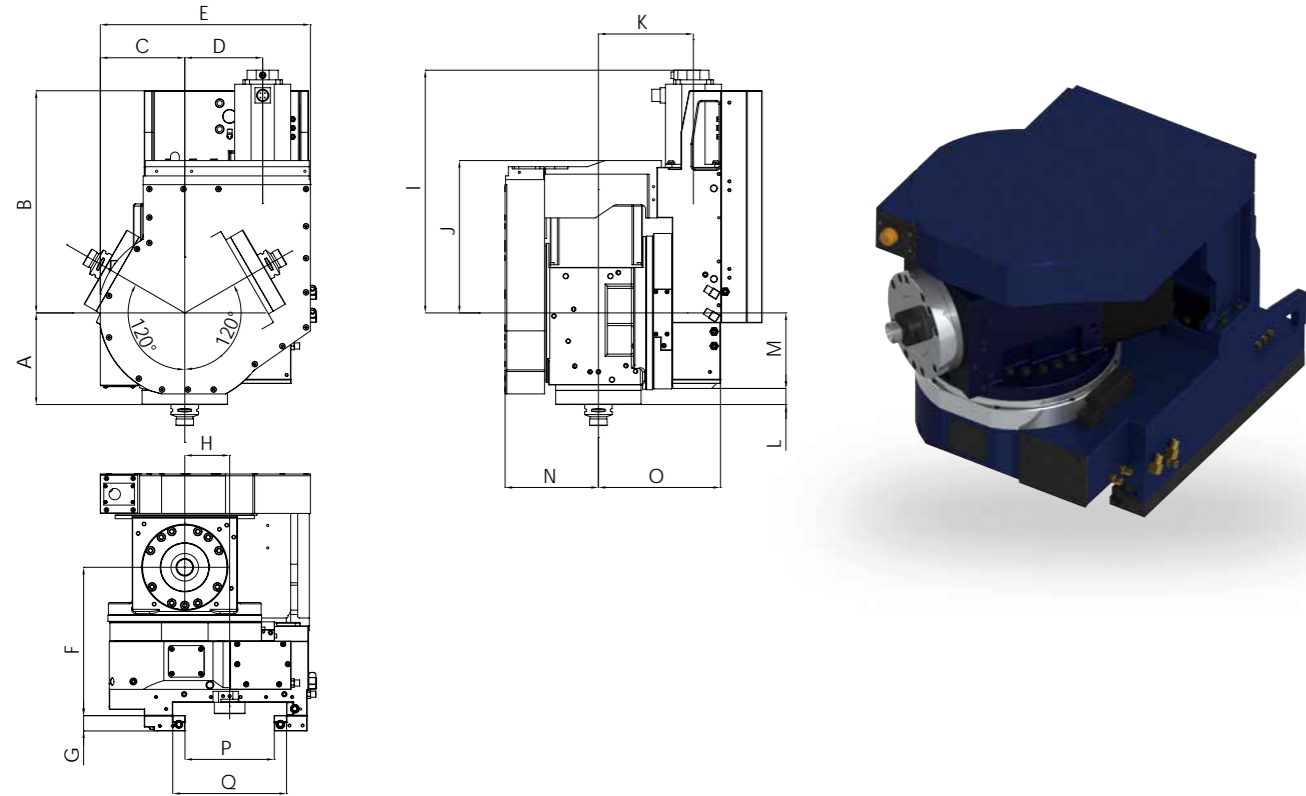


- 4/5 軸同動加工
- 內藏式 6000/12000rpm 車銑主軸
- B 軸 240 度連續定位轉向
- B 軸 7.5 度一分割定點角度加工
- 4-Axis or 5-Axis machining in one set-up.
- Swivel Tool Spindle (B-axis) with built-in spindle 6000/12000 rpm.
- B-Axis continuous indexing travels 240 degrees.
- B-Axis : 7.5 degrees of positioning indexing resolution (by coupling).



