
Overview

Rigidity and precision, along with accurate and consistent speed control are essential in dressing and truing operations, especially those in which superabrasive grinding wheels are involved.

DTS spindle shafts are manufactured with A2 tool steel, hardened to 60-62 Rockwell. Shafts are supported by two duplex pairs of angular contact spindle bearings. These bearings are manufactured with radial runouts of 0.000050" (.0013 mm) or less.

DTS spindles operate using custom-engineered brushless DC servomotors. The motors are mounted directly onto the spindle shaft generating the compactness that allows the spindles to fit on machines where many hydraulic and other electric spindles cannot fit. Despite the compactness of the DTS spindles, they maintain high power and a broad speed range.

DTS spindles operate under air purge. By maintaining positive pressure within the unit, DTS spindles are capable of withstanding the coolant-flooded environments associated with grinding machines.

DTS spindle control packages feature a servo amplifier that is powered from a 50-60 Hz, 90-270 Vac, single-phase or three-phase power source. These servo amplifiers provide closed loop velocity control. Once spindle speed is selected, that speed is maintained, despite forces experienced when the spindle diamond roll is contacted with the grinding wheel.

Standard control packages are equipped with a switch for controlling the spindle enable, a switch for direction selection, and a potentiometer for adjusting speed. A digital display is provided to monitor the spindle speed. Generally, these manual controls are used to establish the spindle's optimum speed and to set the appropriate direction. An interface module is included to provide a variety of inputs and outputs for control through PLC or CNC.

The above controlling components come preinstalled and completely wired on an open panel. With this configuration, the control panel is intended to be mounted in the existing machine's enclosure. If there is no room in an existing enclosure, the controlling components may be provided in a Nema 12 enclosure that may be mounted to any vertical or horizontal surface. Manual controls and the speed display are relocated and mounted in the enclosure door.

Custom configurations and numerous options are available to accommodate various applications, customer requirements, and grinder types.



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