

LM7-LM Series Datasheet

Linear Motor Positioning Stage

FEATURES

- 150-1000mm Travels Available
- High Force Iron Core Linear Motor
- Optical Limit Switch and Home Index
- High Resolution Linear Encoder, 1Vpp and RS422 Available
- Heavy Duty Construction
- Recirculating Linear Bearings
- Silicone Side Seals



The LM7-LM is a linear motor driven stage ideal for applications in optics, microscopy, medical device manufacturing and more. This stage offers micron-level precision, excellent repeatability, and exceptional stability. The iron core linear motor has incredible force density, enabling high acceleration and process throughput. Crafted with high-quality materials, precision-engineered components and durable side seals, the LM7-LM is built to last, making it a reliable choice for demanding industrial settings. Invest in the LM7-LM linear stage and redefine the possibilities for precision motion in your application.

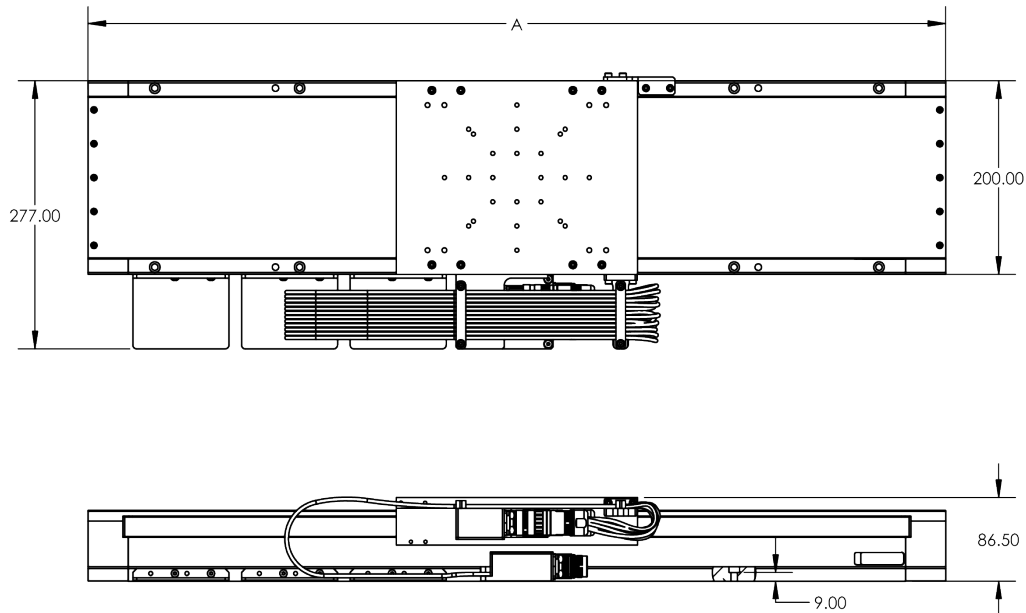
Ordering Options and Dimensions

Stage Series	Stage Travel (mm)	Drive Type	Motor Code	Feedback Code	Precision Grade	Additional Options	Custom Features
LM7	150, 200, 250, 300, 400, 500, 600, 800, 1000 ¹	LM-Linear Motor	F-Iron core, HV Winding	U-1Vpp, 25 Periods/mm, Limits and Index	S- Standard	F-Side Seals	00-None
				CC- RS422, 0.1µm, Limits and Index	P- Precision ²		Any Other ³

Example Part Number: LM7-500-LM-F-U-S-F-00

Notes:

- Other custom travels may be available upon request, not longer than 1000mm.
- Non-standard ordering option, contact Griffin Motion for more information.
- Common customizations include cleanroom preparation, stainless hardware and custom mounting holes. Many other customizations are also available, contact Griffin Motion for more information.



Stage Travel (mm)	Stage Length "A" (mm)
150	538
200	588
250	638
300	688
400	788
500	888
600	988
800	1188
1000	1388

LM7-LM Performance Specifications

Nominal Travel (mm)	150	200	250	300	400	500	600	800	1000
Mechanical Accuracy (μm) ³	± 5.0				± 6.0	± 7.0	± 8.0	± 10.0	± 12.0
Calibrated Accuracy (μm) ¹	± 2.0								
Bi-Directional Repeatability (μm) ³	1.0								
Maximum Velocity (mm/s)	2,000								
Maximum Force, X Direction (N) ²	250								
Maximum Force, Y Direction (N) ²	1,000								
Maximum Force, Z Direction (N) ²	1,500								
Maximum Moment About X (Nm) ²	400								
Maximum Moment About Y (Nm) ²	600								
Maximum Moment About Z (Nm) ²	200								
Moving Mass (kg)	6.48								
Flatness (Z Motion) (μm) ²	6				8	10	15	20	25
Straightness (Y Motion) (μm) ²									
Pitch Motion (arc-sec) ³	± 6.0				± 7.0	± 8.0	± 9.0	± 11.0	± 13.0
Yaw Motion (arc-sec) ³									
Stage Mass (kg)	19.8	21.3	22.3	23.5	25.8	28.0	30.5	35.1	39.6

Notes

- In order to have a stage calibrated and verified, Griffin Motion must perform the controls configuration.
- See coordinate convention below.
- Specification is verified on every stage via laser measurement. Other specifications can be verified upon request. A custom part number may be required, additional charges may apply.
- Improved accuracy, repeatability, flatness, straightness, pitch, and yaw are available with "P" Precision Grade.

