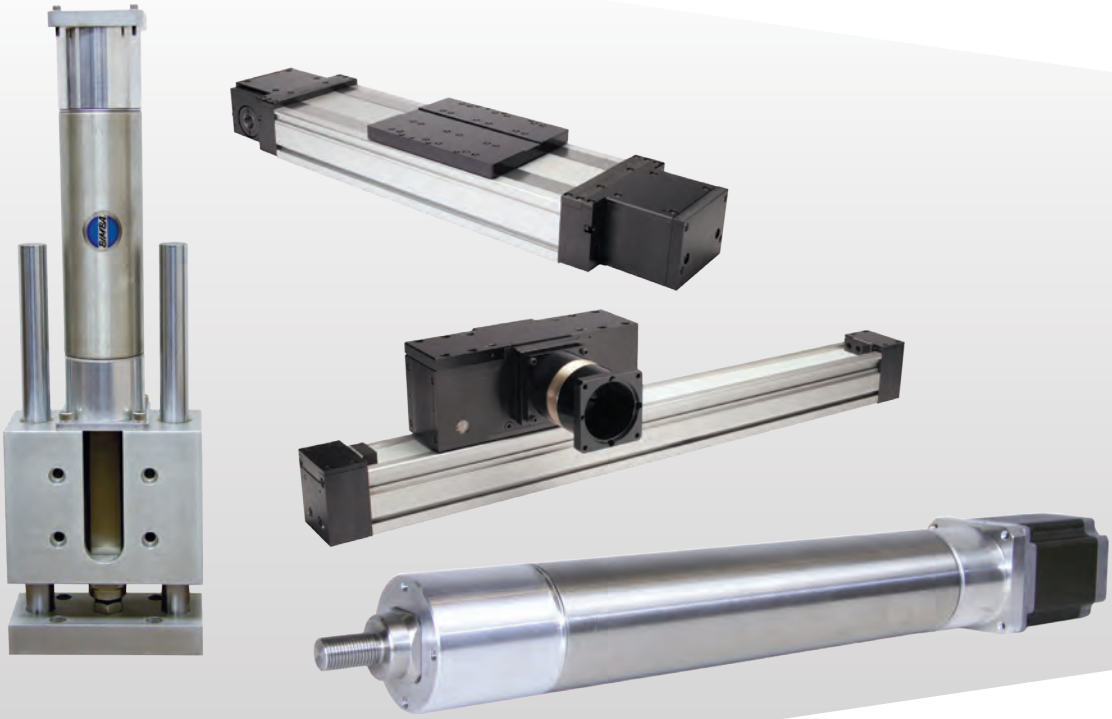


We make things MOVE®

Electric Actuators and Linear Robots Catalog

Bimba is part of IMI Precision Engineering

Contents

We Make Things Move®

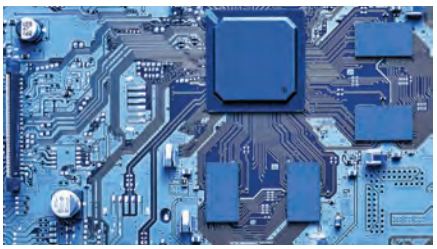
A forward-thinking innovator, Bimba provides industry-leading pneumatic, hydraulic and electric motion solutions that are easy-to-use, reliable and ready for your engineering challenges.

Doing whatever it takes to help you get the job done is what the Bimba companies do best. With an extensive line of industry-leading air cylinders, rotary actuators, linear thrusters, rodless cylinders, NFPA, hydraulics, flow controls, position-sensing cylinders, valves, switches and air preparation equipment, the people of Bimba are ready to tackle your toughest applications.

Bimba is part of IMI Precision Engineering, a world leader in motion and fluid control technologies. Wherever precision, speed and engineering reliability are essential, we deliver exceptional solutions which improve the productivity and efficiency of customers' equipment.

Our range of high-performance products, such as actuators, valves, valve islands, pressure monitoring controls and air preparation products together with trusted products brands including IMI Norgren, IMI Buschjost, IMI FAS, IMI Herion and IMI Maxseal underpin our position as a leading global supplier.

Part of IMI plc, we have a sales and service network in 50 countries, as well as manufacturing capability in the USA, Germany, China, UK, Switzerland.



Leaders In Actuation

Thousands of solutions. Thousands of configurations. Endless applications.

Solutions

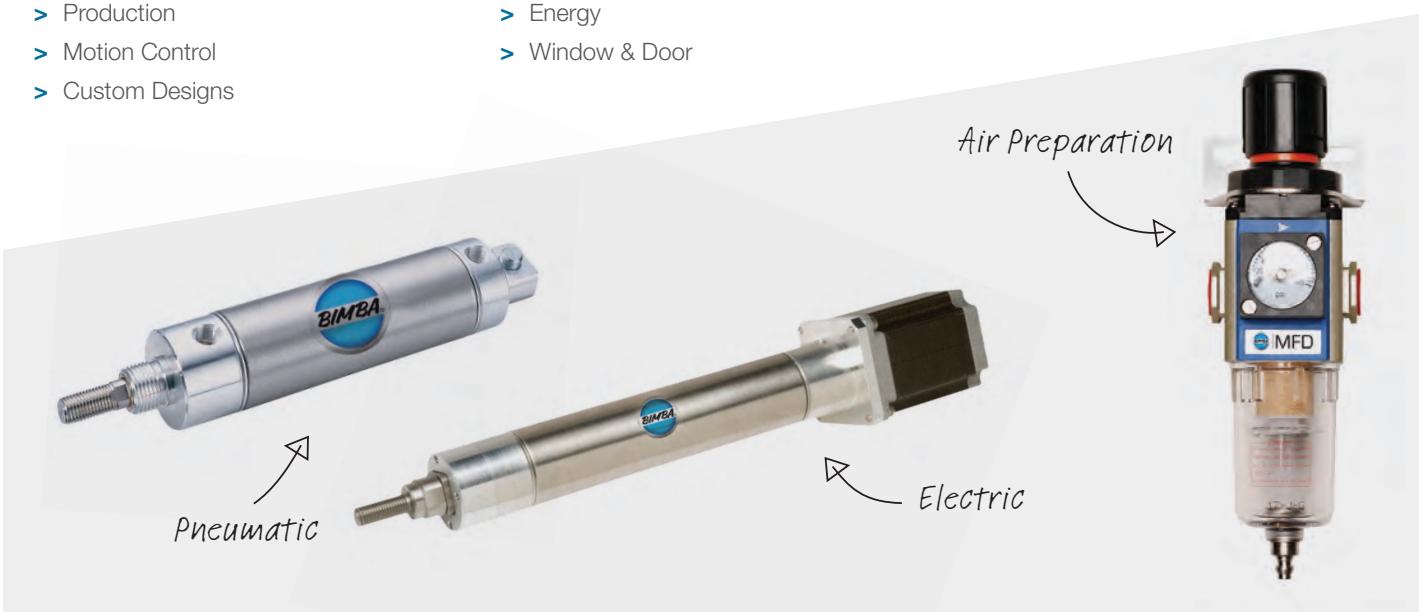
- Pneumatic
- Hydraulic
- Electric
- Air Preparation
- Valves
- Safety
- Production
- Motion Control
- Custom Designs

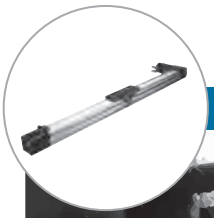
Industries & Applications

- Medical
- Food & Packaging
- Agriculture
- Semiconductor
- Aerospace
- Robotics
- Energy
- Window & Door

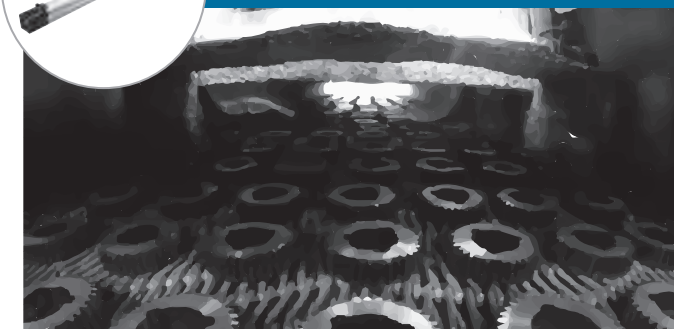
Challenges Addressed

- Space Constraints
- Wash-Down
- Corrosive Environments
- Poor Air Quality
- Heavy Side Loads
- Position Sensing



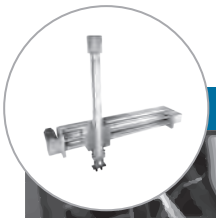


Rodless Actuators



Metal Sintering

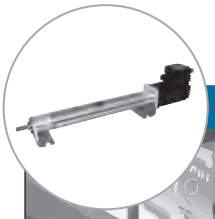
The metal sintering process creates a harsh environment due to the ever-present metal dust and heat. Robust linear motion solutions provide the necessary rapid, precise movement and positioning to support this process.



IntelliAxis® T-Bot

K-Cup Pick & Place

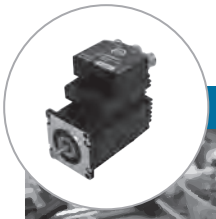
K-cup providers often use a manufacturing system that includes a pre-injection molded pod or cup. For maximum efficiency and speed, take advantage of Bimba's IntelliAxis® T-Bot to provide pick and place motion control.



Rod-Style Actuators

Packaging Inspection

One of the biggest obstacles to overcome with vision inspection is proper focal point or camera position for each vision inspection. A vision inspection system connected to a rod-style electric actuator provides reliable, repeatable positioning.



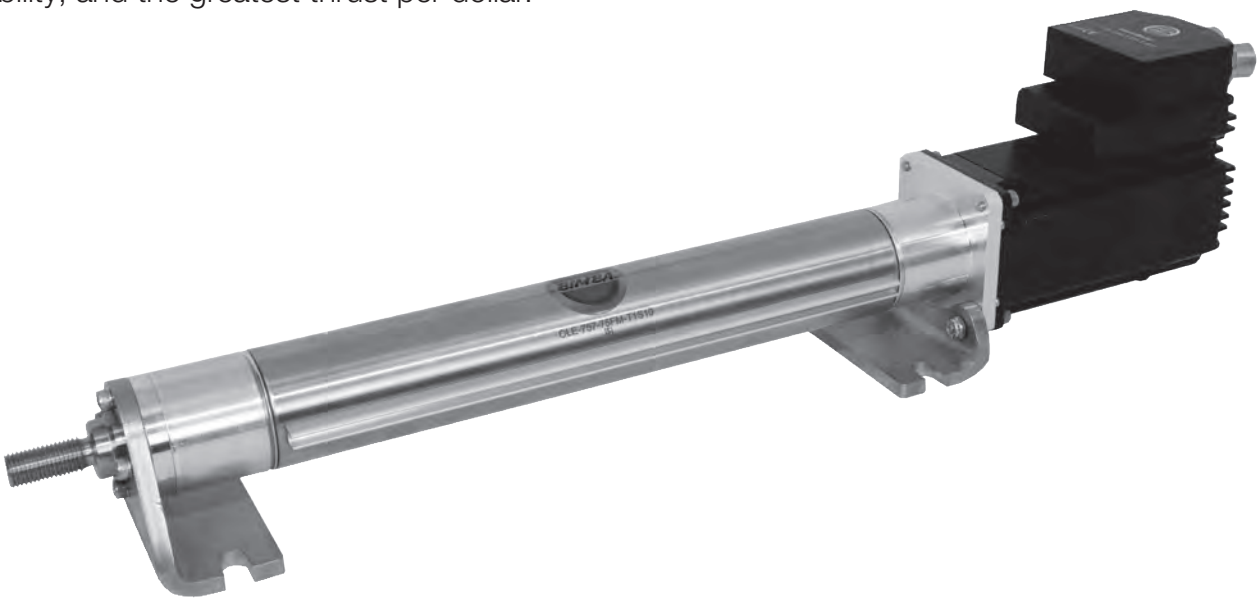
Stepper/Servo Motors

Positioning Conveyors

Positioning conveyors need to do more than just velocity control. The main drive motor starts and stops the conveyor with precision. Step and servo motors are optimal solutions thanks to their accurate positioning capabilities.

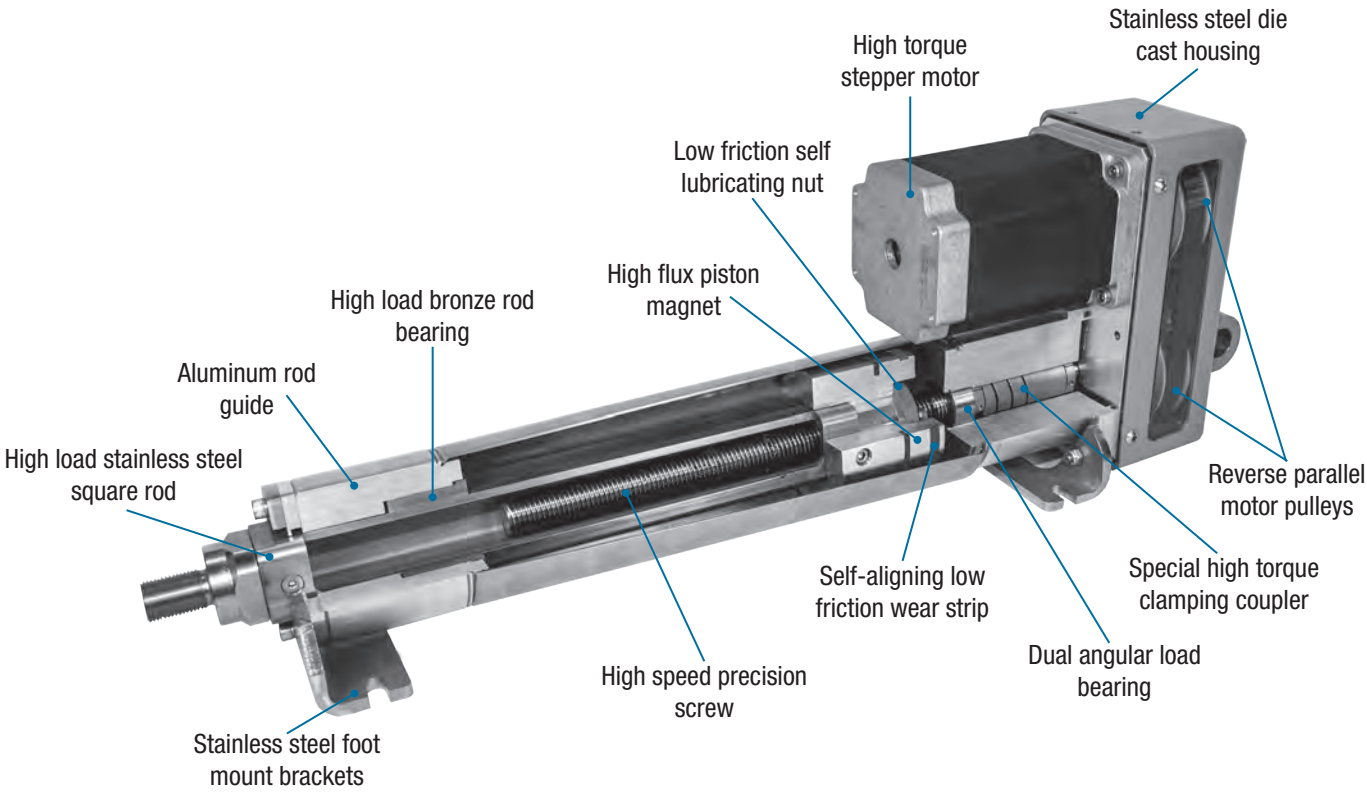
Original Line Electric® Actuators

Bimba's Original Line Electric® (OLE) Actuators were Bimba's first electric actuator product family within the Bimba electric portfolio. Designed to mimic the legacy Bimba Original Line® (OL) pneumatic cylinder, the OLE was designed, built, and tested to provide electric positioning capability with long life, great durability, and the greatest thrust per dollar.



Contents

Bimba Original Line Electric® actuators provide the greatest feature set, versatility, and performance at a price you can afford.



Original Line Electric® (OLE) actuators are alternatives to pneumatics where plant air quality, compressor availability, portability, and precise control and positioning are needed.

The model above is OLE-3508-20S-P3W; 350 series, 8 inch stroke, reverse parallel motor mount, 0.20 inch lead. The self locking thread holds the rod in position, even with no power to the motor. Using a 34-frame stepper, the actuator is capable of about 350 pounds thrust at 1 inch/second, or 50 pounds at about 6 inches/second. Two other leads enable speeds up to 24 inches/second.

Features and Benefits

- Modular design
- Special screws
- Special composite nuts
- Special custom motor couplers
- Reverse parallel motor mount
- Square rod
- Massive bronze rod bearing and low friction piston wear strip
- Dual angular load bearing
- Order exactly what you need: actuator, motor, and drive, actuator and motor, or actuator only
- High speeds, high precision, and enables longer standard strokes
- High efficiency, high load capacity, high speed, and low noise
- High torque and moment load capacity, corrects axial misalignment of the screw and motor shaft
- Allows rear pivot or clevis mount and saves space
- Prevents rotation and with the bronze rod bearing, provides high durability and side load capacity
- Provides side load capacity
- Absorbs axial loads to protect the motor

How it Works

Bimba's Original Line Electric® Actuators are designed, built, and tested to provide the longest life, greatest durability, highest speed, and greatest thrust per dollar. They are ideal for applications requiring greater control for enhanced flexibility. OLE actuators can adapt to applications that utilize our Original Line pneumatic cylinders, and are available without motors (sized for steppers or servos), with integral DC stepper motors, AC stepper motors, integrated motors, and also with matching AC and DC drives.

Many popular standard features and options are available. If you need a special design feature or special adaptation, call on our custom solutions and specials design capabilities for the right product for your application. Bimba looks forward to serving your electric actuator needs with the responsiveness and engineering expertise you have come to expect from Bimba.

Mounting options:
- Four tapped holes for mounting standard
- Block front option
- Foot mount option
- Trunnion mount option
- Front pivot or clevis mount rod end kits
- Rear pivot or clevis available with reverse parallel motor mount option
- Extra rod extension
- Female thread rod end optional (male standard)

Motor options:
- Offset reverse parallel motor mounts (to conserve space)
- No motor
- AC or DC motor and encoder
- AC or DC motor and drive
- AC or DC motor, encoder, and drive
- IntelliMotor®

Performance options:
- Brake option (with motor) – longer lead times may apply. Compatible brakes are specified.
- Self-locking threads (selected models)
- Switches – band or track mounting

Specials:
- Low backlash designs
- Washdown motors

Materials of Construction

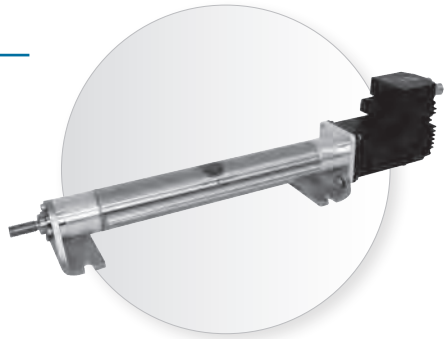
Piston:	6061-T6511 Aluminum
Square Rod:	304 Stainless Steel
Motor Mount:	2024-T350 Aluminum
Angular Bearing:	52100 Steel
Rod End:	303 Stainless Steel
Drive Nut:	Acetal
Coupler:	17-4 Ph Stainless Steel
Fasteners:	Alloy Steel and Stainless Steel
Washdown Cap:	6061-T6511 Aluminum
O-Rings:	Buna-Nitrile
Wear Ring:	Glass-filled Teflon
Rod Bearing:	SAE 660 Bronze
Drive Screw:	303 Stainless Steel
Fasteners:	18-8 Stainless Steel
Retaining Rings:	Stainless Steel, Phosphate Covered Spring Steel
Pulleys:	Anodized Aluminum
Belt:	Nylon Covered, Fiberglass Reinforced Neoprene
Mounting Brackets:	304 Stainless Steel
Trunnion Pins:	303 Stainless Steel
R, Q, S Cap:	CF8 Cast Stainless Steel
Switch Track:	6063-T6 Aluminum
MF Plates:	2024 or 6061-T6 Aluminum

Definitions

Thrust: Output force of the actuator
Load: Total of all forces opposing the actuator
Repeatability: Window within which the actuator can reposition itself
Backlash: Amount of travel for the actuator with the screw held fixed (measured at the rod end)
Accuracy: Amount of error possible in linear position on screw thread
Lead: The linear distance moved for one turn of the screw
Static Load: Force required to move the mass at a constant speed
Dynamic Load: Force required to accelerate the mass
Friction Load: Force opposing motion of the mass due to surface contact
External Load: All forces not accounted for above
Weight: The force of the mass due to Earth's gravity
Stroke: The distance the mass is moved

Application Ideas

- Pick & Place
- Sorting
- Gating
- Loading
- Lifting
- Stacking
- Insertion
- Dispensing
- Clamping
- Parts Transfer
- Valve Control



Target Applications

Bimba's Original Line Electric® (OLE) Actuators are designed, built, and tested to provide the longest life, greatest durability, highest speed, and greatest thrust per dollar. They are ideal for applications requiring greater control for enhanced flexibility. OLE actuators can adapt to applications that utilize our Original Line® (OL) pneumatic cylinders, and are available without motors (sized for steppers or servos), with integral DC stepper motors, AC stepper motors, integrated motors, and with matching AC and DC drives.

The OLE is entry-level rod-style actuator that can be used in applications where relatively small or mid-range loads are guided and required to be moved between 0.01" and 18" of stroke. Using an ACME nut construction and the same stainless steel body as found in our Original Line® pneumatic actuator, the Bimba OLE is a solid actuator with a form and fit that closely emulates the OL. This familiar look, ubiquitous in the fluid power industry, is now easily identifiable as a Bimba OLE.

Taking advantage of Bimba scales of economies along with a lighter duty ACME nut construction, customers have a low-cost, high-quality electric motion solution that not only fits the project budget but, more importantly, fits the project scope.

Drive Options

OLE actuators offer two drive interfaces to choose from: a single standard inline shaft input or a reverse parallel drive. With many Bimba stepper and servo motors available, configuring an electric actuator that best meets the needs of your application has never been easier. If you prefer, you can use your own motor. Bimba likely has a motor mount configuration that will fit; if not, we can design a custom motor mount that fits your unique motor.

Advantages

Features	Advantage	Benefit
ACME short lead	Low cost	Provides addorable electric actuator with great capability
ACME short lead	Holds verstical loads during power loss	No need for brake; minimizes damage to equipment
Uses stepper or servo motors	Matches correct technology to the application	Receives ideal solutions
IP66 types available	Can be used in washdown applications	Allows use in harsh envrionments

How to Specify

Specifications and Sizing

No Motor Option (N)

Base Part Number	Lead[2] (in)	Backlash[3] (in)	Screw Accuracy (in/in)	Screw Repeatability (µ in)	Maximum Load (lbs.)	Base Actuator Inertia (oz-in^2)	Actuator Inertia Per Inch (oz-in^2)[4]
OLE-75-xx-12xx-Nx1	.125	.003	0.0006	50	75	.003	.006
OLE-75-xx-50xx-Nx	.50	.005	0.0006	50	75	.003	.006
OLE-75-xx-75xxx-Nx	.75	.007	0.0006	50	75	.003	.006
OLE-150-xx-16xx-Nx1	.16	.005	0.0006	50	150	.218	.021
OLE-150-xx-25xx-Nx	.25	.006	0.0006	50	150	.218	.021
OLE-150-xx-50xx-Nx	.50	.008	0.0006	50	150	.218	.021
OLE-350-xx-20xx-Nx1	.20	.003	0.0006	50	350	1.588	.103
OLE-350-xx-50xx-Nx	.75	.005	0.0006	50	350	1.588	.103
OLE-350-xx-100xx-Nx	1.0	.007	0.0006	50	350	1.588	.103

Operating temperature range: -20° F to 160° F (-29° C to 71° C)
Standard IP rating: None
Maximum stroke: 18 inches
RoHS compliant

[1] Self-locking threads
[2] Inches per revolution of screw
[3] Amount of end play on screw. Low backlash designs are available. Contact Technical Support.
[4] Inertia is given per inch of stroke

Caution! When specifying actuator stroke before ordering, always add at least 1/8 inch to the full stroke required in your application. The actuator should not reach mechanical end of stroke during extend or retract. Repeatedly reaching mechanical end of stroke, especially under load at operating speeds, may damage the actuator.

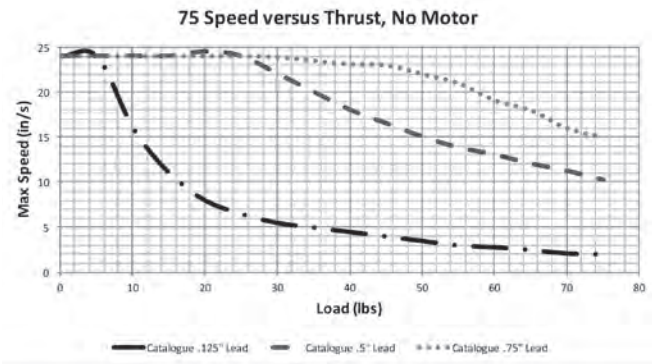
Sizing Your Actuator and Specifying the Right Motor

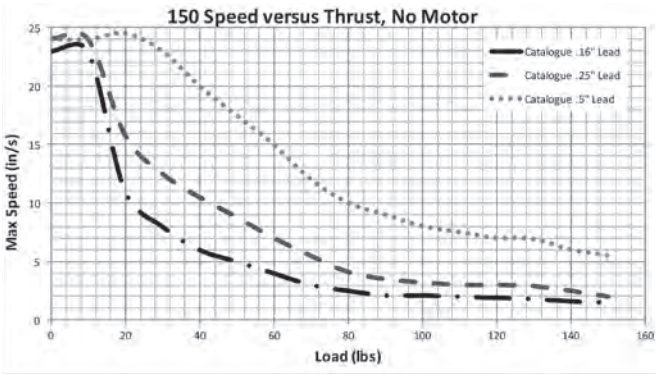
The following procedure is for sizing an actuator and arriving at a single-point speed/torque specification for a motor not supplied by Bimba. Speed and thrust performance of Bimba's standard motor and actuator combinations may not be equivalent.

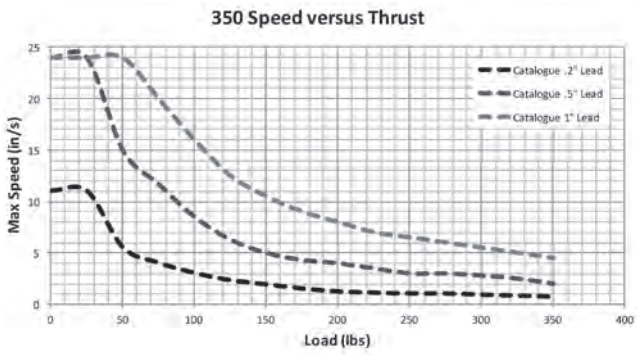
1. Determine the thrust, maximum speed, and stroke your application requires. Overstating speed and thrust will make your actuator more expensive than it needs to be. Understating the speed and thrust will compromise performance and durability.
2. Use the "Speed versus Thrust" graph. Actuators' curves that are ABOVE your speed/thrust data point are usable. Curves below the data point are not.

   You have just identified the series of actuator (75, 150, or 350) that is best suited for your application.
3. Use the "Thrust versus Torque" graphs for the actuator series identified above. Select the lead (inches per turn of the screw) that will provide the thrust you require with the minimum motor torque.
4. Use the "Speed versus RPM" graphs for the actuator series and lead you selected. Find the motor speed in RPM required to provide the actuator speed (inches per second) using the chosen lead (inches per rev). You might need to evaluate several different OLE series or leads in order to identify an achievable speed/torque motor specification.

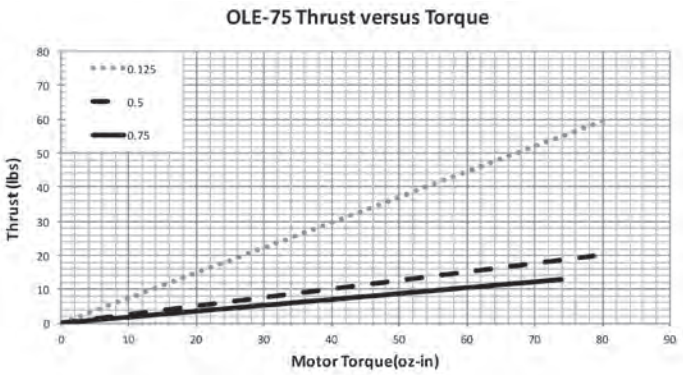
Speed Versus Thrust

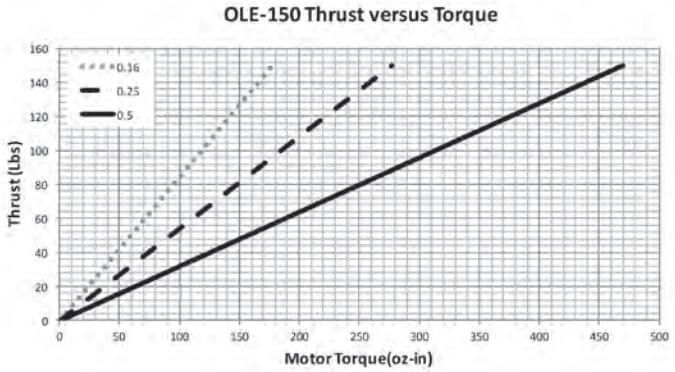


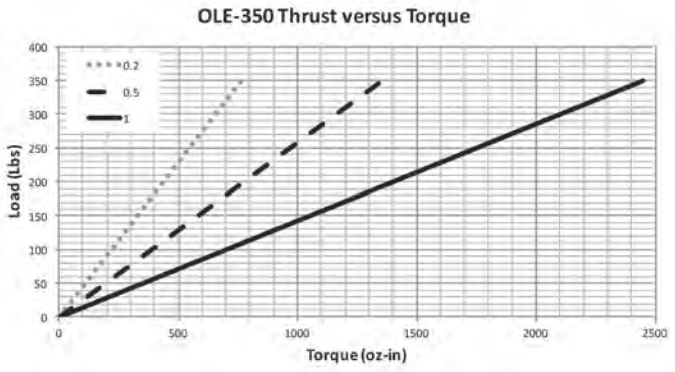




Thrust Versus Torque

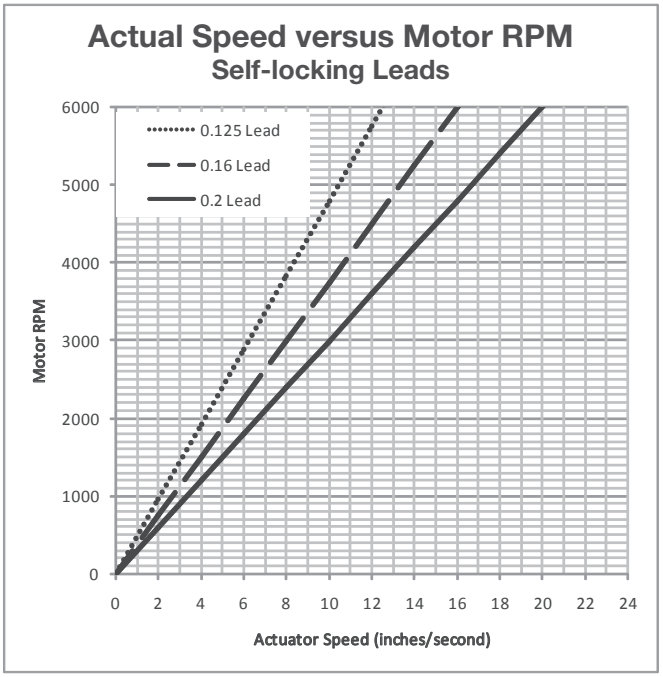


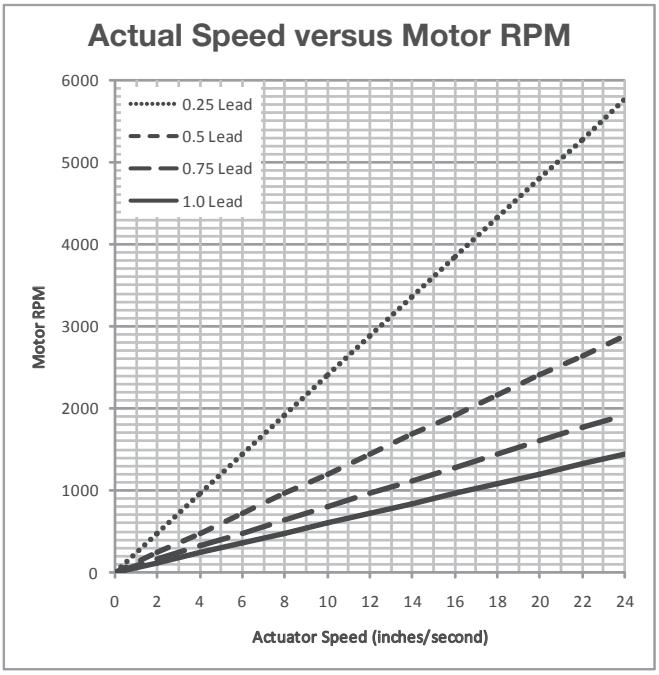


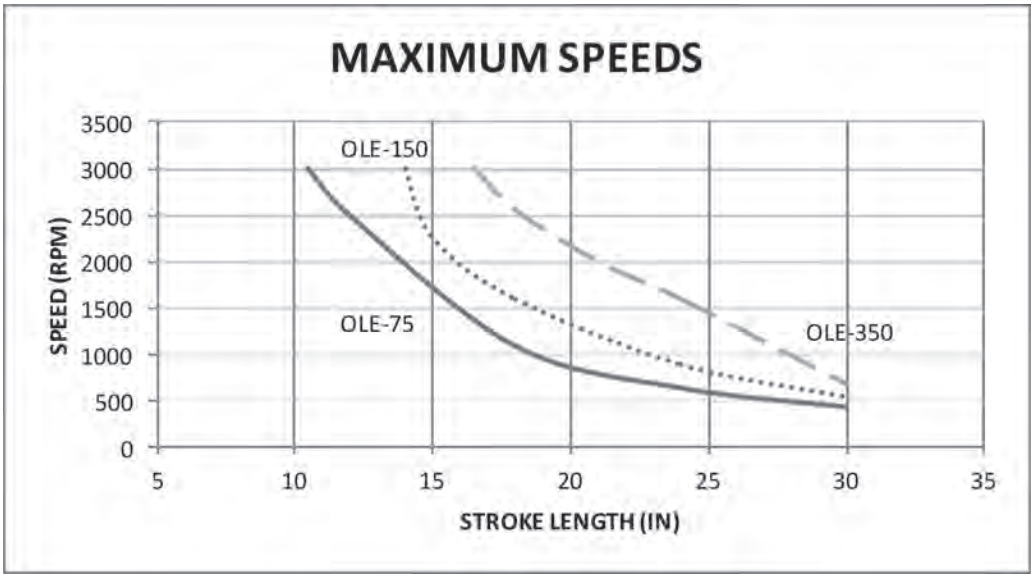


NOTE: The curves above are based on a number of design factors, including the PV limit of the nut and the maximum torque compatibility of the coupler. Other factors combine to limit speed. Do not exceed thrust/speed values shown in above graphs as damage to actuator may result.

How to Specify







Specifications and Sizing

Stepper Motor and Motor/Drive Options (P, E, Y, Z, S, A)

Actuator Specifications

Base Part Number	Lead[2] (in)	Backlash[3] (in)	Screw Accuracy (in/in)	Screw Repeatability (µ in)	Base Actuator Inertia (oz-in²)	Actuator Inertia Per Inch (oz-in²)[4]
OLE-75-xx-12xx-P1[1]	.125	.003	0.0006	50	.003	.006
OLE-75-xx-50xx-P1	.50	.005	0.0006	50	.003	.006
OLE-75-xx-75xxx-P1	.75	.007	0.0006	50	.003	.006
OLE-75-xx-12xx-xx[1]	.125	.003	0.0006	50	.003	.006
OLE-75-xx-50xx-xx	.50	.005	0.0006	50	.003	.006
OLE-75-xx-75xxx-xx	.75	.007	0.0006	50	.003	.006
OLE-150-xx-16xx-xx[1]	.16	.005	0.0006	50	.218	.021
OLE-150-xx-25xx-xx	.25	.006	0.0006	50	.218	.021
OLE-150-xx-50xx-xx	.50	.008	0.0006	50	.218	.021
OLE-350-xx-20xx-xx[1]	.20	.003	0.0006	50	1.588	.103
OLE-350-xx-50xx-xx	.50	.005	0.0006	50	1.588	.103
OLE-350-xx-100xx-xx	1.0	.007	0.0006	50	1.588	.103

Motor Specifications

Base Part Number	Dc Motor Inertia Adder (P*, E*) (oz-in²)[5]	DC Maximum Current Draw[6]	IntelliMotor® Motor Inertia Adder (S*) (oz-in²)[5]	AC Max Current Draw	IntelliMotor® Max Current Draw	AC Motor Inertia Adder (A*) (oz-in²)[5]
OLE-75-xx-12xx-P1[1]	.44	1.7	--	--	--	--
OLE-75-xx-50xx-P1	.44	1.7	--	--	--	--
OLE-75-xx-75xxx-P1	.44	1.7	--	--	--	--
OLE-75-xx-12xx-xx[1]	1.42	4.24	1.42	1.41	5	1.64
OLE-75-xx-50xx-xx	1.42	4.24	1.42	1.41	5	1.64
OLE-75-xx-75xxx-xx	1.42	4.24	1.42	1.41	5	1.64
OLE-150-xx-16xx-xx[1]	2.51	4.24	2.52	1.41	5	2.63
OLE-150-xx-25xx-xx	2.51	4.24	2.52	1.41	5	2.63
OLE-150-xx-50xx-xx	2.51	4.24	2.52	1.41	5	2.63
OLE-350-xx-20xx-xx[1]	15.03	5.6	--	4.10	--	17.5
OLE-350-xx-50xx-xx	15.03	5.6	--	4.10	--	17.5
OLE-350-xx-100xx-xx	15.03	5.6	--	4.10	--	17.5

Operating temperature range: 32° F to 122° F (0° C to 50° C) limited by the drive.
If the drive is remotely mounted and protected from heat, maximum operating temperature will be 160° F (71° C).
Maximum stroke: 18 inches
RoHS compliant

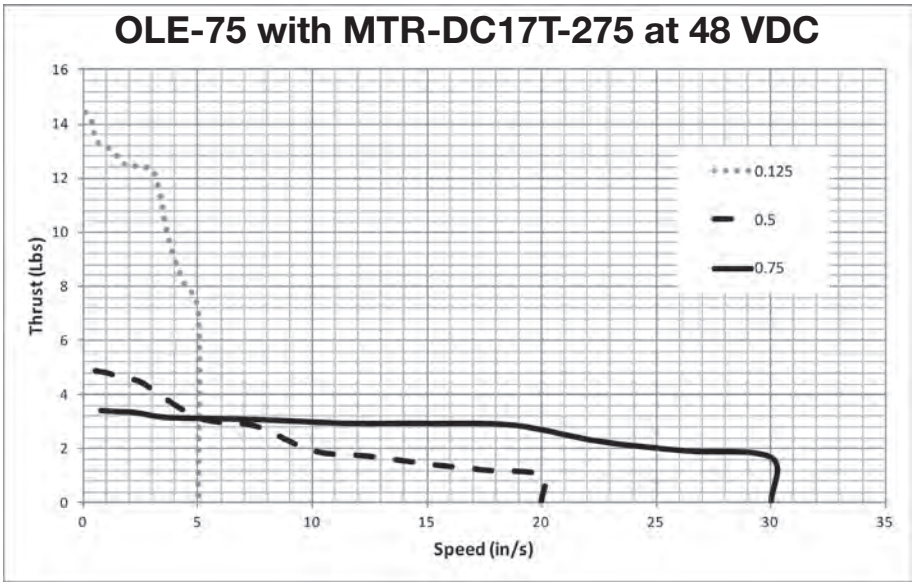
[1] *Self-locking threads*
[2] *Inches per revolution of screw*
[3] *Amount of end play on screw*
[4] *Inertia is given per inch of stroke*
[5] *Inertia for motor by itself*
[6] *For drive sizing for actuators supplied without drives*

Caution! When specifying actuator stroke before ordering, always add at least 1/8 inch to the full stroke required in your application. The actuator should not reach mechanical end of stroke during extend or retract. Repeatedly reaching mechanical end of stroke, especially under load at operating speeds, may damage the actuator.

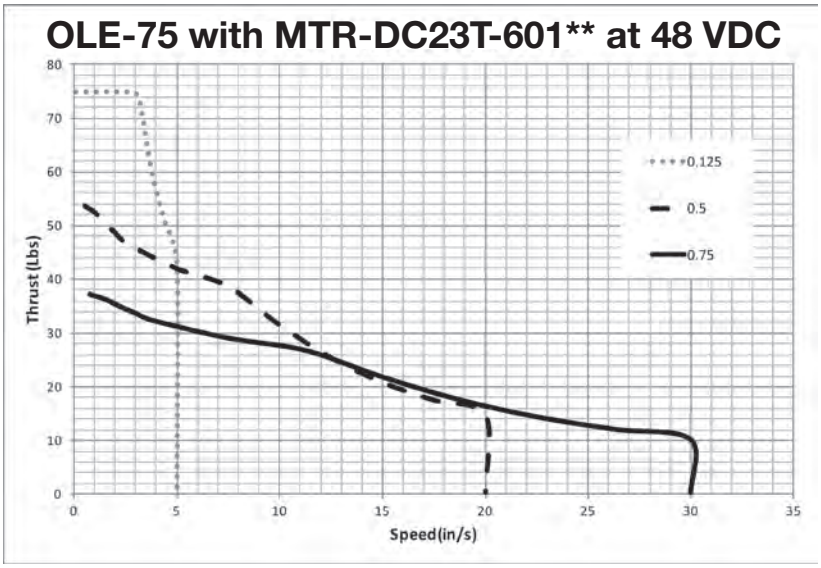
Specifications and Sizing: DC Stepper Motors

Speed/Thrust Performance
Vertical Orientation*, Pounds and Inches/Second
Maximum Continuous

Stepper Motor and Motor/Drive Options (P1, E1, Y1, Z1)



Stepper Motor Options (P2, P8, E2, E8)

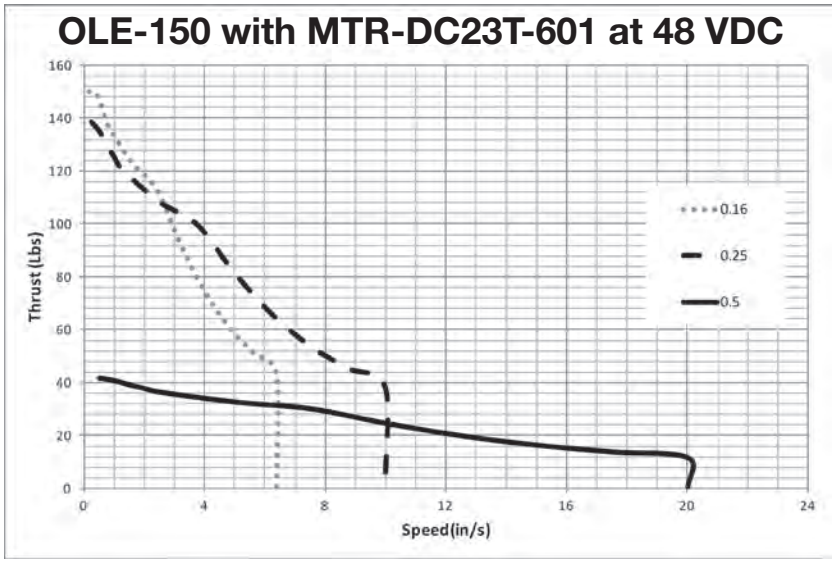


** Vertical orientation is worse-case. These values are thrust values and in a horizontal orientation will result in moving loads above the thrust values indicated in the graphs.*
*** Original OLE-75 with P2 motor performance graph.*

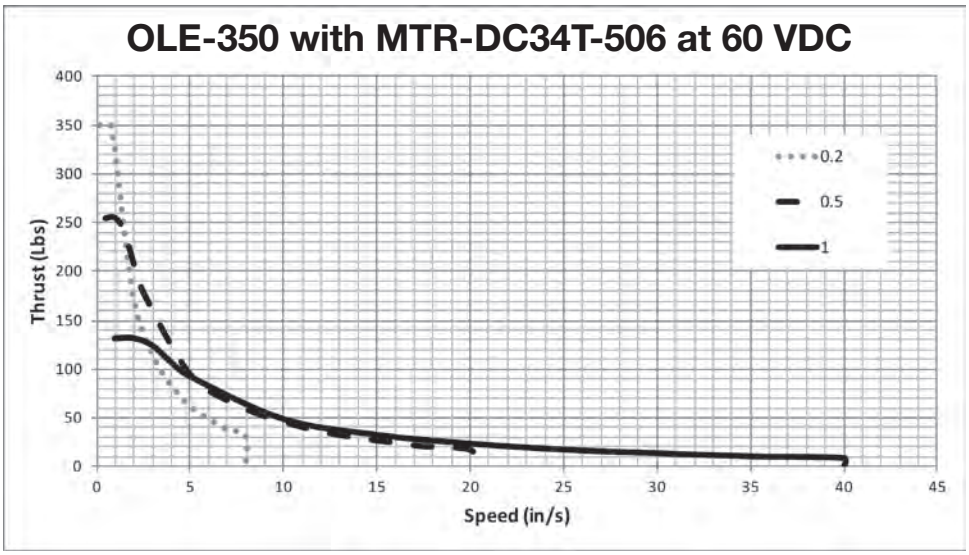
Specifications and Sizing: DC Stepper Motors

Speed/Thrust Performance
Vertical Orientation*, Pounds and Inches/Second
Maximum Continuous

Stepper Motor and Motor/Drive Options (P2, P8, E2, E8, Y2, Z2)



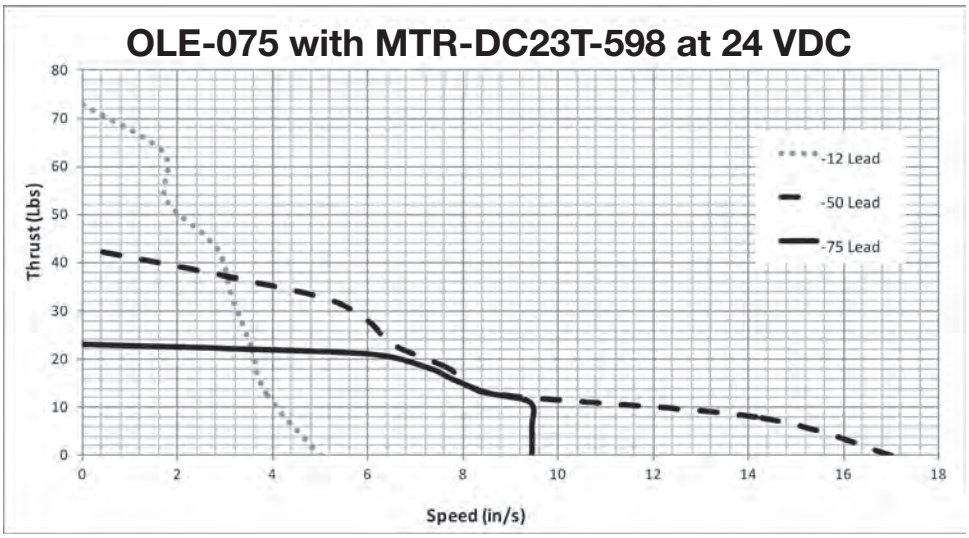
Stepper Motor and Motor/Drive Options (P3, P10, E3, E10, Y3, Z3)

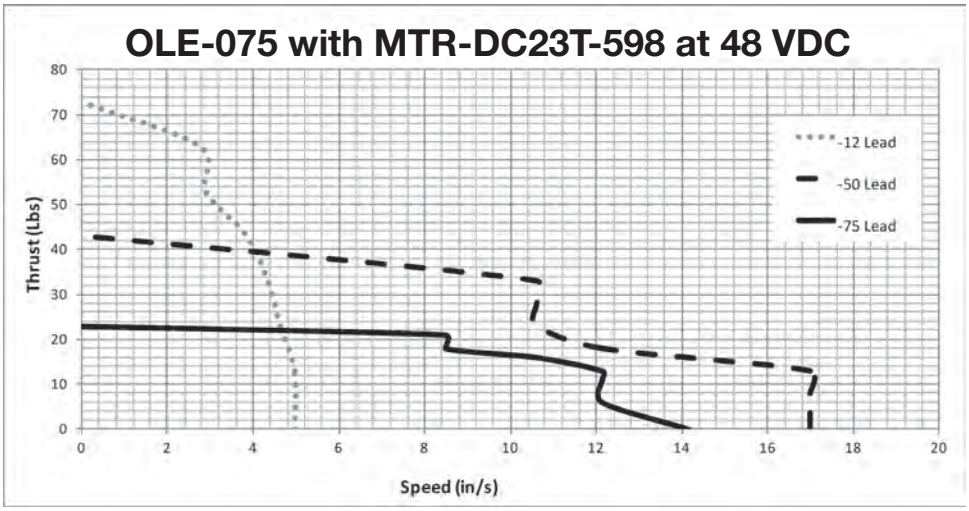


** Vertical orientation is worse-case. These values are thrust values and in a horizontal orientation will result in moving loads above the thrust values indicated in the graphs.*

Specifications and Sizing: DC Stepper Motors

OLE-75 with P2, P6, P7, E2, E6, E7 Motors

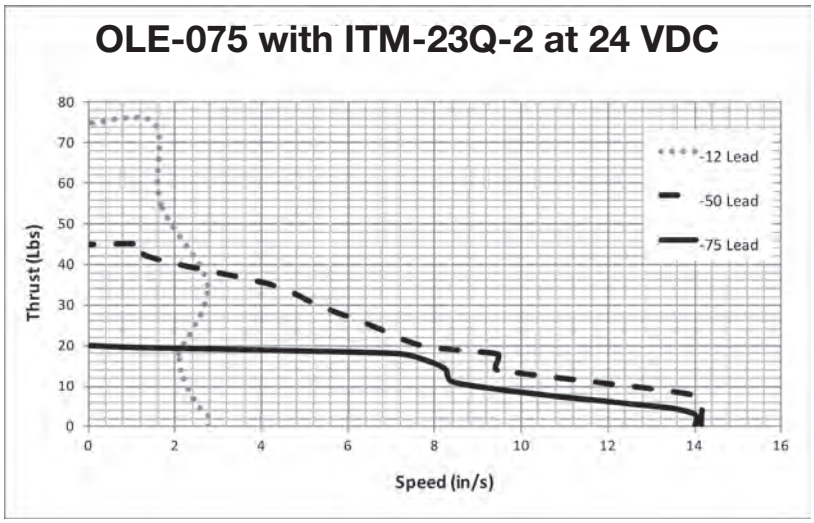




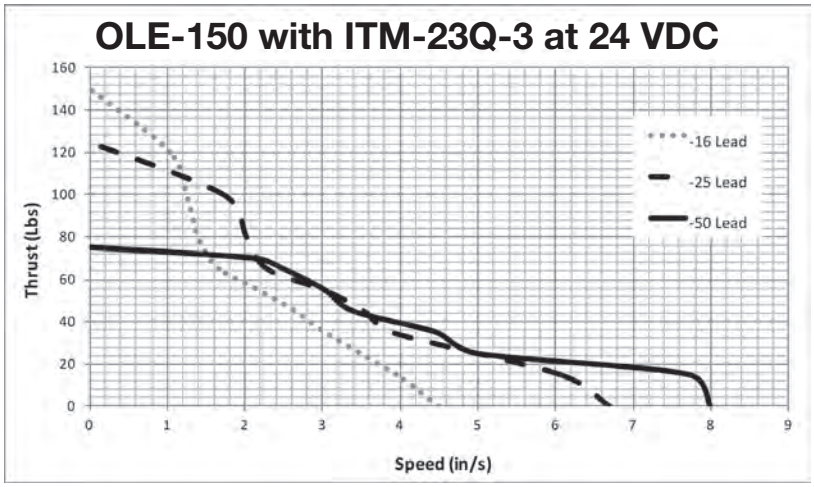
Specifications and Sizing: DC IntelliMotor®

ITM-23Q Thrust versus Speed Performance Curves
Vertical Orientation*, 5 amps Current, 4000 steps/rev.

OLE-75 with ITM-23Q-2-*-* at 24 VDC (S1, S3, S5, S7, S9, S11)



OLE-150 with ITM-23Q-3-*-* at 24 VDC (S2, S4, S6, S8, S10, S12)

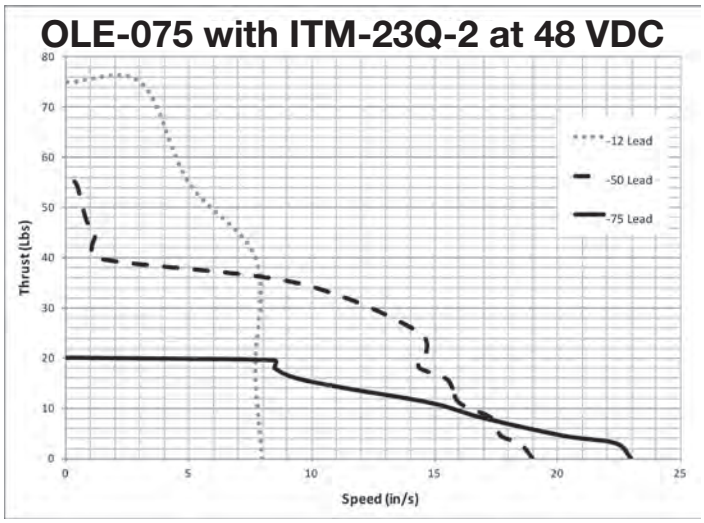


** Vertical orientation is worst-case. These values are thrust values and in a horizontal orientation will result in moving loads above the thrust values indicated in the graphs.*

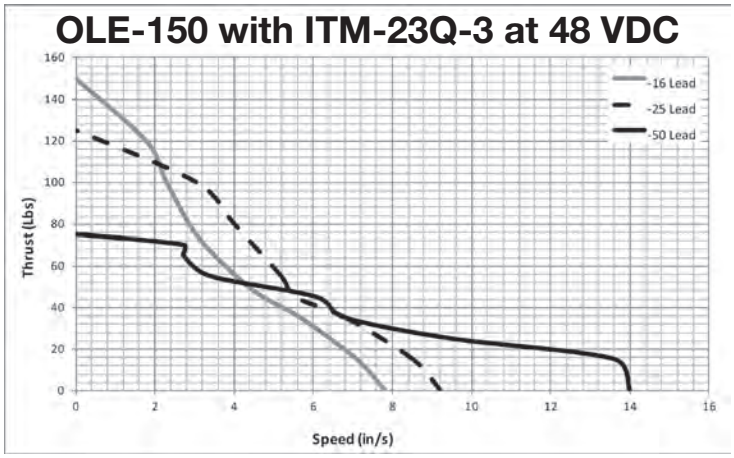
Specifications and Sizing: DC IntelliMotor®

ITM-23Q Thrust versus Speed Performance Curves
Vertical Orientation*, 5 amps Current, 4000 steps/rev.

