



明周精密工業有限公司

MING ZHOU PRECISION INDUSTRY CO., LTD.



www.ming-zhou.com.tw

專業主軸製造商

Professional spindle manufacturer

AC/DC Spindle



選擇明周推動您的成功旅程

基於我們在主軸行業數十年的設計和生產過程中，為客戶製造高質量優異的產品，並為市場帶來富有創意和技術領域的應用，我們提供有關於主軸方面的解決方案，為客戶帶來利益。在這中間，我們和市場、使用者不斷接觸了解，為客戶帶來創新的應用，如須了解有關於主軸的進一步訊息，歡迎與我們聯絡。

Choose Ming Zhou to drive your journey of success

With decades of design and production in the spindle industry, we manufacture high quality products for our customers and bring creative and technical applications to the market. We offer solutions for the spindles to benefit our customers. In the meantime, we constantly contact and understand with the market and users to bring innovative applications to our customers. If you need to know more about the spindle, please feel free to contact us.



卓越的應用您的首選合作夥伴

明周的技術支援和預防性的服務可確保您的主軸處於最佳生產狀態。
擁有數十年的主軸設計及製造且可靠的穩定性。

- 生產優質的零組件
- 卓越的運轉穩定性
- 多種零配件選擇
- 特殊案件的解決方法
- 專業的主軸服務

Excellent application for your preferred partner

The technical support and preventive services provided by Ming Zhou ensure that your spindle is in optimal production.
Has decades of experience in spindle design and manufacturing and provides reliable stability.

- Production of quality components
- Excellent operational stability
- A variety of spare parts choice
- Provision of solutions for special cases
- Professional spindle service



平衡和校準工具

Balance and calibration tools



根據ISO 1940測量符合標準的質量認證

一個決定性因素是您的質量保證，在『平衡主軸』製造步驟中是有效的。確保產品質量對主軸至關重要，因為它關係到客戶和產品優勢。特別是在競爭的工業環境中，嚴格的要求只能通過有效的質量管理來實施。

所有通過ISO1940認證的公司都知道有關測量平衡主軸校準程序的重要，這是因為我們使用的測量設備都必須顯示正確的結果。

Qualified quality certification according to ISO 1940

Decisive factors can influence and determine your quality assurance, which is effective in the “balanced spindle” manufacturing step. Ensuring product quality is critical to the spindle as it affects customer and product advantages. In particular, in a competitive industrial environment, strict requirements can only be implemented through effective quality management.

All ISO 1940-certified companies are aware of the importance of the measurement balance spindle calibration procedure, and the measurement equipment we use must display the correct results.

獨特的優勢 為您帶來領先

明周防塵蓋 + 氣幕的優點

- 延長主軸產品壽命，同時保持最佳精度。
- 防止粉塵及切削液進入。
- 降低運行成本和浪費的零件。
- 最大化的投資回報。
- 確保生產力。



錐面與刀具的清潔要求

主軸在加工過程中產生的細小粉塵，對於主軸錐面與刀具來說是個壞消息，使用明周自動換刀主軸，在換刀過程中，對主軸錐面與刀具進行吹氣清潔，使得加工精度得以保持。

主軸的性能優化

- 軸承優化確保主軸運轉的性能提升。
- 軸承優化確保主軸的徑向和軸向剛性提升。
- 即使在加工負載變化的情況下，也能實現高精度
- 減少振動和噪音
- 減少在高速和高加速度下滾動元件接觸的摩擦
- 減少滑動摩擦（包含內圈和外圈之間的變化）
- 增加負載能力（提升負載和轉速），增加主軸運轉壽命

陶瓷軸承的優點

- 實現了主軸高速化、高剛性、可靠性、耐久性、耐熱性、重量輕、低磨擦
- 陶瓷軸承實現了鋼珠軸承達不到的轉速
- 精密的迴轉要求
- 主軸性能上的提升
- 增加主軸壽命



Unique Advantages Give You A Leading Edge

The advantages of the dust cover + air curtain of the Ming Dynasty

- Extend spindle life while maintaining optimum accuracy.
- Prevent dust and cutting fluid from entering.
- Reduce operating costs and wasted parts.
- Maximize your return on investment.
- Ensure productivity.

