



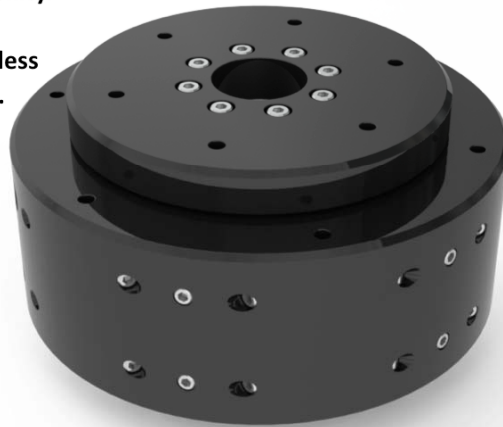
Non-Motorized Rotary Air Bearing Tables

RT Series

RT Series Rotary Air Bearing Tables offer superior runout, flatness and repeatability. Offered in a variety of sizes and load capacities, they are inherently frictionless with no breakaway or running friction.

Applications:

- Positioning
- Scanning
- Metrology
- Inspection
- Calibration
- Clean Rooms



Features:

- Table Diameter from 2 in to 12 in
- 1100 lbs max axial load
- Radial/Axial Runout $\pm 1 \mu\text{in}$
- Repeatability to $\pm 1 \mu\text{in}$
- Stictionless/Frictionless
- Zero-maintenance - no lubrication
- Cleanroom compatible
- Ultra-Precision Unibody Air Bearing Construction
- Can be mounted on linear air bearings for multi-axis positioning

Overview

Nelson Air's RT Series Rotary Air Bearing Tables are designed to deliver unsurpassed accuracy and repeatability. These bearings can easily replace ball bearing and crossed roller bearing tables and are simple to integrate and use. They offer much better runout (TIR), flatness of rotation and repeatability than ball bearing tables with much higher stiffness.

These bearings are also fully preloaded and feature rotors that are accessible from either end, allowing operation in any orientation and making integration with motors and encoders simple and compact. These tables are ideal for precision positioning, grinding, torque testing and inspection applications.

Dynamic and Static Performance

Because air bearings are inherently frictionless they do not exhibit breakaway or running friction, even under their maximum loading. Finally, the totally noncontact, clean nature of air bearings means that they are virtually maintenance free and their accuracy won't degrade over time due to wear. Designed to meet the demanding needs of precision production facilities, these systems are equally suited to laboratory environments where flexibility and ease of use are critical.

Bearing Mounting

Accurate mounting surfaces are critical to proper operation of the air bearing. Mounting surface flatness must be 0.0002" over the mounting surface. To reduce the difficulty of making the mounting, we

recommend mounting the bearing on three precision ground or lapped pads. This should also be done for items mounted to the air bearing tables. For the highest accuracy, we recommend having Nelson Air integrate the bearing onto the mount for testing and adjustment. Nelson Air can also provide accurate mounting surfaces made from granite, aluminum and cast iron.

Customization and Systems

RT Air Bearing Tables can be modified with a variety of options to suit any application. Fully preloaded air bearings allow these bearings to operate in any orientation.

Options and Accessories:

- Clear Aperture through bearing
- Custom Tables with Tip/Tilt and Centering
- Square or flanged housings
- Balancing for high speed operation
- Motors, encoders and drives
- XY Multi-Axis Assemblies with precision alignment
- Granite Bases and vibration isolation stands
- Indicators and Measurement devices
- Air Handling Assemblies and Fittings

Nelson Air prides itself on providing high quality positioning solutions for its customers. Please contact us for more information.

Nelson Air Corp.

precision air bearing positioning

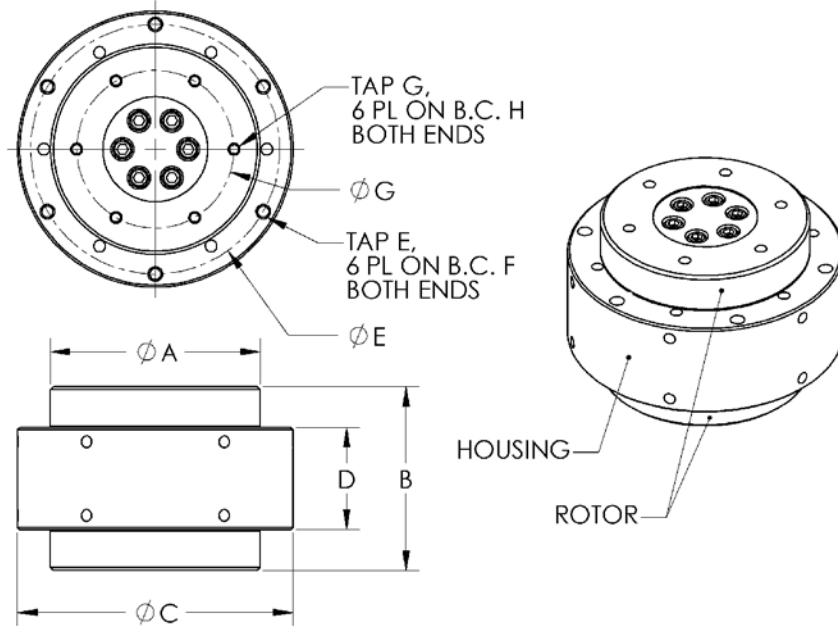
559 Rt. 13 South, P.O. Box 2, Milford, NH 03055
 Tel: 603-673-3908, Fax 603-672-3008
 e-mail: info@nelsonair.com
 web: www.nelsonair.com

> Accuracy Specifications

Option	A1	A2	A3
Radial/Axial Runout	±2.5 µin	±5 µin	±10 µin
Repeatability	±2 µin	±2 µin	±2 µin

Note: Accuracy specifications are dependent on load, travel, bearing size and forces on the bearing. Please consult Nelson Air

> Rotary Air Bearing Specifications and Dimensions



Model	A	B	C	D	E	F	G	H	Load Capacity (lbs)		Stiffness (lbs)		Weight (lbs)
	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	Axial	Radial	Axial	Radial	
RT050	2.000	1.750	2.750	1.000	#6-32	2.375	#4-40	1.500	25	15	0.15	0.05	0.8
RT075	3.000	2.500	4.000	1.500	#8-32	3.500	#6-32	2.250	60	35	0.33	0.13	2.6
RT100	4.000	3.000	5.250	2.000	#10-32	4.625	#8-32	3.000	100	60	0.55	0.20	5.6
RT100L	4.000	2.000	5.250	1.000	#10-32	4.625	#8-32	3.000	135	18	0.75	0.05	3.4
RT150	6.000	4.750	7.250	3.500	#10-32	6.625	#10-32	4.500	200	200	1.20	0.65	18
RT150L	6.000	3.250	7.250	2.000	#10-32	6.625	#10-32	4.000	285	70	1.50	0.21	11.8
RT200	8.000	5.500	9.500	4.000	1/4-20	8.750	1/4-20	6.000	425	375	2.20	1.00	36
RT200L	8.000	4.000	9.500	2.500	1/4-20	8.750	1/4-20	6.000	525	120	2.75	0.33	25.5
RT300	12.000	9.000	14.000	7.000	1/4-20	13.000	1/4-20	9.000	875	900	4.50	2.70	130