

# POROUS MEDIA<sup>®</sup> **AIR BEARING** SOLUTIONS

AIR BUSHINGS METRIC



**AIR BUSHINGS**

**NEW WAY POROUS MEDIA® TECHNOLOGY OFFERS YOU SIGNIFICANT ADVANTAGES**

New Way metric air bushings run on standard metric precision steel shafting and are directly interchangeable with most rolling element bushings. Once the swap-out is complete, these flexible components provide all the advantages of frictionless motion – supporting linear or rotary applications.

**EASY APPLICATION**  
New Way makes air bushing components easy for anyone to apply. Mounting blocks, O-rings and precision shafts are manufactured to industry standard sizes and finishes for optimal performance.



75mm Metric Air Bushing with matching stock mounting block

**A COMPLETE LINE OF POROUS MEDIA® METRIC AIR BUSHINGS**



FEATURES	BENEFITS
Standard component	Anyone can use
Cylindrical configuration	Allows for frictionless linear or rotary motion
Cylindrical configuration	Hoop stiffness provides for relatively small cross sections (small space)
Porous carbon media	Eliminates damage to the shaft
Non-contact	Zero friction and no stiction for infinite resolution and repeatability
Non-contact	Smooth, silent motion without vibration
Non-contact	10x the speed
Non-contact without moving parts	High, consistent acceleration
No lubrication	Virtually maintenance free
High air film stiffness	Reduced probability of contact
High air film stiffness	High natural frequency
High air film stiffness	High damping for faster settling time
High air film stiffness	High precision positioning
Porous carbon media	Lower air consumption
Mounting blocks / precision shafts / end mounts	Easy to apply, cost-effective and available
O-rings	Allow bushings some self-alignment capability (can also be potted in place)

**APPLICATIONS**

- Crystal Pulling
- Dusty or Dirty Environments
- Fast Tool Servos
- Friction Testing
- Positioning Stages
- Rotary Tables
- Spindles
- Tone Arms
- Voice Coil Actuators

**MARKETS**

- Solar
- Semiconductor
- Machine Tools
- Food Processing



Photo courtesy of Kama d.o.o., Predletar, Slovenia



75mm Metric Air Bushing Application 3-D Model

## AIR BUSHING PRODUCT LINE

PRODUCT LINE COMPARISON: <b>AIR BUSHINGS - METRIC</b>													
Bushing I.D.	Part Number	Max. Load (lbs)	Normal Stiffness (lbs-in)	Max. Moment (lbs-in)	Pitch Stiffness (lbs-in/rad)	Bore Dia +.0002 -0.000	Bearing O.D.	Bearing Length	Mounting Hole Dia. +.005 / -.000	Air Consumption Range (SCFH)	Shaft Dia. +.0000 / -.0003	Min. Housing Length	Weight (oz)
13mm I.D.	S301301	10	60,000	7.5	18,750	0.5126	0.932	2.000	0.952	4.75-6.60	0.5118	1.250	1.1
20mm I.D.	S302001	30	130,000	10.0	25,000	0.7882	1.250	2.000	1.270	7.50-10.20	0.7874	1.250	2.0
25mm I.D.	S302502	42	190,000	17.0	47,400	0.9851	1.532	2.250	1.555	9.50-12.60	0.9843	1.375	3.0
40mm I.D.	S304002	145	410,000	28.0	100,875	1.5756	2.346	3.000	2.375	15.00-19.80	1.5748	1.874	7.2
50mm I.D.	S305002	210	630,000	46.0	201,750	1.9693	2.917	3.500	2.945	19.00-25.20	1.9685	2.780	17.0
75mm I.D.	S307502	280	910,000	63.0	275,110	2.9536	3.917	3.500	3.937	28.00-37.20	2.9528	2.780	22.0

## COMPLETE NEW WAY POROUS MEDIA® AIR BEARING PRODUCT LINE



Flat Round Air Bearings



Flat Rectangular Air Bearings



Vacuum Preloaded Air Bearings



Conveyor Air Bearings



Radial Air Bearings



Air Bushings



Air Slides

**NEWWAY®**  
air bearings

*Frictionless Motion®*

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# POROUS MEDIA® **AIR BEARING** SOLUTIONS

