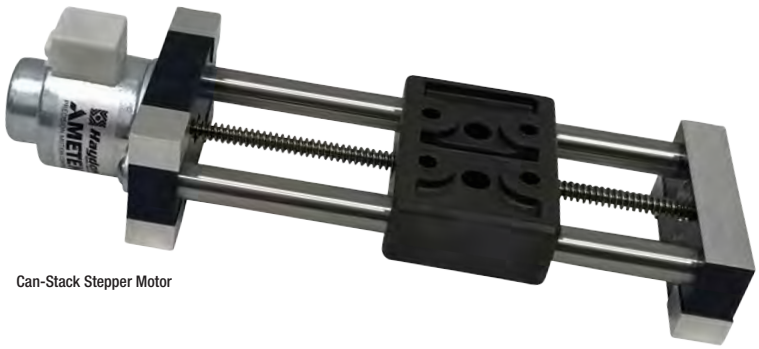
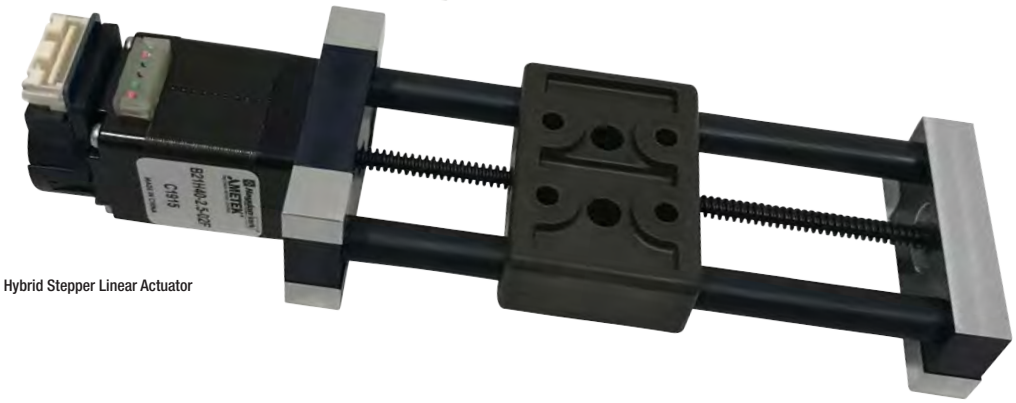
MSA Series

Compact, low profile mini slides save engineering time. Perfect for small lab, medical equipment and optical stage applications.

Highly configurable mini slide assemblies offer 2 motor options, 9 different lead screw options, 4 different lubrication options, as well as English or Metric standards.



Can-Stack Stepper Motor



Hybrid Stepper Linear Actuator

Can-Stack Stepper Motor

Ø 20 mm (.79-in) 19000 Series Motor		
Step Angle	7.5°	
Wiring	Bipolar	
Winding Voltage	5 VDC	12 VDC
Current (RMS)/phase	350 mA	160 mA
Resistance/phase	14.0 Ω	74.5 Ω
Inductance/phase	6.24 mH	31.2 mH
Power Consumption	3.38 W	
Insulation Class	Class B	
Weight	1.24 oz (35 g)	
Insulation Resistance	20 MΩ	

Hybrid Stepper Linear Actuator

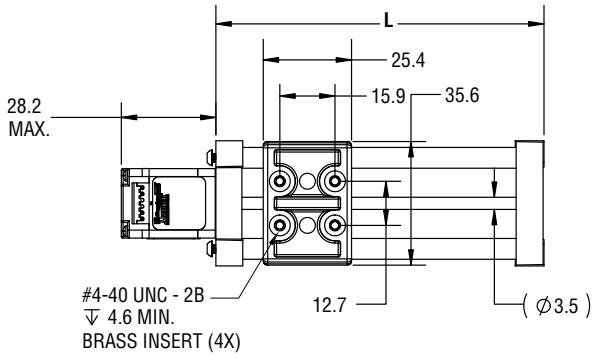
Size 8: 21 mm (0.8-in) (1.8° Step Angle)			
Wiring	Bipolar		
Winding Voltage	2.5 VDC	5 VDC	7.5 VDC
Current (RMS)/phase	.49 A	.24 A	.16 A
Resistance/phase	5.1 Ω	20.4 Ω	45.9 Ω
Inductance/phase	1.5 mH	5.0 mH	11.7 mH
Power Consumption	2.45 W		
Rotor Inertia	1.4 gcm^2		
Insulation Class	Class B (Class F available)		
Weight	1.5 oz (43 g)		
Insulation Resistance	20 MΩ		

