

LAB-S Series

Linear Air Bearing Stages

Versatile Square Rail Design

ABTech inc. offers ultra-precision fully constrained air bearing linear stages with our end supported square rail design.

LAB-S series square stages feature the largest air bearing surface areas for high load capacities and uniform stiffness on any mounting face of the carriage.

Available in several material combinations to optimize performance in a variety of applications requiring exacting linear straightness and positioning; thermal stability; various motion profiles and systems requiring no static friction.

Combine with ABTech's air bearing spindle sleeves in a vertical orientation for a precisely tuned counterbalance. LAB-S series linear stages are ideal components for wafer scanning systems, computer-to-plate systems, linear measurement and vision systems.

ABTech's modular design approach and complete engineering support capabilities can respond quickly to provide a solution to your O.E.M. needs for ultra-precision linear motion.

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Above: aluminum carriage and ceramic rail



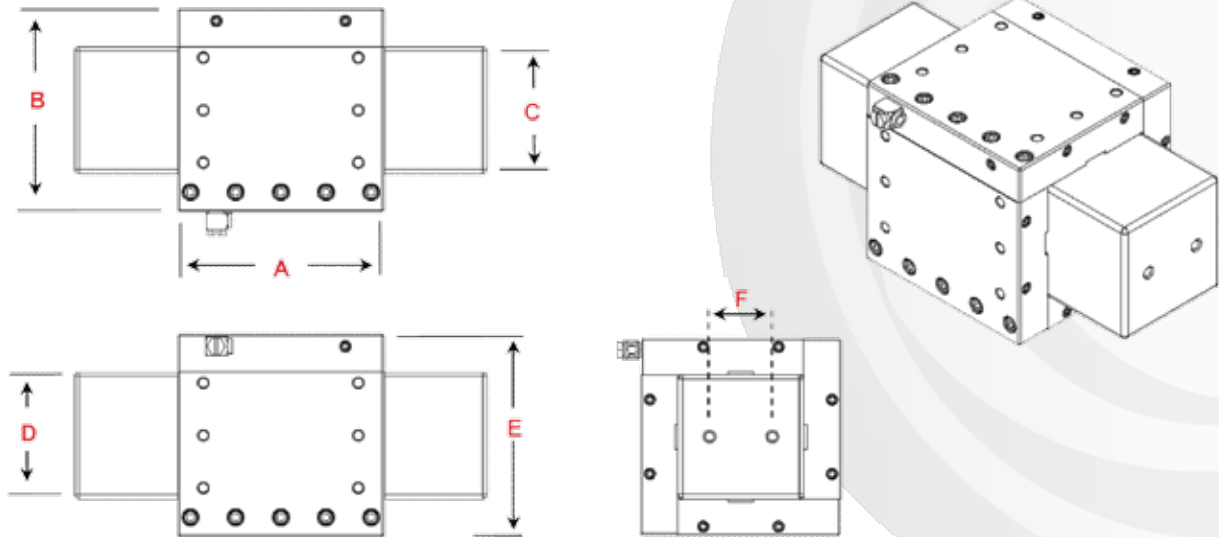
Left: stainless steel carriage and granite rail

Aluminum and stainless steel rails also available

Features:

- Ultra-smooth motion with no static friction
- High load capacity and stiffness with low air consumption
- Two accuracy grades available for cost effective design
- Hard coated aluminum, stainless steel, granite or ceramic rails
- Carriage options in aluminum or stainless steel
- Available in custom rail lengths and carriage sizes
- Modular design – custom systems can be provided for O.E.M.
- Made in USA

LAB-S Series Linear Air Bearing Square Stages



Model Number:	LAB-100S	LAB-180S
Carriage Length (A)	4.00" (101.6 mm)	7.00" (177.8 mm)
Carriage Width (B)	4.00" (101.6 mm)	7.00" (177.8 mm)
Rail Width (C)	2.50" (63.5 mm)	5.00" (127.0 mm)
Rail Height (D)	2.50" (63.5 mm)	5.00" (127.0 mm)
Total Stage Height (E)	4.00" (101.6 mm)	7.00" (177.8 mm)
Mounting Points (F)	1.75" (44.45 mm)	3.50" (88.9 mm)
Slide Travel	1-24" (25-609.6 mm)	1-42" (25-1067 mm)
Vertical Load Capacity*	90 lbs (40.8 Kg)	200 lbs (90.7 Kg)
Horizontal Load Capacity*	90 lbs (40.8 Kg)	200 lbs (90.7 Kg)
Air Usage	1.8 CFM	2.3 CFM

* Maximum load capacities—consult ABTech for recommendations on practical loads
 ~Load capacities are estimated at the center of the carriage in both directions and based on standard horizontal orientation with carriage on top of rail
 ~Slide performance can be affected by method of mounting the rail and loading
 ~Consult ABTech's applications engineers for moment loading and stiffness considerations
 ~Specifications are at 60 psi (4 kgf/cm²)
 ~Specifications are subject to change without notification

Accuracy Class	Straightness of Travel
A1*	5.0 μ"/in (0.125 μm/25.4mm)*
A2	15.0 μ"/in (0.375 μm/25.4mm)

* Depending upon desired travel length, A1 accuracy for LAB-100S stages may require an elongated carriage design
 ~Special accuracies can be supplied
 ~Consult ABTech for the best solution for your application

Options & Accessories:

- Aluminum and stainless steel carriages
- Aluminum, stainless steel, ceramic and granite rails (granite rails in A2 accuracy only)
- Motor drives and controllers
- Electronic indicators, amplifiers and gage stands
- Granite plates and base stands
- Dual element filter/regulator
- Custom hole pattern and end mounting

Ordering Information:

