

57000 Series: Size 23 Linear Actuator



Haydon Kerk Motion Solutions, Inc. • www.HaydonKerk.com • Phone: 800.243.2715 • International: 203.756.7441

Haydon™ Size 23 Hybrids... for applications that require forces up to 200 lbs. (890 N)

The Haydon™ Size 23 incorporates the same high performance and durable design as the Size 17.

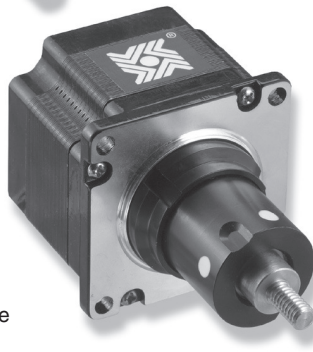
The 57000 Series Hybrid Linear Actuator is available in a wide variety of resolutions - from 0.0003125-in. (.0079375 mm) per step to 0.002-in. (.0508 mm) per step. They deliver a thrust of up to 200 lbs. (890 N) or speeds exceeding 2.0-in. (5.08 cm) per second.



Size 23 External Linear



Size 23 Non-Captive Shaft



Size 23 Captive Shaft

HYBRID LINEAR ACTUATOR STEPPER MOTORS

Salient Characteristics

Size 23: 57 mm (2.3-in) Hybrid Linear Actuator (1.8° Step Angle)						
Part No.	Captive	57H4(X)-V			57H6(X)-V	
	Non-captive	57F4(X)-V			57F6(X)-V	
	External Lin.	E57H4(X)-V			E57H6(X)-V	
Wiring		Bipolar			Unipolar**	
Winding voltage	3.25 VDC	5 VDC	12 VDC	5 VDC	12 VDC	
Current/phase	2.0 A	1.3 A	.54 A	1.3 A	.54 A	
Resistance/phase	1.63 Ω	3.85 Ω	22.2 Ω	3.85 Ω	22.2 Ω	
Inductance/phase	3.5 mH	10.5 mH	58 mH	5.3 mH	23.6 mH	
Power consumption	13 W					
Rotor inertia	166 gcm ²					
Insulation Class	Class B (Class F available)					
Weight	18 oz (511 g)					
Insulation resistance	20 MΩ					

Linear Travel / Step		Order Code I.D.
Screw Ø.375" (9.53 mm)		
inches	mm	
.0003125	.0079*	A
.0004167	.0105*	S
.0005	.0127	3
.0008333	.0211*	T
.001	.0254	1
.002	.0508	2

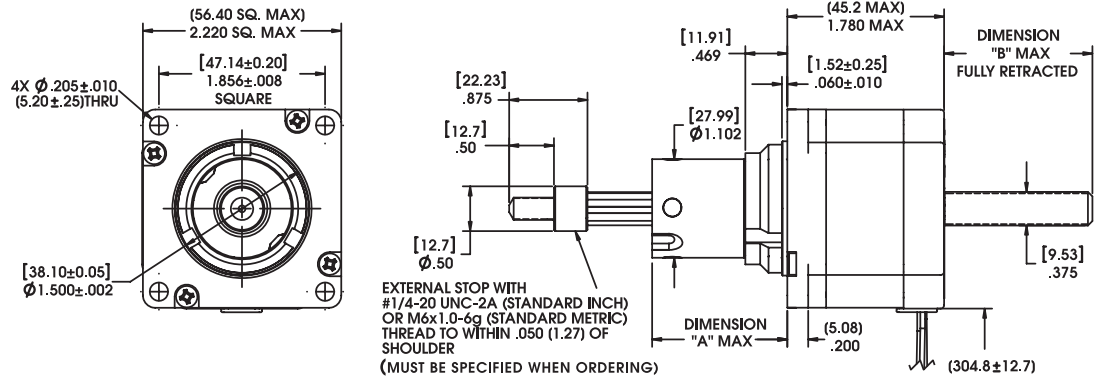
*Values truncated

Standard motors are Class B rated for maximum temperature of 130°C.

Special drive considerations may be necessary when leaving shaft fully extended or fully retracted.

