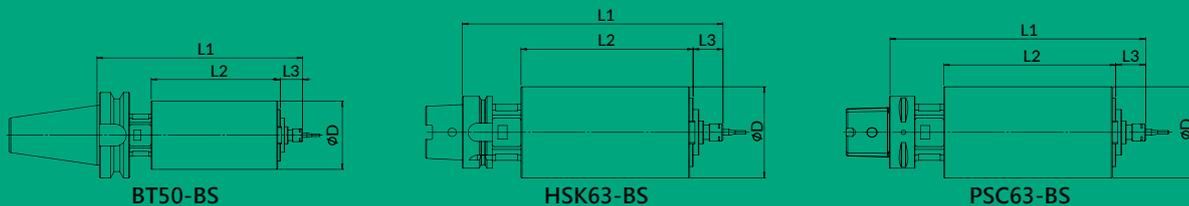


規格 Spec.	內容物 Contents						重量 (KGS) Weight
	電子式主軸刀柄本體 SPEEDER tool holder interface (with electronics)	馬達單元 SPEEDER Spindle unit	電池 Battery pack	充電座 Charging station SPEEDER	充電電源供應器 Charging device (power supply) SPEEDER	板手 Wrench (Made in Swiss)	
SPEEDER60-ER11-Set1 	SPEEDER-THE-BT40 SPEEDER-THE-BT50 SPEEDER-THE-DAT40 SPEEDER-THE-DAT50 SPEEDER-THE-CAT40 SPEEDER-THE-CAT50 SPEEDER-THE-HSK63 SPEEDER-THE-HSK80 SPEEDER-THE-HSK100 SPEEDER-THE-PSC63 SPEEDER-THE-PSC80 擇一 Select one	SPEEDER60-ER11-Set2	SPEEDER-BP x1	SPEEDER-CSP	SPEEDER-CD	ER11-MS-W (瑞士製) (Swiss Made)	8.6
SPEEDER60-ER11-Set2 			SPEEDER-BP x2				

圖示 Image		
名稱 Name	ER螺帽(瑞士製) ER Nut (Made in Swiss)	ER筒夾(瑞士製) Collet(Made in Swiss)
規格 Spec.	ER11-MS	ER-UP

技術資料 - 六萬轉增速器刀柄尺寸圖

Technical Specifications - SPEEDER 60 ER11 Dimensional Drawing



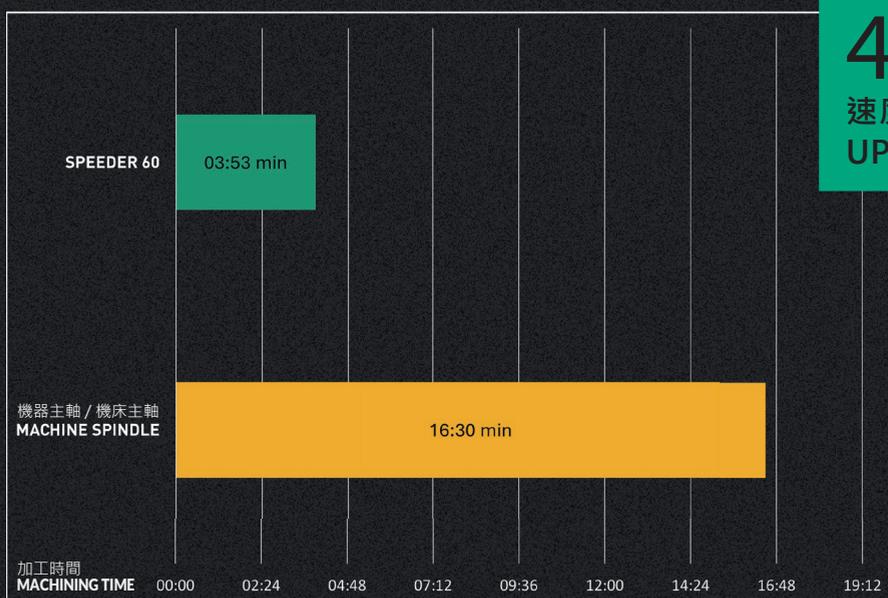
規格 Spec.	L1	L2	L3	D	重量(KGS) Weight
SPEEDER-ER11MS-BT40	227	150	26	80	3.7
SPEEDER-ER11MS-BT50	237	150	26	80	
SPEEDER-ER11MS-DAT40	217	150	26	80	
SPEEDER-ER11MS-DAT50	217	150	26	80	
SPEEDER-ER11MS-CAT40	217	150	26	80	
SPEEDER-ER11MS-CAT50	217	150	26	80	
SPEEDER-ER11MS-HSK63	227	150	26	80	3.2
SPEEDER-ER11MS-HSK80	227	150	26	80	
SPEEDER-ER11MS-HSK100	231	150	26	80	
SPEEDER-ER11MS-PSC63	225	150	26	80	3.2
SPEEDER-ER11MS-PSC80	233	150	26	80	

技術資料 TECHNICAL DATA

轉速範圍 Speed range	7,000 – 60,000 rpm
夾持系統 Clamping system	ER11 (最大直徑 7mm) ER11 (max. Ø 7mm)
冷卻方式 Cooling	外部噴霧冷卻 Spray for outer cooling
銑削 Milling	適用直徑 4mm 以內的刀具 Tools up to Ø 4mm
鑽孔 Drilling	適用直徑 3mm 以內的刀具 Tools up to Ø 3mm
電池容量 Battery capacity	連續工作時間可達 8 小時 Up to 8h continuous working
刀柄介面 Tool holder interfaces	HSK-A63, HSK-A80, HSK-A100, SK40, SK50, BT40 (Comp. BBT40), BT50 (Comp. BBT50), CAT40, CAT50, PSC63 (Comp. Capto C6), PSC80 (Comp. Capto C8)
轉速設定 Speed setting	透過顯示器操作 via Display
啟動 / 停止 Start / Stop	透過主軸內部冷卻液加壓，或以主軸低速 200 rpm 旋轉。
輸出功率 Output power	最大 500 W max. 500 W
重量 Weight	3.4 kg

如有變更，恕不另行通知 Subject to change without notice

效能評估與應用 BENCHMARKING



4X

速度提升

UP TO FASTER

測試結果優異

Positive results

單件加工時間節省 76.5%

Time savings per part 76.5%

測試日期 Test date	2023
國家 Country	德國 Germany
行業 Industry	模具製造 Molding
應用 Application	輪廓銑削 Profile milling
材料類別 Material group	鋁材 Aluminium

*

銑削測試比較表 Test report for milling

設備 Equipment	機器主軸 Machine spindle	六萬轉增速器 High-Speed Battery Spindle
切削刀具 Cutting tool	銑刀 Milling cutter	銑刀 Milling cutter
直徑 Diameter	3	3
主軸轉速 Spindle speed (rpm)	12,000	50,900
切削速度 Cutting speed Vc (m/min)	113	480
切削深度 Cutting depth	0.75	0.75
單件工件加工時間 (分鐘) Machine time per workingpiece (min)	16:30	03:53 👍 4倍提升



官網 Website



正河源股份有限公司
CHAIN HEADWAY CO., LTD.

☎ 電話 TEL / +886-4-26265252 📠 傳真 FAX / +886-4-26267941

🌐 網址 Website / www.chain-headway.com

📍 地址 Address / 台灣台中市清水區五權路232號
No. 232, Wuquan Rd., Qingshui Dist., Taichung City 436, Taiwan