OLE-75 with ITM-23Q-2-*-* at 48 VDC (S1, S3, S5, S7, S9, S11)



OLE-150 with ITM-23Q-3-*-* at 48 VDC (S2, S4, S6, S8, S10, S12)



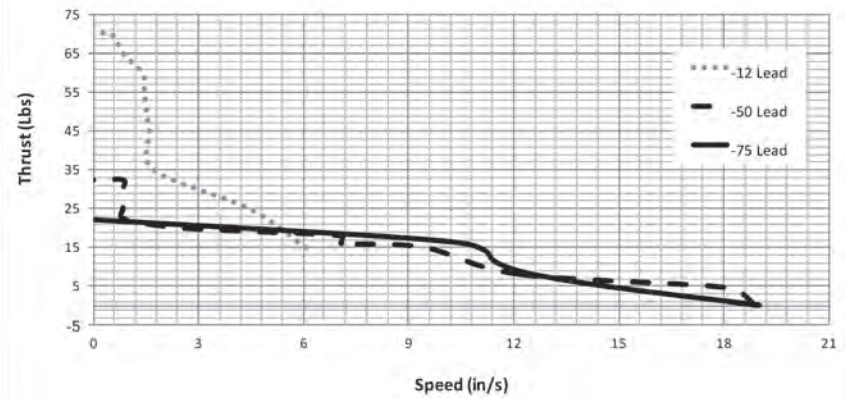
** Vertical orientation is worst-case. These values are thrust values and in a horizontal orientation will result in moving loads above the thrust values indicated in the graphs.*

Specifications and Sizing: AC Stepper Motors

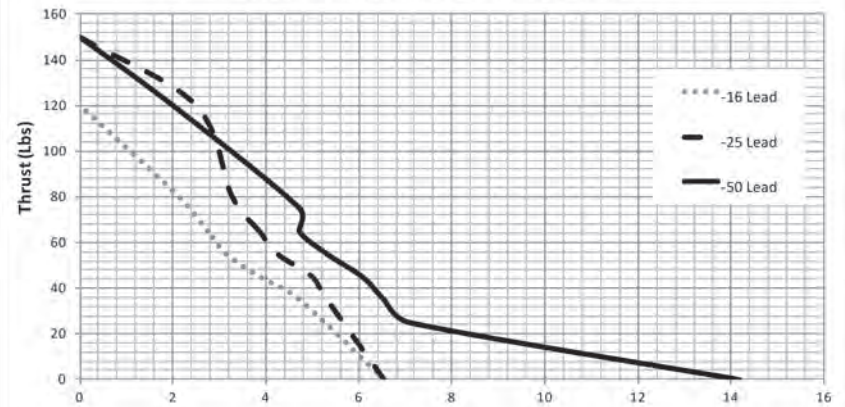
Speed/Thrust Performance
Vertical Orientation, Pounds and Inches/Second
Maximum Continuous

Stepper Motor and Motor/Drive Options (A)

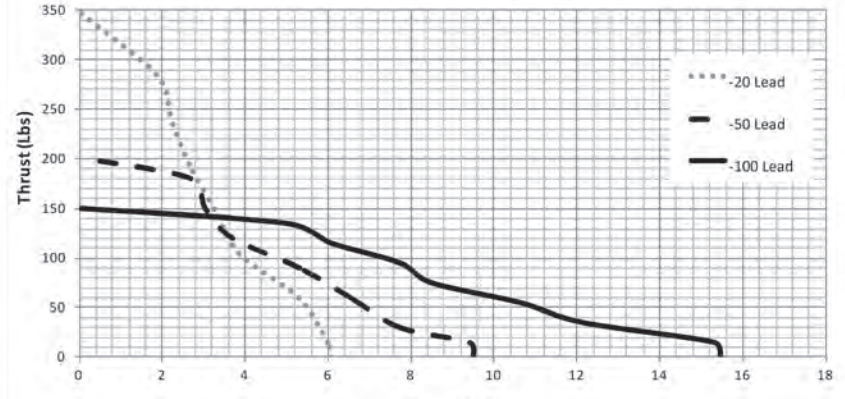
OLE-075 with MTR-AC23-753 at 120 VAC (A1, A2)



OLE-150 with MTR-AC23T-754 at 120 VAC (A5, A6)



OLE-350 with MTR-AC34T-696 at 120 VAC (A9, A10)



Specifications and Sizing

Reverse Parallel Motor Options (R, S, Q & P, E, Y, Z)

Actuator Specifications

Base Part Number	Lead[2] (in)	Backlash[3] (in)	Screw Accuracy (in/in)	Screw Repeatability (µ in)	Base Actuator Inertia (oz-in²)[4]	Actuator Inertia per inch (oz-in²)[4]
OLE75-xx-12Rx-P1[1]	.125	.003	0.0006	50	.096	.006
OLE75-xx-50Rx-P1	.50	.005	0.0006	50	.096	.006
OLE75-xx-75Rx-P1	.75	.007	0.0006	50	.096	.006
OLE75-xx-12Rx-P2[1]	.125	.003	0.0006	50	.096	.006
OLE75-xx-50Rx-P2	.50	.005	0.0006	50	.096	.006
OLE75-xx-75Rx-P2	.75	.007	0.0006	50	.096	.006
OLE150-xx-16Rx-P2[1]	.16	.005	0.0006	50	1.01	.021
OLE150-xx-25Rx-P2	.25	.006	0.0006	50	1.01	.021
OLE150-xx-50Rx-P2	.50	.008	0.0006	50	1.01	.021
OLE350-xx-20Rx-P3[1]	.20	.003	0.0006	50	9.51	.103
OLE350-xx-50Rx-P3	.50	.005	0.0006	50	9.51	.103
OLE350-xx-100Rx-P3	1.0	.007	0.0006	50	9.51	.103

Motor Specifications

Base Part Number	DC Motor Inertia Adder (P*, E*) (oz-in²)[5]	DC Maximum Current Draw[7]	IntelliMotor® Motor Inertia Adder (S*) (oz-in²)[5]	AC Max Current Draw	IntelliMotor® Max Current Draw	AC Motor Inertia Adder (A*) (oz-in²)[5]
OLE75-xx-12Rx-P1[1]	.44	1.7	--	--	--	--
OLE75-xx-50Rx-P1	.44	1.7	--	--	--	--
OLE75-xx-75Rx-P1	.44	1.7	--	--	--	--
OLE75-xx-12Rx-P2[1]	2.51	4.24	1.42	1.41	5	1.64
OLE75-xx-50Rx-P2	2.51	4.24	1.42	1.41	5	1.64
OLE75-xx-75Rx-P2	2.51	4.24	1.42	1.41	5	1.64
OLE150-xx-16Rx-P2[1]	2.51	4.24	2.52	1.41	5	2.63
OLE150-xx-25Rx-P2	2.51	4.24	2.52	1.41	5	2.63
OLE150-xx-50Rx-P2	2.51	4.24	2.52	1.41	5	2.63
OLE350-xx-20Rx-P3[1]	15.03	5.6	--	4.10	--	17.5
OLE350-xx-50Rx-P3	15.03	5.6	--	4.10	--	17.5
OLE350-xx-100Rx-P3	15.03	5.6	--	4.10	--	17.5

Operating temperature range: 32° F to 122° F (0° C to 50° C).
If the drive is remotely mounted and protected from heat, maximum operating temperature will be 158° F (70° C).
Maximum stroke: 18 inches
RoHS compliant

[1] Self-locking threads
[2] Inches per revolution of screw
[3] Amount of end play on screw
[4] Inertia for reverse parallel option
[5] Inertia is given per inch of stroke
[6] Inertia for motor by itself
[7] For drive sizing for actuators suppled without drives

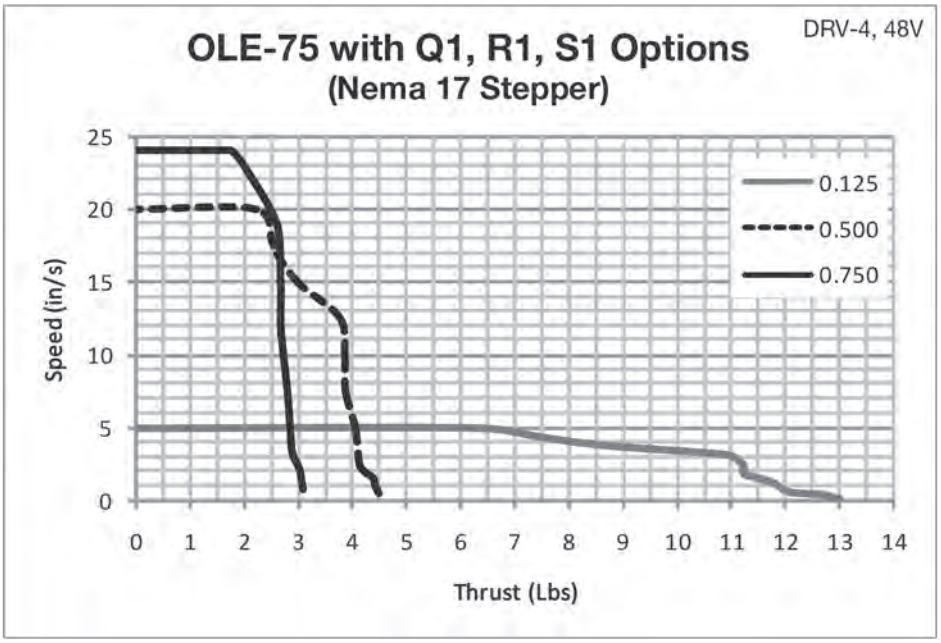
NOTE: Performance ratings for all reverse parallel configurations with any motor combination are derated to 90% of the values shown in the previous graphs.

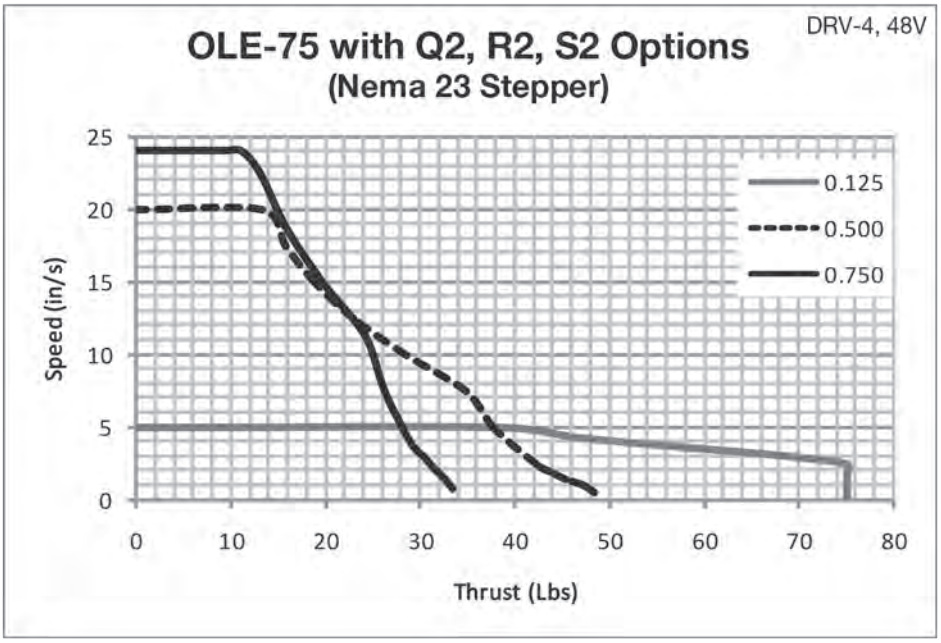
Caution! When specifying actuator stroke before ordering, always add at least 1/8 inch to the full stroke required in your application. The actuator should not reach mechanical end of stroke during extend or retract. Repeatedly reaching mechanical end of stroke, especially under load at operating speeds, may damage the actuator.

Specifications and Sizing

Speed/Thrust Performance
Vertical Orientation*, Pounds and Inches/Second
Maximum Continuous

Reverse Parallel Motor Options (R, S, Q & P, E, Y, Z)



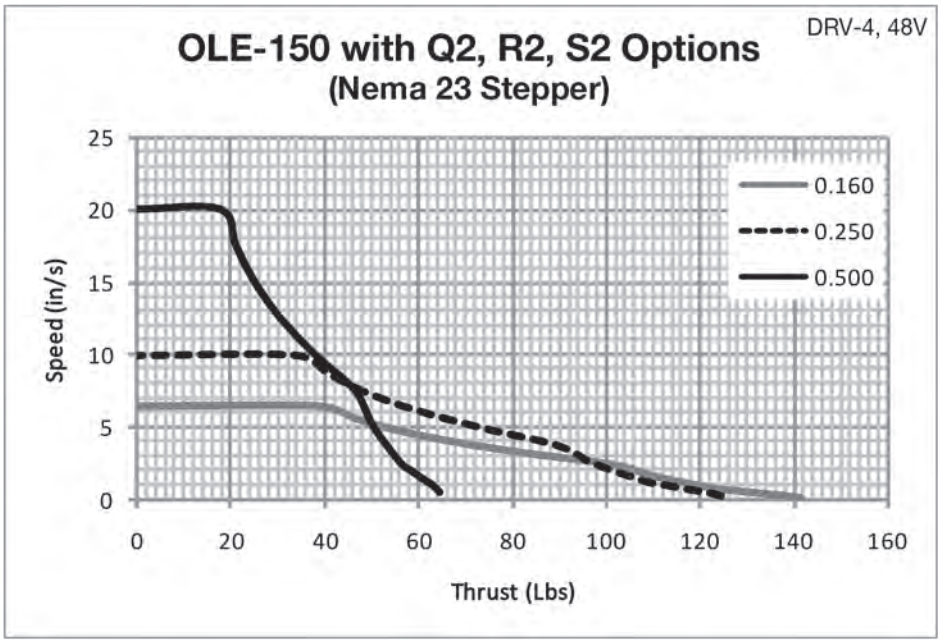


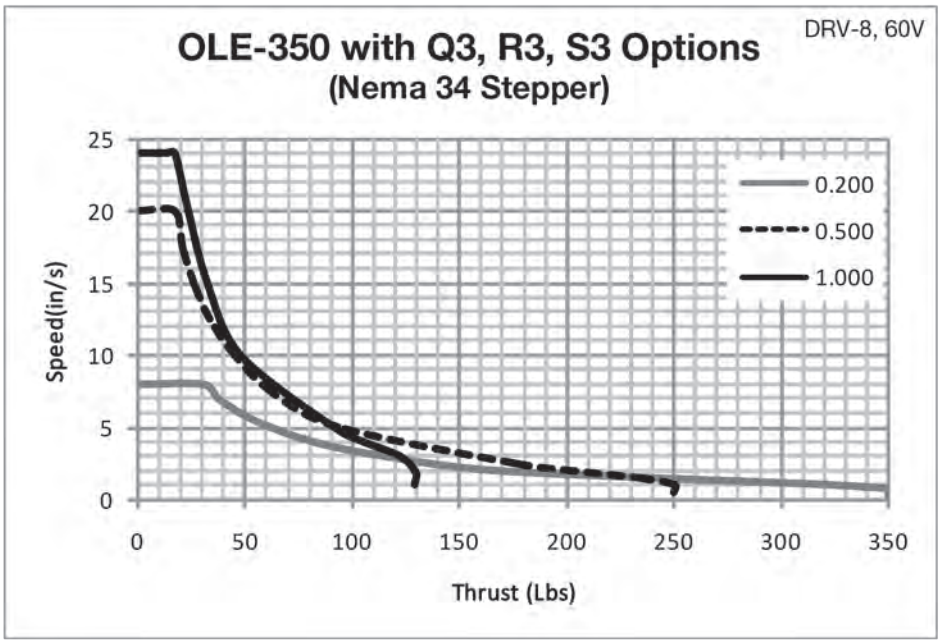
** Vertical orientation is worst-case. These values are thrust values and in a horizontal orientation will result in moving loads above the thrust values indicated in the graphs.*

Specifications and Sizing

Speed/Thrust Performance
Vertical Orientation*, Pounds and Inches/Second
Maximum Continuous

Reverse Parallel Motor Options (R, S, Q & P, E, Y, Z)





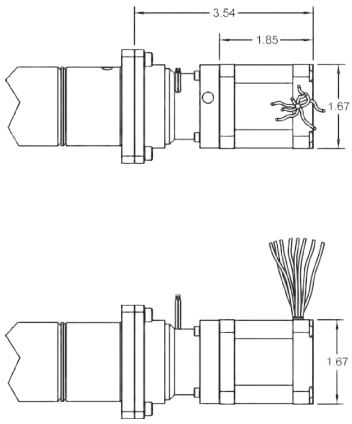
** Vertical orientation is worst-case. These values are thrust values and in a horizontal orientation will result in moving loads above the thrust values indicated in the graphs.*

Dimensions

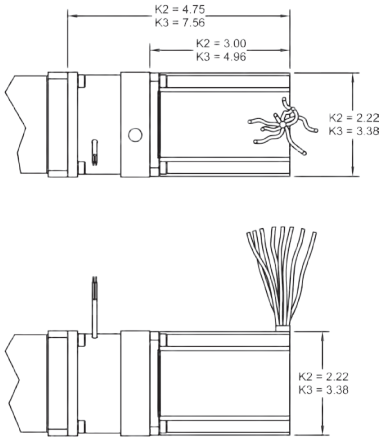
Brake (K Option)

Add motor and brake dimensions below to no motor actuator dimensions.

17 Frame Stepper and Brake (K1)

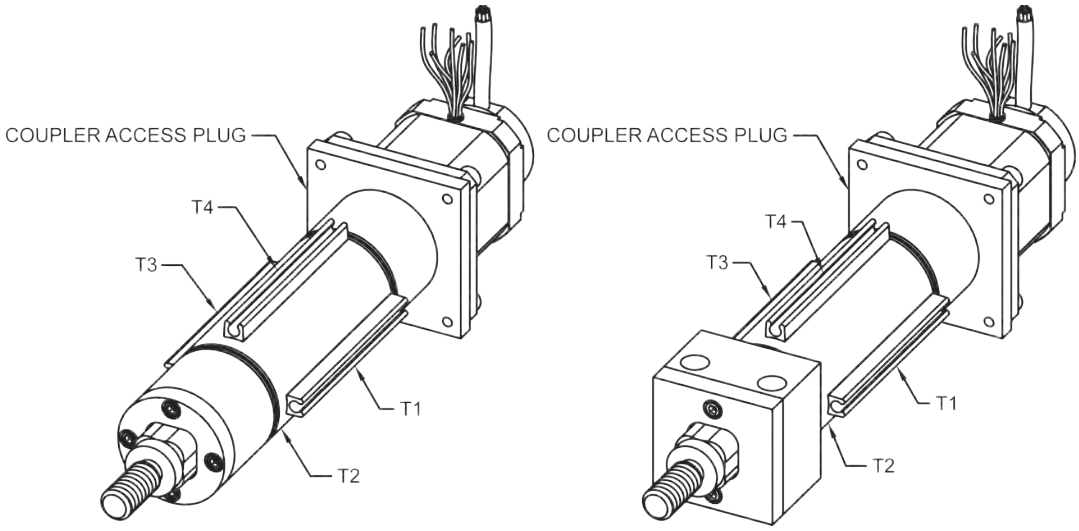


23 and 34 Frame Stepper and Brake (K2/K3)



Switch Track (T1, T2, T3, T4 Options)

Numbers indicate the position of the switch track relative to the plug that provides access to the coupler.

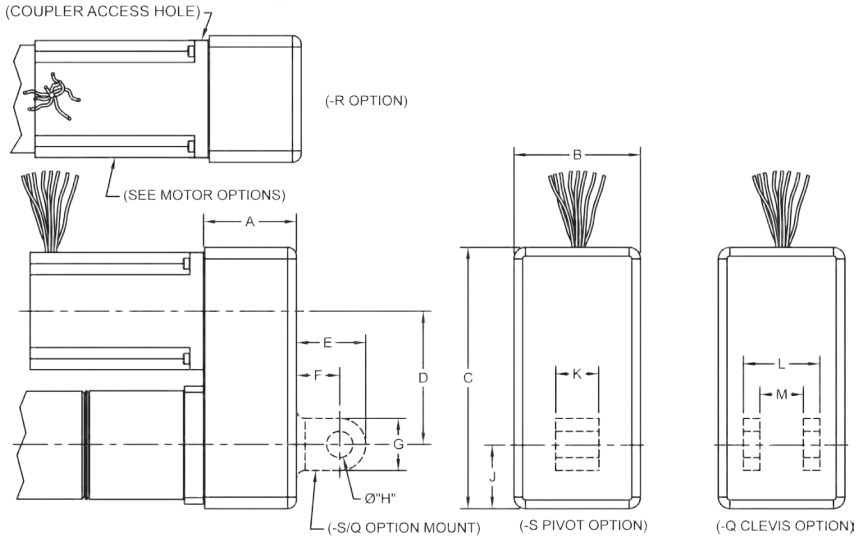


For use with Bimba MR, MS, MSC, or MSK track mount switches.

Dimensions

Reverse Parallel Motor Mounting (R, S, and Q Options)

Add reverse parallel dimensions to no motor actuator dimensions.

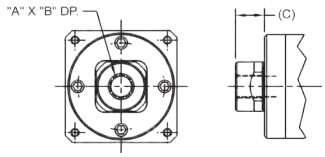


Motor	A	B	C	D	E	F	G	H	J	K	L	M
P1	1.50	2.61	4.60	1.99	1.25	0.75	1.00	0.50	1.31	0.75	1.75	0.76
P2	1.65	2.59	5.14	2.56	1.25	0.75	1.00	0.50	1.31	0.75	1.75	0.76
P3	2.65	3.65	7.52	3.86	2.00	1.25	1.50	0.75	1.85	1.25	2.50	1.26

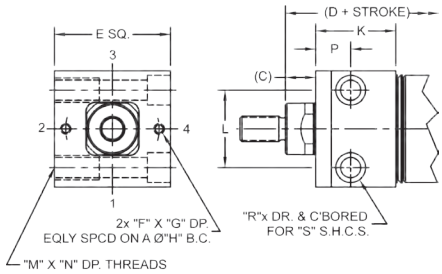
Dimensions

Mounting Options

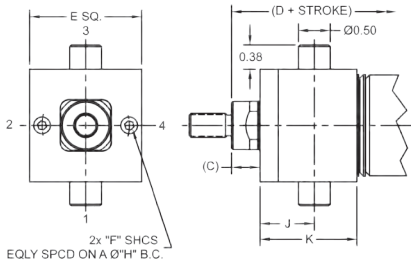
Female Rod End (FT)



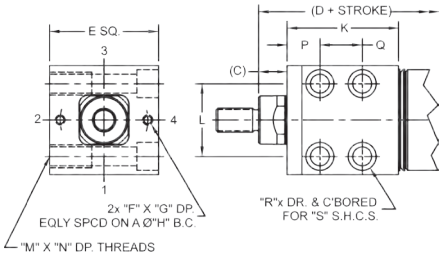
Block Front (BF) for 75, 150



Trunnion Mount (T)

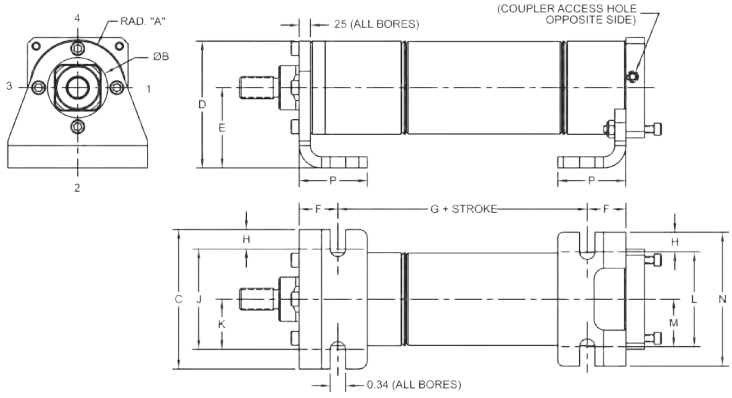


Block Front (BF) for 350



Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S
75	7/16-20 UNF	.75	0.58	5.75	1.75	#8-32 UNC	.30	1.25	0.67	1.34	1.13	5/16-18 UNC	0.63	0.813	N/A	2	#10
150	1/2-20 UNF	.65	0.59	7.84	2.25	#10-24 UNC	.38	1.75	1.00	2.00	1.50	7/16-20 UNF	0.63	1.25	N/A	2	3/8
350	3/4-16 UNF	.85	0.87	10.11	3.50	1/4-20 UNC	.50	2.50	1.25	2.50	2.63	9/16-18 UNF	1.13	0.72	0.86	4	1/2

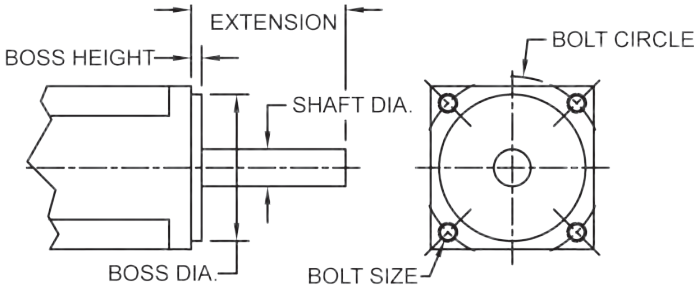
Foot Mount



Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P
75	0.78	1.00	2.75	2.40	1.63	0.94	3.29*	0.31	2.13	1.06	2.13	1.06	2.75	1.52
150	1.04	1.35	3.13	2.84	1.80	0.86	5.37*	0.44	2.25	1.13	2.13	1.06	3.01	1.52
350	1.56	2.00	4.38	3.61	2.05	1.06	6.82*	0.44	3.50	1.75	3.50	1.75	4.38	1.68

Motor Compatibility Chart

For selecting the right actuator with other brands of motors:



Stepper Motors

Ordering Information					Performance with 1/2 inch Lead		Motor Performance	
Stepper Brand	Stepper Model	Motor Size	Actuator P/N	Adapter P/N	Thrust (lbs)	Speed (in/sec)	Max Torque (in-oz)	Max Speed (RPM)
Applied Motion	HT17-075	17	OLE-75x-(50)x-NA	D-109957	6	0.3	47	2400
Applied Motion	HT23-401	23	OLE-150x-(50)x-NC	None Required	135	0.5	210	2400
Applied Motion	HT34-478	34	OLE-350x-(50)x-NF	None Required	350	0.5	1284	2400
Lin	4118C-01	17	OLE-75x-(50)x-NA	D-109957	TBD	TBD	102.8	900
Lin	5718L-03P	23	OLE-150x-(50)x-NC	None Required	45	5	210	1200
Lin	8718L-08P	34	OLE-350x-(50)x-NF	None Required	185	2	1000	720
Sanyo Denki	103H5210-52	17	OLE-75x-(50)x-NA	D-109957	20	0.5	70	3000
Sanyo Denki	103H7128	23	OLE-150x-(50)x-NC	None Required	75	0.5	300	1583
Sanyo Denki	SM2863-522	34	OLE-350x-(50)x-NG	None Required	TBD	TBD	1100	2100

Motor Mounting Dimensions										
Stepper Brand	Stepper Model	Motor Size	Actuator P/N	Adapter P/N	Shaft Diameter (in)	Shaft Extension (in)	Boss Diameter (in)	Boss Height (in)	Bolt Size	Bolt Circle
Applied Motion	HT17-075	17	OLE-75x-(50)x-NA	D-109957	5mm (.1968)	0.787	.865/.866	0.079	#4-40 Tapped	1.22 Sq
Applied Motion	HT23-401	23	OLE-150x-(50)x-NC	None Required	0.25	0.787	1.499/1.501	0.063	0.205	1.86 Sq
Applied Motion	HT34-478	34	OLE-350x-(50)x-NF	None Required	0.50	1.46	2.874/2.876	0.08	0.26	2.74 Sq
Lin	4118C-01	17	OLE-75x-(50)x-NA	D-109957	5mm (.1968)	0.94	0.864/0.866	0.08	M3 Tapped	1.22 Sq
Lin	5718	23	OLE-150x-(50)x-NC	None Required	0.25	0.81	1.499/1.501	0.06	0.2	1.86 Sq
Lin	8718	34	OLE-350x-(50)x-NF	None Required	0.50	1.46	2.874/2.876	0.08	0.26	2.74 Sq
Sanyo Denki	103H5210-52	17	OLE-75x-(50)x-NA	D-109957	5mm (.1968)	0.94	0.868/0.870	0.06	M3 Tapped	1.22 Sq
Sanyo Denki	103H7128	23	OLE-150x-(50)x-NC	None Required	0.25	0.81	1.499/1.501	0.06	.18/.2	1.86 Sq
Sanyo Denki	SM2863-522	34	OLE-350x-(50)x-NG	None Required	14mm (.551)	1.18	2.874/2.876	0.06	0.22	2.74 Sq

Motor Compatibility Chart

For selecting the right actuator with other brands of motors:

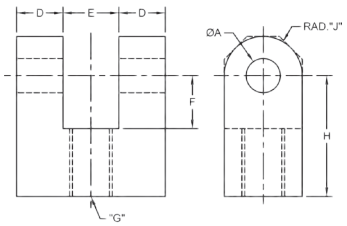
Servo Motors

Ordering Information				Performance with 1/2 inch Lead		Motor Performance	
Servo Brand	Servo Model	Actuator P/N	Adapter P/N	Thrust (lbs)	Speed (in/sec)	Max Torque (in-oz)	Max Speed (RPM)
Allen Bradley	TLY-A130T-_AA	OLE-150x-(50)x-ND	D-109958	29	50	46	6000
Allen Bradley	TLY-A130T-_AN	OLE-75x-(50)x-NC	D-109968	29	50	46	6000
Allen Bradley	TLY-A230T-_AN	OLE-350x-(50)x-NE	D-109959	117	50	184	6000
Allen Bradley	TLY-A2540P	Special1	Special			416	5000
Lin	BL17B40	OLE-75x-(50)x-NA	D-109960	26	33	41	4000
Lin	BL24B46-01	OLE-150x-(50)x-NC	None Required	54	33	87.8	4000
Lin	BL25B19-01	OLE-150x-(50)x-NC	Special	21	33	34	4000
Mitsubishi	HC-KFS13	OLE-150x-(50)x-ND	D-109958	28	25	45	3000
Mitsubishi	HC-KFS43	OLE-350x-(50)x-NG	D-109959	114	25	184	3000
Mitsubishi	HC-KFS73	Special1	Special	221	25	340	3000
Mitsubishi	HC-MFS053(B)	OLE-150x-(50)x-ND	D-109958	27	25	22.6	3000
Mitsubishi	HC-MFS43(B)	OLE-350x-(50)x-NG	D-109959	155	25	184	3000
Mitsubishi	HC-MFS73	Special1	Special			339	3000
Panasonic	MSMD5A_1_	OLE-150x-(50)x-ND	D-111352	14	42	68	5000
Panasonic	MSMD01_1_	OLE-150x-(50)x-ND	D-111352	28	42	136	5000
Panasonic	MSMD021_1_	OLE-350x-(50)x-NH	D-111353	52	42	272	5000
Panasonic	MSMD041_1_	OLE-350x-(50)x-NG	D-111353	105	42	552	5000
Yaskawa	SGMJV-01A	OLE-150x-(50)x-ND	D-109958	28	25	67.5	3000
Yaskawa	SGMJV-04A	OLE-350x-(50)x-NG	D-109959	111	25	247	3000

Motor Mounting Dimensions									
Servo Brand	Servo Model	Actuator P/N	Adapter P/N	Shaft Diameter (in)	Shaft Extension (in)	Boss Diameter (in)	Boss Height (in)	Bolt Size	Bolt Circle
Allen Bradley	TLY-A130T-_AA	OLE-150x-(50)x-ND	D-109958	8mm	0.98	1.180/1.181	0.1	0.177	1.811
Allen Bradley	TLY-A130T-_AN	OLE-75x-(50)x-NC	D-109968	0.25	1.063	0.866	0.08	8-32 Tapped	1.725
Allen Bradley	TLY-A230T-_AN	OLE-350x-(50)x-NE	D-109959	12mm	1.181	1.967/1.968	0.12	0.26	2.76
Allen Bradley	TLY-A2540P	Special1	Special	16mm(.630)	1.378	2.754/2.755	0.12	0.26	3.94
Lin	BL17B40	OLE-75x-(50)x-NA	D-109960	5mm	0.83	0.988	0.12	M4	1.00 Sq
Lin	BL24B46-01	OLE-150x-(50)x-NC	None Required	0.25	0.81	1.499/1.500	0.06	0.2	1.86 Sq
Lin	BL25B19-01	OLE-150x-(50)x-NC	Special	0.25	0.81	2.124/2.128	0.06	0.2	1.95 Sq
Mitsubishi	HC-KFS13	OLE-150x-(50)x-ND	D-109958	8mm	0.98	1.180/1.181	0.098	0.177	1.811
Mitsubishi	HC-KFS43	OLE-350x-(50)x-NG	D-109959	14mm(.551)	1.181	1.967/1.968	0.118	0.228	2.755
Mitsubishi	HC-KFS73	Special1	Special	19mm(.748)	1.575	2.755/2.756	0.118	0.26	3.543
Mitsubishi	HC-MFS053(B)	OLE-150x-(50)x-ND	D-109958	8mm	0.94	1.181	0.098	0.177	1.811
Mitsubishi	HC-MFS43(B)	OLE-350x-(50)x-NG	D-109959	14mm(.551)	1.181	1.967/1.968	0.118	0.228	2.756
Mitsubishi	HC-MFS73	Special1	Special	19mm(.748)	1.574	2.754/2.755	0.118	0.26	3.543
Panasonic	MSMD5A_1_	OLE-150x-(50)x-ND	D-111352	8 mm	30 mm	1.811	0.12	0.13	1.181
Panasonic	MSMD01_1_	OLE-150x-(50)x-ND	D-111352	8 mm	30 mm	1.811	0.12	0.13	1.181
Panasonic	MSMD021_1_	OLE-350x-(50)x-NH	D-111353	11 mm	50 mm	1.969	0.12	0.18	2.756
Panasonic	MSMD041_1_	OLE-350x-(50)x-NG	D-111353	14 mm	50 mm	1.969	0.12	0.18	2.756
Yaskawa	SGMJV-01A	OLE-150x-(50)x-ND	D-109958	8mm	0.984	1.181	0.098	0.169	1.811
Yaskawa	SGMJV-04A	OLE-350x-(50)x-NG	D-109959	14mm(.551)	1.181	1.967/1.968	0.118	0.216	2.756

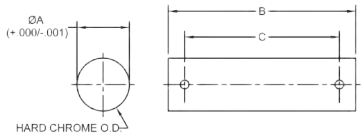
Accessories

Rod Clevis



Model	Part No.	A	D	E	F	G	H	J
75	RS-RC437	0.50	0.50	0.75	0.75	7/16-20	1.50	0.50
150	RS-RC500					1/2-20		
350	RS-RC750	0.75	0.63	1.25	1.25	3/4-16	2.38	0.75

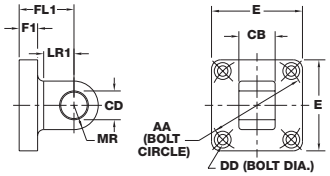
Clevis Pin



Model	Part No.	A	B	C
75, 150	RS-CP500	0.50	2.25	1.94
350	RS-CP750	0.75	3.00	2.72

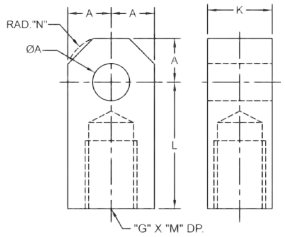
(Clevis pins sold with (2) S.S. cottter pins)

Mating Pivot Bracket



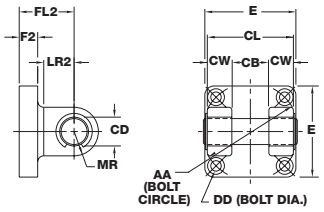
Model	Part No.	AA	CB	CD	DD	E	F1	FL1	LR1	MR
75, 150	APB-1	2.00	0.75	0.50	0.19	1.88	0.38	1.12	0.745	0.50
350	APB-2	2.83	1.25	0.75	0.312	2.75	0.50	1.88	1.10	0.69

Rod Eye



Model	Part No.	A	K	L	G	M	N
75	RS-RE437	0.50	0.75	1.50	7/16-20	0.75	0.63
150	RS-RE500				1/2-20		
350	RS-RE750	0.75	1.25	2.06	3/4-16	1.13	0.88

Mating Clevis Bracket*

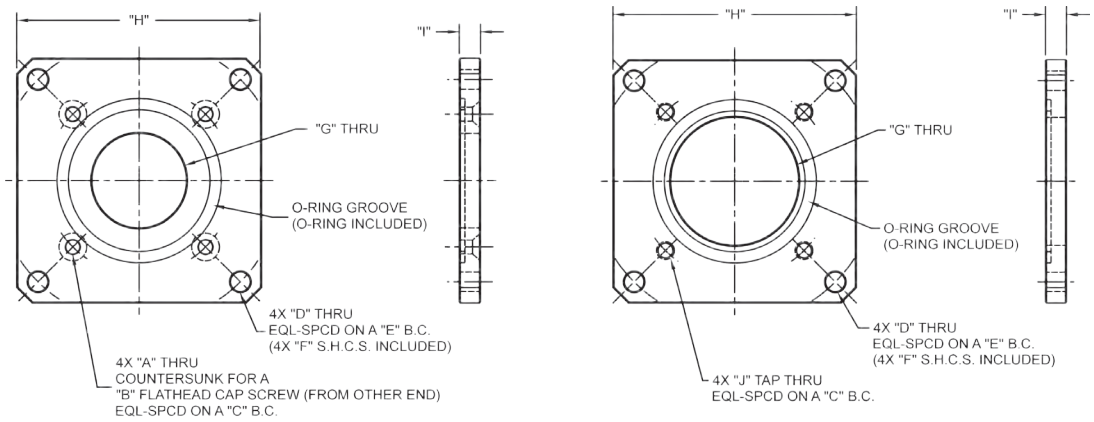


Model	Part No.	AA	CB	CD	CL	CW	DD	E	F2	FL2	LR2	MR
75, 150	ACB-1	2.00	0.75	0.50	1.75	0.50	0.19	1.88	0.38	1.12	0.745	0.50
350	ACB-2	2.83	1.25	0.75	2.50	0.62	0.312	2.75	0.38	1.25	0.85	0.69

*Includes case hardened pin

Accessories

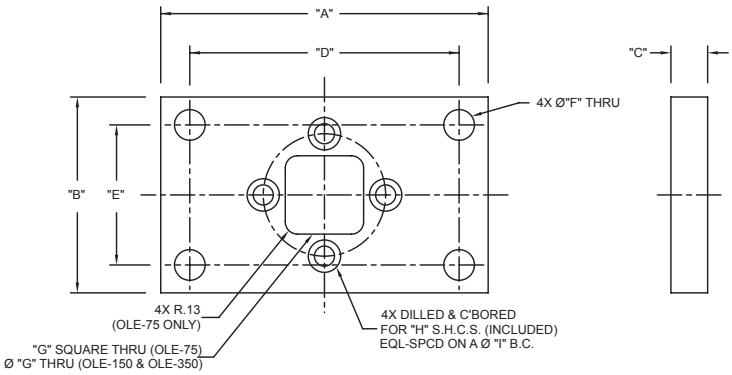
Adapter Plates



Part No.	A	B	C	D	E	F	G	H	I	J
D-109957	.13	#4	1.73	.18	2.63	#8	.87	2.25 SQ.	.20	N/A
D-109958	N/A	N/A	1.81	.18	2.63	#8	1.18	2.25 SQ.	.20	#8-32 UNC-2B
D-109959	N/A	N/A	2.76	.20	3.87	#10	1.97	3.39 SQ.	.30	#10-24 UNC-2B
D-109960	.17	#8	1.41	.18	2.63	#8	.99	2.25 SQ.	.20	N/A
D-109968	.18	#8	1.73	.18	2.63	#8	.87	2.25 SQ.	.20	N/A
D-111352	N/A	N/A	1.77	.18	2.63	#8	1.18	2.25 SQ.	.20	M3
D-111353	N/A	N/A	2.76	.20	3.87	#10	1.97	3.39 SQ.	.30	#8-32 UNC-2B

MF1 Mounting Plate

(Allows OLE to front mount to standard NFPA MF1 dimensions.)



Part No.	Model	A	B	C	D	E	F	G	H	I
MFEA-75	75	3.34	2.00	0.38	2.75	1.43	0.31	0.80	#8	1.25
MFEA-150	150	4.09	2.50	0.38	3.38	1.84	0.38	1.35	#10	1.75
MFEA-350	350	5.47	3.75	0.63	4.69	2.76	0.44	2.00	1/4	2.50

How to Order

The model number of all Original Line Electric® Actuators consists of alphanumeric clusters designating product type, body size (number designates maximum thrust capacity in pounds), stroke length, lead, mounting style, motor type and configuration, and options. The example below describes OLE-7512.12-50BF-T1Y2, a 75 pound maximum thrust model with 1.5 inch diameter body, 12.12 inch stroke, 0.50 inch lead, block front mount, switch track, 23 frame stepper motor with encoder, and drive. Piston magnets are included.

Model
OLE

Body Size	
75	75 lbs. thrust - 1.5" dia.
150	150 lbs. thrust - 2" dia.
350	350 lbs. thrust - 3" dia.

Stroke Lengths
1 - 18 inches continuous (speed limited)

Mounting	
Blank	Tapped Holes
BF	Block Front
FM	Foot Mount
Q	Reverse Parallel Motor Mount with Rear Clevis
R	Reverse Parallel Motor Mount
S	Reverse Parallel Motor Mount with Rear Pivot
T	Trunnion Mount
	Front Clevis[2]
	Front Pivot[2]

[2] For front clevis or pivot mounting, order kits in accessories section.

OLE - 75 12.12 - 50 BF - T1Y2

Lead (inches per turn of screw)			
Model	**Leads**		
75	12[1]	50	75
150	16[1]	25	50
350	20[1]	50	100

Lead	Value (in)
12	.125 [1]
16	.16 [1]
20	.20 [1]
25	.25
50	.50
75	.75
100	1.0

[1] Self locking threads. Back-drive thrust limit exceeds that of the actuator.

Options	
FT	Female Rod Threads
T	Switch Track (T1, T2, T3, T4 specify track position on body)
EE	Extra Rod Extension (x.xx inches)

Brakes	
Motor Size Compatibility	**Brake Option**
NEMA 17, P1, E1, Y1, Z1	K1[3]
NEMA 23, P2, E2, Y2, Z2	K2[3]
NEMA 34, P3, E3, Y3, Z3	K3[3]

[3] Longer lead times may apply for brake option. Contact Bimba Technical Support for details.

Coupler	Motor Shaft Diameter
A	5 mm
B	6 mm
C	0.25 inch
D	8 mm
E	12 mm
F	0.50 inch
G	14 mm
H	11 mm

Motors and Drives (pick only one option)			
	75	**150**	**350**
No motor (second digit defines coupler)	NA[4], NB[4], NC[4]	NB, NC, ND	NE, NF, NG
DC Stepper	P1, P2, P6	P2, P8	P3, P10
DC Stepper and Encoder	E1, E2, E6	E2, E8	E3, E10
DC Stepper and Drive[5 6]	Y1, Y2	Y2	Y3
DC Stepper, Encoder, and Drive[5 6]	Z1, Z2	Z2	Z3
AC Stepper[6]	A1	A5	A9
Integrated Stepper IntelliMotor®	S1, S3, S5, S7, S9, S11	S2, S4, S6, S8, S10, S12	--
AC Stepper and Encoder[6]	A2	A6	A10

[4] Adapter D-109957 is required for mounting 17 frame steppers.
[5] Non-Programmable step/direction drive.
[6] For AC and DC Intelligent Programmable drives, see page 8

Incompatible Options

The following options cannot be ordered together.

Model	BF	FM	T*	R	S	Q	Couplers	Motors	Motor and Encoder	Motor and Drive	Motor, Encoder, and Drive
75	FM, T*	BF, T*	FM, BF	N, S, Q	N, R, Q	N, R, S	D, E, F, G	P3, P8, P9, P10, P11, P12	E3, A5, A6, A7, A8, A9, A10, A11, A12, E3, E8, E9, E10, E11, E12	Y3	Z3, S2, S4, S6, S8, S10, S12
150	FM, T*	BF, T*	FM, BF	N, S, Q	N, R, Q	N, R, S	A, E, F, G	P1, P3, P4, P6, P7, P10, P11	E1, E3, E4, E6, E7, E10, E11, S1, S3, S5, S7, S9, S11, A1, A2, A3, A4, A9, A10, A11, A12	Y1, Y3	Z1, Z3, S1, S3, S5, S7, S9, S11
350	FM, T*	BF, T*	FM, BF	N, S, Q	N, R, Q	N, R, S	A, B, C, D	P1, P2, P4, P6, P7, P8, P9, A1, A2, A3, A4, A5, A6, A7, A8	E1, E2, E3, E4, E6, E7, E8, E9, A2, A4, A6, A8	Y1, Y2	Z1, Z2, S1, S2, S3, S4, S5, S6, S7, S8, S9, S10, S11

Refer to the "Motors and Drives" section for a complete list of all available Bimba motors and drives.

How to Customize

Some of the options that can be uniquely added to an OLE actuator as a Bimba "special" or customization are shown below. Please contact your Bimba Customer Service representative at (800) 442-4622 (800.44.BIMBA) or email cs@bimba.com for additional details and information.

NOTE: Not all customatizations are available for every type. Contact Bimba Customer Service for details.

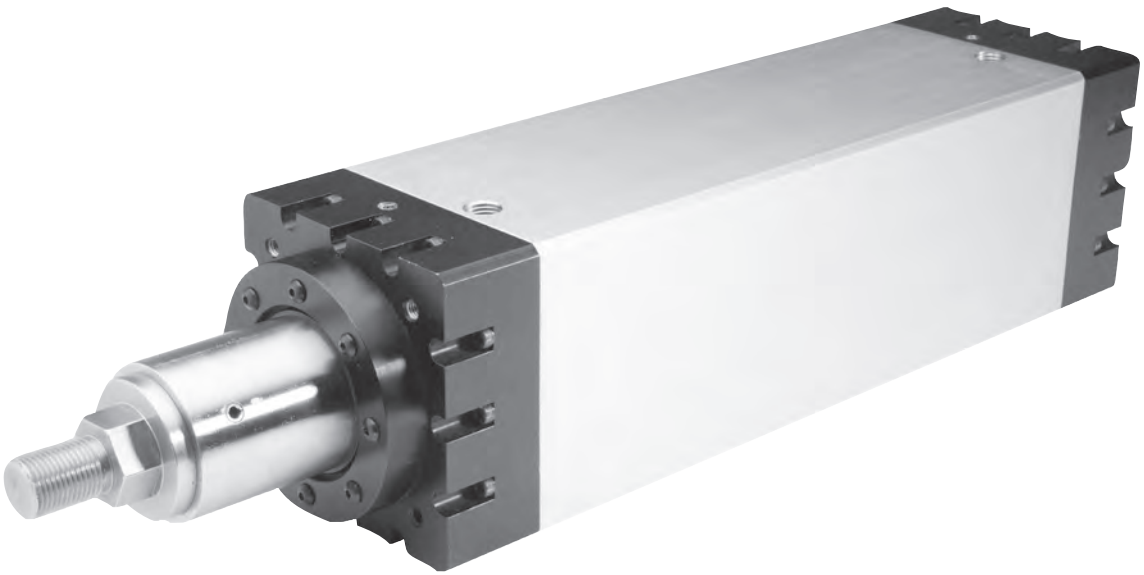
Common Customizations

- Stainless steel
- IP65 or IP66 washdown
- Specialized motor mount adaptors
- Brakes
- Low backlash designs
- Special motors
- RoHS compliant
- Alternative leads
- Unique mounting
- Rod end plates
- Brass nuts
- Servo motors
- Special mounting options

Notes

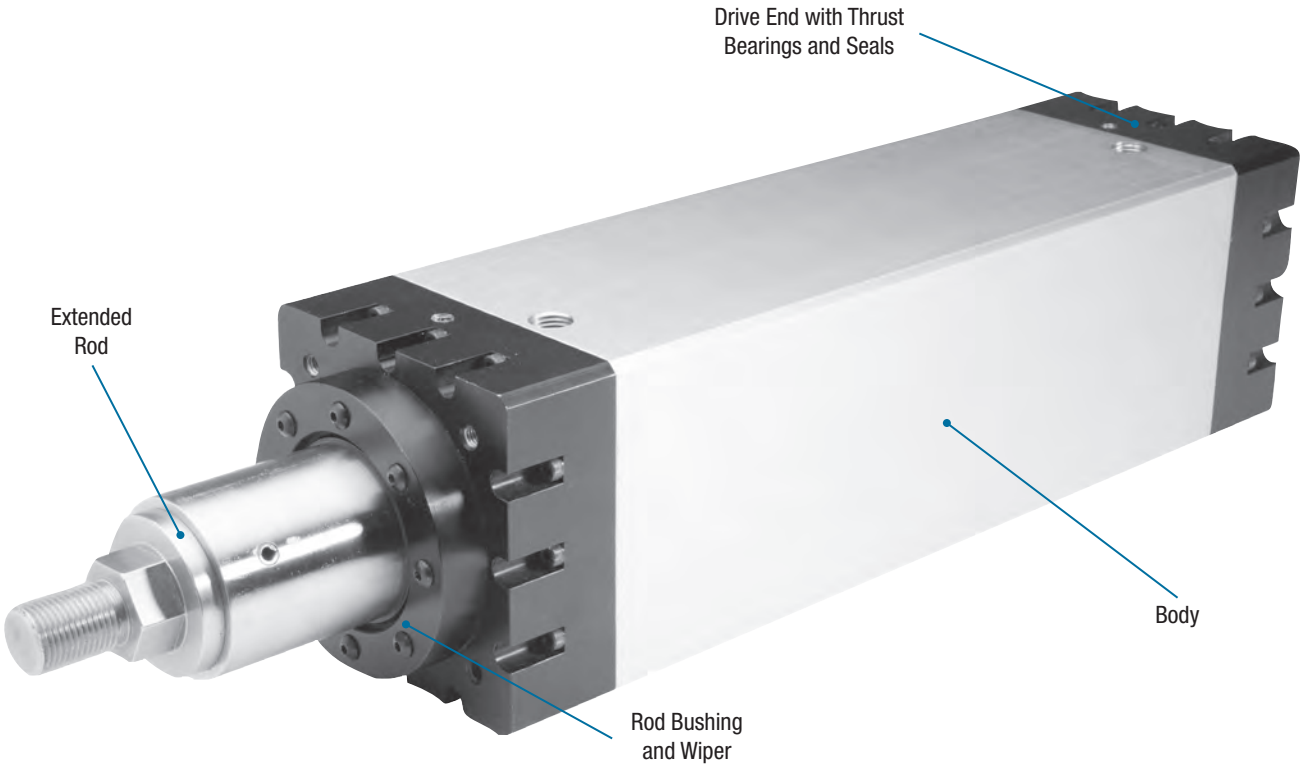
T Series Rod Style Actuators

Bimba's T Series rod-style actuators are heavy duty ballscrew driven actuators intended to move your heaviest loads with great precision, ease, and flexibility. In cases where an application calls for a hydraulic replacement or an electric rod solution that matches or exceeds that of a comparable pneumatic cylinder solution, the T Series provides the performance that allows you to select the best solution for your particular application.



Contents

Product Features



The T Series electric actuator is a rod-style actuator with extreme thrust capability. The ballscrew design is available in 5-25mm leads and in long lengths, up to 5ft. When a workhorse electric actuator with pneumatic and even hydraulic cylinder-like performance characteristics is needed, the Bimba T Series can meet the need with the added luxury of clean, high precision motion.

Features and Benefits

Precision Rolled Ballscrew

> Ideal for high thrust applications
> Ideal for high-accuracy applications
> Precision to 0.001”
> Available with 5, 10, 16, 20, 25, 32 and 50 leads
> Optional leadscrews available
> Lengths to 1.5m (~60” or 5’)

Optional Belt Reduction Drive System:

> Space saving motor to actuator belt drive
> Belt drive reduction available up to 2:1
> Adapts to your motor dimensions or a Bimba motor
> Maximize torque and thrust potential

Rod End & Mounting options:

> Rod eye
> Rod clevis
> Rod coupler
> Side lugs mount
> Pillow block mount
> Rear clevis mount
> Head end flange mount
> Drive end flange mount
> Both ends flange mount
> Trunnion mount

Optional Thruster Version:

> Add-on guide shaft and thruster block
> Ideal for side load moment loading
> Perfect for non-guided loads

The T Series rod-style actuator works by taking advantage of a high strength precision-rolled ballscrew with varying diameters and ballscrews, leading to the generation of high forces needed to move your heaviest loads. With end bearing capacity of up to 39,000 lbs, and screw dynamic loading capacity of nearly 112,000 lbs, the T Series thruster provides force on par with a large pneumatic actuator and often serves as a more flexible and cleaner hydraulic cylinder replacement.

With a non-rotating nut and extension rod, the sleek design offers smooth, effortless motion in an extruded package that looks great and performs even better. For solutions that call for motion of a non-guided load, the T Series offers an add-on thruster block and guide shaft that allows use in non-guided loading applications that are often encountered in industry.

Materials of Construction

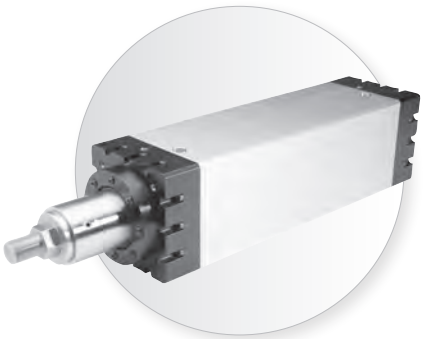
Thrusters	
Body:	Aluminum
Ends:	Aluminum
Extension Rod:	Stainless Steel
Rod Bushing:	Delrin or Bronze
Ball Nut Adapter:	Steel
Wear Plates:	Delrin

Guided Thrusters	
Body:	Aluminum
Tool Plate:	Aluminum
Guide Rod:	Hardened Steel
Bushings:	Ball Bushings or TFF

How it Works

Application Ideas

- Pick & Place
- Sorting
- Gating
- Loading
- Lifting
- Stacking
- Insertion
- Dispensing
- Clamping
- Parts Transfer
- Valve Control
- Machine Tool
- Pressing



Target Applications

The T Series is intended for medium, heavy, and extreme duty industrial applications that require flexible, high torque motion where there is an expectation of high thrust needed to move a load. When your application calls for up to ~1.5m (~5ft) of stroke with up to 22 tons (213700 N) of dynamic loading and a speed capability in the 0.8m/sec (~32"/sec) range, the T Series offers you unbelievably robust performance to tackle your most challenging motion applications.

For applications that call for an alternative solution to a traditional large pneumatic application or a potentially messy hydraulic application, and that offers a more adaptable solution, Bimba ball-screw electric rod-style actuators provide the interchangeable solution that adapts alongside your business in an easy-to-use, long-lasting and tough electric actuator that outdoes the competition. The Bimba T Series actuator is the right solution in today's constantly changing world, meeting your application expectations today, tomorrow, and beyond.

Drive Options

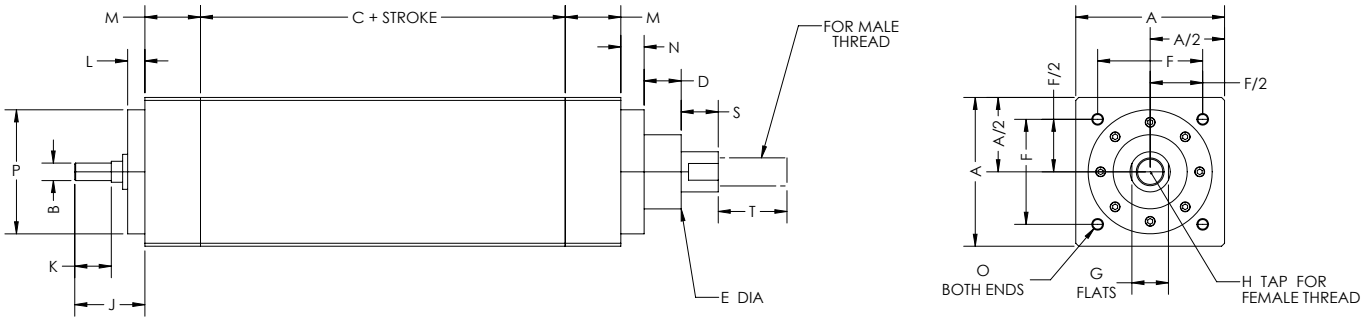
There are two drive interfaces to choose from, you may select a single standard inline shaft input or our reverse parallel belt drive in a 1, 1.5:1, or 2:1 ratio. With many Bimba stepper and servo motors available to choose from, configuring an electric actuator that best meets the needs of even your most demanding application has never been easier. You can also use your own preferred motor; Bimba likely has a motor mount configuration that will fit. If we don't, we can design a motor mount that fits your unique motor.

Advantages

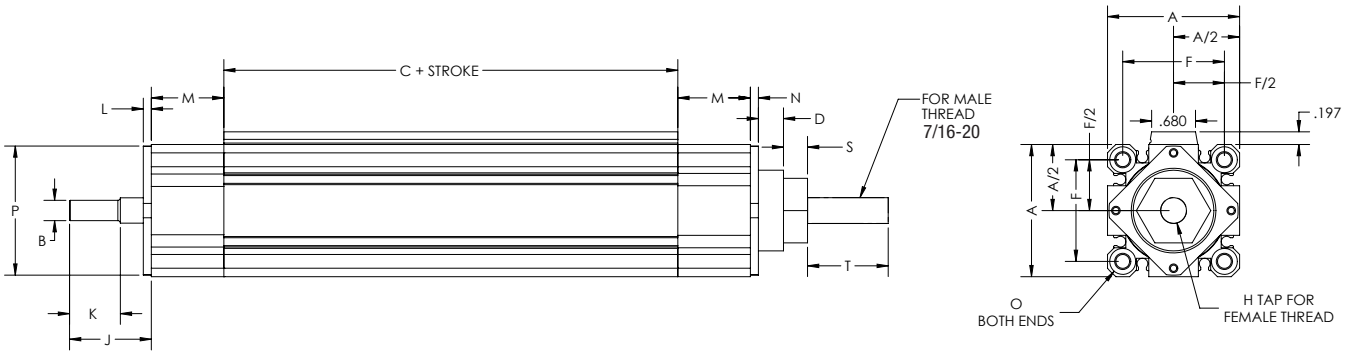
Feature	Advantage	Benefit
Precision-rolled ballscrews	Higher accuracy and repeatability	Realize unmatched positional performance leading to reliable output, less waste, and increased throughput
Oversized thrust bearing	Provides maximum amounts of screw capacity in excess of 48,000 lbs.	Offers extreme thrust capability to solve nearly any loading need and provides an alternative to larger bore pneumatics and hydraulics

Dimensions

Key specification information for T Series actuators is given below. For additional specification information, contact Bimba Customer Service at cs@bimba.com, or 800.44.BIMBA (800.442.4622).