** Unipolar drive gives approximately 30% less thrust than bipolar drive.

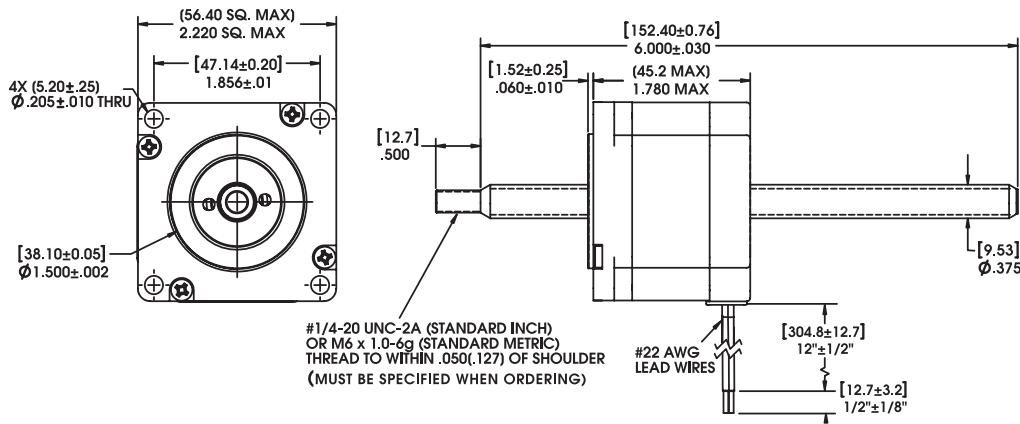
Captive Lead-screw



STROKE	DIM. A	DIM. B	SUFFIX #	M4x0.7 thread
0.500 (12.7)	1.01 (25.7)	0.06 (1.5)	— 905	— 805
0.750 (19.05)	1.26 (32.0)	0.31 (7.9)	— 907	— 807
1.00 (25.4)	1.51 (38.4)	0.56 (14.2)	— 910	— 810
1.250 (31.8)	1.76 (44.7)	0.81 (20.6)	— 912	— 812
1.500 (38.1)	2.01 (51.1)	1.06 (26.9)	— 915	— 815
2.00 (50.8)	2.51 (63.8)	1.56 (39.6)	— 920	— 820
2.500 (63.5)	3.01 (76.5)	2.06 (52.3)	— 925	— 825

HYBRID LINEAR ACTUATOR STEPPER MOTORS

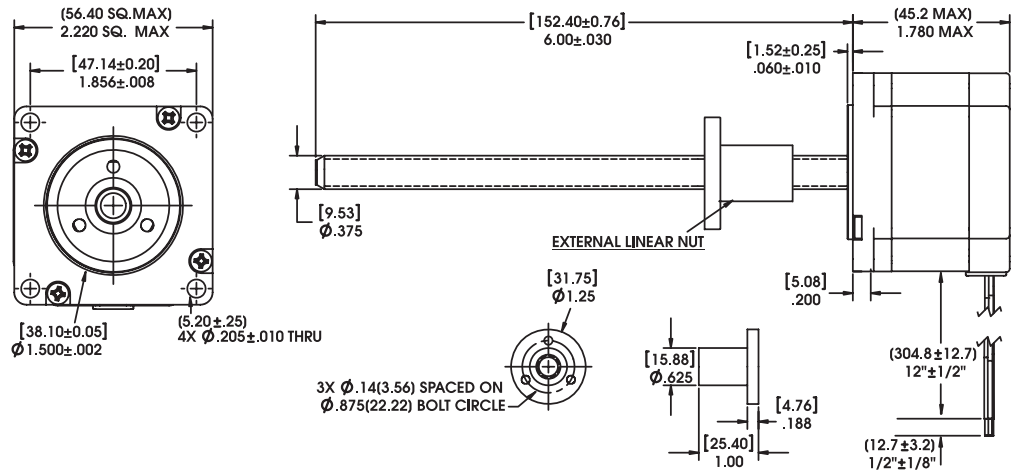
Non-Captive Lead-screw



Up to 18-in (457 mm) standard screw lengths. Longer screw lengths are available.

External Linear

Up to 12-in (305 mm) standard screw lengths. Longer screw lengths are available.