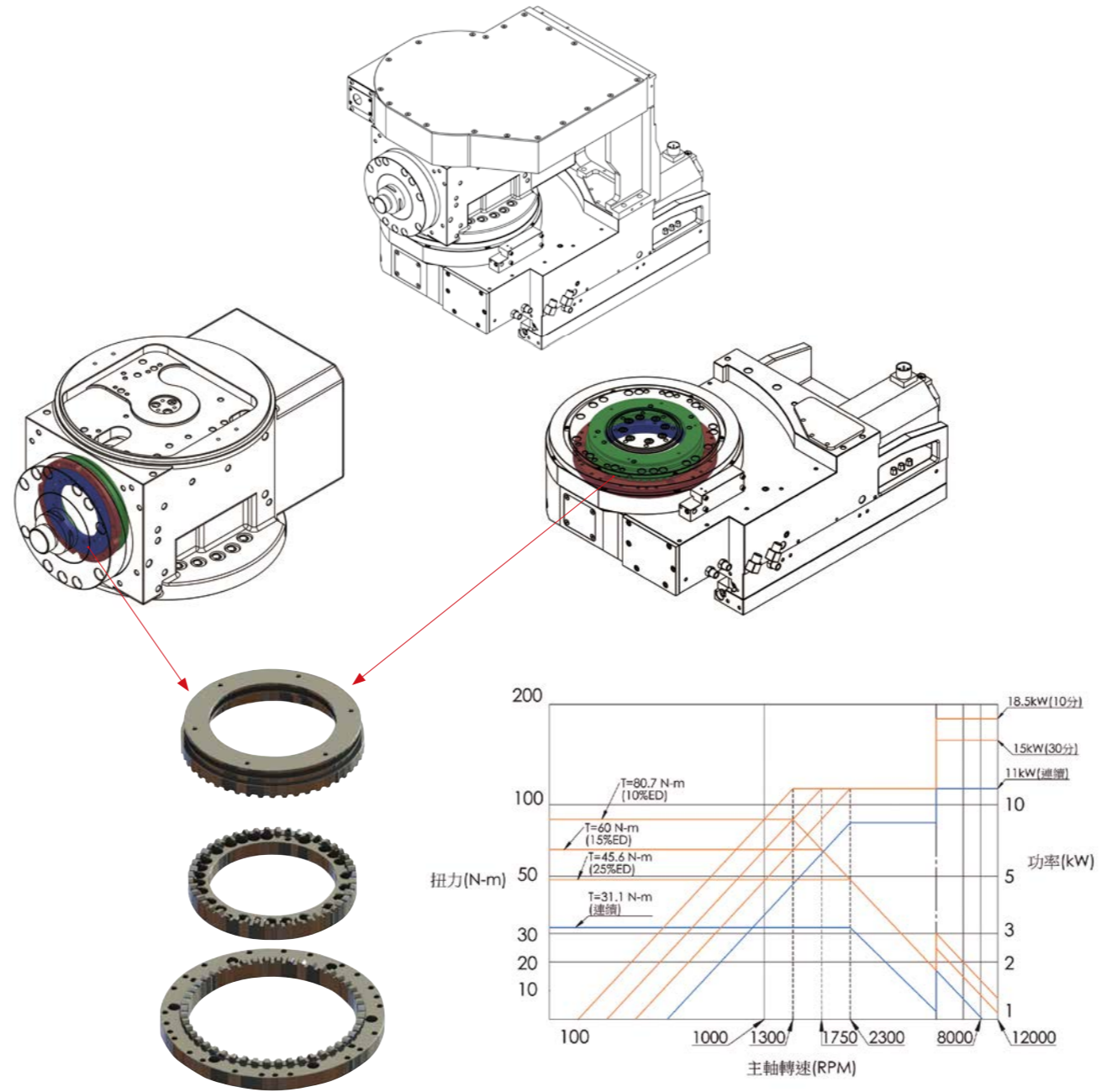
Model No.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	N.W. (KG)
TMS-S350-MT6	209.3	507.5	193	178	480	339	35	102.5	554.5	348	217	37	172.5	213	279	204	260	445

Unit : mm

主軸 Spindle		一般	Standard	高速	High Speed
刀具系統	Tool Interface	HSK 63			
功率	Power	11 KW		18.5 KW	
最大扭矩	Max. Torque	60Nm(15%ED)		31Nm(15%ED)	
最高轉速	Max. Speed	6000 RPM		12000 RPM	
潤滑方式	Type of Lub.	油氣	Greased & Air	油氣	Greased & Air
冷卻方式	Type of Cooling	水冷	Water-Cooling	水冷	Water-Cooling
B 軸 B-Axis					
搖擺轉速	Swivel Speed	30 RPM			
搖擺角度	Swivel Angle	± 120°			
最小切割精度	Min. Indexing Accuracy	0.001°			
重複精度	Repeat Accuracy	2" (90°)			
最大扭矩	Max. Torque	1200 Nm			

三片式曲齒離合器 Triple Plate Curvic Coupling

- 主軸與 B 軸加入三片式曲齒離合器設計，提高主軸在做車削加工時產生的扭矩剛性，B 軸定角度加工剛性與車削加工剛性。
- Spindle and B-Axis are embedded with Triple Plate Curvic Coupling structure enhancing the torque during various turn-mill application.



