AIR BUSHINGS

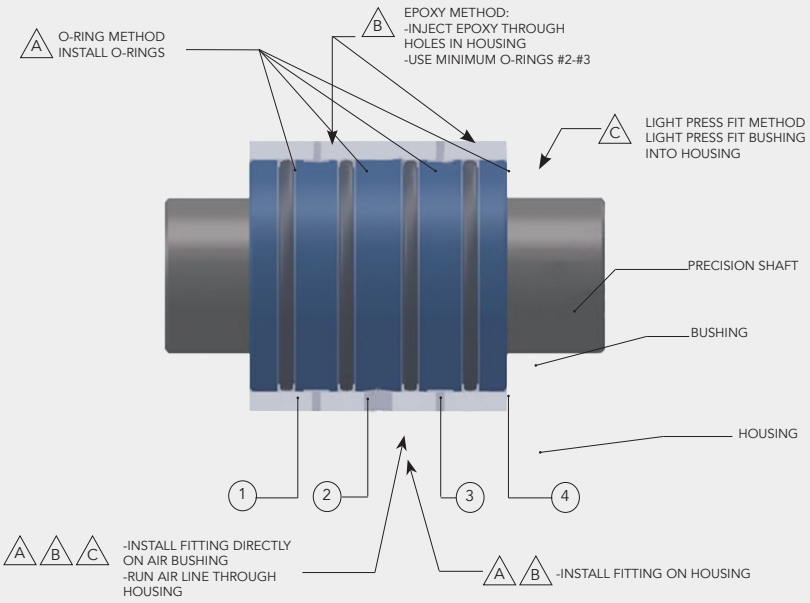
Product Features



Available in various sizes and configurations to fit your specific application requirements. Designed for seamless integration into existing systems. Built to handle extreme speeds while maintaining stability. High-performance design for industries including aerospace, semiconductor, medical devices, metrology, and precision automation. Load Capacity: Engineered for high stiffness and stability under heavy loads. Precision: Sub-micron motion accuracy.
Speed: High rotational and linear speed capability without performance loss.
Materials: Made with lightweight, aircraft quality material for durability.

Part Number	Size	Input Pressure	Radial Load Max	Radial Stiffness	Pitch Moment Max	Flow Rate	Bushing (ID)	Bushing (OD)	Bushing Length	Bushing Weight
OAV0250IB	0.250 Inch ID	40 psi - 100 max psi	2.9 lbs (13.1 N)	0.01 lbs/µin (2 N/µm)	0.125 lbs-in (.013 N-m)	3 SCFH	0.2507 in + .0002/-.0000	0.634 in + .005/-.000	1.250 in	12 g
OAV0312IB	0.312 Inch ID	40 psi - 100 max psi	4.4 lbs (19.4 N)	0.039 lbs/µin (7 N/µm)	2.74 lbs-in (.28 N-m)	4.40 SCFH	0.3125 in + .0002/-.0000	0.634 in + .005/-.000	1.250 in	11 g
OAV0375IB	0.375 Inch ID	40 psi - 100 max psi	4.4 lbs (19.8 N)	0.04 lbs/µin (7 N/µm)	2.75 lbs-in (.29 N-m)	4.50 SCFH	0.3757 in + .0002/-.0000	0.634 in + .005/-.000	1.250 in	10 g
OAV0500IB	0.500 Inch ID	40 psi - 100 max psi	9.5 lbs (42.3 N)	0.06 lbs/µin (11 N/µm)	7.5 lbs-in (0.8 N-m)	5.98 SCFH	0.5007 in + .0002/-.0000	0.932 in + .005/-.000	2.000 in	33.9 g
OAV0750IB	0.750 Inch ID	40 psi - 100 max psi	34.4 lbs (153.0 N)	0.13 lbs/µin (23 N/µm)	10 lbs-in (1.1 N-m)	8.98 SCFH	0.7507 in + .0002/-.0000	1.250 in + .005/-.000	2.000 in	51.6 g
OAV1000IB	1.000 Inch ID	40 psi - 100 max psi	51.6 lbs (229.5 N)	0.19 lbs/µ in (34 N/µm)	17 lbs-in (1.9 N-m)	11.97 SCFH	1.0007 in + .0002/-.0000	1.532 in + .005/-.000	2.250 in	79.5 g
OAV1500IB	1.500 Inch ID	40 psi - 100 max psi	126.2 lbs (561.4 N)	0.41 lbs/µin (72 N/µm)	28 lbs-in (3.1 N-m)	17.96 SCFH	1.5007 in + .0002/-.0000	2.346 in + .005/-.000	3.000 in	266 g
OAV2000IB	2.000 Inch ID	40 psi - 100 max psi	198.0 lbs (880.8 N)	0.63 lbs/µin (110 N/µm)	46 lbs-in (5.2 N-m)	23.94 SCFH	2.0007 in + .0002/-.0000	2.918 in + .005/-.000	3.500 in	446.4 g
OAV3000IB	3.000 Inch ID	40 psi - 100 max psi	298.0 lbs (1325.6 N)	0.91 lbs/µin (159 N/µm)	63 lbs-in (7.1 N-m)	35.92 SCFH	3.0007 in + .0002/-.0000	3.917 in + .005/-.000	3.500 in	620.2 g