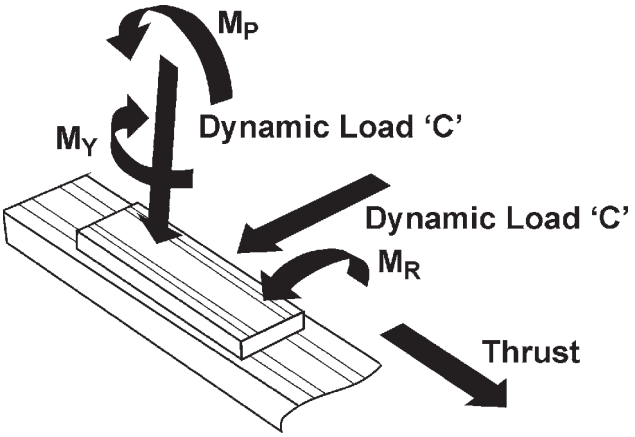


		Dimensions																
Actuator	**Screw Diameter**	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**S**	**T**
T60	15	63.5	10	76.2	15	38.1	54	19	M16	40	20	12.7	25.4	9.5	M5	63.5	19	19
	20		12	102						48	25							
	25		15	76.2						50	25							
T80	25	102	15	76.2	25.4	50.8	70	25	M20	49.8	25	11.8	38.1	15.9	M6	85	19.1	25.4
	32		20	102						62.3	36							
	40		25	112						80	42							
T130	40	127	25	112	31	70	90	30	M24	83.8	42	19.1	38.1	19.1	M8	105	31.8	38.1
	50		35	130						102	60							
T150	63	153	45	160	31	102	110	55	M36	140	80	28.6	44.5	48.6	M10	135	38.1	45
T200	80	203	60	215	31	127	150	63.5	M50	150	100	25.4	63.5	30	M12	171	50.8	50.8



		Dimensions																
Actuator	**Screw Diameter**	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**S**	**T**
T30	.5	52	8	102.5	2.8	29.3	98.7	10	M10	32.2	20	3.2	28.5	3.2	M5	50.8	9.5	31.8

Specifications



Linear Actuator	Extrusion	
	Moment of Inertia	
	Ix (cm4)	Iy (cm4)
T60	70	70
T80	342	342
T130	950	950
T150	2100	2100
T200	5620	5620

Screw Diameter	Thruster Sizes	Screw Lead	End Bearing Capacity		Screw Capacity	
			Dynamic Load N (lbs)	Static Load N (lbs)	Dynamic Load N (lbs)	Static Load N (lbs)
1/2"	T30	0.20"	3541 (796)	3069 (690)	2669 (600)	13,233 (2975)
15	T60	5mm	12,400 (2790)	7650 (1720)	5100 (1146)	10,500 (2360)
		10mm			5100 (1146)	10,500 (2360)
		16mm			4300 (966)	10,200 (2293)
20	T60	5mm	21,200 (4770)	13,400 (3010)	6200 (1394)	14,700 (3305)
		10mm			10,600 (2383)	22,700 (5103)
		20mm			6200 (1394)	14,700 (3305)
	T80	50mm			13,000 (2923)	24,600 (5530)
25	T60, T80	5mm	26,000 (5850)	16,600 (3730)	6600 (1484)	18,700 (4204)
		10mm			27,500 (6182)	76,300 (17.152)
		25mm			9300 (2090)	22,700 (5103)
	T80	50mm			15,400 (3463)	31,700 (7126)
32	T80	5mm	42000 (9500)	31,000 (6970)	23,300 (5238)	45,500 (10,229)
		10mm			33,800 (7599)	52,000 (11,690)
	T130	20mm			47,200 (10,611)	83,200 (18,704)
		32mm			18,000 (4047)	34,700 (7800)
		40mm			14,900 (3350)	32,400 (7284)
40	T80, T130	5mm	55,900 (12,600)	42,500 (9550)	26,300 (5912)	59,200 (13,309)
		10mm			78,600 (17,670)	136,200 (30,619)
	T130	20mm			52,200 (11,735)	103,600 (23,290)
		40mm			59,700 (13,421)	108,900 (24,482)
50	T130	10mm	79,300 (17,800)	65,500 (14,700)	97,800 (21,986)	213,200 (47,929)
	T150	20mm			78,800 (17,715)	188,700 (42,421)
63	T150	10mm	119,000 (26,800)	102,000 (22,900)	11,185 (24,662)	28,100 (61,957)
	T200	20mm			103,100 (23,178)	270,800 (60,878)
80	T200	10mm	174,000 (39,100)	160,000 (36,000)	121,900 (27,404)	375,000 (84,303)

Motors and Drives

Bimba motors are available to use as the rotary drive mechanism of the T Series. With a complete array of stepper and servo motors available in stock, Bimba has a motor*-drive solution that meets many demanding applications.

Configuring your motor and creating your first motion profile program is easier than ever with Bimba's intuitive and icon based IQ® suite of motion software. With our complete software suite available for free download from the Bimba website, there is no additional cost to your motion project. All Bimba stepper and servo programming software uses the same IQ® programming software, greatly reducing the learning curve. Existing programs can be easily shared or adapted among the two motor technologies.

See the Electric Motors Catalog for Bimba's wide selection of available motors and motor drives.

**Contact Bimba's Customer Service team for help in crossing your motor to a Bimba motor.*

IntelliMotor®
ITM-23Q-2-EIP-E-M12

AC Stepper Motor
MTR-AC23T-753-S

Reverse Parallel Motor Mounts

In cases where space saving is critical, or in which gaining mechanical advantage via a geared drive belt pulley leads to an improved design, Bimba offers reverse parallel motor mounts. They are offered for use with nearly any Bimba motor or customer-provided motor. The option to mount in either the left or right hand position for the T Series actuator adds flexibility.

- Adapts to your motor dimensions
- Available in reduction ratios up to 2:1

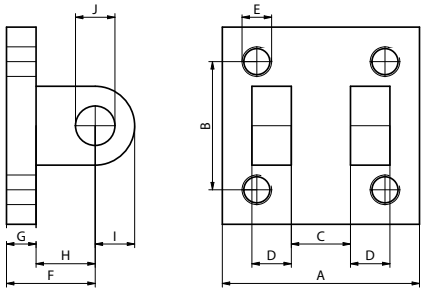
T Series in Reverse Parallel Configuration

Bimba Servo Motor in an in-line configuration

How to Accessorize

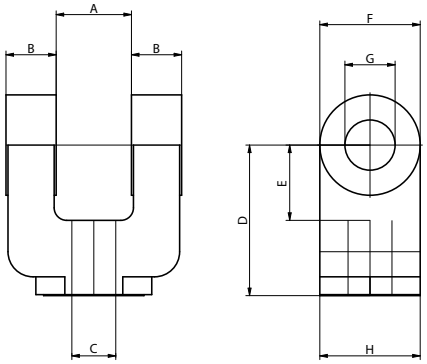
Mounting Options

Rear Clevis Mounting (MP2)



Actuators	Dimensions (mm)									
	A	B	C	D	E (in)	F	G	H	I	J
T60	63.5	41.3	19.1	12.7	3/8-24	28.6	9.5	19.1	12.7	12.7
T80	88.9	65.1	31.8	15.9	1/2-20	47.6	15.9	31.8	19.1	19.1
T130	88.9	65.1	31.8	15.9	1/2-20	47.6	15.9	31.8	19.1	19.1
T150	114.3	82.6	38.1	19.1	5/8-18	57.2	19.1	38.1	25.4	25.4
T200	127.0	96.9	50.8	25.4	5/8-18	76.2	22.2	54.0	34.9	34.9

Rod Clevis Mounting (FC2)



Actuators	Dimensions (mm)							
	A	B	C (in)	D	E	F	G	H
T60	19.1	12.7	0.438-20	38.1	20.3	25.4	12.7	25.4
T80	19.1	12.7	0.500-20	38.1	20.3	25.4	12.7	25.4
T130	31.8	19.1	0.750-16	60.3	33.0	38.1	19.1	38.1
T150	38.1	25.4	1.000-14	79.4	38.1	50.8	25.4	50.8
T200	50.8	34.9	1.250-12	104.8	53.3	69.9	34.9	69.9

Mounting Guide

Model	Rod Clevis	Rod Eye	Clevis Pin	Clevis Bracket	Eye Bracket
T30	SS-RC437	SS-RE437	SS-CP500	SS-CB500	SS-EB500
T60	SS-RC437	SS-RE437	SS-CP500	SS-CB500	SS-EB500
T80	SS-RC500	SS-RE500	SS-CP750	SS-CB750	SS-EB750
T130	SS-RC750	SS-RE750	SS-CP750	SS-CB750	SS-EB750
T150	SS-RC1000	SS-RE1000	SS-CP1000	SS-CB1000	SS-EB1000
T200	SS-RC1250	SS-RE1250	SS-CP1375	SS-CB1375	SS-EB1375

The model numbers of T Series rod-style actuators consist of an alphanumeric cluster designating product type, stroke length, drive type, drive location, gear ratio (optional), external scale (optional), and other optional components that together make up the complete part number to use in ordering. Use the ordering information below to build a valid part number.

An example of a basic T60 unit with a single drive shaft, 20mm ballscrew, 10mm lead, front flange mounting, English male tapped rod style, and standard protection is shown below.

Stroke
XXXX (mm)

Drive	
SD	Standard Drive

Screw Lead	
05	5mm lead
10	10mm lead
16	16mm lead
20	20mm lead
25	25mm lead
32	32mm lead
0.2	0.2" lead

Rod Style*	
FTE	English Female Tapped
FTM	Metric Female Tapped
MTE	English Male Tapped
MTM	Metric Male Tapped
FS2	Rod Eye - Spherical
FC2	Rod Clevis

T 60 0250 SD 20 10 MF1 MTE N 00

Style	
T	Rod
GT	Thruster

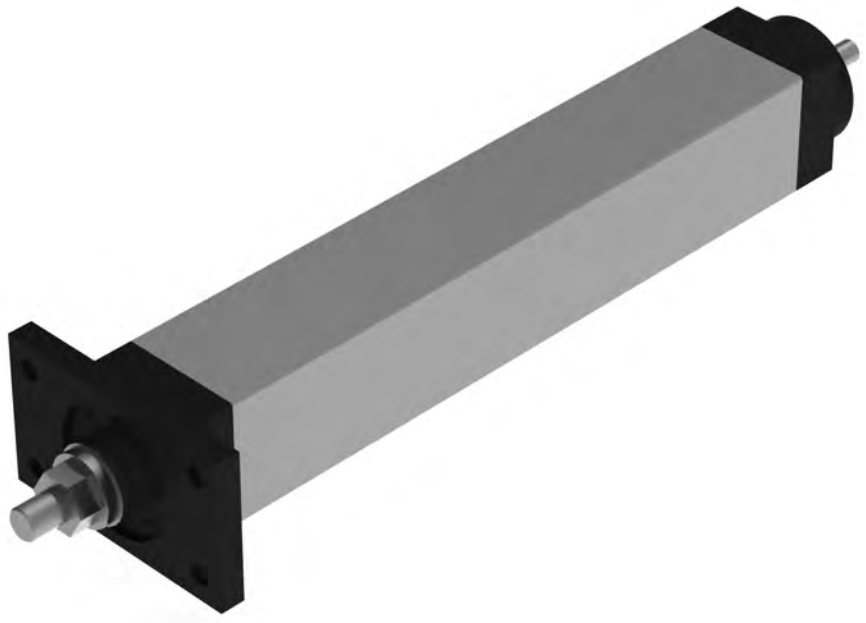
Size
30
60
80
130
150
200

Screw Diameter
0.5
15
20
25
32
40
50
63
80

Mounting Style	
MF1	Front Flange
MF2	Rear Flange
MF3	Both Flanges
MS2	Side Lugs - Feet
MP2	Rear Clevis - No Base
MP3	Rear Clevis - Complete
MT1	Rod End Trunnion
MT2	Drive End Trunnion

Keyway	
Y	Yes
N	No

Protection	
00	Standard
Z1	Corrosion-Resistant
SS	Stainless Steel



NOTE: If a motor or gearbox adapter is required, please refer to the Adapters section of the Accessories chapter in this catalog.

How to Repair

Bimba T60 - T200 electric actuators are repairable. A list of the individual components is given below that together make up the T60 - T200 electric actuators. The “XX” in each number indicates the ballscrew diameter in the How to Order sequence.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

T60 - T200 Repair Parts

Quantity	Part Description	T60 Part Numbers	T80 Part Numbers	T130 Part Numbers	T150 Part Numbers	T200 Part Numbers
1	Front End Plate	T60-P07-XX	T80-P07-XX	T130-P07-XX	T150-P07-XX	T200-P07-XX
1	Drive End Plate	T60-P05-XX	T80-P05-XX	T130-P05-XX	T150-P05-XX	T200-P05-XX
1	Thrust Bearings	T60-P18-XX	T80-P18-XX	T130-P18-XX	T150-P18-XX	T200-P18-XX
1	Shaft Seal	T60-P16-XX	T80-P16-XX	T130-P16-XX	T150-P16-XX	T200-P16-XX
1	Lock Nut	T60-P17-XX	T80-P17-XX	T130-P17-XX	T150-P17-XX	T200-P17-XX
1	Rod Wiper	T60-P11-XX	T80-P11-XX	T130-P11-XX	T150-P11-XX	T200-P11-XX
1	Ballscrew	T60-P04-XX	T80-P04-XX	T130-P04-XX	T150-P04-XX	T200-P04-XX
1	Spacer	T60-P10-XX	T80-P10-XX	T130-P10-XX	T150-P10-XX	T200-P10-XX
1	Drive Retainer	T60-P08-XX	T80-P08-XX	T130-P08-XX	T150-P08-XX	T200-P08-XX
1	Front Retainer	T60-P09-XX	T80-P09-XX	T130-P09-XX	T150-P09-XX	T200-P09-XX
1	Front Seal Support	T60-P12-XX	T80-P12-XX	T130-P12-XX	T150-P12-XX	T200-P12-XX
1	Bushing	T60-P15-XX	T80-P15-XX	T130-P15-XX	T150-P15-XX	T200-P15-XX
1	Washer	T60-P20-XX	T80-P20-XX	T130-P20-XX	T150-P20-XX	T200-P20-XX
1	End Bolt	T60-P13-XX	T80-P13-XX	T130-P13-XX	T150-P13-XX	T200-P13-XX
1	Nut Adapter	T60-P03-XX	T80-P03-XX	T130-P03-XX	T150-P03-XX	T200-P03-XX
4	Guides	T60-P02-XX	T80-P02-XX	T130-P02-XX	T150-P02-XX	T200-P02-XX
1	Rod End	T60-P06-XX-RE	T80-P06-XX-RE	T130-P06-XX-RE	T150-P06-XX-RE	T200-P06-XX-RE
1	Extension Tube	T60-P06-XX	T80-P06-XX	T130-P06-XX	T150-P06-XX	T200-P06-XX
1	Main Housing	T60-P01-XX	T80-P01-XX	T130-P01-XX	T150-P01-XX	T200-P01-XX
1	Front Flange Mounting	T60-MF1	T80-MF1	T130-MF1	T150-MF1	T200-MF1
1	Rear Flange Mounting	T60-MF2	T80-MF2	T130-MF2	T150-MF2	T200-MF2
1	Both Flanges	T60-MF3	T80-MF3	T130-MF3	T150-MF3	T200-MF3
1	Side Lugs - Foot Mounting	T60-MS2	T80-MS2	T130-MS2	T150-MS2	T200-MS2
1	Rear Clevis - No Base	T60-MP2	T80-MP2	T130-MP2	T150-MP2	T200-MP2
1	Rear Clevis - Complete	T60-MP3	T80-MP3	T130-MP3	T150-MP3	T200-MP3
1	Rear Fork - No Base	T60-MP4	T80-MP4	T130-MP4	T150-MP4	T200-MP4
1	Rod End Trunnion	T60-MT1	T80-MT1	T130-MT1	T150-MT1	T200-MT1
1	Drive End Trunnion	T60-MT2	T80-MT2	T130-MT2	T150-MT2	T200-MT2
1	Rod Clevis	T60-FC2	T80-FC2	T130-FC2	T150-FC2	T200-FC2
1	Rod Eye -Spherical	T60-FS2	T80-FS2	T130-FS2	T150-FS2	T200-FS2
1	Rod Coupler	T60-RC1	T80-RC1	T130-RC1	T150-RC1	T200-RC1

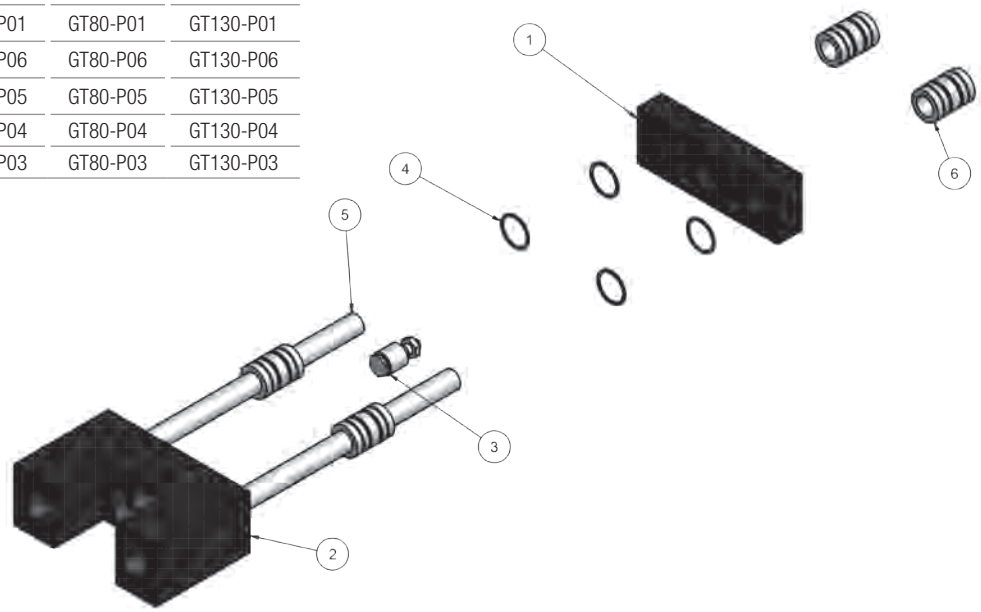
Bimba T30 electric actuators are repairable. A list of the individual components is given below that together make up the T30 electric actuator.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

T30 Repair Parts

Quantity	Part Number	Part Description
1	T30-P01-10	Body
1	T30-P02-10	Tube
1	T30-P03-10	Bearings (radial)
0.5	T30-P04-375	Ballscrew
1	T30-P04-10	Ballscrew
1	T30-P05-10	Screw Machining
1	T30-P06-375	Ball Nut
	T30-P06-10	Ball Nut
1	T30-P07-10	Flange (MF1)
1	T30-P08-10	Motor Mount
1	T30-P10-10	Rod Wiper
1	T30-P11-10	Bearing Retainer (brass)
2	T30-P12-10	Thrust Bearing
1	T30-P13-10	Anodizing
1	T30-P14-10	Non-Rotating Hardware
1	T30-P15-10	Motor Pulley
1	T30-P16-10	Screw Pulley
1	T30-P17-10	Timing Belt
1	T30-P18-10	Belt Housing

Parts List					
Item	QTM	Description	GT60 Parts	GT80 Parts	GT130 Parts
1	1	Tooling Plate	GT60-P02	GT80-P02	GT130-P02
2	1	Housing	GT60-P01	GT80-P01	GT130-P01
3	1	Rod Aligner	GT60-P06	GT80-P06	GT130-P06
4	4	Retaining Ring	GT60-P05	GT80-P05	GT130-P05
5	2	Guide Rods	GT60-P04	GT80-P04	GT130-P04
6	4	Linear Bearing	GT60-P03	GT80-P03	GT130-P03



How to Customize

Switches

Switches add versatility to your electric motion application. They can be used to provide end of stroke limits, count strokes, or communicate positioning to an outside source. Switches can provide safety to applications as well, preventing undesirable situations like runaways to prevent damage.

To learn more about Bimba's available switch selection, refer to the Switches section in this catalog.

Air/Purge Ports

Air and purge ports are essential for actuators that operate in dirty applications. In both belt- and screw-driven actuators, ports keep dust and grime from egressing, protecting the internals of the actuator. Air and purge ports are recommended for use with Bimba's air preparation products.

When using purge ports, supply dry filtered air to the actuators in order to achieve optimal protection.

Protection

Bimba offers several protection options for our actuators. Our primary options are Armoloy® and stainless steel. **Armoloy®** offers additional protection against moisture and dirt. It is used to coat the steel linear rail and bearings in a Bimba actuator. Armoloy® coating can also be applied to the aluminum extrusion upon request. **Stainless steel** works in conjunction with Armoloy® coatings, providing additional protection to the end caps and carriage.

Additional coatings are available upon request.

Motor Mounting

Motor mounts allow you to mount any motor to any actuator (within the actuator's rating). They give end users the ability to use Bimba electric actuators with the motor of their choosing. Careful considerations regarding torque limitations must be made when mounting a motor the actuator is not rated for.

To request custom motor mounting options, please supply Bimba with the following information: shaft diameter, shaft length, pilot diameter, pilot depth, bolt circle, and hole size.

Customer-requested Holes and Dowel Pins

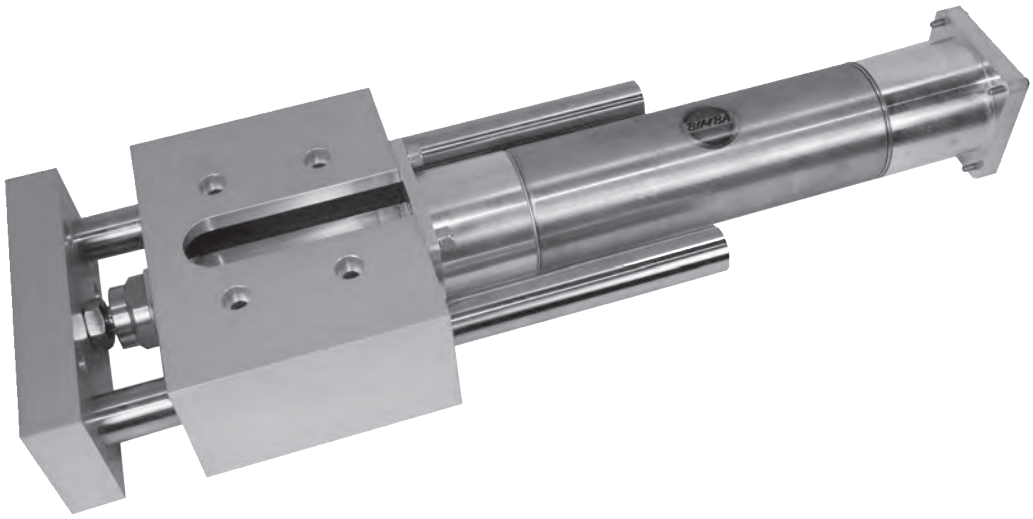
Bimba can provide custom holes and dowel pins to accommodate the customer's specific tooling and mounting holes.

For further customization, contact the factory.

Notes

Original Line Electric® Thrusters

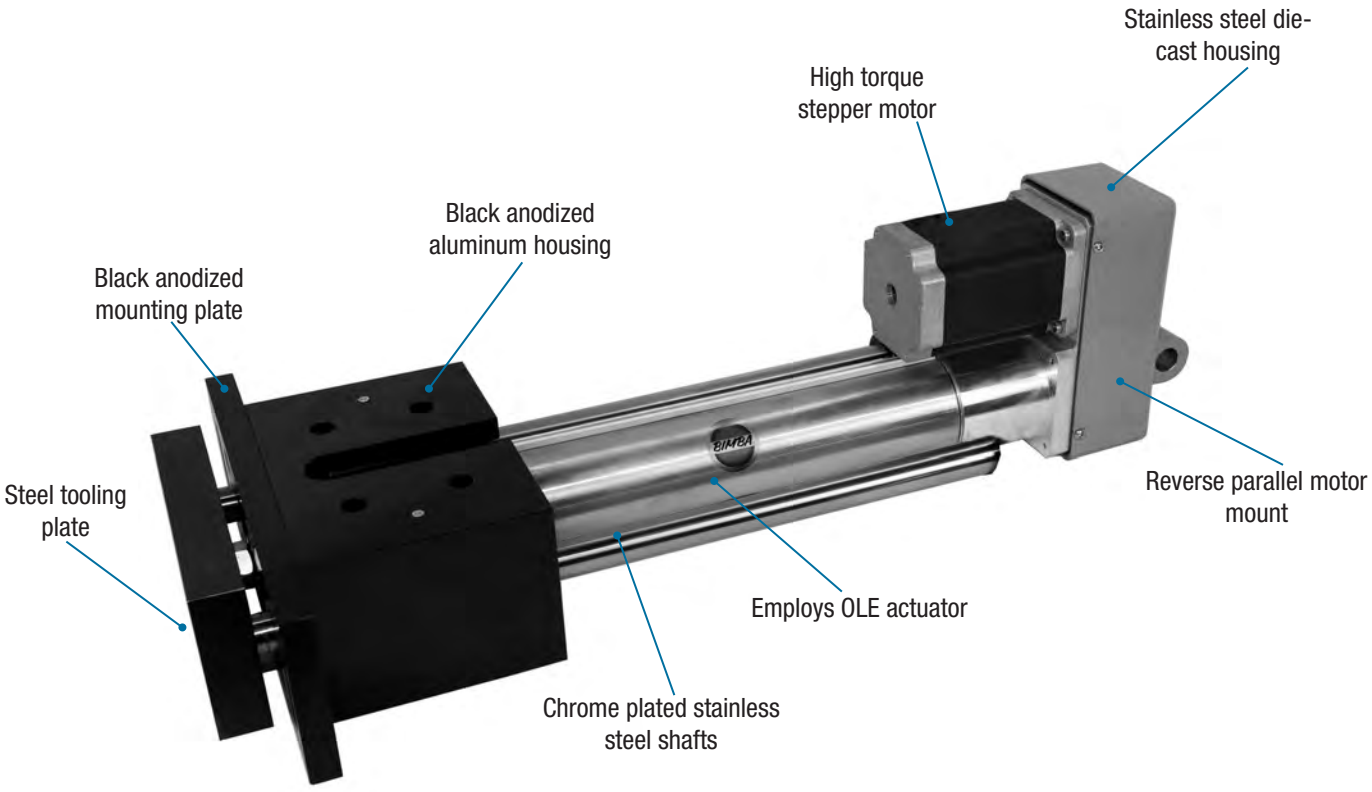
The Original Line Electric® Thruster is a rugged, guided actuator with an OLE cylinder integral to the thruster block. With many types and options to choose from, the OLET offers many variations that allow selection of the most appropriate type to match your unique application needs. They're ideal for applications seeing significant side loading and require greater control and enhanced flexibility. With a large load capability, including a rated moment load up to 3000 in-lbs, and with types that utilize unique components that excel in standard, precision, and even harsh applications, there is sure to be an OLET to meet your most demanding application needs.



Contents

Product Features

Bimba Original Line Electric® Thruster actuators provide the greatest feature set, versatility, and performance at a price you can afford.



Original Line Electric® Thruster (OLET) actuators are alternatives to pneumatic thrusters where plant air quality or compressor availability is not available or lacking and where portability and precise control and positioning are needed.

The model above is OLET-1508-16S-MP-P2-AP; 150 series, 8 inch stroke, reverse parallel motor mount, 0.16 inch lead. The self-locking thread holds the rod in position, even with no power to the motor. Using a 23-frame stepper motor, it is capable of about 150 pounds of thrust at 1 inch per second, or 50 pounds of thrust at about 6 inches per second. Two other leads enable speeds up to 24 inches per second.

Features and Benefits

- Modular design
- Multiple lead drive screws
- Self lubricating composite drive nut
- Custom motor couplers
- Reverse parallel motor mount available (shown above)
- Square rod
- Massive bronze rod bearing and low friction piston wear strip
- Dual angular load bearing
- RoHS compliant
- Order exactly what you need: actuator, motor, and drive, actuator and motor, or actuator only
- High speeds, high precision, and enables longer standard strokes
- High efficiency, high load capacity, high speed, and low noise
- High torque and moment load capacity, corrects axial misalignment of the screw and motor shaft
- Allows rear pivot or clevis mount and reduces overall length
- Prevents rotation and with the bronze rod bearing, provides high durability
- Provides side load capacity
- Absorbs axial loads to protect the motor
- Demonstrates compliance with hazardous substance regulations

Bimba's Original Line Electric® Thruster Actuators are designed, built, and tested to provide the longest life, greatest durability, highest speed, highest side load capability, and greatest thrust per dollar. They are ideal for applications where side loading is present and for those requiring greater control for enhanced flexibility. OLET actuators can adapt to applications that utilize our Original Line® pneumatic thruster cylinders, and are available without motors (sized for steppers or servos), with integral stepper motors, and also with matching step drives.

Definitions

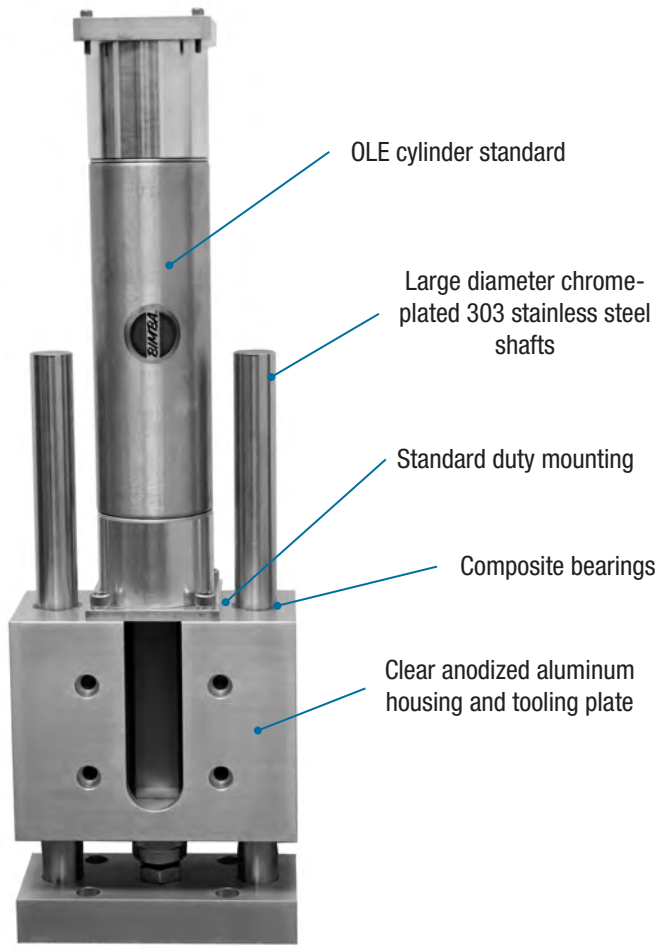
Thrust: Output force of the actuator
Load: Total of all forces opposing the actuator
Repeatability: Window within which the actuator can reposition itself
Backlash: Amount of travel for the actuator with the screw held fixed (measured at the rod end)
Accuracy: Amount of error possible in linear position on screw thread
Lead: The linear distance moved for one turn of the screw
Static Load: Force required to move the mass at a constant speed
Dynamic Load: Force required to accelerate the mass
Friction Load: Force opposing motion of the mass due to surface contact
External Load: All forces not accounted for above
Weight: The force of the mass due to Earth's gravity
Stroke: The distance the mass is moved
Moment Load: Load that tends to overturn or bend the axis of rotation in an angular direction
Side Load: A type of load in which a force is applied to the shaft perpendicular to the shaft's axis beyond a support point

Materials of Construction

Piston:	6061-T6511 Aluminum
Square Rod:	304 Stainless Steel
Motor Mount:	2024-T350 Aluminum
Angular Bearing:	52100 Steel
Rod End:	303 Stainless Steel
Drive Nut:	Acetal (Kerkite)
Coupler:	17-4 PH Stainless Steel
Fasteners:	Alloy Steel and Stainless Steel
Washdown Cap:	6061-T6511 Aluminum
O-Rings:	Buna-Nitrile
Wear Ring:	Glass-filled Teflon
Rod Bearing:	SAE 660 Bronze
Drive Screw:	303 Stainless Steel
Fasteners:	18-8 Stainless Steel
Retaining Rings:	Stainless Steel, Phosphate Covered Spring Steel
Pulleys:	Anodized Aluminum
Belt:	Nylon Covered, Fiberglass Reinforced Neoprene
Mounting Brackets:	304 Stainless Steel
R, Q, S Cap:	CF8 Cast Stainless Steel
Switch Track:	6063-T6 Aluminum
Thruster Housing:	Anodized Aluminum
Guide Shafts:	Chrome Plated 303 Stainless Steel
Tooling Plate 'S' Type:	Anodized Aluminum
Mounting Plate:	Anodized Aluminum
Tooling Plate 'P' and 'H' Type:	Steel
Optional Tooling Plate:	Stainless Steel

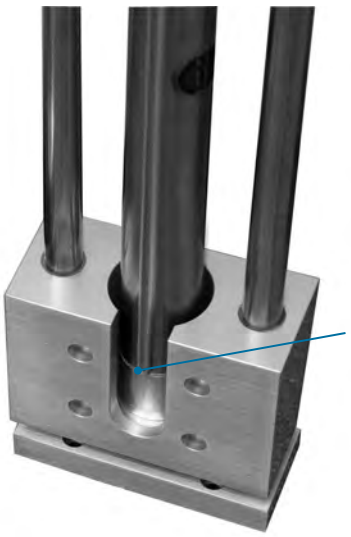
How it Works

Standard (-BS, -AS) Bearing



Advantages

- Highest side load capability
- Heavy Duty version for extreme loads
- General Duty version for typical loading applications
- Space saving options
  - General Duty width savings
  - Heavy Duty length savings
- Composite bearing ideal for dirty environments
- Available in three bore sizes
- Long stroke lengths available as standard
- Compatible magnetic switches for position sensing and homing available
- Available with most Bimba Stepper or Servo motors and drives



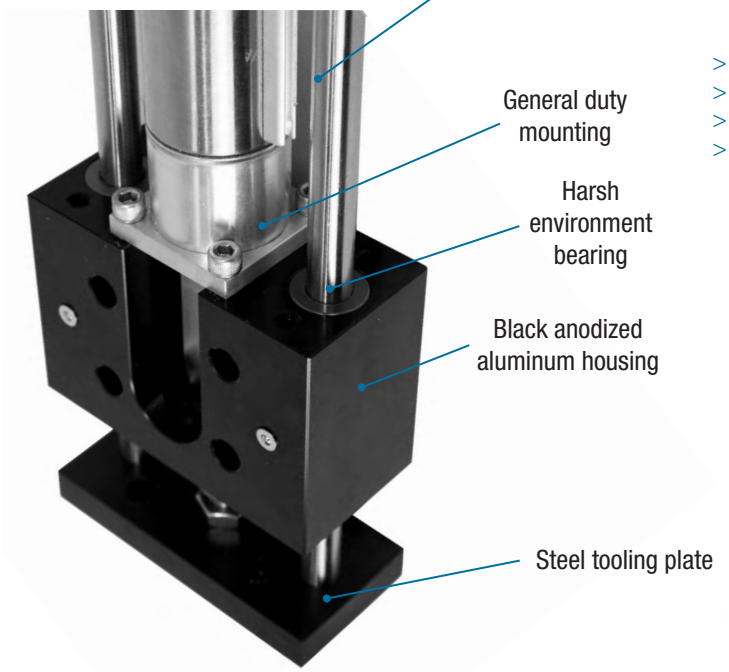
General Duty

- Large diameter stainless steel shafts
- Mounting plate optional
- High-strength composite bearing made of fiber-imbedded plastic
- Composite bearing may perform better in certain environments (for example, dust or lint)
- Composite bearing/stainless steel shaft combination is ideal for corrosive environments
- High side load capabilities

Heavy Duty

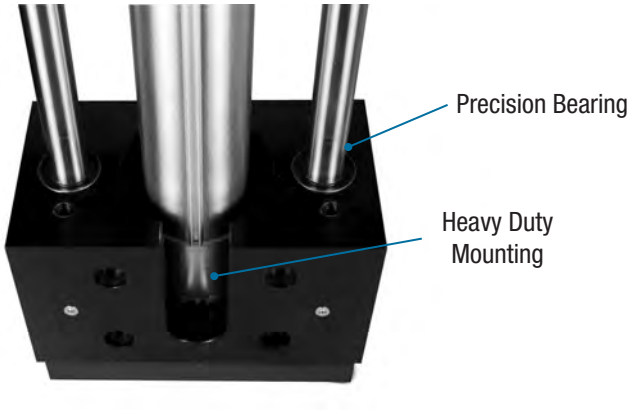
- OLE embedded in aluminum housing
- Highest side load capability
- Minimizes length by up to 4"

Precision (-AP) and Harsh Environment (-BH) Bearing



Advantages

- High side load capability
- Heavy Duty version for extreme loads
- General Duty version for typical loading applications
- Space saving options
  - General Duty width savings
  - Heavy Duty length savings
- Precision recirculating ball bearings
- Harsh-environment bearing available
- Long stroke lengths available as standard
- Available with most Bimba Stepper or Servo motors and drives



General Duty Harsh Bearing

- Higher precision
- Less friction
- Smoother motion
- Faster motion

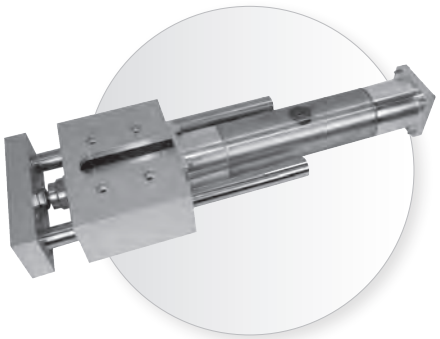
Heavy Duty with Precision Bearing

- Ideal for dirty, dusty environments
- Ideal for use with IP65 motors
- Similar motion performance as Ball Bearing
- High side load capability

How It's Used

Application Ideas

- Gating
- Lifting
- Stacking
- Clamping
- Diverting
- Dispensing
- Stopping
- Rod applications with side load



Target Applications

The Original Line Electric® Thruster (OLET) is a hybrid device, made from an OLE foundation and the Bimba T/TE series pneumatic cylinders. These OLET devices are intended for use in applications that contain some degree of side-loading. Whereas the OLE is not recommended for any amount of side loading, the OLET is capable of withstanding particular values of both side loads and moment loads. As side and moment loading is distance dependent, longer strokes mean more loading introduced into the system. To withstand the rigors of the side loading, the Bimba OLET uses a robust aluminum housing and chrome-plated steel shafts to absorb and counteract the moment loading characteristics.

Due to the loading characteristics found in the OLET, Bimba customers find multiple uses for it, including stopping, guiding, and positioning applications where precision and high repeatability is needed, where the load may not be guided as sometimes found in linear motion applications.

Drive Options

OLE actuators offer two drive interfaces to choose from: a single standard inline shaft input or a reverse parallel drive. With many Bimba stepper and servo motors available, configuring an electric actuator that best meets the needs of your application has never been easier. If you prefer, you can use your own motor. Bimba likely has a motor mount configuration that will fit; if not, we can design a custom motor mount that fits your unique motor.

Advantages

Feature	Advantage	Benefit
Side loading	Load does not need to be guided	Used in non-guided applications
Thruster block	Robust	Absorbs high moment loading
Guide rods	Robust	Part of system that absorbs high moment load
Multiple bearing types	Select for proper environment	Long life in varying and harsh environments

Specifications and Sizing

No Motor Option (N)

Base Part Number	Lead[2] (in)	Backlash[3] (in)	Screw Accuracy (in/in)	Screw Repeatability (µ in)	Maximum Load (lbs)	Actuator Inertia Adder (oz-in²)	Actuator Inertia per inch (oz-in²)[4]
OLET-75-xx-12xx-Nx1	.125	.003	0.0006	50	75	.003	.006
OLET-75-xx-50xx-Nx	.50	.005	0.0006	50	75	.003	.006
OLET-75-xx-75xxx-Nx	.75	.007	0.0006	50	75	.003	.006
OLET-150-xx-16xx-Nx1	.16	.005	0.0006	50	150	.218	.021
OLET-150-xx-25xx-Nx	.25	.006	0.0006	50	150	.218	.021
OLET-150-xx-50xx-Nx	.50	.008	0.0006	50	150	.218	.021
OLET-350-xx-20xx-Nx1	.20	.003	0.0006	50	350	1.588	.103
OLET-350-xx-50xx-NxT	.75	.005	0.0006	50	350	1.588	.103
OLET-350-xx-100xx-Nx	1.0	.007	0.0006	50	350	1.588	.103

Operating temperature range: -20º F to 160º F (-29º C to 71º C)
Standard IP rating: None
Maximum stroke: 18 inches
RoHS compliant

[1] *Self-locking threads*
[2] *Inches per revolution of screw*
[3] *Amount of end play on screw. Low backlash designs are available. Contact Technical Support.*
[4] *Inertia is given per inch of stroke*

Caution! When specifying actuator stroke, always add at least 1/8 inch to the full stroke required in your application. The actuator should not reach mechanical end of stroke during extend or retract. Repeatedly reaching mechanical end of stroke, especially under load at operating speeds, may damage the actuator.

Sizing Your Actuator and Specifying the Right Motor

The following procedure is for sizing an actuator and arriving at a single-point speed/torque specification for a motor not supplied by Bimba. Speed and thrust performance of Bimba's standard motor and actuator combinations may not be equivalent.

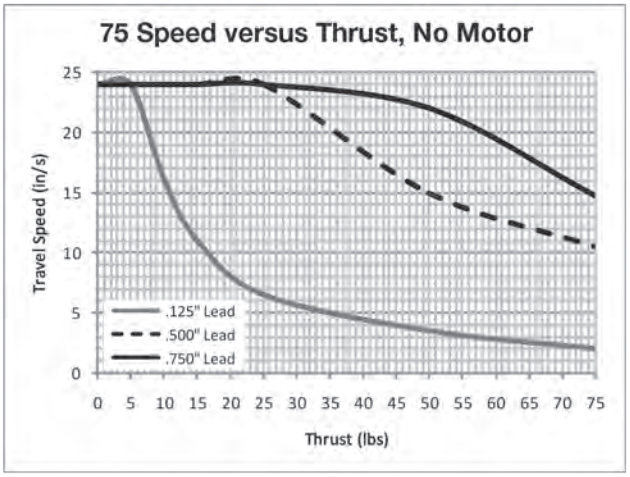
1. Determine the thrust, maximum speed, and stroke your application requires. Overstating speed and thrust will make your actuator more expensive than it needs to be. Understating the speed and thrust will compromise performance and durability.
2. Use the "Speed versus Thrust" graph. Actuators' curves that are ABOVE your speed/thrust data point are usable. Curves below the data point are not.

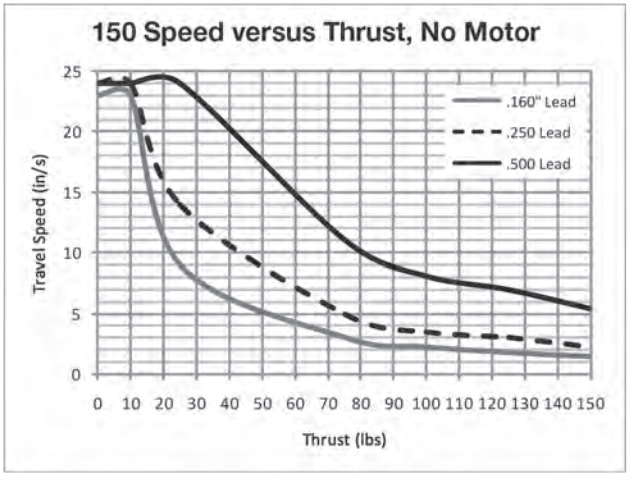
   You have just identified the series of actuator (75, 150, or 350) that is best suited for your application.
3. Use the "Thrust versus Torque" graphs for the actuator series identified above. Select the lead (inches per turn of the screw) that will provide the thrust you require with the minimum motor torque.
4. Use the "Speed versus RPM" graphs with the "critical speed graph" for the actuator series and lead you selected. Find the motor speed in RPM required to provide the actuator speed (inches per second) using the chosen lead (inches per rev). Similarly, use the critical speed graph to select the needed RPM for the actuator stroke length to determine the approximate bore size. The required speed must fall below the critical speed graph curve. You might need to evaluate several different OLE series or leads in order to identify an achievable speed/torque motor specification.

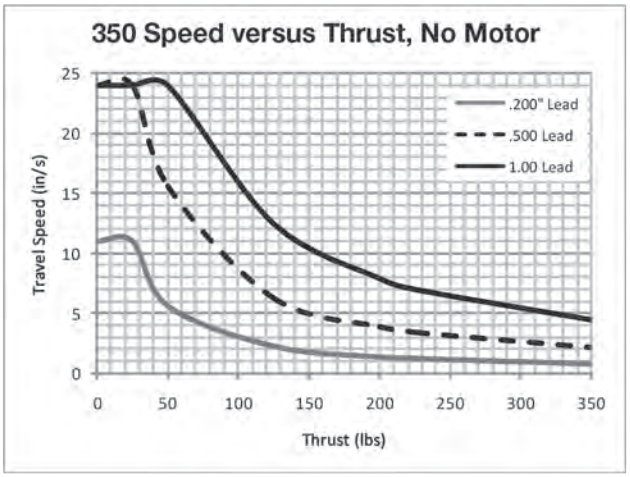
NOTE: Bimba sizing software available at www.bimba.com.

How to Specify

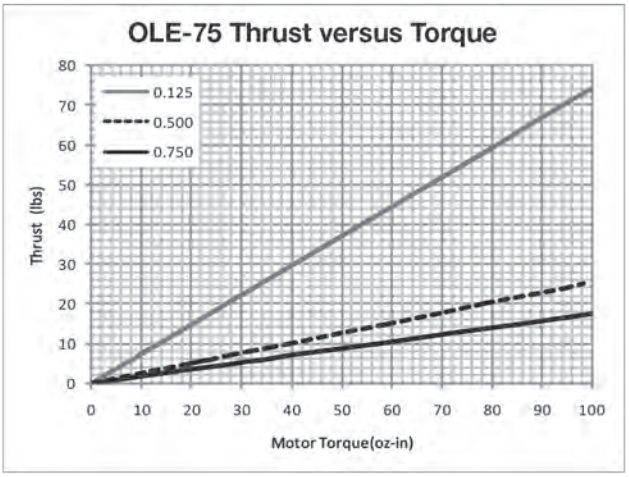
Speed versus Thrust

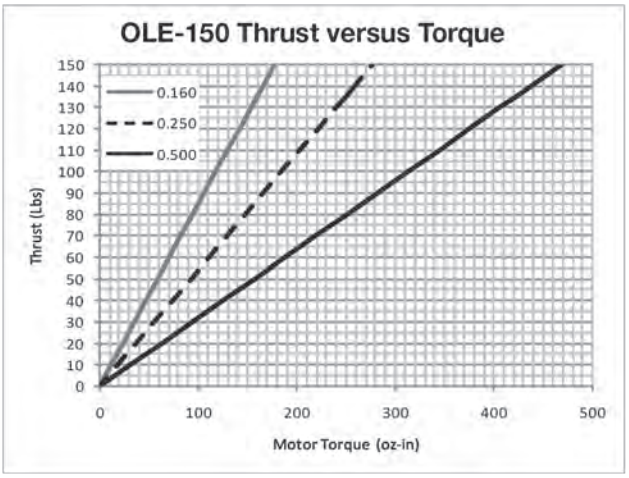


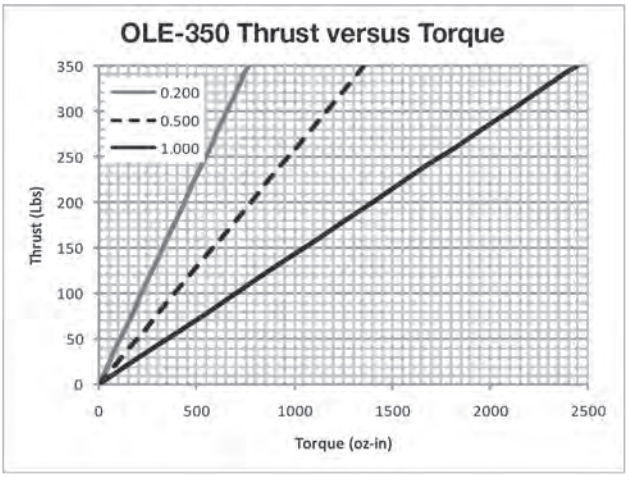




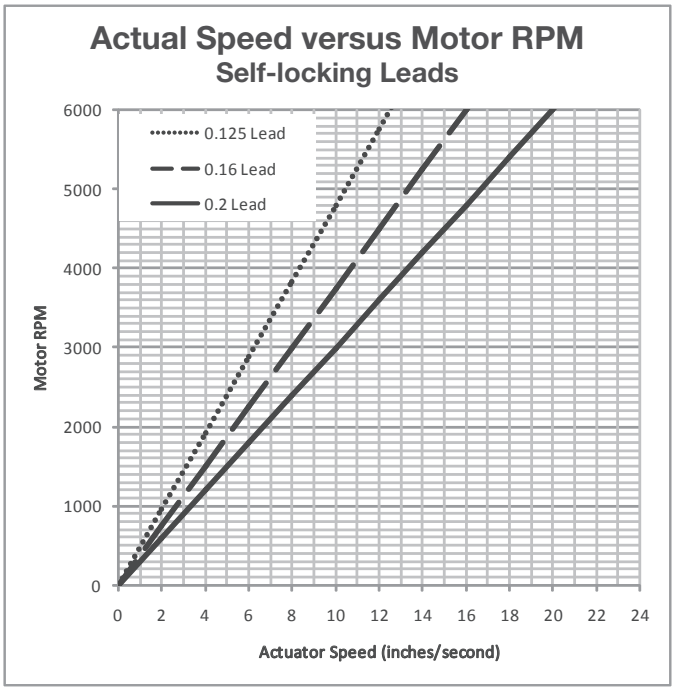
Thrust versus Torque

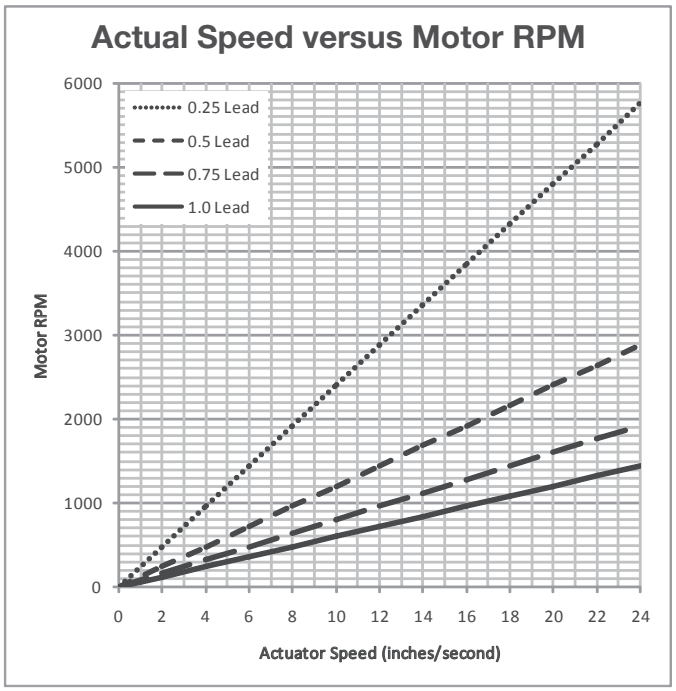


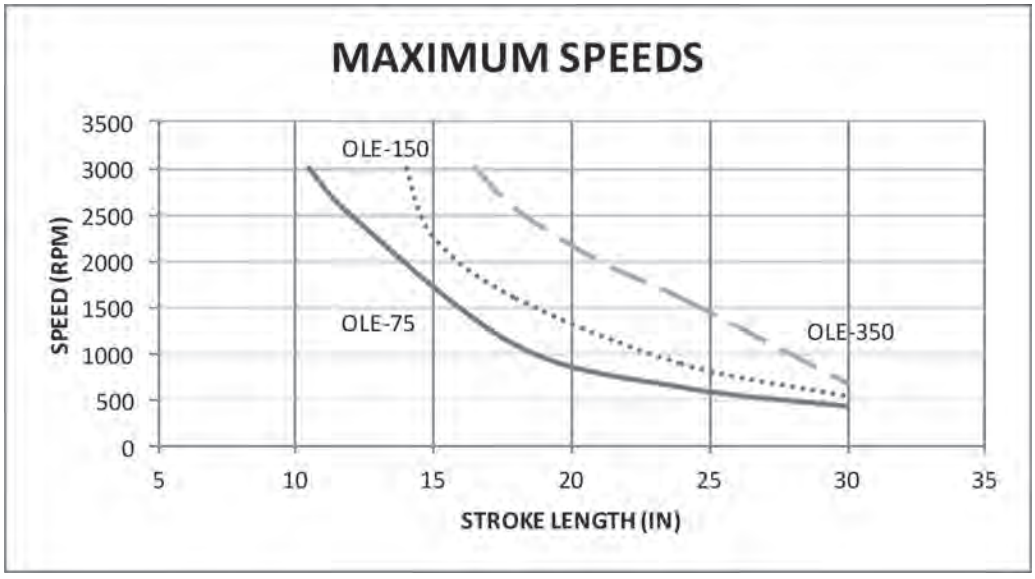




NOTE: The curves above are based on a number of design factors, including the PV limit of the nut and the maximum torque compatibility of the coupler. Other factors combine to limit speed. Do not exceed thrust/speed values shown in above graphs as damage to actuator may result.


Actual Speed versus Motor RPM
Self-locking Leads
0.125 Lead
0.16 Lead
0.2 Lead
Motor RPM
6000
5000
4000
3000
2000
1000
0
0 2 4 6 8 10 12 14 16 18 20 22 24
Actuator Speed (inches/second)


Actual Speed versus Motor RPM
0.25 Lead
0.5 Lead
0.75 Lead
1.0 Lead
Motor RPM
6000
5000
4000
3000
2000
1000
0
0 2 4 6 8 10 12 14 16 18 20 22 24
Actuator Speed (inches/second)


MAXIMUM SPEEDS
SPEED (RPM)
3500
3000
2500
2000
1500
1000
500
0
OLE-150
OLE-75
OLE-350
5 10 15 20 25 30 35
STROKE LENGTH (IN)

Specifications and Sizing

Stepper Motor and Motor/Drive Options (P, E, Y, Z)

Base Part Number	Lead[2] (in)	Backlash[3] (in)	Screw Accuracy (in/in)	Screw Repeatability (µ in)	Actuator Inertia Adder (oz-in^2)	Actuator Inertia per inch (oz-in^2)[4]	Motor Inertia Adder (oz-in^2)[5]	Maximum Current Draw[6]
0LET-75-xx-12xx-P2[1]	.125	.003	0.0006	50	.003	.006	2.51	4.24
0LET-75-xx-50xx-P2	.50	.005	0.0006	50	.003	.006	2.51	4.24
0LET-75-xx-75xxx-P2	.75	.007	0.0006	50	.003	.006	2.51	4.24
0LET-150-xx-16xx-P2[1]	.16	.005	0.0006	50	.218	.021	2.51	4.24
0LET-150-xx-25xx-P2	.25	.006	0.0006	50	.218	.021	2.51	4.24
0LET-150-xx-50xx-P2	.50	.008	0.0006	50	.218	.021	2.51	4.24
0LET-350-xx-20xx-P3[1]	.20	.003	0.0006	50	1.588	.103	15.03	5.6
0LET-350-xx-50xx-P3	.50	.005	0.0006	50	1.588	.103	15.03	5.6
0LET-350-xx-100xx-P3	1.0	.007	0.0006	50	1.588	.103	15.03	5.6

Operating temperature range: 32º F to 122° F (0º C to 50º C) limited by the drive.
If the drive is remotely mounted and protected from heat, maximum operating temperature will be 160º F (71º C).
Maximum stroke: 18 inches
RoHS compliant

[1] Self-locking threads
[2] Inches per revolution of screw
[3] Amount of end play on screw
[4] Inertia is given per inch of stroke
[5] Inertia for motor by itself
[6] For drive sizing for actuators suppled without drives

Caution! When specifying actuator stroke before ordering, always add at least 1/8 inch to the full stroke required in your application. The actuator should not reach mechanical end of stroke during extend or retract. Repeatedly reaching mechanical end of stroke, especially under load at operating speeds, may damage the actuator.