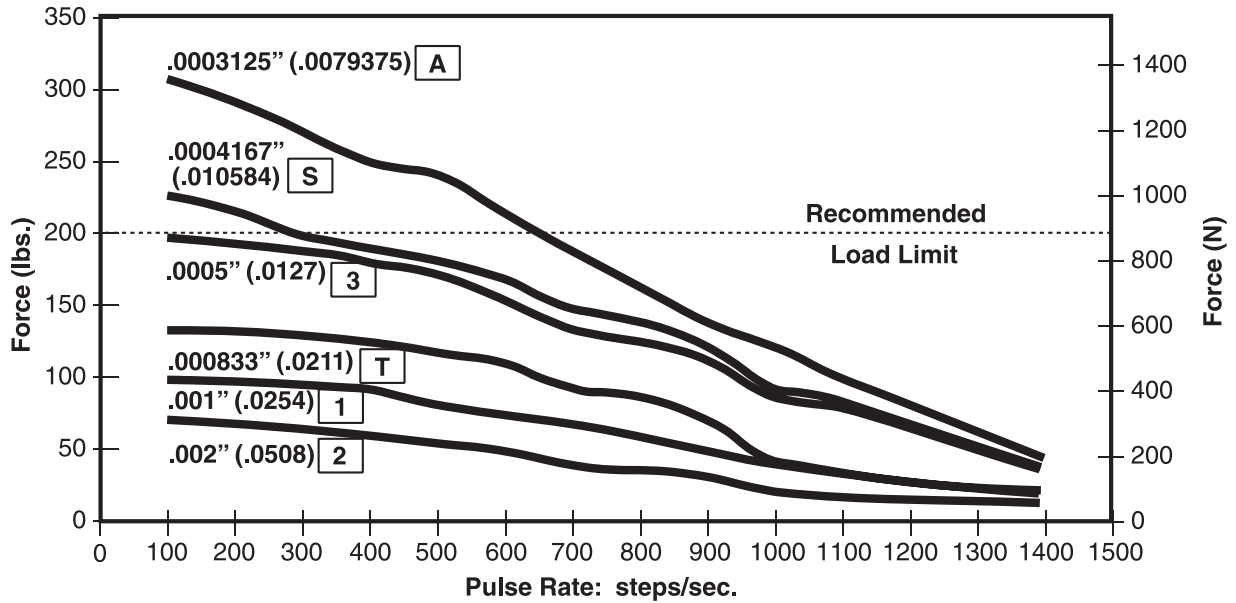
57000 Series: Size 23 Performance Curves



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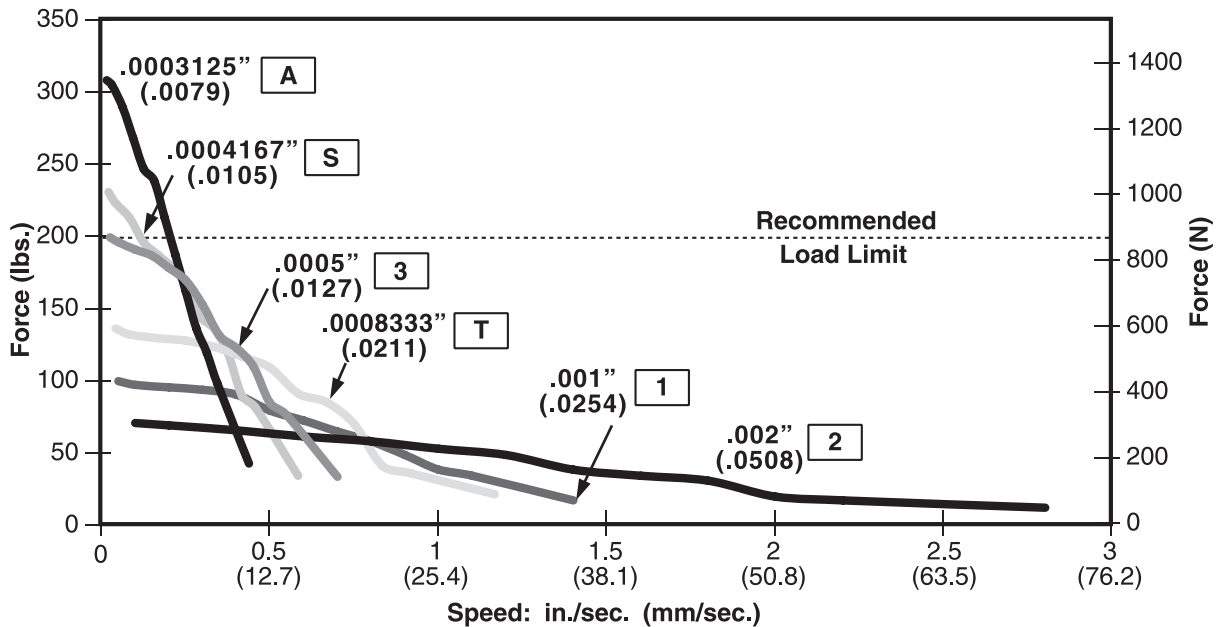
FORCE vs. PULSE RATE Bipolar • Chopper • 100% Duty Cycle

Ø .375 (9.53) Lead-screw



FORCE vs. LINEAR VELOCITY Bipolar • Chopper • 100% Duty Cycle

Ø .375 (9.53) Lead-screw



NOTE: All chopper drive curves were created with a 5 volt motor and a 75 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.