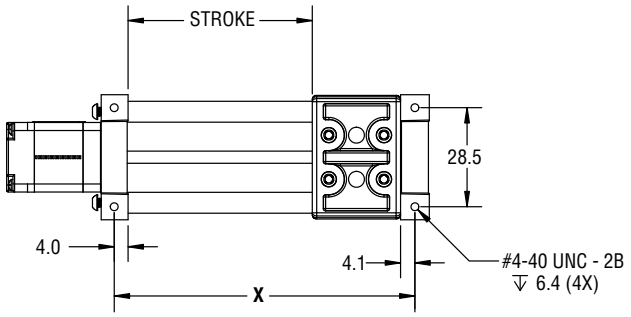
Identifying the Motorized MSA Part Numbers when Ordering

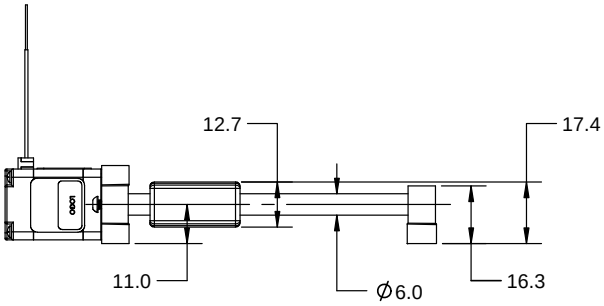
MSA	02	K	—	H	0020	—	XXX
Prefix	**Frame Size**	**Coating**		**Motor**	**Nominal Thread Lead Code**		**Unique Identifier**
MSA = Mini Slide Actuator	**02** = 1/8" Screws	**K** = TFE Kerkote **B** = TFE Black Ice **G** = Grease **S** = No Lubricant		**H** = Hybrid Stepper Linear Actuator 21000, Size 8 **C** = Can-Stack Stepper G4 19000, 20 mm	0020 = 1/2mm lead 0039 = 1mm lead 0079 = 2mm lead 0157 = 4mm lead 0315 = 8mm lead 0012 = 0.012" lead 0024 = 0.024" lead 0048 = 0.048" lead 0096 = 0.096" lead		805 = 50mm stroke M3 mounting 810 = 100mm stroke M3 mounting 815 = 150mm stroke M3 mounting 905 = 50mm stroke #4-40 mounting 910 = 100mm stroke #4-40 mounting 915 = 150mm stroke #4-40 mounting

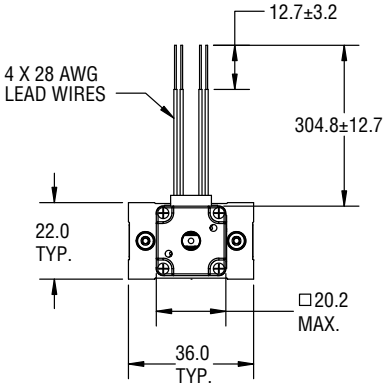
NOTE: Dashes must be included in Part Number (–) as shown above. For assistance call our Engineering Team at 203 756 7441.

Dimensional Drawings







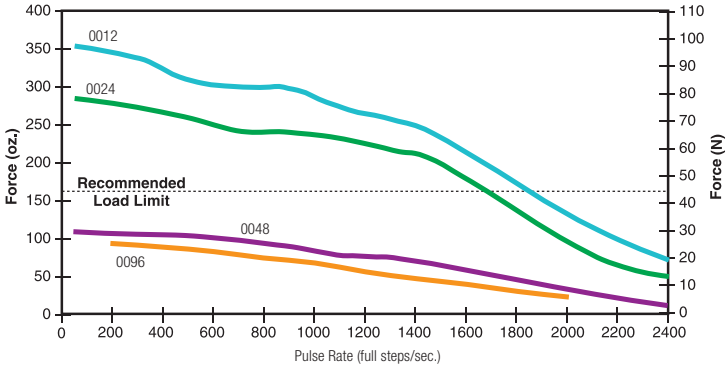


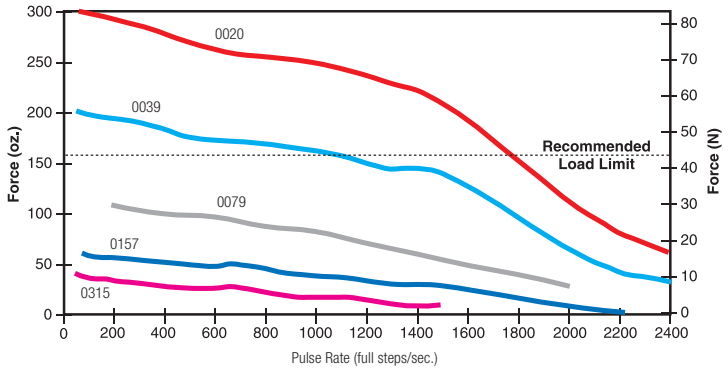
Stroke	Rail Length "L"	Mounting Holes "X"
25 mm	69.4 mm	61.5 mm
50 mm	94.4 mm	86.5 mm
75 mm	119.4 mm	111.5 mm
100 mm	144.4 mm	136.5 mm

