



## MINI-MAG HIGH THROUGHPUT IMAGING PLATFORM

### Description

The Mini-MAG (MMG) combines high throughput XY positioning with precision focusing and sub micron stability designed specifically for imaging applications.

### Benefits

- Minimized moving mass for higher bandwidth
- Aluminum construction reduces complexity and cost. Allows vertical orientation without counterbalance
- Single Phase motor option reduces amplifier complexity and cost
- Extremely compact footprint reducing instrument size (81mm x 93mm)

### Applications

The Dover MMG stage combines the advantages of direct drive linear motor technology and a uniquely sized footprint to deliver the ultimate motion building block for High Throughput Imaging applications.

The MMG delivers excellent mechanical and servo stiffness to optimize motion for the three basic phases of this type of imaging

- Sample positioning (typically a step and settle profile in XY). Sustained throughput of up to 2000 moves per minute are possible.
- Focal Plane Definition. During XY step and settle the optimum Z position of the magnifying objective is determined. These objective positioning moves (<5um) are often accomplished in <20ms.
- Frame Capture. Here in-position stability is key to producing quality images. Position stability is typically less than 100nm.

### FOR IMMEDIATE ASSISTANCE

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# MMG High Throughput Imaging Platform

## Specifications

Base Model	MMG-25	MMG-25	MMG-50	MMG-100	MMG-150
Motor Type	1 Phase	3 Phase	3 Phase	3 Phase	3 Phase
Travel (mm)	25	25	50	100	150
Positional Accuracy ( $\mu\text{m}$ ) <sup>1</sup>	3	3	4	5	6
Feedback Device Options - Encoder Resolution (Applies to all models)	Analog or Digital		0.1 $\mu\text{m}$ 0.05 $\mu\text{m}$	0.01 $\mu\text{m}$ 0.005 $\mu\text{m}$	
Bi-directional Repeatability ( $\pm \mu\text{m}$ )	0.4	0.4	0.4	0.4	0.4
Load Capacity (for all, kg) <sup>2</sup>	10				
Maximum Acceleration ( $\text{m/s}^2$ ) <sup>3</sup>	2.2				
Maximum Velocity ( $\text{m/s}$ ) <sup>3</sup>	0.5				
Flatness & Straightness ( $\mu\text{m}$ TIR)	3	3	3	4	5
Motor Peak Force (N)	23	25	25	25	25
Motor Continuous Force (N)	7.7	9	9	9	9
Moving Mass (kg)	0.4	0.5	0.5	0.8	1.0
Total Mass (kg)	0.6	0.8	0.8	1.2	1.4

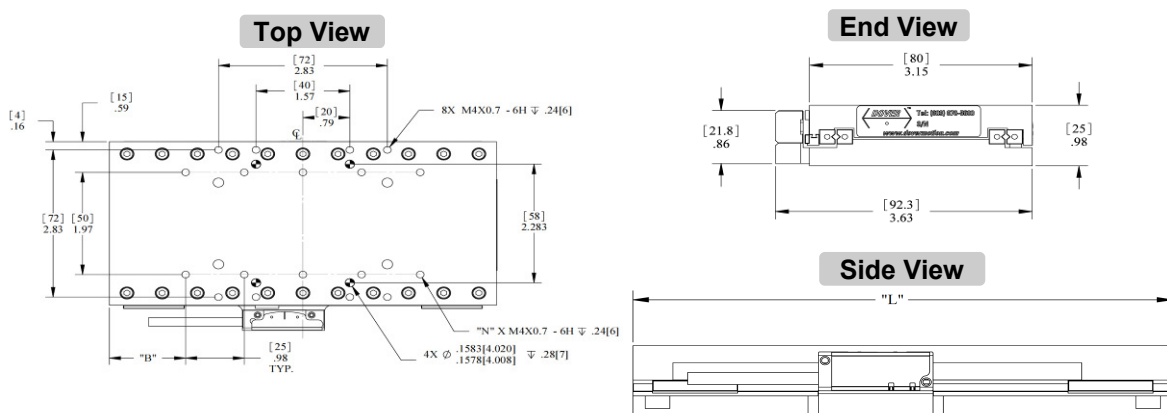
<sup>1</sup> 0.1  $\mu\text{m}$  resolution

<sup>2</sup> Please contact our Applications Engineers for loads exceeding 10kg.

<sup>3</sup> The maximum acceleration and velocity is encoder and load dependent.

<sup>4</sup> Contact the factory if higher performance version required.

## Dimensions



	Travel (mm)	Motor	L	N	B	
MMG-25	25	1 Phase	80	6	15	No inner mount holes
MMG-25	25	3 Phase	105	6	27.5	
MMG-50	50	3 Phase	105	6	27.5	
MMG-100	100	3 Phase	165	10	30	
MMG-150	150	3 Phase	210	14	32.5	

\* Table dimensions in mm