LPR GLOBAL

High Speed Spindle Frequently Asked Questions

1. Is your spindle built-in spindle motor design? Yes, our spindle uses various built-in spindle motor designs.
2. What's your bearing type? Conventionally, ceramic ball bearings are used for high speed spindles. However, we choose our bearing types based on the client's application and usage. For example, some clients ask for steel bearings for low-speed spindles.
3. What brand is your bearing? We use GMN bearings.
4. Do you provide a tool interface? Tool interface is not provided for standard orders. However, we can provide a tool interface upon special request from the client.
5. Is the tool interface manual, or automatic? We can provide either manual or automatic tool interface upon client's request.
6. Do you provide quills? No, we do not provide quills.
7. Does your spindle require an encoder? It depends on your application and usage. If you need any of the functions below, you will need an encoder or closed loop control:
    1) Tapping function
    2) Rating speed settings
    3) High torque

LPR GLOBAL

8. What types of inverters or VFD do you recommend for your spindle? Our spindles work with various types of inverters. Many of our clients use Delta inverters.
9. Can you install a rotary union/joint with your spindle? Yes, we can install rotary union/joint with our spindles. In order to customize a right union/joint for your application, we would need your rotary union's coolant pressure, and the diameter of the passage. Our rotary joint can handle maximum of 35,000 rpm and 80 bar coolant pressure.
10. Does a spindle need to cool down? Yes, spindles need to be cooled down.
11. If a spindle requires cooling, what's your cooling method? We provide both water cooling and oil cooling types.
12. Which cooling method is better? We recommend water over oil because oil cooling efficiency is about 30% less than water. But the cooling method will be recommended based on your application and needs.
13. If our rating speed is 18,000 rpm, what would be the frequency at this speed? 18,000 ÷ 30 = 600Hz, so 600Hz would be the frequency at 18,000 rpm.
14. What defines motor characteristics? Torque, and power., for example, 2.3Nm and 5.5Kw
15. How do we know what is the right spindle for us? Please provide us with your required rating speed or constant speed, torque and power. We will promptly respond with spindle recommendations.

16. Can you make a spindle for a 3Ph, 380 VAC motor? Yes, we provide spindles for 3Ph, 380 VAC motors.
17. What can I learn from your motor graph? The motor graph shows the parameters for your inverter settings.

    The parameters include: maximum frequency, rating frequency, and rating voltage.
18. What's your inspection system with a tool interface of HSK32E? 1) vibration: 1.2mm/s and tool interface clamping force is 5,000N with Runout of 7μm.
19. What is the spindle balancing criteria? Our spindle balancing criteria is 2.5G.
20. Can I change your spindle's rotational direction? Yes, you can change the rotational direction, but only if your spindles are bi-directional. Bi-directional spindles are custom-made special spindles. If your spindles are bi-directional, you can change the rotational direction with inverter command programming.
21. Is the spindle direction reversible? No, it is not reversible. All standard spindles are unidirectional, and the direction cannot be reversed unless your spindles are custom-made bi-directional spindles.
22. Where are the spindles manufactured? Our spindles are manufactured in South Korea.
23. What applications can your spindles be used for? Our spindles are used for grinding, milling, drilling applications; all types of drives that require high precision.