

Linear Rail Systems

Haydon Kerk offers both motorized and non-motorized linear rails, guides and splines that deliver enhanced system stability, high positional accuracy, low friction and long life for a variety of linear motion applications.



Mini Motorized Slides

The compact, low profile MiniSlide™ saves 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.

Save
Engineering
Time!

new

MiniSlide™ motorized with Hybrid Stepper Actuator

small size, big power

Exceedingly configurable, simple to integrate MiniSlide™ assembly is ideally suited for small lab and automation equipment.

Compact, low profile

Super efficient motor

Small step resolution with 1.8° step angle

High power density and force

Encoder or encoder-ready options

Size 8 Hybrid Stepper Linear Actuator: 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		

MiniSlide is also available with 20mm Can-Stack Motor.

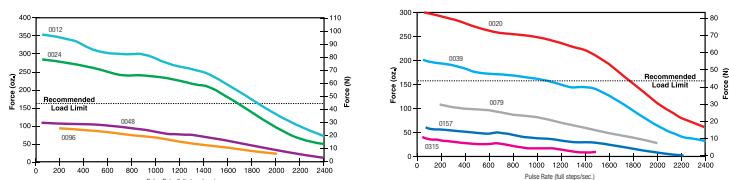
MiniSlide Load Specifications	
Design Payload (mass)	2.3kg [5 lbs]
Axial Force	45N [10 lbf]
Roll Moment*	1.13N-m [10 lbf-in]
Pitch Moment*	1.13N-m [10 lbf-in]
Yaw Moment*	0.56N-m [5 lbf-in]
Repeatability	+/-25μm [0.001 in]

* Moment data based on 0.5° deflection

Performance Curves

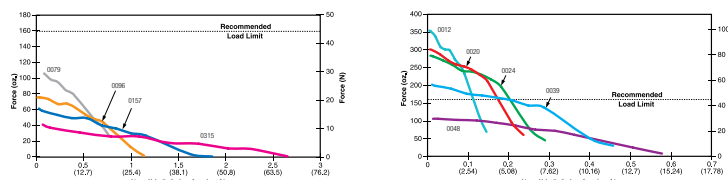
Force vs. Pulse Rate

– Chopper – 100% Duty Cycle – Bipolar – 0.14 (3.56) Lead Screw



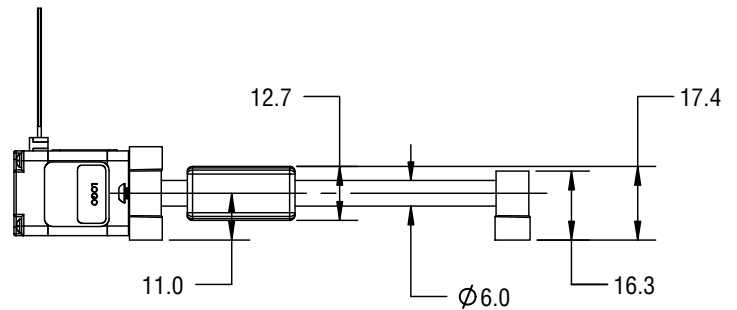
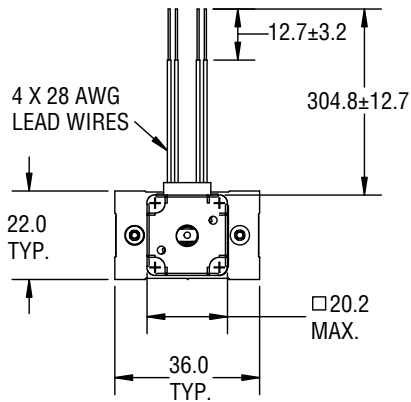
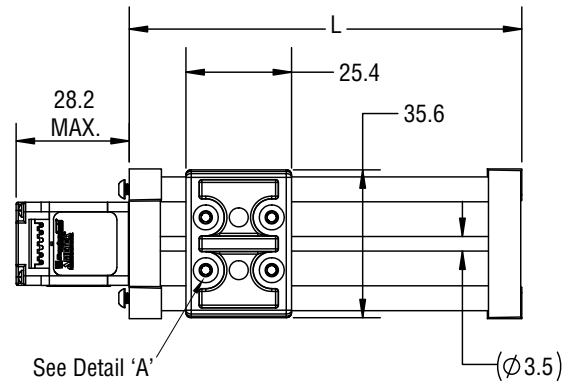
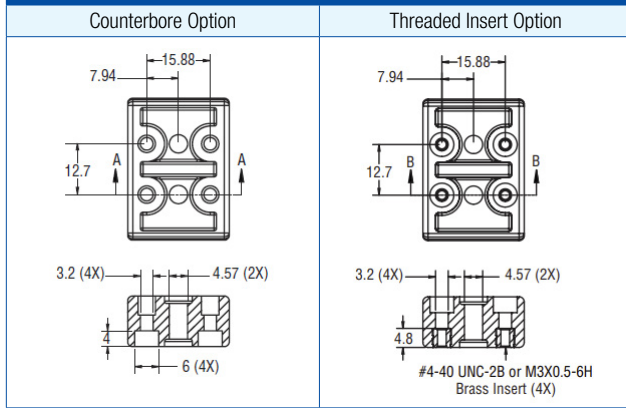
Force vs. Linear Velocity

– Chopper – 100% Duty Cycle – Bipolar – 0.14 (3.56) Lead Screw

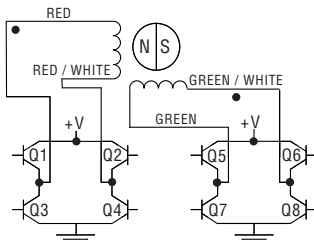


NOTE: All chopper drive curves were created with a 5 volt motor and a 40 volt power supply. Ramping can increase the performance of a motor either by increasing the top speed or getting a heavier load accelerated up to speed faster. Also, deceleration can be used to stop the motor without overshoot.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

Detail A: Carriage Mounting Options



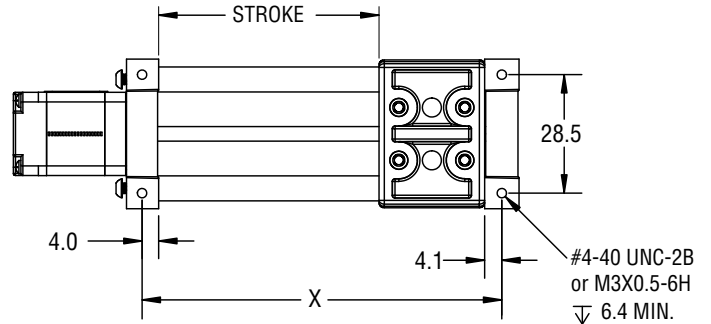
Wiring: Bipolar



Can-Stack Motor Stepping Sequence

EXTEND CW ↓	Bipolar Step	Q2-Q3	Q1-Q4	Q6-Q7	Q5-Q8	↑ RETRACT CCW
	1	ON	OFF	ON	OFF	
	2	OFF	ON	ON	OFF	
	3	OFF	ON	OFF	ON	
	4	ON	OFF	OFF	ON	
	1	ON	OFF	ON	OFF	

Note: Half stepping is accomplished by inserting an off state between transitioning phases.



Dimensions		
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

Ordering Part Numbers for MiniSlide™ motorized with Size 8 Hybrid Stepper Actuator

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

NOTE: Dashes must be included in the Part Number (-) as shown above. For assistance call our Engineering Team at 203 756 7441.
* Unique Identifier can be used to indicate additional options and/or product modifications.



new

MiniSlide™ motorized with Can-Stack Stepper

small size, big power

Exceedingly configurable, simple to integrate MiniSlide™ assembly is ideally suited for small lab and automation equipment.

Compact, low profile

Economically priced

Ø 20mm (.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 Ω	

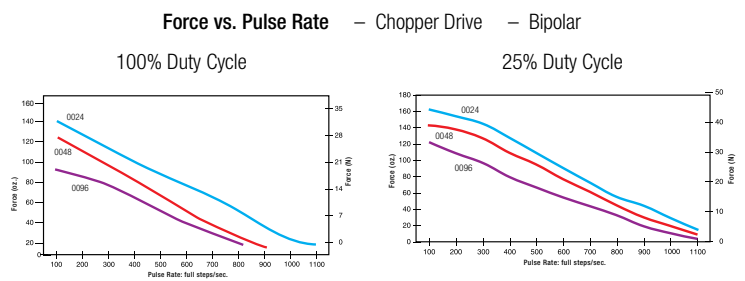
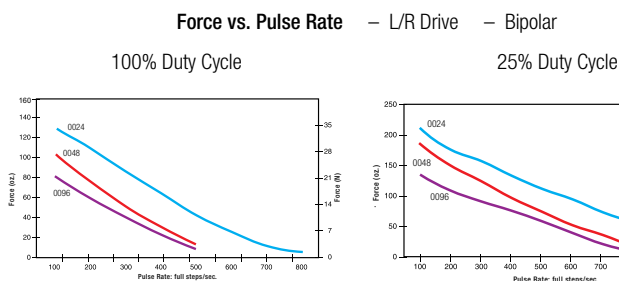
MiniSlide is also available with Size 8 Hybrid Stepper Linear Actuator.

MiniSlide Load Specifications

Design Payload (mass)	2.3kg [5 lbs]
Axial Force	45N [10 lbf]
Roll Moment*	1.13N-m [10 lbf-in]
Pitch Moment*	1.13N-m [10 lbf-in]
Yaw Moment*	0.56N-m [5 lbf-in]
Repeatability	+/-25µm [0.001 in]

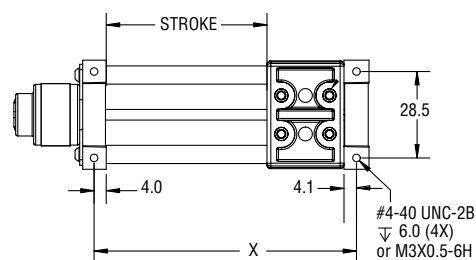
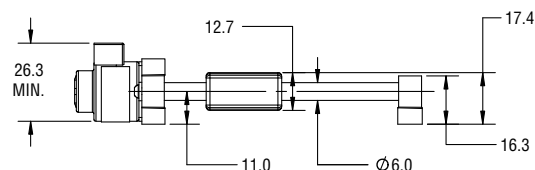
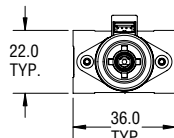
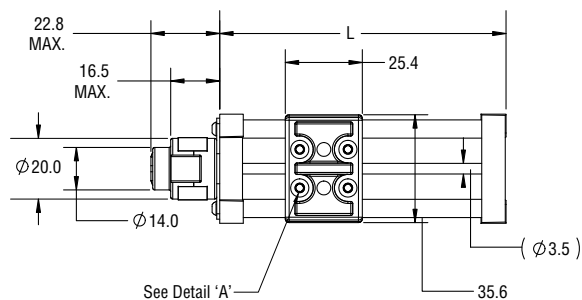
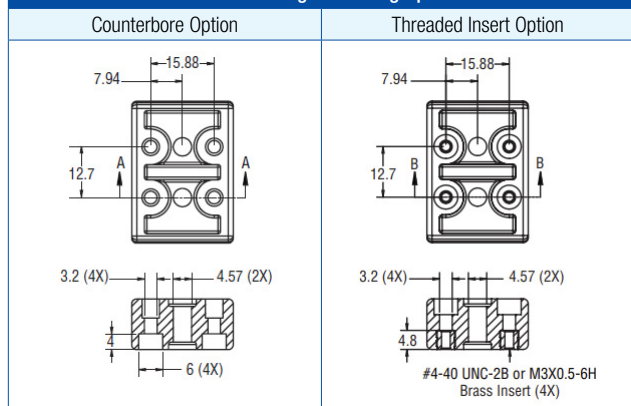
* Moment data based on 0.5° deflection

Performance Curves

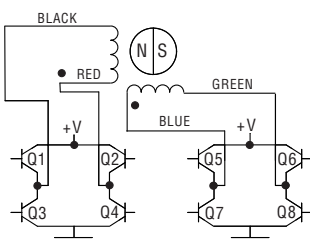


NOTE: All chopper drive curves were created with a 5 volt motor and a 40 volt power supply. Ramping can increase the performance of a motor either by increasing the top speed or getting a heavier load accelerated up to speed faster. Also, deceleration can be used to stop the motor without overshoot.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

Detail A: Carriage Mounting Options



Wiring: Bipolar



Can-Stack Motor Stepping Sequence

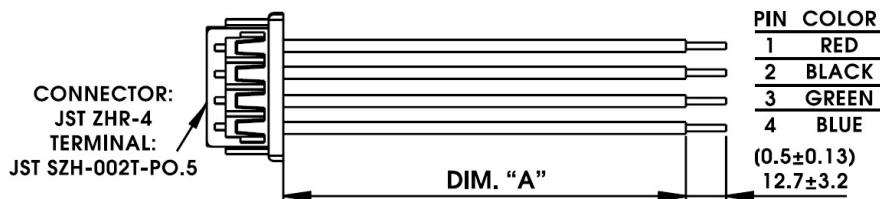
Bipolar Step	Q2-Q3	Q1-Q4	Q6-Q7	Q5-Q8
1	ON	OFF	ON	OFF
2	OFF	ON	ON	OFF
3	OFF	ON	OFF	ON
4	ON	OFF	OFF	ON
1	ON	OFF	ON	OFF

Note: Half stepping is accomplished by inserting an off state between transitioning phases.

