

AT-200, Direct Drive Air Bearing Table

Ultra-Precision Driven Rotary Motion



ABTech's Ultra-precision AT-Series air bearing rotary spin tables combined with high torque brushless DC servo motors, digital drives, and high resolution rotary encoders provide the highest performing direct drive rotary tables on the market.

The 440C hardened stainless steel, high stiffness air bearings provide the most durability and precision at competitive prices.

ABTech incorporates a modular design approach which includes several accuracy grades, worktable sizes, encoder resolutions, amplifier/controller options and turn-key engineering solutions to provide the user with the exact table for the job.

These tables are ideal for optical metrology, metrology, ultra-smooth scanning or velocity control, micro-machining, indexing and more.

Features:

- "Zero" static friction
- Ultra-smooth motion with absolute repeatability
- Durable 440C stainless steel construction
- High load capacity and stiffness
- Non-contact drive (no drive train parts to wear)
- High torque brushless DC motors
- Sinusoidal or trapezoidal commutation
- Multiple accuracy grades
- Low air consumption
- Modular design
- Digital drive amplifier/controller
- Programmable (RS 232 serial)
- Optional user interfaces
- Digital readouts
- Variable speed control
- Optional multi-axis servo controllers

Modular Designs!



AT - 100 Direct Drive Air Bearing w/
foot flange mount for Theta X or Theta Y
axis operation - [Micro machining application](#)

ABTech inc.
Pride In Precision

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Specifications

AT-200 w/Direct Drive

Accuracy

Radial & Axial Error Motion:

A2 = 2.0 μ " (0.05 μ m)
A5 = 5.0 μ " (0.125 μ m)
A10 = 10.0 μ " (0.25 μ m)

Angular (Coning):

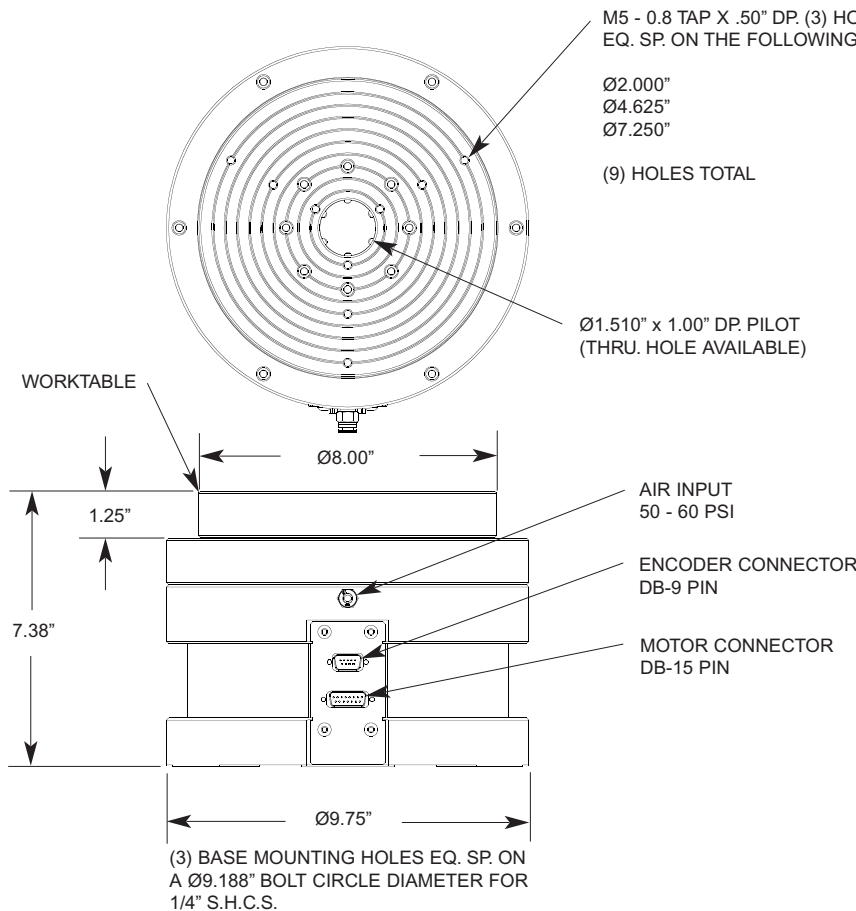
1.0 μ "/In. (0.025 μ m/25mm)

Radial/axial measurements are taken on a .50" diameter master test ball at 1.00" above table.

Angular is tested at 6.00" above table.

Accessories/Options

- Worktables to Ø600mm (23.62")
- Tilt/center worktables
- Special mounting flanges
- Special controllers
- Vacuum thru. to worktable
- Granite surface plates & support
- Air filter/regulator units
- Custom tooling



Digital amplifier/controller package

Controllers Available: Standard direct drive systems are provided with a programmable digital amplifier/controller package similar to the one shown above. ABTech's "modular design" approach allows the user to define the level of control desired for the most cost effective solution. Most commercially available control options can be used, including multi axis servo controllers, consult ABTech.

ABTech can also adapt our direct drive tables to your existing controller, Consult ABTech.

Encoders Available: Encoder resolution and accuracy are application specific. ABTech's modular design accommodates a wide variety of encoders from low resolution with 1000 line count to the highest accuracy commercially available. Consult ABTech to define your specifications.

AT200-M200V Direct Drive			
Table Size *	Ø8.00" (200mm)	Max. Rated Torque	1448oz in. (10.2Nm)
Axial Load	500lb. (226Kg) Balanced	Max. Cont. Stall Torque	190oz in. (1.34Nm)
Axial Stiffness	2.0lbs/ μ " (36.2Kg/ μ m)	Peak Torque	1127oz in. (7.96Nm)
Angular Stiffness	4.0in lb/ μ rad	Torque Sensitivity	115oz in./amp (0.813Nm/amp)
Motor	DC Brushless Servo	Motor Constant	190oz in./sqrt (w) 0.223Nm/sqrt (w)

* = Additional sizes available, consult ABTech, Inc.
Load & stiffness are specified at 60psi.
Table operating pressure range is from 30psi to 70psi
Specifications are subject to change without notification

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On Line: www.abtechmfg.com