Specifications and Sizing

Reverse Parallel Motor Option (R, S, Q & P, E, Y, Z)

Base Part Number	Lead[2] (in)	Backlash[3] (in)	Screw Accuracy (in/in)	Screw Repeatability (µ in)	Actuator Inertia Adder (oz-in²)[4]	Actuator Inertia per inch (oz-in²)[5]	Motor Inertia Adder (oz-in²)[6]	Maximum Current Draw[7]
OLET-75-xx-12Rx-P2[1]	.125	.003	0.0006	50	.096	.006	2.51	4.24
OLET-75-xx-50Rx-P2	.50	.005	0.0006	50	.096	.006	2.51	4.24
OLET-75-xx-75Rx-P2	.75	.007	0.0006	50	.096	.006	2.51	4.24
OLET-150-xx-16Rx-P2[1]	.16	.005	0.0006	50	1.01	.021	2.51	4.24
OLET-150-xx-25Rx-P2	.25	.006	0.0006	50	1.01	.021	2.51	4.24
OLET-150-xx-50Rx-P2	.50	.008	0.0006	50	1.01	.021	2.51	4.24
OLET-350-xx-20Rx-P3[1]	.20	.003	0.0006	50	9.51	.103	15.03	5.6
OLET-350-xx-50Rx-P3	.50	.005	0.0006	50	9.51	.103	15.03	5.6
OLET-350-xx-100Rx-P3	1.0	.007	0.0006	50	9.51	.103	15.03	5.6

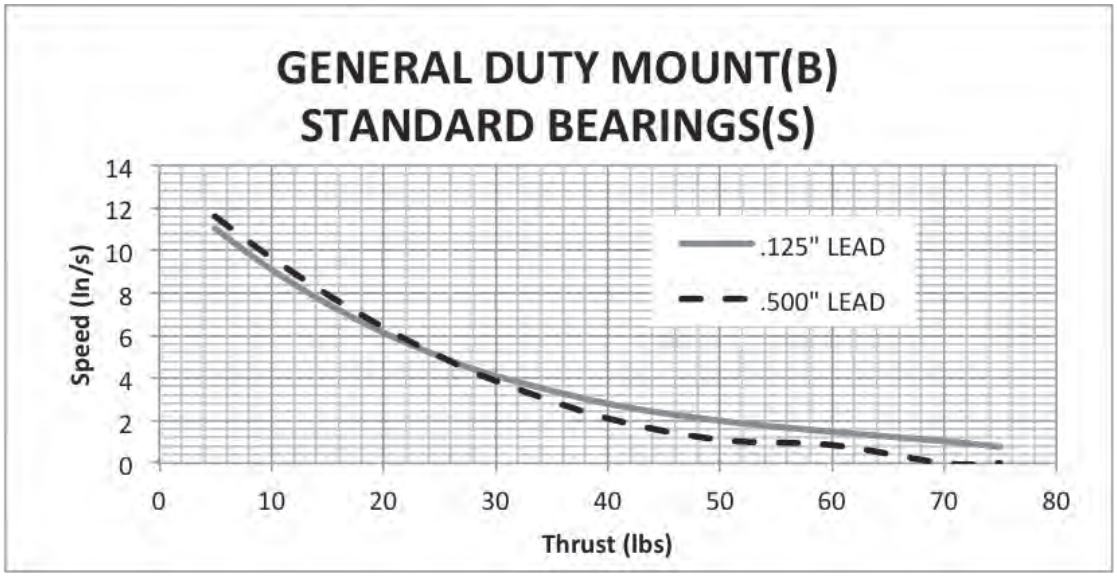
Operating temperature range: 32º F to 122º F (0º C to 50º C).
If the drive is remotely mounted and protected from heat, maximum operating temperature will be 158º F (70º C).
Maximum stroke: 18 inches
RoHS compliant

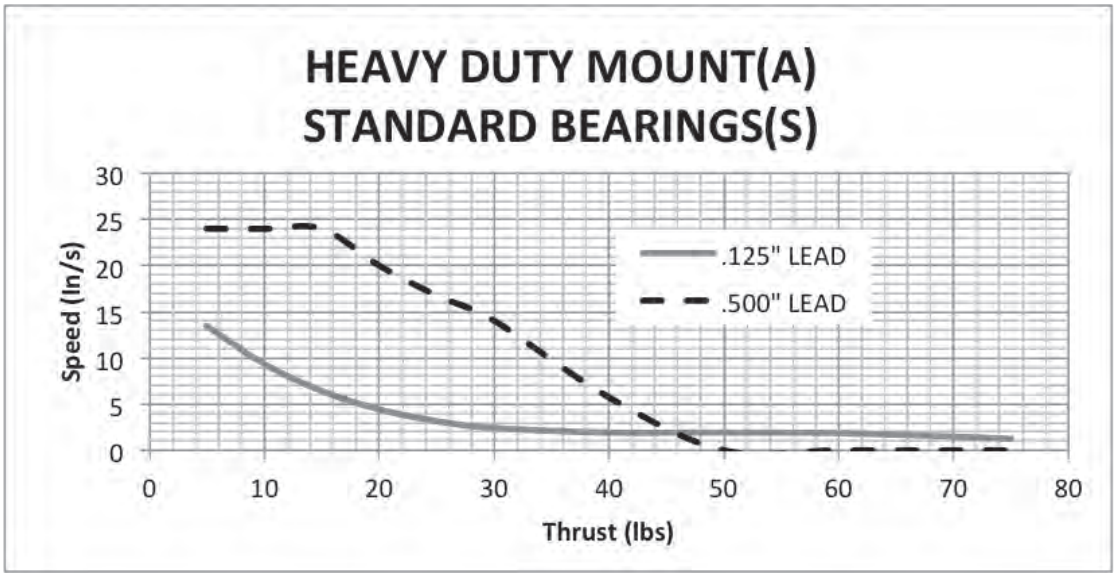
[1] *Self-locking threads*
[2] *Inches per revolution of screw*
[3] *Amount of end play on screw*
[4] *Inertia for reverse parallel option*
[5] *Inertia is given per inch of stroke*
[6] *Inertia for motor by itself*
[7] *For drive sizing for actuators suppled without drive*

Caution! When specifying actuator stroke before ordering, always add at least 1/8 inch to the full stroke required in your application. The actuator should not reach mechanical end of stroke during extend or retract. Repeatedly reaching mechanical end of stroke, especially under load at operating speeds, may damage the actuator.

Specifications and Sizing

OLET-75 with P2, E2, Y2, Z2 Options
(NEMA 23 Stepper Motor)

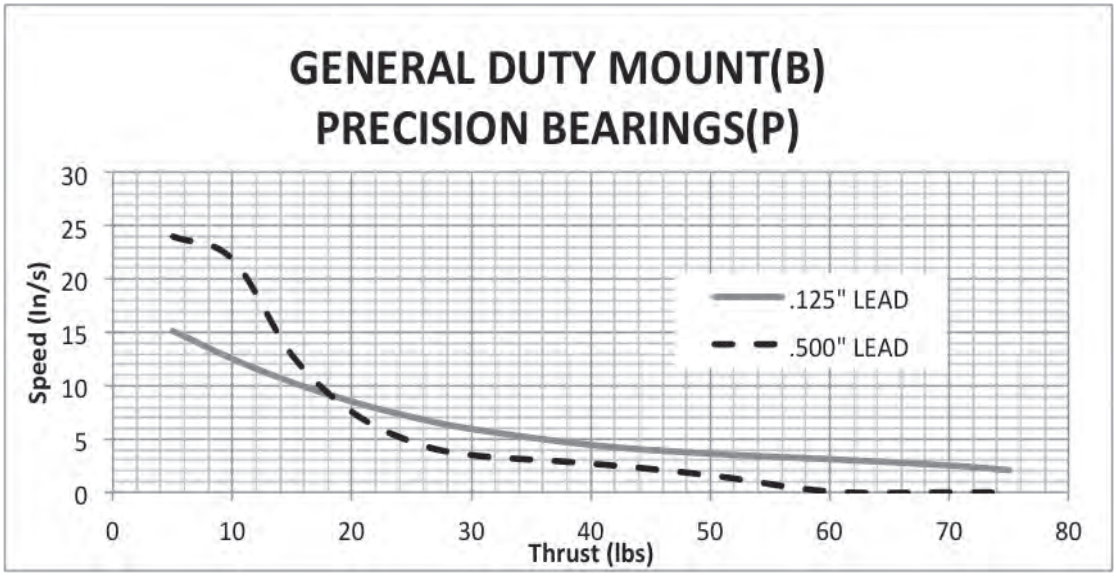


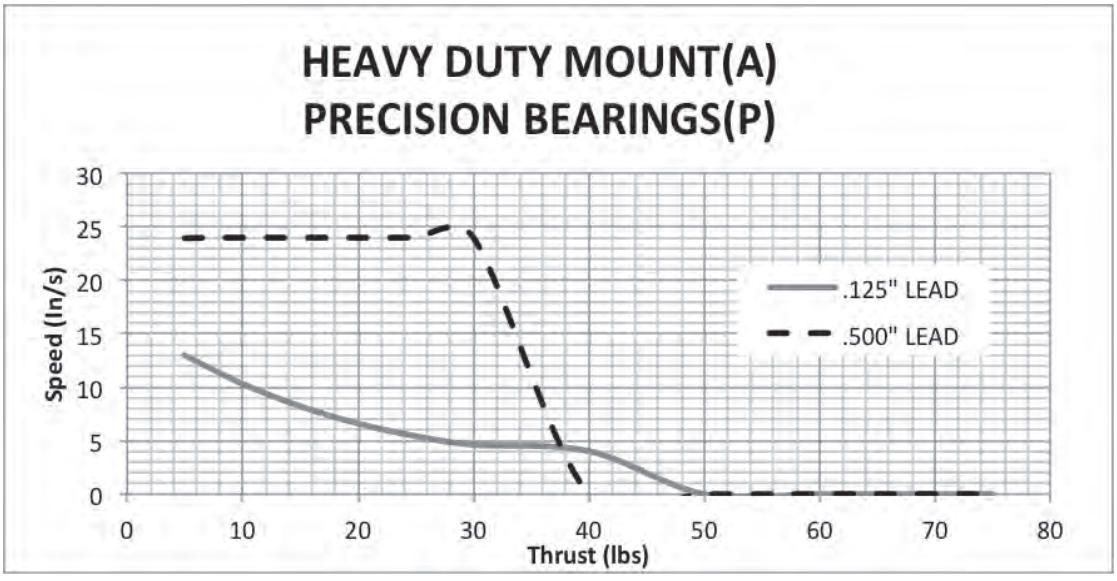


NOTE: For reverse parallel motor mount, use 90% of values found in the graphs above.

Specifications and Sizing

OLET-75 with P2, E2, Y2, Z2 Options
(NEMA 23 Stepper Motor)

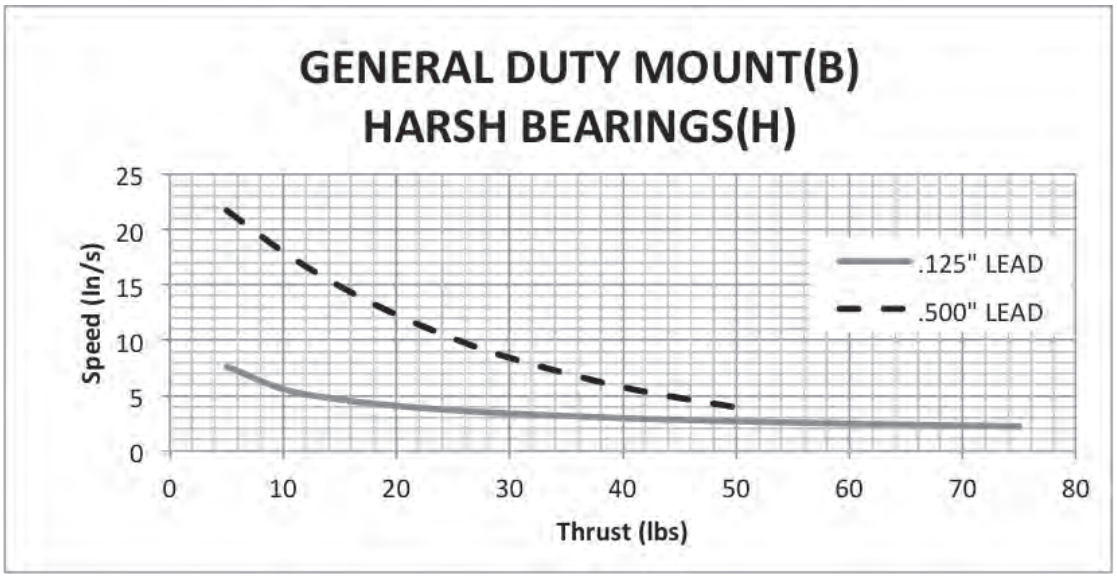


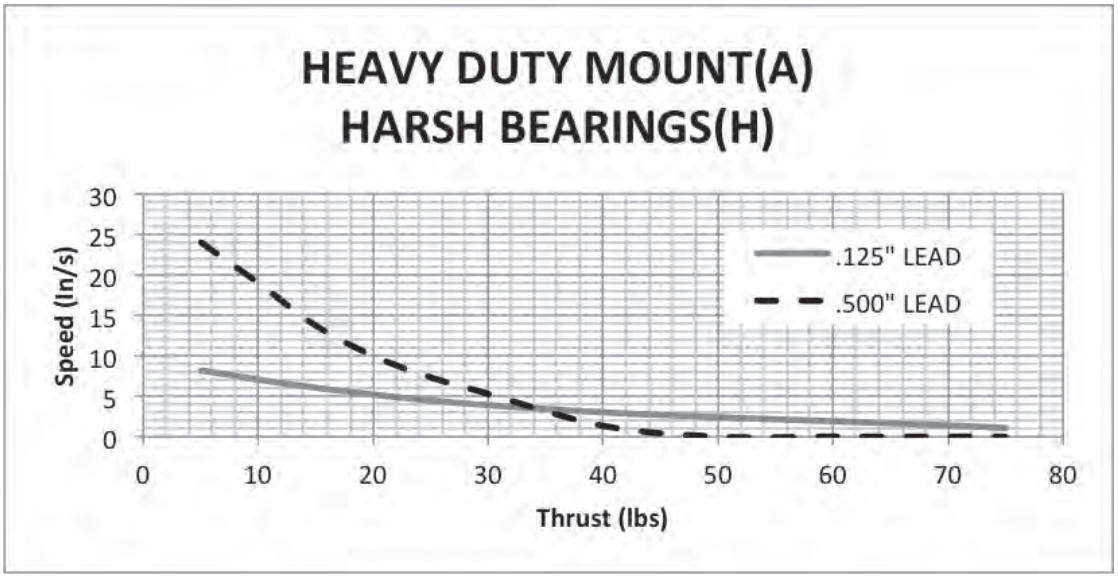


NOTE: For reverse parallel motor mount, use 90% of values found in the graphs above.

Specifications and Sizing

OLET-75 with P2, E2, Y2, Z2 Options
(NEMA 23 Stepper Motor)

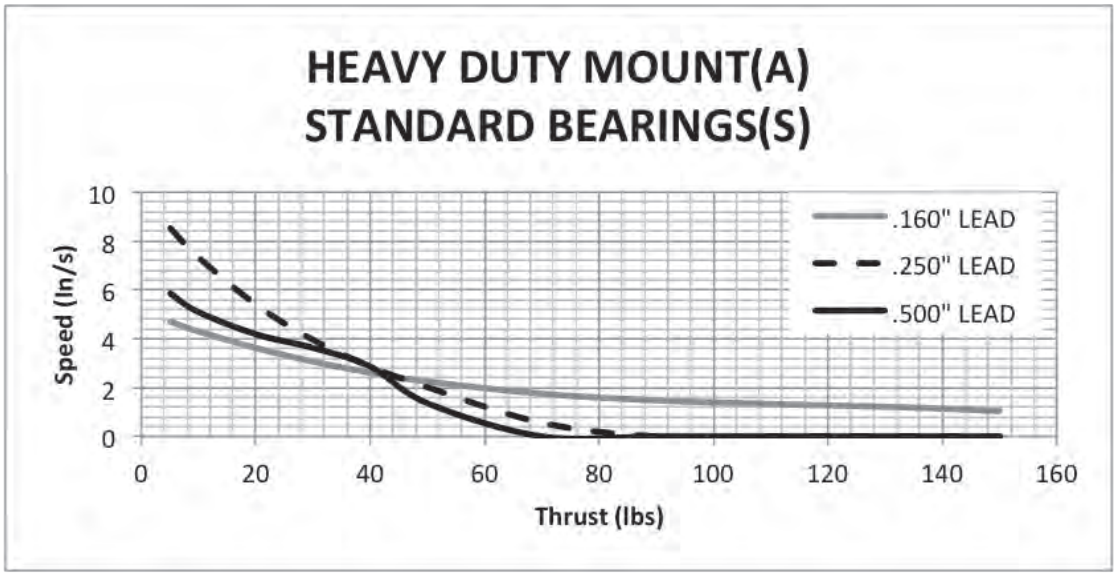


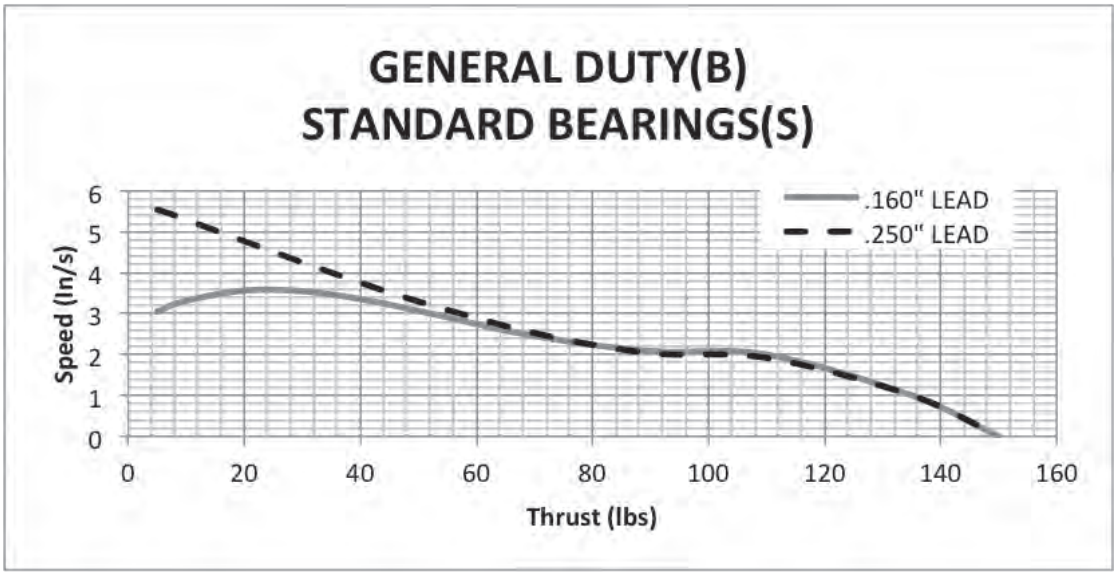


NOTE: For reverse parallel motor mount, use 90% of values found in the graphs above.

Specifications and Sizing

OLET-150 with P2, E2, Y2, Z2 Options
(NEMA 23 Stepper Motor)

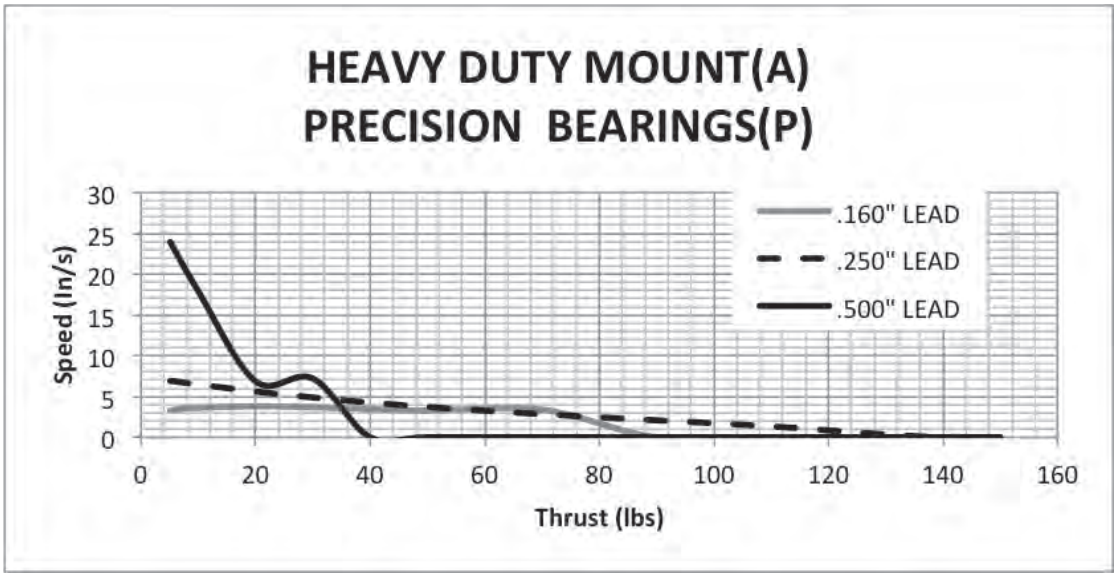


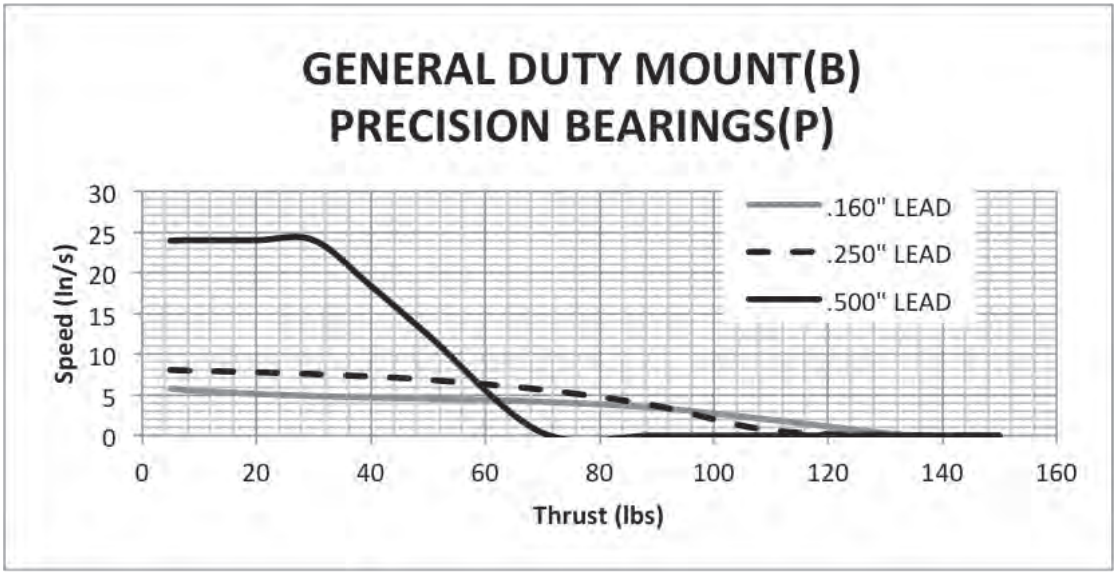


NOTE: For reverse parallel motor mount, use 90% of values found in the graphs above.

Specifications and Sizing

OLET-150 with P2, E2, Y2, Z2 Options
(NEMA 23 Stepper Motor)

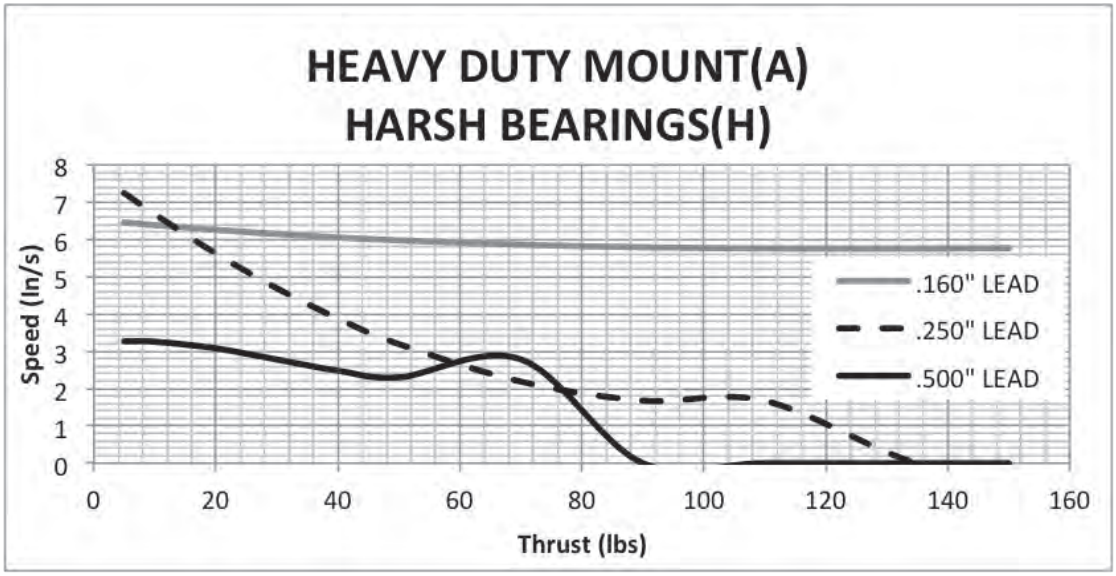


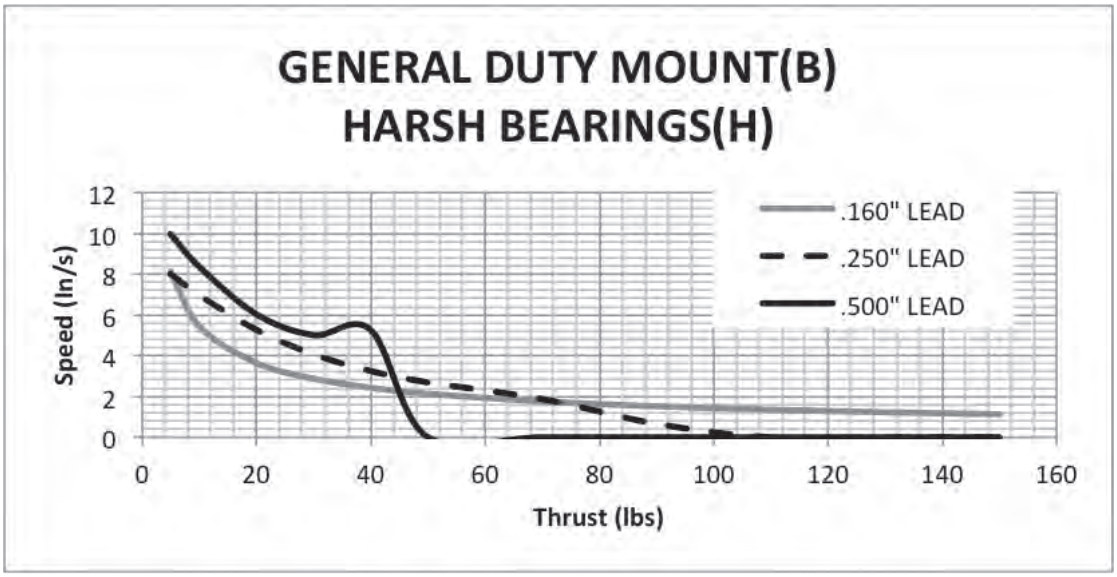


NOTE: For reverse parallel motor mount, use 90% of values found in the graphs above.

Specifications and Sizing

OLET-150 with P2, E2, Y2, Z2 Options
(NEMA 23 Stepper Motor)

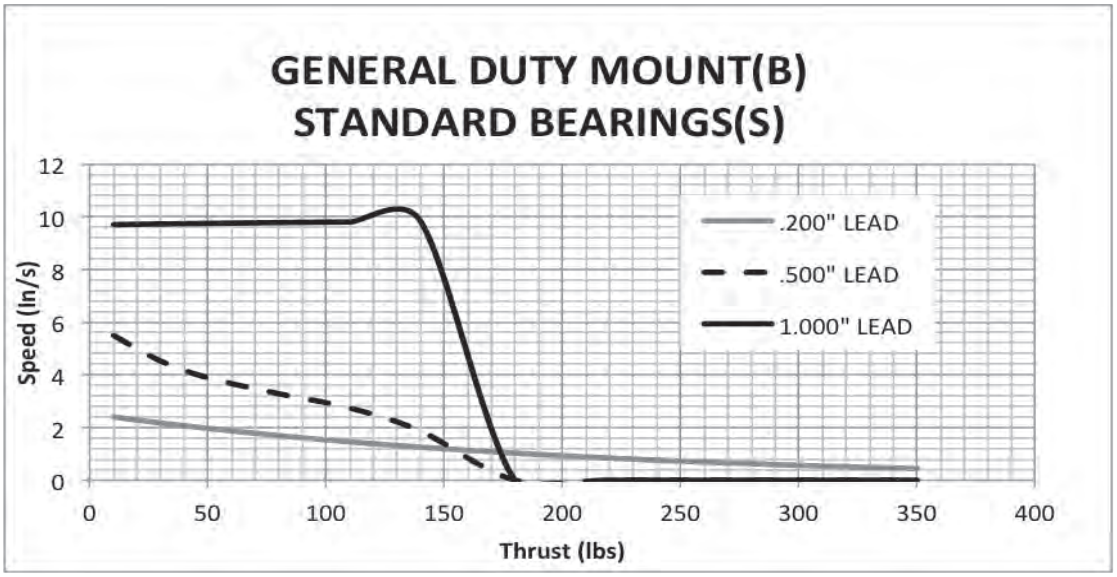


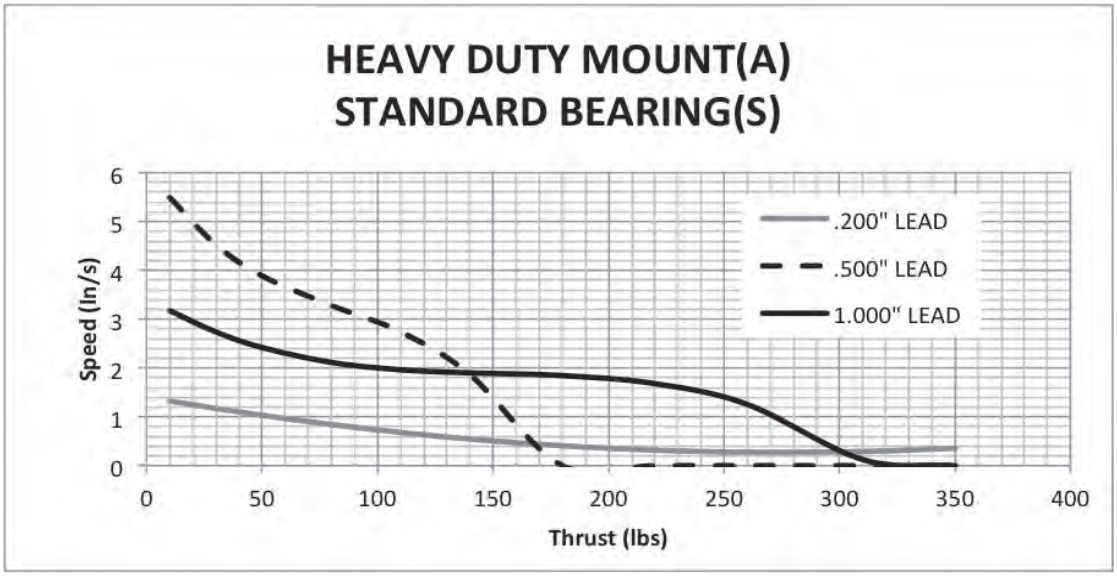


NOTE: For reverse parallel motor mount, use 90% of values found in the graphs above.

Specifications and Sizing

OLET-350 with P3, E3, Y3, Z3 Options
(NEMA 23 Stepper Motor)

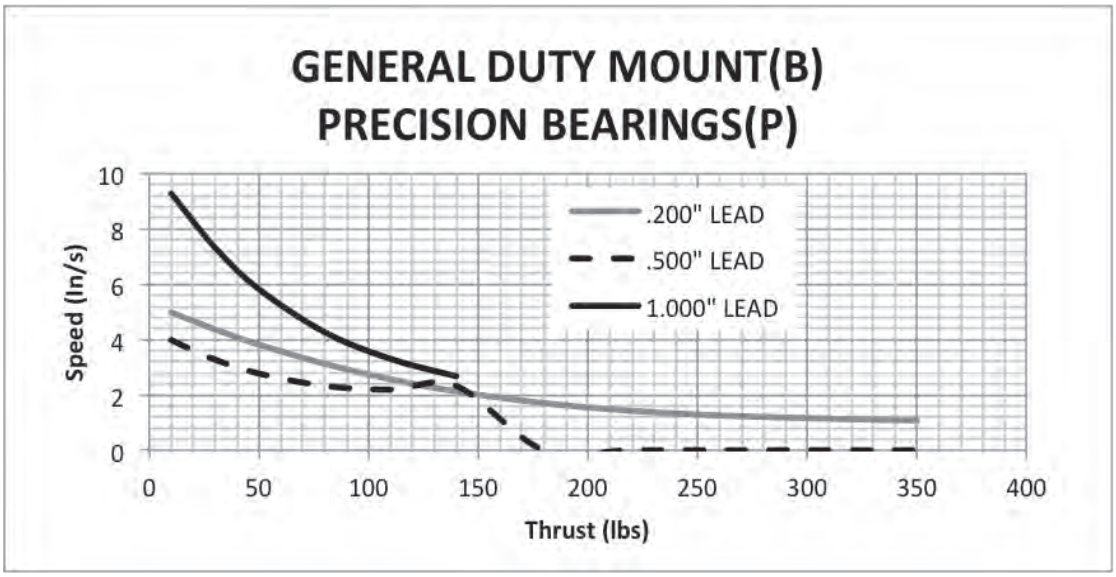


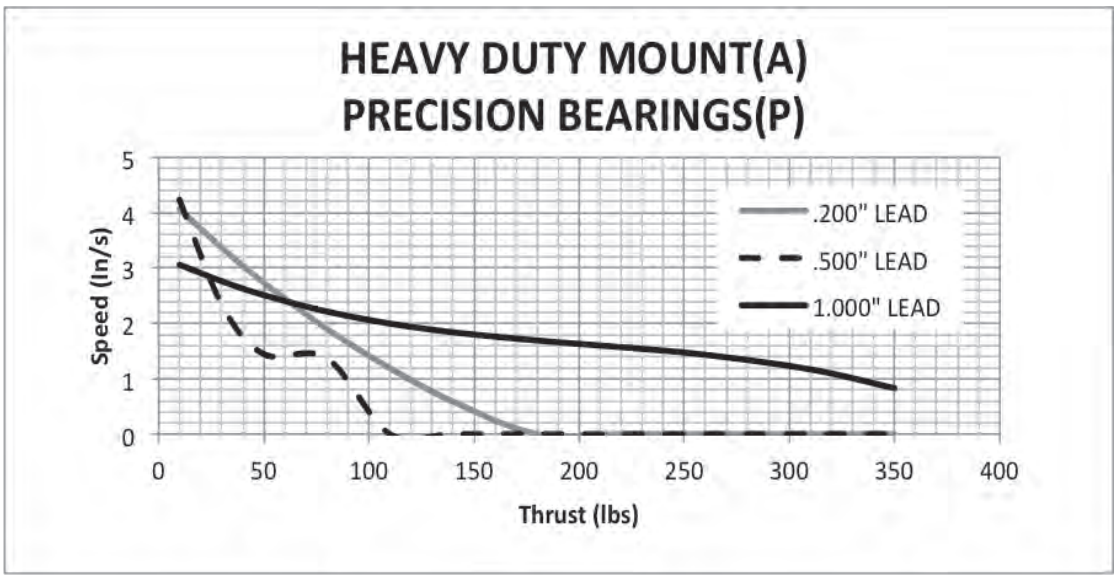


NOTE: For reverse parallel motor mount, use 90% of values found in the graphs above.

Specifications and Sizing

OLET-350 with P3, E3, Y3, Z3 Options
(NEMA 23 Stepper Motor)

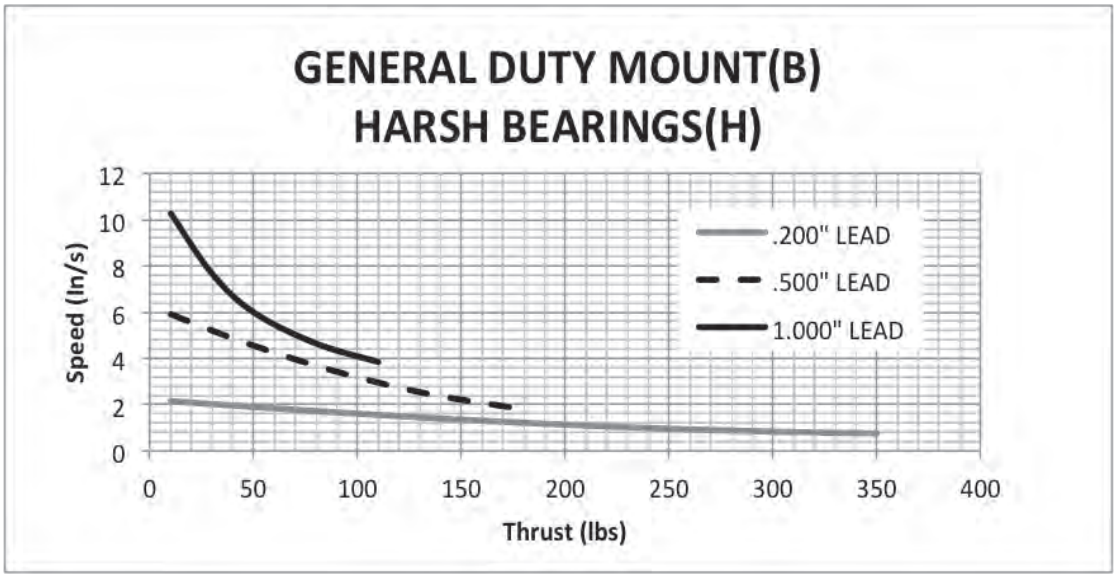


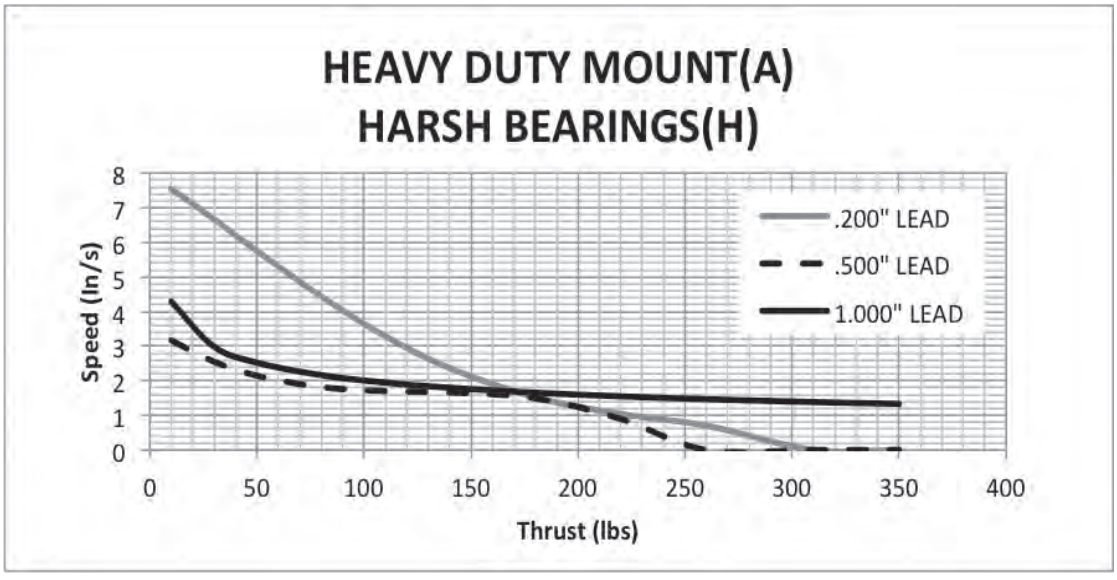


NOTE: For reverse parallel motor mount, use 90% of values found in the graphs above.

Specifications and Sizing

OLET-350 with P3, E3, Y3, Z3 Options
(NEMA 23 Stepper Motor)





NOTE: For reverse parallel motor mount, use 90% of values found in the graphs above.

Axial Load Vs. Moment Load

An axial load component must be included in any sizing task to take into account the axial load introduced as a result of the expected moment load. To use this table, first find the effective moment in the first column. Next, scroll over to the applicable cell in the table that represents your OLET configuration. The value in that cell is the axial load that must be added or accounted for in your sizing application.

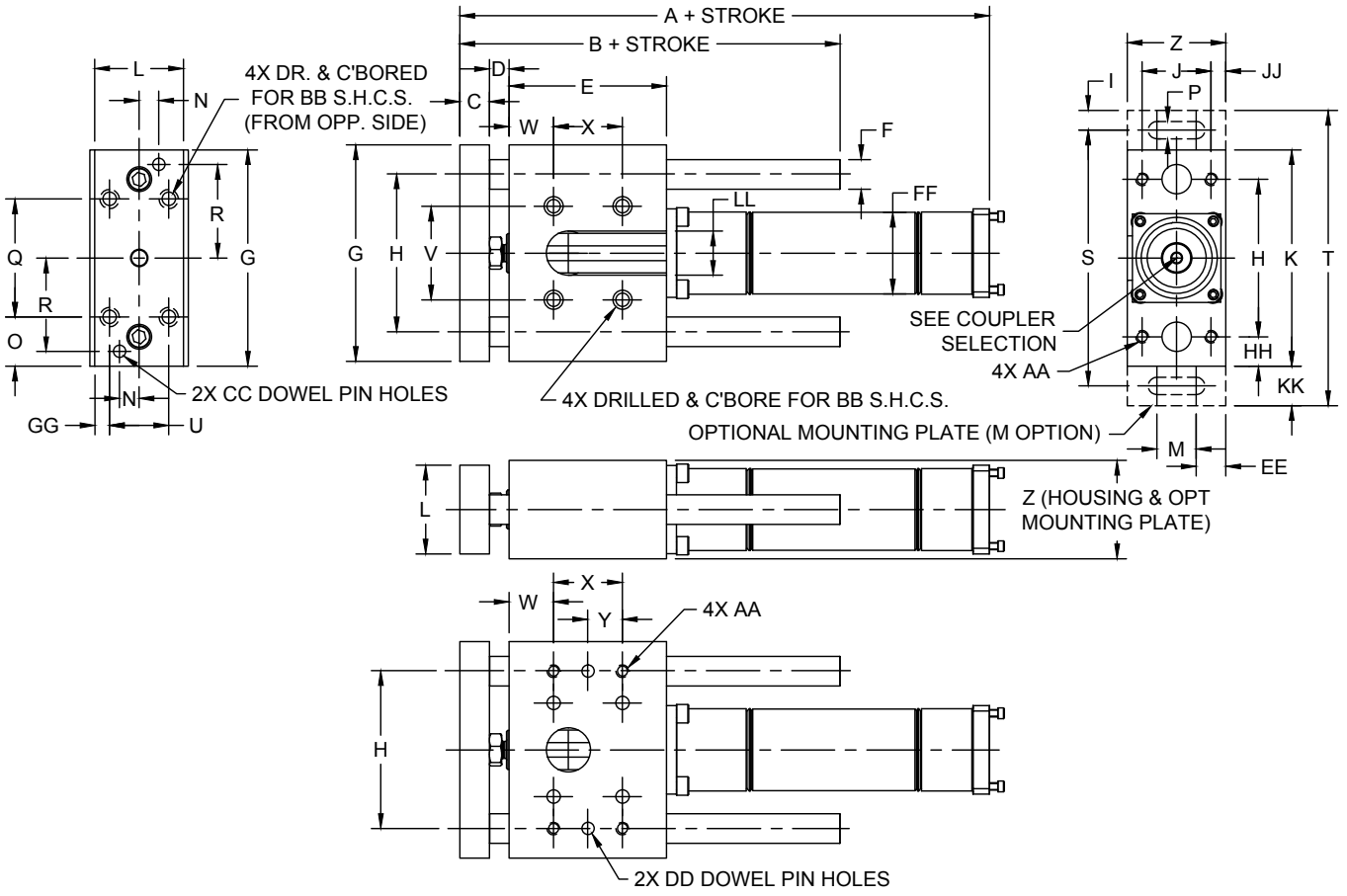
	OLE-75						OLE-150						OLE-350					
	Heavy (-A)			General (-B)			Heavy (-A)			General (-B)			Heavy (-A)			General (-B)		
Moment (in-lbs)	**S**	**P**	**H**	**S**	**P**	**H**	**S**	**P**	**H**	**S**	**P**	**H**	**S**	**P**	**H**	**S**	**P**	**H**
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	35	0	20	60	47	50	19	0	0	35	0	20	0	65	168	19	0	0
4	38	1	25	59	40	51	22	0	11	38	1	25	0	94	171	22	0	11
6	39	2	28	58	33	52	24	0	24	39	2	28	0	111	172	24	0	24
8	40	2	30	57	28	53	26	7	34	40	2	30	0	123	173	26	7	34
10	41	3	32	56	25	54	29	13	41	41	3	32	0	133	174	29	13	41
25	45	7	38	50	18	58	43	35	71	45	7	38	0	171	178	43	35	71
50	48	15	43	48	24	61	62	53	94	48	15	43	49	200	181	62	53	94
75	49	22	46	54	33	62	75	63	107	49	22	46	90	217	182	75	63	107
100	51	28	48	65		65	83	70	117	51	28	48	120	229	183	83	70	117
125	52	34	50			73	89	76	124	52	34	50	142	239	184	89	76	124
150	52	39	51				95	80	130	52	39	51	161	246	185	95	80	130
175	53	44	52				103	84	135	53	44	52	177	253	186	103	84	135
200	53	48	53				113	87	140	53	48	53	190	259	186	113	87	140
225	54	52	54				129	90	144	54	52	54	202	263	187	129	90	144
250	54	55	55					93	147	54	55	55	213	268	187	152	93	147
275	55	58	56					95	150	55	58	56	223	272	187	184	95	150
300	55	60	56					98	153	55	60	56	232	276	188	227	98	153
325	55	62	57					100	156	55	62	57	240	279	188	283	100	156
350	56	63	57					101	158	56	63	57	248	282	188		101	158
375	56	64	58					103	161	56	64	58	255	285	189		103	161
400	56	64	58					105	163	56	64	58	261	288	189		105	163
425	57		59					106	165	57		59	267	290	189		106	165
450	57		59					108	167	57		59	273	293	189		108	167
500	57		60					110	170	57		60	284	297	190		110	170
550	58		61					113	173	58		61	294	301	190		113	173
600	58		61					115	176	58		61	302	305	191		115	176
650	58		62					117	179	58		62	311	308	191		117	179
700	59		62					119	181	59		62	318	311	191		119	181
750	59		63					121	183	59		63	325	314	191		121	183
800	59		63					122	186	59		63	332	317	192		122	186
850	59		64					124	188	59		64	338	319	192		124	188
900	60		64					125	189	60		64	344	322	192		125	189
950	60		64					126	191	60		64	349	324	192		126	191
1000	60		65					128	193	60		65		326	193		128	193
1200	61		66					132	199	61		66		334	193		132	199
1400	61		67					136	204	61		67		340	194		136	204
1600	62		68					139	208	62		68		346	195		139	208

Example: You have a 10" stroke OLET-15010-50-P2-BP with a 10 lb load. This results in a 100 in-lb moment at full extension. Find the cell that intersects with the 100 in-lb moment load with the heading "OLE-150, General, P" and you will find a value of 28 in this cell. This 28 represents the value of load (28 lbs) that must be added to the sizing calculation.

Dimensions

No Motor (N)

General Duty OLET with 'S' Bearing



General Duty Housing with Composite Bearing ('BS')

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
75	9.17	5.00	0.62	0.38	3.00	0.625	4.25	3.12	0.50	1.375	4.25	5.00	1.00	0.375	1.125	0.38	2.00
150	12.50	6.38	0.75	0.50	4.00	0.750	5.50	4.00	0.50	1.750	5.50	6.38	1.31	0.500	1.250	0.44	3.00
350	17.24	9.75	1.25	0.75	6.00	1.125	7.50	4.25	1.00	2.500	7.50	9.75	1.81	0.750	1.875	0.69	3.75

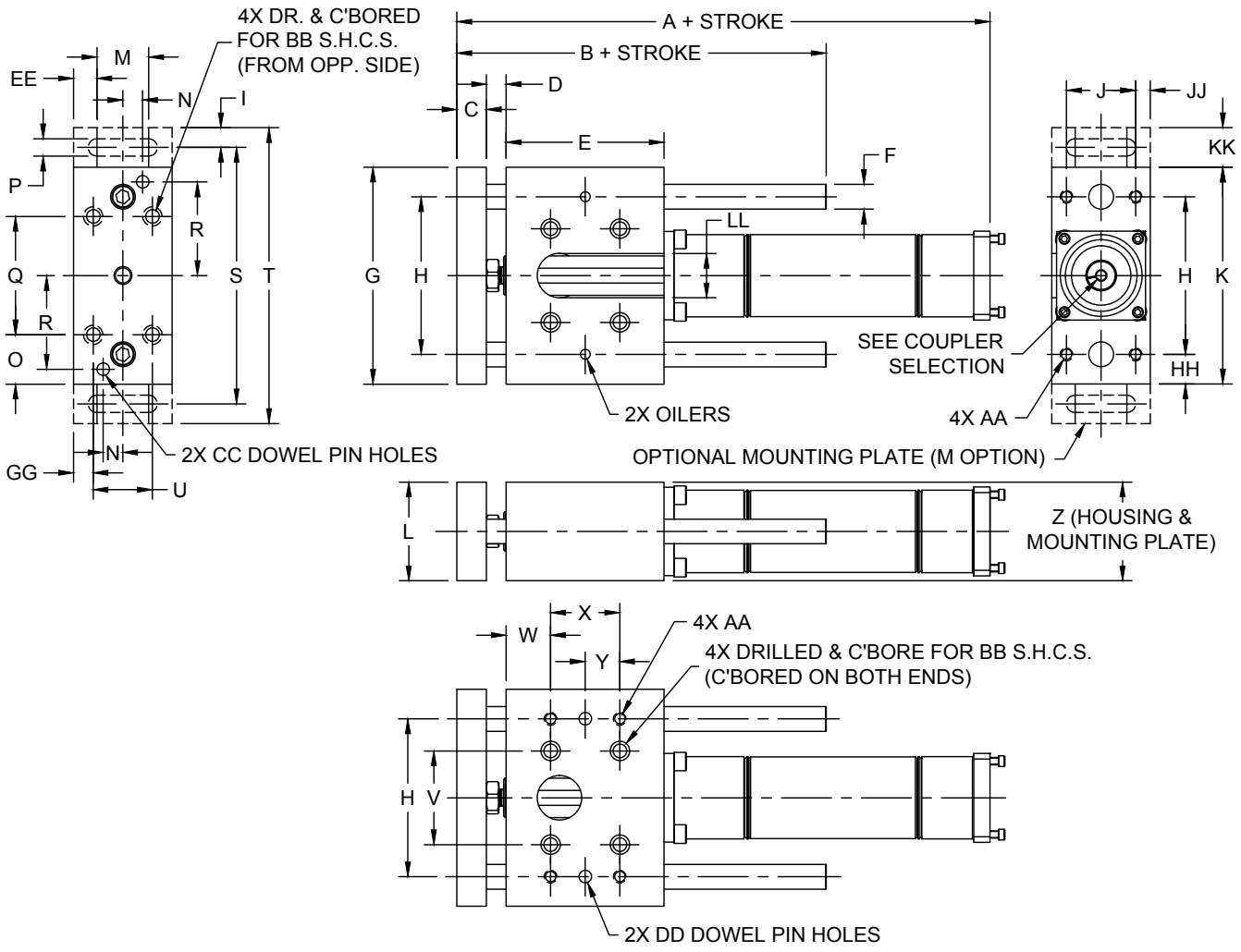
Model	R	S	T	U	V	W	X	Y	Z	AA	BB	CC
75	1.813	5.25	6.25	1.00	1.875	0.81	1.375	0.688	2.00	1/4-20	1/4	Ø.2520 / .2530
150	2.375	6.50	7.50	1.50	2.375	1.13	1.750	0.875	2.50	5/16-18	5/16	Ø.3145 / .3155
350	3.250	9.50	11.50	2.25	3.500	1.75	2.500	1.250	3.50	3/8-16	3/8	Ø.3770 / .3780

Model	DD	EE	FF	GG	HH	KK	LL	JJ
75	Ø.2520 / 2531 x .410 / .430 DP	0.50	1.56	0.375	0.56	1.00	1.12	.31
150	Ø.3145 / .3156 x .560 / .580 DP	0.59	2.07	0.375	0.75	1.00	1.12	.38
350	Ø.3770 / .3781 x 1.000 / 1.020 DP	0.84	3.10	0.500	1.06	2.00	1.50	.50

Dimensions

No Motor (N)

General Duty OLET with 'P' or 'H' Bearing



General Duty Thruster with Precision Ball/Harsh Environment Bearing ('BP' or 'BH')

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
75	9.05	4.75	0.50	0.38	3.00	0.500	4.25	3.12	0.50	1.375	4.25	2.00	1.00	0.375	1.125	0.38	2.00
150	12.50	6.25	0.75	0.50	4.00	0.625	5.50	4.00	0.50	1.750	5.50	2.50	1.31	0.500	1.250	0.44	3.00
350	15.00	7.00	1.00	0.75	4.00	0.750	7.00	5.00	0.63	2.125	7.00	3.00	1.56	0.625	1.500	0.56	4.00

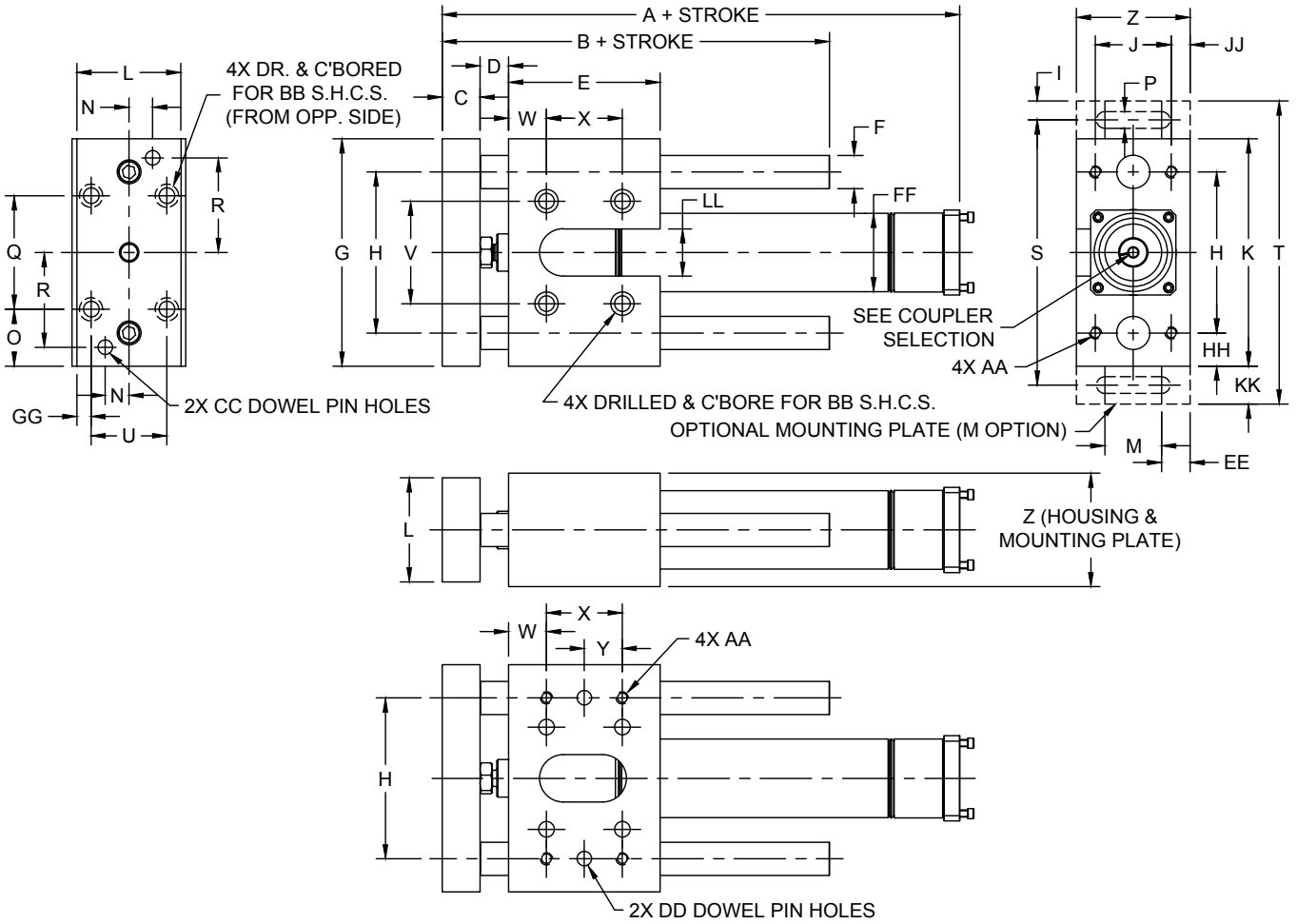
Model	R	S	T	U	V	W	X	Y	Z	AA	BB	CC
75	1.813	5.25	6.25	1.00	1.875	0.81	1.375	0.688	2.00	1/4-20	1/4	Ø.2520 / .2530
150	2.375	6.50	7.50	1.50	2.375	1.12	1.750	0.875	2.50	5/16-18	5/16	Ø.3145 / .3155
350	3.000	8.25	9.50	2.00	3.250	0.94	2.125	1.063	4.00	3/8-16	3/8	Ø.3770 / .3780

