

## M DRIVE 17™ LINEAR SLIDE

MOTOR+DRIVER Plus

### FEATURES

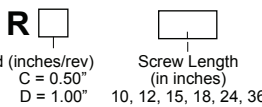
- Screw driven slide offering exceptional linear speed, accurate positioning and long life at a compelling value
- High bidirectional repeatability of up to 50 micro-inches (1.25 microns)
- Positional lead accuracy of 0.0006"/in. – accuracies to 0.0001"/in. available
- Linear speeds not limited by critical screw speed
- Standard leads:
  - 0.10" travel per revolution - 0.50" travel per revolution
  - 0.20" travel per revolution - 1.00" travel per revolution
- Achieve speeds that exceed 60.0"/second while offering excellent repeatability, accuracy and axial stiffness
- Optional sensor flag kit available for home, limits and general purpose inputs
- Assembly includes a precision aluminum guide and carriage which is driven by a precision rolled stainless steel lead screw
- Sliding contact areas coated with TFE (Teflon) permanent lubrication to offer a low 0.09 coefficient of friction
- Exceptional torsional stiffness and stability
- Standard lengths from 10.0" to 36.0", longer sizes available upon request\*
- Comes standard with wear-compensating, anti-backlash driven carriage
- Additional passive carriages or slides available to support cantilevered loads
- Easily mountable with provided mounting flange and holes
- Extrusions provided for sensor mounts

\* Consult Factory for Availability.

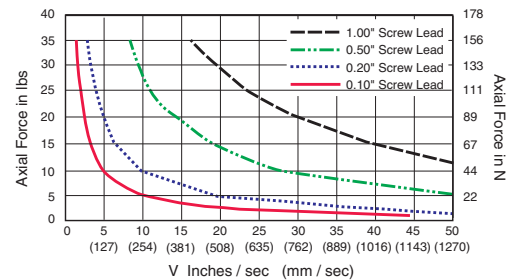
### LINEAR SLIDE SPECIFICATIONS

Screw Lead	Screw Efficiency	Nom. Screw Diam.	Inch Lead	Max Drag Torque	Life @ 1/4 Design Load	Torque to Move Load	Axial Design Load	Screw Inertia
	%	inches (mm)	inches (mm)	oz inch (Nm)	inches (cm)	oz inch/lb (Nm/kg)	lbs (kg)	oz.in.sec <sup>2</sup> /inch (Kg·m <sup>2</sup> /m)
0.10"	53	0.375" (9.5)	0.100 (2.54)	4.0 (0.03)	100,000,000 (254,000,000)	1.0 (0.016)	35 (16)	0.3 x 10 <sup>-5</sup> (6.5 x 10 <sup>-6</sup> )
0.20"	69	0.375" (9.5)	0.200 (5.08)	5.0 (0.04)	100,000,000 (254,000,000)	1.5 (0.023)	35 (16)	0.3 x 10 <sup>-5</sup> (6.5 x 10 <sup>-6</sup> )
0.50"	81	0.375" (9.5)	0.500 (12.70)	6.0 (0.04)	100,000,000 (254,000,000)	2.5 (0.039)	35 (16)	0.3 x 10 <sup>-5</sup> (6.5 x 10 <sup>-6</sup> )
1.00"	84	0.375" (9.5)	1.000 (25.40)	7.0 (0.05)	100,000,000 (254,000,000)	4.5 (0.070)	35 (16)	0.3 x 10 <sup>-5</sup> (6.5 x 10 <sup>-6</sup> )

### ORDER INFORMATION

<b>Linear Slide</b>  <p>Screw Lead (inches/rev)                  A = 0.10" C = 0.50"                  B = 0.20" D = 1.00"</p> <p>Screw Length (in inches)                  10, 12, 15, 18, 24, 36</p>	<b>Example: [MDrive P/N] - RA10</b> Adds a Linear Slide with a lead of 0.10"/rev, 10" long to a specified MDrive17Plus. 10" lengths available only with A and B leads. 15" lengths available only with A, B or C leads. 36" lengths available only with D lead.
<b>Optional Sensor Flag Kit</b> RSM06-K	Kit includes: flag for optical sensor, 3 - sensor holders, 6 - #2-56 X 1/4" long BHCS screws, 3 - #4-40 X 1/4" long SHCS screws

### LINEAR SLIDE SPEED-FORCE LIMITATIONS†



†Speed/Force correlating equations:

- $$\text{Axial Force} = F_{\text{friction}} + F_{\text{acceleration}} + F_{\text{gravity}}$$

$$F_{\text{friction}} = (\text{Weight})(0.09)$$

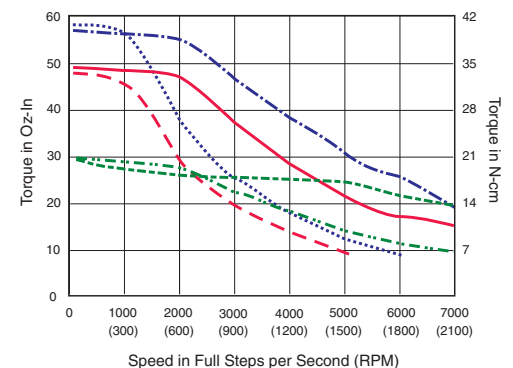
$$F_{\text{acceleration}} = (\text{Weight})(\text{Acceleration}) / \text{Accel. of gravity}$$

$$F_{\text{gravity}} = 0 \text{ for horizontal application and Weight for vertical application}$$
- $$\text{Torque} = \frac{(\text{Axial Force})(\text{Screw Lead})}{(0.393)(\text{Screw Efficiency})}$$

