

APPLICATIONS

- CVD
- MOCVD
- Thin film
- Optical coating
- Ion beam deposition
- Ion beam etch
- PVD
- Sputtering
- Ion implantation

FerroDrive

In-line motorized spindles from Ferrotec

FerroDrive motorized spindles from Ferrotec combine a hermetic Ferrofluidic® vacuum feedthrough with a high precision motor and controller to offer a compact and high performance integrated sealing and rotation system. Supplied ready to install, a FerroDrive saves you time and effort in choosing and integrating components.

FerroDrives are offered with hollow or solid shafts in sizes up to 2" (50 mm). Two different versions are available - a basic motorized spindle which uses a standard controller and Hall effect sensors for simple velocity control (within 2%), and a high precision version which features an encoder and advanced digital controller for extremely accurate speed and position control (within 0.01% or better).

Features and Benefits

High-energy rare earth magnets offer a stronger Ferrofluidic® seal, which increases pressure capacity and seal life, while minimizing spindle size.

Stainless steel construction for low outgassing.

Brushless DC motor permits 100% torque transmission with zero backlash through feedthrough shaft. The need for gears, belts, or other mechanical couplings is eliminated.

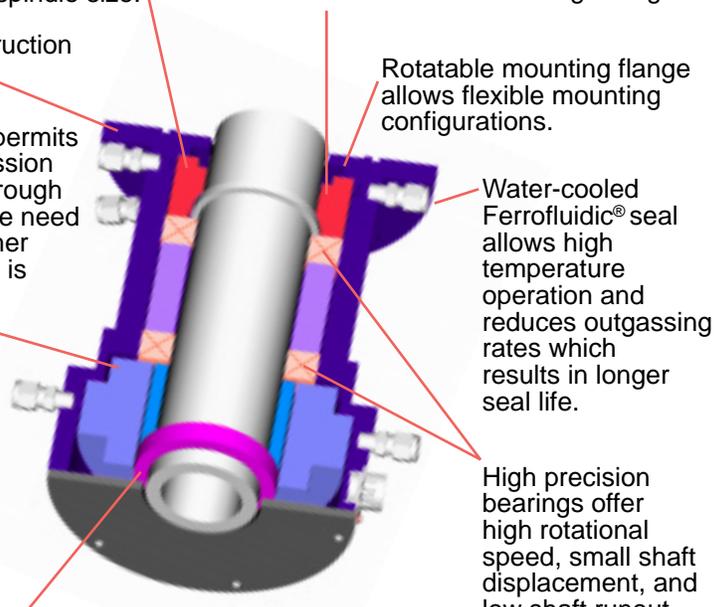
Cantilevered seal design locates bearings outside vacuum, which minimizes the total outgassing.

Rotatable mounting flange allows flexible mounting configurations.

Water-cooled Ferrofluidic® seal allows high temperature operation and reduces outgassing rates which results in longer seal life.

High precision bearings offer high rotational speed, small shaft displacement, and low shaft runout.

Encoder (optional) provides exceptional speed and position control.

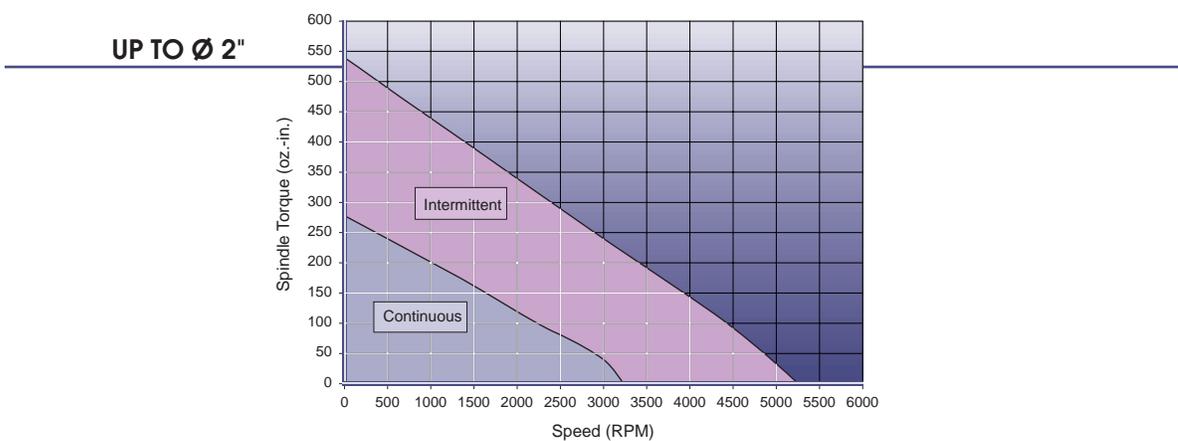
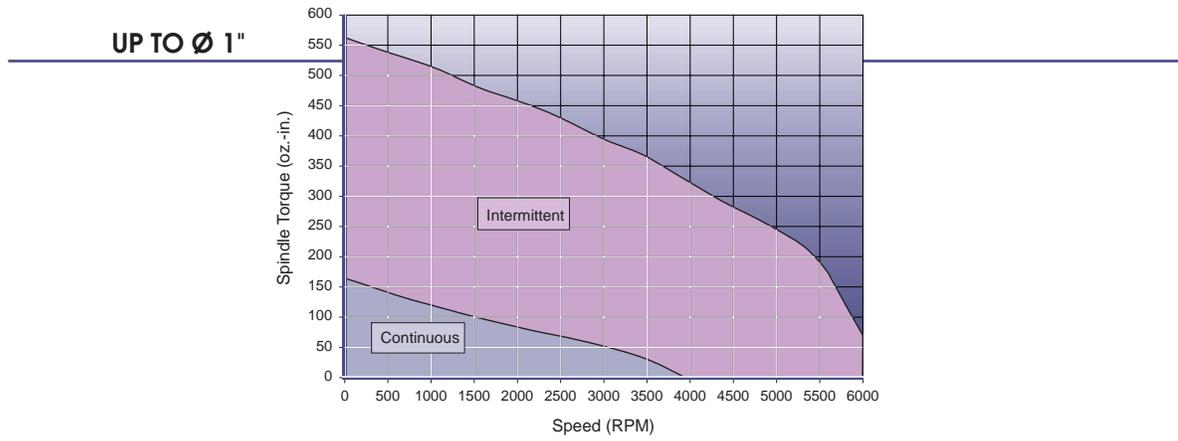


IN-LINE MOTORIZED SPINDLES

www.ferrotec.com

Products, Performance and Specifications

This data represents the performance of the complete FerroDrive (motor, feed-through and drive), not simply the motor in isolation.



Spindle Performance Data			Up to 1"	Up to 2"
			shaft size	shaft size
Continuous Stall Torque	Tc	oz.-in.	205	550
Continuous Stall Current	Ic	A	3.6	10
Peak Torque	Tp	oz.-in.	562	1075
Peak Current	Ip	A	10	20
Torque Sensitivity (stall)	Kt	oz.-in/A	56.8	54.8
Max. Load*	P	lbs.	125	225

* maximum radial load on process end of shaft 1" from flange

Customization In addition to our standard FerroDrive products we can offer application-specific models. These may include features such as large diameters (up to 6"), shaft modifications, water cooled motors and various positioning options including higher resolution encoders and other types of positioning and control devices such as limit switches