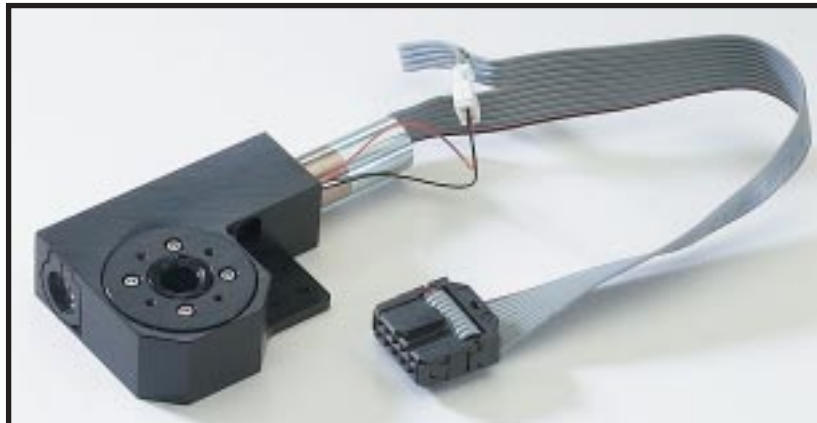




MM-3M-R

Miniature Rotary Stage (For lighter loads)



Specifications

	MM-3M-R		MM-3M-RA	MM-3M-RA+
Repeatability:	15 arc-sec*		same	same
Homing Repeatability:	60 arc-sec*		same	same
Accuracy: (linearity)	80 arc-sec*		same	same
(See diagram on reverse of this sheet for an illustration of A.,B.,C.,D.)				
A. Axial Wobble (axial angular long range repeatability)	60 arc-sec		2 arc-sec	2 arc-sec
B. Axial angular deviation, total	60 arc-sec		60 arc-sec	2 arc-sec
C. Planar shift, total	1.2 μm		0	0
D. Eccentricity (runout, including bearing mount)	3μm		3μm	3μm
Direct top load:	2 kg axial		0.5 kg axial	0.5 kg axial
Tilt Load	5 kg-cm (70 in.-oz)		1.0 kg-cm (14 in.-oz)	1.0 kg-cm (14 in.-oz)
Torque load	850 g-cm (12 in.oz)		425g-cm (6 in.-oz)	425g-cm (6 in.-oz)
Gearhead Ratio:(see “Resolution Data Sheet”)	64:1 (standard)	16:1	same	same
Speed: (low load)	4 RPM	16 RPM**	same	same
Encoder Conversion: (arc-sec/count)	6.3281	25.3124	same	same
(see gearhead ratios, “Resolution Data Sheet”)				
Gearhead Backlash:	~1 mrad†	~4 mrad†	same	same
Rotor Stall Torque:	200 in-oz††	50 in-oz††	same	same
Rotor Backlash: (preloaded)	0		same	same
Weight:	76g		same	same
Vacuum compatibility:	10 ⁻³ Torr, higher per request		same	same
Travel Range:	unlimited		same	same
Worm Ratio:	80:1		same	same
Stage Body Dimensions: (L x W x H)	2.86 x 1.43 x 0.59 (inch), 72.64 x 36.32 x 14.99 (mm)			
Motor:	10 mm dia., 6-12 VDC servo, brush type (see motor specifications)			

*Encoder resolution must be added based on the gearhead: 64:1 add ± 12 arc-sec 256:1 add ± 3 arc-sec, 1024:1 add ± 0.75 arc-sec (all approximated)

**A higher gear reduction means a slower speed. Higher speeds (lower ratio) can be used, but at the expense of resolution and load/torque capacity.

†Dependent upon gear ratio, and can be compensated in software without overshoot.

††Dependent upon gear ratio and worm ratio.

Note: The MM-3M stages are designed for peak performance at low loads: ex; 60g, less than 2 inches (50.8mm) off axis.