差異性比較 Differences		
	主軸 Spindle	B 軸 B-Axis
車銑複合搖擺主軸頭 Turn-Mill Multifunction Head	三片式曲齒離合器 (15 度一分割) Triple Plate Curvic Coupling (15 degree per division)	三片式曲齒離合器 + 渦桿渦輪 (7.5 度一分割) Triple Plate Curvic Coupling + Worm gear drive structure (7.5 degree per division)
一般車銑複合主軸 Other Turn-Mill Spindle	馬達環抱式剎車 Motored encircled brake	渦桿渦輪 Worm gear drive structure



豪力輝工業股份有限公司
HOLD WELL INDUSTRIAL CO., LTD.



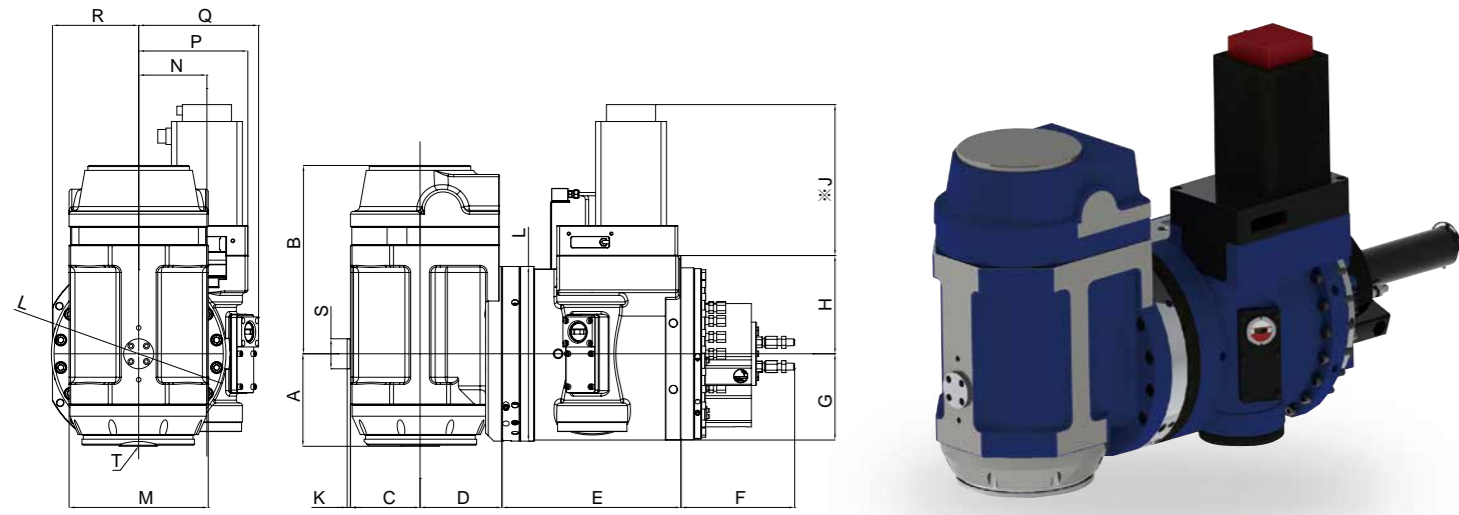
車銑複合搖擺主軸頭
Turn-Mill Multifunction Head



ISO 9001:2008
ID 9105040234



www.holdwell.com



Unit : mm

Model No.	A	B	C	D	E	F	G	H	J*	K	L	M	N	P	Q	R	S	T	N.W. (KG)
TMS-V320-MT6	169.5	345	127.5	150	32	20	15	18	276.5	6	320	255	125	200	211	158	55	HSK-T63	445

* "J" 的尺寸因伺服馬達規格不同而定。

Dimension "J" depending on Motors type.