Cone and tool cleaning requirements

During the machining process, the fine dust generated near the spindle is a bad influence on the taper surface of the spindle and the tool. If the Ming Zhou automatic tool change spindle is used, the spindle taper and the tool will continue to be blown during the tool change process, so that the machining accuracy can be maintained.

Spindle performance optimization

- Bearing optimization results in spindle performance
- Optimized by bearings to ensure radial and axial rigidity of the spindle
- High precision even in the case of changing machining loads
- Vibration and noise reduction
- Reduction in friction of rolling element contact at high speed and high acceleration
- Reduce sliding friction (including changes between inner and outer rings)
- Increased load capacity (boost load and speed), increased spindle operating life



Advantages of ceramic bearings

- High-speed spindle, high rigidity, reliability, durability, heat resistance, light weight, low friction.
- Through ceramic bearing achieved the speed that cannot be provided by the steel ball bearing
- Precision swing requirements
- Boost performance improvement
- Increase spindle life



MING ZHOU
PRECISIONINDUSTRY CO., LTD.

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手動

TB58

80ER

自動

DC/AC 598

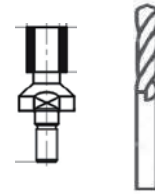
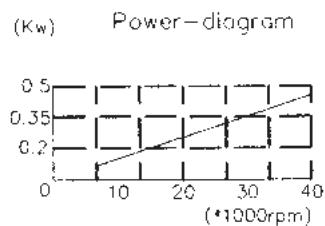
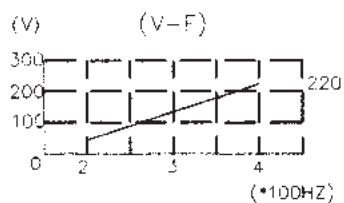
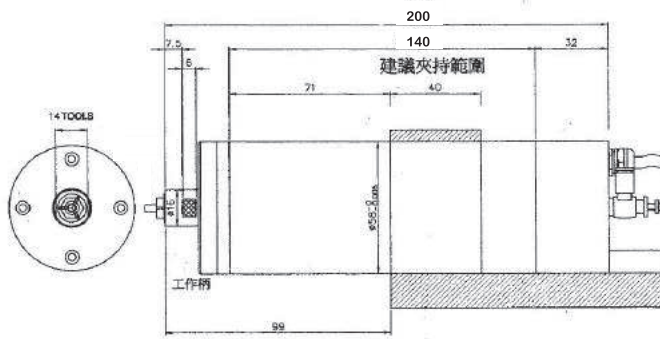
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使用明周夾刀機構

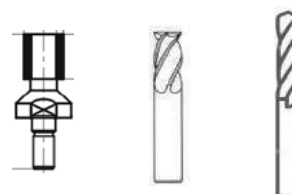
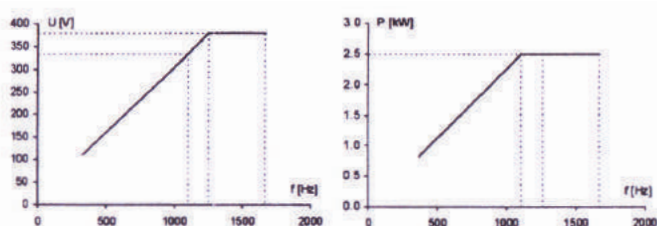
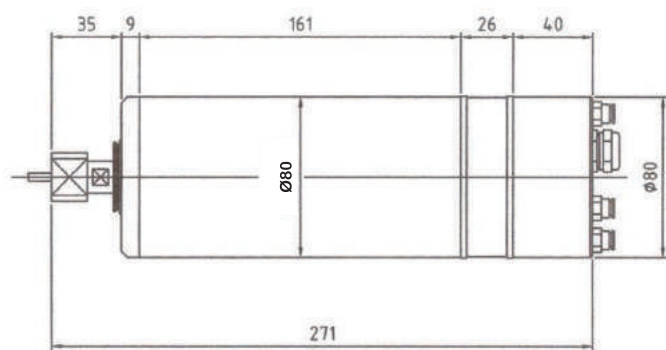
Use the Ming Zhou design clip mechanism