Special Features:

- Dual class 7 custom bearings for ultra-low axial/angular runout
- Multi-faceted connection interface
- Many other gearhead options, easy-change
- Homing switch

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

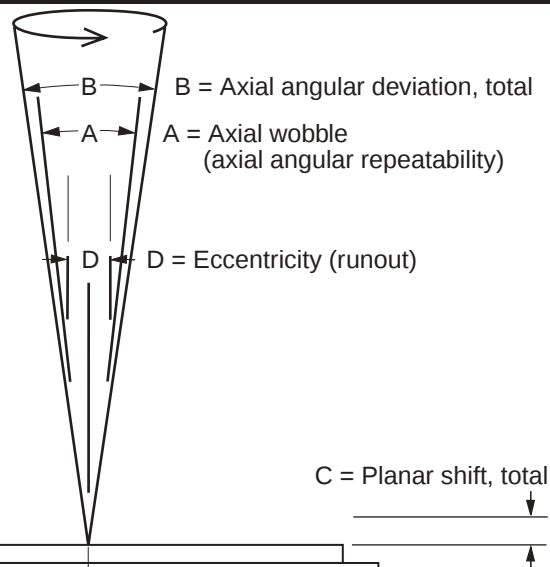
National Aperture, Inc. • 16 Northwestern Dr. • Salem, N.H. 03079-4810

Tel. (800) 360-4598 • (603) 893-7393 • FAX (603) 893-7857 • www.nationalaperture.com/www.naimotion.com

MM-3M-R Rotary Stage

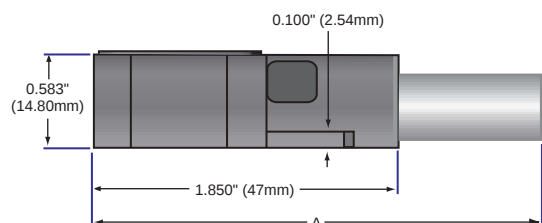
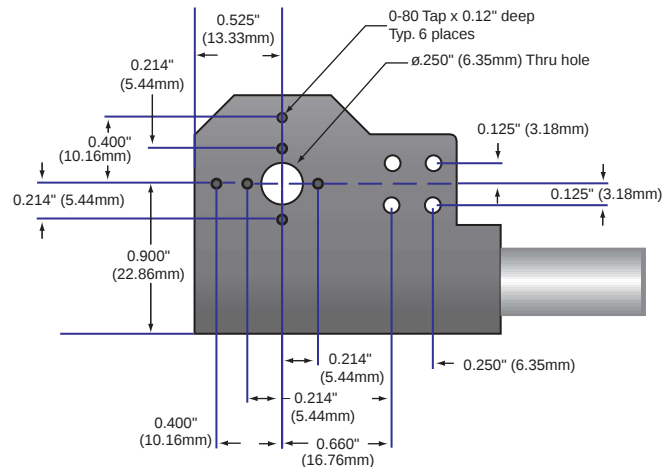
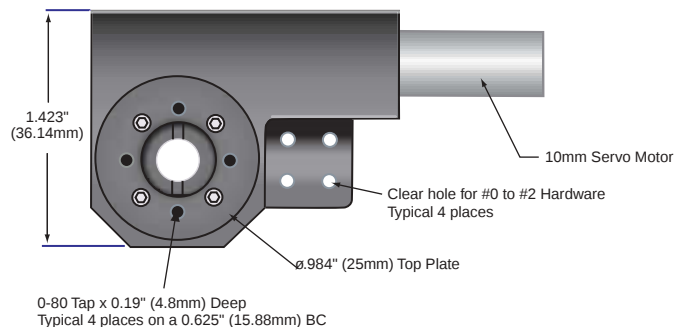
Dimensional Data

Description	MM-3M-R	MM-3M-RA	MM-3M-RA+
A. Axial wobble, (axial angular long range repeatability)	60 arc-sec	2 arc-sec	2 arc-sec
B. Axial angular deviation, total	60 arc-sec	60 arc-sec	2 arc-sec
C. Planar shift, total	1.2 μ m	0	0
D. Eccentricity (runout, including bearing mount)	3 μ m	3 μ m	3 μ m
Direct top load	2 kg	0.5 kg	0.5 kg
Tilt load	5 kg-cm (70 in.-oz)	1.0 kg-cm(14 in.-oz)	1.0 kg-cm(14 in.-oz)

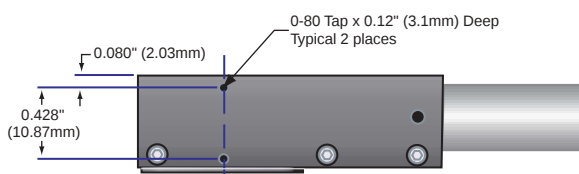


Top View

Bottom View



Side View



Gear Ratio	16:1	64:1	256:1	1024:1
Dimension A	2.76" (70.1mm)	2.84" (72.1mm)	2.96" (75.2mm)	3.08" (78.2mm)
Resolution/Count	0.0070 deg.	0.0017 deg.	0.00044 deg.	0.00011 deg.

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