

# NATIONAL APERTURE, INC.

P: 800-360-4598 ~ F: 603-893-7857



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## Motorized Stages

### MM-1M Linear

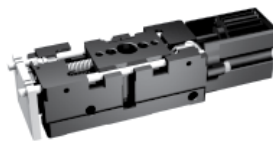
#### Standard Motorized MicroMini™ Stages

**GENERAL DATA:**

- ❖ **Moment Load capacity:** 3 oz-in
- ❖ **Linear Travel:** 5.0 mm
- ❖ **Table Speed:** 0.5 mm/sec and 1.1 mm/sec
- ❖ **Body Size:** 60.8 x 14.2 x 12.5 (mm)
- ❖ **Weight:** 28 grams
- ❖ Not vacuum compatible

**GENERAL PRECISION:**

- ❖ **Repeatability:** ±2 µm
- ❖ **Accuracy:** ±3 µm/25.4 mm
- ❖ **Slider Backlash:** <10 µm



[View Schematic](#)

When ordering multi-axis units the completed assembly will include all necessary braces, kits and hardware

### Product Selector

NOTE: If viewing on a cell phone, landscape mode is recommended.

SELECT AXIS

Qty:

[Click here to order accessories](#)

**3D models available**

**Specifications: MM-1M**

- \*Repeatability:** ±2 µm
- \*Homing Repeatability:** ±2 µm
- \*Accuracy (linearity):** ±3 µm
- Speed (with 64:1 gearhead):** 0.5 mm/sec w/MC-CQ-STICK SRVO  
1.1 mm/sec w/MC-CQ-B Controller
- Slider Backlash:** <10 µm
- Encoder Conversion (resolution):** 0.01654 µm per count with 64:1 gearhead  
([download resolution data sheet](#))
- \*Encoder resolution but be added based on the gearhead ration: 64:1 add ±0.0165 µm
- Wobble (max):** 10 µrad (No ball bearings)
- Screw Pitch:** 0.3175 mm (80 TPI)
- Linear motion per turn:** 0.3175 mm
- Runout (max):** 2 µm
- Gearhead Backlash:** ≤2.65 µm equivalent; can be compensated in software without overshoot
- Motor:** 6 mm diameter, 4.5 Vdc servo, brush type ([MTR-6-50E-4.5v](#))

**Load Capacity**

- \*Top or side load:** 0.25 kg (8.8 oz)
  - \*Push** 0.5 kg (17.6)
  - \*\*Return Force ext-comp.:** 0.23 (8 oz) to 0.45 kg (16 oz)
  - \*Pitch:** 1.42 oz-in (10 mNm)
  - \*Roll:** 2.97 oz-in (21 mNm)
  - \*Yaw:** 1.42 oz-in (10 mNm)
- \*These stages may be run at twice the specified ratings without damage, but with a loss of accuracy and speed.  
 \*\*Retract is limited by the preload spring.  
 Notes: A pinion gear ratio of 1.5 is included in the gear train. In combination with the motor gearhead, this results in an effective gearhead ratio of 96:1

### Shopping Cart

Items List

Part	Qty	Price	Subtotal
<b>Total: \$0.00</b>			
<a href="#">clear items</a>			



[Download Catalog](#)

### Motorized Stages

- [MM-1M Linear](#)
- [MM-3M-ST Linear](#)
- [MM-3M-FOS Linear](#)
- [MM-3M-F Linear](#)
- [MM-4M-F Linear](#)
- [MM-4M-EX Linear](#)
- [MM-5M Linear](#)
- [MM-3M-R Rotary](#)
- [MM-4M-R Rotary](#)
- [MM-3M-G Goniometer](#)
- [MM-4M-G Goniometer](#)

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**Travel Ranges & Dimensions**

<b>Model No.</b>	<b>Travel Range</b>	<b>Stage Body (L x W x H)</b>	<b>Weight</b>
<b>MM-1M-X</b>	5 (mm)	60.8 x 14.2 x 12.5 (mm)	28 g
<b>MM-1M-XY (2 axis)</b>	5 (mm)	60.8 x 60.8 x 25 (mm)	57 g
<b>MM-1M-XZ (2 axis)</b>	5 (mm)	60.8 x 14.2 x 70 (mm)	62 g
<b>MM-1M-XYZ (3 axis)</b>	5 (mm)	60.8 x 60.8 x 82.7 (mm)	90 g

The information contained on this website is subject to change without notice. Critical dimensions or specifications should be verified with our technical support staff.

National Aperture, Inc. 5 Northwestern Drive Salem, NH 03079  
800-360-4598 • 603-893-7393 • FAX 603-893-7857  
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