

LMS SERIES LINEAR STAGE



LMS Series Linear Motor Stage

The LMS Series linear motor stage is offered in a travel lengths of 100mm, 200mm, 300mm, and 400mm with a maximum speed of 400 mm/sec. This is the ideal stage for applications requiring high speed and precise positioning. The LMS Series utilizes a brushless DC linear drive motor eliminating the use of a leadscrew for precise backlash-free operation. A high resolution optical linear encoder is integrated to provide a positioning repeatability of $\pm 0.5 \mu\text{m}$. The carriage rides on twin precision linear guide bearings mounted to a 6061 aluminum chassis for high rigidity and linearity. End of travel optical limit switches come standard on the LMS Series linear stage.



NOTE

The LMS Series is not suitable for use in a vertical orientation. This stage has very little friction and can easily be moved by hand, therefore is not suitable for applications requiring the carriage to remain in position when power is not applied.

Specifications

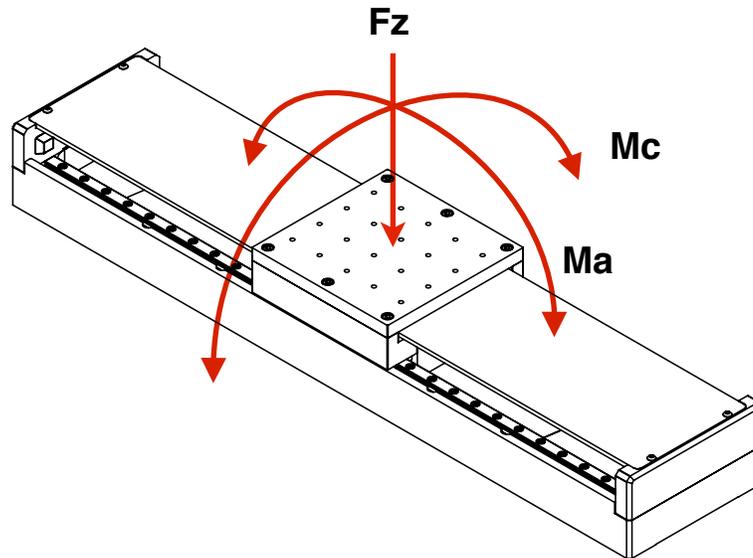
Travel Range	100 mm, 200 mm, 300 mm, 400 mm
Resolution	0.5 μm
Bi-directional Repeatability	$\pm 0.5 \mu\text{m}$
Accuracy	$\pm 3 \mu\text{m}$
Max. Speed	400 mm/sec
Max. Acceleration	5000 mm/sec
Continuos Motor Force	30 N
Limit Switches	Optical switches at each end of travel
Maximum Payload	10 kg (22 lbs)
Motor Type	Brushless DC Linear Motor
Stage Weight	7.3 kg (16 lbs)
Material and Finish	Aluminum Alloy Construction, Black Anodize
Operating Temperature	5°C to 45°C

Note:

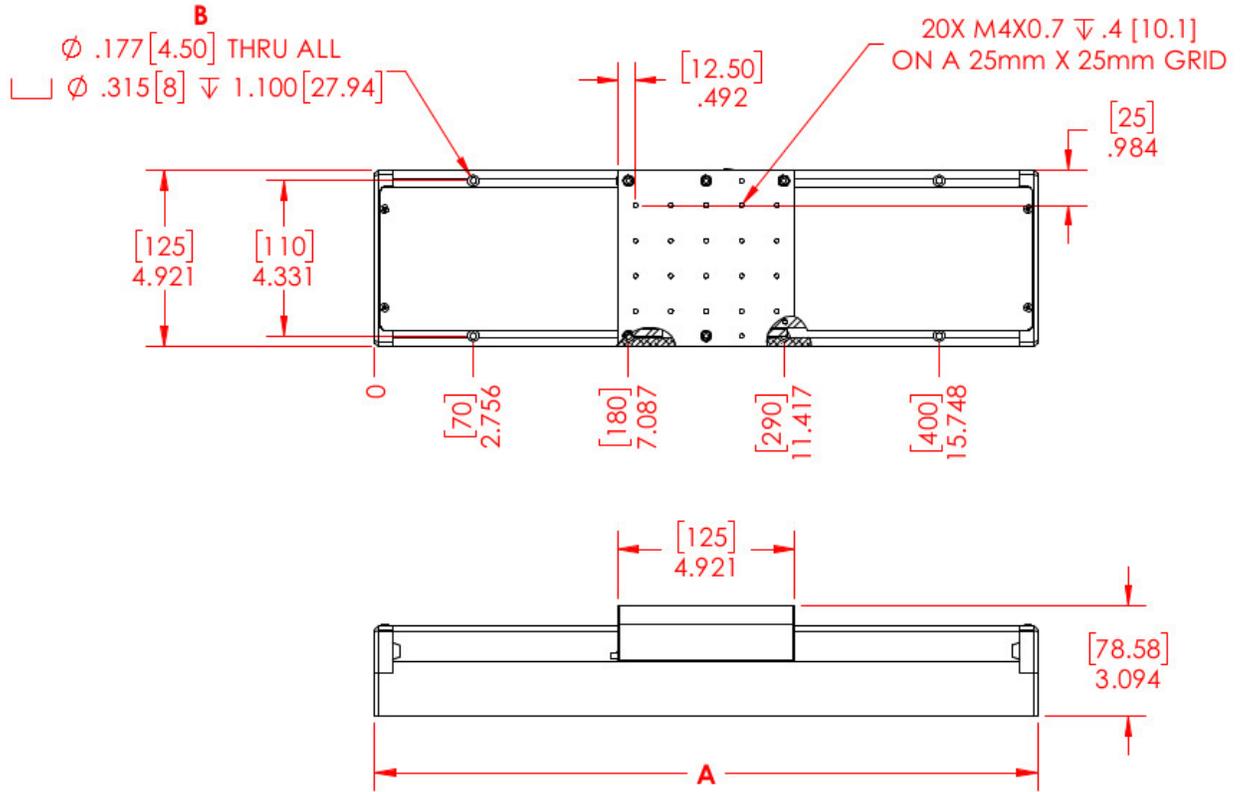
The stage has been tuned for payloads up to 1.8 kg (4 lbs) when used with a Newmark Servo controller. High loads will require retuning.

Load Characteristics

Normal Load F_z	10 kg (22 lbs)
Moment Load M_a	20.3 Nm (15 lb-ft)
Moment Load M_c	20.3 Nm (15 lb-ft)



Dimensions



LMS SERIES LENGTH DIMENSIONS				
	100mm	200mm	300mm	400mm
A	$[270]$ 10.630	$[370]$ 14.567	$[470]$ 18.504	$[570]$ 22.441
B	4 PLACES	8 PLACES	8 PLACES	8 PLACES

[mm]
inch

Pin Assignment

Motor

DB-9 Male	Description
1.	Phase A
2.	Phase B
3.	Phase C

Motor Specifications

Motor Type: 3-phase Iron Core
Maximum Continuous Current: 1.5 A
Back EMF: 32 V / m/s
Resistance: 5.4 Ohm/Phase
Inductance: 35 mH/Phase
Magnetic Pitch: 24 mm

Signals

HD-15 Female	Description
1	Positive Limit
2	Negative Limit
3	Limit Ground
4	Encoder Ground
5	+5V
6	Encoder A+
7	Encoder A-
8	Encoder B+
9	Encoder B-
10	N.C.
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.

Limit switch wired normally closed

Ordering Information

Part Number Configuration

LMS-400



Travel Length

Travel Length

100 mm

200 m

300 mm

400 mm