Model	DD	EE	FF	GG	HH	KK	LL	JJ
75	Ø.2520 / .2531 x .410 / .430 DP	0.31	1.12	0.500	0.56	1.00	1.12	.31
150	Ø.3145 / .3156 x .560 / .580 DP	0.38	1.56	0.500	0.75	1.00	1.12	.38
350	Ø.3770 / .3781 x .810 / .830 DP	0.94	2.08	0.500	1.00	1.25	1.25	.94

Dimensions

No Motor (N)

Heavy Duty OLET with 'S' Bearing



Heavy Duty Housing with Composite Bearing ('AS')

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
75	7.17	6.38	0.75	0.50	4.00	0.750	5.50	4.00	0.50	1.750	5.50	6.38	1.31	0.500	1.250	0.44	3.00
150	9.80	6.00	1.00	0.75	4.00	0.875	6.00	4.25	0.50	3.000	6.00	2.75	1.50	0.625	1.500	0.44	3.00
350	12.64	11.50	1.50	1.00	7.00	1.375	9.00	6.50	1.00	4.500	9.00	4.00	2.19	1.000	2.250	0.81	4.50

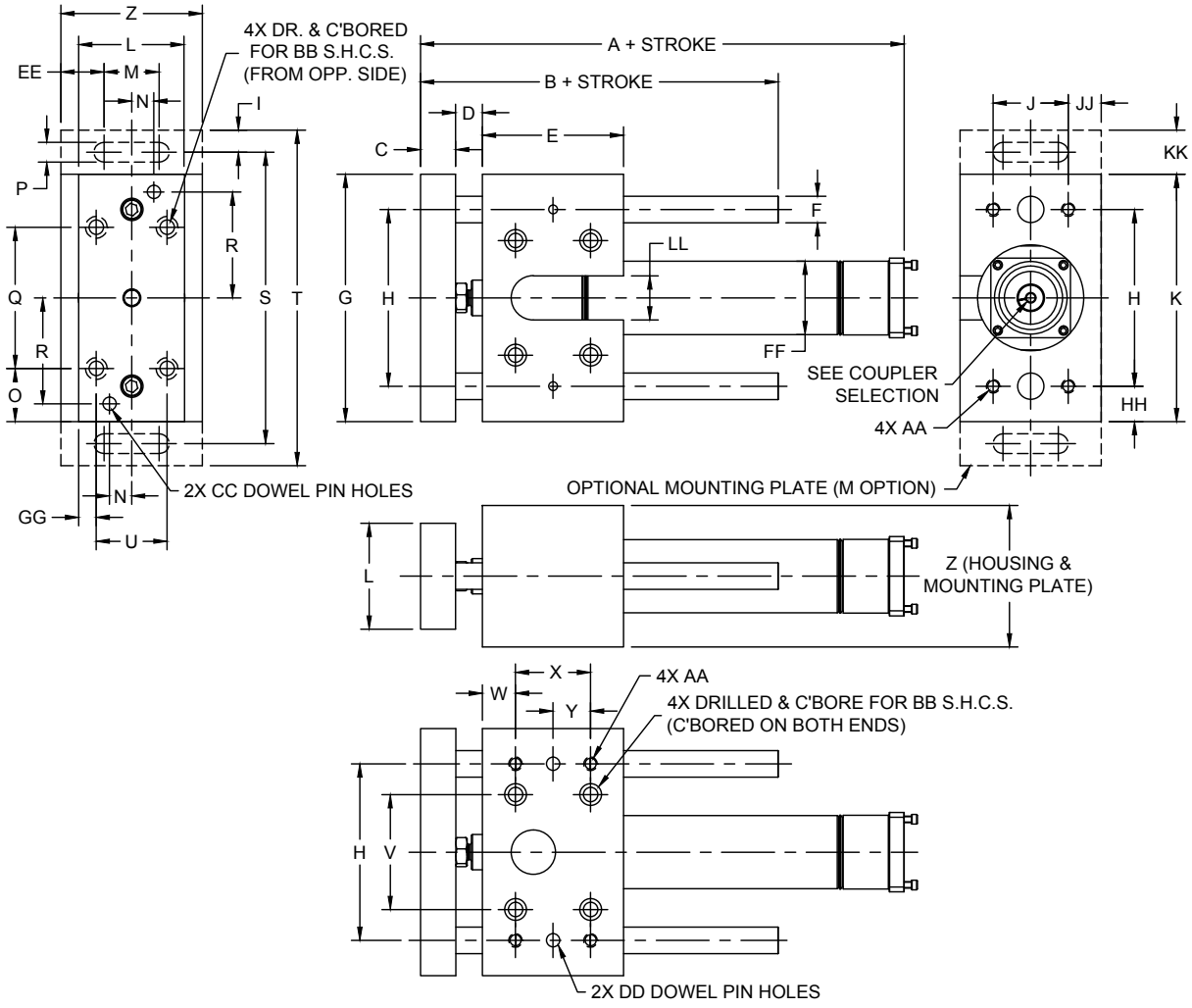
Model	R	S	T	U	V	W	X	Y	Z	AA	BB	CC
75	2.375	6.50	7.50	1.50	2.375	1.13	1.750	0.875	2.50	5/16-18	5/16	Ø.3145 / .3155
150	2.500	7.00	8.00	2.00	2.700	1.00	2.000	1.000	3.00	5/16-18	5/16	Ø.3770 / .3780
350	4.000	11.00	13.00	2.75	4.200	2.00	3.000	1.500	4.50	1/2-13	1/2	Ø.5020 / .5030

Model	DD	EE	FF	GG	HH	KK	LL	JJ
75	Ø.3145 / .3156 x .560 / .580 DP	0.59	1.56	0.375	0.75	1.00	1.12	.38
150	Ø.3770 / .3780 x .810 / .830 DP	0.75	2.07	0.375	0.88	1.00	1.25	.50
350	Ø.5020 / .5030 x 1.250 / 1.270 DP	1.15	3.10	0.625	1.25	2.00	1.75	.75

Dimensions

No Motor (N)

Heavy Duty OLET with 'P' or 'H' Bearing



Heavy Duty Thruster with Precision Ball/Harsh Environment Bearing ('AP' or 'AH')

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
75	7.17	6.25	0.75	0.50	4.00	0.625	5.50	4.00	0.50	1.750	5.50	2.50	1.31	0.500	1.250	0.44	3.00
150	9.80	7.00	1.00	0.75	4.00	0.750	7.00	5.00	0.63	2.125	7.00	3.00	1.56	0.625	1.500	0.56	4.00
350	12.07	9.50	1.25	0.75	6.00	1.000	8.25	6.25	1.00	2.625	8.50	4.00	2.00	1.000	1.750	0.63	4.75

Model	R	S	T	U	V	W	X	Y	Z	AA	BB	CC
75	2.375	6.50	7.50	1.50	2.375	1.12	1.750	0.875	2.50	5/16-18	5/16	Ø.3145 / .3155
150	3.000	8.25	9.50	2.00	3.250	0.94	2.125	1.063	4.00	3/8-16	3/8	Ø.3770 / .3780
350	3.750	10.50	12.50	3.00	4.100	1.69	2.625	1.312	4.50	3/8-13	3/8	Ø.3770 / .3781

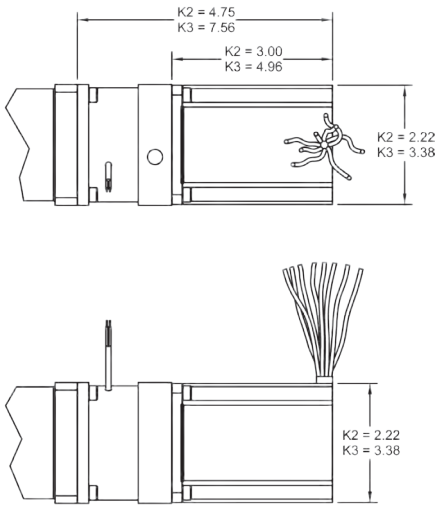
Model	DD	EE	FF	GG	HH	KK	LL	JJ
75	Ø.314 / .3156 x .560 / .580 DP	0.38	1.56	0.500	0.75	1.00	1.12	.38
150	Ø.3770 / .3781 x .810 / .830 DP	0.94	2.07	0.500	1.00	1.25	1.25	.94
350	Ø.3770 / .3781 x 1.000 / 1.020 DP	0.94	3.10	0.500	1.13	2.00	1.25	.94

Dimensions

Brake (K Option)

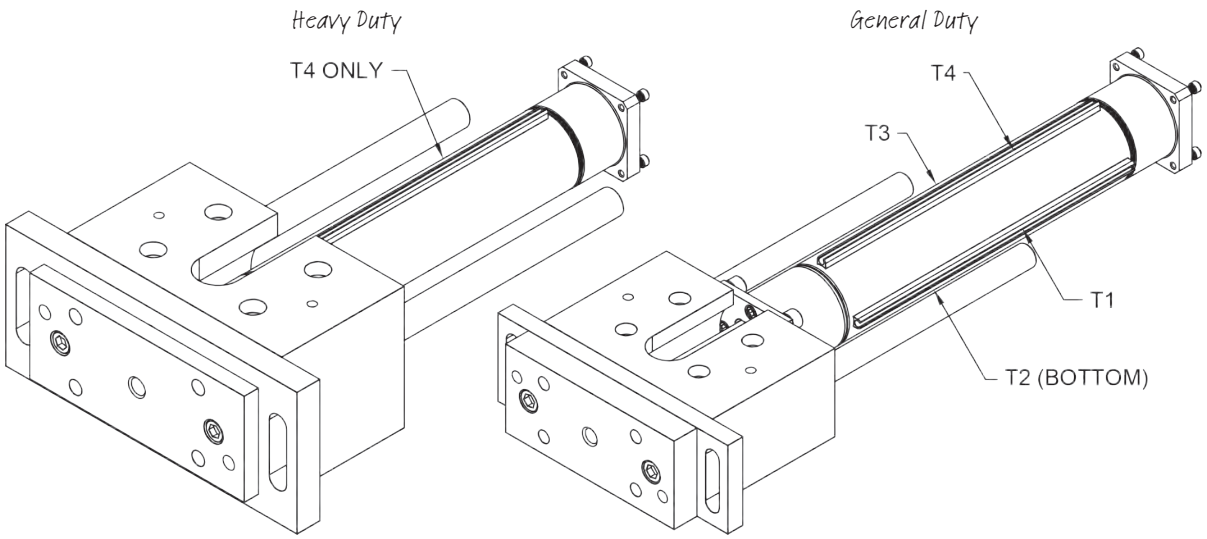
Add motor and brake dimensions below to no motor actuator dimensions.

23 and 34 Frame Stepper and Brake (K2/K3)



Switch Track (T1, T2, T3, T4 Options)

Numbers indicate the position of the switch track relative to the plug that provides access to the coupler.

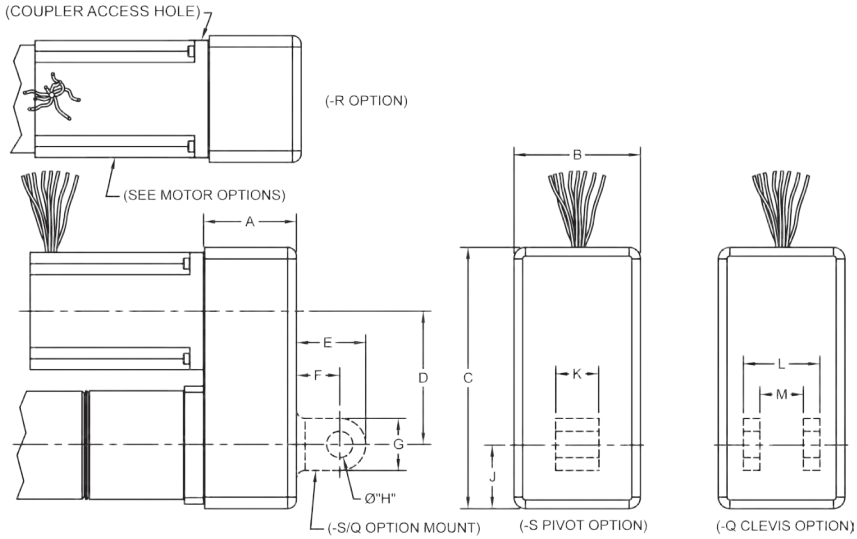


For use with Bimba MR, MS, MSC, or MSK track mount switches.

Dimensions

Reverse Parallel Motor Mounting (R, S, and Q Options)

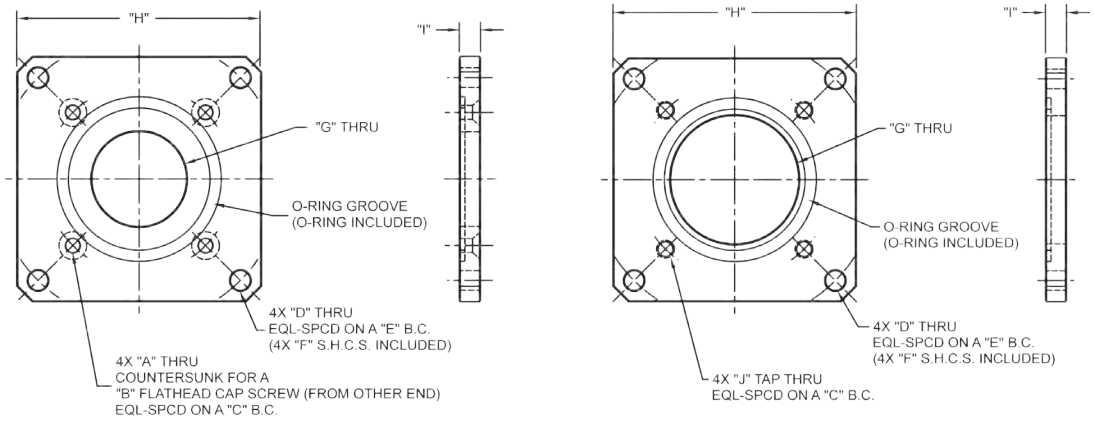
Add reverse parallel dimensions to no motor actuator dimensions.



Motor	A	B	C	D	E	F	G	H	J	K	L	M
P2	1.65	2.59	5.14	2.56	1.25	0.75	1.00	0.50	1.31	0.75	1.75	0.76
P3	2.65	3.65	7.52	3.86	2.00	1.25	1.50	0.75	1.85	1.25	2.50	1.26

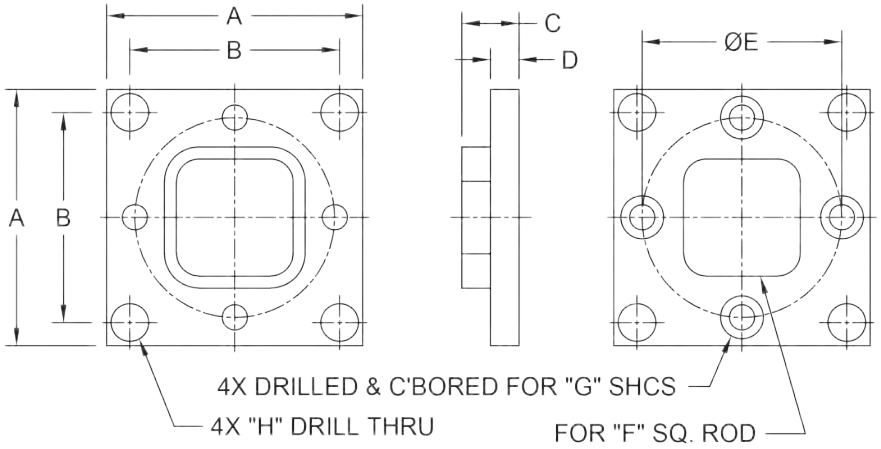
Accessories

Adapter Plates



Part No.	A	B	C	D	E	F	G	H	I	J
D-109957	.13	#4	1.73	.18	2.63	#8	.87	2.25 SQ.	.20	N/A
D-109958	N/A	N/A	1.81	.18	2.63	#8	1.18	2.25 SQ.	.20	#8-32 UNC-2B
D-109959	N/A	N/A	2.76	.20	3.87	#10	1.97	3.39 SQ.	.30	#10-24 UNC-2B
D-109960	.17	#8	1.41	.18	2.63	#8	.99	2.25 SQ.	.20	N/A
D-109968	.18	#8	1.73	.18	2.63	#8	.87	2.25 SQ.	.20	N/A
D-111352	N/A	N/A	1.77	.18	2.63	#8	1.18	2.25 SQ.	.20	M3
D-111353	N/A	N/A	2.76	.20	3.87	#10	1.97	3.39 SQ.	.30	#8-32 UNC-2B

General Duty Housing Mounting Plate



Motor	A	B	C	D	E	F	G	H
75	1.75	1.43	0.50	0.25	1.25	0.74	#8	0.27
100	2.25	1.84	0.50	0.25	1.75	1.00	#10	0.33
350	3.49	2.76	0.68	0.30	2.50	1.50	1/4	0.39

Motors and Drives

Bimba motors are available to use as the rotary drive mechanism of the OLET Series. With a complete array of stepper and servo motors available in stock, Bimba has a motor*-drive solution that meets many demanding applications.

Configuring your motor and creating your first motion profile program is easier than ever with Bimba's intuitive and icon based IQ® suite of motion software. With our complete software suite available for free download from the Bimba website, there is no additional cost to your motion project. All Bimba stepper and servo programming software uses the same IQ® programming software, greatly reducing the learning curve. Existing programs can be easily shared or adapted among the two motor technologies.

See the Motors Catalog for Bimba's wide selection of available motors and motor drives.

**Contact Bimba's Customer Service team for help in crossing your motor to a Bimba motor.*

IntelliMotor®
ITM-23Q-2-EIP-E-M12

AC Stepper Motor
MTR-AC23T-753-S

Reverse Parallel Motor Mounts

In cases where space saving is critical, or in which gaining mechanical advantage via a geared drive belt pulley leads to an improved design, Bimba offers reverse parallel motor mounts. They are offered for use with nearly any Bimba motor or customer-provided motor.

> Adapts to your motor dimensions
> Available in reduction ratios up to 2:1

Stainless Steel Tooling Plates

Bimba offers stainless steel tooling plates for applications where water splash or high humidity is present in the environment. In addition, the stainless tooling plate is resistant to many, but not all, chemicals. Select the "ST" mounting option when a stainless tooling plate is needed.

How to Order

The model number of all Original Line Electric® Thruster Actuators consists of alphanumeric clusters designating product type, body size (number designates maximum thrust capacity in pounds), stroke length, lead, mounting style, motor type and configuration, thruster style and bearing material. The example below describes OLET-7512-50Q-T4Z2-AS, a 75 pound maximum thrust model with 1.5 inch diameter body, 12 inch stroke, 0.50 inch lead, reverse parallel mount, switch track, 23 frame stepper motor with encoder, and drive. Piston magnets are included.

Model
OLET

Stroke Lengths
1 to 18 inches continuous (speed limited)

Mounting	
MP	Add mounting plate
Q	Reverse parallel motor mount with rear clevis
R	Reverse parallel motor mounting
S	Reverse parallel motor mount with rear pivot
ST	Stainless steel tooling plate

Style	
A	Heavy Duty[2]
B	General Duty

Bearing Material	
S	Standard (Composite)
P	Precision (Ball)
H	Harsh Environment (Pacific)

OLET - 75 12 - 50 Q - T4Z2 - A S

Body Size	
75	75 lbs. thrust - 1.5" dia.
150	150 lbs. thrust - 2" dia.
350	350 lbs. thrust - 3" dia.

Lead (inches per turn of screw)			
Model	**Leads**		
75	12[1]	50	75
150	16[1]	25	50
350	20[1]	50	100

Lead	Value (in)
12	.125 [1]
16	.16 [1]
20	.20 [1]
25	.25
50	.50
75	.75
100	1.0

[1] Self locking threads. Backdrive thrust limit exceeds that of the actuator.
[2] Only T4 track position available on heavy duty style.
[3] Longer lead times may apply for brake option. Contact Bimba Technical Support for details.

Options	
T	Switch Track (T1, T2, T3, T4 specify track position on body)[2]
EE	Cylinder and thruster guide shaft option for extra rod and guide shaft extension (x.xx inches)

Brakes	
Motor Size Compatibility	**Brake Option**
NEMA 23, P2, E2, Y2, Z2	K2[3]
NEMA 34, P3, E3, Y3, Z3	K3[3]

Coupler	Motor Shaft Diameter
B	6 mm
C	0.25 inch
D	8 mm
E	12 mm
F	0.50 inch
G	14 mm
H	11 mm

Mounting and Drives (pick only one option)			
	75	**150**	**350**
No motor (second digit defines coupler)	NB, NC	NB, NC, ND	NE, NF, NG
Stepper	P2	P2	P3
Stepper and encoder	E2	E2	E3
Stepper and drive	Y2	Y2	Y3
Stepper, encoder, and drive	Z2	Z2	Z3

Incompatible Options

The following options cannot be ordered together:

Model	R	S	Q	Couplers	Motors	Motor and Encoder	Motor and Drive	Motor, Encoder, and Drive	K2	K3
75	N, S, Q	N, R, Q	N, R, S	D, E, F, G	P3	E3	Y3	Z3	N_	N_, P2, E2, Y2, Z2
150	N, S, Q	N, R, Q	N, R, S	A, E, F, G	P3	E3	Y3	Z3	N_	N_, P2, E2, Y2, Z2
350	N, S, Q	N, R, Q	N, R, S	A, B, C, D	P2	E2	Y2	Z2	N_, P3, E3, Y3, Z3	N_

How to Repair

Bimba OLET devices have only a few repairable parts. However, OLETs are not intended to be field-repairable. While they are designed for long-life, if a device is in need of repair and is able to be repaired, the unit must be returned to Bimba for the repair.

Should a repair be needed, please note the part number and serial number, and contact Bimba Customer Service at (800) 442-4622 (800.44.BIMBA) or e-mail cs@bimba.com.

How to Customize

Many popular standard features and options are available. If you need a special design feature or special adaptation, call on our custom solutions and specials design capabilities for the right product for your application. Bimba looks forward to serving your electric thruster actuator needs with the responsiveness and engineering expertise you have come to expect from Bimba.

Mounting Options:
- Rear pivot or clevis available with reverse parallel motor mount option
- Extra rod extension

Motor Options:
- Offset reverse parallel motor mounts (to conserve space)
- No motor
- Motor and encoder
- Motor and drive
- Motor, encoder, and drive

Performance Options:
- Brake option (with motor) – longer lead times may apply. Compatible brakes are specified.
- Self-locking threads (selected models)
- Switches – band or track mounting
- General or heavy duty
- Standard, precision or harsh environment versions

Specials:
- Low backlash designs
- Special motors and controls
- Washdown motors

For further customization, contact the factory.

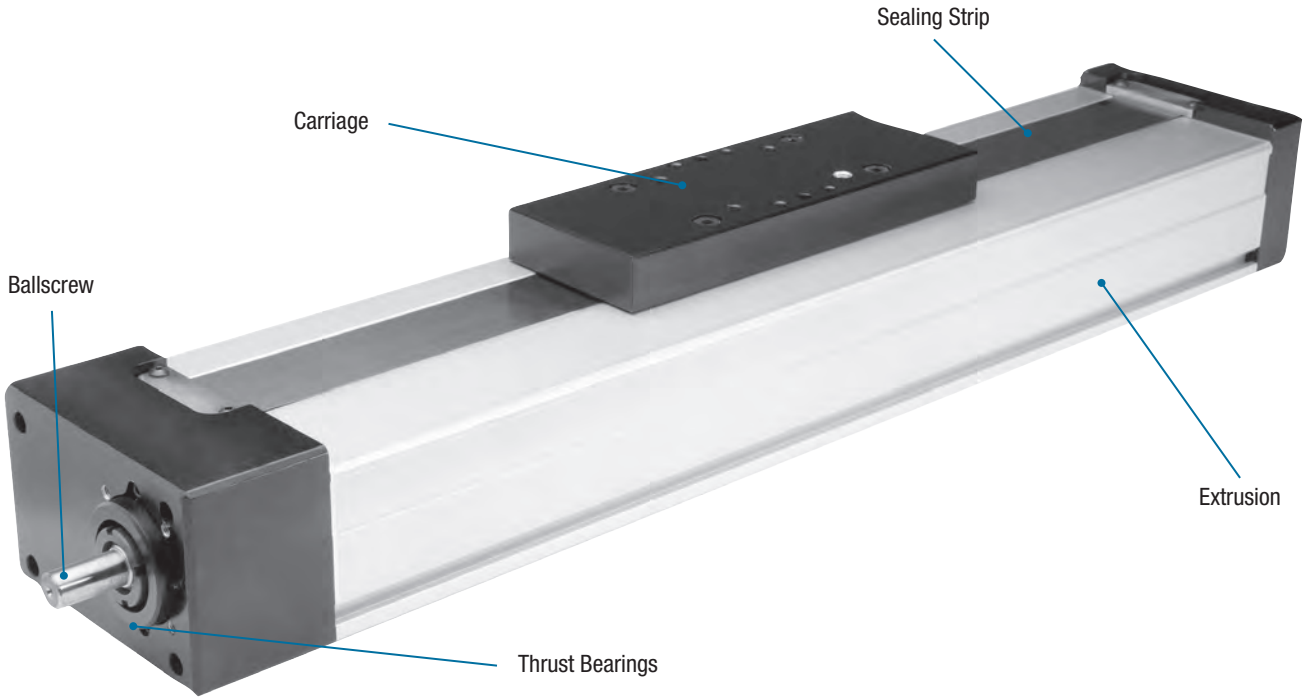
Notes

Notes

S27 Ballscrew Rodless Actuators

The S27 is Bimba's single rail ballscrew-driven electric linear actuator for use in a variety of industries and applications. The S27 uses a ballscrew to convert motor rotary motion to linear motion. The high-efficiency ballscrew is designed to handle high forces leading to high thrust forces within the linear motion of the actuator. With a single bearing block riding along the carriage ball rail, the S27 offers the highest thrust force per size.

Contents



The S27 is the ballscrew version of the B27 belt drive actuator and employs identical extrusion, carriage, and bearing systems, leading to the same high-moment capacities in all mounting directions while delivering about six times more thrust capability. The increased thrust is a direct result of the high-efficiency ballscrew and dual bearing-block design.

Features and Benefits

Precision Rolled Ballscrew:
- Ideal for high thrust applications
- Highest thrust per unit size
- Repeatability to 0.001”
- Several lead pitches available
- Optional leadscrews available

Built-in Linear Ball Rail Guide:
- Maintenance free
- Self-lubricating
- Low friction
- Smooth operation
- Long life expectancy

Low Profile Aluminum Extrusion:
- Provides better fit in tight applications
- Stainless steel seal strip
- Two bearing blocks per rail standard

S27

How it Works

The Bimba S27 rodless actuator is a ballscrew driven linear actuator that takes advantage of the high torque capability and high efficiency (~90%) offered by a ballscrew design. The machined end of the ballscrew is coupled to an external motor shaft to provide the rotary motion. That motion gets converted to linear motion by the integral ballscrew and nut assembly that forms the foundation of the S27. The S27 is assembled using the linear ball rail guide with long-life bearing block and robust extrusion and carrier; it is the first choice when specifying a ballscrew electric actuator.

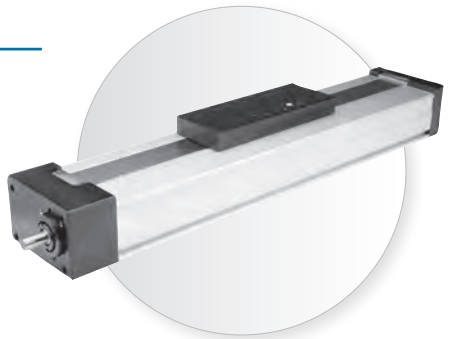
In addition, the S27 is a perfect choice when building a multi-axis system, as the ample dynamic and moment loading characteristics offer outstanding load support when solving two-axis systems. With transition plates available to couple another Bimba rod, rodless, or rack & pinion actuator to the S27, solving motion applications in two dimensions becomes an easy task.

Materials of Construction

Body:	Aluminum
End Caps:	Aluminum
Ball Nut Adapter:	Steel
Carriage:	7075 Aluminum
Sealing Strips:	400 Grade Stainless Steel
Ballscrew:	Hardened Steel

Application Ideas

- Pick & Place
- Sorting
- Loading
- Stacking
- Insertion
- Clamping
- Parts Transfer
- Labeling
- Machine Tool
- Conveyor



Target Applications

The S27 is intended for medium-duty industrial applications that require flexible, medium torque motion with plenty of load and moment loading capacity for common loads. When your application calls for up to ~1m (~3.5ft.) of stroke with up to 1750 lbs (~556N) of dynamic loading, and a speed capability in the 0.8m/sec (~32"/sec) range, the S27 offers you unbelievable performance at an exceptional value.

For applications that call for an alternative solution to traditional pneumatics, and that offers a more adaptable solution that can grow as your motion needs change, Bimba ballscrew electric actuators provide the interchangeable solution that adapts alongside your business in an easy-to-use, long-lasting, and tough electric actuator that exceeds the competition.

Drive Options

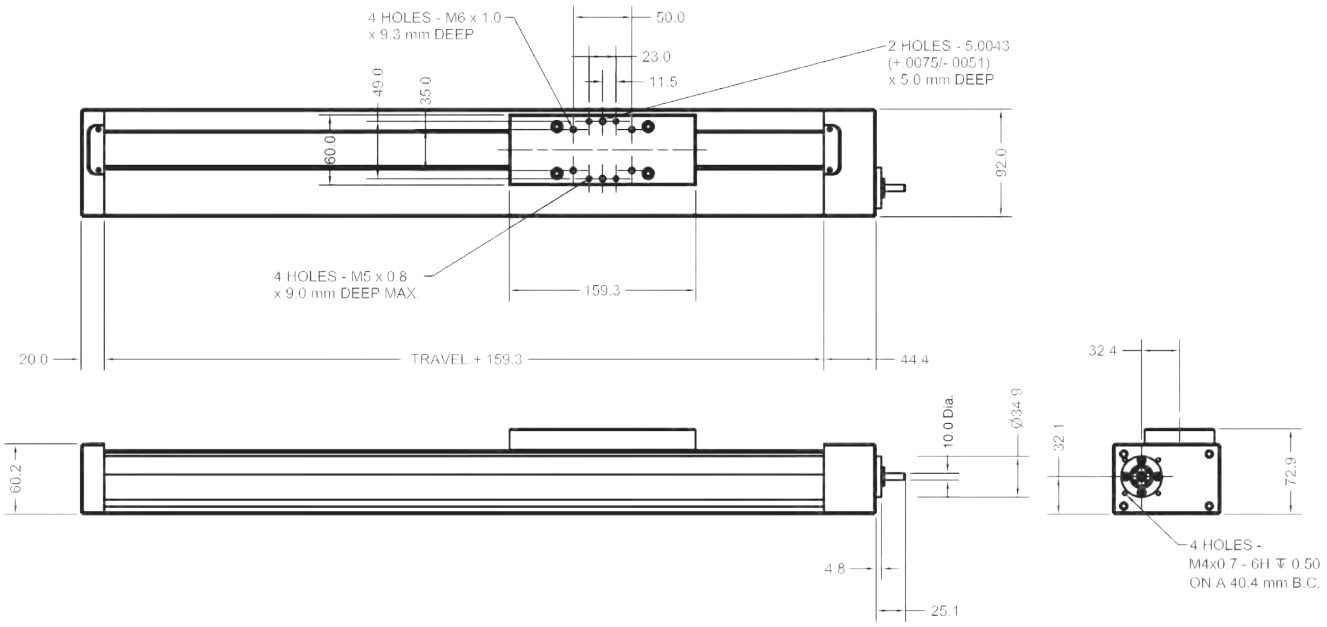
The S27 offers two drive interfaces to choose from: a single standard inline shaft input or our reverse parallel belt drive in a 1:1, 1.5:1, or 2:1 ratio. The choice is yours to select the option that works best for you. With many Bimba stepper and servo motors available to choose from, configuring an electric actuator that best meets the needs of even your most demanding application has never been easier.

Advantages

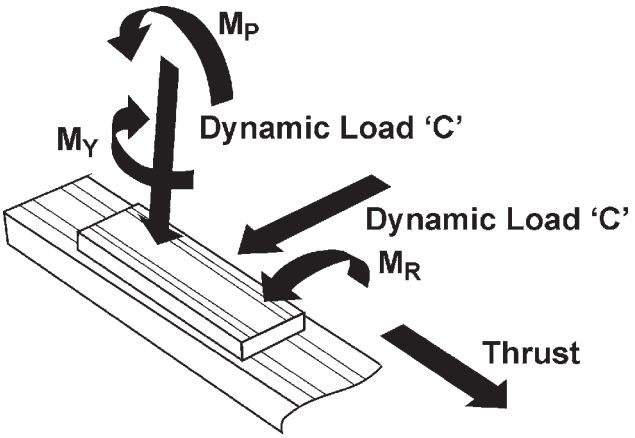
Feature	Advantage	Benefit
Carriage constructed of high-strength 7075 aluminum	Offers enhanced strength and robustness over the competitor	Customer realizes less deflection and increased load and moment loading capability per carriage size
Self-lubricating linear guides	Minimized maintenance	Customer can expect worry- and maintenance-free long life, even in applications that require 24/7 motion

Dimensions

Key specification information for the S27 is given below. For additional specification information, contact Bimba Customer Service at cs@bimba.com, or 800.44.BIMBA (800.442.4622).



Specifications



Linear Actuator	Extrusion	
	Moment of Inertia	
	Ix (cm^4)	Iy (cm^4)
S27	162	52.8

Straightness 0.0125" per foot per length
Twist: 1/4° per foot, 3° maximum per 6mm length

Linear Actuator	Lead Constant (mm/rev.)	End Bearing		Screw	
		Dynamic Load N (lbs)	Static Load N (lbs)	Dynamic Load N (lbs)	Static Load N (lbs)
S27	5	12400 (2790)	7650 (1720)	5100 (1146)	10500 (2360)
	10			5100 (1146)	10500 (2360)
	16			4300 (966)	10200 (2293)

Linear Actuator	Carriage Length (mm)	Dynamic Load Capacity N (lbs)	Dynamic Moment Capacity		
			Roll M_R NM (in-lbs)	Pitch M_P NM (in-lbs)	Yaw M_Y NM (in-lbs)
S27	160	2736 (615)	22.5 (199)	34.2 (302)	34.2 (302)

Weight:

J = (1.0 + Stroke mm * 0.001) * 10^4 * 8.85
S27 = 3kgs + (0.01kgs/mm)

How to Accessorize

Motors and Drives

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IntelliMotor®
ITM-23Q-2-EIP-E-M12

AC Stepper Motor
MTR-AC23T-753-S

S27 with Servo Motor

Reverse Parallel Motor Mounts

In cases where space savings are critical, or in which gaining mechanical advantage via a geared drive belt pulley leads to an improved design, Bimba offers reverse parallel motor mounts. They are offered for use with nearly any Bimba motor or customer-provided motor. The option to mount in either the top or bottom position for the S27 actuator adds flexibility.

S27 Reverse Parallel Reduction Mounts

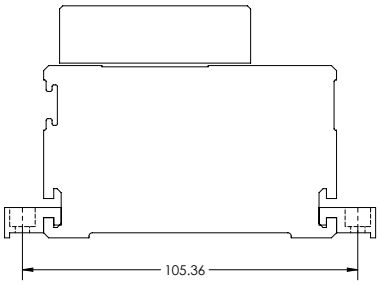
Linear Scale

In extreme cases where precision beyond the normal tight accuracy of the S27 is desired, Bimba offers external linear scales. They are capable of providing extended position precision to as tight as 10µm. These scales are composed of a reading head and external scale. Linear scales are available in incremental or absolute versions which can be added to your actuator as an additional component when included in the final part number.

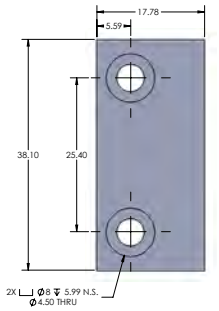
External Linear Scale

Mounting Clamps

To secure an actuator to the machine frame, hold-down clamps are available. They are designed to fit perfectly in the extruded body actuator T-channel. Appropriate sized clamps are available for the S27 actuator, as well as all of Bimba's electric actuators.



Bimba S27 Clamp
CL-27-39



S27 Clamp Drawing

How to Order

The model numbers of the S27 Series rodless actuator consist of an alphanumeric cluster designating product type, stroke length, drive type, drive location, gear ratio (optional), external scale (optional), and other optional components that together make up the complete part number to use in ordering. Use the ordering information below to build a valid part number.

An example of a basic S27 unit with a 160mm 'B' carriage, 500mm stroke, standard drive, 5mm lead, no external scale, one extra carriage with a distance of 590mm, standard protection, no keyway, and additional options is shown below.

Carriage	Drive	Scale*	Carriage Center-to-Center Distance	Keyway
B	SD Standard Drive	N No Scale	XXXX (mm)	Y Yes
		L Left	160-1290mm	N No
		R Right		

S27 B 0500 SD 05 N 1 0590 00 N P0

Actuator	Stroke	Lead	Extra Carriages	Protection	Purge Port*
S27	XXXX (mm)	05 5mm lead	0 None	00 Standard	P0 None
	50-1050mm	10 10mm lead	1 1 Extra	Z1 Corrosion-Resistant	PL Left
		16 16mm lead	2 2 Extra	SS Stainless Steel	PR Right
					PB Both

** Referenced from drive end with carriage on top.*

NOTE: If a motor or gearbox adapter is required, please refer to the Adapters section of the Accessories chapter in this catalog.

Bimba S27 Series ballscrew rodless electric actuators are repairable. A list of the individual components is given below that together make up the S27 electric actuator.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

S27 Standard Drive (16 mm)

Quantity	Part No.	Part Description
1	S27-P02	Top Carriage
1	S27-P103	Bottom Carriage
2	S27-P07	Sealing Strip Roller
1	B27-P01	Extrusion
1	LP15-16R	Rail
2	LP15-16B	Linear Bearings
1	S27-P09	Seal Strip
2	B27-P30	Magnets
1	B27-P26-A	Magnet Holder
2	S27-P21	Retainer Sealing Strip
2	S27-P22	Bumper
1	S27-P115-SD	Drive End Plate
1	S27-P116	Ball Nut Adapter
1	S27-P117	Support End Plate
1	S27-P118	Drive Retainer
1	LP15-16-05	Ballscrew
1	LP15-16-05N	Ball Nut
2	LP15-32	Bearing Thrust
1	LP15-21	Bearing Support
1	LP15-34	Lock Nut

How to Customize

Switches

Switches add versatility to your electric motion application. They can be used to provide end of stroke limits, count strokes, or communicate positioning to an outside source. Switches can provide safety to applications as well, preventing undesirable situations like runaways to prevent damage.

To learn more about Bimba's available switch selection, refer to the Switches section in this catalog.

Air/Purge Ports

Air and purge ports are essential for actuators that operate in dirty applications. In both belt- and screw-driven actuators, ports keep dust and grime from egressing, protecting the internals of the actuator. Air and purge ports are recommended for use with Bimba's air preparation products.

When using purge ports, supply dry filtered air to the actuators in order to achieve optimal protection.

Protection

Bimba offers several protection options for our actuators. Our primary options are Armoloy® and stainless steel. **Armoloy®** offers additional protection against moisture and dirt. It is used to coat the steel linear rail and bearings in a Bimba actuator. Armoloy® coating can also be applied to the aluminum extrusion upon request. **Stainless steel** works in conjunction with Armoloy® coatings, providing additional protection to the end caps and carriage.

Additional coatings are available upon request.

Motor Mounting

Motor mounts allow you to mount any motor to any actuator (within the actuator's rating). They give end users the ability to use Bimba electric actuators with the motor of their choosing. Careful considerations regarding torque limitations must be made when mounting a motor the actuator is not rated for.

To request custom motor mounting options, please supply Bimba with the following information: shaft diameter, shaft length, pilot diameter, pilot depth, bolt circle, and hole size.

Customer-requested Holes and Dowel Pins

Bimba can provide custom holes and dowel pins to accommodate the customer's specific tooling and mounting holes.

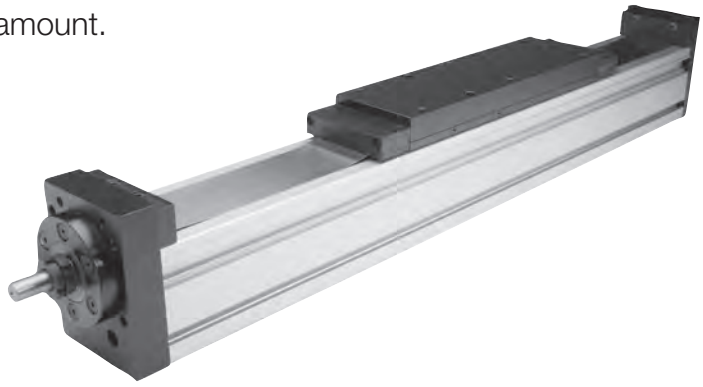
For further customization, contact the factory.

Notes

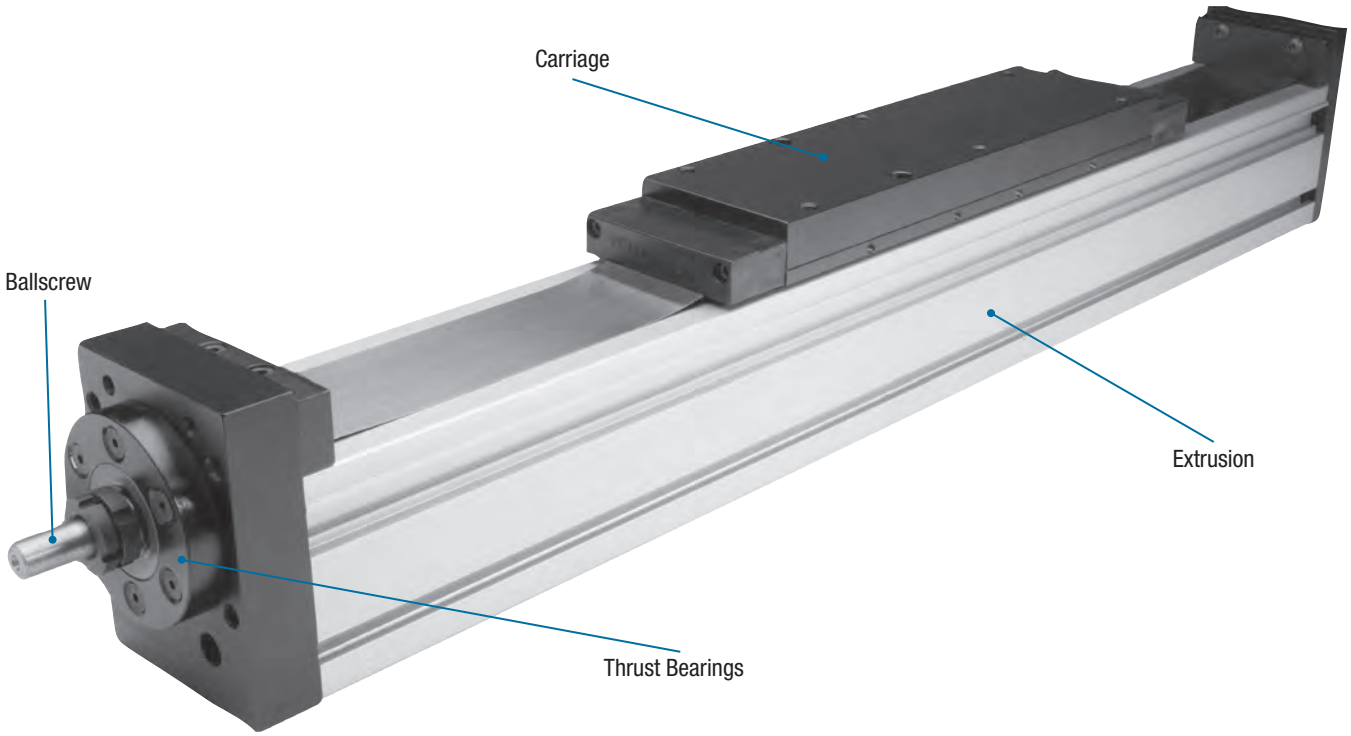
Notes

S80/110 Rodless Electric Actuator

The S80 is Bimba's single rail electric ballscrew-driven electric linear actuator with a built-in Linear Ball Rail Guide system for use in different industries and applications. More robust and internally rigid, the S80 picks up where the S27 leaves off. Well-suited for many of the same pick and place and sorting applications recommended for the S27, the S80 has the additional robustness to perform effortlessly in higher load applications including loading, parts transfer, stacking and similar applications where more muscle and long life are paramount.



Contents



The S80 is the ballscrew version of the B80 belt drive actuator, employing identical extrusion, carriage, and bearing systems, leading to the same high-moment capacities in all mounting directions while delivering nearly three times more thrust capability. The increased thrust is a direct result of the S80's high-efficiency ballscrew and dual bearing-block design.

For extreme applications when trying to maximize the loading capability of a Bimba rodless electric actuator, the S110 is the answer to your needs. Using the same arc-belt construction found in the S80, the S110 is 30mm wider and taller than the S80, with a larger carriage and bearing system and larger diameter ballscrew. Together, this leads to maximized thrust, moment, and loading performance.

Features and Benefits

High Precision Rolled Ballscrew:

- High thrust capacities: up to 5850 lbs
- Highest thrust per unit size
- Available in 5, 10, and 20mm leads
- Stainless steel seal strip cover
- High stiffness
- High accuracy: 0.001"
- Several lead pitches available
- Ground ballscrews available upon request
- ACME lead screws available upon request

Square Aluminum Extrusion:

- Heavy duty 7075 aluminum extrusion
- 25% stronger extrusion
- Supports stops and bearings
- Better fit in tight applications (S80)
- Promotes long life

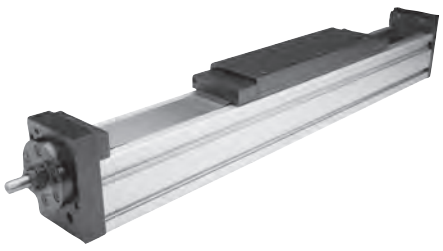
Built-in Linear Ball Rail Guide:

- Maintenance free
- Self-lubricating
- Low friction
- Smooth, quiet operation
- Long life expectancy
- S80 supports high loads and high moment loads
- S110 supports extreme loads and extreme moment loads

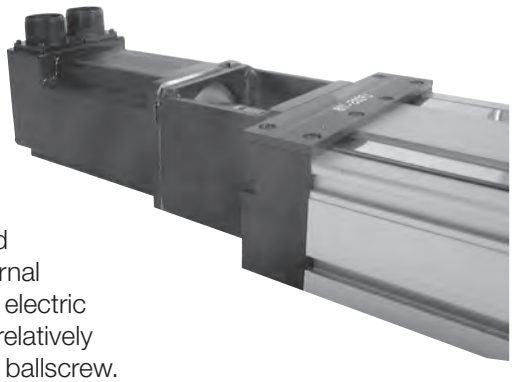
Belt Drive Reducer Available:

- Space saving belt drive motor to actuator mounting
- Adapts to your motor dimensions
- Integral to reverse parallel configurations
- 1:1, 1.5:1, 2:1, and 2.5:1 ratios available

S80/110



How it Works



Bimba S80 and S110 rodless actuators use an external stepper or servo motor coupled to drive an internal ballscrew and ball nut assembly that is attached to an internal built-in linear ball rail guide system. The S80/110 uses a high-efficiency rolled ballscrew attached to an internal ball-screw lower carriage assembly, which is bolted to a self-lubing bearing block and rail ball bearing assembly beneath it. It is simultaneously bolted to the internal upper carriage, becoming the foundation for the robust external load carriage that is attached to the combined ballscrew/bearing block/bearing rail/lower via the upper internal carriage assembly. The highly efficient ballscrew leads to a high thrust output electric actuator. The high efficiency of the ballscrew allows high thrust forces with a relatively "small" motor due to the maximum mechanical advantage garnered from the ballscrew.

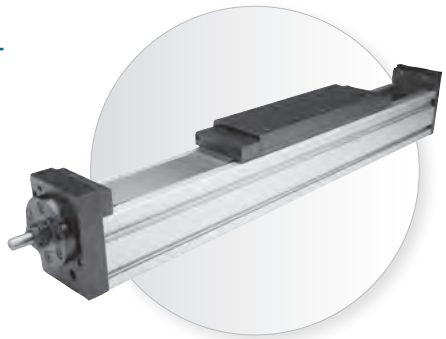
The S110 is a perfect choice when building a multi-axis system, as the high dynamic and moment loading characteristics offer outstanding load support when solving two-axis systems. With transition plates available to couple another Bimba rod, rodless, or rack & pinion actuator to the S110, solving motion applications in two dimensions becomes an easy task.

Materials of Construction

Body:	Aluminum
Ends:	Aluminum
Ball Nut Adapter:	Steel
Carriage:	7075 Aluminum
Sealing Strips:	400 Grade Stainless Steel
Ballscrew:	Hardened Steel

Application Ideas

- Pick & Place
- Sorting
- Loading
- Lifting
- Pressing
- Stacking
- Insertion
- Clamping
- Parts Transfer
- Parts Rejection
- Machine Tool
- Diverting
- Conveyor



Target Applications

The S80 is intended for heavy-duty industrial applications that require flexible, high-thrust and extreme precision, with robust load and moment loading capacity. When your application calls for extreme precision with up to 4470 lbs (21200 N) and speed capability in the 1m/sec (~40"/sec) range, the S80 offers you a canned solution with maximum performance and value.

The S110 is intended for maximum-duty industrial applications that require flexible, precise, or extreme load and moment loading capacity. For applications that call for up to 6 ft. (~2m) of stroke with speed capability in the 25"/sec (~0.6m/sec) range, along with dynamic loading capability exceeding 17,000 lbs. (~76,000 N), the S110 offers a robust solution in a standard offering.

For applications that call for an alternative, adaptable solution to a traditional pneumatic applications, with force and load capability that mimics a pneumatic solution and can change as your motion needs grow, S80/110 electric actuators provide the interchangeable solution. Adapting alongside your business in an easy-to-use, long-lasting, and tough electric actuator that exceeds the competition in performance, value, and life is what makes the S80/110 Bimba's flagship electric ballscrew actuator.

Drive Options

With two S80/110 drive interfaces to choose from–a standard single shaft mount or a reverse parallel belt drive input shaft mount which provides up to a 3:1 reduction ratio–the choice is yours to select the option that works best for you. High load and thrust applications become an afterthought when installing an S80/110; just add the optional belt drive, coupled with a servo motor, to provide the necessary torque to move high application loads.

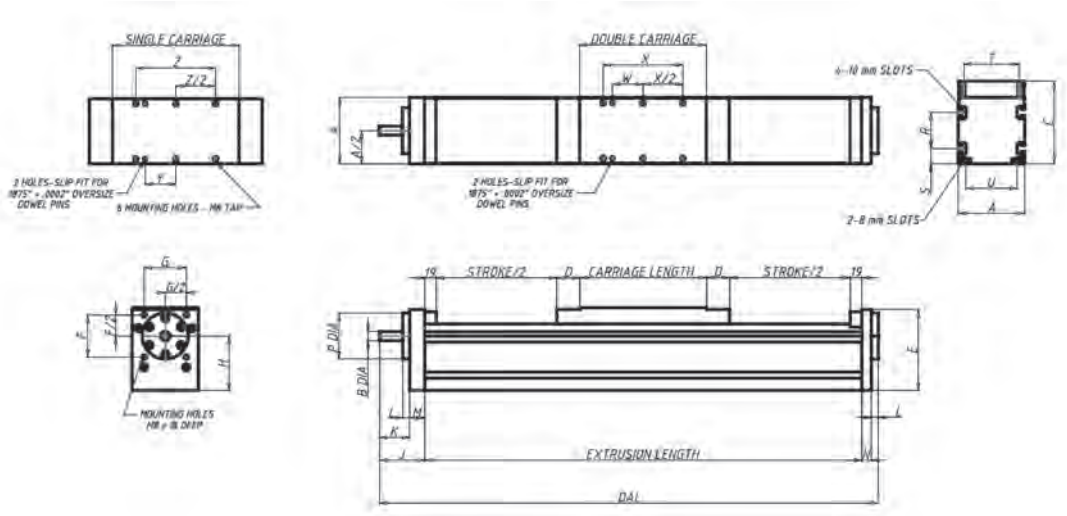
In those scenarios where yet more torque is needed, the flexibility of the S80/110 allows users to configure an integral reducer drive with the belt drive to provide a ratio that offers a multiple reduction ratio, leading to extreme torque levels.

Advantages

Feature	Advantage	Benefit
Carriage constructed of high-strength 7075 aluminum	Offers enhanced strength and robustness over the competitor	Less deflection and increased load and moment loading capability per carriage size
Self-lubricating linear guides	Minimized maintenance	Worry- and maintenance-free long life, even in applications that require 24/7 motion
Reducer Drive (optional)	Offers increased performance using embedded gear reducer	Move larger loads and improve inertia matching, using an aesthetically pleasing, cost-effective solution
Precision-rolled ballscrews	Higher accuracy and repeatability	Realize unmatched positional performance leading to reliable output, less waste, and increased throughput

Dimensions

Key specification information for the S80/110 is given below. For additional specification information, contact Bimba Customer Service at cs@bimba.com, or 800.44.BIMBA (800.442.4622).

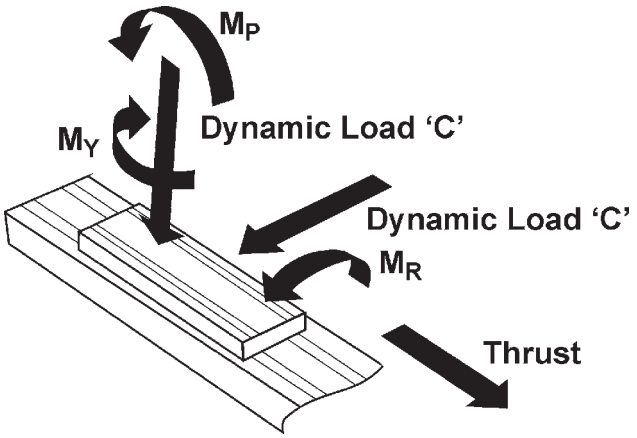


	Dimensions																
Actuator	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**	**P**	**R**	**S**	**T**
S80	80	12	108.3	31.8	109	50	66	70	73	48	11.5	25	16	69.8	45	18	65
S110	110	15	130	38.1	134	70	70	80	75	80	11.5	25	15	76.2	80	25	81.7

	Dimensions					Carriage Length	
Actuator	**U**	**W**	**X**	**Y**	**Z**	**Single**	**Double**
S80	35	53.29	220	34.24	150	190	260
S110	85	50.8	203.2	80.8	132	210	305

O.A.L = "J" + "N" + "L" + (2 x "D") + 38 + Stroke + Carriage Length

Specifications



Linear Actuator	Extrusion	
	Moment of Inertia	
	Ix (cm^4)	Iy (cm^4)
S80	146	219
S110	484	745

Straightness 0.3175mm per 300mm of length
Twist: 1/4° per 300mm, 3° maximum per 6mm length

Linear Actuator	Lead Constant (mm/rev.)	End Bearing		Screw	
		Dynamic Load N (lbs)	Static Load N (lbs)	Dynamic Load N (lbs)	Static Load N (lbs)
S80	5	21200 (4470)	13400 (3010)	6200 (1394)	14700 (3305)
	10			10600 (2383)	22700 (5103)
	20			6200 (1394)	14700 (3305)
	50			13000 (2923)	2508 (5530)
S110	5	26000 (5850)	16600 (3730)	6600 (1484)	18700 (4204)
	10			27500 (6182)	76300 (17152)
	25			9300 (2090)	22700 (5103)
	50			15400 (3462)	3232 (7126)

Linear Actuator	Carriage Length (mm)	Dynamic Load Capacity N (lbs)	Dynamic Moment Capacity		
			Roll M_R NM (in-lbs)	Pitch M_P NM (in-lbs)	Yaw M_Y NM (in-lbs)
S80	190	21000 (4720)	310 (2745)	270 (2390)	270 (2390)
	260	42000 (9440)	620 (5487)	1400 (12390)	1400 (12390)
S110	210	30750 (6913)	530 (4690)	460 (4071)	460 (4071)
	305	61500 (13825)	1060 (9381)	2750 (24338)	2750 (24338)

Inertia (lb-in-sec²):

S80 Actuator - A Carriage, J = (2 + Stroke mm * 0.001) * 10^{-4} * 8.85
S80 Actuator - B Carriage, J = (3 + Stroke mm * 0.001) * 10^{-4} * 8.85
S110 Actuator - A Carriage, J = (5 + Stroke mm * 0.001) * 10^{-4} * 8.85
S110 Actuator - B Carriage, J = (7 + Stroke mm * 0.001) * 10^{-4} * 8.85

Weight:

S80 = 4 kgs + (0.0134 kgs/mm)
S110 = 8 kgs + (0.0134 kgs/mm)

How to Accessorize

Motors and Drives

Bimba motors are available to use as the rotary drive mechanism of the S80/110 Series. With a complete array of stepper and servo motors available in stock, Bimba has a motor*-drive solution that meets many demanding applications.