AIR BUSHINGS ENGLISH



## AIR BUSHINGS

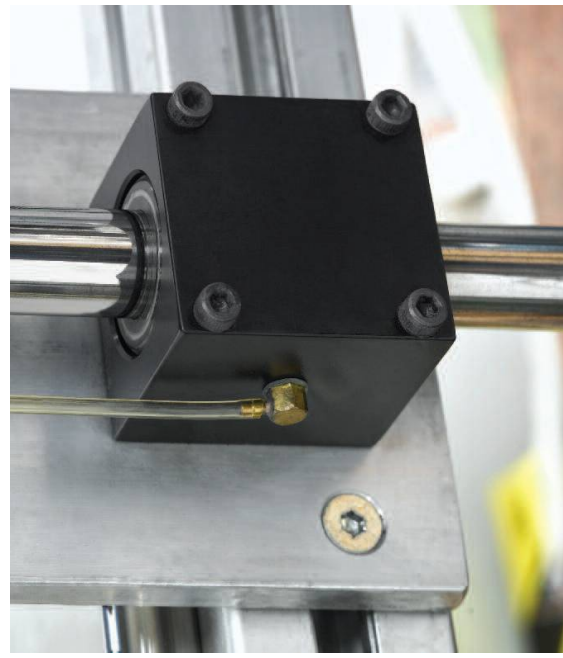
### NEW WAY POROUS MEDIA® TECHNOLOGY OFFERS YOU SIGNIFICANT ADVANTAGES

New Way English air bushings run on standard English precision steel shafting. Though they remain directly interchangeable with most rolling element bushings, these English sizes are now primarily used to replace other air bushings, as most design today incorporates metric sizing. They still provide the same differential advantages as their metric counterparts.

**EASY APPLICATION**  
 New Way makes air bushing components easy for anyone to apply. Mounting blocks, O-rings and precision shafts are manufactured to industry standard sizes and finishes for optimal performance.



3.00" English Air Bushing with matching stock mounting block



3.00" English Air Bushing Application 3-D Model

FEATURES	BENEFITS
Standard component	Anyone can use
Cylindrical configuration	Allows for frictionless linear or rotary motion
Porous carbon media	Hoop stiffness provides for relatively small cross sections (small space)
Non-contact	Eliminates damage to the shaft
Non-contact	Zero friction and no stiction for infinite resolution and repeatability
Non-contact	Smooth, silent motion without vibration
Non-contact	10x the speed
Non-contact without moving parts	High, consistent acceleration
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High air film stiffness	Reduced probability of contact
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High air film stiffness	High damping for faster settling time
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- Solar
- Semiconductor
- Machine Tools
- Food Processing

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Bushing I.D.	Part Number	Max. Load (lbs)	Normal Stiffness (lbs-in)	Max. Moment (lbs-in)	Pitch Stiffness (lbs-in/rad)	Bore Dia +.0002 -0.000	Bearing O.D.	Bearing Length	Mounting Hole Dia. +.005 / -.000	Air Consumption Range (SCFH)	Shaft Dia. +.0000 / -.0003	Min. Housing Length	Weight (oz)
0.25 I.D.	S300601	2.75	10,000	0.125	195	0.2502	0.623	1.250	0.635	2.25-3.30	0.2495	0.812	0.3
0.50 I.D.	S301201	10	60,000	7.5	18,750	0.5008	0.932	2.000	0.952	4.75-6.60	0.5000	1.250	1.1
0.75 I.D.	S301901	30	130,000	10.0	25,000	0.7508	1.250	2.000	1.270	7.00-9.60	0.7500	1.250	2.0
1.00 I.D.	S302501	42	190,000	17.0	47,400	1.0008	1.532	2.250	1.555	9.50-12.60	1.0000	1.375	3.0
1.50 I.D.	S303801	145	410,000	28.0	100,875	1.5008	2.346	3.000	2.375	14.00-19.20	1.5000	1.874	7.2
2.00 I.D.	S305001	210	630,000	46.0	201,750	2.0008	2.918	3.500	2.945	19.00-25.20	2.0000	2.780	17.0
3.00 I.D.	S307501	280	910,000	63.0	275,110	3.0008	3.917	3.500	3.937	28.00-37.80	3.0000	2.780	22.0

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