Performance Curves

Force vs. Pulse Rate

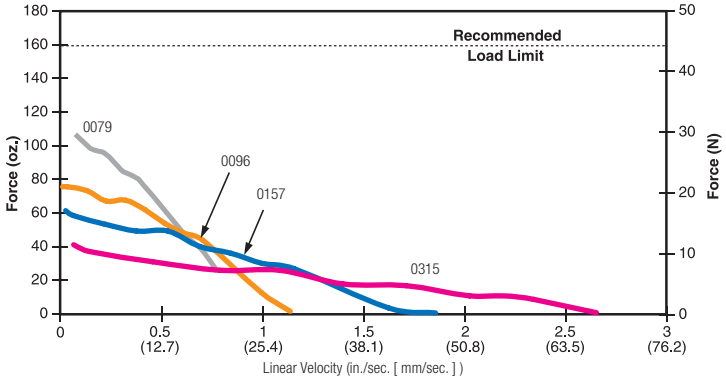
– Chopper – 100% Duty Cycle
– Bipolar – Ø.14 (3.56) Lead Screw

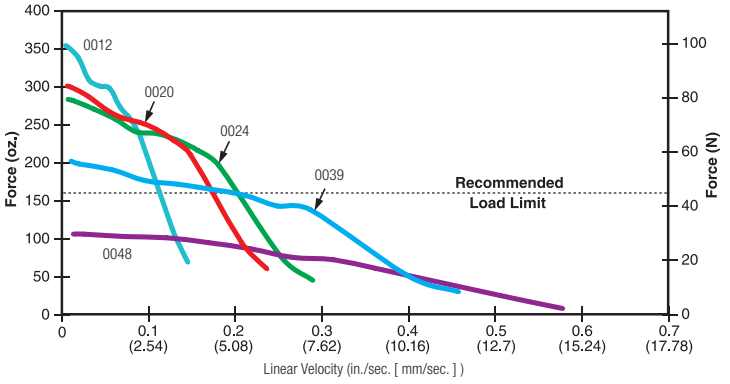




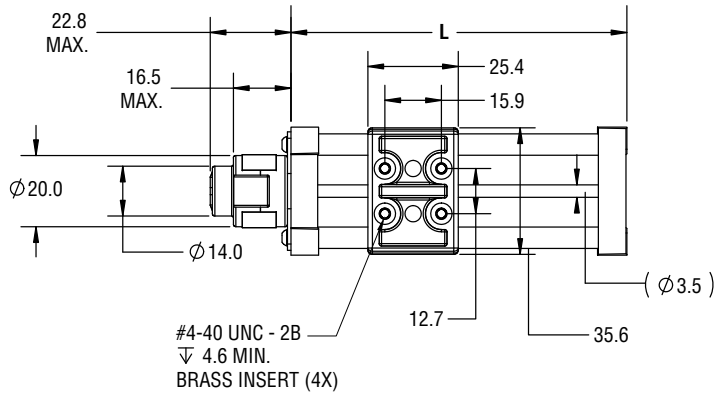
Force vs. Linear Velocity

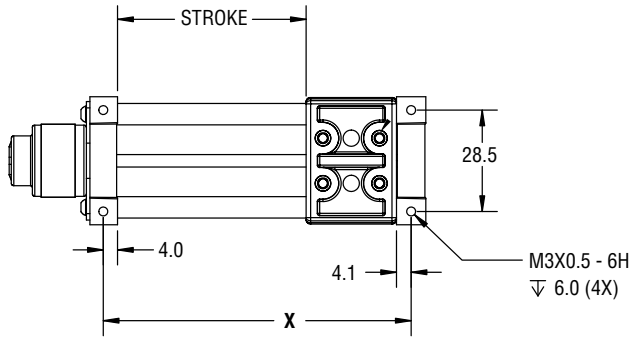
– Chopper – 100% Duty Cycle
– Bipolar – Ø.14 (3.56) Lead Screw





NOTE: All chopper drive curves were created with a 5 volt motor and a 40 volt power supply. Ramping can increase the performance of a motor either by increasing the top speed or getting a heavier load accelerated up to speed faster. Also, deceleration can be used to stop the motor without overshoot. With L/R drives peak force and speeds are reduced, using a unipolar drive will yield a further 30% force reduction.