轉速範圍 Speed Scope	10000~36000 rpm
主軸外徑 Housing diameter	58 mm
主軸總長 Length	200 mm
重量 Weight	3.5 kg
功率 Power	0.4 kw
電壓 Voltage	220 V
馬達極數 Poles	2P
換刀方式 Tool Change Method	手動夾緊 Manual clamping
刀具規格 Tool Specifications	3.175、4 mm
偏擺 Run Out	<10 um
動平衡等級 Balance Grade	G1
冷卻 Cooling	氣 Air

80ER

使用瑞士Tecnopinz 夾具
Using the Swiss Tecnopinz fixture



轉速範圍 Speed Scope	10000~40000 rpm
主軸外徑 Housing diameter	80 mm
主軸總長 Length	271 mm
重量 Weight	8 kg
功率 Power	2.5/3.7 kw
電壓 Voltage	220/380 V
馬達極數 Poles	4P
換刀方式 Tool Change Method	手動夾緊 Manual clamping
刀具規格 Tool Specifications	ER20
夾持力 Clamping Force	800 N
偏擺 Run Out	<10 um
動平衡等級 Balance Grade	G1
冷卻 Cooling	水 Water

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手動

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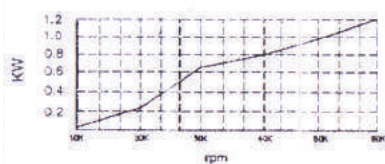
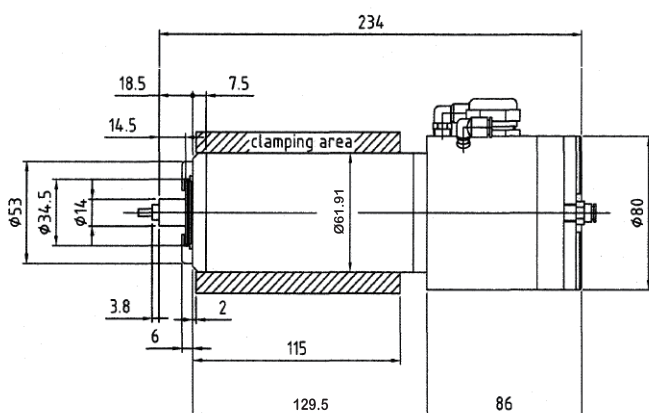
自動

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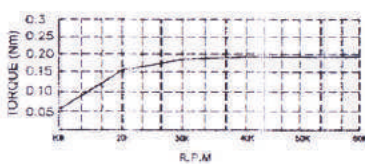
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Shaft Power (KW) / Speed (RPM)

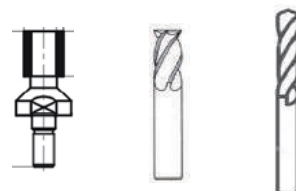
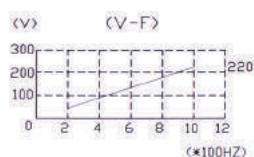
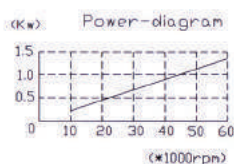
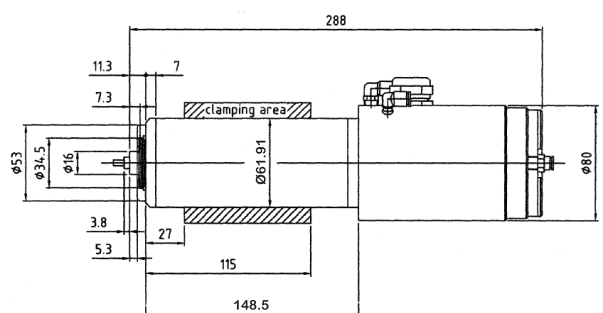
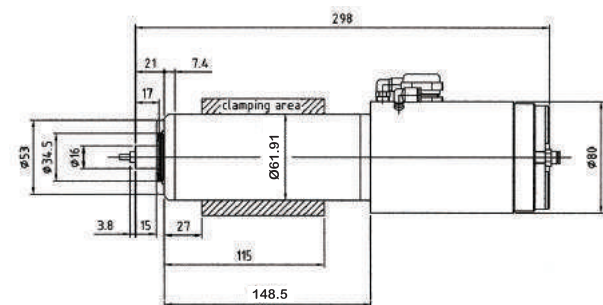


Torque (Nm) / Speed (RPM)