Dimensions

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

Connector



PIN	COLOR
1	RED
2	BLACK
3	GREEN
4	BLUE
(0.5±0.13)	
12.7±3.2	

Part Number	Dimension "A"
56-1318-4	(24 ±0.39) 610 ±10 mm
56-1318-3	(18 ±0.39) 450 ±10 mm
56-1318-2	(12 ±0.39) 305 ±10 mm
56-1318-1	(6 ±0.39) 150 ±10 mm

Ordering Part Numbers for MiniSlide™ motorized with 19000 Series Can-Stack Motor

MSA	02	K	C	0020	XXX
Prefix	Frame Size	Coating	Motor	Nominal Thread Lead Code	Suffix
MSA = Mini Slide Actuator	02 = 1/8" Screws	K = TFE Kerkote B = TFE Black Ice G = Grease S = No Lubricant	C = 20mm G4 19000 Can-Stack Stepper Motor	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 905 = 50mm stroke #4-40 mounting 910 = 100mm stroke #4-40 mounting XXX = Unique identifier *

NOTE: Dashes must be included in the Part Number (–) as shown above. For assistance call our Engineering Team at 203 756 7441.
* Unique Identifier can be used to indicate additional options and/or product modifications.

Ball Guided Rail Systems

The BGS Linear Rail combines many technologies into a single integrated linear motion platform. The system provides excellent load capability and is engineered for both normal and overhanging loads. High roll, pitch, and yaw moment loading capability allows the system to maintain tight accuracy and repeatability, even in applications requiring significant cantilevered loading. The lead screw drives a machined aluminum carriage mounted to a precision stainless steel ball rail resulting in a rigid, smooth-operating motion system. Offers an optional wear-compensating anti-backlash driven carriage. Black Ice® TFE coated screw provides a permanent wear-resistant dry lubrication.

When integrated with an IDEA Drive, the system combines Haydon hybrid linear actuator technology with a fully programmable, integrated stepper motor drive. By combining technologies into a single preassembled unit, Haydon Kerk Motion Solutions is able to improve system integration for the equipment OEM or end user. The overall cost for the customer is also lowered by offering a complete solution as it eliminates the need for rotary-to-linear conversion, and simplified product development.

BGS Linear Rails with Recirculating Ball Slide

A BGS Motorized Linear Rail combines multiple technologies into a single integrated linear motion platform. The system provides excellent load capacity and is engineered for both normal and overhanging loads. High roll, pitch and yaw moment loading capability allows the system to maintain tight accuracy and repeatability, even in applications requiring significant cantilevered loading.

At the heart of the BGS Linear Rail system is a Haydon hybrid linear actuator with a precision 303 stainless steel lead screw. The lead screw drives a

machined aluminum carriage mounted to a precision stainless steel ball slide resulting in a rigid, smooth operating motion system. The screw is coated with Black Ice® TFE coating providing a permanent wear-resistant dry lubrication.



Hybrid Linear Actuator Motor	BGS04	BGS06	BGS08
	Size 11 Double Stack Size 17 Single Stack*	Size 17 Single Stack* Size 17 Double Stack*	Size 23 Single Stack* Size 23 Double Stack
Max. Stroke Length	18-in (460 mm)	24-in (610 mm)	30-in (760 mm)
Max. Load (Horizontal)**	22 lbs (100 N)	135 lbs (600 N)	225 lbs (1,000 N)
Roll Moment	5.72 lbs-ft (7.75 N-m)	11.62 lbs-ft (15.75 N-m)	22.50 lbs-ft (30.5 N-m)
Pitch Moment	4.88 lbs-ft (6.60 N-m)	7.93 lbs-ft (10.75 N-m)	19.36 lbs-ft (26.25 N-m)
Yaw Moment	5.68 lbs-ft (7.70 N-m)	9.15 lbs-ft (12.40 N-m)	22.27 lbs-ft (30.20 N-m)

Nominal Thread Lead		Lead Code	BGS04	BGS06	BGS08
inches	mm				
0.025	0.635	0025	•		
0.039	1.00	0039	•		
0.050	1.27	0050	•	•	
0.0625	1.59	0063	•		
0.079	2.00	0079	•	•	
0.098	2.5	0098			•
0.100	2.54	0100	•	•	•
0.118	3.00	0118	•		
0.125	3.18	0125			
0.157	4.00	0157		•	
0.197	5.00	0197		•	•
0.200	5.08	0200	•	•	•
0.250	6.35	0250	•	•	
0.315	8.00	0315			
0.375	9.53	0375		•	
0.394	10.00	0394	•		
0.400	1.016	0400		•	
0.472	12.00	0472		•	
0.500	12.70	0500	•	•	•
0.630	16.00	0630			•
0.750	19.05	0750	•	•	
0.984	25.00	0984		•	
1.000	25.40	1000	•	•	•
1.200	30.48	1200		•	

Size 11 = 28000 Series | Size 17 = 43000 Series | Size 23 = 57000 Series

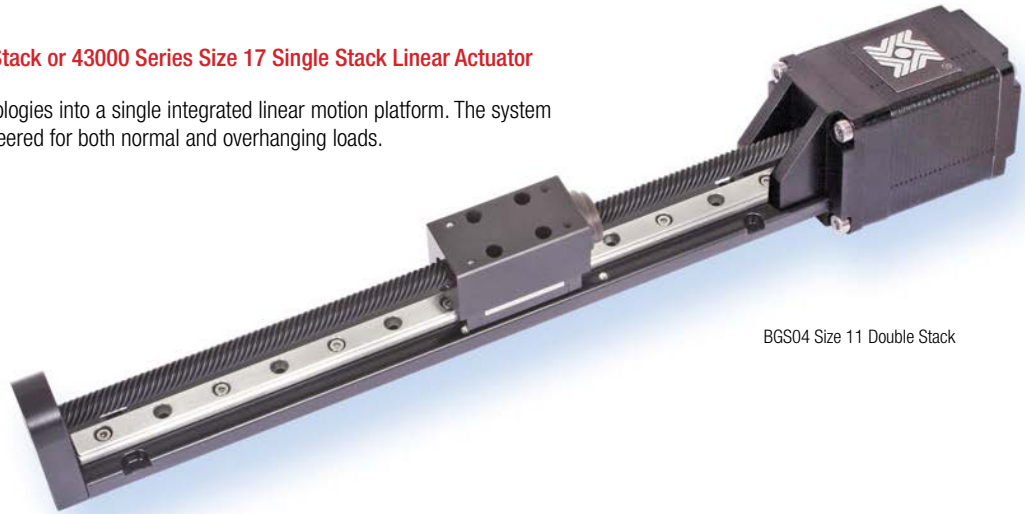
*Size 17 (43000 Series) Single and Double Stack Hybrid Linear Actuator Stepper Motors (BGS06) are available with an optional programmable IDEA™ Drive. IDEA Drives are not available in the BGS08 Linear Rail.

**For vertical load information, see specifications for the Size 11 (28000 Series), Size 17 (43000 Series), and Size 23 (57000 Series) motors.

BGS04™ Linear Rail

with Hybrid 28000 Series Size 11 Double Stack or 43000 Series Size 17 Single Stack Linear Actuator

The BGS™ Linear Rail combines many technologies into a single integrated linear motion platform. The system provides excellent load capability and is engineered for both normal and overhanging loads.



BGS04 Size 11 Double Stack

Specifications: BGS04

BGS with Hybrid Linear Actuator Motor	Size 11 Double Stack Size 17 Single Stack*
Max. Stroke Length	18 in (460 mm)
Max. Load (horizontal)	22 lbs (100 N)
Roll Moment	5.72 lbs-ft (7.75 Nm)
Pitch Moment	4.88 lbs-ft (6.60 Nm)
Yaw Moment	5.68 lbs-ft (7.70 Nm)

* Size 17 is available with an optional programmable IDEATM Drive.

Nominal Thread Lead		Lead Code
inches	mm	
0.025	0.635	0025
0.039	1.00	0039
0.050	1.27	0050
0.0625	1.59	0063
0.079	2.00	0079
0.100	2.54	0100
0.118	3.00	0118
0.200	5.08	0200

Nominal Thread Lead		Lead Code
inches	mm	
0.250	6.35	0400
0.394	10.00	0472
0.500	12.70	0500
0.750	19.05	0750
1.000	25.40	1000

To determine what is best for your application see the [Linear Rail Applications Checklist](#).

Identifying the BGS Part Number Codes when Ordering

BG	S	04	B	M	0025	XXX
Prefix	Frame Style	Frame Size Load*	Lubrication	Drive / Mounting	Nominal Thread Lead Code	Unique Identifier
BG = Ball Guide System	S = Standard	04 = Max.static load 22 lbs (100 N)	B = TFE wear resist, dry lubricant Black Ice®	M = Motorized For 43000 Series Size 17 Only G = IDEATM integrated programmable drive – USB communications J = IDEATM integrated programmable drive – RS485 communications	0025 = .025-in (.635) (see Lead Code charts above)	Suffix used to identify Size 11 or Size 17 motor – or a proprietary suffix assigned to a specific customer application. The identifier can apply to either a standard or custom part.

NOTE: Dashes must be included in Part Number (–) as shown above. For assistance call our Engineering Team at 603 213 6290.

Carriage holes available in Metric sizes M2, M2.5, M3, M4

Double Stack

■ 28000 Series Size 11 Linear Actuator

Size 11 Double Stack: 28 mm (1.1-in) Hybrid Linear Actuator (1.8° Step Angle)			
Wiring	Bipolar		
Winding Voltage	2.1 VDC	5 VDC	12 VDC
Current (RMS)/phase	1.9 A	750 mA	313 mA
Resistance/phase	1.1 Ω	6.7 Ω	34.8 Ω
Inductance/phase	1.1 mH	5.8 mH	35.6 mH
Power Consumption	7.5 W Total		
Rotor Inertia	13.5 gcm ²		
Insulation Class	Class B (Class F available)		
Weight	5.8 oz (180 g)		
Insulation Resistance	20 M Ω		



Size 11
Double Stack External Linear

Single Stack

■ 43000 Series Size 17 Linear Actuator

Size 17: 43 mm (1.7-in) Hybrid Linear Actuator (1.8° Step Angle)					
Wiring	Bipolar			Unipolar**	
Programmable Drive	IDEA™ Drive Option Available			Not Applicable	
Winding Voltage	2.33 VDC	5 VDC	12 VDC	5 VDC	12 VDC
Current (RMS)/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 ²				
Insulation Class	Class B (Class F available)				
Weight	8.5 oz (241 g)				
Insulation Resistance	20 M Ω				

* 43000 Series Single Stack with IDEA programmable drive. Contact Haydon Kerk if higher voltage motor is desired.

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

Size 17 External Linear



Size 17 External Linear
with programmable IDEA Drive

IDEA™ Drive software
is simple to use with
on-screen buttons
and easy-to-understand
programming guides.