* 圖表中 "J" 的尺寸為使用 FANUC αis 12/6000 伺服馬達之尺寸。

Dimension "J" is on the basis of adopting FANUC αis 12/6000.

主軸 Spindle		
刀具系統	Tool Interface	HSK-T63
最高轉速	Max. Speed	12,000 RPM
最大功率	Max. Power	20.8KW (S6 40%)
最大扭矩	Max. Torque	62.1Nm
最小功率	Min. Power	16KW (S1 100%)
最小扭力	Min. Torque	47.8Nm
潤滑方式	Type of Lub	油氣潤滑 Greased & Air
中心供水	Int. Coolant	70 bar
冷卻機	Cooler	5,000Kcal/hr
曲齒離合器	Curvic Coupling	15 度一分割 5 degree per division
B 軸 B-Axis		
* B 軸伺服馬達規格	* B-Axis Sepc.	FANUC αis 12/6000
搖擺轉速	Swivel Speed	額定：45RPM/ 最高：60RPM Rated Rev. : 45RPM/ Max. Rev. : 60RPM
最小切割精度	Min. Indexing Accuracy	0.001°
定位精度	Positioning Accuracy	± 7.5"(離合器 Coupling)
重複精度	Repeat Accuracy	± 7.5"
最大扭矩	Max. Torque	3000Nm
曲齒離合器	Curvic Coupling	5 度一分割 5 degree per division
備註	Remark	使用 Cam Gear

* B 軸伺服馬達規格為建議規格，客戶可依自行需求更換。

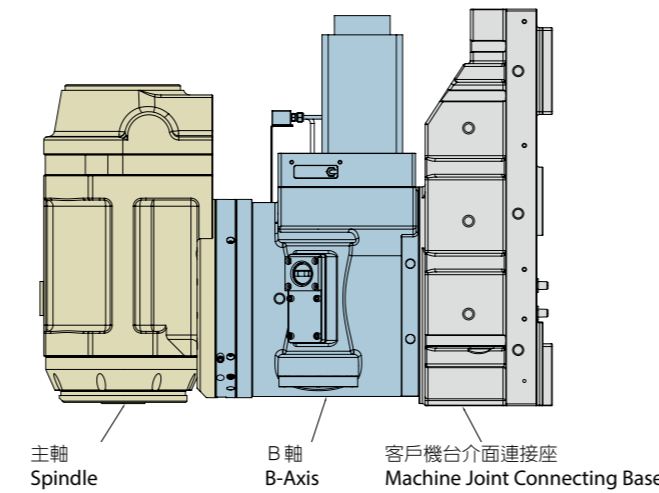
The above motor set is recommended, but it could be exchanged according to customer's requirement.

直立式車銑複合主軸頭模組化設計

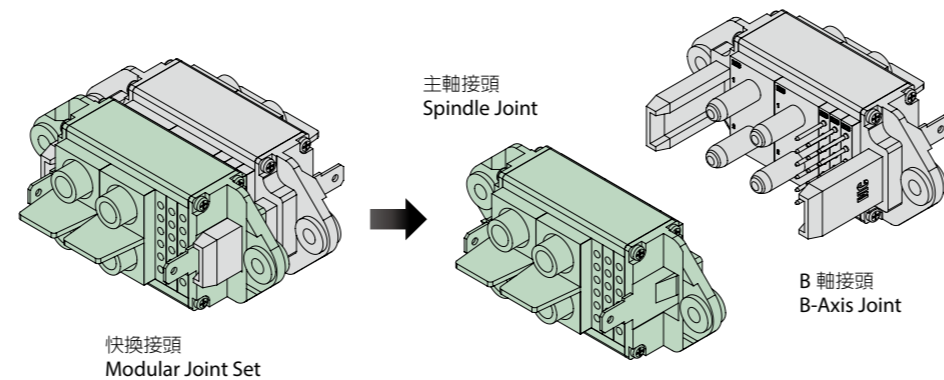
The modular design of Vertical Turn-Mill Multifunction Head

- 車銑複合主軸頭分為三個部分，主軸、B 軸、與客戶機台連接部分 (Fig. 1)，客戶機台連接座則與線軌螺桿座連接。
 - Turn-Mill Multifunction Head is divided into Spindle, B-Axis, and Machine Joint Connecting Base (Fig. 1), and Machine Joint Connecting Base will be connected to Linear Guideway Spiral Support Unit.