Part Number	Size	Input Pressure	Radial Load Max	Radial Stiffness	Pitch Moment Max	Flow Rate	Bushing (ID)	Bushing (OD)	Bushing Length	Bushing Weight
OAV006MB	6 mm ID	.28 Mpa to .68 Mpa	12.4 N (2.8 lbs)	2 N/µm (0.01 lbs/µin)	0.013 N-m (.125 lbs-in)	2.84 SCFH	6.018 mm + .005/-.000	16.10 mm + .13/-.00	31.75 mm	12 g
OAV008MB	8 mm ID	.28 Mpa to .68 max Mpa	19.4 N (4.4 lbs)	7 N/µm (0.039 lbs/µin)	0.28 N-m (2.74 lbs-in)	4.40 SCFH	8.018 mm + .005/-.000	16.10 mm + .13/-.00	31.75 mm	11 g
OAV010MB	10 mm ID	.28 Mpa to .68 max Mpa	20.6 N (4.6 lbs)	7 N/µm (0.04 lbs/µin)	0.29 N-m (2.75 lbs-in)	4.70 SCFH	10.018 mm + .005/-.000	16.10 mm + .13/-.00	31.75 mm	10 g
OAV013MB	13 mm ID	.28 Mpa to .68 max Mpa	42.5 N (9.6 lbs)	11 N/µm (.06 lbs/µin)	0.8 N-m (7.5 lbs-in)	6.12 SCFH	13.018 mm + .005/-.000	23.67 mm + .13/-.00	50.80 mm	32.5 g
OAV020MB	20 mm ID	.28 Mpa to .68 max Mpa	160 N (36.0 lbs)	23 N/µm (0.13 lbs/µin)	1.1 N-m (10 lbs-in)	9.42 SCFH	20.018 mm + .005/-.000	31.75 mm + .13/-.00	50.80 mm	49.1 g
OAV025MB	25 mm ID	.28 Mpa to .68 max Mpa	226.3 N (50.9 lbs)	34 N/µm (0.19 lbs/µin)	1.9 N-m (17 lbs-in)	11.78 SCFH	25.018 mm + .005/-.000	38.91 mm + .13/-.00	57.15 mm	72.0 g
OAV040MB	40 mm ID	.28 Mpa to .68 max Mpa	593.8 N (133.5 lbs)	72 N/µm (0.41 lbs/µin)	3.1 N-m (28 lbs-in)	18.85 SCFH	40.018 mm + .005/-.000	59.59 mm + .13/-.00	76.20 mm	249.1 g
OAV050MB	50 mm ID	.28 Mpa to .68 max Mpa	866.3 N (194.8 lbs)	110 N/µm (0.63 lbs/µin)	5.2 N-m (46 lbs-in)	23.57 SCFH	50.018 mm + .005/-.000	74.12 mm + .13/-.00	88.90 mm	443.0 g
OAV075MB	75 mm ID	.28 Mpa to .68 max Mpa	1300 N (292.3 lbs)	159 N/µm (0.91 lbs/µin)	7.1 N-m (63 lbs-in)	35.42 SCFH	75.018 mm + .005/-.000	99.49 mm + .13/-.00	88.90 mm	688.1 g
OAV090MB	90 mm ID	.28 Mpa to .68 max Mpa	2000 N (449.6 lbs)	245 N/µm (1.40 lbs/µin)	8.9 N-m (79 lbs-in)	52.5 SCFH	90.018 mm + .005/-.000	113.25 mm + .13/-.00	110 mm	907.9 g



