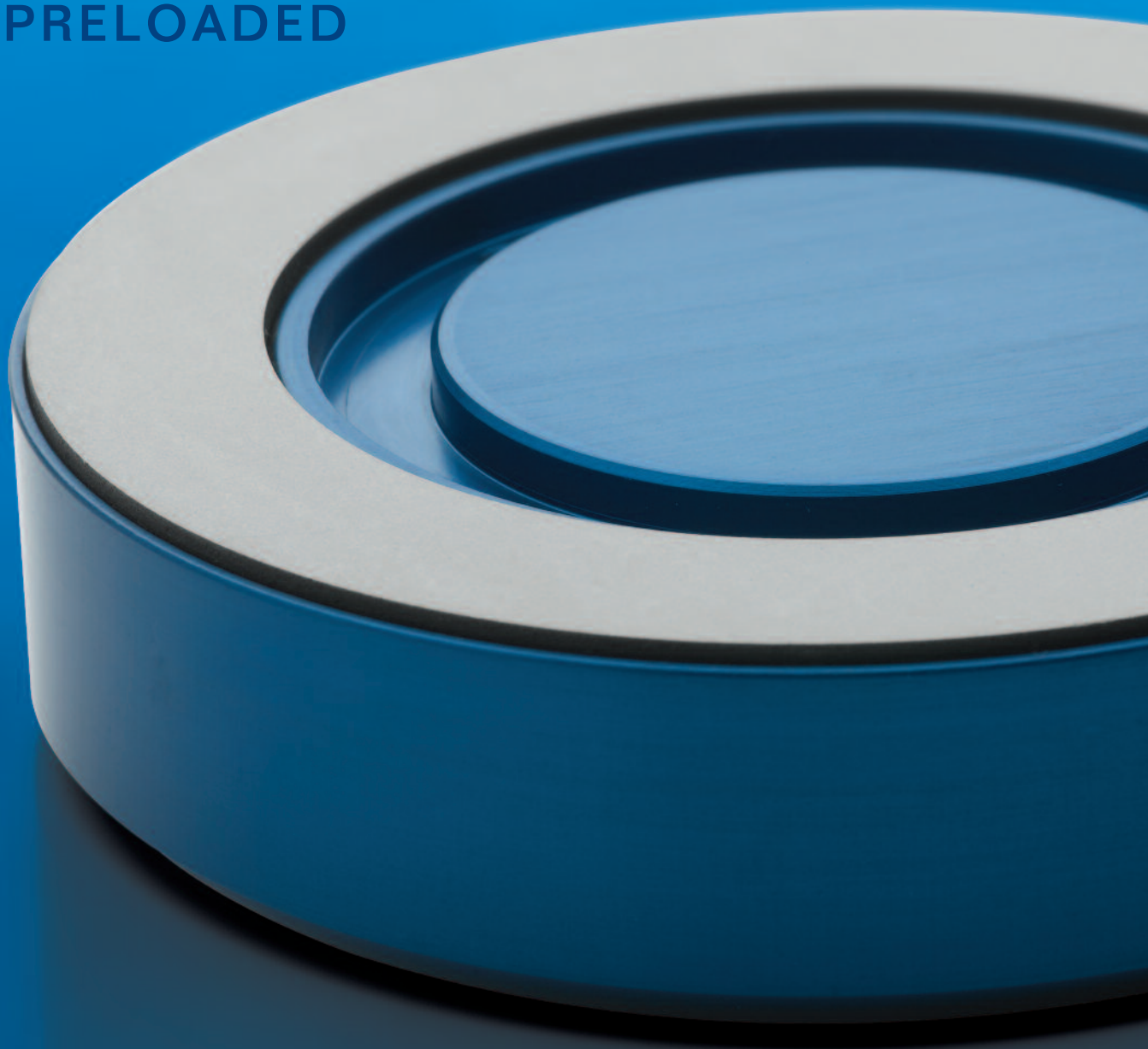


POROUS MEDIA<sup>®</sup>  
**AIR BEARING**  
SOLUTIONS

VACUUM  
PRELOADED



# A COMPLETE LINE OF VACUUM PRELOADED POROUS MEDIA<sup>®</sup> AIR BEARINGS

New Way vacuum preloaded air bearings use a combination of air pressure and vacuum, New Way VPL air bearings hold themselves down while simultaneously lifting themselves from a guide surface. By adjusting the vacuum and the pressure separately, the fly height and stiffness of these vacuum preloaded air bearings can be optimized.



90mm



75mm



50mm

## EASY APPLICATION

New Way makes air bearing components easy for anyone to apply. Flexure mounts provide bi-directional stiffness, a low pivot point, and infinitesimal angular adjustment for New Way VPL air bearings.