Fig. 1

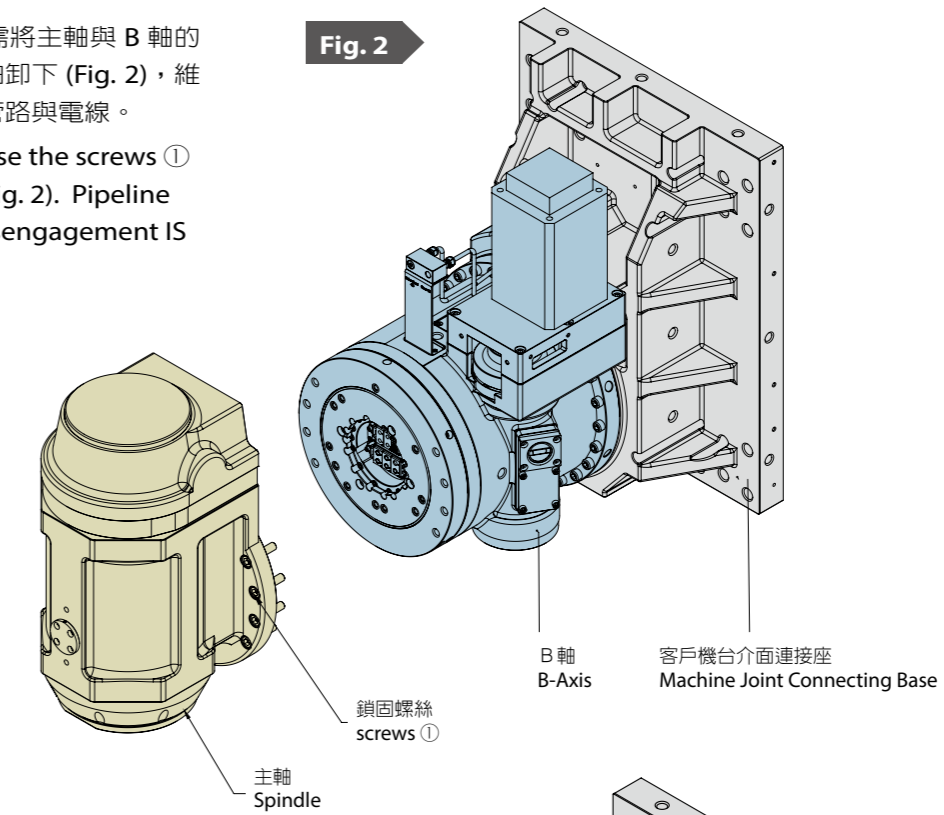


- 主軸與 B 軸的模組化介面採用模式化連接器，將電器訊號線與空壓管路做模組化快換。
 - Connecting interface between Spindle and B-Axis is modularized, and it adopts modular connector to connect Signal line and Pneumatic & Hydraulic pipeline modularly.