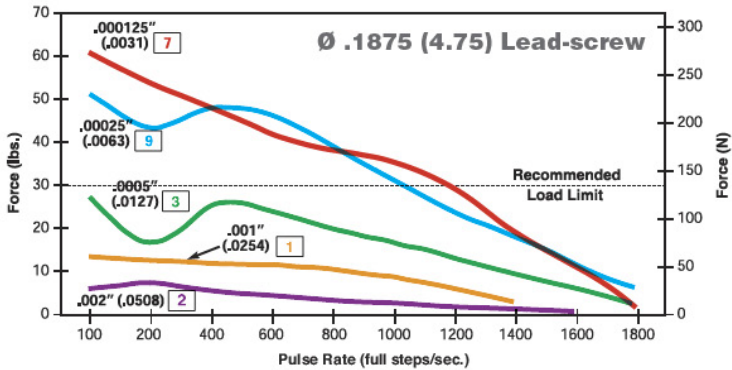
- Fully Programmable
- RoHS Compliant
- USB or RS-485 Communication
- Microstepping Capability – Full, 1/2, 1/4, 1/8, 1/16, 1/32, 1/64
- Graphic User Interface
- Auto-population of Drive Parameters
- Programmable Acceleration/Deceleration and Current Control

For more information see the [IDEA™ Drive Data Sheet](#)

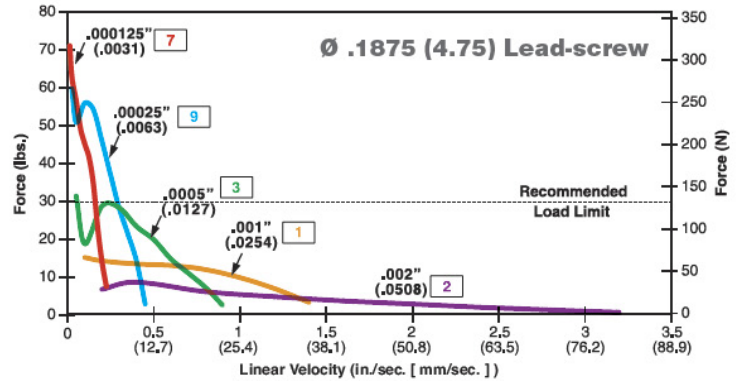
Double Stack

■ 28000 Series Size 11 Linear Actuator

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



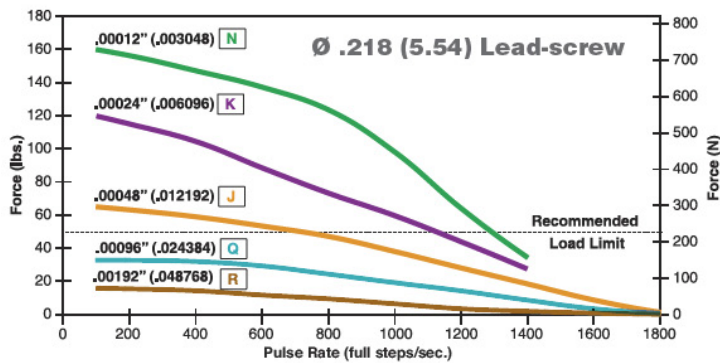
FORCE vs. LINEAR VELOCITY
 – Chopper – Bipolar – 100% Duty Cycle



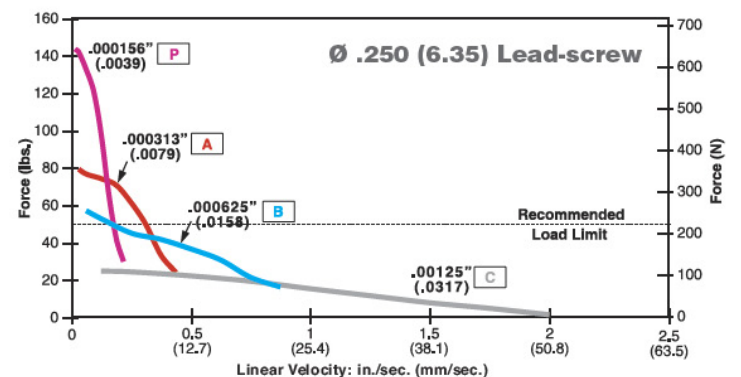
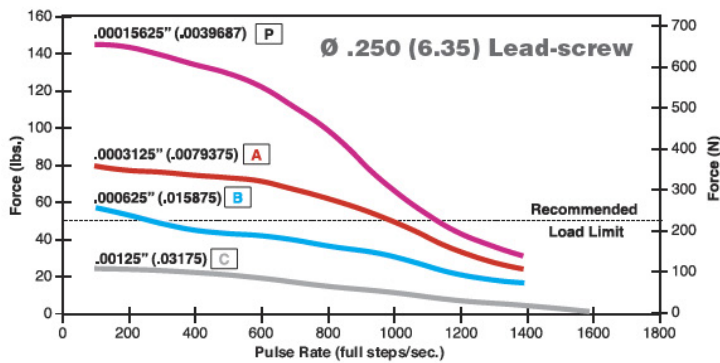
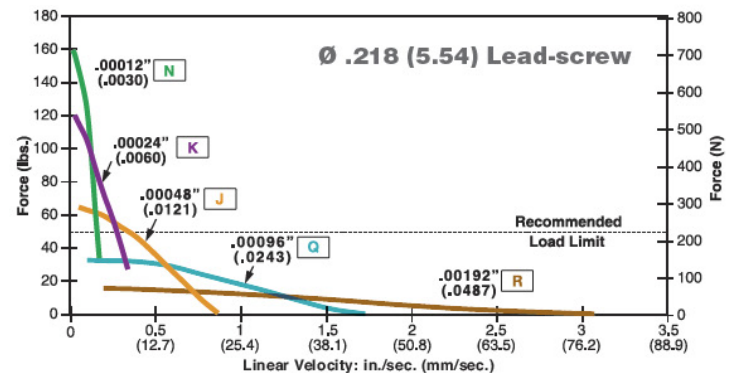
Double Stack

■ 43000 Series Size 17 Linear Actuator

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



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



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.

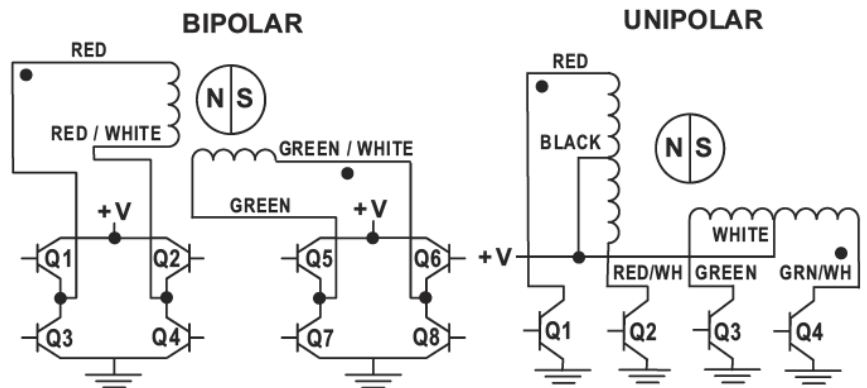
■ 28000 Series Size 11 and 43000 Series Size 17 Linear Actuators

Hybrids: Stepping Sequence

Hybrids: Wiring

Bipolar	Q2-Q3	Q1-Q4	Q6-Q7	Q5-Q8
Unipolar	Q1	Q2	Q3	Q4
Step				
1	ON	OFF	ON	OFF
2	OFF	ON	ON	OFF
3	OFF	ON	OFF	ON
4	ON	OFF	OFF	ON
1	ON	OFF	ON	OFF

Note: Half stepping is accomplished by inserting an off state between transitioning phases.



Size 11 28000 Series and Size 17 43000 Series • Integrated Connectors

Hybrid Size 11 Double Stack and Size 17 Single Stack linear actuators are available with an integrated connector. Offered alone or with a harness assembly, this connector is RoHS compliant and features a positive latch in order for high connection integrity. The connector is rated up to 3 amps and the mating connector will handle a range of wire gauges from 22 to 28. This motor is ideal for those that want to plug in directly to pre existing harnesses. In addition to standard configurations, Haydon Kerk Motion Solutions can custom design this motor to meet your specific application requirements.

Motor Connector: JST part # S06B-PASK-2
Mating Connector: JST part # PAP-06V-S
 Haydon Kerk Part #56-1210-5 (12 in. Leads)
Wire to Board Connector:
 JST part number SPHD-001T-P0.5

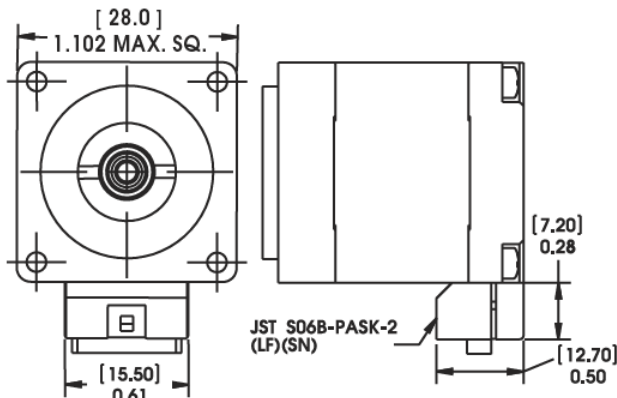


Pin #	Bipolar	Unipolar	Color
1	Phase 2 Start	Phase 2 Start	G/W
2	Open	Phase 2 Common	-
3	Phase 2 Finish	Phase 2 Finish	Green
4	Phase 1 Finish	Phase 1 Finish	R/W
5	Open	Phase 1 Common	-
6	Phase 1 Start	Phase 1 Start	Red

Dimensional Drawings

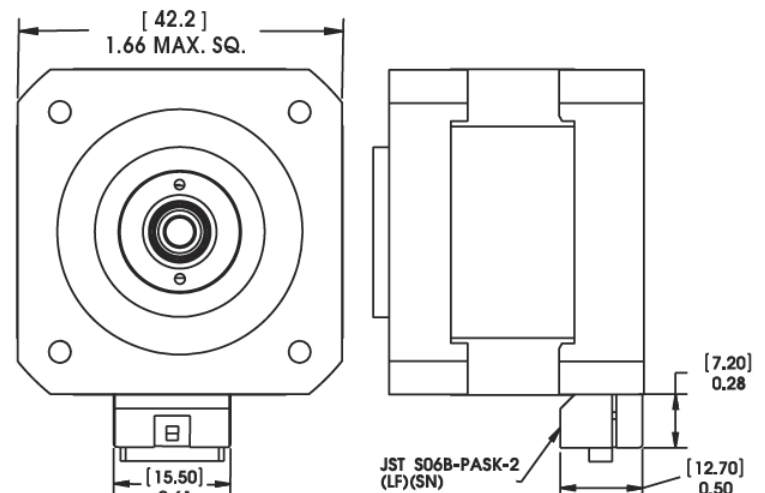
■ Integrated Connector with 28000 Series Size 11 Linear Actuator

Dimensions = (mm) inches



■ Integrated Connector with 43000 Series Size 17

Dimensions = (mm) inches

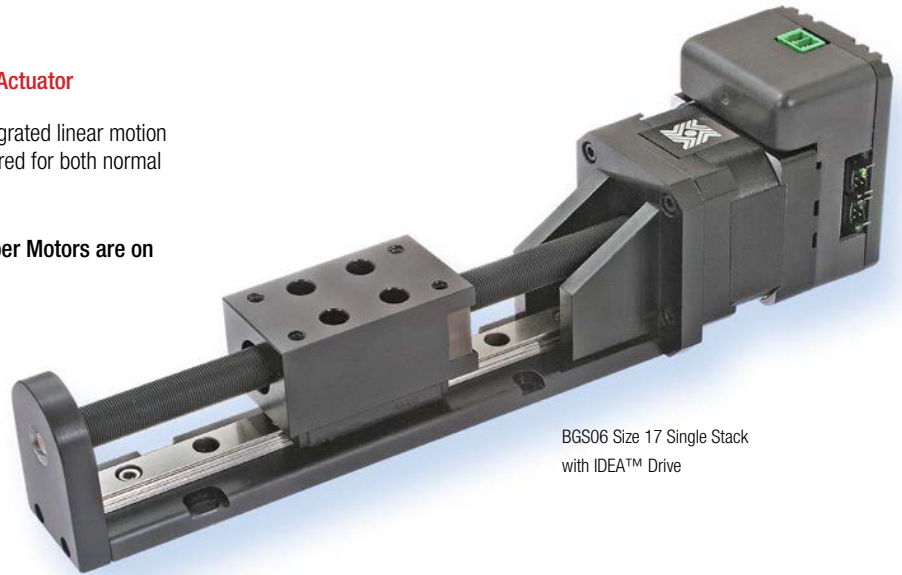


BGS06 Linear Rail

with Hybrid 43000 Series Size 17 Single or Double Stack Linear Actuator

The BGS™ Linear Rail combines many technologies into a single integrated linear motion platform. The system provides excellent load capability and is engineered for both normal and overhanging loads.

Technical specifications for Size 17 Hybrid Linear Actuator Stepper Motors are on page 3.



BGS06 Size 17 Single Stack
with IDEATM Drive

■ Specifications: BGS06

BGS with Hybrid Linear Actuator Motor	Size 17 Single and Double Stack*
Max. Stroke Length	24 in (610 mm)
Max. Load (horizontal)	135 lbs (600 N)
Roll Moment	11.62 lbs-ft (15.75 Nm)
Pitch Moment	7.93 lbs-ft (10.75 Nm)
Yaw Moment	9.15 lbs-ft (12.4 Nm)

* Available with an optional programmable IDEATM Drive.

