

Electric spindles



Electric spindle is such a part which combine the permanent magnetic motor and the spindle together. In this section, the cover is what we call it as the machine winding. It can be driven and start rotating by supplying the exciting current and the rotating magnetic field with the tombarthite in it. According to the difference of the applications and industry fields, such as the grinder, miller, processing center and CNC lathes, the spindle can be specially designed to conform the specifications and mechanical characteristics of the machines and plants so that it can be equivalent to the final effect of the mechanical spindle.

—、 Advantage of the electric spindle

- 1、 Energy saving:** Compared to the normal synchronous motor, this type of motor can save 5%~20% in different situations and 10% in average.
- 2、 High speed & Exact stop:** The permanent magnetic motor has better torque output characteristics and hard characteristic curve with wide speed range which can be up to 12000r/min. Besides, the motor can realize exact stop with the encoder.
- 3、 Reduction of the investment for plants:** the speed range of the electric spindle covers really huge, it satisfy different processing demands for thick, thin and other high tech demands if and when there is a suiting tool, which saves investment for the origin plants greatly.
- 4、 Cost saving of power plant:** it gets rid of the static var compensator and reduce the cost for investment and maintenance due to the power factor. Because the power factor is closely equivalent to 1.0.
- 5、 High efficiency:**the electric spindle reduces the energy loss during the transmission and makes up the

defect of the uneven power.

6、 Advantage of blockings:the weight and size is $1/3\sim 2/3$ of the ordinary motors. Easy to install and adust.

More important, it is easy to realize the Variant when upgraded and improved.

二、 Applications

It is widely used in CNC drilling and milling equipment, carving, engraving and milling, wood-working machine and the high speed drills of the machining center due to stability and perfect loads.