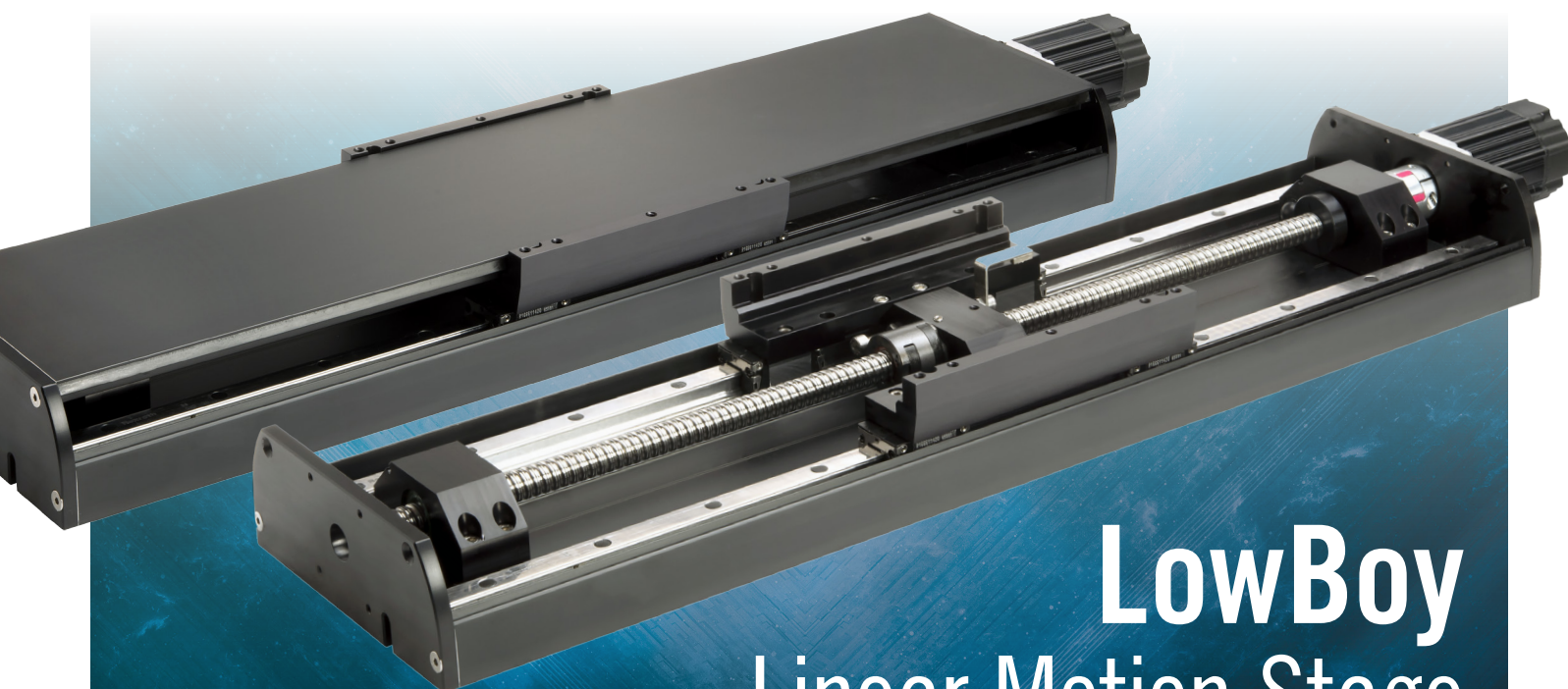




Embedded Motion Systems



LowBoy Linear Motion Stage

New modular design spans wide performance range.

With five different drive mechanisms available in the same compact, aluminum chassis, LowBoy Linear Motion Stages let you choose the ideal price-to-performance ratio for your application.

The Right Drive. LowBoy Linear's drive offerings consist of:

- Lead Screw
- Standard Ball Screw
- Precision Ball Screw
- Air-core Linear Motor
- Iron-core Linear Motor

The stages span a bi-directional repeatability range from $\pm 0.5 \mu\text{m}$ for the linear motor models to $\pm 50 \mu\text{m}$ for the lead screw. The price differential between the lowest and highest fidelity stages in a given size is roughly 20%.

Compact, Protected Chassis. LowBoy Linear stages use one of two low-profile aluminum chassis designs. The Light versions use an 80-mm high x 120-mm wide chassis, while the Medium versions have an 80-mm high x 180-mm wide chassis. Both chassis designs feature an integrated cover to protect the drive mechanism from contamination.

