

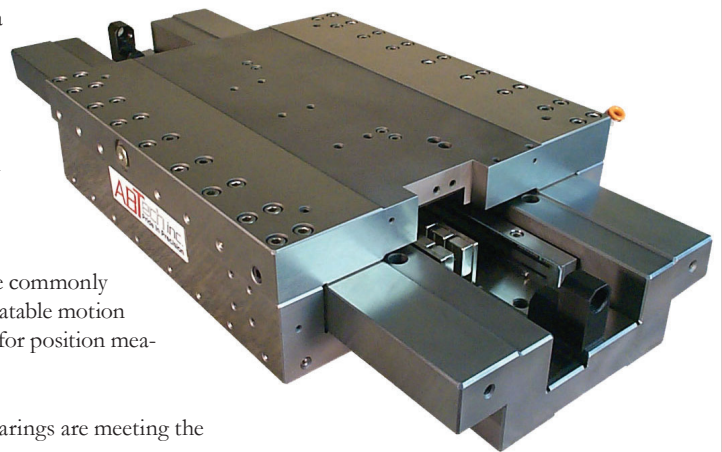
For more information please visit [ABTech's website](http://www.abtechmfg.com)

Air Bearing Linear Stages

ABTech's precision air bearing linear stages address the motion needs for a full range of part sizes and weights. Built for the most demanding applications, every stage provides ultra-smooth motion, sub-micron accuracy and absolute repeatability. Designed and manufactured in-house to extremely tight geometric tolerances, air bearings have no mechanical contacting parts to wear or create drag. This affords forgiveness from minor accidental touch downs that may result from low air pressure, excessive loading, or operator error.

Our linear stages come standard with dual element filter/ regulators and are commonly used as the core axis in a wide range of applications where smooth and repeatable motion is desired. They are ideal as stand-alone units and/or multi-axis assemblies, for position measurements, optical scanning, light machining and grinding, and more.

ABTech's quality, accuracy, and design flexibility are the reasons our air bearings are meeting the ultra-precision motion demands.



ABTech's Air bearing design

- Apposing pad preloaded design ensures an even air gap on all air bearing surfaces.
- Large air bearing surface area maximizing the bearing stiffness and averaging of geometric errors within the rails to minimize Pitch, Roll, Yaw, Straightness and Flatness errors.
- Application specific material selection includes hardened 440 CSS, Hard-coated aluminum, granite, or ceramic.
- Surfaces ground and lapped to extreme geometric tolerances.

Linear Motor Drive

- Using the highest quality Ironless core linear motor ensures zero cogging without any unwanted attractive forces between the coil and magnet track.

Optical Encoder

- Using industry leading optical encoders, we provide position resolution down to 5nm and compensated position accuracy to +/- 50nm.

Motion controls

- ABTech provides a full range of controls from single axis motor amplifiers to complex multi axis motion controllers and application specific software front end.

Accessories

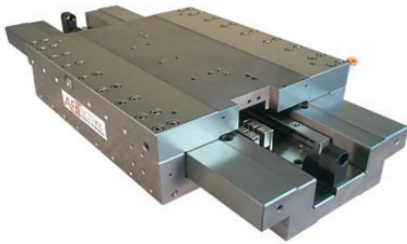
- Custom fixturing and work holder tooling
- Gage stands
- MicroTIR electronic gage packages
 - μ TIR-10: display w/single lever-type electronic indicator
 - μ TIR-11: display w/single lever-type electronic indicator and encoder interface
 - μ TIR-20: display with dual lever-type electronic indicator
 - μ TIR-21: display with dual lever-type electronic indicator and encoder interface
- Granite surface plates
- Structural steel frames with passive vibration isolation leveling feet

Benefits

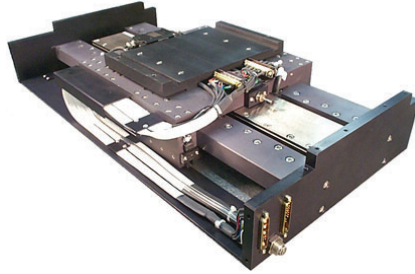
Accurate, repeatable, smooth motion

Configuration flexibility to meet your specific needs

Our "Pride in Precision" philosophy means providing you with the precise solution needed. We don't believe selling our customers more, or less, than what their application calls for. Each air bearing is uniquely adapted to our customer, therefore expectations are always met and exceeded. For over two decades working with our customers we've developed a broad range of options and accessories to address the majority of ultra-precision motion applications.



Fully captured apposing pad Air Bearing linear slide for high stiffness and accuracy. Constructed of hardened 440C stainless steel with linear motor drive and optical encoder.



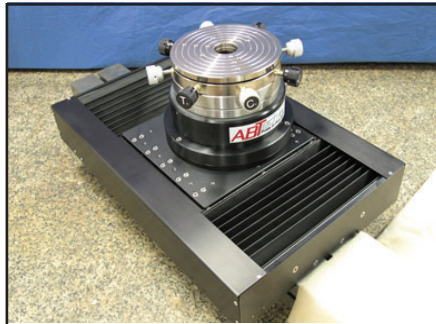
Fully captured apposing pad air bearing linear slide design for high stiffness and accuracy. Constructed of hardcoated aluminum with linear motor drive and optical encoder.



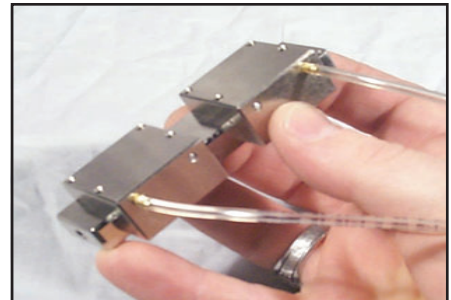
Dovetail air bearing linear slide with 4" x 4" carriage top and constructed of 440C Stainless steel. Available with motor drives and different lengths of travel.



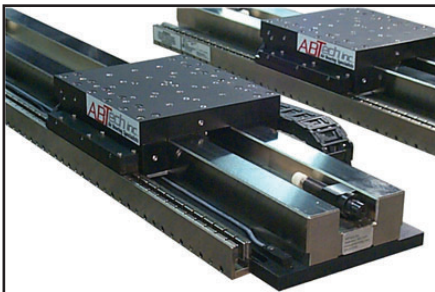
Multi axis and turn key high precision motion systems using our air bearing linear and rotary components and complete motion controls.



Multi axis X-Theta stage with Air bearing linear slide and linear motor drive, Air bearing rotary table and brushless DC rotary motor.



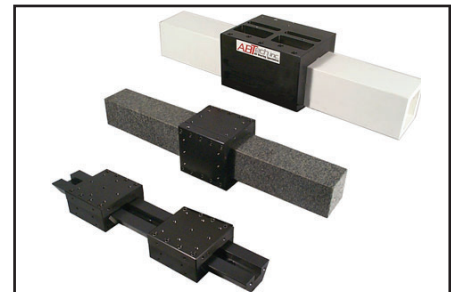
Miniature linear air bearing slide with magnetically preloaded carriage. Smooth motion in a small package.



Air bearing linear slide for lithography machine application. Magnetically preloaded for low profile with linear motor drive and optical encoder.



3-Axis precision motion system using X-Y planar air bearing linear slides and Z-Axis vertical air bearing slide with complete motion controls.



Air bearing linear slides available in dovetail, rectangular or square configurations and constructed of aluminum, granite, ceramic or stainless steel depending on the application.