Nominal Thread Lead		Lead Code
inches	mm	
0.050	1.27	0050
0.079	2.00	0079
0.100	2.54	0100
0.157	4.00	0157
0.197	5.00	0197
0.200	5.08	0200
0.250	6.35	0250
0.375	9.53	0375

Nominal Thread Lead		Lead Code
inches	mm	
0.400	10.16	0400
0.472	12.00	0472
0.500	12.70	0500
0.750	19.05	0750
0.984	25.00	0984
1.000	25.40	1000
1.200	30.48	1200

To determine what is best for your application see the [Linear Rail Applications Checklist](#).

■ Identifying the BGS Part Number Codes when Ordering

BG	S	06	B	G	0079	XXX
Prefix	Frame Style	Frame Size Load*	Lubrication	Drive / Mounting	Nominal Thread Lead Code	Unique Identifier
BG = Ball Guide System	S = Standard	06 = Max.static load 135 lbs (600 N)	B = TFE wear resist, dry lubricant Black Ice®	M = Motorized G = IDEATM integrated programmable drive – USB communications J = IDEATM integrated programmable drive – RS485 communications	0079 = .079-in (2.0) (see Lead Code charts above)	Proprietary suffix assigned to a specific customer application. The identifier can apply to either a standard or custom part.

NOTE: Dashes must be included in Part Number (–) as shown above. For assistance call our Engineering Team at 603 213 6290.

Carriage holes available in Metric sizes M3, M3.5, M4

Single Stack

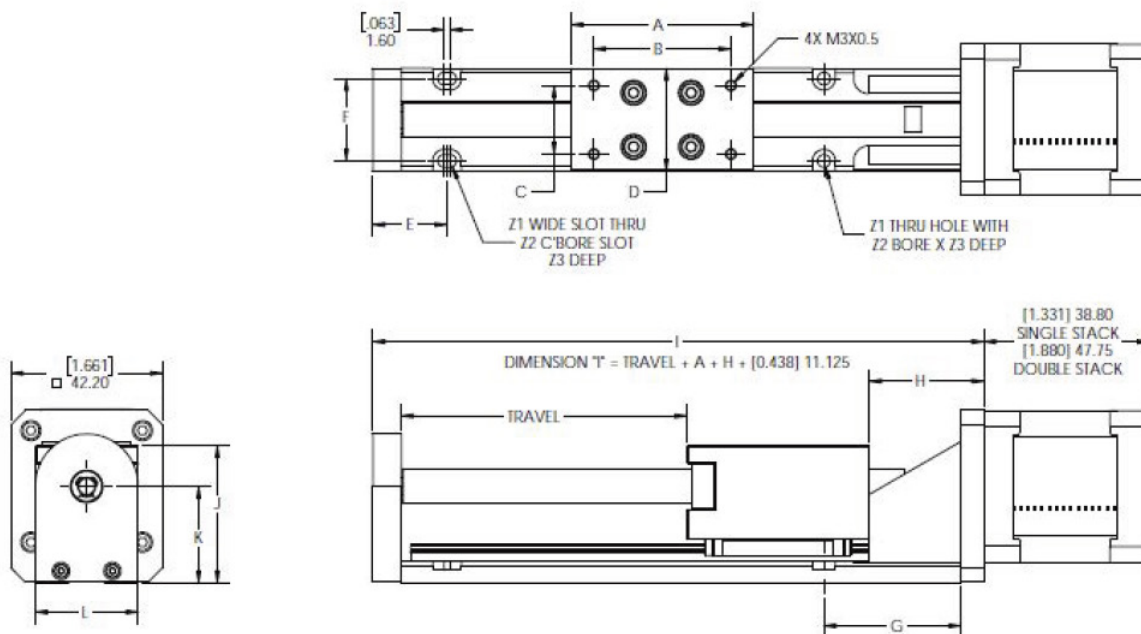
■ BGS06 Linear Rail with 43000 Series Size 17 Linear Actuator

Recommended for horizontal loads up to 135 lbs (600 N)

	A	B	C	D	E	F	G	H	I	J	K	L	Z1	Z2	Z3
(inch)	(2.00)	(1.50)	(0.75)	(1.13)	(0.81)	(0.90)	(1.50)	(1.25)	*	(1.5)	(1.05)	(1.13)	(0.14)	(0.25)	(0.13)
mm	50.80	38.10	19.05	28.58	20.57	22.86	38.10	31.75		38.15	26.77	28.58	3.6	6.3	3.3

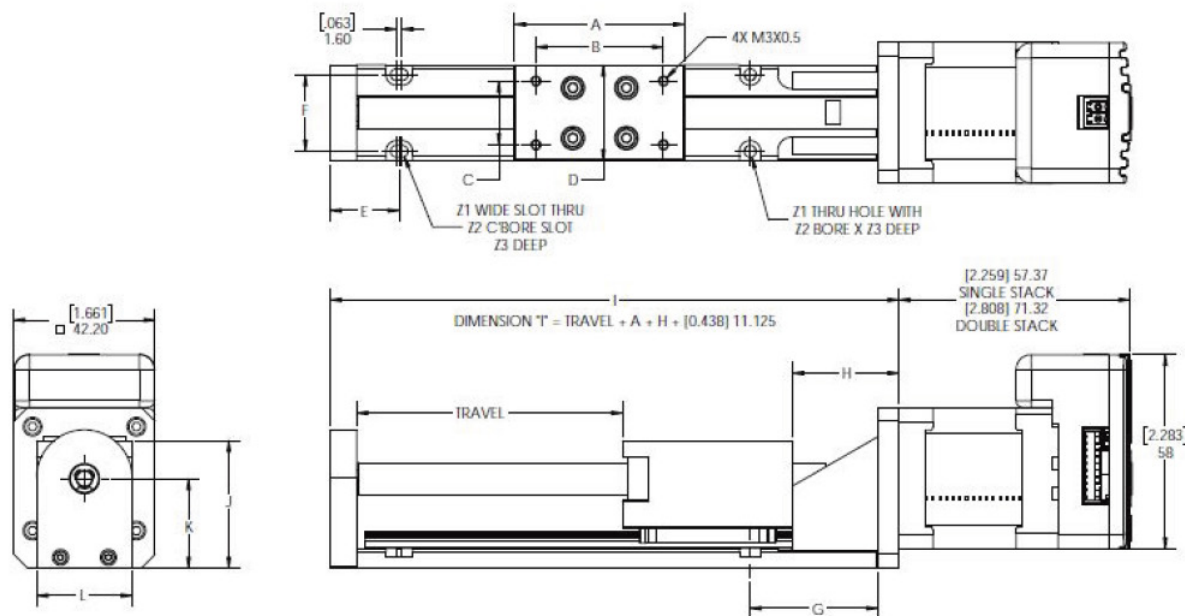
* Dimension "I" is a function of required travel distance.

Dimensions = (inches) mm



...with IDEA™ Drive

Dimensions = (inches) mm



Single Stack

Size 17: 43 mm (1.7-in) Hybrid Linear Actuator (1.8° Step Angle)

Wiring	Bipolar			Unipolar**	
Programmable Drive	IDEA™ Drive Option Available			Not Applicable	
Winding Voltage	2.33 VDC	5 VDC	12 VDC	5 VDC	12 VDC
Current (RMS)/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 ²				
Insulation Class	Class B (Class F available)				
Weight	8.5 oz (241 g)				
Insulation Resistance	20 M Ω				

* 43000 Series Single Stack with IDEA programmable drive. Contact Haydon Kerk if higher voltage motor is desired.

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

Size 17 External Linear

Size 17 External Linear
with programmable IDEA Drive

IDEA™ Drive software is simple to use with on-screen buttons and easy-to-understand programming guides.

- Fully Programmable
- RoHS Compliant
- USB or RS-485 Communication
- Microstepping Capability – Full, 1/2, 1/4, 1/8, 1/16, 1/32, 1/64
- Graphic User Interface
- Auto-population of Drive Parameters
- Programmable Acceleration/Deceleration and Current Control

For more information see the [IDEA™ Drive Data Sheet](#)

Double Stack

Size 17 Double Stack: 43 mm (1.7-in) Hybrid Linear Actuator (1.8° Step Angle)

Wiring	Bipolar		
Programmable Drive	IDEA™ Drive Option Available		
Winding Voltage	2.33 VDC	5 VDC	12 VDC
Current (RMS)/phase	2.6 A	1.3 A	550 mA
Resistance/phase	0.9 Ω	3.8 Ω	21.9 Ω
Inductance/phase	1.33 mH	8.21 mH	45.1 mH
Power Consumption	13.2 W		
Rotor Inertia	78 gcm ²		
Insulation Class	Class B (Class F available)		
Weight	12.5 oz (352 g)		
Insulation Resistance	20 M Ω		

* 43000 Series Single Stack with IDEA programmable drive. Contact Haydon Kerk if higher voltage motor is desired.

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

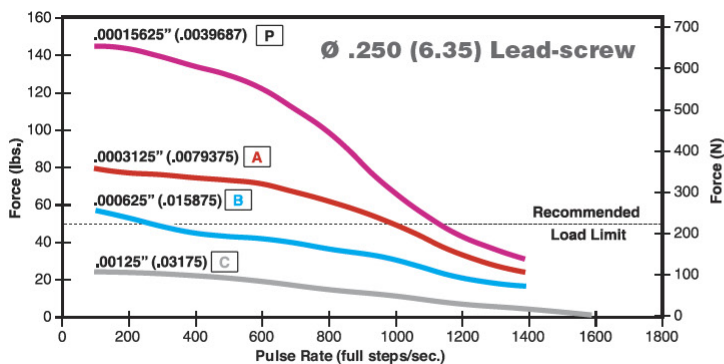
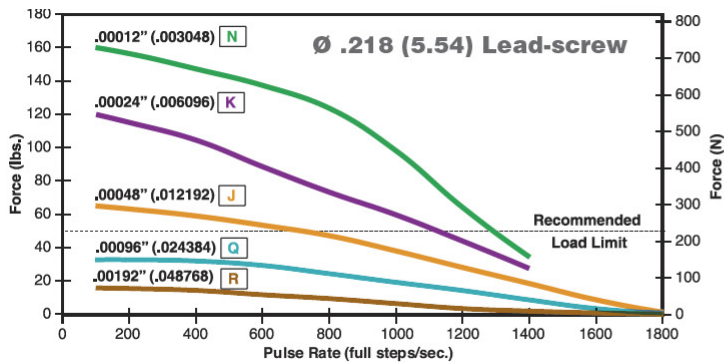
Size 17 Double Stack
External Linear

Double Stack

■ 43000 Series Size 17 Linear Actuator

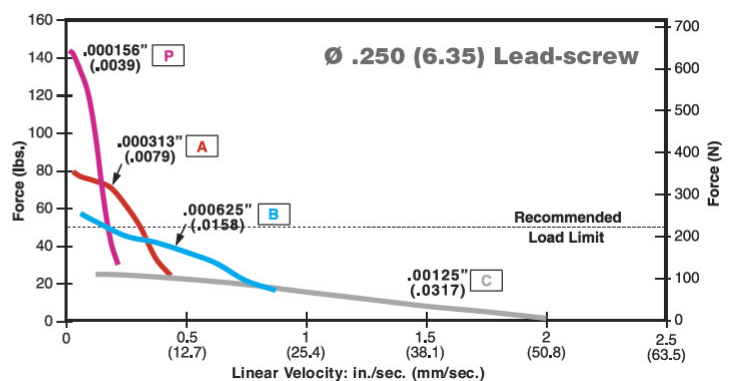
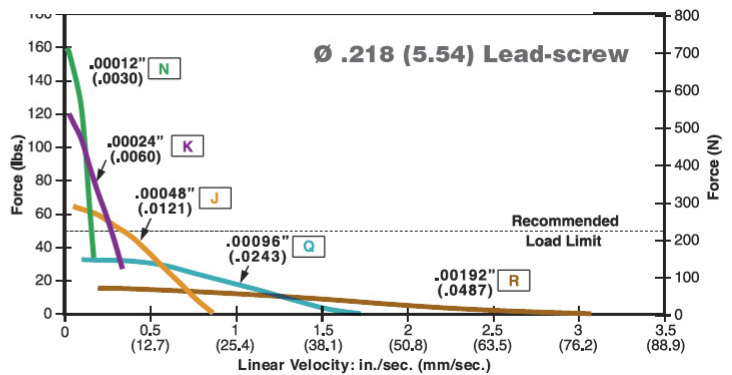
FORCE vs. PULSE RATE

