



High Speed Motor Spindles

Business Case

LPR GLOBAL

Your Connection to Korean Manufacturing and Industrial Equipment.

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High Speed Motor Spindles for Bearing Testing

Summary

Application: High speed motor spindle to drive a shaft in a bearing test rig.

Solution provided: Grease-lubricated ATC spindle with speed up to 30,000 RPM and power rating up to 3.3 kW.

Results:

- ✓ Product met the client's speed, power and torque requirements perfectly
- ✓ Easy installation
- ✓ Competitive pricing
- ✓ Quick lead times

The Challenge

An R&D firm that works with government and industrial clients came to us looking for **high-speed motor spindles for bearing testing**. The spindle would be used to drive a shaft holding a bearing, by applying small loads and spinning it at 30,000 RPM.

In addition, they were interested in developing a long-term relationship with a **custom spindle supplier** to equip their precision test equipment. Finding a partner with the in-house expertise and custom engineering capabilities to design and build spindles for their unique applications was key.



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The Solution

We developed a **motorized, grease-lubricated ball bearing spindle** with an ISO20-compatible tool interface that supports automatic tool change.

Our team collaborated closely with the client to understand their needs and suggested a model that would meet their speed and torque requirements at a competitive price point.

A critical element of this project was **selecting the correct tool interface** for the spindle, in order to be compatible with the testing rig. After examining the customer's tool drawings, we suggested a model compatible with an ISO20 toolholder that could be connected to the shaft directly by clamping.

This also allowed for **easy attachment and removal** – as it is equipped with a double-acting pneumatic cylinder, the toolholder can be attached or detached as needed by controlling the air supply.

SW80-4033-ISO20 Specifications

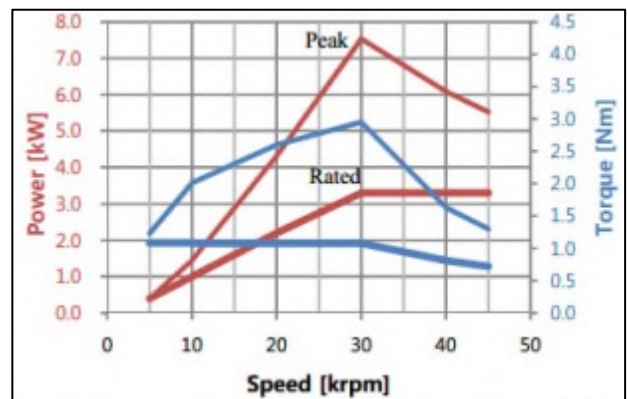
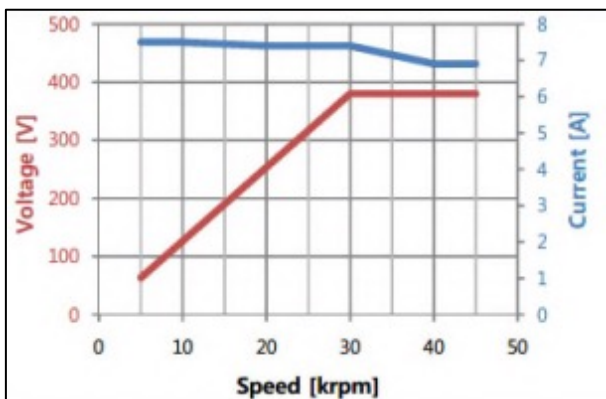
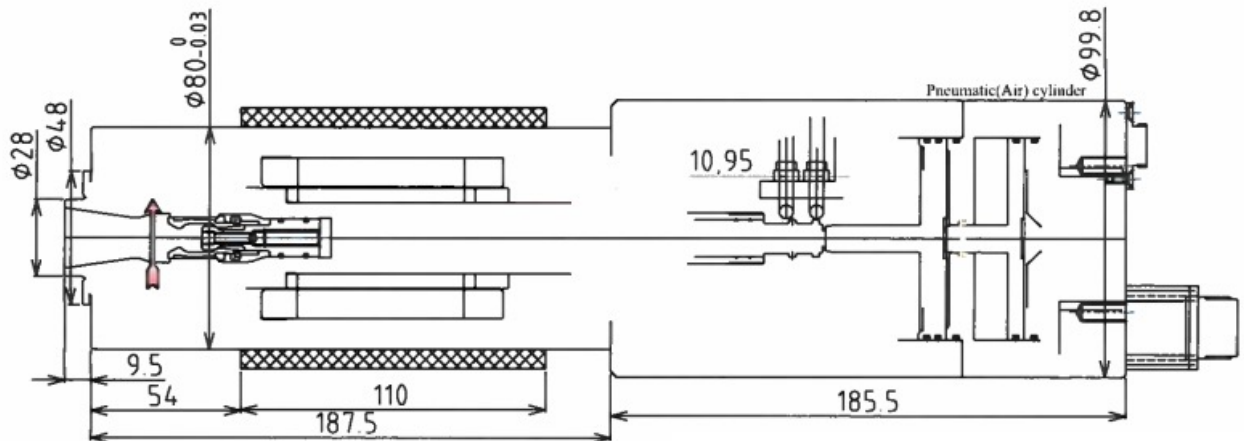
	Diameter	80 mm
	Rated Power (S1)	3.3 kW
	Speed	30,000 RPM (max)
	Rated Torque	1.1 Nm
	Rated Voltage	380 V
	Tool interface	ISO20 (Automatic)
	Lubrication	Grease



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Key Benefits:

- Made with **high precision GMN bearings** to ensure long-lasting, reliable performance.
- **Liquid-cooled spindle system** allows for accurate temperature regulation and noiseless operation, with minimal maintenance needs.
- **Automatic Tool Change capabilities** controlled by a double-acting pneumatic actuator to increase efficiency and reduce testing time.





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The Result

LPR Global met the client's application requirements and provided a **high quality, cost-effective spindle** that suited their technical specifications and integrated precisely with their existing setup.

Our team's **technical expertise** and **collaborative design process** helped deliver high precision spindles to the client within faster-than-anticipated lead times, establishing trust in LPR Global as a reliable supplier for future needs.

About Us

LPR Global is a leading provider of high speed machine tool spindles for grinding machines, CNC machining centers, drilling machines, and polishing machines.

With decades of experience in designing and building custom spindles, we can meet a wide range of speed, power and torque requirements, while offering flexible options for housing styles, tool interfaces, and bearing lubrication systems.

Visit our website to [learn more](#) about our wide range of custom-built motor spindles and belt-driven spindles.



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