轉速範圍	Speed Scope	6000~50000 rpm
額定轉速	Rated rotation speed	45000 rpm
主軸外徑	Housing diameter	61.91 mm
主軸總長	Length	234 mm
重量	Weight	3.8 kg
功率	Power	DC 2.5kw / AC 1.2 kw
電壓	Voltage	220 V
電流	Current	3A
馬達極數	Poles	2P
換刀方式	Tool Change Method	氣動直接換刀 Pneumatic direct tool change
夾持刀具範圍	Clamping Range	3.175、4、6 mm
夾持力	Clamping Force	300 N
偏擺	Run Out	<10 um
動平衡等級	Balance Grade	G1
冷卻	Cooling	水 Water

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轉速範圍 Speed Scope	15000~54000 rpm	15000~54000 rpm
主軸外徑 Housing diameter	61.91 mm	61.91 mm
主軸總長 Length	298 mm	288 mm
重量 Weight	4.5 kg	4.5 kg
功率 Power	0.8/1.3 kw	1.3 kw
電壓 Voltage	220 V	220 V
電流 Current	2A~4A	4A
馬達極數 Poles	2P	2P
換刀方式 Tool Change Method	氣動直接換刀 Pneumatic direct tool change	
夾持刀具範圍 Clamping Range	3.175、4、6 mm	3.175、4、6 mm
夾持力 Clamping Force	500 N	500 N
偏擺 Run Out	<10 um	<10 um
動平衡等級 Balance Grade	G1	G1
冷卻 Cooling	氣 Air / 水 Water	水 Water

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手動

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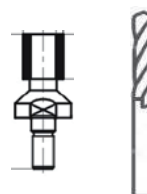
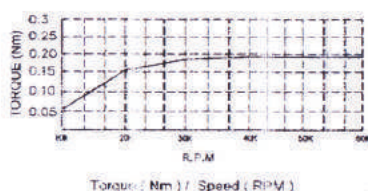
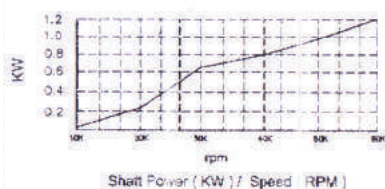
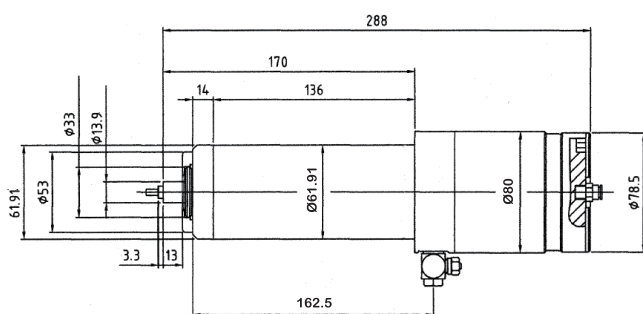
自動

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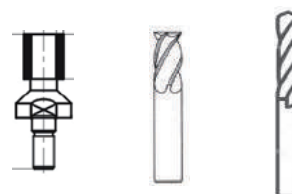
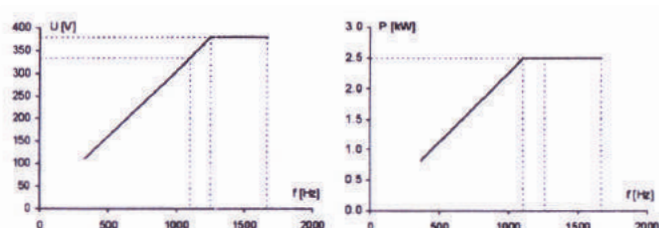
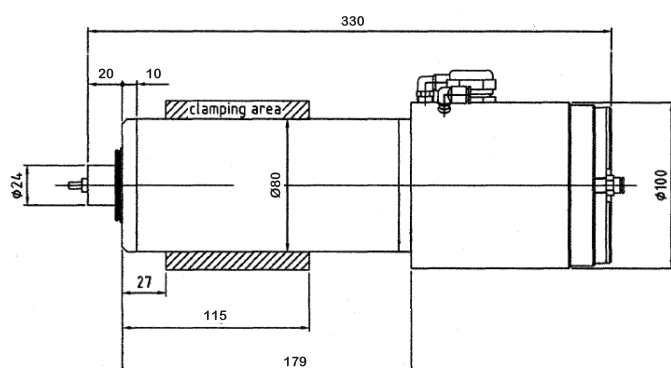
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T80