LowBoy Linear stages are available now in lengths up to 1020 mm and can exert continuous linear forces as high as 1540 N, depending on the drive mechanism.

Easy Integration. With their compact chassis designs, LowBoy Linear stages provide bolt-on integration into a variety of semiconductor, packaging, medical, assembly, lab automation and industrial machines.

LowBoy

Linear Motion Stages

Choose the best drive system.

Technical Specifications	LEAD SCREW DRIVES		STANDARD BALLSCREW DRIVES		HIGH-PRECISION BALLSCREW DRIVES		www.electromate.com	
	LIGHT DUTY LB-L-LS	MEDIUM DUTY LB-M-LS	LIGHT DUTY LB-L-BSS	MEDIUM DUTY LB-M-BSS	LIGHT DUTY LB-L-BSH	MEDIUM DUTY LB-M-BSH	LIGHT DUTY LB-L-LM	MEDIUM DUTY LB-M-LM
Chassis Dimensions (W x L)	80 x 120	80 x 180	80 x 120	80 x 180	80 x 120	80 x 180	80 x 120	80 x 180
Maximum Travel Length (mm)	990	990	990	990	1020	990	810	990 (Iron Core) 1010 (Air Core)
Bearing Type (mm)	4 row recirculating ball		4 row recirculating ball		4 row recirculating ball		4 row recirculating ball	
	9	15	9	15	9	15	9	15
Motor Type	3-phase brushless servo		3-phase brushless servo		3-phase brushless servo		Iron Core	Iron Core or Air Core
Lead (mm)	2.54		5 mm, 10		5 mm, 10		N/A	
Uni-directional Accuracy (µm)	228 per 300 mm		±26 per 300 mm		±26 per 300 mm		±5.0	
	Standard	N/A	±4.0	±4.0	±4.0	±4.0	±2.0	±2.0
Bi-directional Repeatability (µm)	±50		±40		±1.0		±0.5	
Pitch, Roll & Yaw (arc-sec)	±15 Pitch, ±10 Yaw, ±20 Roll	±15 Pitch, ±10 Yaw, ±10 Roll	±15 Pitch, ±10 Yaw, ±20 Roll	±15 Pitch, ±10 Yaw, ±10 Roll	±15 Pitch, ±10 Yaw, ±20 Roll	±15 Pitch, ±10 Yaw, ±10 Roll	±15 Pitch, ±10 Yaw, ±20 Roll	±15 Pitch, ±10 Yaw, ±10 Roll
Encoder Type and Resolutions (µm)	Rotary Encoder 16KCPR Linear Encoder 1, 0.5, 0.1		Rotary Encoder 16KCPR Linear Encoder 1, 0.5, 0.1		Rotary Encoder 16KCPR Linear Encoder 1, 0.5, 0.1		Linear Encoder 1, 0.5, 0.1	
Max Dynamic Payload (kg) ¹	30	100	30	100	30	100	15	30
Speed (m/sec)	0.125		0.5 (5 mm lead), 1 (10 mm lead) ⁶		0.5 (5 mm lead), 1 (10 mm lead) ⁶		4	
Continuous Linear Force (N)	New		1064 (5 mm lead), 700 (10 mm lead)		1400 (5 mm lead), 700 (10 mm lead)		60, 120	200, 300 (Iron Core) 87, 116 (Air Core)
Max Load at 2 m/sec (N) ^{4, 5}	N/A		N/A		N/A		90	
Max Load at 0.5 m/sec (N) ^{4, 5}	N/A		1040	660	1040	660	1040	660
Max Moment Load at 2 m/sec (N-m) ⁴	N/A	90	N/A	90	N/A	90	N/A	90
Max Moment Load at 0.5 m/sec (N-m) ⁴	40	360	40	360	40	360	40	360
Moving Mass (kg)	1.2	1.7	1.2	1.7	1.2	1.7	1.5, 1.8	3.5, 4.0 (Iron Core) 2.0, 2.1 (Air Core)
Friction (N)	5	7	5	7	5	7	5	7

1 Recommended maximum payload for standard LowBoy configurations.
 Contact Bell-Everman Engineering for payload maximum at desired velocity.
 2 Controller dependent.
 3 Requires linear encoder.
 4 Consult Bell-Everman Engineering for additional Load/Life specifications.
 5 Linear forces in x, y and z axes.
 6 Screw shaft critical speed may be lower.

LowBoy Linear Overview