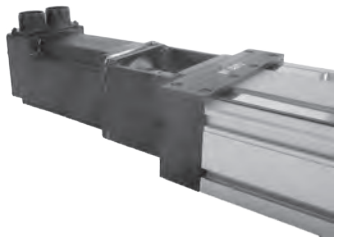
Configuring your motor and creating your first motion profile program is easier than ever with Bimba's intuitive and icon based IQ® suite of motion software. With our complete software suite available for free download from the Bimba website, there is no additional cost to your motion project. All Bimba stepper and servo programming software uses the same IQ® programming software, greatly reducing the learning curve. Existing programs can be easily shared or adapted among the two motor technologies.

See the Motors Catalog for Bimba's wide selection of available motors and motor drives.

**Contact Bimba's Customer Service team for help in crossing your motor to a Bimba motor.*

IntelliMotor®
ITM-23Q-2-EIP-E-M12

AC Stepper Motor
MTR-AC23T-753-S



AC Servo Motor

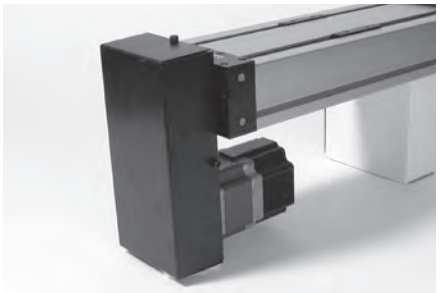
General Accessories

- T-bars for mounting to the carriages
- Mechanical and proximity limit switches
- Torque tubes for dual axis gantry style applications
- Adapter plates for creating most any X-Y-Z configuration

Reverse Parallel Motor Mounts

In cases where space savings are critical, or in which gaining mechanical advantage via a geared drive belt pulley leads to an improved design, Bimba offers reverse parallel motor mounts. They are offered for use with nearly any Bimba motor or customer-provided motor. The option to mount in either the top or bottom position for the S80/110 actuator adds flexibility.

- Adapts to your motor dimensions
- Available in reduction ratios up to 2:1
- Saves valuable space



Bimba Reverse Parallel Reduction Mounts

Linear Scale

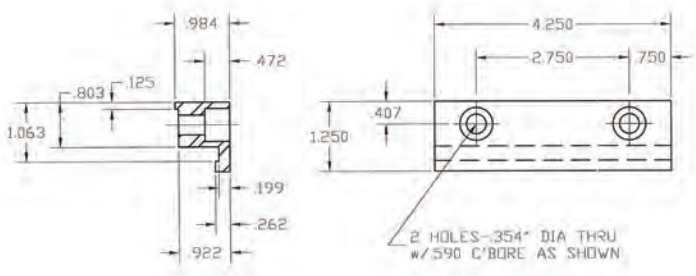
In extreme cases where precision beyond the normal tight accuracy of the S80/110 is desired, Bimba offers external linear scales. They are capable of providing extended position precision to as tight as 10µm. These scales are composed of a reading head and external scale. Linear scales are available in incremental or absolute versions which can be added to your actuator as an additional component when included in the final part number.

External Linear Scale

Mounting Clamps

To secure an actuator to the machine frame, hold-down clamps are available. They are designed to fit perfectly in the extruded body actuator T-channel. Appropriate sized clamps are available for the S80/110 actuator, as well as all of Bimba's electric actuators.

Bimba S80 Clamp
CL-80-39



S80 Clamp Drawing

How to Order

The model numbers of S80/110 Series rodless actuators consist of an alphanumeric cluster designating product type, carriage type, stroke length, drive type, lead, gear ratio (optional), external scale (optional), and other optional components that together make up the complete part number to use in ordering. Use the ordering information below to build a valid part number.

An example of a basic S80 unit with a 500mm stroke, standard drive shaft, 5mm lead, no scale, and additional options is shown below.

Carriage			
Actuator	**Carriage Type**	**Number of Bearing Blocks**	**Carriage Length**
S80	A	1	190
	B	2	260
S110	A	1	210
	B	2	305

Drive	
SD	Standard Drive

Scale*	
N	None
L	Left
R	Right

Carriage Center-to-Center Distance
XXXX (mm)
254-1658mm

Keyway	
Y	Yes
N	No

S80 B 0500 SD 05 N 1 1000 00 N P0

Actuator
S80
S110

Stroke
XXXX (mm)

Lead	
05	5mm lead
10	10mm lead
20	20mm lead
25	25mm lead
50	50mm lead

Extra Carriages	
0	None
1	1 Extra
2	2 Extra

Protection	
00	Standard
Z1	Corrosion-Resistant
SS	Stainless Steel

Purge Port*	
P0	None
PL	Left
PR	Right
PB	Both

** Referenced from drive end with carriage on top.*

NOTE: If a motor or gearbox adapter is required, please refer to the Adapters section of the Accessories chapter in this catalog.

Bimba S80 Series multi-axis electric actuators are repairable. A list of the individual components is given below that together make up S80 electric actuators with standard drives.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

S80 Standard Drive (A Carriage)

Quantity	Part No.	Part Description
1	S80-02	Extrusion
1	S80-03	Linear Rail
1	S80-04-10	Ballscrew
1	S80-04-10N	Ball Nut
1	S80-05	End Plate
1	S80-06	Retainer
1	S80-07	End Plate
1	S80-08	Retainer
1	S80-10-A	Top Carriage, Single - Sealing Strip
1	S80-10-B	Bottom Carriage, Single - Sealing Strip
1	S80-11	Spacer
2	B27-P30	Magnet
1	LP20-14_RevB	Ball Nut Clamp
1	S80-14	Seal Strip
2	S80-17A	Seal Clamps A & B
2	S80-17B	Seal Clamps A & B
1	S80-18	Seal Shaft
2	S80-20	Bearing Thrust
1	LP20-25	Bearing Support
1	S80-22	Lock Nut
1	S80-25	Bearing
4	B80-42	Carriage Magnets

S80 Standard Drive (B Carriage)

Quantity	Part No.	Part Description
1	S80-02	Extrusion
1	S80-03	Linear Rail
1	S80-04-10	Ballscrew
1	S80-04-10N	Ball Nut
1	S80-05	End Plate
1	S80-06	Retainer
1	S80-07	End Plate
1	S80-08	Retainer
1	S80-09-A	Top Carriage, Double - Sealing Strip
1	S80-09-B	Bottom Carriage, Double - Sealing Strip
1	S80-11	Spacer
2	B27-P30	Magnet
1	S80-13B	Ball Nut Clamp
1	LP20-14_RevB	Ball Nut Clamp
1	S80-14	Seal Strip
2	S80-16	Seal Guides
2	S80-17A	Seal Clamps A & B
2	S80-17B	Seal Clamps A & B
1	S80-18	Seal Shaft
2	S80-20	Bearing Thrust
1	LP20-25	Bearing Support
1	S80-22	Lock Nut
1	S80-24	Retainer Ring
2	S80-25	Bearing
4	B80-42	Carriage Magnets

How to Repair

Bimba S110 Series multi-axis electric actuators are repairable. A list of the individual components is given below that together make up S110 electric actuators with standard drives.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

S110 Standard Drive (A Carriage)

Quantity	Part No.	Part Description
1	B110-01	Extrusion (General Extrusion)
1	B80-02	Linear Rail
1	S110-04-10	Ballscrew
1	S110-04-10N	Ball Nut
1	S110-05	End Plate
1	S110-06	Retainer
1	S110-07	End Plate
1	S110-08	Retainer
1	S110-10A	Carriage Single Top - A
1	S110-10B	Carriage Single Bottom - A
1	S110-11	Spacer
1	S110-12	Ball Nut Clamp
2	B27-P30	Magnet
1	S110-14	Sealing Strip
2	S110-16	Cover Guide
2	S110-17A	Cover Clamp
2	S110-17B	Cover Clamp
2	S110-20	Bearing Thrust
1	S110-21	Bearing Support
1	S110-22	Lock Nut
1	S110-24	Retainer Ring
1	S110-25	Bearing
1	S110-18	Grease Seal

S110 Standard Drive (B Carriage)

Quantity	Part No.	Part Description
1	B110-01	Extrusion (General Extrusion)
1	B80-02	Linear Rail
1	S110-04-10	Ballscrew
1	S110-04-10N	Ball Nut
1	S110-05	End Plate
1	S110-06	Retainer
1	S110-07	End Plate
1	S110-08	Retainer
1	S110-09A-1	Carriage Double Top- B
1	S110-09B	Carriage Double Bottom- B
1	S110-11	Spacer
1	S110-12	Ball Nut Clamp
2	B27-P30	Magnet
1	S110-14	Sealing Strip
2	S110-16	Cover Guide
2	S110-17A	Cover Clamp
2	S110-17B	Cover Clamp
2	S110-20	Bearing Thrust
1	S110-21	Bearing Support
1	S110-22	Lock Nut
1	S110-24	Retainer Ring
2	S110-25	Bearing
1	S110-18	Grease Seal

Switches

Switches add versatility to your electric motion application. They can be used to provide end of stroke limits, count strokes, or communicate positioning to an outside source. Switches can provide safety to applications as well, preventing undesirable situations like runaways to prevent damage.

To learn more about Bimba's available switch selection, refer to the Switches section in this catalog.

Air/Purge Ports

Air and purge ports are essential for actuators that operate in dirty applications. In both belt- and screw-driven actuators, ports keep dust and grime from egressing, protecting the internals of the actuator. Air and purge ports are recommended for use with Bimba's air preparation products.

When using purge ports, supply dry filtered air to the actuators in order to achieve optimal protection.

Protection

Bimba offers several protection options for our actuators. Our primary options are Armoloy® and stainless steel. **Armoloy®** offers additional protection against moisture and dirt. It is used to coat the steel linear rail and bearings in a Bimba actuator. Armoloy® coating can also be applied to the aluminum extrusion upon request. **Stainless steel** works in conjunction with Armoloy® coatings, providing additional protection to the end caps and carriage.

Additional coatings are available upon request.

Motor Mounting

Motor mounts allow you to mount any motor to any actuator (within the actuator's rating). They give end users the ability to use Bimba electric actuators with the motor of their choosing. Careful considerations regarding torque limitations must be made when mounting a motor the actuator is not rated for.

To request custom motor mounting options, please supply Bimba with the following information: shaft diameter, shaft length, pilot diameter, pilot depth, bolt circle, and hole size.

Customer-requested Holes and Dowel Pins

Bimba can provide custom holes and dowel pins to accommodate the customer's specific tooling and mounting holes.

For further customization, contact the factory.

Notes

LP15S & LP20S Actuators

From pick and place to material handling, the LP15S/LP20S is a capable electric motion solution when looking for a motion profile with heavy-duty loading capability. Built using the highest quality components throughout its construction, the LP15S is Bimba's standard general-purpose electric linear actuator with heavy-duty characteristics not found in competitive actuators.

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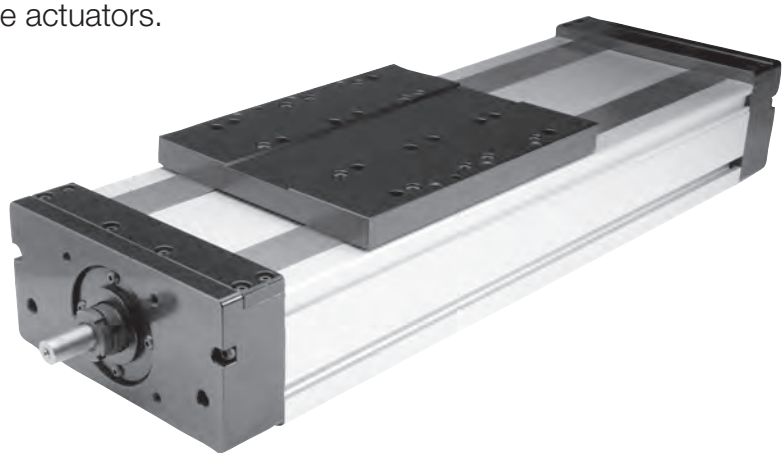

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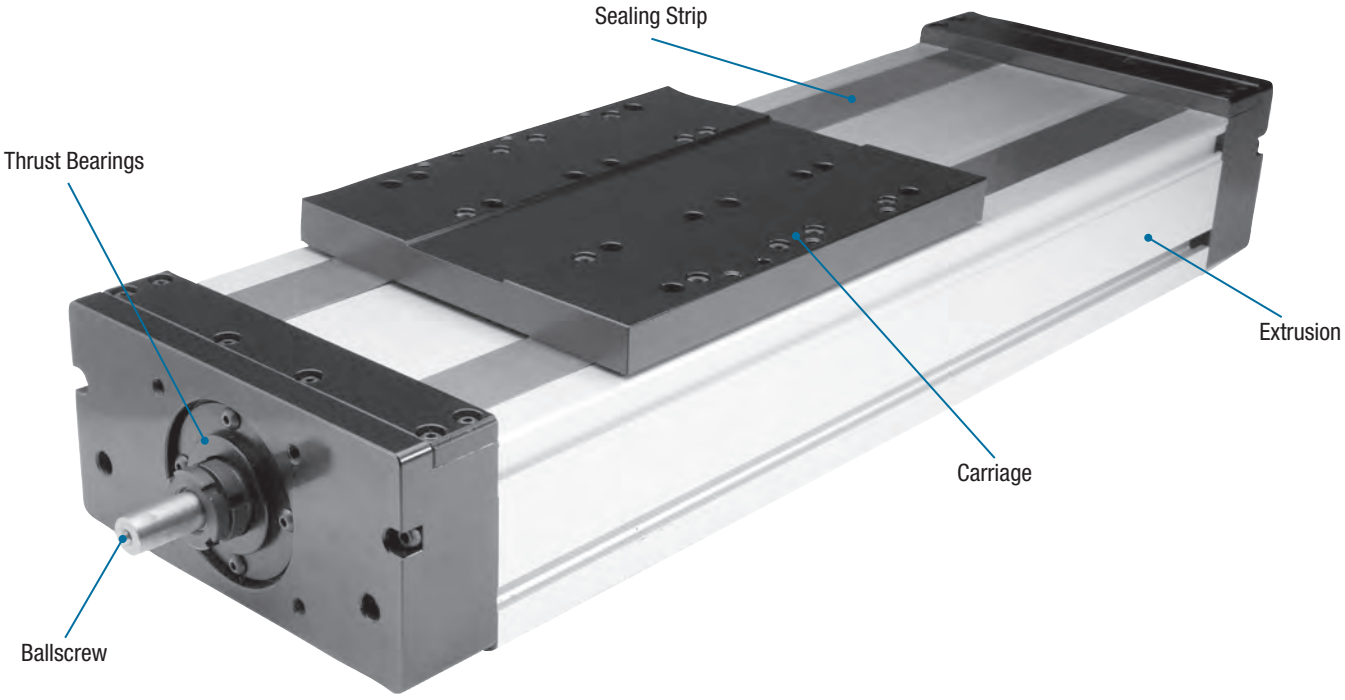
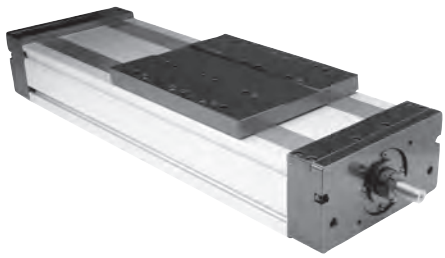


The LP15S/LP20S family of electric actuators offer a dual ball rail design to maximize loading characteristics while still providing high moment and precision with low noise, backlash and vibration. With two distinct ballscrew diameter sizes to choose from, high load applications are easily overcome.

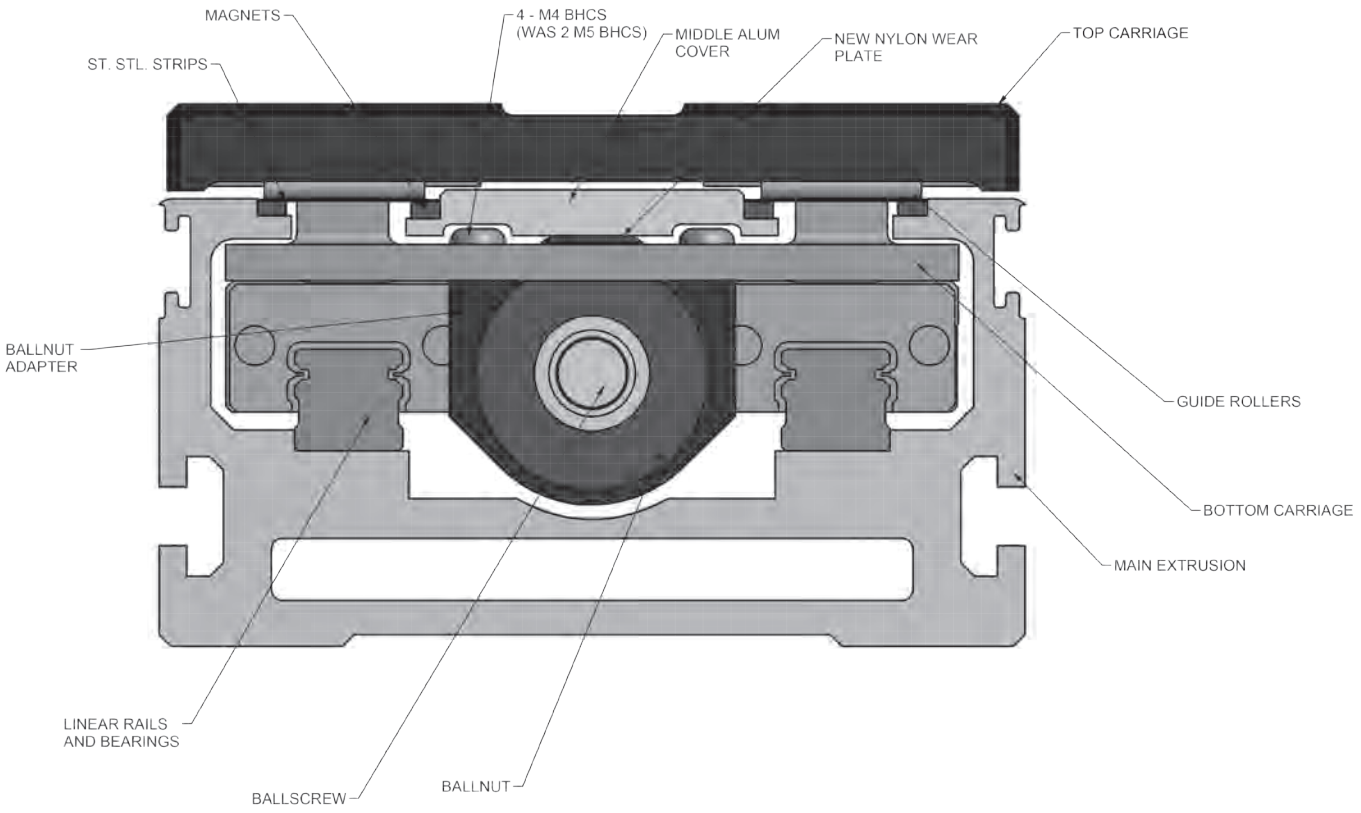
Features and Benefits

- High thrust capacities: up to 3350 lbs.
- Available in 5, 10, 16 and 20mm leads
- Two stainless steel seal strip covers
- High stiffness
- Repeatability to 0.001”
- NEMA 23 and 34 motor ready
- Ground ballscrews available upon request
- ACME lead screws available upon request
- Provides better fit in tight applications
- Maximum robustness per size
- Dual rails provide two times the loading
- Four bearing blocks: two per rail
- Size 15 and Size 20 rails/bearings
- Maintenance-free
- Self-lubricating
- Low friction
- Smooth operation
- Long life expectancy

LP15B/LP20B



How it Works



The LP15S dual rail rodless actuator uses an external stepper or servo motor to drive an internal, precision-rolled ballscrew and ball nut assembly that is attached to a built-in linear ball rail guide system. The LP15S uses a high efficiency rolled ballscrew attached to an internal ballscrew lower carriage assembly, which is bolted to two separate self-lubed bearing blocks and rail ball-bearing assemblies beneath it. It is simultaneously bolted to its internal upper carriage, which becomes the foundation for the robust external load carriage that is attached to the ballscrew/bearing block/bearing rail/lower carriage structure via the upper internal carriage assembly. This leads to a high thrust output electric actuator thanks to the highly efficient ballscrew. The high efficiency of the ballscrew allows high thrust forces with a relatively small motor due to the maximum mechanical advantage and efficiencies garnered from the ballscrew.

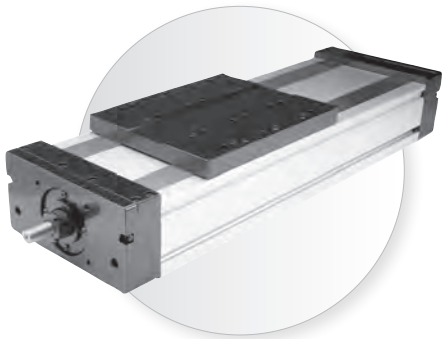
The motor provides the rotational motion which is transformed into linear motion as the carriage and load attached to the ballscrew and nut assembly travels along the length of the LP15S under direct and defined control of the user. With two linear rails and an option for up to four bearing blocks (two per rail), the LP15S has the load and moment capability to handle nearly any load you can stack up against it.

Materials of Construction

Body:	Aluminum
End Caps:	Aluminum
Ball Nut Adapter:	Steel
Carriage:	7075 Aluminum
Sealing Strips:	400 Grade Stainless Steel
Ballscrew:	Hardened Steel

Application Ideas

- Pick & Place
- Sorting
- Loading
- Stacking
- Insertion
- Clamping
- Parts Transfer
- Machine Tool
- Conveyor



Target Applications

The LP15S/LP20S is intended for heavy-duty industrial applications that require flexible, long distance, high thrust linear motion with a dual rail construction that provides maximum dynamic load and moment loading capacity. When your application calls for up to 1.2m (~4 ft) of stroke with more than 1000 lbs (~4450N) of thrust potential, and more than 3350 lbs (1500N) of dynamic load and speed capability in the 0.76m/sec (~30"/sec) range, the LP15B/LP20S offers you a maximum solution at an exceptional value.

The power of the dual-rail construction of the LP15S lends itself well to multi-axis motion solutions. Whether the second axis is another LP15S or nearly any other existing Bimba electric actuator, the two rail, four bearing block configuration makes adding a second axis a breeze.

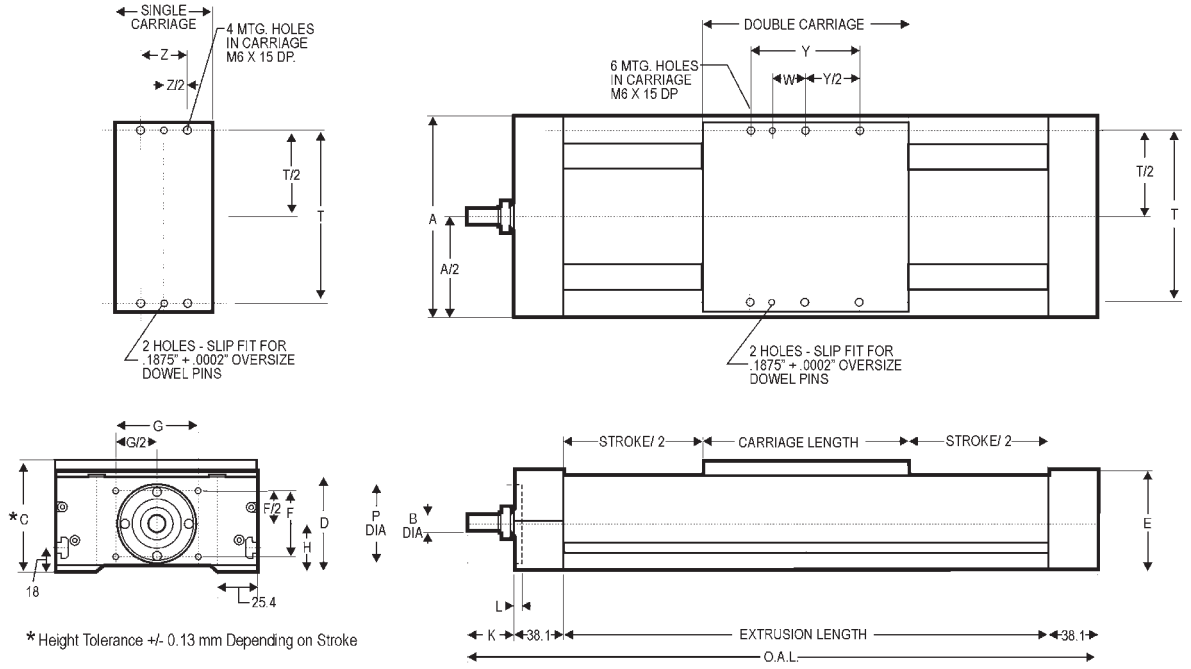
For applications that call for a heavy-duty alternative solution to a traditional pneumatic application, Bimba electric actuators provide the interchangeable solution that grows and adapts alongside your business in an easy-to-use, long lasting, and tough electric actuator.

Advantages

Feature	Advantage	Benefit
Carriage constructed of high-strength 7075 aluminum	Offers enhanced strength and robustness over the competitor	Less deflection and increased load and moment loading capability per carriage size
Dual rail construction	2-rail, 4-bearing block construction offers maximum moment loading capacity	Highest load and moment capacity leads to solving applications that are not otherwise possible within this class of actuator
Self-lubricating linear guides	Minimized maintenance	Worry- and maintenance-free long life, even in applications that require 24/7 motion
Precision-rolled ballscrews	Higher accuracy and repeatability	Realize unmatched positional performance leading to reliable output, less waste, and increased throughput

Dimensions

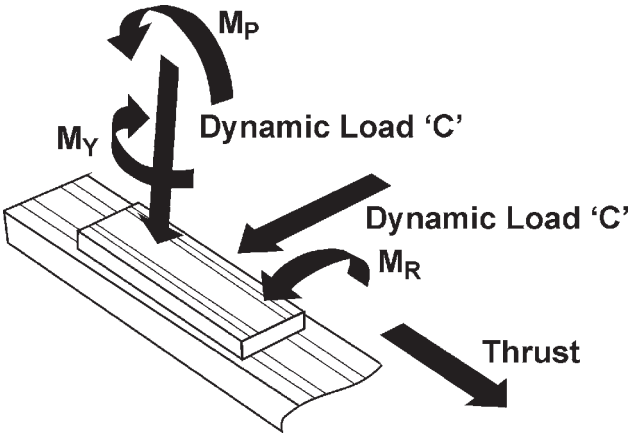
Key specification information for the LP15S/20S is given below. For additional specification information, contact Bimba Customer Service at cs@bimba.com, or 800.44.BIMBA (800.442.4622).



	Dimensions															Carriage Length	
Actuator	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**K**	**L**	**P**	**T**	**W**	**Y**	**Z**	**Single**	**Double**
LP15S	120	10	75.2	62	69.1	30.1	67.5	36.2	27	6.2	50.8	104.8	25.4	127	63.5	110	192
LP20S	155	12	88.53	70.8	77.1	50.8	63.5	37.8	36.6	6.5	60.3	143	25.4	84	63.5	110	192

*O.A.L = "K" + (2 * 38.1) + Stroke + Carriage Length*

Specifications



Linear Actuator	Extrusion	
	Moment of Inertia	
	Ix (cm^4)	Iy (cm^4)
LP15S	59	423
LP20S	110	1014

Straightness 0.3175" per 300mm of length
Twist: 1/4° per 300mm, 3° maximum per 6m length

Linear Actuator	Lead Constant (mm/rev.)	End Bearing Capacity		Screw Capacity	
		Dynamic Load N (lbs)	Static Load N (lbs)	Dynamic Load N (lbs)	Static Load N (lbs)
LP15S	5	12,400 (2790)	7650 (1720)	5100 (1146)	10,500 (2360)
	10			5100 (1146)	10500 (2360)
	16			4300 (966)	10,200 (2293)
LP20S	5	21,200 (4770)	13,400 (3010)	6200 (1394)	14,700 (3305)
	10			10,600 (2383)	22,700 (5103)
	20			6200 (1394)	14,700 (3305)
	50			13,000 (2923)	24,600 (5530)

Linear Actuator	Carriage Length (mm)	Dynamic Load Capacity N (lbs)	Dynamic Moment Capacity		
			Roll M_R NM (in-lbs)	Pitch M_P NM (in-lbs)	Yaw M_Y NM (in-lbs)
LP15S	110	20,405 (4587)	260 (2301)	70 (620)	70 (620)
	192	40,810 (9174)	420 (3717)	500 (4425)	500 (4425)
LP20S	110	32,373 (7277)	530 (4691)	130 (1151)	130 (1151)
	192	64,746 (14,555)	1060 (9382)	1475 (13,055)	1475 (13,055)

Inertia (lb-in-sec²):

LP15S Actuator - A Carriage, J = (1.0 + Stroke mm * 0.001) * 10^4 * 8.85
LP15S Actuator - B Carriage, J = (1.5 + Stroke mm * 0.001) * 10^4 * 8.85
LP20S Actuator - A Carriage, J = (2 + Stroke mm * 0.001) * 10^4 * 8.85
LP20S Actuator - B Carriage, J = (3 + Stroke mm * 0.001) * 10^4 * 8.85

Weight

LP15S = 2kgs + (0.01 kgs/mm)
LP20S = 3kgs + (0.019 kgs/mm)

How to Accessorize

Motors and Drives

Bimba motors are available to use as the rotary drive mechanism of the LP15S/20S Series. With a complete array of stepper and servo motors available in stock, Bimba has a motor*-drive solution that meets many demanding applications.

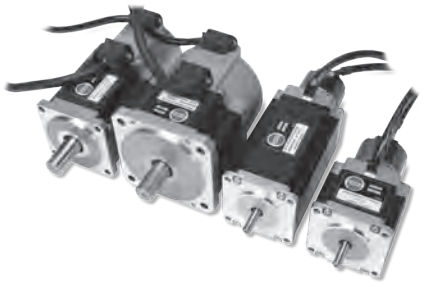
Configuring your motor and creating your first motion profile program is easier than ever with Bimba's intuitive and icon based IQ® suite of motion software. With our complete software suite available for free download from the Bimba website, there is no additional cost to your motion project. All Bimba stepper and servo programming software uses the same IQ® programming software, greatly reducing the learning curve. Existing programs can be easily shared or adapted among the two motor technologies.

See the Motors Catalog for Bimba's wide selection of available motors and motor drives.

**Contact Bimba's Customer Service team for help in crossing your motor to a Bimba motor.*

IntelliMotor®
ITM-23Q-2-EIP-E-M12

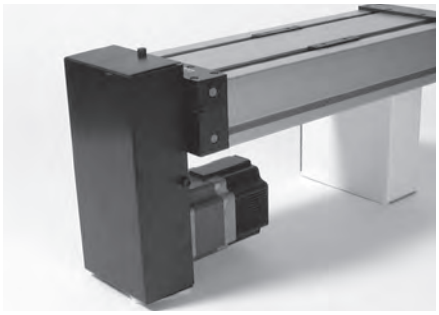
AC Stepper Motor
MTR-AC23T-753-S



AC Servo Motors

Reverse Parallel Motor Mounts

In cases where space savings are critical, or in which gaining mechanical advantage via a geared drive belt pulley leads to an improved design, Bimba offers reverse parallel motor mounts. They are offered for use with nearly any Bimba motor or customer-provided motor.



Bimba Reverse Parallel Reduction Mounts

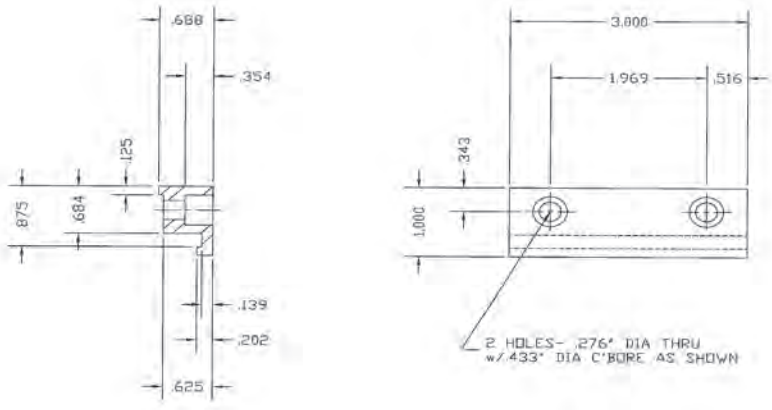
Linear Scale

In extreme cases where precision beyond the normal tight accuracy of the LP15S/20S is desired, Bimba offers external Linear Scales. They are capable of providing extended position precision to as tight as 10µm. These scales are composed of a reading head and external scale. Linear scales are available in incremental or absolute versions which can be added to your actuator as an additional component when included in the final part number.

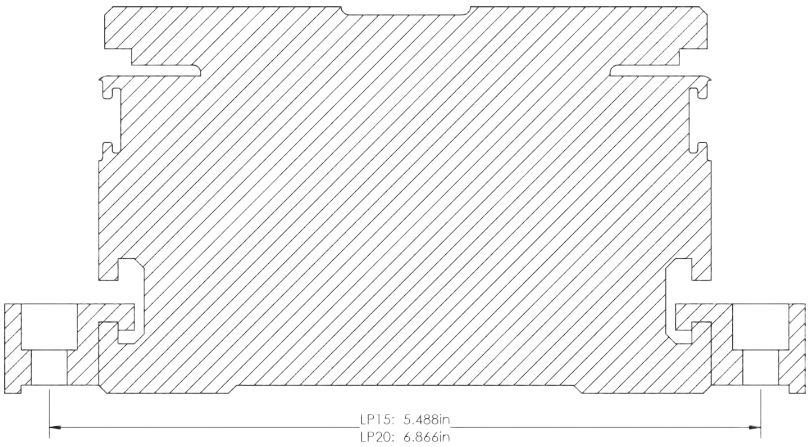
External Linear Scale

Mounting Clamps

To secure an actuator to the machine frame, hold-down clamps are available. They are designed to fit perfectly in the extruded body actuator T-channel. Appropriate sized clamps are available for the LP15S/20S actuator, as well as all of Bimba's electric actuators



Bimba LP15S/20S Clamp
CL-80-39



LP15S/20S Clamp Drawing

How to Order

The model numbers of the LP15S and LP20S Series rodless actuators consist of an alphanumeric cluster designating product type, carriage type, stroke length, drive type, drive location, gear ratio (optional), external scale (optional), and other optional components that together make up the complete part number to use in ordering. Use the ordering information below to build a valid part number.

An example of a basic LP15S unit with a 500mm stroke, standard drive shaft, and additional options is shown below.

Carriage

Carriage Type	Number of Bearing Blocks	Carriage Length LP15S	Carriage Length LP20S
A	2	110	110
B	4	192	192

Drive	
SD	Standard Drive

Scale*	
N	None
L	Left
R	Right

Carriage Center-to-Center Distance**
XXXX (mm)
110-1340mm

Keyway	
Y	Yes
N	No

LP15S A 0500 SD 05 N 1 1000 00 N P0

Actuator
LP15S
LP20S

Stroke***
XXXX (mm)

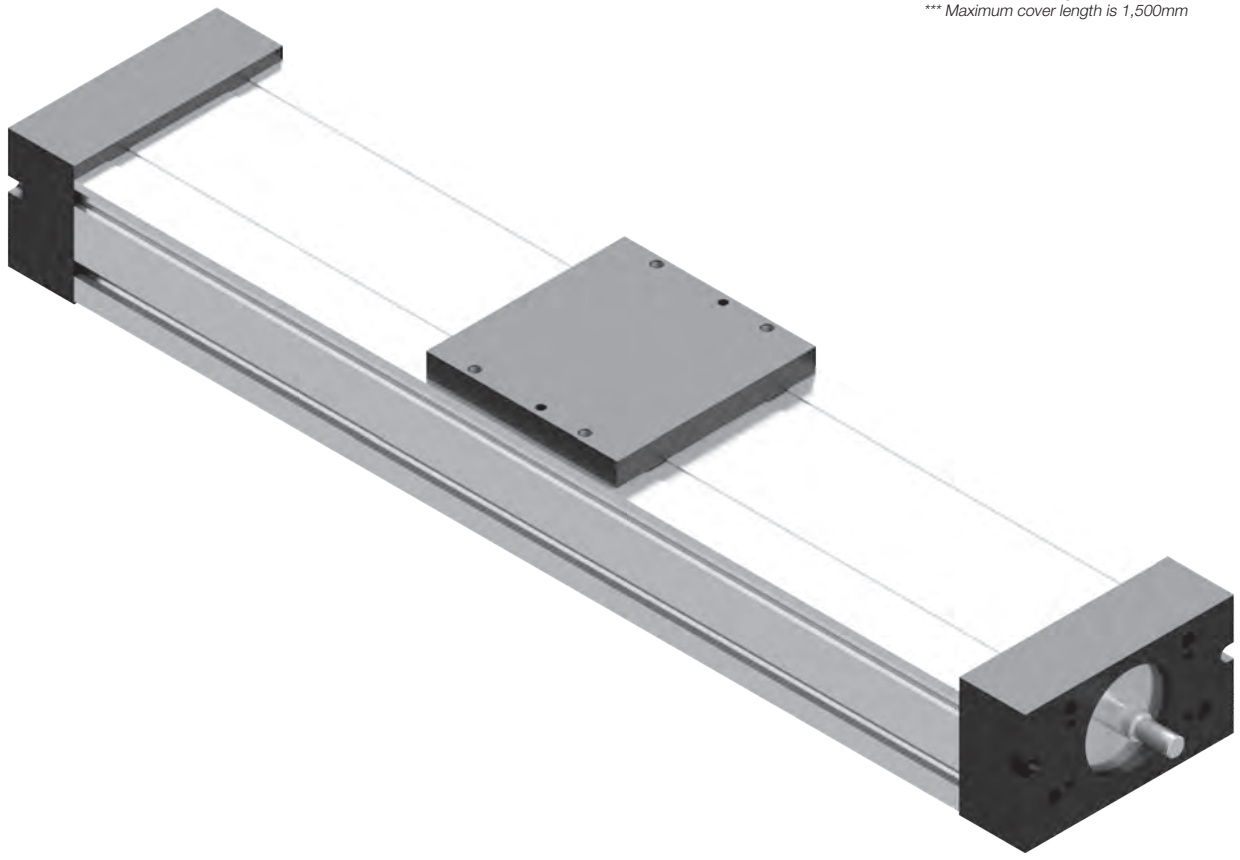
Lead	
05	5mm
10	10mm
16	16mm (15S only)
20	20mm (20S only)

Extra Carriages	
0	None
1	1 Extra
2	2 Extra

Protection	
00	Standard
Z1	Corrosion-Resistant
SS	Stainless Steel

Purge Port*	
P0	None
PL	Left
PR	Right
PB	Both

** Referenced from drive end with carriage on top.*
*** When Extra Carriages value is 'N', distance value is '0'*
**** Maximum cover length is 1,500mm*



NOTE: If a motor or gearbox adapter is required, please refer to the Adapters section of the Accessories chapter in this catalog.

Bimba LP15S Series electric actuators are repairable. A list of the individual components is given below that together make up the LP15S electric actuator.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

LP15S Standard drive (A Carriage)

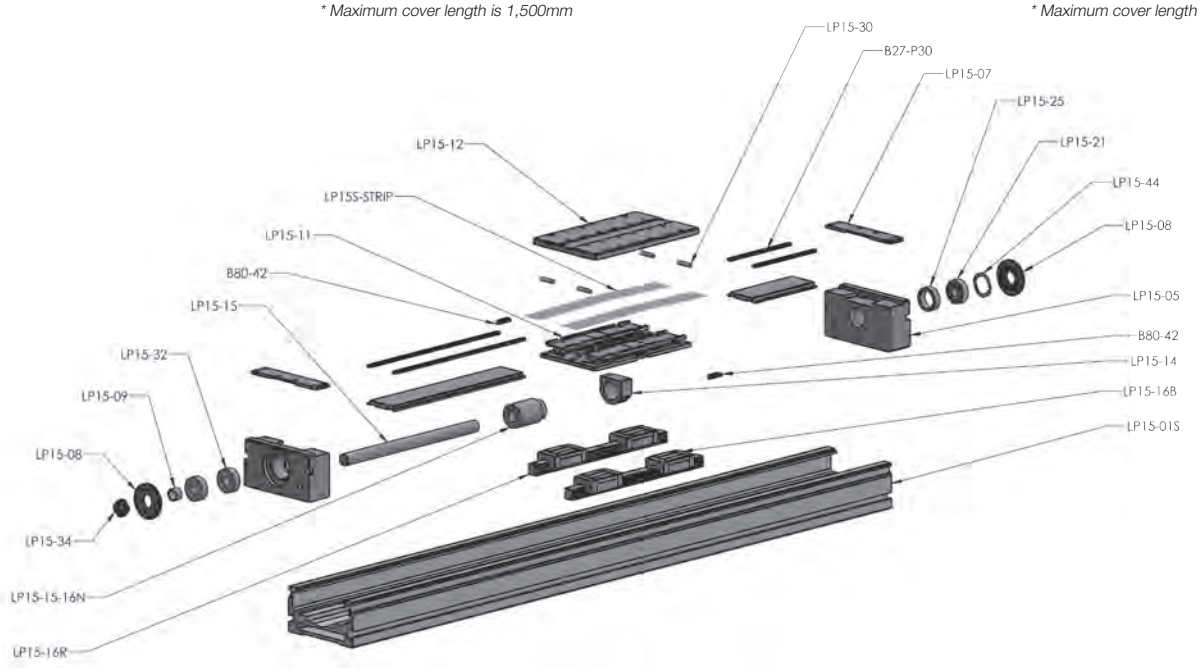
Quantity	Part No.	Part Description
1	LP15-01	Extrusion - Body
1	LP15-03	Extrusion - Cover*
2	LP15-05	Head End Plate
2	LP15-07	End Cover
2	LP15-08	Bearing Retainer
1	LP15-09	Bearing Spacer
1	LP15-13	Single Carriage (bottom)
2	LP20S-13S	Sealing Strip
1	LP15-14	Ballscrew Retainer
1	LP15-15-10	Ballscrew
1	LP15-15-10N	Ball Nut
2	LP15-16R	Rail
2	LP15-16B	Bearing Blocks
2	B27-P30	Magnets
1	LP15-10	Single Carriage (top)
2	LP15-32	Bearing Thrust
1	LP15-21	Bearing Support
1	LP15-34	Lock Nut
4	LP15-30	Roller Guide
2	LP15-100	Button
4	LP15-101	Plastic Setscrew
1	LP15-44	Wave Washer
1	LP15-25	End Bearing Spacer
2	B80-42	Carriage Magnets

** Maximum cover length is 1,500mm*

LP15S Standard Drive (B Carriage)

Quantity	Part No.	Part Description
1	LP15-01	Extrusion - Body
1	LP15-03	Extrusion - Cover*
2	LP15-05	Head End Plate
2	LP15-07	End Cover
2	LP15-08	Bearing Retainer
1	LP15-09	Bearing Spacer
1	LP15-11	Double Carriage (bottom)
2	LP20S-13S	Sealing Strip
1	LP15-14	Ballscrew Retainer
1	LP15-15-10	Ballscrew
1	LP15-15-10N	Ball Nut
2	LP15-16R	Rail
4	LP15-16B	Bearing Blocks
2	B27-P30	Magnets
1	LP15-12	Double Carriage (top)
2	LP15-32	Bearing Thrust
1	LP15-21	Bearing Support
1	LP15-34	Lock Nut
4	LP15-30	Roller Guide
2	LP15-100	Button
4	LP15-101	Plastic Setscrew
1	LP15-44	Wave Washer
1	LP15-25	End Bearing Spacer
2	B80-42	Carriage Magnets

** Maximum cover length is 1,500mm*



How to Repair

Bimba LP20S Series electric actuators are repairable. A list of the individual components is given below that together make up the LP20S electric actuator.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail CS@bimba.com.

LP20S Standard Drive (A Carriage)

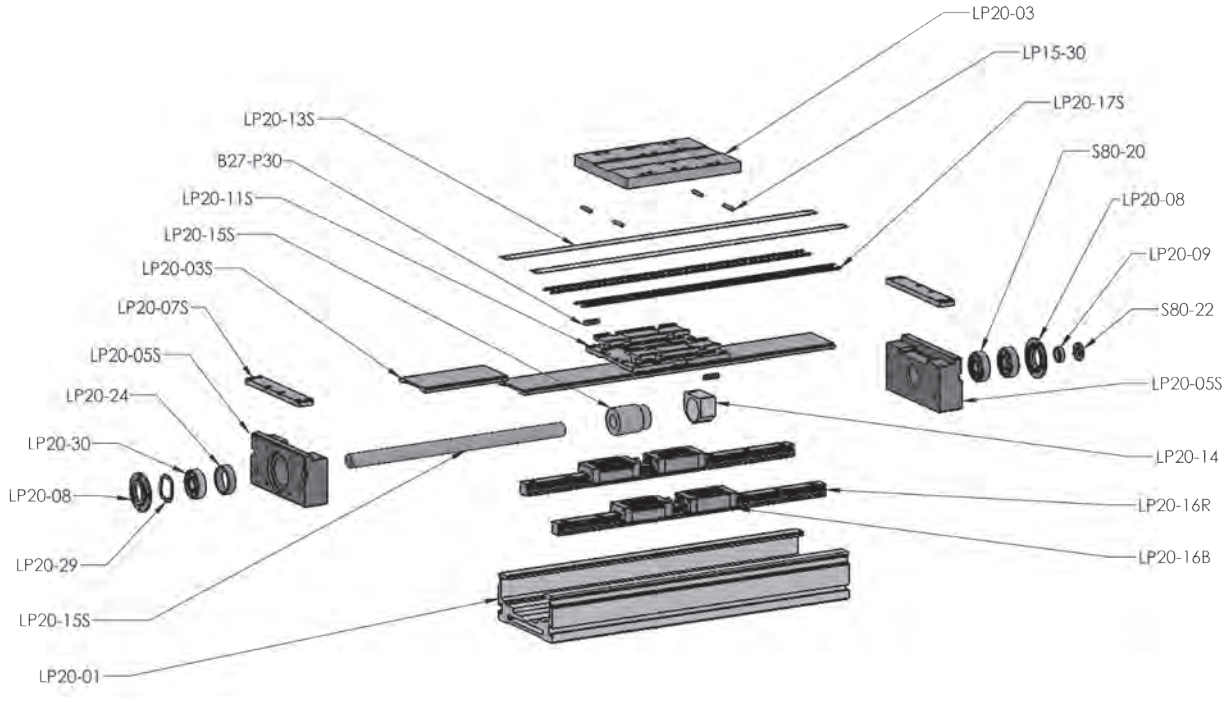
Quantity	Part No.	Part Description
1	LP20-01	Extrusion - Body
1	LP20-03*	Extrusion - Cover
2	LP20-05S	Head End Plate
2	LP20-07S	Top Cover
2	LP20-08	Bearing Retainer
1	LP20-09	Bearing Spacer
1	LP20-10S	Single Carriage (bottom)
2	LP20S-13S	Sealing Strip
1	S80-13B_Rev00	Ball Nut Clamp
1	S80-04-10	Ballscrew
1	S80-04-10N	Ball Nut
2	LP20-16R	Rail
2	LP20-16B	Bearing Blocks
2	B27-P30	Magnets
1	LP20-28S	Single Carriage (top)
2	S80-20	Bearing Thrust
1	S80-22	Lock Nut
1	S80-24	Retainer Ring
4	LP15-30	Roller
1	LP20-30	Bearing Support
1	LP20-29	Spring Washer
1	LP20-24	End Bearing Spacer

** Maximum cover length is 1,500mm*

LP20S Standard Drive (B Carriage)

Quantity	Part No.	Part Description
1	LP20-01	Extrusion - Body
1	LP20-03*	Extrusion - Cover
2	LP20-05S	Head End Plate
2	LP20-07S	Top Cover
2	LP20-08	Bearing Retainer
1	LP20-09	Bearing Spacer
1	LP20-11S	Double Carriage (bottom)
2	LP20S-13S	Sealing Strip
1	S80-13B_Rev00	Ball Nut Clamp
1	S80-04-10	Ballscrew
1	S80-04-10N	Ball Nut
2	LP20-16R	Rail
4	LP20-16B	Bearing Blocks
2	B27-P30	Magnets
1	LP20-21S	Double Carriage (top)
2	S80-20	Bearing Thrust
1	S80-22	Lock Nut
1	S80-24	Retainer Ring
4	LP15-30	Roller
1	LP20-30	Bearing Support
1	LP20-29	Spring Washer
1	LP20-24	End Bearing Spacer

** Maximum cover length is 1,500mm*



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To request custom motor mounting options, please supply Bimba with the following information: shaft diameter, shaft length, pilot diameter, pilot depth, bolt circle, and hole size.

Customer-requested Holes and Dowel Pins

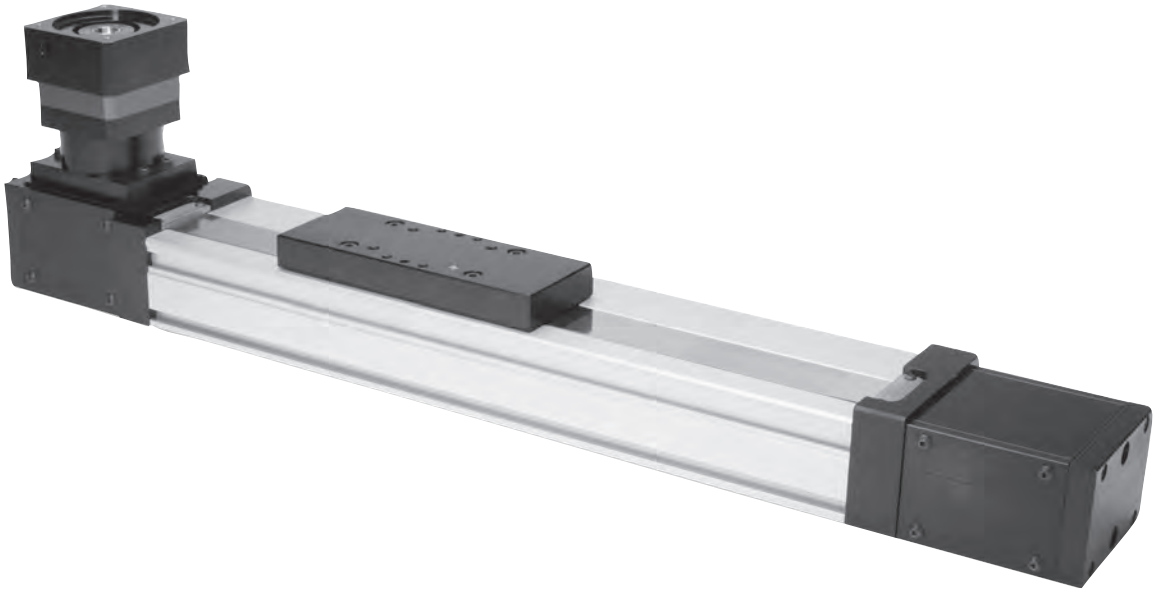
Bimba can provide custom holes and dowel pins to accommodate the customer's specific tooling and mounting holes.

For further customization, contact the factory.

Notes

B27 Belt-Driven Linear Actuators

The B27 is Bimba's single rail belt driven electric linear actuator for use in many different industries and applications. From pick & place to material handling, the B27 is the starting point when looking for a high speed motion profile with medium-duty loading capability. Well-built using high quality components throughout its construction, the B27 is Bimba's first option when considering a belt drive electric actuator for general purpose applications.



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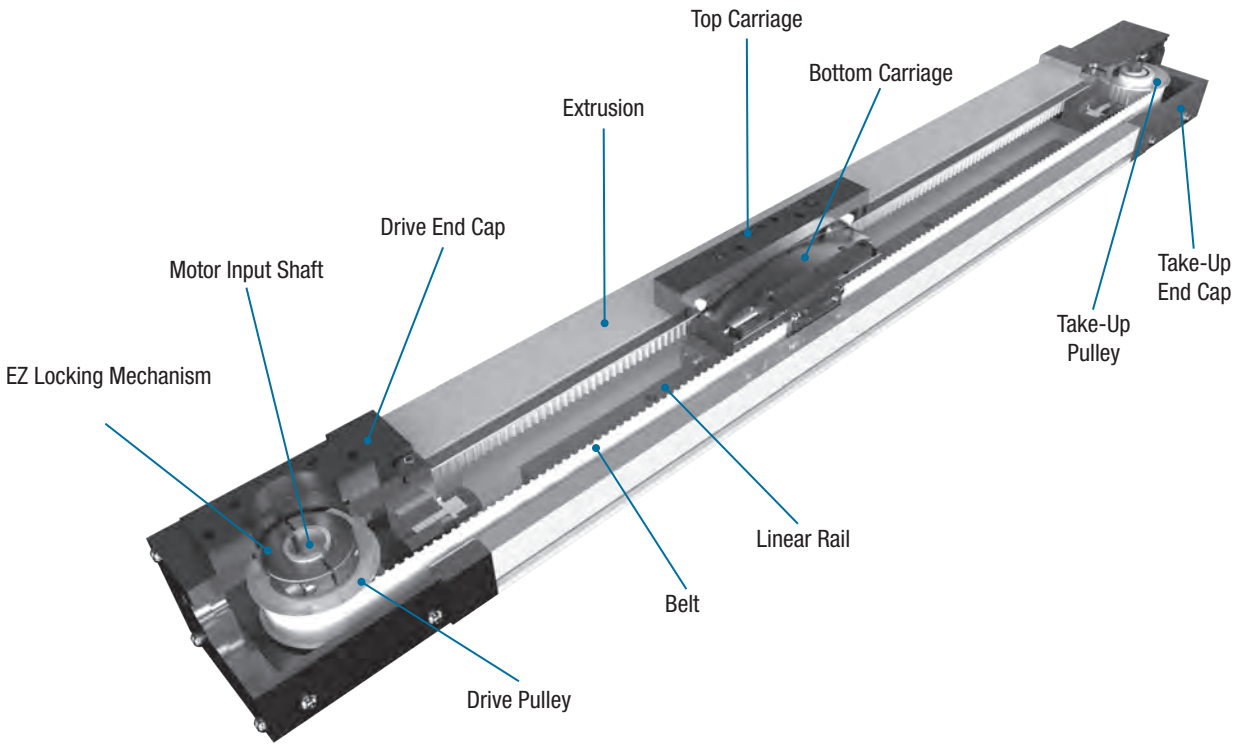


The B27 is the first option when considering a Bimba electric rodless actuator. While this electric actuator provides ample thrust and loading characteristics, its sleek yet robust design will serve as the best motion solution in numerous applications across a variety of industries. When combined with many of the same high-quality components found in all Bimba electric actuators, you can expect the same long life and reliable performance.

Features and Benefits

High Precision Steel Reinforced Belt

> Ideal for high speed applications
> Highest thrust per unit size
> Repeatability to 0.001”
> Long lengths: up to 110 in (2800mm) standard

Low Profile Aluminum Extrusion

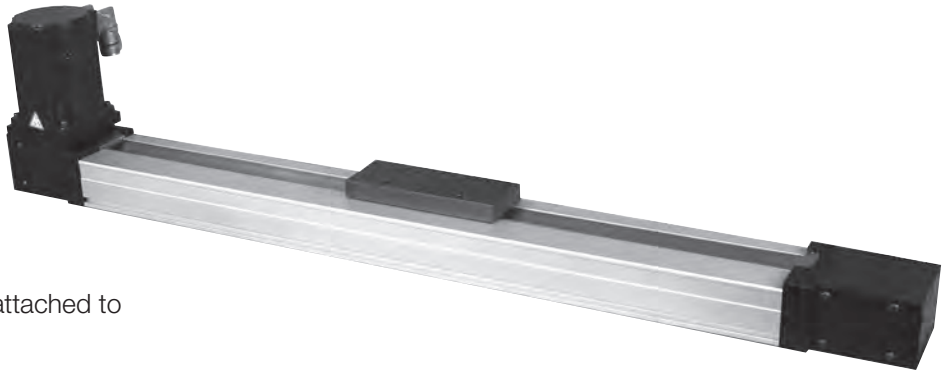
> Provides better fit in tight applications

Built-in Linear Ball Rail Guide

> Maintenance free
> Self-lubricating
> Low friction
> Smooth operation
> Long life expectancy

How it Works

The Bimba B27 rodless actuator uses a steel reinforced polyurethane belt that wraps around an internal drive pulley mechanism on the drive end, which is connected to a drive shaft. The drive shaft gets coupled to an external motor shaft; this provides the rotational motion to rotate the pulley and hence traverse the belt attached to the pulley.