– Chopper – Bipolar – 100% Duty Cycle



FORCE vs. LINEAR VELOCITY

– Chopper – Bipolar – 100% Duty Cycle

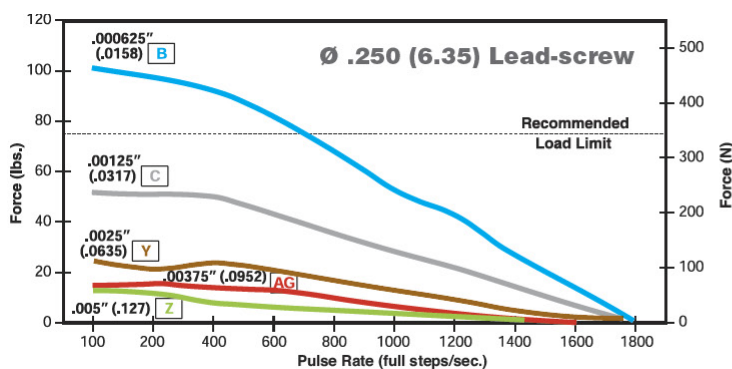


Double Stack

■ 43000 Series Size 17 Linear Actuator

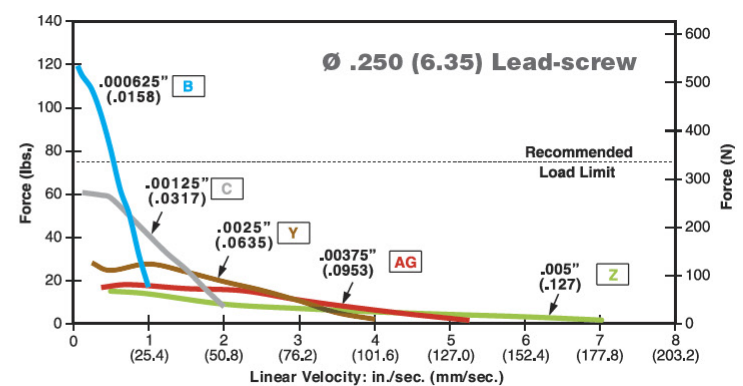
FORCE vs. PULSE RATE

– Chopper – Bipolar – 100% Duty Cycle



FORCE vs. LINEAR VELOCITY

– Chopper – Bipolar – 100% Duty Cycle



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.

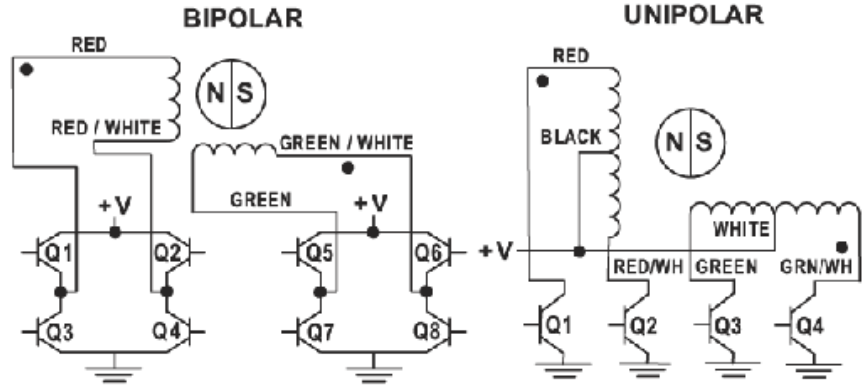
■ 28000 Series Size 11 and 43000 Series Size 17 Linear Actuators

Hybrids: Stepping Sequence

Hybrids: Wiring

Bipolar	Q2-Q3	Q1-Q4	Q6-Q7	Q5-Q8
Unipolar	Q1	Q2	Q3	Q4
Step				
1	ON	OFF	ON	OFF
2	OFF	ON	ON	OFF
3	OFF	ON	OFF	ON
4	ON	OFF	OFF	ON
1	ON	OFF	ON	OFF

Note: Half stepping is accomplished by inserting an off state between transitioning phases.



Size 17 43000 Series • Integrated Connectors



Hybrid Size 17 linear actuators are available with an integrated connector. Offered alone or with a harness assembly, this connector is RoHS compliant and features a positive latch in order for high connection integrity. The connector is rated up to 3 amps and the mating connector will handle a range of wire gauges from 22 to 28. This motor is ideal for those that want to plug in directly to pre existing harnesses. In addition to standard configurations, Haydon Kerk Motion Solutions can custom design this motor to meet your specific application requirements.

Motor Connector:
Mating Connector:

Wire to Board Connector:

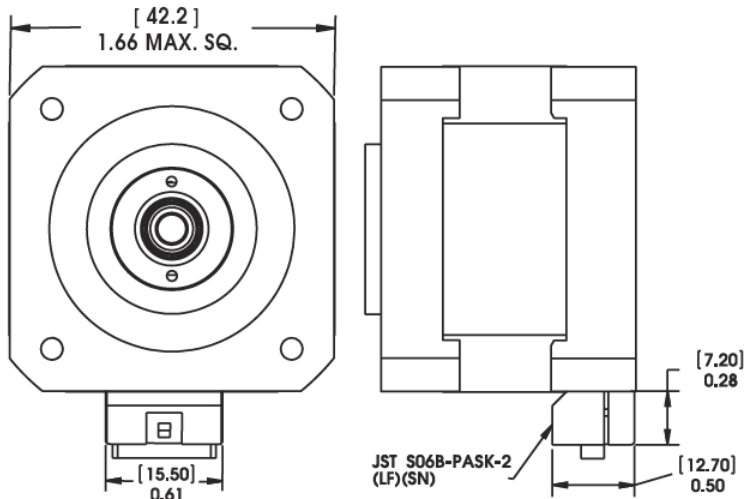
JST part # S06B-PASK-2
JST part # PAP-06V-S
Haydon Kerk Part #56-1210-5 (12 in. Leads)
JST part number SPHD-001T-P0.5

Pin #	Bipolar	Unipolar	Color
1	Phase 2 Start	Phase 2 Start	G/W
2	Open	Phase 2 Common	-
3	Phase 2 Finish	Phase 2 Finish	Green
4	Phase 1 Finish	Phase 1 Finish	R/W
5	Open	Phase 1 Common	-
6	Phase 1 Start	Phase 1 Start	Red

Dimensional Drawing

■ 43000 Series Size 17 Linear Actuator with Integrated Connector

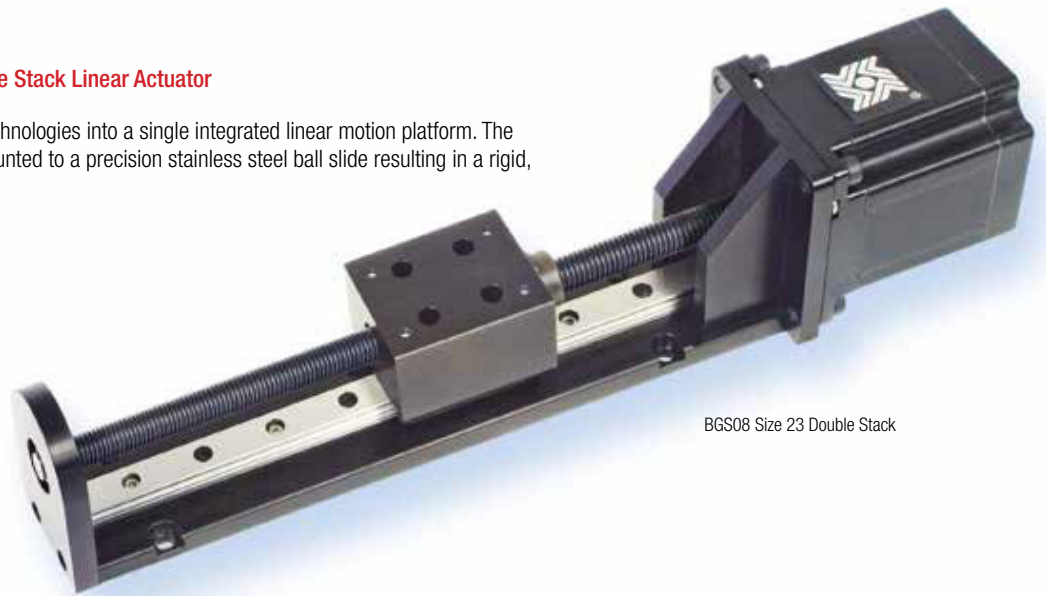
Dimensions = (mm) inches



BGS08™ Linear Rail

with Hybrid 57000 Series Size 23 Single or Double Stack Linear Actuator

This BGS™ heavy-duty linear rail combines many technologies into a single integrated linear motion platform. The lead screw drives a machined aluminum carriage mounted to a precision stainless steel ball slide resulting in a rigid, smooth-operating motion system.



BGS08 Size 23 Double Stack

■ Specifications: BGS08

BGS with Hybrid Linear Actuator Motor	Size 23 Single and Double Stack
Max. Stroke Length	30 in (760 mm)
Max. Load (horizontal)	225 lbs (1,000 N)
Roll Moment	22.5 lbs-ft (30.5 Nm)
Pitch Moment	19.36 lbs-ft (26.25 Nm)
Yaw Moment	22.27 lbs-ft (30.20 Nm)

Nominal Thread Lead		Lead Code
inches	mm	
0.098	2.50	0098
0.100	2.54	0100
0.197	5.00	0197
0.200	5.08	0200
0.500	12.70	0500
0.630	16.00	0630
1.000	25.40	1000

To determine what is best for your application see the [Linear Rail Applications Checklist](#).

■ Identifying the BGS Part Number Codes when Ordering

BG	S	08	B	M	0025	XXX
Prefix	Frame Style	Frame Size Load*	Lubrication	Drive / Mounting	Nominal Thread Lead Code	Unique Identifier
BG = Ball Guide System	S = Standard	08 = Max.static load 225 lbs (1,000 N)	B = TFE wear resist, dry lubricant Black Ice®	M = Motorized	0197 = .197-in (5.0) (see Lead Code charts above)	Proprietary suffix assigned to a specific customer application. The identifier can apply to either a standard or custom part.

NOTE: Dashes must be included in Part Number (–) as shown above. For assistance call our Engineering Team at 603 213 6290.

Carriage holes available in Metric sizes M5 and M6

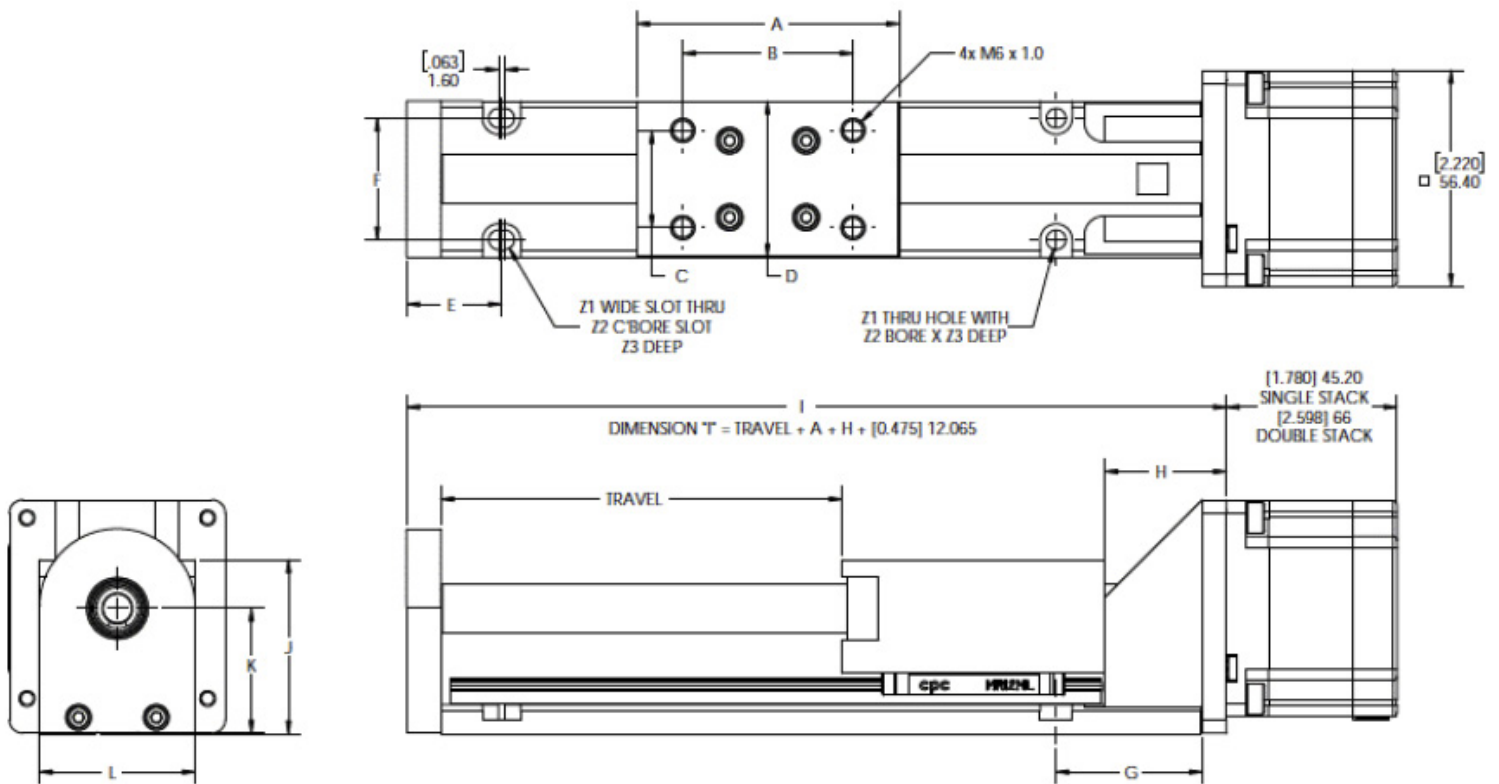
■ BGS08 Linear Rail with Hybrid 57000 Size 23 Linear Motors

Recommended for horizontal loads up to 225 lbs (1,000 N)

	A	B	C	D	E	F	G	H	I	J	K	L	Z1	Z2	Z3
(inch)	(2.70)	(1.75)	(1.00)	1.60	(0.98)	(1.25)	(1.50)	(1.25)	*	(1.79)	(1.29)	(1.60)	(0.20)	(0.33)	(0.19)
mm	68.58	44.45	25.40	40.64	24.89	31.75	38.10	31.85	*	45.39	32.69	40.64	5.1	8.4	4.8

* Dimension "I" is a function of required travel distance.