轉速範圍	Speed Scope	15000~60000 rpm
主軸外徑	Housing diameter	61.91 mm
主軸總長	Length	288 mm
重量	Weight	4.5 kg
功率	Power	1.2/1.5 kw
電壓	Voltage	220/380 V
電流	Current	3A
馬達極數	Poles	2P
換刀方式	Tool Change Method	氣動直接換刀 Pneumatic direct tool change
夾持刀具範圍	Clamping Range	3.175、4、6 mm
夾持力	Clamping Force	300N
偏擺	Run Out	<10 um
動平衡等級	Balance Grade	G1
冷卻	Cooling	水 Water

TS80



轉速範圍 Speed Scope	10000~40000 rpm
主軸外徑 Housing diameter	80 mm
主軸總長 Length	330 mm
重量 Weight	8 kg
功率 Power	2.5/3.7 kw
電壓 Voltage	220/380 V
馬達極數 Poles	4P
換刀方式 Tool Change Method	氣動直接換刀 Pneumatic direct tool change
刀具規格 Tool Specifications	4、6、8、10 mm
夾持力 Clamping Force	800 N
偏擺 Run Out	<10 um
動平衡等級 Balance Grade	G1
冷卻 Cooling	水 Water

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主軸產品及相關配件

Spindle products and related accessories

主軸配件選購

Spindle accessories purchase

主軸變頻器

正確的變頻器選擇對於主軸的安靜運行，性能和溫升至關重要。

多年來，明周一一直與變頻器製造商合作，並與他們經驗和專業知識交流。通過這種方式，我們能夠為您提供變頻器的理想先決條件，並且非常樂意在選擇合適的變頻器時為您提供幫助。



Spindle inverter

The choice of the correct inverter determines the quiet operation, performance and temperature rise of the spindle.

For many years, Ming Zhou has continued to work with inverter manufacturers and exchange experience and expertise with them. Through this model, we provide you with the ideal prerequisites for the inverter, and we are willing to help you decide the right choice.

主軸冷卻裝置-冷卻機

冷卻液溫度：20°C-25°C

明周提供的冷卻機可以有效減少主軸運轉引起的熱能並實現主軸性能取決於在必要溫度下可靠地供應。

主軸冷卻機可確保主軸溫升和熱變形，從而獲得恆定的工作溫度。冷卻機的調節溫度降低了由主軸的溫升引起的轉向軸伸長。



Spindle cooling unit-COOLER

Coolant temperature: 20°C-25°C

The cooling machine provided by Ming Zhou can effectively reduce the heat energy caused by the spindle transmission and realize the spindle performance depending on the reliable supply at the necessary temperature.

The spindle cooler ensures a constant temperature rise and thermal deformation of the spindle for a constant operating temperature.

The adjustment of the temperature of the cooler can reduce the axial deformation of the shaft caused by the temperature rise of the main shaft.

歐規電纜 (符合 UL / CSA 認證)

明周使用的歐規主軸電源線專為動態或高性能而開發。耐油或PUR無鹵PVC護套。由於歐規主軸電源線中導體絕緣具有優異的性能，符合UL / CSA和EAC認證。

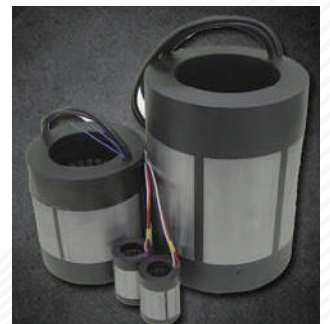
European standard cable (in accordance with UL / CSA certification)

The European standard spindle power cord used by Ming Zhou was developed for special dynamics or high performance. The oil used by Ming Zhou contains an oil-resistant or PUR halogen-free PVC sheath. Excellent EMC performance due to conductor insulation in PP, resistant to oils approved by UL / CSA and EAC.