Force in lbs; Torque in oz-in; Lead in inches/rev
- $$\text{Full steps} = \frac{(200 \text{ Full steps/Rev})(\text{Velocity})}{\text{Lead}}$$

Lead in inches/rev; Velocity in inches/second

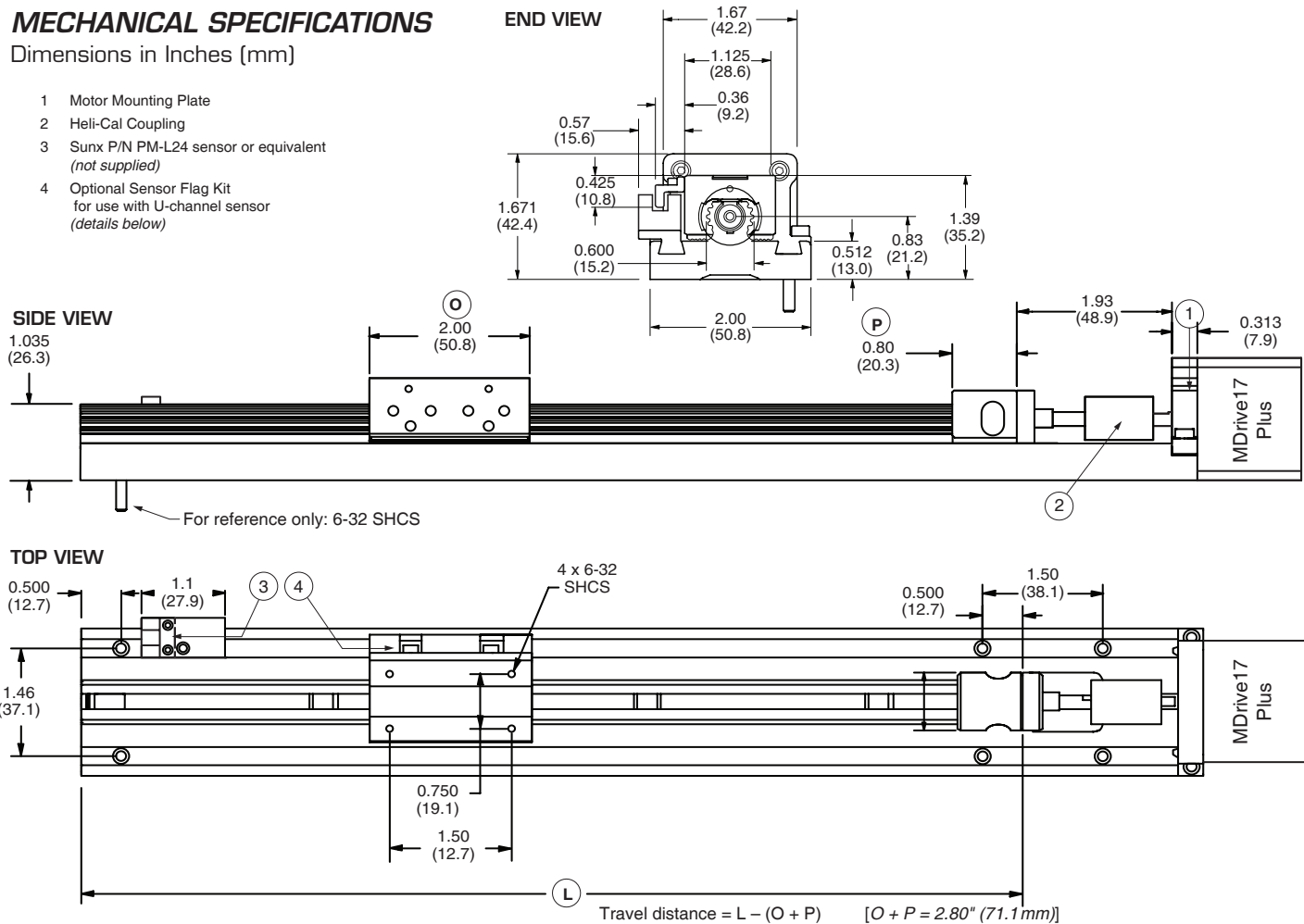
### M DRIVE SPEED-TORQUE CURVES



# MECHANICAL SPECIFICATIONS

Dimensions in Inches (mm)

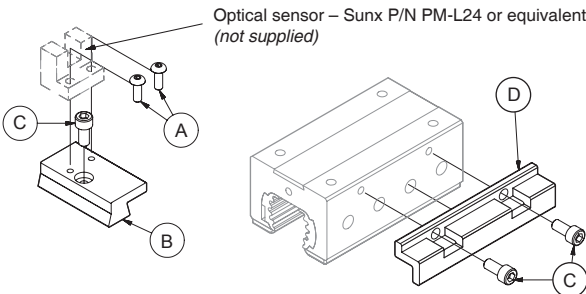
- 1 Motor Mounting Plate
- 2 Heli-Cal Coupling
- 3 Sunx P/N PM-L24 sensor or equivalent (not supplied)
- 4 Optional Sensor Flag Kit for use with U-channel sensor (details below)



## Sensor Flag Kit Option

P/N RSM06-K Includes:

- A #2-56 X 1/4" Long BHCS
- B Sensor Holder (Qty. 3)
- C #4-40 X 1/4" Long SHCS
- D Flag for Optical Sensor



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