75mm Vacuum Preloaded Air Bearing shown with Flexure Mount



90mm vacuum Preloaded Air Bearing Application 3-D Model

## NEW WAY POROUS MEDIA<sup>®</sup> TECHNOLOGY OFFERS YOU SIGNIFICANT ADVANTAGES

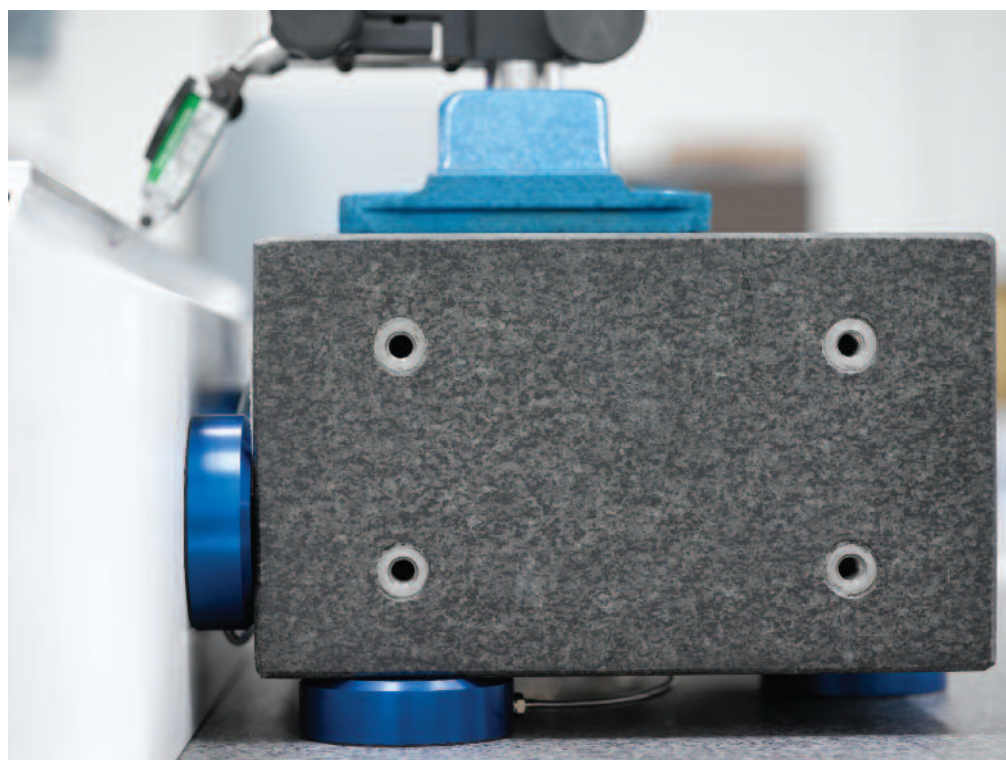
FEATURES	BENEFITS
Standard component	Anyone can use
Vacuum preload	Allows for preload without a counter-surface
Vacuum preload	Deterministic - only one guide surface
Vacuum preload	No additional mass during acceleration or deceleration
Porous carbon media	Lower air consumption
Porous carbon media	Eliminates damage to the guide surface
Non-contact	Zero friction and no stiction for infinite resolution and repeatability
Non-contact	Zero wear, for consistent machine characteristics
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
Flexure mount	Easy to apply, adjust, achieve parallelism
Flexure mount	Provides directional stiffness without hysteresis

### APPLICATIONS

- Wafer Positioning
- Wafer Probing (High Speed)
- Wafer Bumping (High Speed)
- AOI
- Precision Alignment
- Depth of Field Adjustment
- Squaring Adjustment
- Testing and Repair

### MARKETS

- Semiconductor
- Test and Measurement
- Optics
- Lithography

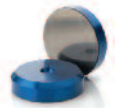


# VACUUM PRELOADED AIR BUSHING PRODUCT LINE

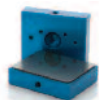
PRODUCT LINE COMPARISON: <b>VACUUM PRELOADED AIR BEARINGS</b>							
Size (diameter)	Part # (select for load/lift curve & drawing)	Ideal Load N (lbs) @ .41 MPa (60psi)	Stiffness N/micron (lbs/u in) @ 0.41 MPa (60psi)	Flow NLPM (SCFH) @ .41 MPa (60psi)	Flexure Mount Size	Bearing Height mm (in)	Bearing Weight grams (oz.)
50mm	S205001	45 (10)	13 (0.075)	1.06 (2.25)	0.375*	22 (0.866)	73 (0.16)
75mm	S207501	110 (25)	29 (0.165)	1.38 (2.92)	0.375*	22 (0.866)	203 (0.464)
90mm	S209001	150 (34)	43 (0.25)	1.48 (3.15)	0.375*	22 (0.866)	306 (0.69)

\*40 Thread or 80 Thread

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



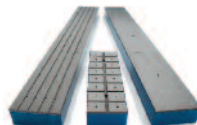
Flat Round  
Air Bearings



Flat Rectangular  
Air Bearings



Vacuum Preloaded  
Air Bearings



Conveyor  
Air Bearings



Radial  
Air Bearings



Air Bushings



Air Slides

**ISO**  
9001:2000  
CERTIFIED

New Way Air Bearings  
products are manufactured  
using ISO 9001:2000  
certified processes

**NEWWAY**<sup>®</sup>  
air bearings

*Frictionless Motion*<sup>®</sup>

New Way Air Bearings, Inc. • 50 McDonald Blvd., Aston, PA 19014 USA  
Phone: 610-494-6700 • Fax: 610-494-0911 • [www.newwayairbearings.com](http://www.newwayairbearings.com) • [info@newwayprecision.com](mailto:info@newwayprecision.com)

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