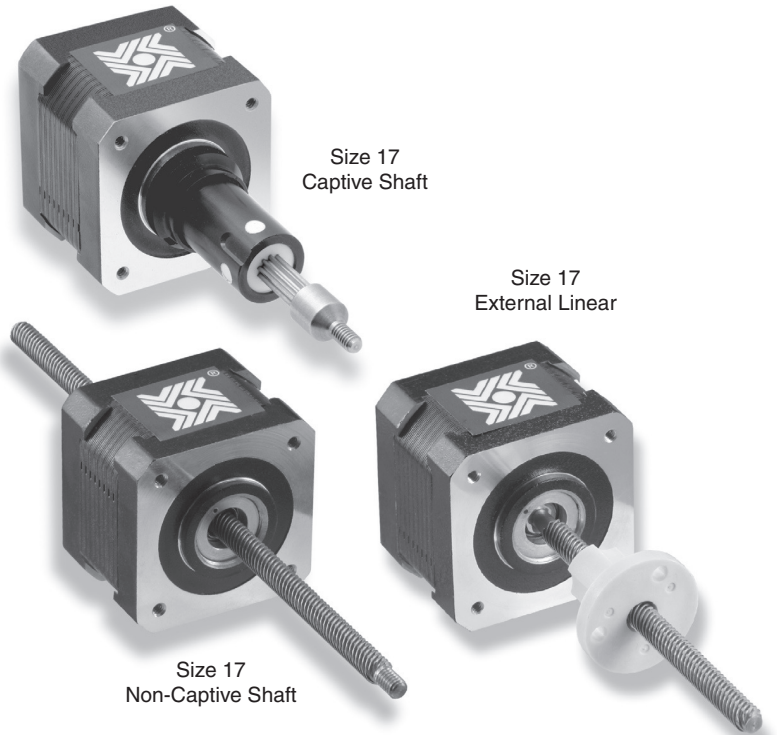


### Haydon™ 43000 Series Size 17 hybrid linear actuators are our best selling compact hybrid motors.

These top selling designs deliver high performance, opening avenues for equipment designers who previously settled for products with inferior performance and endurance.

Three designs are available, captive, non-captive and external linear versions. The 43000 Series is available in a wide variety of resolutions - from 0.00006-in. (.001524 mm) per step to 0.00192-in. (.048768 mm) per step - and delivers thrust of up to 50 lbs. (222 N), or speeds exceeding 3 inches (7.62 cm) per second.



HYBRID LINEAR ACTUATOR  
STEPPER MOTORS

### Salient Characteristics

Size 17: 43 mm (1.7-in) Hybrid Linear Actuator (1.8° Step Angle)					
Part No.	Captive	43H4(X)-V			43H6(X)-V
	Non-captive	43F4(X)-V			43F6(X)-V
	External Lin.	E43H4(X)-V			E43H6(X)-V
Wiring		Bipolar			Unipolar**
Winding voltage	2.33 VDC	5 VDC	12 VDC	5 VDC	12 VDC
Current/phase	1.5 A	700 mA	290 mA	700 mA	290 mA
Resistance/phase	1.56 Ω	7.2 Ω	41.5 Ω	7.2 Ω	41.5 Ω
Inductance/phase	1.9 mH	8.7 mH	54.0 mH	4.4 mH	27.0 mH
Power consumption	7 W				
Rotor inertia	37 gcm <sup>2</sup>				
Insulation Class	Class B (Class F available)				
Weight	8.5 oz (241 g)				
Insulation resistance	20 MΩ				

Linear Travel / Step					
Screw Ø		Order Code I.D.	Screw Ø		Order Code I.D.
.218" (5.54 mm) inches	mm		.250" (6.35 mm) inches	mm	
.00012	.0030*	N	.00015625	.0039*	P
.00024	.0060*	K	.0003125	.0079*	A
.00048	.0121*	J	.000625	.0158*	B
.00096	.0243*	Q	.00125	.0317*	C
.00192	.0487*	R			

\*Values truncated

Standard motors are Class B rated for maximum temperature of 130°C. Also available, motors with high temperature capability windings up to 155°C.