Dimensions = (inches) mm



Single Stack

Size 23: 57 mm (2.3-in) Hybrid Linear Actuator (1.8° Step Angle)

Wiring	Bipolar			Unipolar**	
Winding Voltage	3.25 VDC	5 VDC	12 VDC	5 VDC	12 VDC
Current (RMS)/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 M Ω				

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



Size 23 Single Stack External Linear

Double Stack

Size 23 Double Stack: 57 mm (2.3-in) Hybrid Linear Actuator (1.8° Step Angle)

Wiring	Bipolar		
Winding Voltage	3.25 VDC	5 VDC	12 VDC
Current (RMS)/phase	3.85 A	2.5 A	1 A
Resistance/phase	0.98 Ω	2.0 Ω	12.0 Ω
Inductance/phase	2.3 mH	7.6 mH	35.0 mH
Power Consumption	25 W Total		
Rotor Inertia	321 gcm ²		
Insulation Class	Class B (Class F available)		
Weight	32 oz (958 g)		
Insulation Resistance	20 M Ω		



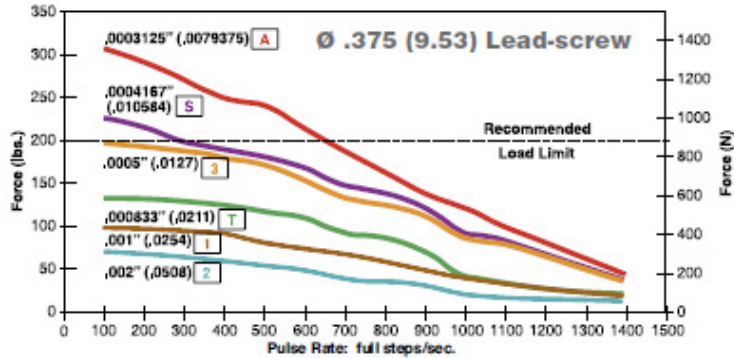
Size 23 Double Stack External Linear

Single Stack

57000 Series Size 23 Linear Actuator

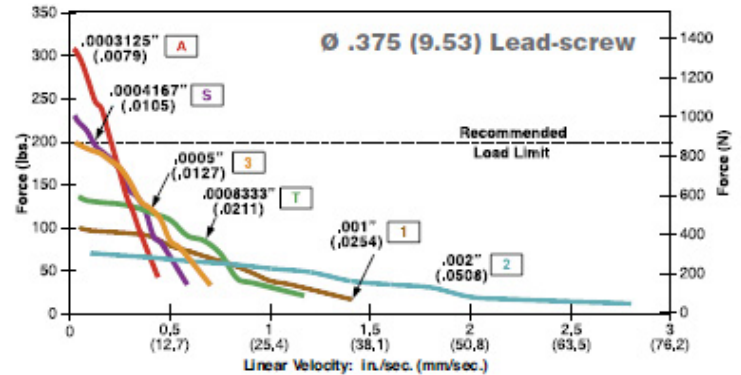
FORCE vs. PULSE RATE

– Chopper – Bipolar – 100% Duty Cycle



FORCE vs. LINEAR VELOCITY

– Chopper – Bipolar – 100% Duty Cycle

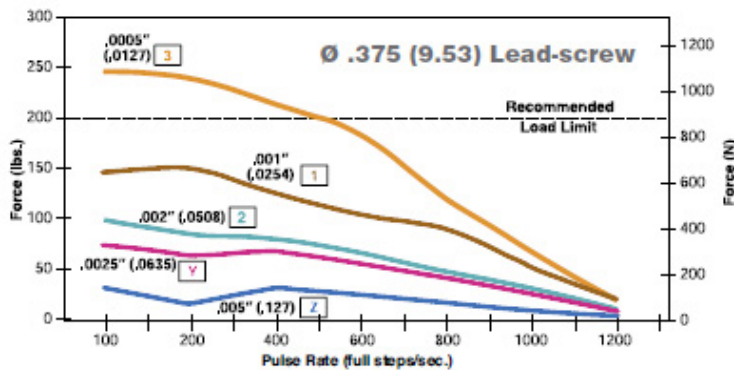


Double Stack

57000 Series Size 23 Linear Actuator

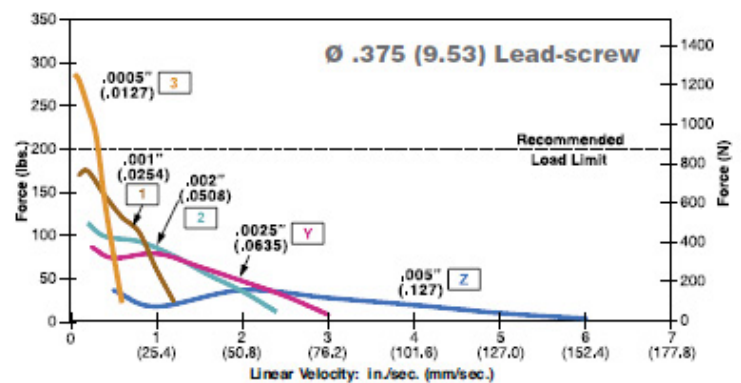
FORCE vs. PULSE RATE

– Chopper – Bipolar – 100% Duty Cycle



FORCE vs. LINEAR VELOCITY

– Chopper – Bipolar – 100% Duty Cycle



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.

Size 23 57000 Series • Stepping Sequence & Wiring

57000 Series Size 23 Linear Actuator

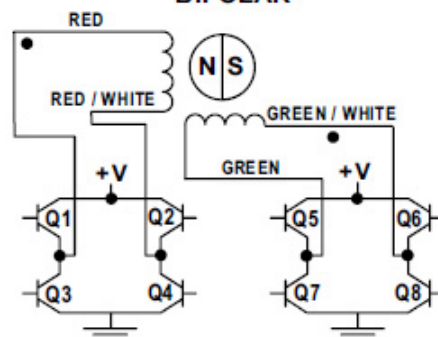
Hybrids: Wiring

Hybrids: Stepping Sequence

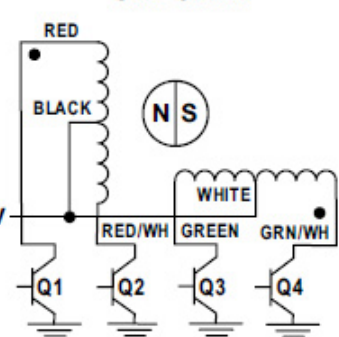
	Bipolar	Q2-Q3	Q1-Q4	Q6-Q7	Q5-Q8
Unipolar		Q1	Q2	Q3	Q4
Step					
1	ON	OFF	ON	OFF	
2	OFF	ON	ON	OFF	
3	OFF	ON	OFF	ON	
4	ON	OFF	OFF	ON	
1	ON	OFF	ON	OFF	

Note: Half stepping is accomplished by inserting an off state between transitioning phases.

BIPOLAR



UNIPOLAR



EGS04 Motorized with 28000 Series

Linear Rail with Size 11 Double Stack Hybrid Stepper

Designed for Lab Automation and Electronic Assembly customers who need high-speed and highly-efficient point-to-point motion. This low-profile stage combines our patented screw support system, which allows for extended travel stroke without the normal reduction in screw RPM, with a ball bearing profile rail. The motorized EGS04 Linear Rail is available with either size 11 or size 17 hybrid stepper motors (see page 3). Standard carriage option is designed for horizontal loads up to 67 N (15 lbs.), and a long carriage option is available for higher loads.

- Low-profile
- High speed capability
- Efficient, stiff load support




EGS04 Motorized
Size 11 28000 Series

Specifications			
Design Payload (mass)	6.8kg [15 lbs]	Pitch Moment*	5.25 N-m [46 lbf-in]
Axial Force	133N [30 lbf]	Yaw Moment*	3 N-m [26 lbf-in]
Roll Moment*	3.1 N-m [27 lbf-in]	Repeatability	+/-25µm [0.001 in]

* Moment data based on 0.25° deflection

Identifying the Motorized EGS Part Numbers when Ordering

EGS	04	K	M	0100	E	S	M	Axx
Prefix EGS = EGS Series	Nominal Rail Size 04 = .25 in (6.35mm) diameter screw	Screw Coating / Grease K = Kerkote (standard) S = Uncoated	Drive Type M = Motorized, stepper	Lead Code 0025 = 0.025" lead 0039 = 1mm lead 0050 = 0.050" lead 0063 = 0.0625" lead 0079 = 2mm lead 0100 = 0.100" lead 0118 = 3mm lead 0200 = 0.200" lead 0250 = 0.250" lead 0394 = 10mm lead 0500 = 0.500" lead 0750 = 0.750" lead 1000 = 1.00" lead	Encoder / Feedback E = Rotary encoder X = No encoder	Carriage(s) S = Standard L = Long M = Multiple (std or long)	Carriage Mounting E = Imperial M = Metric	Stroke / Unique Identifier Axx = Unique identifier (e.g. A01)



NOTE: Dashes must be included in Part Number (-) as shown above. For assistance call our Engineering Team at 603 213 6290. Carriage holes available in M3x0.5 or #4-40

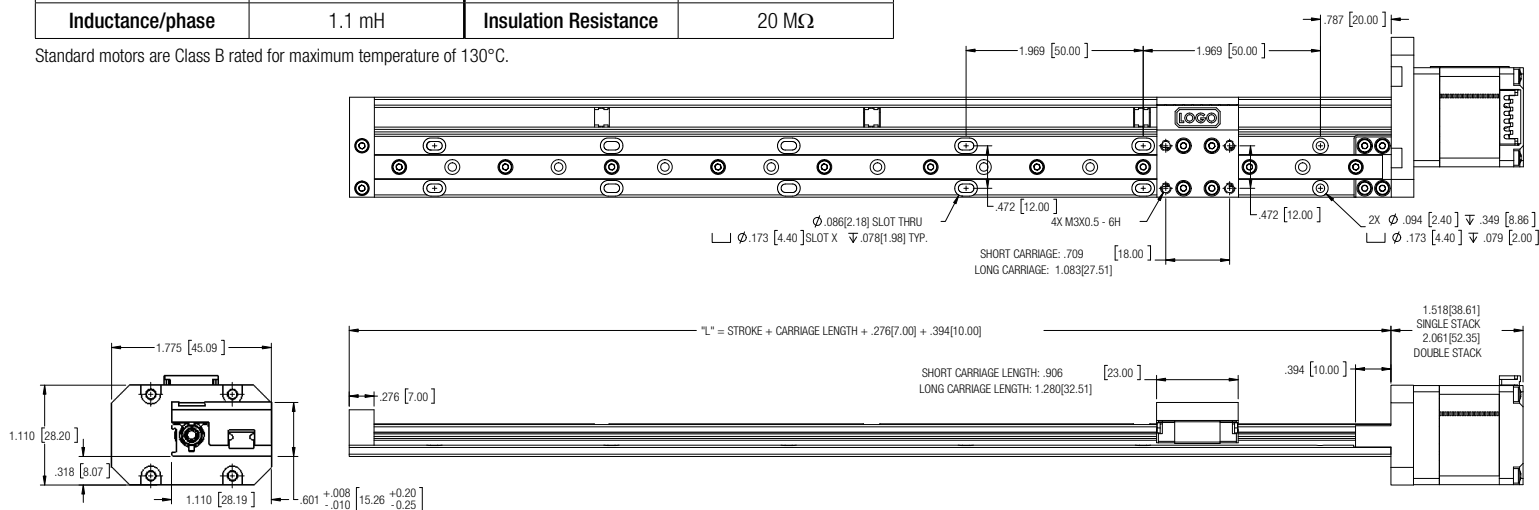
Size 11 Double Stack: 28 mm (1.1-in) Hybrid External Linear Actuator (1.8° Step Angle)

