

Optical Lens Alignment *Air Bearing Axes*

Large diameter, clear aperture *air bearing* reference axis



ABTech's air bearing spin tables make ideal reference axes for assembly and inspection of precision and ultra-precision **multi-element lens** assemblies. The large diameter, clear aperture system shown here is a prime example of the level of commitment to our O.E.M. customers in supplying a custom motion solution for a very demanding lens alignment application.

ABTech, Inc. worked with a leading manufacturer of lithography systems to develop this 17" diameter clear aperture, air bearing rotary table for large optical lens cell alignment assembly. The rotating center portion of the air bearing is used for mounting the lens cells custom fixturing. The O.E.M. uses a proprietary laser process in conjunction with the axis for alignment. The air bearing is supported by two trunion bearings to allow for rotation of the centerline from vertical to horizontal.

Radial and axial error motion of the air bearing is better than $0.1\mu\text{m}$ ($4.0\mu\text{m}$).

Ø17.00" (432mm) Clear aperture *air bearing axis* with DC motor drive

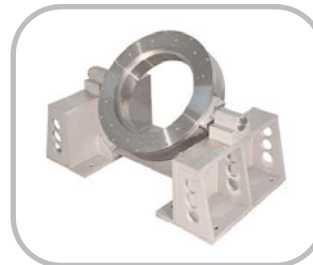
Additional sizes as well as motor drives and controls can be supplied.

Features:

- Ultra-smooth rotary motion
- Through hole design
- Radial/axial error motions to $1\mu\text{m}$ ($0.025\mu\text{m}$)
- Angular error motions: $1\mu\text{m}/\text{in.}$ ($0.025\mu\text{m}/25\text{mm}$)
- High load capacity
- Low air consumption
- Modular design
- Custom O.E.M. designs
- Motor drives/controllers
- Clean room compatible



AT-Series air bearing spin tables



Large clear aperture designs



Direct drive air bearing spin tables