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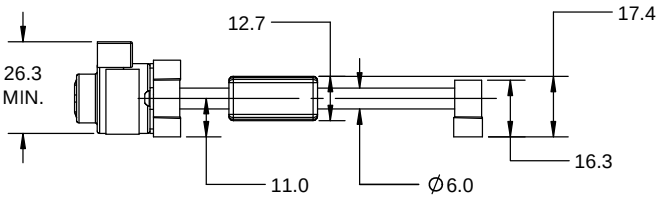
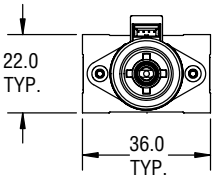
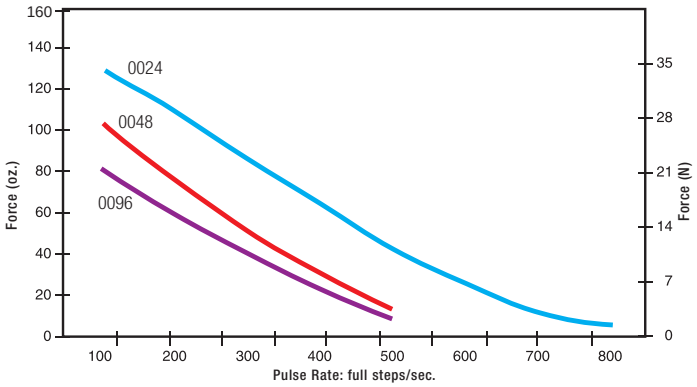




Performance Curves

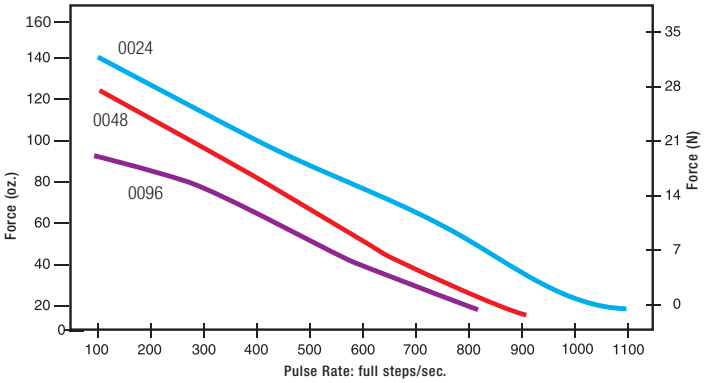
Force vs. Pulse Rate

– L/R Drive – Bipolar – 100% Duty Cycle



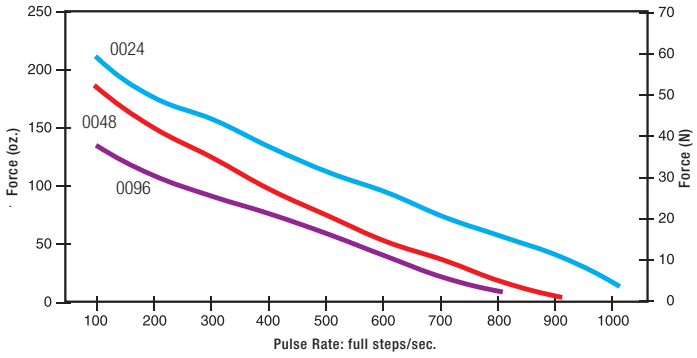
Force vs. Pulse Rate

– Chopper Drive – Bipolar – 100% Duty Cycle



Force vs. Pulse Rate

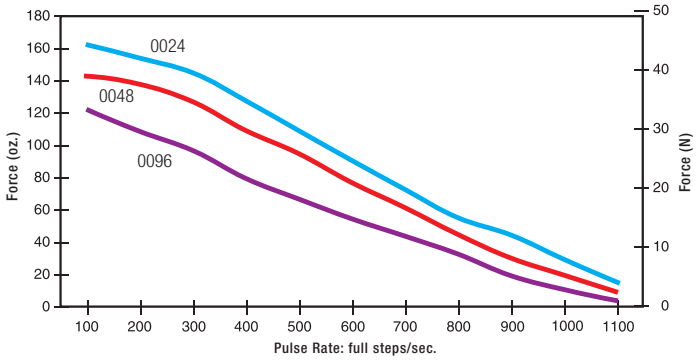
– L/R Drive – Bipolar – 25% Duty Cycle



Obtained by a special winding or by running a standard motor at double the rated current.

Force vs. Pulse Rate

– Chopper Drive – Bipolar – 25% Duty Cycle



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