Wiring	Bipolar	Power Consumption	7.5 W Total
Winding Voltage	2.1 VDC	Rotor Inertia	13.5 gcm ²
Current (RMS)/phase	1.9 A	Insulation Class	Class B (Class F available)
Resistance/phase	1.1 Ω	Weight	5.8 oz (180 g)
Inductance/phase	1.1 mH	Insulation Resistance	20 MΩ

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

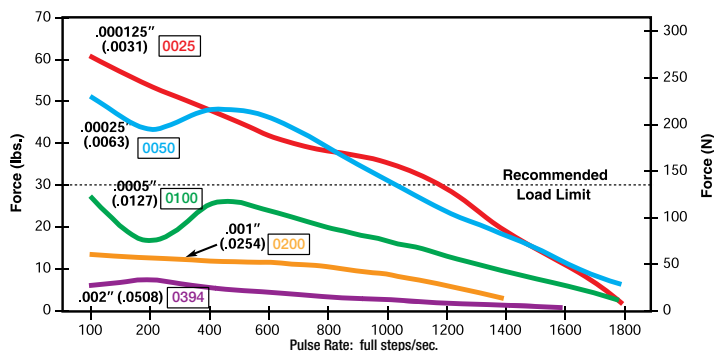


Size 11 Double Stack
28000 Series
External Linear Actuator



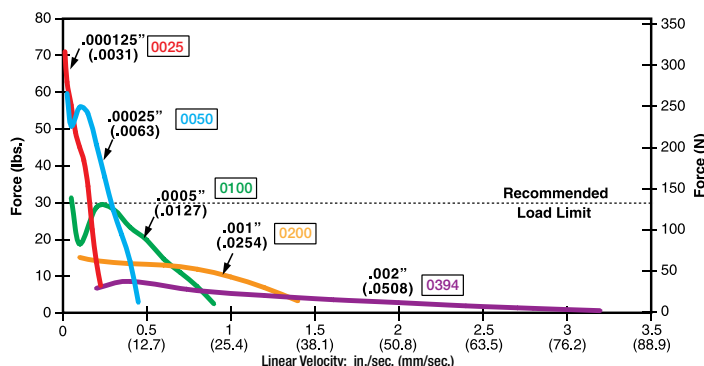
FORCE vs. PULSE RATE

— Chopper — Bipolar — 100% Duty Cycle



FORCE vs. LINEAR VELOCITY

— Chopper — Bipolar — 100% Duty Cycle



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.

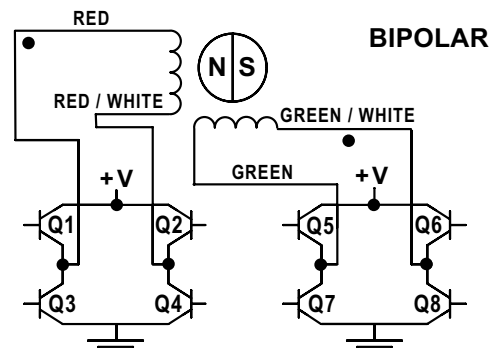
Size 11 28000 Series • Stepping Sequence & Wiring

Hybrids: Stepping Sequence

	Bipolar	Q2-Q3	Q1-Q4	Q6-Q7	Q5-Q8
Step					
1	ON	ON	OFF	ON	OFF
2	OFF	OFF	ON	ON	OFF
3	OFF	OFF	ON	OFF	ON
4	ON	ON	OFF	OFF	ON
1	ON	ON	OFF	ON	OFF

Note: Half stepping is accomplished by inserting an off state between transitioning phases.

Hybrids: Wiring



Size 11 28000 Series • Integrated Connector

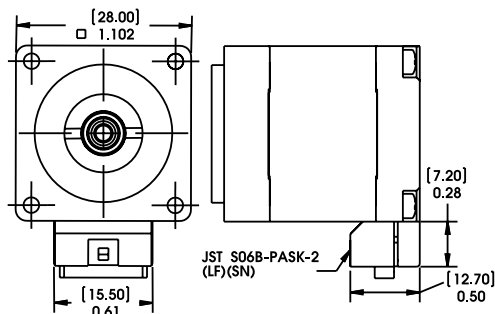
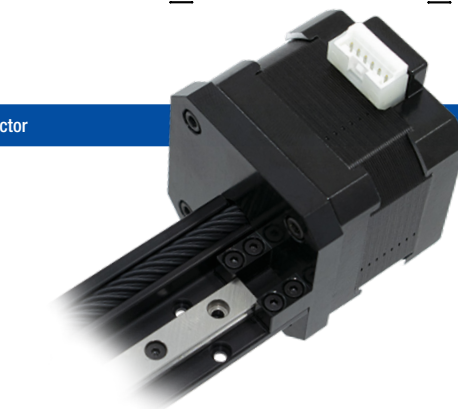
Offered alone or with a harness assembly, the integrated connector is RoHS compliant and features a positive latch in order for high connection integrity. The connector is rated up to 3 amps and the mating connector will handle a range of wire gauges from 22 to 28. Ideal for those that want to plug in directly to pre-existing harnesses.

Motor Connector: JST part # S06B-PASK-2

Mating Connector: JST part # PAP-06V-S
Haydon Kerk part # 56-1210-5 (12 in. Leads)

Wire to Board Connector: JST part # SPHD-001T-P0.5

Pin #	Bipolar	Unipolar	Color
1	Phase 2 Start	Phase 2 Start	G/W
2	Open	Phase 2 Common	—
3	Phase 2 Finish	Phase 2 Finish	Green
4	Phase 1 Finish	Phase 1 Finish	R/W
5	Open	Phase 1 Common	—
6	Phase 1 Start	Phase 1 Start	Red



EGS04 Motorized with 43000 Series

Linear Rail with Size 17 Single or Double Stack Hybrid Stepper

This low-profile stage combines our patented screw support system, which allows for extended travel stroke without the normal reduction in screw RPM, with a ball bearing profile rail. The motorized EGS04 Linear Rail is available with size 17 hybrid stepper motors. Standard carriage option is designed for horizontal loads up to 67 N (15 lbs.), and a long carriage option is available for higher loads.

- Low-profile
- High speed capability
- Efficient, stiff load support



EGS04 Motorized
Size 17 43000 Series

Identifying the Motorized EGS Part Numbers when Ordering

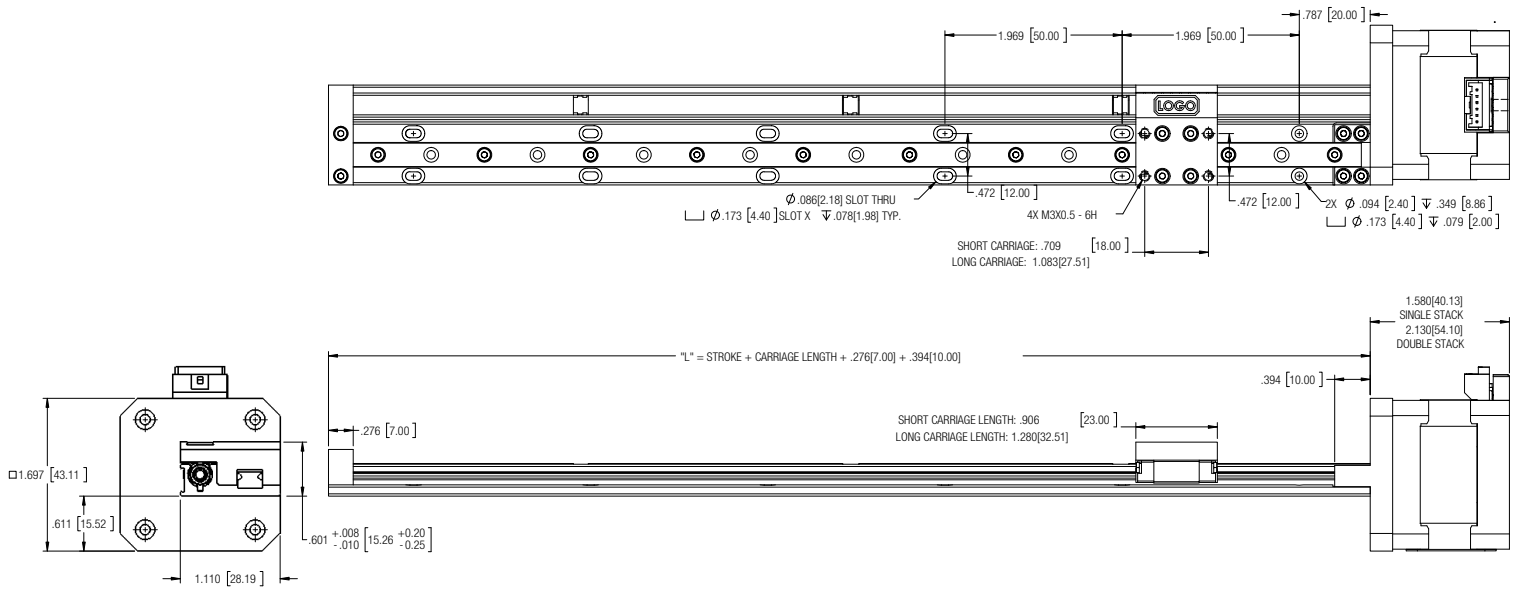
EGS	04	K	M	0100	E	S	M	Axx
Prefix EGS = EGS Series	Nominal Rail Size 04 = .25 in (6.35mm) diameter screw	Screw Coating / Grease K = Kerkote (standard) S = Uncoated	Drive Type M = Motorized, stepper	Lead Code 0025 = 0.025" lead 0039 = 1mm lead 0050 = 0.050" lead 0063 = 0.0625" lead 0079 = 2mm lead 0100 = 0.100" lead 0118 = 3mm lead 0200 = 0.200" lead 0250 = 0.250" lead 0394 = 10mm lead 0500 = 0.500" lead 0750 = 0.750" lead 1000 = 1.00" lead	Encoder / Feedback E = Rotary encoder X = No encoder	Carriage(s) S = Standard L = Long M = Multiple (std or long)	Carriage Mounting E = Imperial M = Metric	Stroke / Unique Identifier Axx = Unique identifier (e.g. A01)

NOTE: Dashes must be included in Part Number (–) as shown above. For assistance call our Engineering Team at 603 213 6290. Carriage holes available in M3x0.5 or #4-40.

Size 17: 43 mm (1.7-in) External Linear Actuator (1.8° Step Angle)								
	Single Stack					Double Stack		
Wiring	Bipolar			Unipolar**		Bipolar		
Winding Voltage	2.33 VDC [†]	5 VDC	12 VDC	5 VDC	12 VDC	2.33 VDC [†]	5 VDC	12 VDC
Current (RMS)/phase	1.5 A	700 mA	290 mA	700 mA	290 mA	2.6 A	1.3 A	550 mA
Resistance/phase	1.56 Ω	7.2 Ω	41.5 Ω	7.2 Ω	41.5 Ω	0.9 Ω	3.8 Ω	21.9 Ω
Inductance/phase	1.9 mH	8.7 mH	54.0 mH	4.4 mH	27.0 mH	1.33 mH	8.21 mH	45.1 mH
Power Consumption	7 W					13.2 W		
Rotor Inertia	37 gcm ²					78 gcm ²		
Insulation Class	Class B (Class F available)					Class B (Class F available)		
Weight	8.5 oz (241 g)					12.5 oz (352 g)		
Insulation Resistance	20 MΩ					20 MΩ		

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





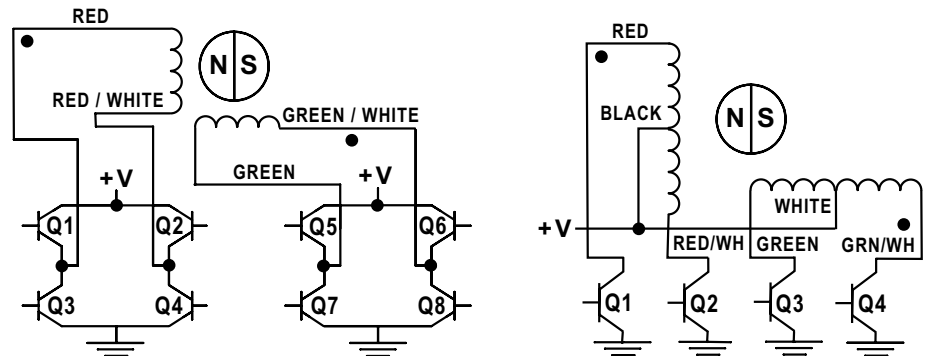
Size 17 43000 Series • Stepping Sequence & Wiring

Hybrids: **Stepping Sequence**

Bipolar	Q2-Q3	Q1-Q4	Q6-Q7	Q5-Q8
Unipolar	Q1	Q2	Q3	Q4
Step				
1	ON	OFF	ON	OFF
2	OFF	ON	ON	OFF
3	OFF	ON	OFF	ON
4	ON	OFF	OFF	ON
1	ON	OFF	ON	OFF

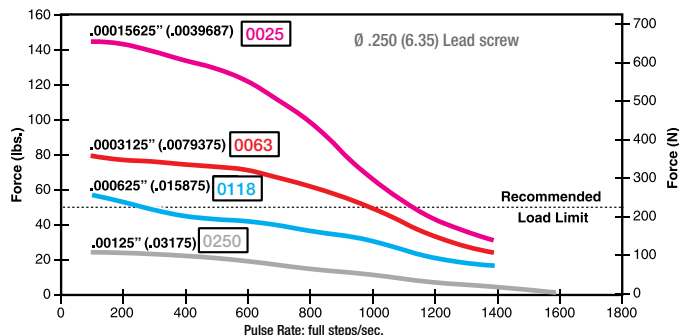
Note: Half stepping is accomplished by inserting an off state between transitioning phases.