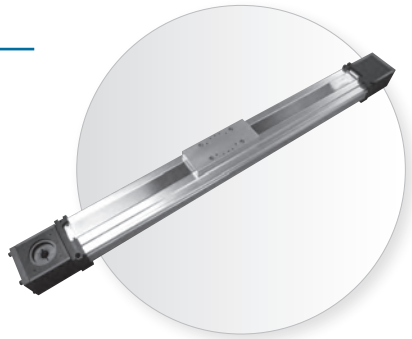
On the opposite end, known as the take-up end, the B27 uses a take-up pulley that works in conjunction with a take-up slide and take-up bearing to provide ample support for the other end of the belt as the motor provides the rotational motion. This rotational motion is transformed into linear motion as the carriage and load attached to the belt traverse along the length of the rodless actuator under direct and defined control of the user.

Materials of Construction

Body Material:	Aluminum
End Caps:	Aluminum
Belt Cover:	Stainless Steel
Carriage:	Aluminum
Belt:	Steel Reinforced Polyurethane

Application Ideas

- Pick & Place
- Sorting
- Loading
- Stacking
- Insertion
- Clamping
- Parts Transfer
- Labeling
- Machine Tool
- Conveyor



Target Applications

The B27 is intended for medium-duty industrial applications that require flexible, long distance, high speed motion with ample load and moment loading capacity. When your application calls for up to 3m (~10ft.) of stroke with up to 125 lbs (~556N) and speed capability in the 5m/sec (~200"/sec) range, the B27 offers you all this at an exceptional value.

For applications that call for an alternative solution to a traditional pneumatic application and that offers a more adaptable solution that can grow with your motion needs, Bimba electric actuators provide the interchangeable solution in an easy-to-use, long-lasting, and tough electric actuator that exceeds the competition.

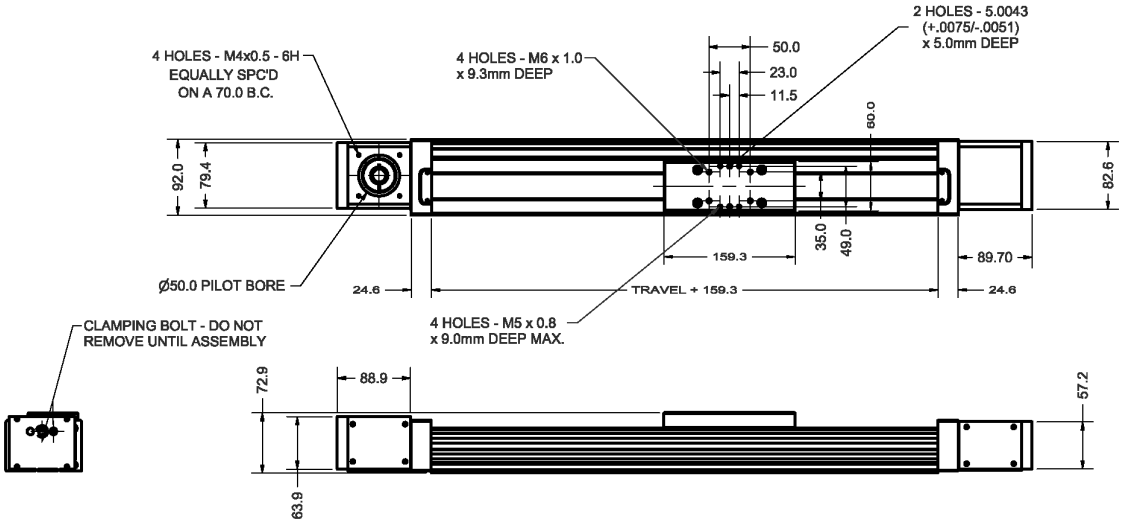
Drive Options

With numerous drive interfaces ranging from a single or double standard shaft input to our integral reducer drive, the choice is yours to select the option that works for you. There are many Bimba stepper and servo motors to choose from, so configuring an electric actuator that best meets the needs of even your most demanding application has never been easier.

Advantages

Feature	Advantage	Benefit
Carriage constructed of high-strength 7075 aluminum	Offers enhanced strength and robustness over the competitor	Less deflection and increased load and moment loading capability per carriage size
Self-lubricating linear guides	Minimized maintenance	Worry- and maintenance-free long life, even in applications that require 24/7 motion
Integral Reducer Drive (optional)	Offers increased performance using embedded gear reducer	Move larger loads and improve inertia matching, using an aesthetically pleasing, cost-effective solution

Dimensions



Linear Actuator	Lead Constant (mm/rev.)	Extrusion Moment of Inertia		Maximum Input Torque NM (in-lbs)	Maximum Input Dia. mm (in)	Belt	
		Ix (cm^4)	Iy (cm^4)			Maximum Force N (lbs)	Elastic Limit N (lbs)
B27	160	162	52.8	11.3 (100)	16 (0.63)	445 (100)	890 (200)

Linear Actuator	Carriage Length (mm)	Dynamic Load Capacity N (lbs)	Dynamic Moment Capacity		
			M_R (Roll) NM (in-lbs)	M_P (Pitch) NM (in-lbs)	M_Y (Yaw) NM (in-lbs)
B27	160	2736 (615)	22.5 (199)	34.3 (302)	34.3 (302)

Operating ranges

Temperature ranges for normal operation of actuator components.

Linear Bearings:	5˚ F to 464˚ F (-15˚ C to 240˚ C)
Ball Bearings:	-30˚ C to 250˚ C (-22˚ F to 482˚ F)
Gear Reducers:	-50˚ C to 232˚ C (-58˚ F to 449˚ F)
Belt, Standard:	0˚ C to 80˚ C (32˚ F to 176˚ F)
Belt, Low Temperature:	-25˚ C to 5˚ C (-13˚ F to 41˚ F)
Belt, High Temperature:	20˚ C to 110˚ C (68˚ F to 230˚ F)

Motors and Drives

Bimba motors are available to use as the rotary drive mechanism of the B27 Series. With a complete array of stepper and servo motors available in stock, Bimba has a motor*-drive solution that meets many demanding applications.

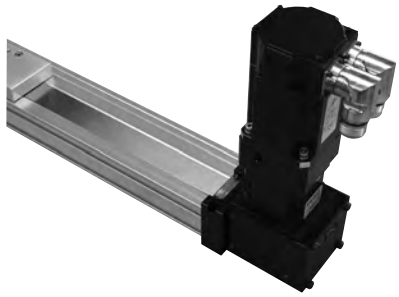
Configuring your motor and creating your first motion profile program is easier than ever with Bimba's intuitive and icon based IQ® suite of motion software. With our complete software suite available for free download from the Bimba website, there is no additional cost to your motion project. All Bimba stepper and servo programming software uses the same IQ® programming software, greatly reducing the learning curve. Existing programs can be easily shared or adapted among the two motor technologies.

See the Motors Catalog for Bimba's wide selection of available motors and motor drives.

**Contact Bimba's Customer Service team for help in crossing your motor to a Bimba motor.*

IntelliMotor®
ITM-23Q-2-EIP-E-M12

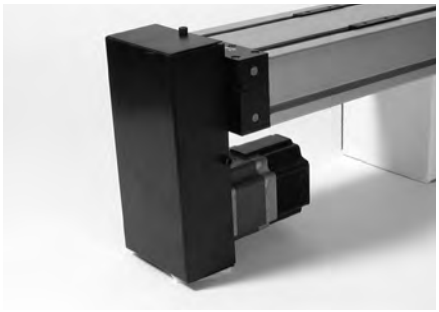
AC Stepper Motor
MTR-AC23T-753-S



B27 with Servo Motor

Reverse Parallel Motor Mounts

In cases where space saving is critical, or in which gaining mechanical advantage via a geared drive belt pulley leads to an improved design, Bimba offers reverse parallel motor mounts. They are offered for use with nearly any Bimba motor or customer-provided motor. The option to mount in either the top or bottom position for the B27 actuator adds flexibility.



Bimba Reverse Parallel Reduction Mounts

How to Accessorize

Linear Scale

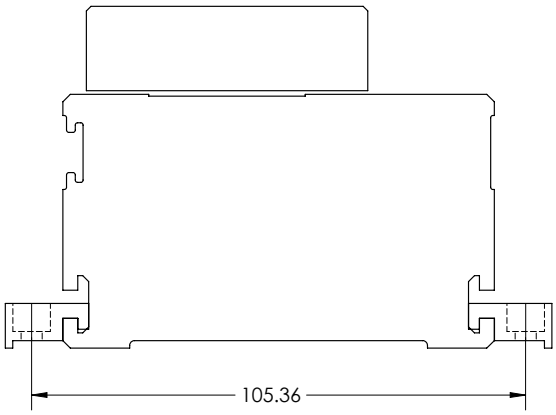
In extreme cases where precision beyond the normal tight accuracy of the B27 is desired, Bimba offers external linear scales. They are capable of providing extended position precision to as tight as 10µm. These scales are composed of a reading head and external scale. Linear scales are available in incremental or absolute versions which can be added to your actuator as an additional component when included in the final part number.

External Linear Scale

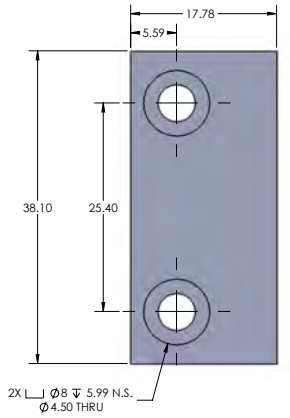
Mounting Clamps

To secure an actuator to the machine frame, hold-down clamps are available. They are designed to fit perfectly in the extruded body actuator T-channel. Appropriate sized clamps are available for B27 actuators, as well as all of Bimba's electric actuators.

Bimba B27 Clamp
CL-27-39



B27 Clamp Drawing



B27 Clamp Drawing

The model number of the B27 Series rodless actuator consists of an alphanumeric cluster designating product type, stroke length, drive type, drive location, gear ratio (optional), external linear scale (optional), and other optional components that together make up the complete part number to use in ordering. Use the ordering information below to build a valid part number.

An example of a basic B27 unit with 1000mm stroke, a reducer drive, no scale, and additional options is shown below.

Drive	
SD	Single Drive
DD	Double Drive
RD	Reducer Drive
EZ	EZ Drive[2]

Scale*	
N	No Scale
L	Left Hand

Distance
XXXX (mm)
160-1000mm

Keyway	
Y	Yes
N	No

Carriage
B

B27 B 01000 RD T 1 N N 0000 00 N P0

Actuator
B27

Stroke
XXXXX (mm)

Hand	
T	Top Hand
B	Bottom Hand

Ratio
XX

Extra Carriages	
N	None
1	1 Extra
2	2 Extra

Protection	
00	Standard
Z1	Corrosion-Resistant
SS	Stainless Steel

Purge Port	
P0	None
PL	Left
PR	Right
PB	Both

[1] Referenced from drive end with carriage on top.
[2] EZ option standard shaft diameter: 5/8" / 15.875mm

NOTE: If a motor or gearbox adapter is required, please refer to the Adapters section of the Accessories chapter in this catalog.

How to Repair

Bimba B27 Series electric actuators are repairable. A list of the individual components is given below that together make up the B27 electric actuator.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

Repair Parts

Quantity	Part No.	Part Description
1	S27-P02	Top Carriage
1	B27-P03	Bottom Carriage
2	S27-P07	Sealing Strip Roller
1	B27-P01	Extrusion
1	B-27-P07 Rev B	Belt Clamp
1	B27-P10	Drive End Plate
1	B27-P11	Take-up End Plate
1	B27-P12	Drive Belt
1	B27-P13	Drive Pulley
1	B27-P14	Take-up Pulley
2	B27-P15	Take-up Shaft
2	LP15-21	Take-up Bearings
2	B27-P17	Take-up Side Plate
2	B27-P18	Cover Plate
1	B27-P19	End Plate
1	B27-P20	Bearing Plate
1	B27-P21	Drive Shaft

Quantity	Part No.	Part Description
1	B27-P22	Motor Mounting Plate
0	B27-P22-NT23	Motor Mounting Plate for NEMA 23
0	B27-P22-NT60	Motor Mounting Plate for NT60 Reducer
1	B27-P23	Shaft Clamp
2	B27-P24	Drive Cover
1	B27-P25	Drive End Plate
1	LP15-16R	Rail LWE15R
2	LP15-16B	Linear Bearings
1	LP20-25	Drive Bearing
2	LP15B-11	Take-up Slide
1	S27-P09	Seal Strip
2	B27-P30	Magnets
2	S27-P21	Retainer Sealing Strip
2	S27-P22	Bumper
2	B80-42	Magnet
1	B27-27	Retaining Ring
1	AD-LP15B-XT060	Adapter

Switches

Switches add versatility to your electric motion application. They can be used to provide end of stroke limits, count strokes, or communicate positioning to an outside source. Switches can provide safety to applications as well, preventing undesirable situations like runaways to prevent damage.

To learn more about Bimba's available switch selection, refer to the Switches section in this catalog.

Air/Purge Ports

Air and purge ports are essential for actuators that operate in dirty applications. In both belt- and screw-driven actuators, ports keep dust and grime from egressing, protecting the internals of the actuator. Air and purge ports are recommended for use with Bimba's air preparation products.

When using purge ports, supply dry filtered air to the actuators in order to achieve optimal protection.

Protection

Bimba offers several protection options for our actuators. Our primary options are Armoloy® and stainless steel. **Armoloy®** offers additional protection against moisture and dirt. It is used to coat the steel linear rail and bearings in a Bimba actuator. Armoloy® coating can also be applied to the aluminum extrusion upon request. **Stainless steel** works in conjunction with Armoloy® coatings, providing additional protection to the end caps and carriage.

Additional coatings are available upon request.

Motor Mounting

Motor mounts allow you to mount any motor to any actuator (within the actuator's rating). They give end users the ability to use Bimba electric actuators with the motor of their choosing. Careful considerations regarding torque limitations must be made when mounting a motor the actuator is not rated for.

To request custom motor mounting options, please supply Bimba with the following information: shaft diameter, shaft length, pilot diameter, pilot depth, bolt circle, and hole size.

Customer-requested Holes and Dowel Pins

Bimba can provide custom holes and dowel pins to accommodate the customer's specific tooling and mounting holes.

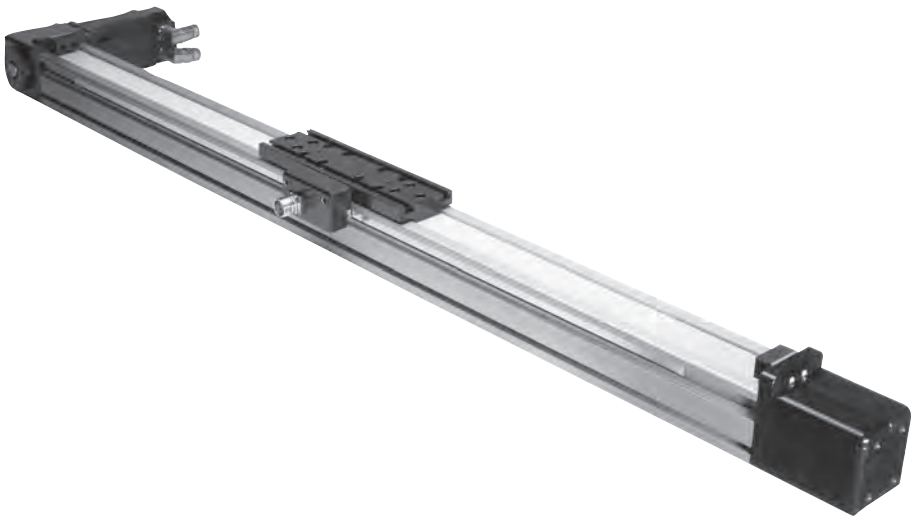
For further customization, contact the factory.

Notes

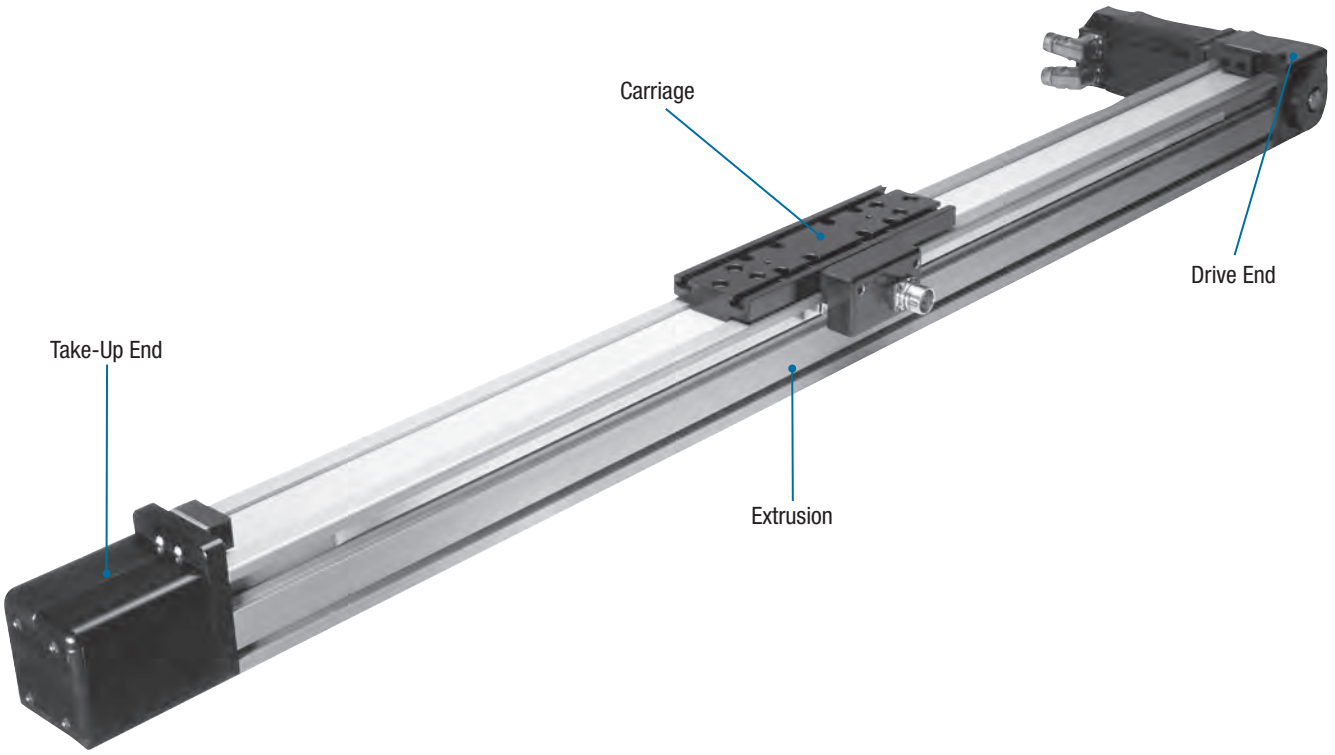
B80/110 Rodless Electric Actuators

More robust and internally rigid, the B80 picks up where the B27 leaves off. Well-suited for many of the same pick & place and sorting applications recommended for the B27, the B80 has the additional robustness to perform effortlessly in higher demand applications including loading, parts transfer, stacking and similar applications where more muscle and long life are paramount.

Built using the highest quality components throughout its construction, the B80 is Bimba's best-selling rodless actuator due to its unique design and resultant capability.



Contents



The B80 is Bimba's most popular belt-driven electric rodless actuator thanks to its unrivaled load carry characteristics. The B80's unique arc-belt design offers customers ballscrew-like operation with belt-like speed, leading to the ultimate "hybrid" performance.

The B110 is Bimba's most robust belt-driven electric rodless actuator. The B110 takes advantage of an extrusion that has nearly twice the area of the B80, as well as a larger carriage, bearing system, belt pulley, and take-up end, which all combine to offer extreme values of dynamic load capacity and moment loading.

Features and Benefits

High Precision Steel Reinforced Belt:

- Arc-belt power design
- Reduced noise and vibration
- Zero backlash
- Self-aligning
- No cogging
- Smooth, precise motion
- Ideal for high speed, high thrust applications
- Highest thrust per unit size (B80)
- High repeatability to 0.001"
- Long lengths, up to 100 ft (30m)
- Outstanding repeatability

Square Aluminum Extrusion:

- Heavy duty 6061 aluminum extrusion
- Heavy duty carriages: 7075 aluminum
- 25% stronger extrusion
- Supports stops and bearings
- Better fit in tight applications (B80)
- Promotes long life

Built-in Linear Ball Rail Guide:

- Maintenance free
- Self-lubricating
- Low friction
- Smooth, quiet operation
- Long life expectancy
- B80 supports high loads and high moment loads
- B110 supports extreme loads and extreme moment loads

Optional Built-in Gear Reducer:

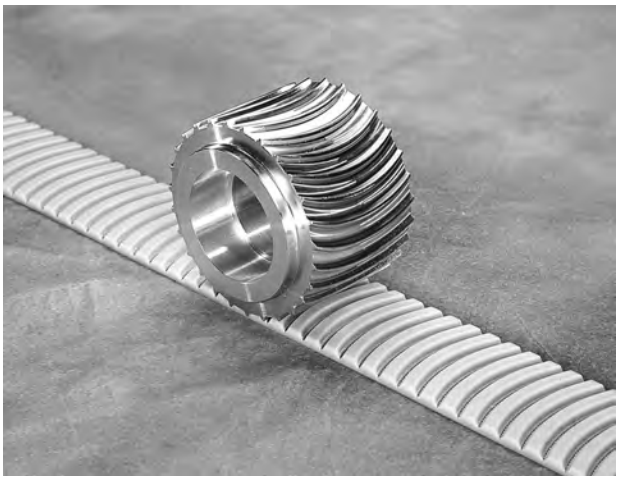
- No motor interface required
- No shaft coupling needed
- Made to fit your motor
- Reduces overall length
- Easier tuning
- One-stop shopping

B80/110

How it Works

Bimba B80 and B110 rodless actuators use a steel reinforced polyurethane arc-belt that wraps around an internal, specially machined arc-drive pulley mechanism on the drive end. This is connected to a drive shaft that is coupled to an external motor shaft, and together provides the rotational motion and torque necessary to rotate the pulley and traverse the belt attached to the pulley.

On the opposite end, which is known as the take-up end, the B80/110 uses an equally robust take-up pulley. This pulley works in conjunction with a similarly matched take-up slide and take-up bearing to provide ample support for the other end of the belt as the motor shaft rotates and provides the rotational torque needed to transform the rotational motion into linear motion. The resultant linear motion pulls the carriage—which is physically connected to the arc-belt—and its load along the length of the rodless actuator under direct, defined, and precise control of the user.



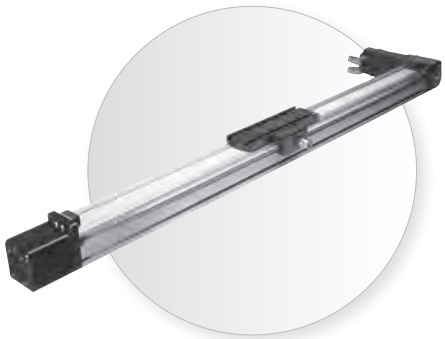
B80 Arc-Belt and Arc-Pulley System

Materials of Construction

Body Material:	Aluminum
End Caps:	Aluminum
Carriage:	7075 Aluminum
Belt:	Steel Reinforced Polyurethane

Application Ideas

- Pick & Place
- Sorting
- Loading
- Lifting
- Pressing
- Stacking
- Insertion
- Clamping
- Parts Transfer
- Labeling
- Machine Tool
- Conveyor



Target Applications

The B80 is intended for heavy-duty industrial applications that require flexible, long, or even extreme distance, as well as high speed motion with robust load and moment loading capacity. When your application calls for up to 30m (~100 ft) of stroke with up to 850 lbs (~3781N) and speed capability in the 5m/sec (~200"/sec) range, the B80 offers you a canned solution that also offers you maximum value.

Similarly, the B110 is intended for maximum-duty industrial applications that require flexible, long, or even extreme working distance, with high speed motion and extreme load and moment loading capacity. When your application calls for the same stroke, thrust, and speed capabilities as the B80, but with dynamic loading capability exceeding 61500N (~14,000 lbs), the B110 offers a unique solution in a standard offering.

Bimba electric actuators are the best option for applications that call for an alternative solution to a traditional pneumatic application, but still require force and load capability that mimics a pneumatic solution. As Bimba's flagship electric actuator, the B80/110 adapts alongside your business as an easy-to-use, long-lasting, and tough electric actuator that exceeds the competition in performance, value, and life. It's the easy choice for hard solutions.

Drive Options

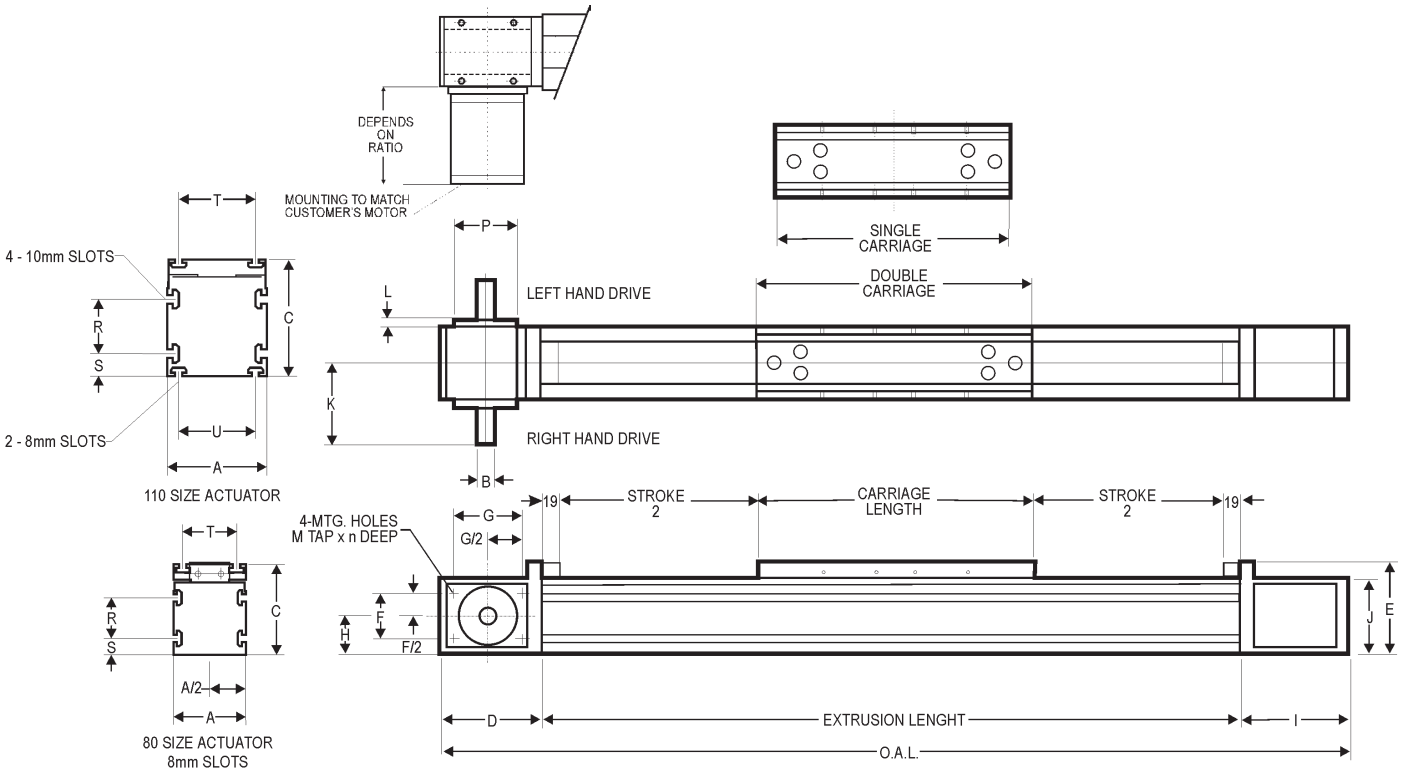
With numerous drive interfaces, ranging from a single or double standard shaft input to our integral reducer drive, the choice is yours to select the option that works best for you. Bimba's many stepper and servo motors make it easier than ever to configure an electric actuator that best meets the needs of even your most demanding applications. High load and thrust applications become an afterthought when adding the optional reducer drive option that, when coupled with a servo motor, provides the necessary torque to move high load applications.

Advantages

Feature	Advantage	Benefit
Carriage constructed of high-strength 7075 aluminum	Offers enhanced strength and robustness over the competitor	Less deflection and increased load and moment loading capability per carriage size
Self-lubricating linear guides	Minimized maintenance	Worry- and maintenance-free long life, even in applications that require 24/7 motion
Integral Reducer Drive (optional)	Offers increased performance using embedded gear reducer	Move larger loads, improve inertia matching, and complete that using an aesthetically pleasing, cost-effective solution
ARC-Power Belt	25% higher thrust leads to higher loading capability	Ballscrew type thrust with belt drive speed ability

Dimensions

Key specification information for the B80/110 is given below. For additional specification information, contact Bimba Customer Service at cs@bimba.com, or 800.44.BIMBA (800.442.4622).



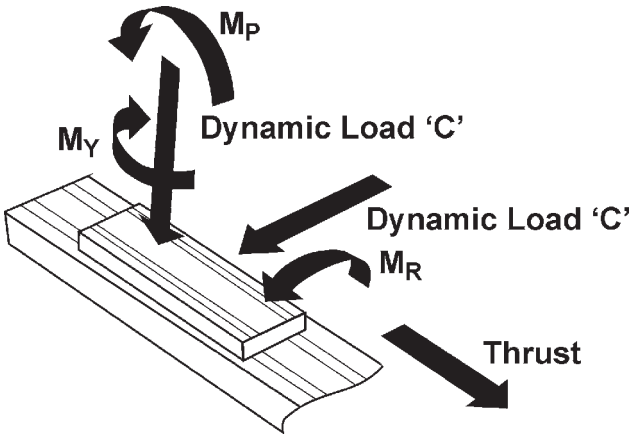
	Dimensions									
Actuator	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**
B80	80	19	100	111	102	31.75	69.85	40	121	82.5
B110	110	20	129	150	127	38	101.6	57.5	160	114.3

	Dimensions									Carriage Length	
Actuator	**K**	**L**	**M**	**N**	**P**	**R**	**S**	**T**	**U**	**Single**	**Double**
B80	90.25	9.5	M6	8	66.68	45	18	55	-	190	260
B110	111.8	9.3	M8	12	88.9	60	25	85	85	210	305

O.A.L = "D" + "I" + 38(mm) + Stroke(mm) + Carriage Length

NOTE: 8mm slots in carriage

Specifications



Linear Actuator	Extrusion	
	Moment of Inertia	
	Ix (cm^4)	Iy (cm^4)
B80	146	219
B110	643	768

Straightness 0.3175mm per 300mm of length
Twist: 1/4˚ per 300mm, 3˚ maximum per 6m length

Linear Actuator	Lead Constant (mm/rev.)	Maximum Input Torque NM (in-lbs)	Belt		Carriage Length (mm)	Dynamic Load Capacity N (lbs)	Dynamic Moment Capacity		
			Maximum Force N (lbs)	Elastic Limit N (lbs)			M_R (Roll) NM (in-lbs)	M_P (Pitch) NM (in-lbs)	M_Y (Yaw) NM (in-lbs)
B80	200	90 (796)	3750 (843)	7500 (1686)	190	21000 (4720)	310 (2745)	270 (2390)	270 (2390)
					260	42000 (9440)	620 (5487)	1400 (12390)	1400 (12390)
B110	270	120 (1062)	3750 (843)	7500 (1686)	210	30750 (6913)	530 (4690)	460 (4071)	460 (4071)
					305	61500 (13825)	1060 (9381)	2750 (24338)	2750 (24338)

Straightness: 0.3175mm per 300mm of length
Twist: 1/4˚ per 300mm, 3˚ maximum per 6m length

Inertia (lb-in-sec²):

B80 Actuator - A Carriage, $J = (23 + \text{Stroke mm} * 0.01) * 10^{-4} * 8.85$
B80 Actuator - B Carriage, $J = (35 + \text{Stroke mm} * 0.01) * 10^{-4} * 8.85$
B110 Actuator - A Carriage, $J = (68 + \text{Stroke mm} * 0.02) * 10^{-4} * 8.85$
B110 Actuator - B Carriage, $J = (100 + \text{Stroke mm} * 0.02) * 10^{-4} * 8.85$

Weight:

B80 = 9kgs + (0.0114 kgs/mm)
B110 = 17kgs + (0.21 kgs/mm)

How to Accessorize

Motors and Drives

Bimba motors are available to use as the rotary drive mechanism of the B80/110 Series. With a complete array of stepper and servo motors available in stock, Bimba has a motor*-drive solution that meets many demanding applications.

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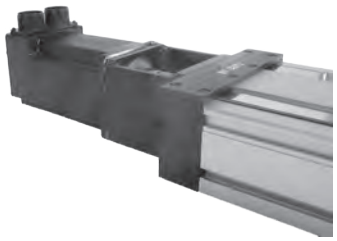
IntelliMotor®
ITM-23Q-2-EIP-E-M12

AC Stepper Motor
MTR-AC23T-753-S



AC Servo Motor

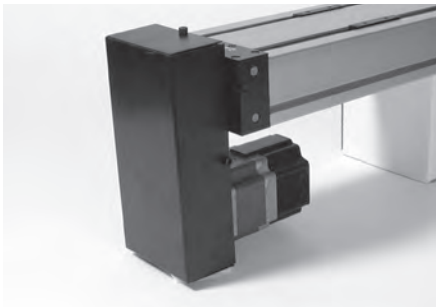
General Accessories

- T-bars for mounting to the carriages
- Mechanical and proximity limit switches
- Torque tubes for dual axis gantry style applications
- Adapter plates for creating most any X-Y-Z configuration

Reverse Parallel Motor Mounts

In cases where space savings are critical, or in which gaining mechanical advantage via a geared drive belt pulley leads to an improved design, Bimba offers reverse parallel motor mounts. They are offered for use with nearly any Bimba motor or customer-provided motor. The option to mount in either the top or bottom position for the B80/110 actuator adds flexibility.

- Adapts to your motor dimensions
- Available in reduction ratios of up to 2:1



Bimba Reverse Parallel Reduction Mounts

Linear Scale

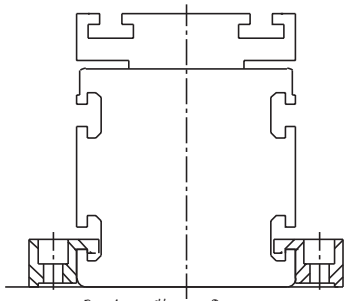
In extreme cases where precision beyond the normal tight accuracy of the B80/110 is desired, Bimba offers external linear scales. They are capable of providing extended position precision to as tight as 10µm. These scales are composed of a reading head and external scale. Linear scales are available in incremental or absolute versions which can be added to your actuator as an additional component when included in the final part number.

External Linear Scale

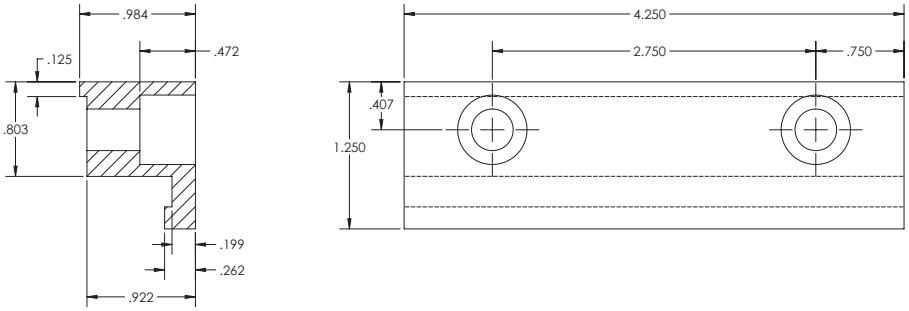
Mounting Clamps

To secure an actuator to the machine frame, hold-down clamps are available. They are designed to fit perfectly in the extruded body actuator T-channel. Appropriately-sized clamps are available for the B80/110 actuator, as well as all of Bimba's electric actuators.

Bimba B80/110 Clamp
CL-80-39



B80/110 Clamp Drawing



CL-110-39 Clamp Sideview and Dimensions

How to Order

The model numbers of the B80/110 Series rodless actuators consist of an alphanumeric cluster designating product type, carriage type, stroke length, drive type, drive location, gear ratio (optional), external scale (optional), and other optional components that together make up the complete part number to use in ordering. Use the ordering information below to build a valid part number.

An example of a basic B80 unit with length 600mm, EZ drive, and no scale is shown below.

Carriage			
Actuator	**Carriage Type**	**Number of Bearing Blocks**	**Carriage Length**
80	A	1	190
	B	2	260
110	A	1	210
	B	2	305

Drive	
SD	Single Drive
DS	Double Drive
RD	Reducer Drive
DR	Reducer Double Drive
EZ	EZ Drive[2]
ED	EZ Double Drive[2]

Ratio
XX

Extra Carriages	
0	None
1	1 Extra
2	2 Extra

Protection	
00	Standard
Z1	Corrosion-Resistant
SS	Stainless Steel

Purge Port[1]	
P0	None
PL	Left
PR	Right
PB	Both

B80 - B 12000 EZ L 01 N 0 0 00 N P0

Actuator
80
110

Stroke
XXXXX (mm)
Max. length: 12000mm

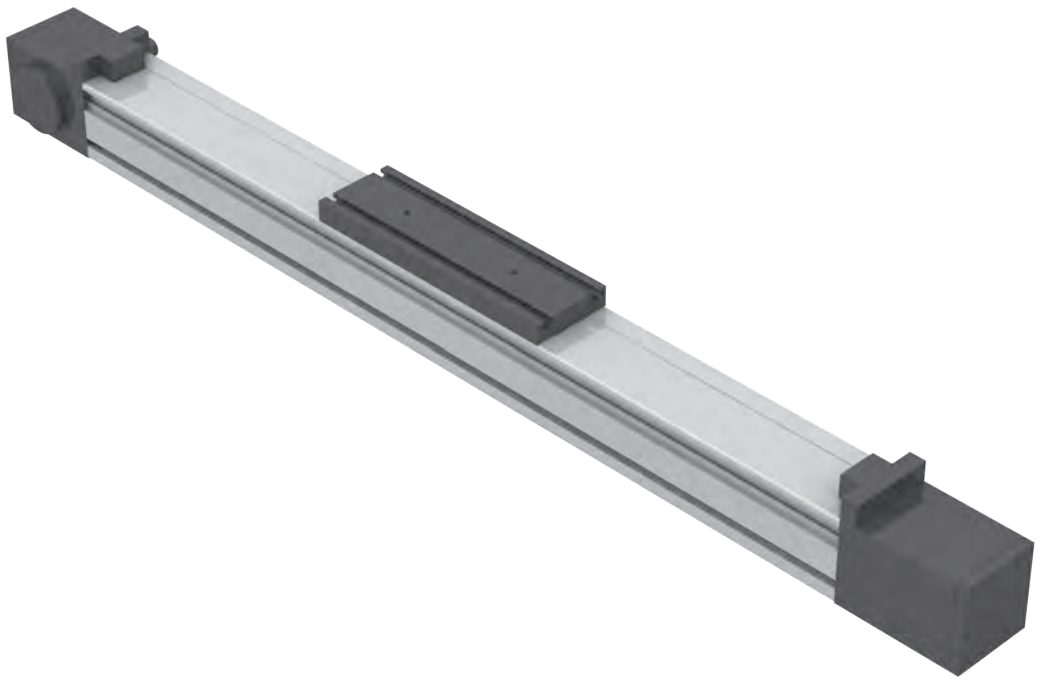
Hand	
L	Left Hand
R	Right Hand

Scale	
N	No Scale
L	Left
R	Right

Distance
XXXX (mm)
190-1000mm

Keyway	
Y	Yes
N	No

[1] *Referenced from drive end with carriage on top.*
[2] *EZ option standard shaft diameter: 1" / 25.4mm (B80); 1.25" / 31.75mm (B110)*



NOTE: If a motor or gearbox adapter is required, please refer to the Adapters section of the Accessories chapter in this catalog.

Bimba B80 Series electric actuators are repairable. A list of the individual components is given below that together make up the B80 electric actuator.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

B80 Take-Up End Drive

Quantity	Part No.	Part Description
1	B80-321	Take-up End
1	B80-322	Take-up End
1	B80-316	End Cover
1	B80-25	Take-up Pulley
1	B80-26	Take-up Shaft
2	B80-27	Slide Bars
2	B80-44	Bearing
2	S110-24	Retainer

B80 Single Shaft Drive

Quantity	Part No.	Part Description
2	B80-314	Drive End
2	B80-317	Retainer Plate
1	B80-18	Single Shaft Drive
1	B80-19	Drive Pulley
2	B80-40	Bearing
1	B80-45	PL020x047FL
2	B110-45	Retainer

B80 EZ Drive

Quantity	Part No.	Part Description
1	B80-314	Drive End
1	B80-313	EZ Mount End
1	B80-317	Retainer Plate
1	B80-118	EZ Single Shaft
1	B80-318	EZ End Cover
1	B80-19	Drive Pulley
1	B80-40	Bearing
1	B110-45	Retainer
1	B80-117	Clamp Collar

B80 EZ Double Drive

Quantity	Part No.	Part Description
1	B80-314	Drive End
2	B80-313	EZ Mount End
1	B80-317	Retainer Plate
1	B80-318	EZ End Cover
1	B80-19	Drive Pulley
1	B80-40	Bearing
1	B80-113	EZ Double Drive
1	B110-45	Retainer
1	B80-117	Clamp Collar

How to Repair

Bimba B80 Series electric actuators are repairable. A list of the individual components is given below that together make up the B80 electric actuator.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

B80 Double Shaft Drive

Quantity	Part No.	Part Description
1	B80-316	End Cover
2	B80-314	Drive End
2	B80-317	Retainer Plate
1	B80-19	Drive Pulley
2	B80-40	Bearing
2	B110-45	Retainer
1	B80-45	Bearing
1	B80-13	Double Shaft Drive

B80 Reducer Drive

Quantity	Part No.	Part Description
1	B80-316	End Cover
2	B80-314	Drive End
1	B80-317	Retainer Plate
1	B80-19	Drive Pulley
2	B80-40	Bearing
1	B80-45	Bearing
1	B80-10-XX	Reducer Long Shaft
1	B80-09	Reducer Adapter Plate

Bimba B110 Series electric actuators are repairable. A list of the individual components is given below that together make up the B110 electric actuator.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

B110 Take-Up End Drive

Quantity	Part No.	Part Description
1	B110-21	Take-up Side Plate
1	B110-22	Take-up Side Plate
1	B110-23	End Plate
2	B110-24	Cover Plate
1	B110-25	Take-up Pulley
1	B110-26	Take-up Shaft
2	B110-27	Slide Bars
2	B110-40	Bearing
4	M4 x 10	Setscrews
2	B110-45	Retainer

B110 Single Shaft Drive

Quantity	Part No.	Part Description
2	B110-24	Covers
4	M4 x 10	Setscrews
2	B110-14	Drive Plate
2	B110-17	Retainer
1	B110-18	Drive Shaft
1	B110-19	Drive Pulley
2	B110-41	Bearing
1	B110-43	Transtorque
1	B110-44	Retainer Ring

How to Repair

Bimba B110 Series electric actuators are repairable. A list of the individual components is given below that together make up the B110 electric actuator.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

B110 EZ Drive

Quantity	Part No.	Part Description
1	B110-21	Take-up End
1	B110-22	Take-up End
1	B110-23	End Plate
2	B110-24	Covers
1	B110-25	Take-up Pulley
1	B110-26	Take-up Shaft
2	B110-27	Slide Bars
2	B110-40	Bearing
4	M4 x 10	Setscrews
2	B110-45	Retainer
1	B110-18	Shaft - Single
1	B110-14	Drive Plate
1	B110-19	Drive Pulley
1	B110-14	Side Plate
1	B110-17	Retainer
1	B110-41	Bearing
1	B110-47	EZ Drive Clamp Collar
1	B110-44	Retainer Ring
1	B110-01	Extrusion
1	B110-02	Linear Rail
2	B110-42	Bumper
1	B110-16	End Plate
2	B110-20	End Plate
1	B110-03	Belt
2	B110-04	Belt Clamp
8	B110-46	Plastic Plug
2	B110-48	Magnet
1	B110-31-30	Carriage
2	B110-05	Linear Bearing

B110 EZ Double Drive

Quantity	Part No.	Part Description
1	B110-21	Take-up End
1	B110-22	Take-up End
1	B110-23	End Plate
2	B110-24	Covers
1	B110-25	Take-up Pulley
1	B110-26	Take-up Shaft
2	B110-27	Slide Bars
2	B110-40	Bearing
4	M4 x 10	Setscrews
2	B110-45	Retainer
1	B110-13	Shaft - Double
1	B110-14	Drive Plate
1	B110-19	Drive Pulley
1	B110-14	Side Plate
1	B110-17	Retainer
2	B110-24	Cover Plate
1	B110-41	Bearing
1	B110-47	EZ Drive Clamp Collar
1	B110-44	Retainer Ring
1	B110-01	Extrusion
1	B110-02	Linear Rail
2	B110-42	Bumper
1	B110-16	End Plate
2	B110-20	End Plate
1	B110-03	Belt
2	B110-04	Belt Clamp
8	B110-46	Plastic Plug
2	B110-48	Magnet
1	B110-31-30	Carriage
2	B110-05	Linear Bearing

Bimba B110 Series electric actuators are repairable. A list of the individual components is given below that together make up the B110 electric actuator.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

B110 Double Shaft Drive

Quantity	Part No.	Part Description
1	B110-21	Take-up End
1	B110-22	Take-up End
1	B110-23	End Plate
2	B110-24	Covers
1	B110-25	Take-up Pulley
1	B110-26	Take-up Shaft
2	B110-27	Slide Bars
2	B110-40	Bearing
4	M4 x 10	Setscrews
2	B110-45	Retainer
2	B110-14	Side Plate
2	B110-17	Retainer
1	B110-13	Double Shaft
1	B110-19	Drive Pulley
2	B110-41	Bearing
1	B110-43	Transtorque
2	B110-44	Retainer Ring
1	B110-01	Extrusion
1	B110-02	Linear Rail
2	B110-42	Bumper
1	B110-16	End Plate
2	B110-20	End Plate
1	B110-03	Belt
2	B110-04	Belt Clamp
8	B110-46	Plastic Plug
2	B110-48	Magnet
1	B110-31-30	Carriage
2	B110-05	Linear Bearing

B110 Reducer Drive

Quantity	Part No.	Part Description
1	B110-21	Take-up End
1	B110-22	Take-up End
1	B110-23	End Plate
2	B110-24	Covers
1	B110-25	Take-up Pulley
1	B110-26	Take-up Shaft
2	B110-27	Slide Bars
2	B110-40	Bearing
4	M4 x 10	Setscrews
2	B110-45	Retainer
2	B110-14	Drive Plate
1	B110-17	Retainer
1	B110-09	Reducer Adapter
1	B110-28	Reducer Single Drive
1	B110-19	Drive Pulley
1	B110-41	Bearing
1	B110-43	Transtorque
1	B110-01	Extrusion
1	B110-02	Linear Rail
2	B110-42	Bumper
1	B110-16	End Plate
2	B110-20	End Plate
1	B110-03	Belt
2	B110-04	Belt Clamp
8	B110-46	Plastic Plug
2	B110-48	Magnet
1	B110-31-30	Carriage
2	B110-05	Linear Bearing
1	B110-29	Reducer Double Drive

How to Customize

Switches

Switches add versatility to your electric motion application. They can be used to provide end of stroke limits, count strokes, or communicate positioning to an outside source. Switches can provide safety to applications as well, preventing undesirable situations like runaways to prevent damage.

To learn more about Bimba's available switch selection, refer to the Switches section in this catalog.

Air/Purge Ports

Air and purge ports are essential for actuators that operate in dirty applications. In both belt- and screw-driven actuators, ports keep dust and grime from egressing, protecting the internals of the actuator. Air and purge ports are recommended for use with Bimba's air preparation products.

When using purge ports, supply dry filtered air to the actuators in order to achieve optimal protection.

Protection

Bimba offers several protection options for our actuators. Our primary options are Armoloy® and stainless steel. **Armoloy®** offers additional protection against moisture and dirt. It is used to coat the steel linear rail and bearings in a Bimba actuator. Armoloy® coating can also be applied to the aluminum extrusion upon request. **Stainless steel** works in conjunction with Armoloy® coatings, providing additional protection to the end caps and carriage.

Additional coatings are available upon request.

Motor Mounting

Motor mounts allow you to mount any motor to any actuator (within the actuator's rating). They give end users the ability to use Bimba electric actuators with the motor of their choosing. Careful considerations regarding torque limitations must be made when mounting a motor the actuator is not rated for.

To request custom motor mounting options, please supply Bimba with the following information: shaft diameter, shaft length, pilot diameter, pilot depth, bolt circle, and hole size.

Customer-requested Holes and Dowel Pins

Bimba can provide custom holes and dowel pins to accommodate the customer's specific tooling and mounting holes.

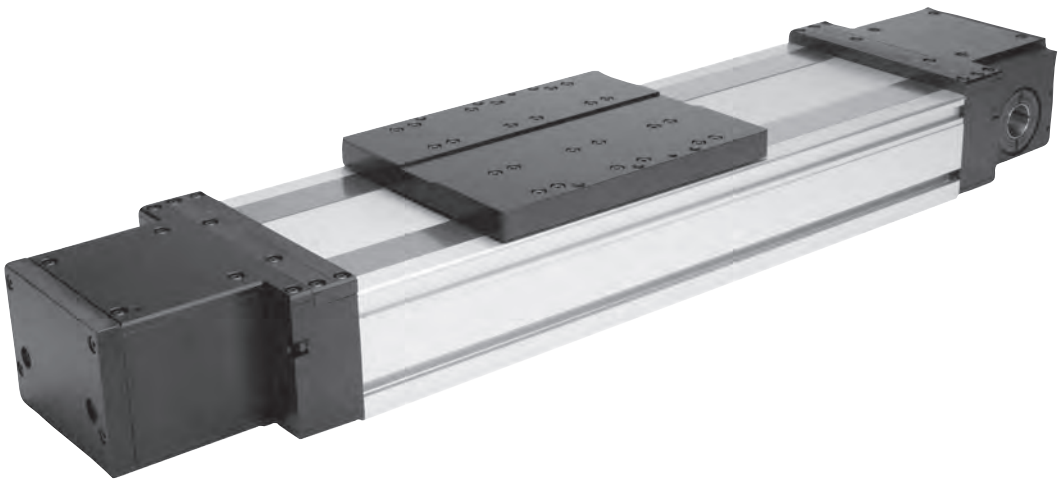
For further customization, contact the factory.

Notes

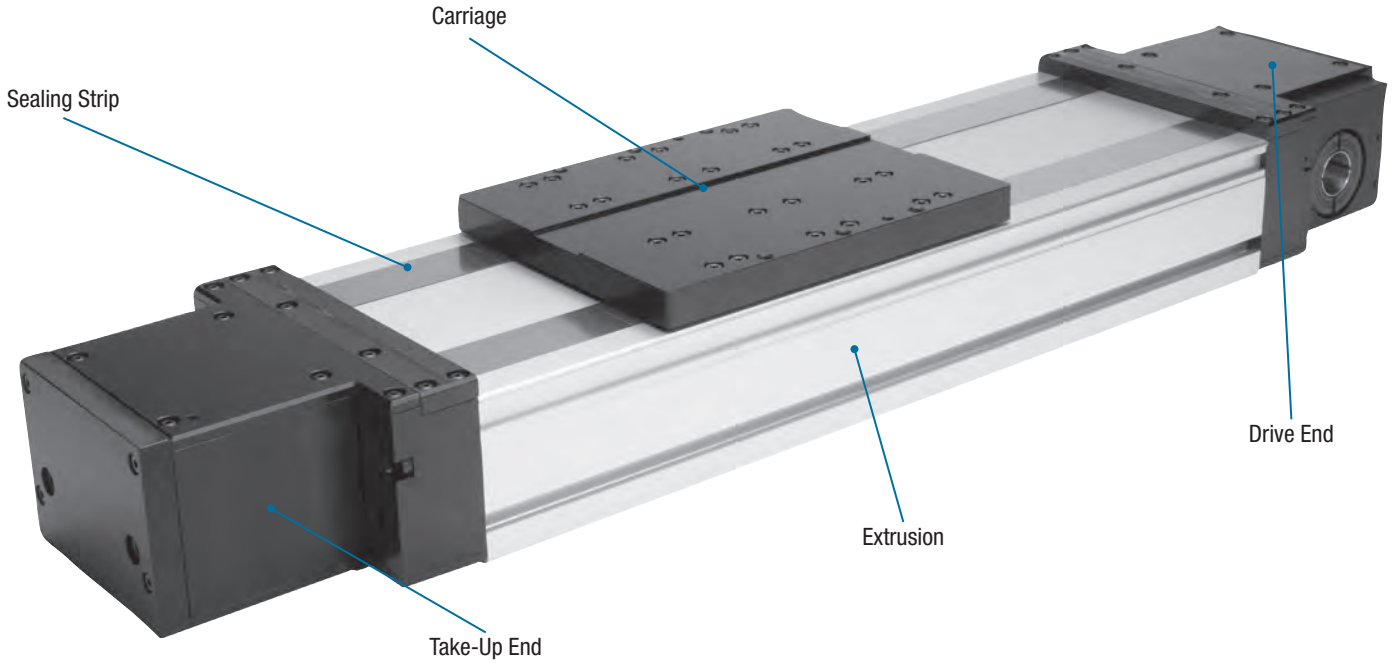
Notes

LP15B & LP20B Actuators

The LP15B is Bimba's dual rail belt driven electric linear actuator for use in industries and applications where increased support of loads is critical. As a low-profile actuator, the LP15B picks up where the B27 leaves off. It uses a robust dual rail, four bearing block design that offers two and a half times the thrust force capability and twice the maximum input torque. When higher performance and capability are necessary, the Bimba LP20B is a similar but more robust iteration of the LP15B, with larger guide rails and bearing blocks that support nearly twice the load and thrust capability of the LP15B.



Contents



The LP15B/20B family of rodless electric actuators are belt-driven and offer a dual ball rail design to maximize loading characteristics while providing maximum moment loading. They provide high precision with low noise, backlash, and vibration. With two distinct belt width sizes to choose from, along with a larger extrusion and pulley and bearing size, high load applications are overcome easily.

Features and Benefits

Dual Built-in Linear Ball Rail Guides:

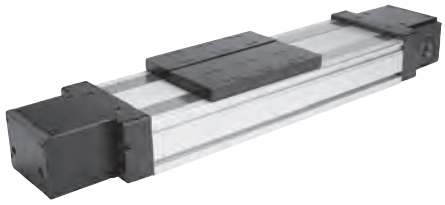
- Dual rails provide two times the loading
- Four bearing blocks (two per rail)
- Size 15 and size 20 rails and bearings
- Maintenance free
- Self-lubricating
- Low friction
- Smooth operation
- Long life expectancy

Low Profile Aluminum Extrusion:

- Provides better fit in tight applications
- Maximum robustness per size

High Precision Steel Reinforced Belt:

- Ideal for high load applications
- Highest thrust/load per unit size
- Repeatability to ±0.004”
- Long lengths: up to 3m (10ft.)
- Quiet: reduced noise



How it Works

The Bimba LP15B rodless actuator uses a steel reinforced polyurethane belt that wraps around an internal drive pulley mechanism on the drive end. This is connected to a drive shaft which gets coupled to an external motor shaft and provides the rotational motion to rotate the pulley and hence traverse the belt attached to the pulley.

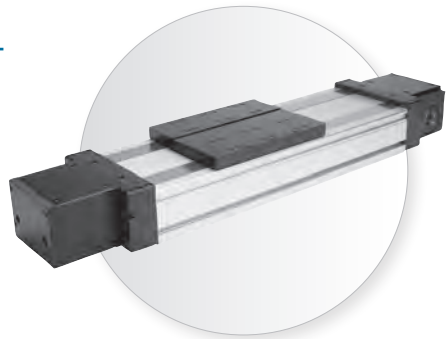
On the opposite end, known as the take-up end, the LP15B uses a take-up pulley working in conjunction with a take-up slide and take-up bearing. Together, they provide ample support for the other end of the belt as the motor provides the rotational motion. As the carriage and attached load traverse the length of the actuator, the rotational motion is transformed into linear motion. With two linear rails and an option for up to four bearing blocks (two per rail), the LP15B has the load and moment capability to handle nearly any load you can stack up against it.

