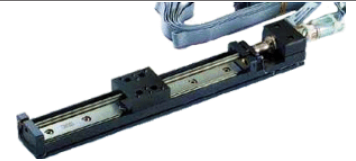


MM-4M-EX

Extended Motorized
MicroMini™ Stages

(For heavier loads)



Specifications:

*Repeatability:	±0.50 µm
*Homing Repeatability:	±0.50 µm
*Accuracy (linearity):	±1.00 µm per 25mm of travel
Straightness:	±2.00 µm maximum deviation per 50mm of travel
Speed, no load (max.):	7 mm/second @ 12V with 14:1 gearhead (other gearheads available)
†Slider Backlash:	1µm
Gearhead Backlash:	<2.54µm; can be compensated in software without overshoot
Encoder Conversion (resolution):	0.3595µm per count, with 14:1 gearhead

*Encoder resolution must be added, based on the gearhead: 16:1 add ±0.0005mm, 64:1 add ±0.00012mm

†Slider backlash represents maximum overshoot

Motor:	13 mm dia., 6-12 VDC servo, brush type
Slide:	Recirculating ball bearings with four point contact, hardened stainless steel rails
Vacuum compatibility:	10 ⁻³ Torr standard, 10 ⁻⁶ Torr available
Load Capacity:	
Horizontal:	3.0 kg
Vertical:	1.0 kg
Side:	1.0 kg

Travel Ranges and Dimensions:

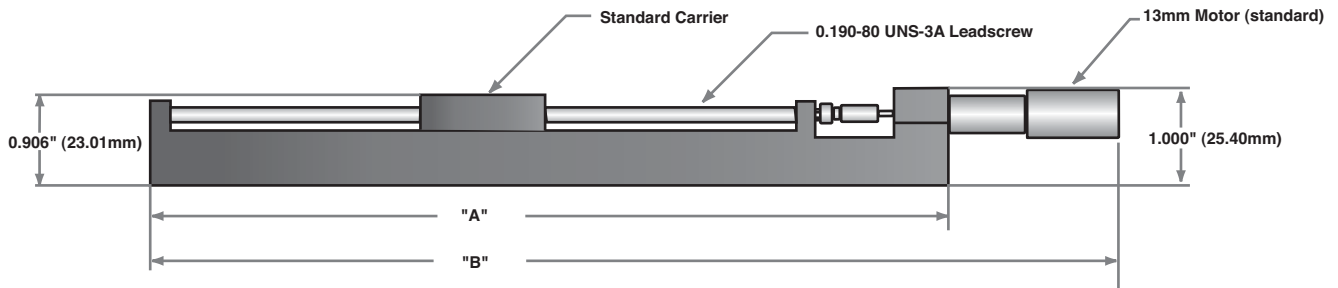
Model No.	Travel Range	Stage Body (L x W x H)	Weight
MM-4M-EX-50	48 mm	138.68 x 31.5 x 25.4 (mm)	330g
	1.90 inch	5.46 x 1.24 x 1.0 (inch)	11.64oz
MM-4M-EX-80	78 mm	168.68 x 31.5 x 25.4 (mm)	345g
	3.07 inch	6.64 x 1.24 x 1.0 (inch)	12.49 oz
MM-4M-EX-110	108 mm	198.68 x 31.5 x 25.4 (mm)	360g
	4.25 inch	7.82 x 1.24 x 1.0 (inch)	12.70 oz
MM-4M-EX-140	138 mm	228.68 x 31.5 x 25.4 (mm)	375g
	5.43 inch	9.0 x 1.24 x 1.0 (inch)	13.23 oz
MM-4M-EX-170	168 mm	258.68 x 31.5 x 25.4 (mm)	390g
	6.61 inch	10.184 x 1.24 x 1.0 (inch)	13.76 oz
MM-4M-EX-200	198 mm	288.68 x 31.5 x 25.4 (mm)	405g
	7.79 inch	11.365 x 1.24 x 1.0 (inch)	14.29 oz
MM-4M-EX-230	228 mm	318.68 x 31.5 x 25.4 (mm)	420g
	8.97 inch	12.546 x 1.24 x 1.0 (inch)	14.82 oz
MM-4M-EX-260	258 mm	348.68 x 31.5 x 25.4 (mm)	435g
	10.15 inch	13.728 x 1.24 x 1.0 (inch)	15.35 oz

