

SP125

High Speed Air Bearing Spindle

With Optional Motion Controller

ABTech inc. manufactures high speed air bearing spindles as components for ultra-precision fly cutter, ruling and lathe machine applications. SP125 spindles feature a flange mount design with 5" thrust plate and a 7" long shaft for increased stiffness.

With a finely tuned brushless DC servo motor drive the SP125 spindle is tested at 6,000 RPM achieving less than $2\ \mu$ " in radial asynchronous error motion at a distance of 1" from the spindle nose with axial error motion of less than $2\ \mu$ ".

Optional motion controller incorporates a digital amplifier with easy-to-use programmable controls and digital spindle speed readout.

With a modular design approach and complete engineering support capabilities **ABTech** can respond quickly to provide a solution to your unique O.E.M. needs for ultra-precision motion.



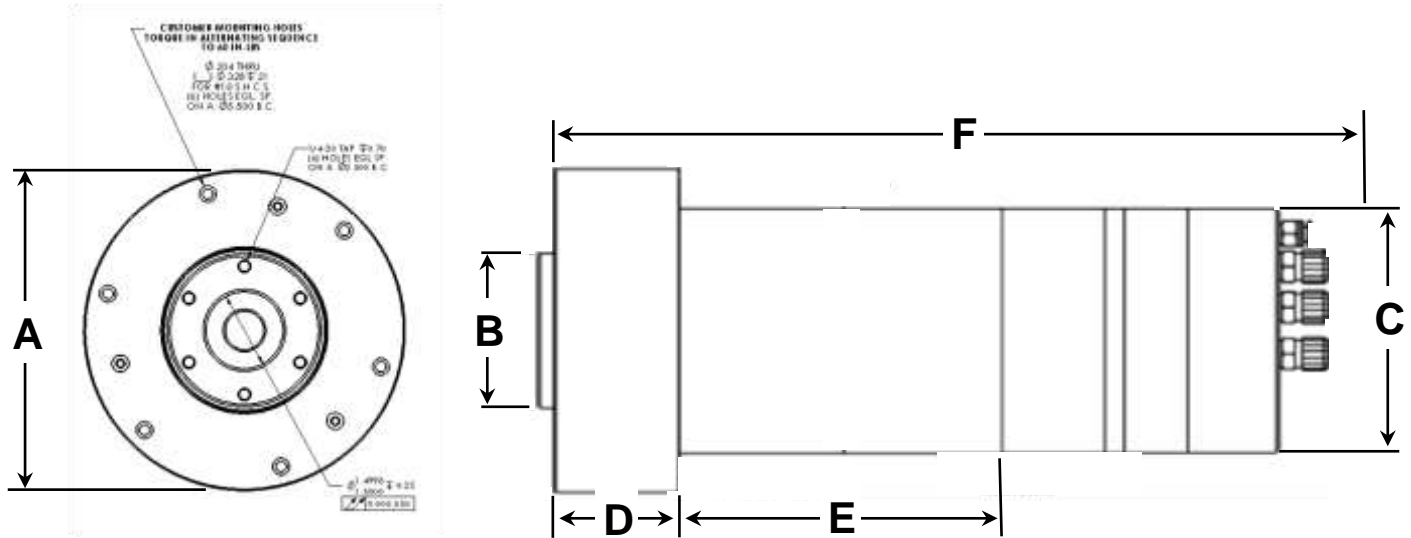
Phone: +603-358-6431
Fax: +603-358-0196
E-mail: info@abtechmfg.com
www.abtechmfg.com

P.O. Box 10296
126 Monadnock Highway
Swansey, NH 03446

Features:

- Ultra-smooth motion with no static friction
- High load capacity and stiffness with low air consumption
- Dual plane balanced to G0.4 specifications
- Minimal radial asynchronous error motion
- Stainless steel air bearing spindle
- High resolution rotary encoder
- Operator control console with digital amplifier and speed readout
- Modular design – custom systems can be provided for O.E.M.
- Made in USA

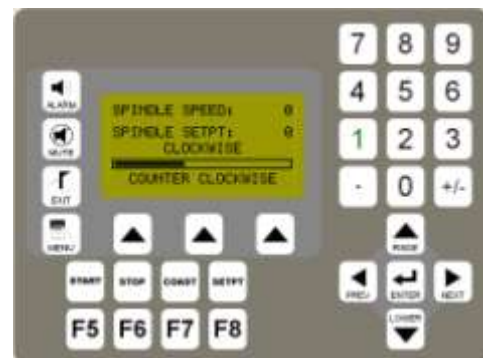
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Specifications	SP125
Flange Diameter (A)	6.25" (158.75 mm)
Shaft Diameter (B)	3.00" (76.2 mm)
Housing Diameter (C)	4.74" (120.4 mm)
Mounting Flange Depth (D)	2.44" (62.0 mm)
Shaft Length (E)	7.0" (177.8 mm)
Overall Length (F) <i>(includes 2.5" for minimum cable)</i>	16.5" (419.1 mm)
Radial Load Capacity	110 lbs (50 Kg)
Axial Load Capacity	150 lbs (68 Kg)
Air Usage	1.5 scfm (2.6 m ³ /h)
Operating Speed Range	0-6,000 RPM
Radial Stiffness (at spindle nose)	0.367 lbs/μ"
Axial Stiffness	0.75 lbs/μ"
Radial Error Motion	4.0 μ"
Radial Asynchronous Error Motion	2.0 μ"
Axial Error Motion	2.0 μ"

Options & Accessories:

- Motion controller with programmable operator touch pad
- Foot mounting option
- Vacuum chucks
- Precision collet tooling
- Liquid cooling
- Dual element filter/regulator
- Linear stage assemblies
- Granite surface plate bases



Typical motion controller touch pad layout

*Maximum load capacities - consult ABTech for recommendations on practical loads

~Load capacities are estimated at the front (nose)

~Performance can be affected by method of mounting the spindle and loading

~Radial test data is measured at 1" from spindle nose

~Error motion accuracies were tested at 6,000 rpm

~Special accuracies can be supplied

~Consult ABTech's engineers for moment loading and stiffness considerations

~Specifications are at 60 psi (4 kgf/cm²)

~Specifications are subject to change without notification

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