

5 Axis Air Bearing Motion System



Metrology Station

Features:

- Compact and uncluttered design with 5-axis motion
- Granite, ceramic and steel materials and Invar linear scales for thermal stability
- X-Y linear stages have vertical stiffness > 1 million pounds/in
- Accuracy: +/- 1 μm over 8" linear travel in X, Y and Z directions
- Rotary error motion: +/- 1 arc second total over 360° move
- Renishaw linear and rotary encoders and dual Signum 5 nm resolution read heads eliminates odd error harmonics
- Made in the U.S.A.

OptiPro Systems, a respected optical machine manufacturer approached **ABTech** to supply air bearing stages for their prototype metrology station. Using the customer's concept as the framework **ABTech** applied its expertise in multi-axis motion and its understanding of geometric measurement principles to propose the design, manufacture and certification of a complete motion platform.

Don't let the simplicity of the design fool you, this system incorporates six ultra-precision **ABTech** manufactured air bearings providing five axes of motion each with direct drive motors and high resolution encoders:

- A 10" rotary air bearing table with dual read heads is mounted on stacked X-Y linear air bearing stages.
- A vertical Z-axis linear air bearing with ceramic rail supports a face mounted 4" rotary air bearing and is counterbalanced over an air bearing roller sleeve.
- A bi-level precision granite base is suspended on air bags on a vibration isolation stand to reduce outside interference.

With a modular design approach and complete engineering support capabilities **ABTech** can also respond quickly to your unique prototype or O.E.M. ultra-precision motion requirement.



Close up view of 5 axis system

For information on purchasing a metrology station, contact OptiPro Systems at (585) 265-0160 or online at www.optipro.com