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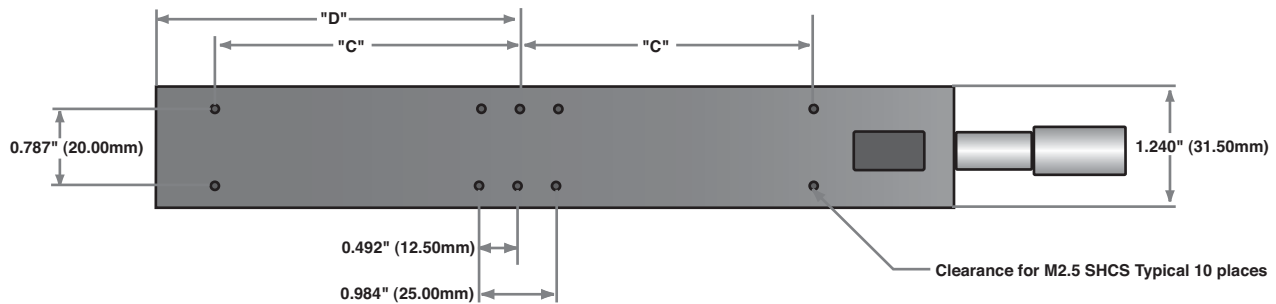
MM-4M-EX Motor Stage

Dimensional Data

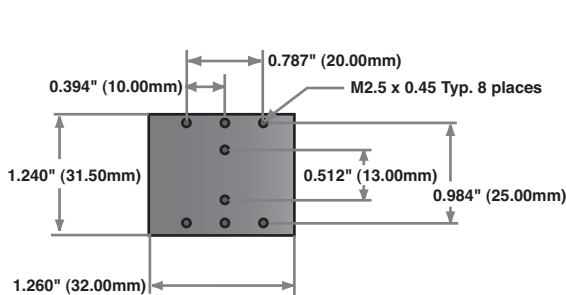
Tabulated Data for MM-4M-EX Stages				
Travel	"A"	"B"	"C"	"D"
48mm	5.460" (138.68mm)	7.210" (183.13mm)	1.181" (30.00mm)	1.855" (47.12mm)
78mm	6.641" (168.68mm)	8.391" (213.13mm)	1.772" (45.00mm)	2.445" (62.12mm)
108mm	7.822" (198.68mm)	9.572" (243.13mm)	2.362" (60.00mm)	3.036" (77.12mm)
138mm	9.003" (228.68mm)	10.753" (273.13mm)	2.953" (75.00mm)	3.627" (92.12mm)
168mm	10.184" (258.68mm)	11.934" (303.13mm)	3.543" (90mm)	4.217" (107.12mm)
198mm	11.365" (288.68mm)	13.115" (333.13mm)	4.134" (105mm)	4.808" (122.12mm)
228mm	12.546" (318.68mm)	14.296" (363.13mm)	4.724" (120mm)	5.398" (137.12mm)
258mm	13.728" (348.68mm)	15.478" (393.13mm)	5.315" (135mm)	5.989" (152.12mm)



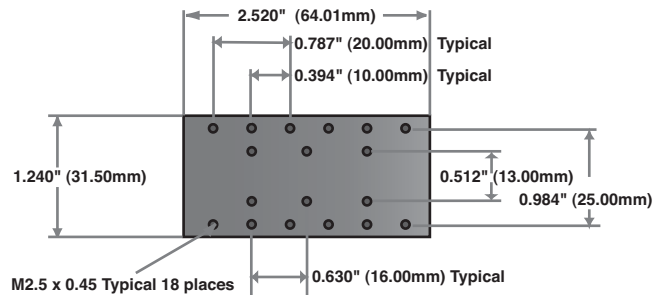
Side View



Bottom View



Standard Carrier
Top View



Extended Carrier for dual Carriage Option
Top View

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