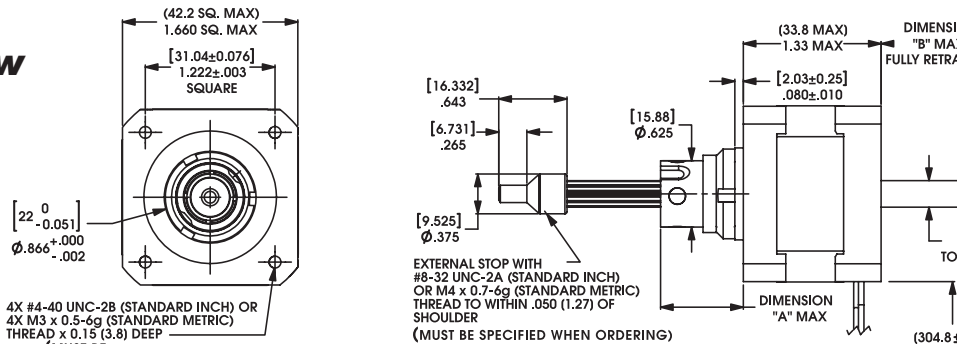
Special drive considerations may be necessary when leaving shaft fully extended or fully retracted.

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

# 43000 Series: Size 17 Dimensional Drawings

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

## Captive Lead-screw



4X #4-40 UNC-2B (STANDARD INCH) OR 4X M3 x 0.5-6g (STANDARD METRIC) THREAD X 0.15 (3.8) DEEP (MUST BE SPECIFIED WHEN ORDERING)  
M3 MOUNTING HOLES AVAILABLE ON REQUEST.

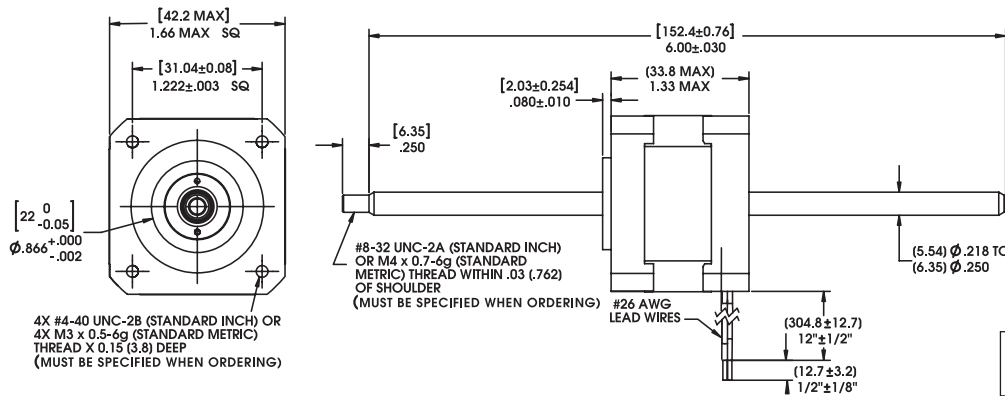
STROKE	DIM. "A"	DIM. "B"	SUFFIX #	M4x0.7 thread
0.500 (12.7)	0.78 (19.8)	0.16 (4.1)	-905	-805
0.750 (19.05)	1.03 (26.2)	0.41 (10.4)	-907	-807
1.00 (25.4)	1.28 (32.5)	0.66 (16.8)	-910	-810
1.250 (31.8)	1.53 (38.9)	0.91 (23.1)	-912	-812
1.500 (38.1)	1.78 (45.2)	1.16 (29.5)	-915	-815
2.00 (50.8)	2.28 (57.9)	1.66 (42.2)	-920	-820
2.500 (63.5)	2.78 (70.6)	2.16 (54.9)	-925	-825

Integrated connector option, see page 121

HYBRID LINEAR ACTUATOR STEPPER MOTORS

## Non-Captive Lead-screw

Up to 10-in (254 mm) standard screw lengths. Longer screw lengths are available.

