

LM9-LM Series Datasheet

Linear Motor Positioning Stage

FEATURES

- 300-1000mm Travels Available
- High Force Ironless 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 LM9-LM is a heavy duty linear stage ideal for applications in optics, microscopy, medical device, and more. Offering micron-level precision, excellent repeatability, and exceptional stability, the LM9-LM ensures smooth and reproducible movements with high levels of positioning accuracy. Crafted with high-quality materials, precision-engineered components and durable side seals, the LM9-LM is built to last, making it a reliable choice for demanding industrial settings. Invest in the LM9-LM linear stage and redefine the possibilities for precision motion in your application.

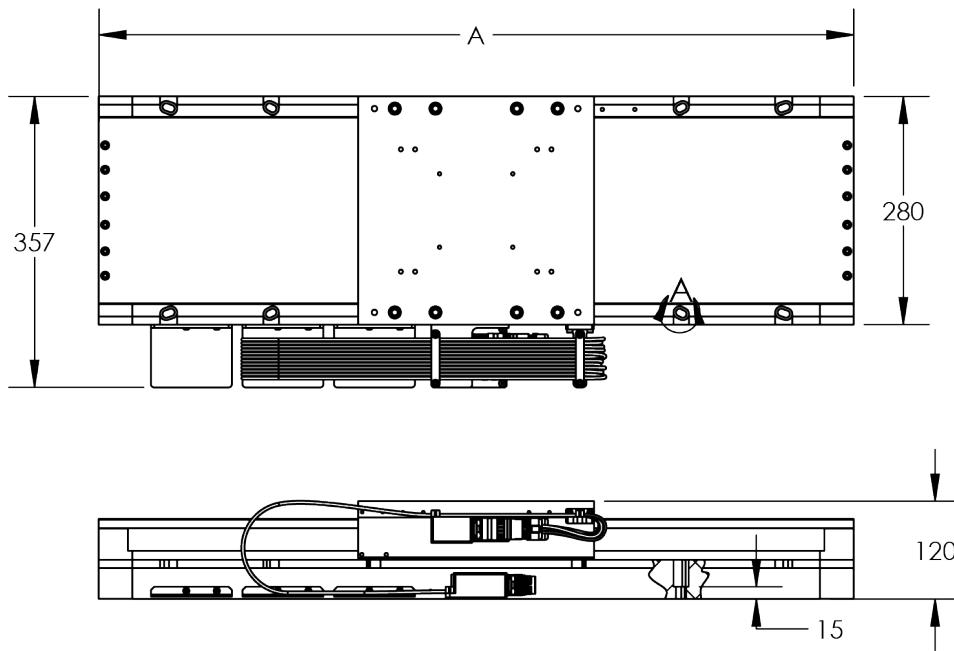
Ordering Options and Dimensions

| Stage Series | Stage Travel (mm) | Drive Type | Motor Code | Feedback Code | Precision Grade | Additional Options | Custom Features |
|--------------|--------------------------------------------|-----------------|------------------------|-----------------------------------------|---------------------------|--------------------|------------------------|
| LM9 | 300, 400, 500, 600, 800, 1000 ¹ | LM-Linear Motor | V-Ironless, 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: LM9-500-LM-V-U-S-F-00

Notes:

1. Other custom travels may be available upon request, not longer than 1000mm.
2. Non-standard ordering option, contact Griffin Motion for more information.
3. 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) |
|-------------------|-----------------------|
| 300 | 728 |
| 400 | 828 |
| 500 | 928 |
| 600 | 1028 |
| 800 | 1228 |
| 1000 | 1428 |

LM9-LM Performance Specifications

| | | | | | | |
|-------------------------------------------------------------|-----------|------------|------------|------------|------------|------------|
| Nominal Travel (mm) | 300 | 400 | 500 | 600 | 800 | 1000 |
| Mechanical Accuracy (μm) ³ | ± 8.0 | ± 10.0 | ± 12.0 | ± 14.0 | ± 16.0 | ± 18.0 |
| 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 | 199 | | | | | |
| Maximum Force, Y Direction (N) ² | 1500 | | | | | |
| Maximum Force, Z Direction (N) ² | 2000 | | | | | |
| Maximum Moment About X (Nm) ² | 400 | | | | | |
| Maximum Moment About Y (Nm) ² | 750 | | | | | |
| Maximum Moment About Z (Nm) ² | 250 | | | | | |
| Moving Mass (kg) | 12.0 | | | | | |
| Flatness (Z Motion) (μm) ² | ± 3.0 | ± 4.0 | ± 5.0 | ± 6.0 | ± 7.0 | ± 8.0 |
| Straightness (Y Motion) (μm) ² | ± 3.0 | ± 4.0 | ± 5.0 | ± 6.0 | ± 7.0 | ± 8.0 |
| Pitch Motion (arc-sec) ³ | ± 5.0 | ± 6.0 | ± 7.5 | ± 9.0 | ± 12.0 | ± 15.0 |
| Yaw Motion (arc-sec) ³ | ± 5.0 | ± 6.0 | ± 7.5 | ± 9.0 | ± 12.0 | ± 15.0 |
| Stage Mass (kg) | 56.5 | 62.5 | 68.5 | 74.5 | 87 | 98.5 |

Notes

1. In order to have a stage calibrated and verified, Griffin Motion must perform the controls configuration.
2. See coordinate convention below.
3. 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.
4. Improved accuracy, repeatability, flatness, straightness, pitch, and yaw are available with "P" Precision Grade.