主軸的電機和轉定子

1. 在明周主軸電機生產研發過程中，電機轉定子生產設計依據驗證的分析工具。
2. 提供與主軸與電機驅動相關的配合，和轉定子的特性。
3. 明周在主軸電機轉定子生產質量中確保主軸電機轉定子定期檢驗，並不斷改進流程。提升競爭力、質量和可靠性。
4. 平均質量和可靠性是明周的理念。



Spindle motor and rotary stator

1. For the development of the production language of the spindle motor of Ming Zhou, the production design of the motor to the stator is based on the verified analysis tool.
2. Provides cooperation with the spindle and motor drive, and the characteristics of the rotating stator.
3. For the production quality of the spindle motor to the stator, Ming Zhou ensures that the spindle motor rotates the stator regularly and continuously improves the process to enhance competitiveness, quality and reliability.
4. Continuous monitoring and inspection during the production process ensures high quality, reliable motor+ stator units. Stable quality and reliability is the concept of Ming Zhou.

為您量身訂作符合商務上所需求的支援方案：
獨特性的方案使您的主軸運用更為卓越

客製化設計主軸與維修

客製化流程：



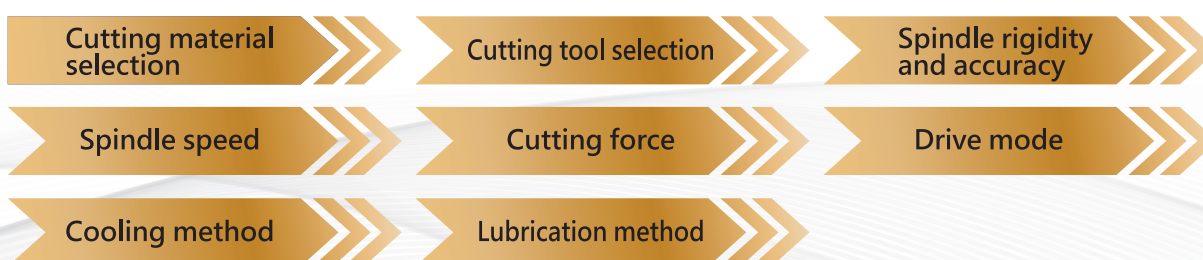
維修流程：



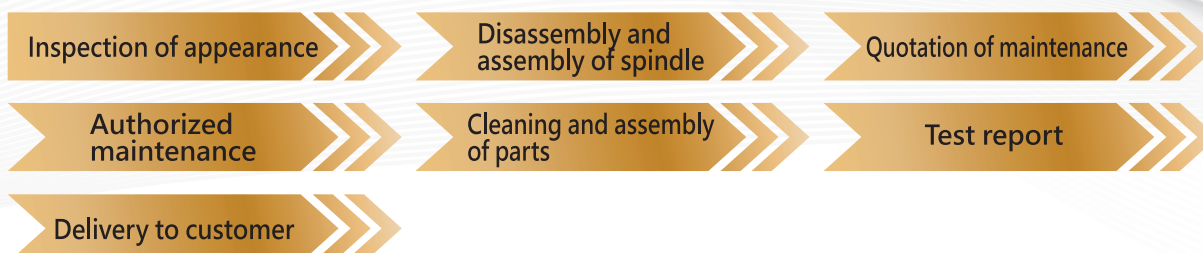
By Tailoring a Support Solution that Meets Your Business Needs:
A Unique Solution that Will Make Your Spindle Work Even Well.

Customized Design Spindle and Repair

Customization process:



Maintenance process:





明周精密工業有限公司

工業應用領域中您的首選夥伴

玻璃研磨、齒模雕刻、電路板成型機、電路板雕刻機、微型雕刻機、硬脆材料切割機、金屬雕刻機、雕銑機、高速銑削機、自動化設備等。

Your preferred partner in industrial applications

Glass grinding, tooth mold engraving, circuit board forming machine, circuit board engraving machine, micro engraving machine, hard and brittle material cutting machine, metal engraving machine, engraving and milling machine, high speed milling machine, automation equipment, etc.

提供全方位的主軸服務

Full range of spindle services

內藏式主軸設計製造維修
Built-in spindle design,
manufacturing and maintenance

客製化主軸設計製造
Customized spindle
design and manufacturing

皮帶式主軸設計製造
Design and manufacture
of belt spindles

主軸再製造
Spindle remanufacturing

主軸升級服務
Spindle upgrade service

預防性維護和培訓
Preventive maintenance and training



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