

Introducing the new force in
air bearing technology..



Airpel-AB[®]
Force Without Friction

Introducing Airpel-AB®

A unique new air cylinder featuring Force Without Friction® air bearing technology. Read on!

Finally, there's an air cylinder with precisely the features the air cylinder industry has been missing—the **Airpel-AB**—a pneumatic driver that takes air-powered motion to an incredible level of smoothness, cleanliness, and unsurpassed longevity.

This new Airpel® Series' specially shaped stainless steel piston, precisely fitted to the Airpel's renowned borosilicate glass cylinder, creates a true air bearing airflow effect around the piston.

As little as 5 psi applied to the cylinder produces a stiff cushion of air that supports the piston circumferentially, preventing its contact with the cylinder wall.

The result of this new design? A virtually unlimited piston cycle life with super-clean operation, no lubrication, and an output force reduced only infinitesimally by movement of the ultra-low friction ball joints used to connect the rod.

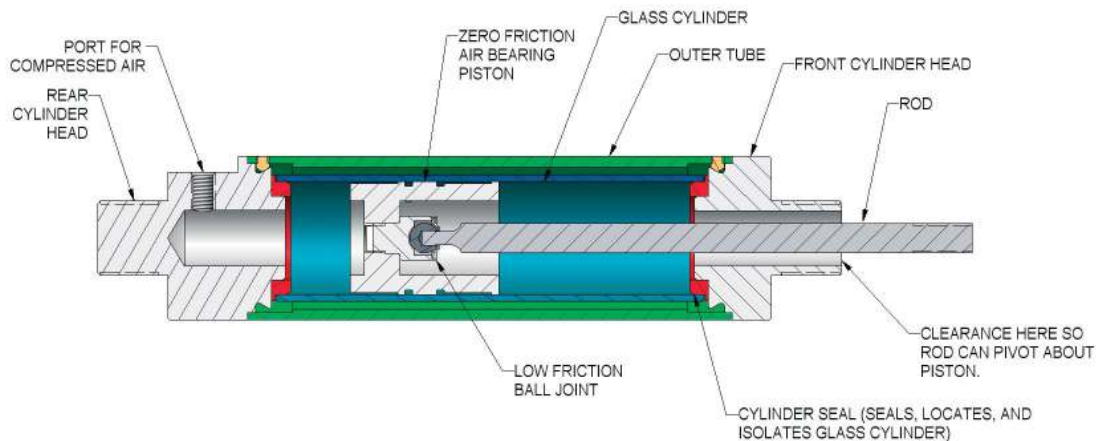
Engineers familiar with our original Airpel line have marveled at its low-friction characteristics and know it was created to fill a niche in the air cylinder industry where the friction, contamination, wear, and extreme temperature vulnerability of typical air cylinders could not be tolerated. Now our new **Airpel-AB** Series has taken the Airpel's already unparalleled low friction and *reduced it by a factor of 1000* to meet even more demanding needs of the highest tech equipment.

Using our new **Force Without Friction** technology offers a nearly unbelievable level of smooth motion and longevity in a pneumatic driving device for applications such as

- precise tensioning of ultra-fine wire, filaments, or fiber
- positioning mechanisms supporting delicate materials, optics, or liquids
- Super-sensitive force control for holding or clamping fragile materials, wafer dicing, or polishing
- counterbalancing and safety support for vertically positioned linear motor driven masses such as CMM measurement probes
- precise laboratory test equipment for weighing, measuring, tensile strength, deformation, and calibration

A variety of sizes to meet your needs.

The standard **Airpel-AB** line is offered in Metric models with four bore diameters and ten strokes to provide precisely repeatable driving or supporting forces from 2 grams to 58 kg at pressures starting as low as 5 psi. And all over a temperature range of -20°C to +90°C (depending on model). We are also glad to provide custom strokes and rod lengths for other performance and application requirements.





Model: MAB9S-NF



Model: MAB16S-SV



Model: MAB24S-SX



Model: MAB32S-NV

Specifications Summary*

MODELS	<u>MAB9</u>	<u>MAB16</u>	<u>MAB24</u>	<u>MAB32</u>
BORE (mm)	9.3	15.9	24.0	32.5
OD (mm)	14.3	20.7	31.8	50.0 (square)
Rod Dia (mm)/MATL-SS	3.2	5.0	6.35	8.0
Operating Temperature Range	-20°C to +90°C	-20°C to +60°C	-20°C to +50°C	-20°C to +40°C

STROKES FOR ALL MODELS (mm): 10 – 25 – 40 – 50 – 80 – 100 – 160 – 200 – 250 – 300

Operating Direction: Single acting, air extend (No return spring. Requires external reset force.)

Piston Cycle Life (at Air Bearing Pressures): UNLIMITED

Air Requirement: Dry/filtered to at least < 1 micron. Coalescing filter required.

Rod Connections: Threaded plain end or optional threaded low-friction ball universal joint.

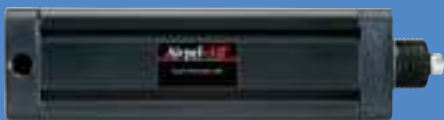
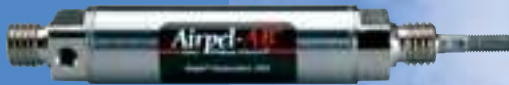
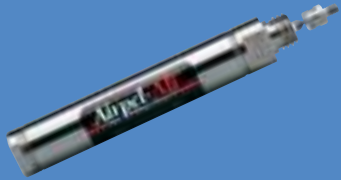
Min Pressure for Air Bearing: 5 psi (0.034 MPa)

Max Operating Pressure: 100 psi (0.7 MPa)

Lubrication: NONE

*Dimensions and configuration options are preliminary and subject to change.

airpel-ab.com



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