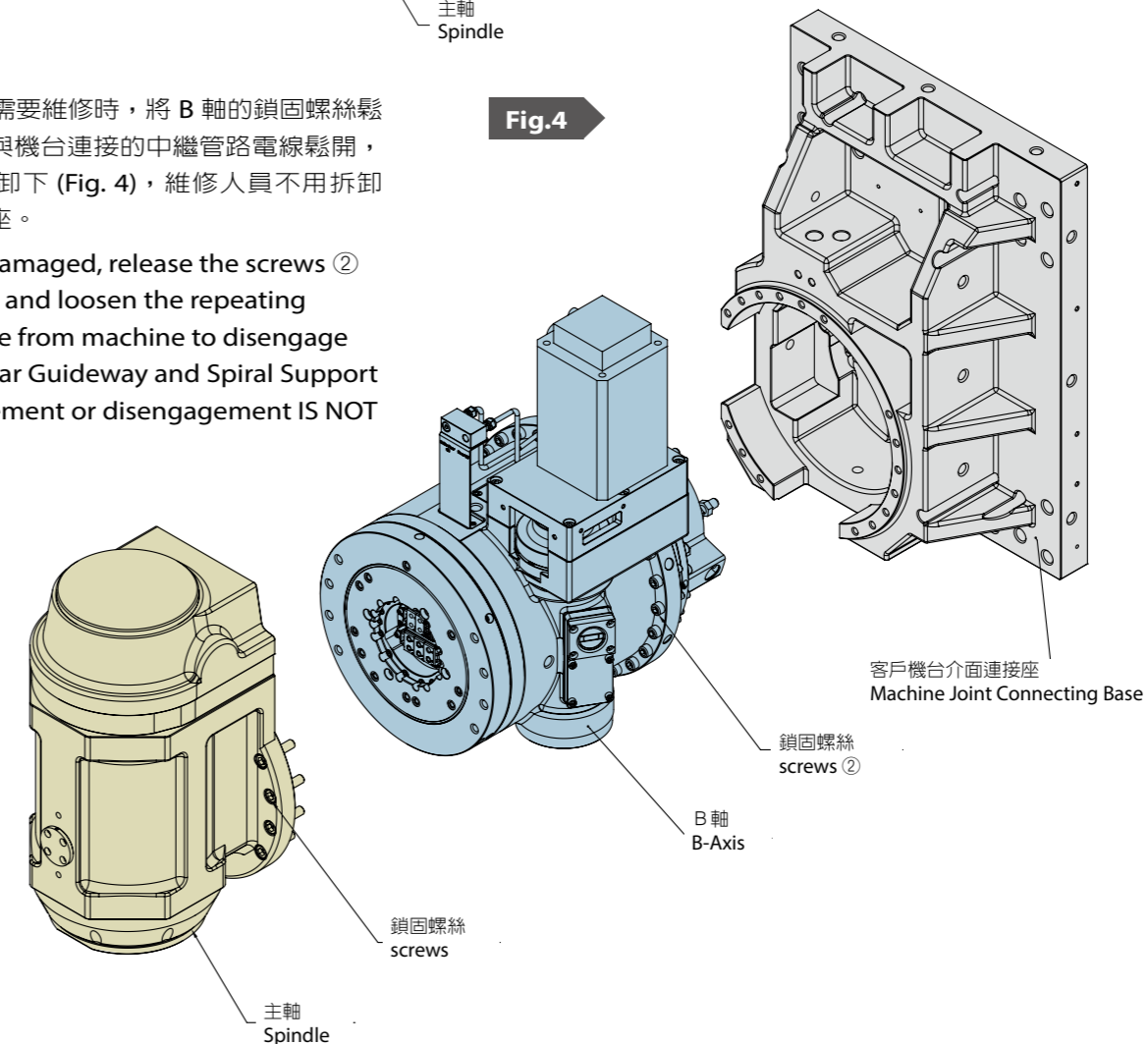
- 當主軸損壞需要維修時，只需將主軸與 B 軸的鎖固螺絲鬆開①，即可將主軸卸下 (Fig. 2)，維修人員不用到機台後方拆卸管路與電線。
 - If Spindle is damaged, release the screws ① to disengage the Spindle (Fig. 2). Pipeline and wire replacement or disengagement IS NOT required.

Fig. 2



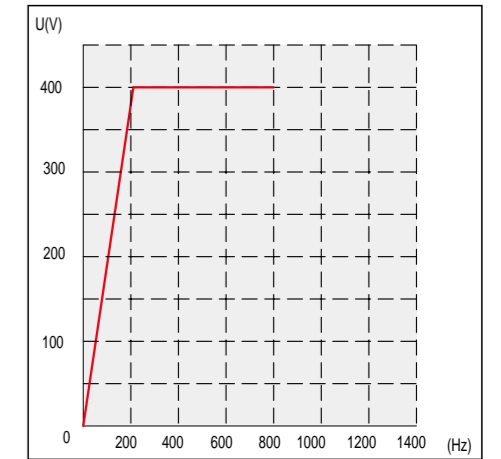
- 當 B 軸損壞需要維修時，將 B 軸的鎖固螺絲鬆開②，再將與機台連接的中繼管路電線鬆開，就可將 B 軸卸下 (Fig. 4)，維修人員不用拆卸線軌與螺桿座。
 - If B-Axis is damaged, release the screws ② from B-Axis, and loosen the repeating pipeline wire from machine to disengage B-Axis. Linear Guideway and Spiral Support Unit replacement or disengagement IS NOT required.

Fig. 4



馬達 U/f 特性曲線

The Characteristic Curve of Motor U/f



247V → 219Hz Nominal current → 69A
 400V → 355Hz Peak current → 80A
 400V → 534Hz
 400V → 800Hz
 Poles → 8

馬達功率及轉矩特性曲線

The Characteristic Curve of Motor Power and Torque