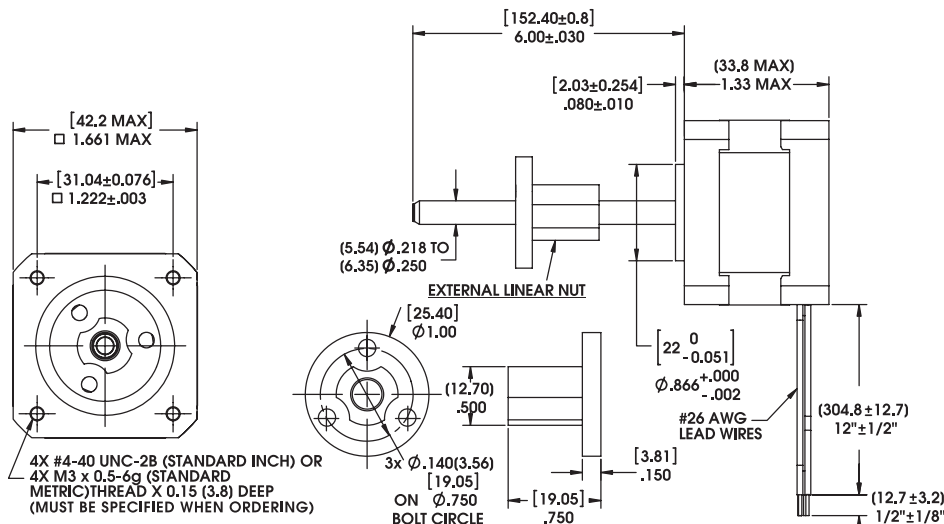


4X #4-40 UNC-2B (STANDARD INCH) OR 4X M3 x 0.5-6g (STANDARD METRIC) THREAD X 0.15 (3.8) DEEP (MUST BE SPECIFIED WHEN ORDERING)

Integrated connector option, see page 121

## External Linear

Up to 10-in (254 mm) standard screw lengths. Longer screw lengths are available.

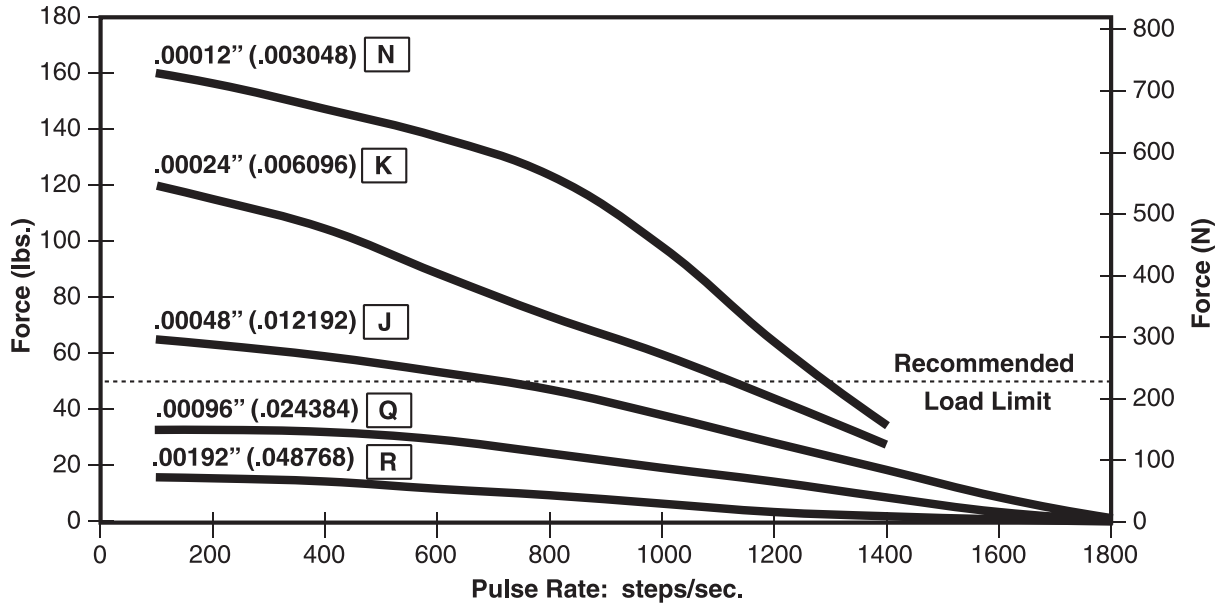


4X #4-40 UNC-2B (STANDARD INCH) OR 4X M3 x 0.5-6g (STANDARD METRIC) THREAD X 0.15 (3.8) DEEP (MUST BE SPECIFIED WHEN ORDERING)