Hybrids: **Wiring**



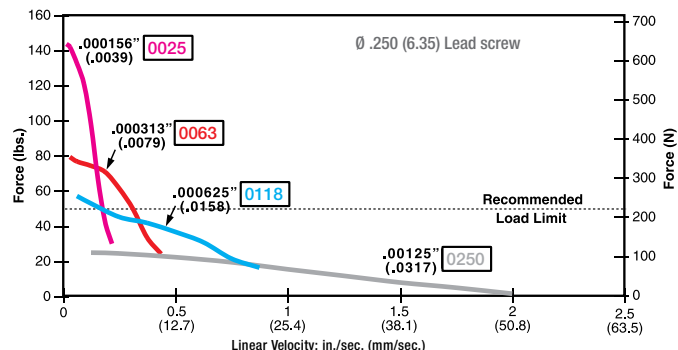
FORCE vs. PULSE RATE

– Chopper – Bipolar – 100% Duty Cycle



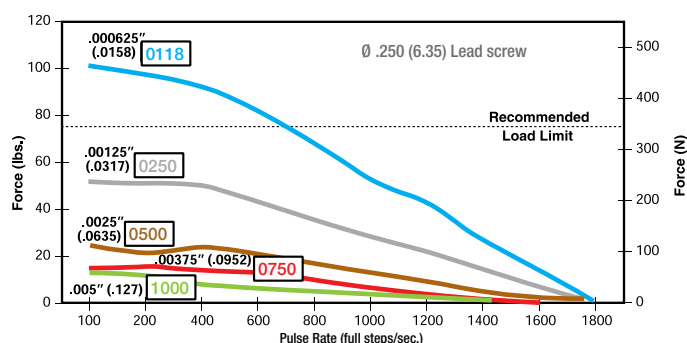
FORCE vs. LINEAR VELOCITY

– Chopper – Bipolar – 100% Duty Cycle



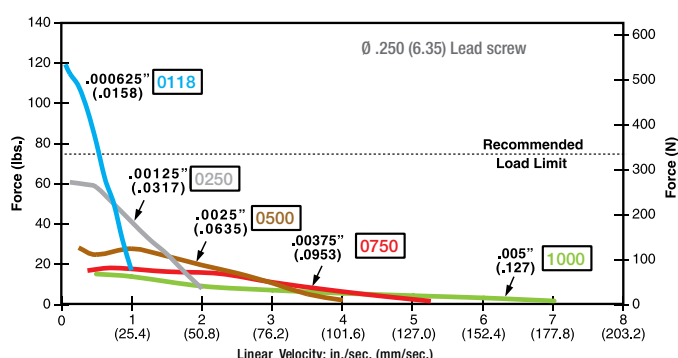
FORCE vs. PULSE RATE

– Chopper – Bipolar – 100% Duty Cycle



FORCE vs. LINEAR VELOCITY

– Chopper – Bipolar – 100% Duty Cycle



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.

Size 17 47000 Series • Integrated Connector

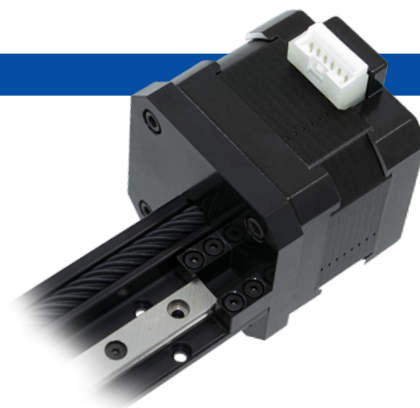
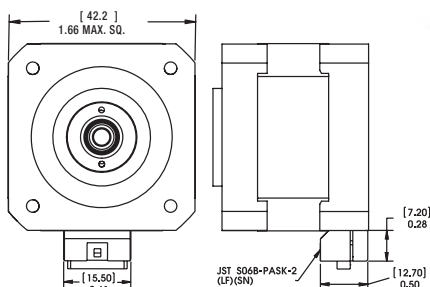
Offered alone or with a harness assembly, the integrated connector is RoHS compliant and features a positive latch in order for high connection integrity. The connector is rated up to 3 amps and the mating connector will handle a range of wire gauges from 22 to 28. Ideal for those that want to plug in directly to pre-existing harnesses.

Motor Connector: JST part # S06B-PASK-2

Mating Connector: JST part # PAP-06V-S
Haydon Kerk part # 56-1210-5 (12 in. Leads)

Wire to Board Connector: JST part # SPHD-001T-P0.5

Pin #	Bipolar	Unipolar	Color
1	Phase 2 Start	Phase 2 Start	G/W
2	Open	Phase 2 Common	–
3	Phase 2 Finish	Phase 2 Finish	Green
4	Phase 1 Finish	Phase 1 Finish	R/W
5	Open	Phase 1 Common	–
6	Phase 1 Start	Phase 1 Start	Red

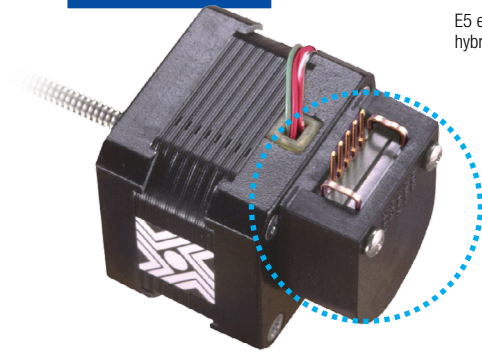


Encoders Designed for All EGS Rails

EGS Series rails are available with specifically designed encoders for applications that require feedback. The compact optical incremental encoder designs are available with two channel quadrature TTL squarewave outputs. Version with Index channel are also available. Various resolutions are available, up to 5000 CPR.

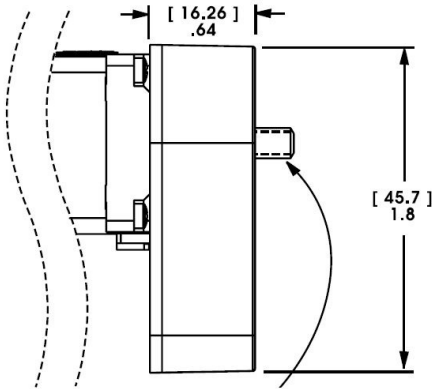
Simplicity and low cost make the encoders ideal for both high and low volume motion control applications. The internal monolithic electronic module converts the real-time shaft angle, speed, and direction into TTL compatible outputs. The encoder modules incorporate a lensed LED light source and monolithic photodetector array with signal shaping electronics to produce the two channel bounceless TTL outputs.

E5 encoder on Size 17 hybrid motor

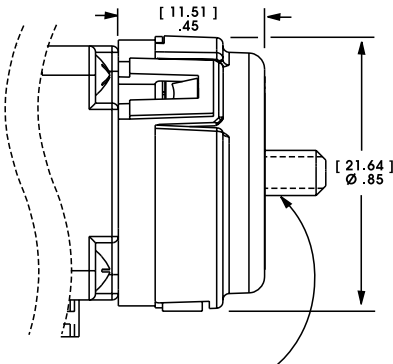


E5 Encoder Dimensions

Dimensions = [mm] inches



E4T Encoder Dimensions



Electrical Specifications

	Minimum	Typical	Maximum	Units
Input Voltage	4.5	5.0	5.5	VDC
Output Signals	4.5	5.0	5.5	VDC

2 channel quadrature TTL squarewave outputs.

Channel B leads A for a clockwise rotation of the rotor viewed from the encoder cover.

Tracks at speeds of 0 to 100,000 cycles/sec.

Index available on E4T.

Operating Temperature

	Minimum	Maximum
E4T	- 20°C (- 28°F)	100°C (212°F)
E5	- 20°C (- 40°F)	100°C (212°F)

Mechanical Specifications

	Maximum
Acceleration	250,000 rad/sec ²
Vibration (5 Hz to 2 kHz)	20 g

Resolution

	Standard Resolutions (CPR)			Maximum (CPR)
E4T	200	400	1000	1000
E5	200	400	1000	5000

*Other Resolutions Available - Contact Factory

Pinouts

E4T Single-Ended		E4T Differential		E5 Single-Ended		E5 Differential	
Connector Pin#	Description	Connector Pin#	Description	Connector Pin#	Description	Connector Pin #	Description
1	+5VDC power	1	Ground	1	Ground	1	Ground
2	A channel	2	A channel	2	Index	2	Ground
3	Ground	3	A- channel	3	A channel	3	Index-
4	B channel	4	+5VDC power	4	+5VDC power	4	Index+
		5	B channel	5	B channel	5	A- channel
		6	B- channel			6	A+ channel
						7	+5 VDC Power
						8	+5 VDC Power
						9	B- channel
						10	B+ channel

EGS04 Motorized with BLDC

Linear Rail with BLDC Motor

This low-profile stage features screw support with a ball bearing profile rail. The motorized EGS04 Linear Rail is available with a 42mm brushless DC (BLDC) servo motor for high speed applications. Standard configuration is a single stack EC042B with 1000cpr E30D encoder included. Recommended for horizontal loads up to 15 lbs (67N).

- Low-profile
- High speed capability
- Efficient, stiff load support

Refer to [EC042B data sheet](#) for complete motor specifications.



EGS04 Motorized
BLDC Motor

Identifying the Motorized EGS Part Numbers when Ordering

EGS	04	K	P	0100	E	S	M	Axx
Prefix EGS = EGS Series	Nominal Rail Size 04 = .25 in (6.35mm) diameter screw	Screw Coating / Grease K = Kerkote (standard) S = Uncoated	Drive Type P = Motorized BLDC Q = Integrated drive, BLDC	Lead Code* 0025, 0039, 0050, 0063, 0079, 0100, 0118, 0200, 0250, 0394, 0500, 0750, 1000	Encoder / Feedback E = Rotary encoder X = No encoder	Carriage(s) S = Standard L = Long M = Multiple (std or long)	Carriage Mounting E = Imperial M = Metric	Stroke / Unique Identifier Axx = Unique identifier (e.g. A01)

* Refer to page 1 or 3 for coordinating lead resolutions.

NOTE: Dashes must be included in Part Number (-) as shown above. For assistance call our Engineering Team at 603 213 6290. Carriage holes available in M3x0.5 or #4-40.

Motor Data		EC042B-1
Max DC Terminal Voltage	V_T	96 V
Max Speed (Mechanical)	ω_{MAX}	9000 rpm
Continuous Stall Torque ¹	T_{CS}	0.064 Nm / 9.0 oz-in
Peak Torque (Maximum) ¹	T_{pk}	0.38 Nm / 54 oz-in
Coulomb Friction Torque	T_f	0.0014 Nm / 0.20 oz-in
Viscous Damping Factor	D	3.4E-06 V/(rad/s) / 0.050 oz-in/krpm
Thermal Time Constant	τ_{th}	5.1 min
Thermal Resistance	R_{th}	9.1 °C/W
Max. Winding Temperature	ϕ_{MAX}	105 °C
Rotor Inertia	J_r	1.4E-05 kg-m ² / 0.0021 oz-in-s ²
Motor Weight	W_m	340 g / 12 oz

¹Recorded at maximum winding temperature at 25°C ambient and without heatsink.



EC042B motor