OAV AIR BUSHINGS

Typical configurations consist of one shaft and one bushing, or two parallel shafts with two to four bushings.
Generally, the air bushings are inserted inside of a mounting block or inside the bore of a customer-designed housing. The customer-designed housing must be designed in a way such that the air supply is forced into the air ports of the bushings.

The three methods of installation are epoxy, o-rings, or a light-press fit. OAV mounting blocks allow for the epoxy and o-ring methods of installation. In most cases it is recommended to design using o-rings, because o-rings have self-aligning features that can be readjusted.

Why Choose OAV Air Bushings?

• Frictionless Motion • Unmatched Precision • Zero Wear and Tear • High Load Capacity • Environmentally Friendly

Designing With Epoxy:
If epoxy is used, make sure that the epoxy grooves on the bushings can be accessed with a syringe.
Designing With O-Rings:
If o-rings are used, make sure to use the appropriate bore size and tolerance. OAV can also provide this information.
Designing With a Light-Press Fit:
If a light-press fit method is used, make sure to use the recommended bore size and tolerances. OAV can also provide this information.
Other Considerations:
Air bushings rely on the straightness of the shaft. Design so that the deflection/displacement of the shaft is minimal.
-Epoxy bonded air bearings
Installing Bushings With O-Rings:
1) First do a quick visual inspection to ensure that there are no sharp edges in the bore of the mounting block. The o-rings provide a very tight fit and if they get damaged, they will not work properly.
2) Lubricate the o-rings and surfaces with alcohol.
3) Press-fit the bushing inside the mounting block.
4) Insert the shaft and apply the air pressure. 30 PSI is enough to test the bushing without any load being applied.
5) Use proper alignment. If two shafts are used side-by-side, it is best to use gauges to assure that the shafts are at an equal distance from both ends. Parallelism is crucial for optimal performance of the air bushings.
Installing Bushings With Epoxy:
1) Clean the surfaces with alcohol.
2) Slide the air bushing into the mounting block, and the shaft into the bushing.
3) Align the shaft(s) with the best parallelism possible. If two shafts are used side-by-side, it is best to use gauges to ensure that the shafts are at equal distance at both ends. Parallelism is crucial for the performance of the air bushings.
4) Turn the air supply on at 30 PSI and do not apply any load to the bushing.
5) Use a syringe to apply the epoxy through the syringe holes on the mounting block until the epoxy fills the epoxy grooves on the bushing. Make sure that the air port on the bushing lines up with the air port on the mounting block.
6) Keep the air supply on at 30 PSI until the epoxy cures.
Installing Bushings With Light Press-Fit:
1) Clean the surfaces with alcohol.
2) Light-press fit the air bushing into the mounting block, and the shaft into the bushing.
3) Align the shaft(s) with the best parallelism possible. If two shafts are used side-by-side, it is best to use gauges to ensure that the shafts are at equal distance at both ends. Parallelism is crucial for the performance of the air bushings.
4) Make sure that the air port on the bushing lines up with the clearance hole on the mounting block.
5) Install the air fitting directly into the air bushings as shown above.

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