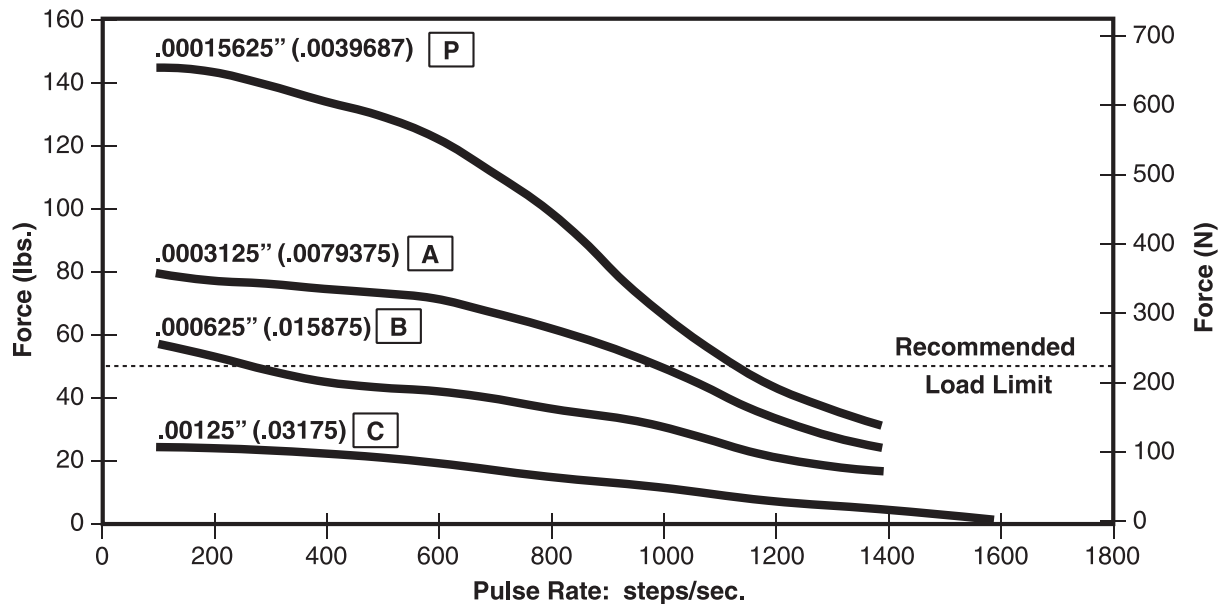
Integrated connector option, see page 121

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

Ø .218 (5.54) Lead-screw



Ø .250 (6.35) 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.

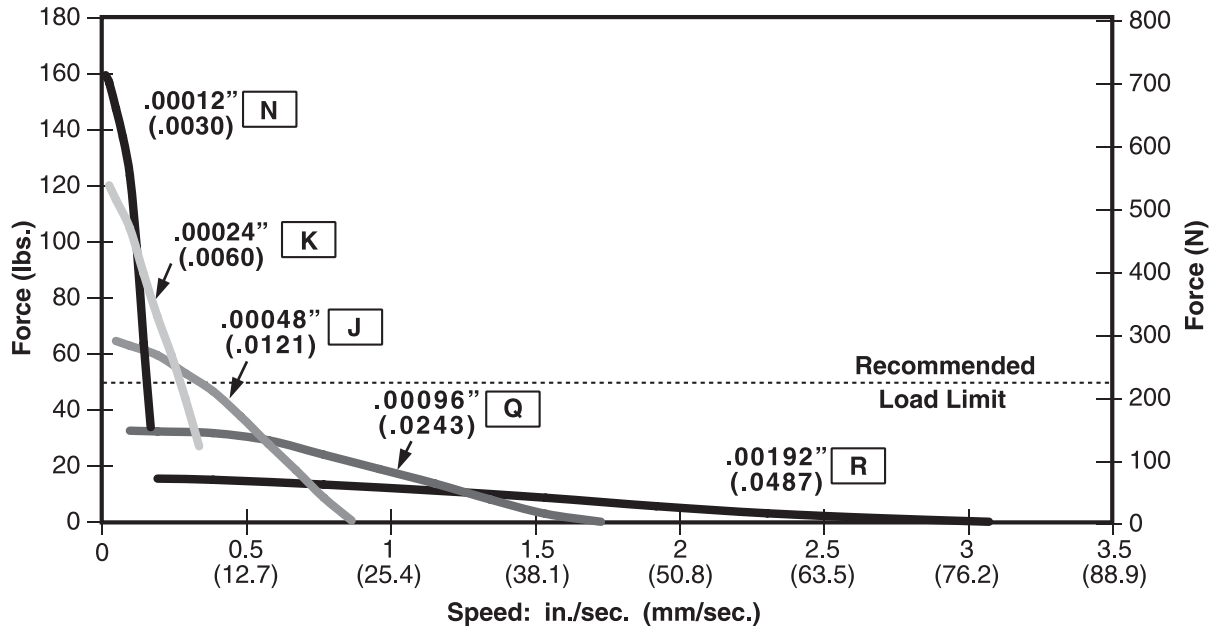
With L/R drives peak force and speeds are reduced, using a unipolar drive will yield a further 30% force reduction.

# 43000 Series: Size 17 Performance Curves

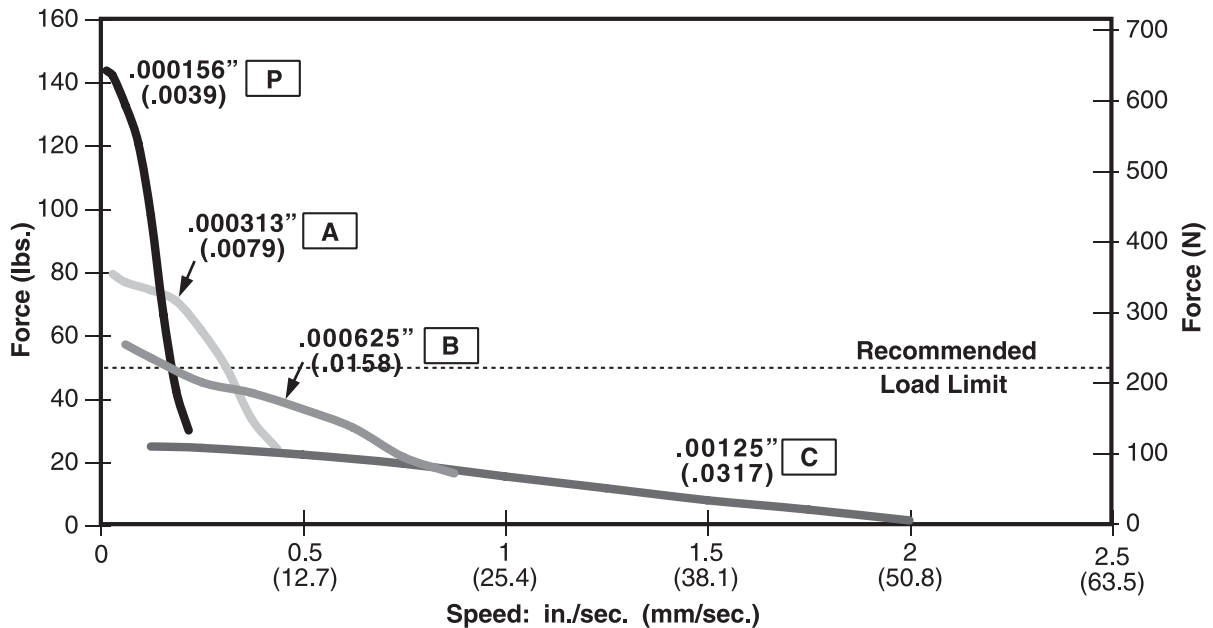
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## FORCE vs. LINEAR VELOCITY **Bipolar • Chopper • 100% Duty Cycle**

Ø .218 (5.54) Lead-screw



Ø .250 (6.35) 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.