Materials of Construction

Body Material:	Aluminum
End Caps:	Aluminum
Carriage:	7075 Aluminum
Belt:	Steel Reinforced Polyurethane

Application Ideas

- Pick & Place
- Sorting
- Loading
- Stacking
- Insertion
- Clamping
- Parts Transfer
- Machine Tool
- Conveyor



Target Applications

The LP15B is intended for heavy-duty industrial applications that require flexible, long distance, high speed motion with substantial dynamic load and moment loading capacity. When your application calls for up to 3m (~10ft.) of stroke with up to 400 lbs (~1780N) of thrust, with more than 40,000N dynamic load and speed capability in the 5m/sec (~200"/sec) range, the LP15B offers you all this solution possibility at an exceptional value.

The power of the LP15B lends itself well to multi-axis motion solutions. The two rail, four bearing block configuration means adding a second axis is a breeze, whether the second axis is another LP15B or nearly any other existing Bimba electric actuator due to large array of transition plates available.

For applications that call for a heavy duty alternative solution to a traditional pneumatic application and that offers a solution that can adapt as your needs grow and change, Bimba electric actuators provide the interchangeable solution in an easy-to-use, long-lasting, and tough electric actuator.

Drive Options

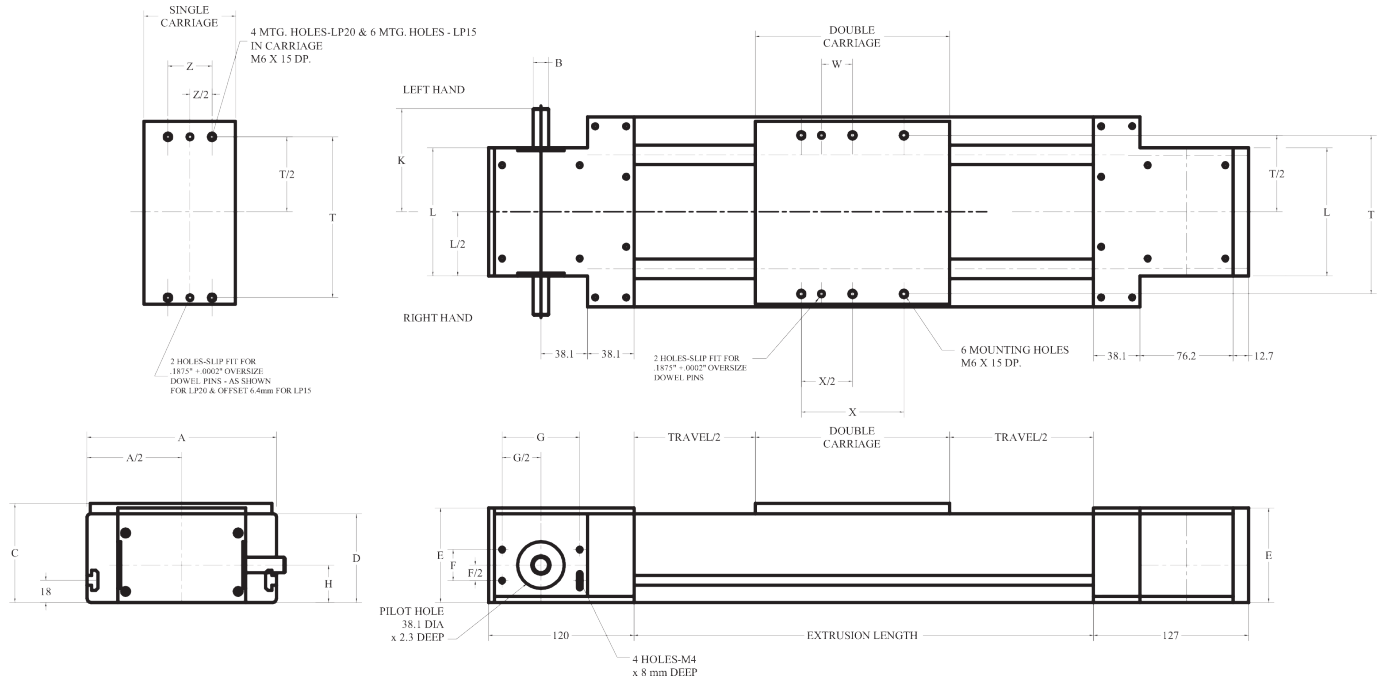
With numerous drive interfaces ranging from a single or double standard shaft input to our Easy Input shaft, the choice is yours to select the option that works for you. With many Bimba stepper and servo motors available to choose from, configuring an electric actuator that best meets the needs of even your most demanding application has never been easier.

Advantages

Feature	Advantage	Benefit
Carriage constructed of high-strength 7075 aluminum	Offers enhanced strength and robustness over the competitor	Less deflection and increased load and moment loading capability per carriage size
Self-lubricating linear guides	Minimized maintenance	Worry- and maintenance-free long life, even in applications that require 24/7 motion
Integral Reducer Drive (optional)	Offers increased performance using embedded gear reducer	Move larger loads and improve inertia matching, using an aesthetically pleasing, cost-effective solution
Dual rail construction	2-rail, 4-bearing block construction offers maximum moment loading capacity	Highest load and moment capacity solves applications that are not otherwise possible within this class of actuator
Steel reinforced polyurethane belt	25% higher thrust leads to higher loading capacity	Realize ballscrew-like thrust with belt drive speed ability

Dimensions

Key specification information for the LP15B/20B is given below. For additional specification information, contact Bimba Customer Service at cs@bimba.com, or 800.44.BIMBA (800.442.4622).



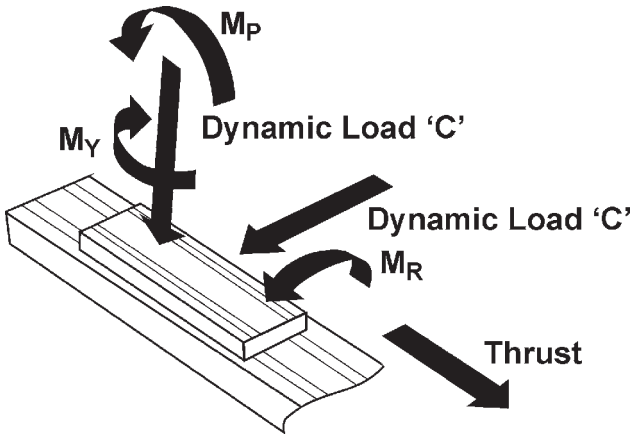
	Dimensions														Carriage Length	
Actuator	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**K**	**L**	**T**	**W**	**X**	**Z**	**Single**	**Double**
LP15B	120	10	75.2	62.8	67.6	19	53.9	28.5	73	83	104.8	25.4	127	63.5	110	192
LP20B	155	12.7	88.65	72.3	77.1	25.4	63.5	36.2	84.4	105	143	25.4	84	63.5	110	192

O.A.L = 247 + Travel + Carriage Length

EZ Mount

Actuator	Maximum Input Diameter
LP15B	18
LP20B	20

Specifications



Linear Actuator	Extrusion	
	Moment of Inertia	
	Ix (cm^4)	Iy (cm^4)
LP15B	82	462
LP20B	153	1045

Straightness 0.0125" per foot per length
Twist: 1/4° per 300mm, 3° maximum per 6m length

Linear Actuator	Lead Constant (mm/rev.)	Maximum Input Torque NM (in-lbs)	Belt	
			Maximum Force N (lbs)	Elastic Limit N (lbs)
LP15B	120.04	21.4 (190)	1120 (252)	2240 (505)
LP20B	135.03	37.6 (333)	1750 (393)	3500 (787)

Linear Actuator	Carriage Length (mm)	Dynamic Load Capacity N (lbs)	Dynamic Moment Capacity		
			Roll M_R NM (in-lbs)	Pitch M_P NM (in-lbs)	Yaw M_Y NM (in-lbs)
LP15B	110	15250 (3425)	260 (2300)	70 (620)	70 (620)
	192	30500 (6850)	420 (3717)	500 (4425)	500 (4425)
LP20B	110	36200 (8137)	530 (4690)	130 (1150)	130 (1150)
	192	72400 (16275)	1060 (9381)	1475 (13054)	1475 (13054)

Inertia (lb-in-sec²):

LP15B Actuator - B Carriage, J=(+Stroke mm * 0.01) * 10-4 * 8.85
LP20B Actuator - B Carriage, J=(+Stroke mm * 0.02) * 10-4 * 8.85

Weight:

LP15B = 2kgs + (0.01 kgs/mm)
LP20B = 3kgs + (0.019 kgs/mm)

How to Accessorize

Motors and Drives

Bimba motors are available to use as the rotary drive mechanism of the LP15B/20B Series. With a complete array of stepper and servo motors available in stock, Bimba has a motor*-drive solution that meets many demanding applications.

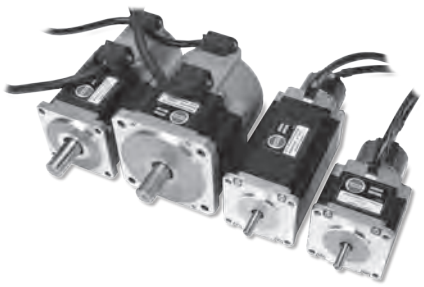
Configuring your motor and creating your first motion profile program is easier than ever with Bimba's intuitive and icon based IQ® suite of motion software. With our complete software suite available for free download from the Bimba website, there is no additional cost to your motion project. All Bimba stepper and servo programming software uses the same IQ® programming software, greatly reducing the learning curve. Existing programs can be easily shared or adapted among the two motor technologies.

See the Motors Catalog for Bimba's wide selection of available motors and motor drives.

**Contact Bimba's Customer Service team for help in crossing your motor to a Bimba motor.*

IntelliMotor®
ITM-23Q-2-EIP-E-M12

AC Stepper Motor
MTR-AC23T-753-S



AC Servo Motor

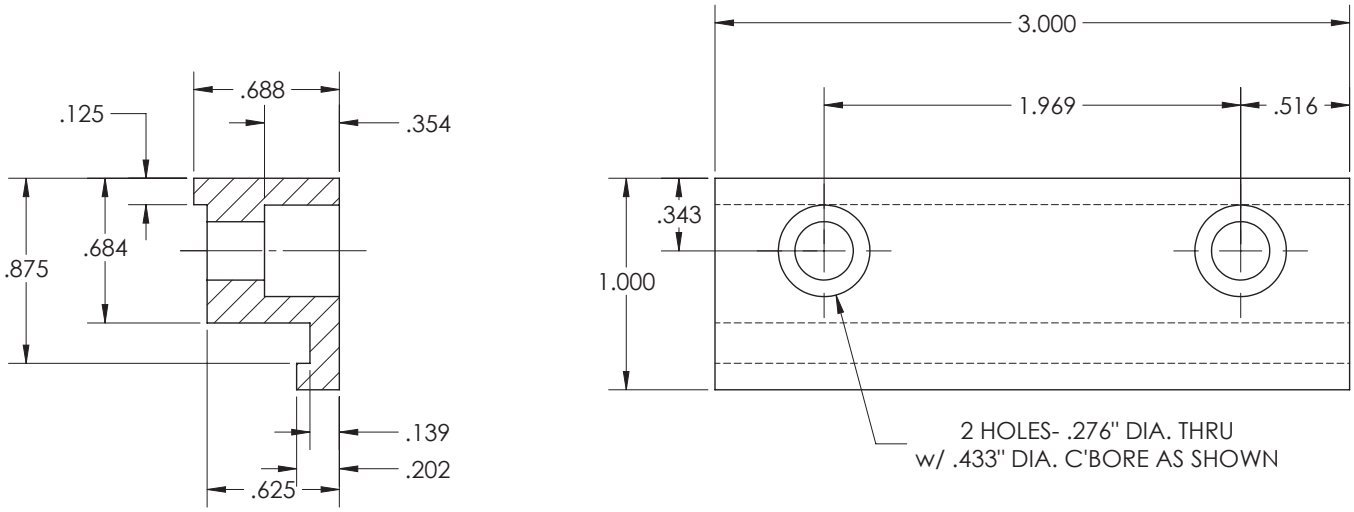
Linear Scale

In extreme cases where precision beyond the normal tight accuracy of the LP15B/20B is desired, Bimba offers external Linear Scales. They are capable of providing extended position precision to as tight as 10µm. These scales are composed of a reading head and external scale. Linear scales are available in incremental or absolute versions which can be added to your actuator as an additional component when included in the final part number.

External Linear Scale

Mounting Clamps

To secure an actuator to the machine frame, hold-down clamps are available. They are designed to fit perfectly in the extruded body actuator T-channel. Appropriate sized clamps are available for the LP15B/20B actuator, as well as all of Bimba's electric actuators.



Bimba LP15B/20B Clamp
CL-80-39

How to Order

The model numbers of the LP15B and LP20B Series rodless actuators consists of an alphanumeric cluster designating product type, carriage type, stroke length, drive type, drive location, gear ratio (optional), external scale (optional), and other optional components that together make up the complete part number to use in ordering. Use the ordering information below to build a valid part number.

An example of a basic LP15B unit with length 1000mm, EZ drive, no scale, and additional options is shown below.

Carriage Style			
Carriage Type	Number of Bearing Blocks	Carriage Length	
		Lp15b	Lp20b
A	2	110	110
B	4	192	192

Drive	
EZ	Easy Input Shaft Drive
ED	Easy Double Shaft Drive
SD	Single Shaft Drive
DD	Double Shaft Drive
RD	Reducer Drive
DR	Double Reducer Drive

Ratio
XX

Extra Carriages	
0	None
1	1 Extra
2	2 Extra

Protection	
00	Standard
Z1	Corrosion-Resistant
SS	Stainless Steel

Purge Port*	
P0	None
PL	Left
PR	Right
PB	Both

LP15B - B 01000 EZ R 01 N N 1 0190 00 N P0

Actuator
LP15B
LP20B

Stroke
XXXXX (mm)

Hand of assembly*	
L	Left Hand
R	Right Hand

Scale*	
N	None
L	Left
R	Right

Motor**	
Y	Yes
N	No

Distance
XXXX (mm)
110-1000mm

Keyway	
Y	Yes
N	No

** Referenced from drive end with carriage on top.*
***Are you installing a larger motor or a non-NEMA motor onto the reducer?*

NOTE: If a motor or gearbox adapter is required, please refer to the Adapters section of the Accessories chapter in this catalog.

Bimba LP15B/20B Series electric actuators are repairable. A list of the individual components is given below that together make up the LP15B/20B electric actuator.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

LP15B Single Drive (A Carriage) Repair Parts

Quantity	Part No.	Part Description
1	LP15-01	Extrusion - Body
1	LP15-03	Extrusion - Cover
2	LP20S-13S	Sealing Strip
2	LP15-16R	Rail LWE15R
2	LP15-16B	Bearing Blocks
2	LP15-18	Head & Tail End Plate
2	LP15B-06	Cover
2	LP15B-06-A	Cover
2	LP15B-06-B	Cover
1	LP15B-08	Head Pulley Bore
1	LP15B-09	Take-up Pulley Bore
2	IPI-AL40AT5/25-2	AL40AT5/25-2
1	LP15B-10	Take-up Shaft
2	LP15B-11	Slide
1	LP15B-12-MKA	Slide Plate
1	LP15B-12-MKB	Slide Plate
1	LP15B-13	Take-up End Cover
2	LP15B-14	Belt Clamp
1	LP15B-15	Belt (32AT5)
2	B27-P30	Magnet
1	LP15-10	Single Carriage - Top
1	LP15-13	Single Carriage - Bottom
4	LP15-21	Bearing #6201-2RS
1	LP15-22	Transtorque #6202112
4	LP15-23	Retainer Ring #98541A119
4	LP15-30	Roller Guide
1	LP15B-B2	End Plate
2	LP15B-B3	Retainer
1	LP15B-B4	Head Shaft (Single)
2	LP15-100	Button
4	LP15-101	Plastic Setscrew 94564A046

LP15B Single Drive (B Carriage) Repair Parts

Quantity	Part No.	Part Description
1	LP15-01	Extrusion - Body
1	LP15-03	Extrusion - Cover
2	LP20S-13S	Sealing Strip
2	LP15-16R	Rail LWE15R
4	LP15-16B	Bearing Blocks
2	LP15-18	Head & Tail End Plate
1	LP15-12	Double Carriage (top)
2	LP15B-06	Cover
2	LP15B-06-A	Cover
2	LP15B-06-B	Cover
1	LP15-11	Double Carriage (bottom)
1	LP15B-08	Head Pulley Bore
1	LP15B-09	Take-up Pulley Bore
2	IPI-AL40AT5/25-2	AL40AT5/25-2
1	LP15B-10	Take-up Shaft
2	LP15B-11	Slide
1	LP15B-12-MKA	Slide Plate
1	LP15B-12-MKB	Slide Plate
1	LP15B-13	Take-up End Cover
2	LP15B-14	Belt Clamp
1	LP15B-15	Belt (32AT5)
2	B27-P30	Magnet
1	LP15-10	Single Carriage - Top
1	LP15-13	Single Carriage - Bottom
4	LP15-21	Bearing #6201-2RS
1	LP15-22	Transtorque #6202112
4	LP15-23	Retainer Ring #98541A119
4	LP15-30	Roller Guide
1	LP15B-B2	End Plate
2	LP15B-B3	Retainer
1	LP15B-B4	Head Shaft (Single)
2	LP15-100	Button
4	LP15-101	Plastic Setscrew 94564A046

How to Repair

Bimba LP15B/20B Series electric actuators are repairable. A list of the individual components is given below that together make up the LP15B/20B electric actuator.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

LP15B Double Drive (A Carriage) Repair Parts

Quantity	Part No.	Part Description
1	LP15-01	Extrusion - Body
1	LP15-03	Extrusion - Cover
2	LP20S-13S	Sealing Strip
2	LP15-16R	Rail LWE15R
2	LP15-16B	Bearing Blocks
2	LP15-18	Head & Tail End Plate
2	LP15B-06	Cover
2	LP15B-06-A	Cover
2	LP15B-06-B	Cover
1	LP15B-08	Head Pulley Bore
1	LP15B-09	Take-up Pulley Bore
2	IPI-AL40AT5/25-2	AL40AT5/25-2
1	LP15B-10	Take-up Shaft
2	LP15B-11	Slide
1	LP15B-12-MKA	Slide Plate
1	LP15B-12-MKB	Slide Plate
1	LP15B-13	Take-up End Cover
2	LP15B-14	Belt Clamp
1	LP15B-15	Belt (32AT5)
2	B27-P30	Magnet
1	LP15-10	Single Carriage - Top
1	LP15-13	Single Carriage - Bottom
4	LP15-21	Bearing #6201-2RS
1	LP15-22	Transtorque #6202112
4	LP15-23	Retainer Ring #98541A119
4	LP15-30	Roller Guide
1	LP15B-B2	End Plate
2	LP15B-B3	Retainer
1	LP15B-B5	Head Shaft (Double)
2	LP15-100	Button
4	LP15-101	Plastic Setscrew 94564A046

LP15B Double Drive (B Carriage) Repair Parts

Quantity	Part No.	Part Description
1	LP15-01	Extrusion - Body
1	LP15-03	Extrusion - Cover
2	LP20S-13S	Sealing Strip
2	LP15-16R	Rail LWE15R
4	LP15-16B	Bearing Blocks
2	LP15-18	Head & Tail End Plate
1	LP15-12	Double Carriage (top)
2	LP15B-06	Cover
2	LP15B-06-A	Cover
2	LP15B-06-B	Cover
1	LP15-11	Double Carriage (bottom)
1	LP15B-08	Head Pulley Bore
1	LP15B-09	Take-up Pulley Bore
2	IPI-AL40AT5/25-2	AL40AT5/25-2
1	LP15B-10	Take-up Shaft
2	LP15B-11	Slide
1	LP15B-12-MKA	Slide Plate
1	LP15B-12-MKB	Slide Plate
1	LP15B-13	Take-up End Cover
2	LP15B-14	Belt Clamp
1	LP15B-15	Belt (32AT5)
2	B27-P30	Magnet
1	LP15-10	Single Carriage - Top
1	LP15-13	Single Carriage - Bottom
4	LP15-21	Bearing #6201-2RS
1	LP15-22	Transtorque #6202112
4	LP15-23	Retainer Ring #98541A119
4	LP15-30	Roller Guide
1	LP15B-B2	End Plate
2	LP15B-B3	Retainer
1	LP15B-B5	Head Shaft (Double)
2	LP15-100	Button
4	LP15-101	Plastic Setscrew 94564A046

Bimba LP15B/20B Series electric actuators are repairable. A list of the individual components is given below that together make up the LP15B/20B electric actuator.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

LP15B EZ Drive (A Carriage) Repair Parts

Quantity	Part No.	Part Description
1	LP15-01	Extrusion - Body
1	LP15-03	Extrusion - Cover
2	LP20S-13S	Sealing Strip
2	LP15-16R	Rail LWE15R
2	LP15-16B	Bearing Blocks
2	LP15-18	Head & Tail End Plate
2	LP15B-06	Cover
2	LP15B-06-A	Cover
2	LP15B-06-B	Cover
1	LP15B-08	Head Pulley Bore
1	LP15B-09	Take-up Pulley Bore
2	IPI-AL40AT5/25-2	AL40AT5/25-2
1	LP15B-10	Take-up Shaft
2	LP15B-11	Slide
1	LP15B-12-MKA	Slide Plate
1	LP15B-12-MKB	Slide Plate
1	LP15B-13	Take-up End Cover
2	LP15B-14	Belt Clamp
1	LP15B-15	Belt (32AT5)
2	B27-P30	Magnet
1	LP15-10	Single Carriage - Top
1	LP15-13	Single Carriage - Bottom
3	LP15-21	Bearing #6201-2RS
3	LP15-23	Retainer Ring #98541A119
4	LP15-30	Roller Guide
1	LP15B-B MKB	Head Plate
1	LP15B-B2	End Plate
2	LP15B-B3	Retainer
2	LP15-100	Button
4	LP15-101	Plastic Setscrew 94564A046
1	LP15B-114	Drive Shaft
1	LP15B-115 MK L	Left Hand Drive Plate
1	B27-P23	Shaft Clamp SCSP20-12
1	AD-LP15B-XT060	Reducer XT060

LP15B EZ Drive (B Carriage) Repair Parts

Quantity	Part No.	Part Description
1	LP15-01	Extrusion - Body
1	LP15-03	Extrusion - Cover
2	LP20S-13S	Sealing Strip
2	LP15-16R	Rail LWE15R
4	LP15-16B	Bearing Blocks
2	LP15-18	Head & Tail End Plate
1	LP15-12	Double Carriage (top)
2	LP15B-06	Cover
2	LP15B-06-A	Cover
2	LP15B-06-B	Cover
1	LP15-11	Double Carriage (bottom)
1	LP15B-08	Head Pulley Bore
1	LP15B-09	Take-up Pulley Bore
2	IPI-AL40AT5/25-2	AL40AT5/25-2
1	LP15B-10	Take-up Shaft
2	LP15B-11	Slide
1	LP15B-12-MKA	Slide Plate
1	LP15B-12-MKB	Slide Plate
1	LP15B-13	Take-up End Cover
2	LP15B-14	Belt Clamp
1	LP15B-15	Belt (32AT5)
2	B27-P30	Magnet
1	LP15-10	Single Carriage - Top
1	LP15-13	Single Carriage - Bottom
3	LP15-21	Bearing #6201-2RS
3	LP15-23	Retainer Ring #98541A119
4	LP15-30	Roller Guide
1	LP15B-B MKB	Head Plate
1	LP15B-B2	End Plate
2	LP15B-B3	Retainer
2	LP15-100	Button
4	LP15-101	Plastic Setscrew 94564A046
1	LP15B-114	Drive Shaft
1	LP15B-115 MK L	Left Hand Drive Plate
1	B27-P23	Shaft Clamp SCSP20-12
1	AD-LP15B-XT060	Reducer XT060

How to Repair

Bimba LP15B/20B Series electric actuators are repairable. A list of the individual components is given below that together make up the LP15B/20B electric actuator.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

LP15B REducer Drive (A Carriage) Repair Parts

Quantity	Part No.	Part Description
1	LP15-01	Extrusion - Body
1	LP15-03	Extrusion - Cover
2	LP20S-13S	Sealing Strip
2	LP15-16R	Rail LWE15R
2	LP15-16B	Bearing Blocks
2	LP15-18	Head & Tail End Plate
2	LP15B-06	Cover
2	LP15B-06-A	Cover
2	LP15B-06-B	Cover
1	LP15B-08	Head Pulley Bore
1	LP15B-09	Take-up Pulley Bore
2	IPI-AL40AT5/25-2	AL40AT5/25-2
1	LP15B-10	Take-up Shaft
2	LP15B-11	Slide
1	LP15B-12-MKA	Slide Plate
1	LP15B-12-MKB	Slide Plate
1	LP15B-13	Take-up End Cover
2	LP15B-14	Belt Clamp
1	LP15B-15	Belt (32AT5)
2	B27-P30	Magnet
1	LP15-10	Single Carriage - Top
1	LP15-13	Single Carriage - Bottom
4	LP15-21	Bearing #6201-2RS
1	LP15-22	Transtorque #6202112
4	LP15-23	Retainer Ring #98541A119
4	LP15-30	Roller Guide
1	LP15B-B2	End Plate
2	LP15B-B3	Retainer
1	LP15B-B6	Adapter
1	LP15B-B7-XX	Reducer
2	LP15-100	Button
4	LP15-101	Plastic Setscrew 94564A046
1	AD-LP15B-XT060	Reducer XT060

LP15B Reducer Drive (B Carriage) Repair Parts

Quantity	Part No.	Part Description
1	LP15-01	Extrusion - Body
1	LP15-03	Extrusion - Cover
2	LP20S-13S	Sealing Strip
2	LP15-16R	Rail LWE15R
4	LP15-16B	Bearing Blocks
2	LP15-18	Head & Tail End Plate
1	LP15-12	Double Carriage (top)
2	LP15B-06	Cover
2	LP15B-06-A	Cover
2	LP15B-06-B	Cover
1	LP15-11	Double Carriage (bottom)
1	LP15B-08	Head Pulley Bore
1	LP15B-09	Take-up Pulley Bore
2	IPI-AL40AT5/25-2	AL40AT5/25-2
1	LP15B-10	Take-up Shaft
2	LP15B-11	Slide
1	LP15B-12-MKA	Slide Plate
1	LP15B-12-MKB	Slide Plate
1	LP15B-13	Take-up End Cover
2	LP15B-14	Belt Clamp
1	LP15B-15	Belt (32AT5)
2	B27-P30	Magnet
1	LP15-10	Single Carriage - Top
1	LP15-13	Single Carriage - Bottom
4	LP15-21	Bearing #6201-2RS
1	LP15-22	Transtorque #6202112
4	LP15-23	Retainer Ring #98541A119
4	LP15-30	Roller Guide
1	LP15B-B2	End Plate
2	LP15B-B3	Retainer
1	LP15B-B6	Adapter
1	LP15B-B7-XX	Reducer
2	LP15-100	Button
4	LP15-101	Plastic Setscrew 94564A046
1	AD-LP15B-XT060	Reducer XT060

Bimba LP15B/20B Series electric actuators are repairable. A list of the individual components is given below that together make up the LP15B/20B electric actuator.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

LP20B Single Drive (A Carriage) Repair Parts

Quantity	Part No.	Part Description
1	LP20-01	Extrusion - Body
1	LP20-03	Extrusion - Cover
2	LP20S-13S	Sealing Strip
2	LP20-16R	Rail LWH20R
2	LP20-16B	Bearing Blocks
1	LP20-10S	Single Carriage (Bottom)
2	LP20B-06	Cover
2	LP20B-06-A	Cover
2	LP20B-06-B	Cover
2	IPI-AL60AT5/27-2	AL60AT5/27-2
1	LP20B-08	Head Pulley Bore
1	LP20B-09	Take-up Pulley Bore
1	LP20B-10	Take-up Shaft
2	LP20B-11	Take-up Slides
1	LP20-28S	Single Carriage (Top)
1	LP20B-12 - A	Slide Plate
1	LP20B-12 - B	Slide Plate
1	LP20B-13	Take-up End Cover
2	LP20B-14	Belt Clamp
1	LP20B-15	Belt (50AT5)
2	LP20B-16S	End Plate
4	B27-P30	Magnet
1	LP20B-B1-A	Head Plate
1	LP20B-B1-B	Head Plate
1	LP20B-B2	End Plate
1	LP20B-B3	Retainer
2	LP20-25	Bearing #6202-2RS
2	S80-24	Retainer Ring #98541A410
4	LP15-30	Roller
1	LP20B-B4	Head Shaft
2	LP20-25	Bearing #6202-2RS
2	S80-24	Retainer Ring #98541A410

LP20B Single Drive (B Carriage) Repair Parts

Quantity	Part No.	Part Description
1	LP20-01	Extrusion - Body
1	LP20-03	Extrusion - Cover
2	LP20S-13S	Sealing Strip
2	LP20-16R	Rail LWH20R
4	LP20-16B	Bearing Blocks
1	LP20-21S	Double Carriage (top)
2	LP20B-06	Cover
2	LP20B-06-A	Cover
2	LP20B-06-B	Cover
2	IPI-AL60AT5/27-2	AL60AT5/27-2
1	LP20B-08	Head Pulley Bore
1	LP20B-09	Take-up Pulley Bore
1	LP20B-10	Take-up Shaft
2	LP20B-11	Take-up Slides
1	LP20-11S	Double Carriage (bottom)
1	LP20B-12 - A	Slide Plate
1	LP20B-12 - B	Slide Plate
1	LP20B-13	Take-up End Cover
2	LP20B-14	Belt Clamp
1	LP20B-15	Belt (50AT5)
2	LP20B-16S	End Plate
4	B27-P30	Magnet
1	LP20B-B1-A	Head Plate
1	LP20B-B1-B	Head Plate
1	LP20B-B2	End Plate
1	LP20B-B3	Retainer
2	LP20-25	Bearing #6202-2RS
2	S80-24	Retainer Ring #98541A410
4	LP15-30	Roller
1	LP20B-B4	Head Shaft
2	LP20-25	Bearing #6202-2RS
2	S80-24	Retainer Ring #98541A410

How to Repair

Bimba LP15B/20B Series electric actuators are repairable. A list of the individual components is given below that together make up the LP15B/20B electric actuator.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

LP20B Double Drive (A Carriage) Repair Parts

Quantity	Part No.	Part Description
1	LP20-01	Extrusion - Body
1	LP20-03	Extrusion - Cover
2	LP20S-13S	Sealing Strip
2	LP20-16R	Rail LWH20R
2	LP20-16B	Bearing Blocks
1	LP20-10S	Single Carriage (Bottom)
2	LP20B-06	Cover
2	LP20B-06-A	Cover
2	LP20B-06-B	Cover
2	IPI-AL60AT5/27-2	AL60AT5/27-2
1	LP20B-08	Head Pulley Bore
1	LP20B-09	Take-up Pulley Bore
1	LP20B-10	Take-up Shaft
2	LP20B-11	Take-up Slides
1	LP20-28S	Single Carriage (Top)
1	LP20B-12 - A	Slide Plate
1	LP20B-12 - B	Slide Plate
1	LP20B-13	Take-up End Cover
2	LP20B-14	Belt Clamp
1	LP20B-15	Belt (50AT5)
2	LP20B-16S	End Plate
4	B27-P30	Magnet
1	LP20B-B1-A	Head Plate
1	LP20B-B1-B	Head Plate
1	LP20B-B2	End Plate
1	LP20B-B3	Retainer
2	LP20-25	Bearing #6202-2RS
2	S80-24	Retainer Ring #98541A410
4	LP15-30	Roller
1	LP20B-B4	Head Shaft
2	LP20-25	Bearing #6202-2RS
2	S80-24	Retainer Ring #98541A410

LP20B Double Drive (B Carriage) Repair Parts

Quantity	Part No.	Part Description
1	LP20-01	Extrusion - Body
1	LP20-03	Extrusion - Cover
2	LP20S-13S	Sealing Strip
2	LP20-16R	Rail LWH20R
4	LP20-16B	Bearing Blocks
1	LP20-21S	Double Carriage (top)
2	LP20B-06	Cover
2	LP20B-06-A	Cover
2	LP20B-06-B	Cover
2	IPI-AL60AT5/27-2	AL60AT5/27-2
1	LP20B-08	Head Pulley Bore
1	LP20B-09	Take-up Pulley Bore
1	LP20B-10	Take-up Shaft
2	LP20B-11	Take-up Slides
1	LP20-11S	Double Carriage (bottom)
1	LP20B-12 - A	Slide Plate
1	LP20B-12 - B	Slide Plate
1	LP20B-13	Take-up End Cover
2	LP20B-14	Belt Clamp
1	LP20B-15	Belt (50AT5)
2	LP20B-16S	End Plate
4	B27-P30	Magnet
1	LP20B-B1-A	Head Plate
1	LP20B-B1-B	Head Plate
1	LP20B-B2	End Plate
1	LP20B-B3	Retainer
2	LP20-25	Bearing #6202-2RS
2	S80-24	Retainer Ring #98541A410
4	LP15-30	Roller
1	LP20B-B4	Head Shaft
2	LP20-25	Bearing #6202-2RS
2	S80-24	Retainer Ring #98541A410

Bimba LP15B/20B Series electric actuators are repairable. A list of the individual components is given below that together make up the LP15B/20B electric actuator.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

LP20B EZ Drive (A Carriage) Repair Parts

Quantity	Part No.	Part Description
1	LP20-01	Extrusion - Body
1	LP20-03	Extrusion - Cover
2	LP20S-13S	Sealing Strip
2	LP20-16R	Rail LWH20R
2	LP20-16B	Bearing Blocks
1	LP20-10S	Single Carriage (Bottom)
2	LP20B-06	Cover
2	LP20B-06-A	Cover
2	LP20B-06-B	Cover
2	IPI-AL60AT5/27-2	AL60AT5/27-2
1	LP20B-08	Head Pulley Bore
1	LP20B-09	Take-up Pulley Bore
1	LP20B-10	Take-up Shaft
2	LP20B-11	Take-up Slides
1	LP20-28S	Single Carriage (Top)
1	LP20B-12 - A	Slide Plate
1	LP20B-12 - B	Slide Plate
1	LP20B-13	Take-up End Cover
2	LP20B-14	Belt Clamp
1	LP20B-15	Belt (50AT5)
2	LP20B-16S	End Plate
4	B27-P30	Magnet
1	LP20B-B1-B	Head Plate
1	LP20B-B2	End Plate
1	LP20B-B3	Retainer
2	LP20-25	Bearing #6202-2RS
2	S80-24	Retainer Ring #98541A410
4	LP15-30	Roller
1	LP20B-EZ-L	Drive Plate Left Hand
1	LP20B-113	Drive Shaft Single
1	LP20B-114	Clamp Collar 6063K34
1	LP20-25	Bearing #6202-2RS
1	AD-IL-LP20B-EZ-XT060	Adapter XT060-Reducer Plate

LP20B EZ Drive (B Carriage) Repair Parts

Quantity	Part No.	Part Description
1	LP20-01	Extrusion - Body
1	LP20-03	Extrusion - Cover
2	LP20S-13S	Sealing Strip
2	LP20-16R	Rail LWH20R
4	LP20-16B	Bearing Blocks
1	LP20-21S	Double Carriage (top)
2	LP20B-06	Cover
2	LP20B-06-A	Cover
2	LP20B-06-B	Cover
2	IPI-AL60AT5/27-2	AL60AT5/27-2
1	LP20B-08	Head Pulley Bore
1	LP20B-09	Take-up Pulley Bore
1	LP20B-10	Take-up Shaft
2	LP20B-11	Take-up Slides
1	LP20-11S	Double Carriage (bottom)
1	LP20B-12 - A	Slide Plate
1	LP20B-12 - B	Slide Plate
1	LP20B-13	Take-up End Cover
2	LP20B-14	Belt Clamp
1	LP20B-15	Belt (50AT5)
2	LP20B-16S	End Plate
4	B27-P30	Magnet
1	LP20B-B1-B	Head Plate
1	LP20B-B2	End Plate
1	LP20B-B3	Retainer
2	LP20-25	Bearing #6202-2RS
2	S80-24	Retainer Ring #98541A410
4	LP15-30	Roller
1	LP20B-EZ-L	Drive Plate Left Hand
1	LP20B-113	Drive Shaft Single
1	LP20B-114	Clamp Collar 6063K34
1	LP20-25	Bearing #6202-2RS
1	AD-IL-LP20B-EZ-XT060	Adapter XT060-Reducer Plate

How to Repair

Bimba LP15B/20B Series electric actuators are repairable. A list of the individual components is given below that together make up the LP15B/20B electric actuator.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

LP20B REducer Single Drive (A Carriage) Repair Parts

Quantity	Part No.	Part Description
1	LP20-01	Extrusion - Body
1	LP20-03	Extrusion - Cover
2	LP20S-13S	Sealing Strip
2	LP20-16R	Rail LWH20R
2	LP20-16B	Bearing Blocks
1	LP20-10S	Single Carriage (Bottom)
2	LP20B-06	Cover
2	LP20B-06-A	Cover
2	LP20B-06-B	Cover
2	IPI-AL60AT5/27-2	AL60AT5/27-2
1	LP20B-08	Head Pulley Bore
1	LP20B-09	Take-up Pulley Bore
1	LP20B-10	Take-up Shaft
2	LP20B-11	Take-up Slides
1	LP20-28S	Single Carriage (Top)
1	LP20B-12 - A	Slide Plate
1	LP20B-12 - B	Slide Plate
1	LP20B-13	Take-up End Cover
2	LP20B-14	Belt Clamp
1	LP20B-15	Belt (50AT5)
2	LP20B-16S	End Plate
4	B27-P30	Magnet
1	LP20B-B1-A	Head Plate
1	LP20B-B1-B	Head Plate
1	LP20B-B2	End Plate
1	LP20B-B3	Retainer
2	LP20-25	Bearing #6202-2RS
2	S80-24	Retainer Ring #98541A410
4	LP15-30	Roller
1	LP20B-B6	Adapter Plate
1	LP20B-B7	Reducer Short Shaft
1	LP20-25	Bearing #6202-2RS

LP20B Reducer Single Drive (B Carriage) Repair Parts

Quantity	Part No.	Part Description
1	LP20-01	Extrusion - Body
1	LP20-03	Extrusion - Cover
2	LP20S-13S	Sealing Strip
2	LP20-16R	Rail LWH20R
4	LP20-16B	Bearing Blocks
1	LP20-21S	Double Carriage (top)
2	LP20B-06	Cover
2	LP20B-06-A	Cover
2	LP20B-06-B	Cover
2	IPI-AL60AT5/27-2	AL60AT5/27-2
1	LP20B-08	Head Pulley Bore
1	LP20B-09	Take-up Pulley Bore
1	LP20B-10	Take-up Shaft
2	LP20B-11	Take-up Slides
1	LP20-11S	Double Carriage (bottom)
1	LP20B-12 - A	Slide Plate
1	LP20B-12 - B	Slide Plate
1	LP20B-13	Take-up End Cover
2	LP20B-14	Belt Clamp
1	LP20B-15	Belt (50AT5)
2	LP20B-16S	End Plate
4	B27-P30	Magnet
1	LP20B-B1-A	Head Plate
1	LP20B-B1-B	Head Plate
1	LP20B-B2	End Plate
1	LP20B-B3	Retainer
2	LP20-25	Bearing #6202-2RS
2	S80-24	Retainer Ring #98541A410
4	LP15-30	Roller
1	LP20B-B6	Adapter Plate
1	LP20B-B7	Reducer Short Shaft
1	LP20-25	Bearing #6202-2RS

Bimba LP15B/20B Series electric actuators are repairable. A list of the individual components is given below that together make up the LP15B/20B electric actuator.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

LP20B Reducer Double Drive (A Carriage) Repair Parts

Quantity	Part No.	Part Description
1	LP20-01	Extrusion - Body
1	LP20-03	Extrusion - Cover
2	LP20S-13S	Sealing Strip
2	LP20-16R	Rail LWH20R
2	LP20-16B	Bearing Blocks
1	LP20-10S	Single Carriage (Bottom)
2	LP20B-06	Cover
2	LP20B-06-A	Cover
2	LP20B-06-B	Cover
2	IPI-AL60AT5/27-2	AL60AT5/27-2
1	LP20B-08	Head Pulley Bore
1	LP20B-09	Take-up Pulley Bore
1	LP20B-10	Take-up Shaft
2	LP20B-11	Take-up Slides
1	LP20-28S	Single Carriage (Top)
1	LP20B-12 - A	Slide Plate
1	LP20B-12 - B	Slide Plate
1	LP20B-13	Take-up End Cover
2	LP20B-14	Belt Clamp
1	LP20B-15	Belt (50AT5)
2	LP20B-16S	End Plate
4	B27-P30	Magnet
1	LP20B-B1-A	Head Plate
1	LP20B-B1-B	Head Plate
1	LP20B-B2	End Plate
1	LP20B-B3	Retainer
2	LP20-25	Bearing #6202-2RS
2	S80-24	Retainer Ring #98541A410
4	LP15-30	Roller
1	LP20B-B6	Adapter Plate
1	LP20B-B8	Reducer Long Shaft
1	LP20-25	Bearing #6202-2RS

LP20B Reducer double Drive (B Carriage) Repair Parts

Quantity	Part No.	Part Description
1	LP20-01	Extrusion - Body
1	LP20-03	Extrusion - Cover
2	LP20S-13S	Sealing Strip
2	LP20-16R	Rail LWH20R
4	LP20-16B	Bearing Blocks
1	LP20-21S	Double Carriage (top)
2	LP20B-06	Cover
2	LP20B-06-A	Cover
2	LP20B-06-B	Cover
2	IPI-AL60AT5/27-2	AL60AT5/27-2
1	LP20B-08	Head Pulley Bore
1	LP20B-09	Take-up Pulley Bore
1	LP20B-10	Take-up Shaft
2	LP20B-11	Take-up Slides
1	LP20-11S	Double Carriage (bottom)
1	LP20B-12 - A	Slide Plate
1	LP20B-12 - B	Slide Plate
1	LP20B-13	Take-up End Cover
2	LP20B-14	Belt Clamp
1	LP20B-15	Belt (50AT5)
2	LP20B-16S	End Plate
4	B27-P30	Magnet
1	LP20B-B1-A	Head Plate
1	LP20B-B1-B	Head Plate
1	LP20B-B2	End Plate
1	LP20B-B3	Retainer
2	LP20-25	Bearing #6202-2RS
2	S80-24	Retainer Ring #98541A410
4	LP15-30	Roller
1	LP20B-B6	Adapter Plate
1	LP20B-B8	Reducer Long Shaft
1	LP20-25	Bearing #6202-2RS

How to Customize

Switches

Switches add versatility to your electric motion application. They can be used to provide end of stroke limits, count strokes, or communicate positioning to an outside source. Switches can provide safety to applications as well, preventing undesirable situations like runaways to prevent damage.

To learn more about Bimba's available switch selection, refer to the Switches section in this catalog.

Air/Purge Ports

Air and purge ports are essential for actuators that operate in dirty applications. In both belt- and screw-driven actuators, ports keep dust and grime from egressing, protecting the internals of the actuator. Air and purge ports are recommended for use with Bimba's air preparation products.

When using purge ports, supply dry filtered air to the actuators in order to achieve optimal protection.

Protection

Bimba offers several protection options for our actuators. Our primary options are Armoloy® and stainless steel. **Armoloy®** offers additional protection against moisture and dirt. It is used to coat the steel linear rail and bearings in a Bimba actuator. Armoloy® coating can also be applied to the aluminum extrusion upon request. **Stainless steel** works in conjunction with Armoloy® coatings, providing additional protection to the end caps and carriage.

Additional coatings are available upon request.

Motor Mounting

Motor mounts allow you to mount any motor to any actuator (within the actuator's rating). They give end users the ability to use Bimba electric actuators with the motor of their choosing. Careful considerations regarding torque limitations must be made when mounting a motor the actuator is not rated for.

To request custom motor mounting options, please supply Bimba with the following information: shaft diameter, shaft length, pilot diameter, pilot depth, bolt circle, and hole size.

Customer-requested Holes and Dowel Pins

Bimba can provide custom holes and dowel pins to accommodate the customer's specific tooling and mounting holes.

For further customization, contact the factory.

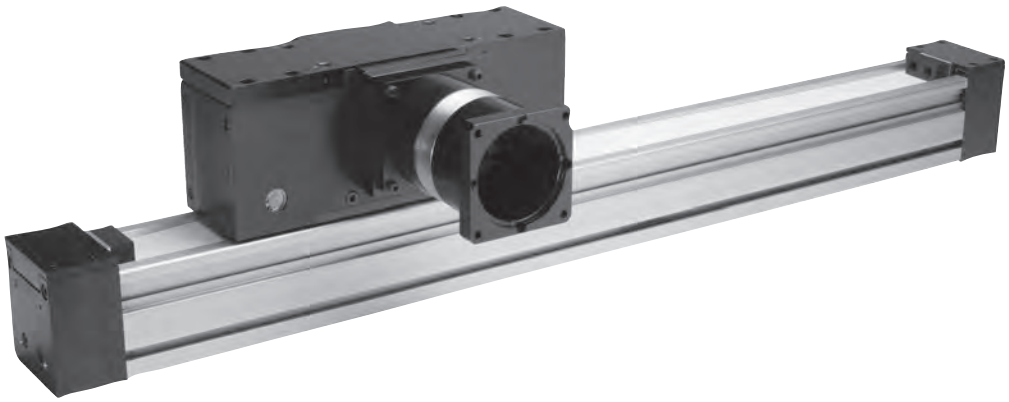
Notes

Notes

BT8010 Actuators

Unique within the design, the belt and motor are stationary while the carriage extrusion moves up and down. This reduces the overall moving weight of the load and eliminates associated motor cable flexing.

Since this type of belt design leads to a lighter overall load in the Z-direction, it allows for a faster velocity motion move with same size motor. Designed after the B80/B110 family of actuators, the BT8010 offers no backlash, no cogging, self-alignment, smoother motion, and higher precision compared to the average belt drive unit.



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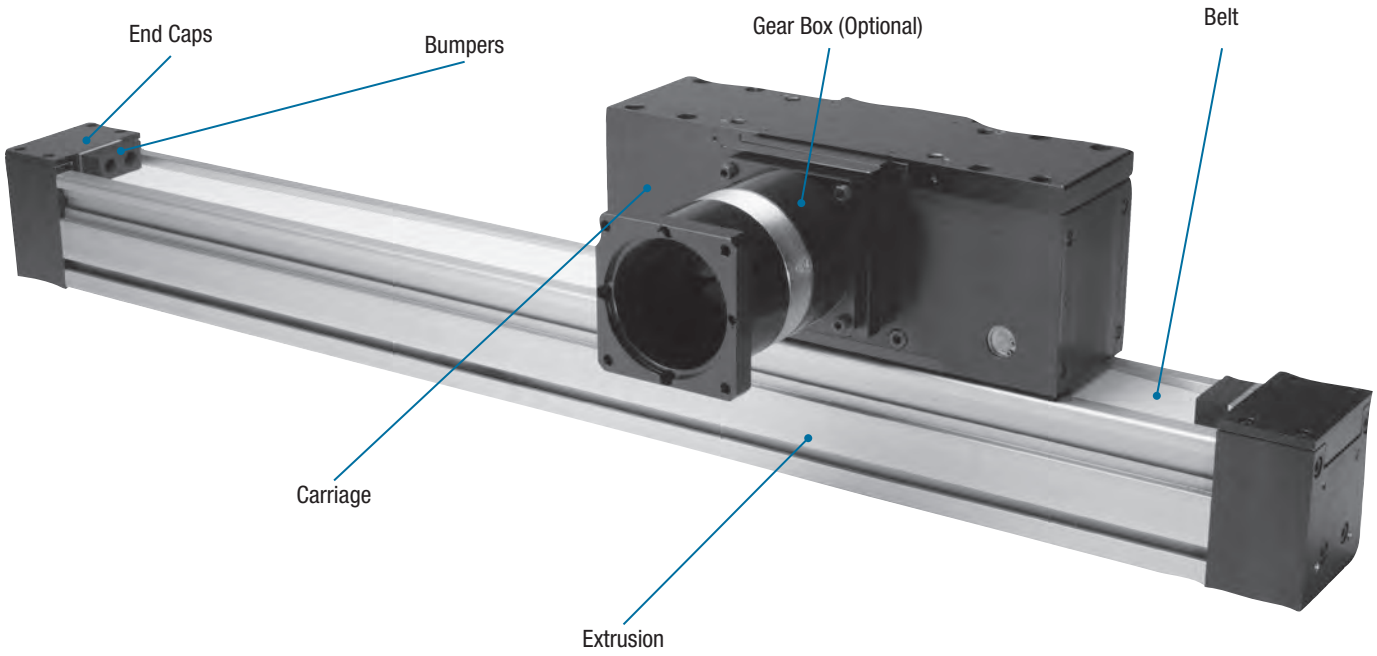


The BT8010 is a unique rodless electric actuator in which the carriage, and motor attached to the carriage, are stationary; instead, the extrusion moves up and down, providing the motion. This unique motion optimizes vertical motion and is especially tailored for vertical applications, though it may be used in a horizontal configurations as well.

Features and Benefits

High Precision Steel Reinforced Belt:

- Reduced noise and vibration
- Zero backlash
- Self-aligning
- No cogging
- Smooth motion
- Ideal for high speed applications
- High thrust capacity
- High precision to 0.001”
- Long lengths: up to 40ft. (12m)
- Outstanding repeatability

Built-in Linear Ball Rail Guide:

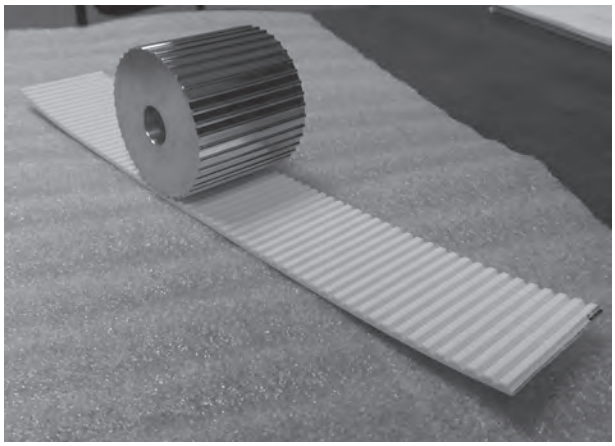
- Maintenance free
- Self-lubricating
- Low friction
- Smooth, quiet operation
- Long life expectancy

80mm Square Aluminum Extrusion:

- Heavy duty 7075 aluminum extrusion
- 25% stronger extrusion
- Supports stops and bearings
- Provides better fit in tight applications
- Promotes long life

BT8010

How it Works



BT8010 Belt System

The Bimba BT8010 belt transfer actuator uses a steel reinforced polyurethane 50mm belt that wraps around a robust, specially designed internal drive carriage assembly that offers two distinct and different types of motion. The first option is motion in which the carriage is stationary and the extrusion travels. The second option is motion in which the extrusion is stationary and the carriage travels. The choice of motion is yours to make and is intended to maximize the overall performance of your motion profile application.

The BT8010's innovative actuator design can minimize the overall load while maximizing the thrust and speed performance. When a high speed vertical application is called for, the BT8010 is the right choice to complete your multi-axis application.

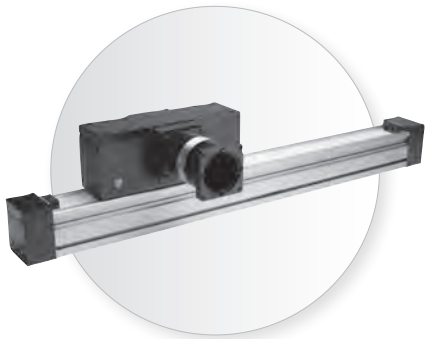
All BT8010 units come standard with the EZ Drive. The EZ Drive can easily accommodate a Bimba stepper or servo motor and/or a gear reducer unit. This leads to a wide variety of options for driving the BT80 and allows you to get up and running faster with fewer complications or issues.

Materials of Construction

Body Material:	Aluminum
End Caps:	Aluminum
Belt Cover:	Stainless Steel
Carriage:	7075 Aluminum
Belt:	Steel Reinforced Polyurethane

Application Ideas

- Z-Axis Motion
- Pick & Place
- Sorting
- Lifting
- Pressing
- Stacking
- Insertion
- Clamping
- Parts Transfer
- Machine Tool



Target Applications

The BT8010 is primarily designed and intended for vertical motion applications. The unique EZ drive carriage is designed to allow the carriage and motor to remain stationary while the extrusion travels up and down along the actuator path. This motion makes it well-suited to be used in 2- or 3-axis motion applications where another Z-axis solution may have limitations that exclude it from your list of options. With performance parameters that mimic the B80 rodless actuator, you can expect all the advantages found in our flagship rodless actuator.

For applications that call for an alternative solution to a traditional pneumatic application, with force and load capability that mimics a large bore pneumatic solution and that offers a more adaptable solution, Bimba electric actuators provide the interchangeable solution. Growing and adapting alongside your business in an easy-to-use, long-lasting, and tough electric actuator that exceeds the competition in performance, value, and life is what makes the BT8010 the easy choice for vertical and multi-axis solutions.

Drive Options

The BT8010 comes standard with the EZ drive, but a standard input shaft or integrated planetary gear reducer are also available as a selectable option. The choice is yours to select the option that works best for you. With many Bimba stepper and servo motors available to choose from, or using your own familiar motor, configuring an electric actuator that best meets the needs of even your most demanding applications has never been easier.

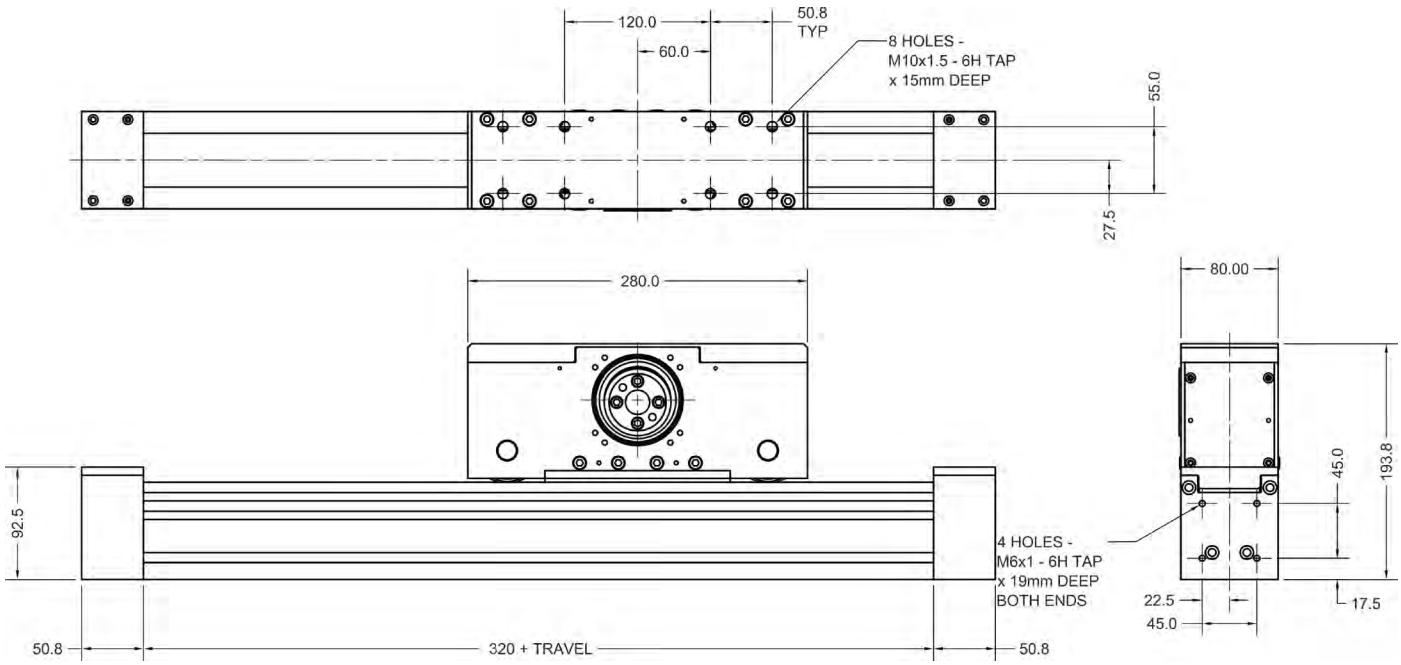
Advantages

Feature	Advantage	Benefit
Carriage constructed of high-strength 7075 aluminum	Offers enhanced strength and robustness over the competitor	Less deflection and increased load and moment loading capability per carriage size
Self-lubricating linear guides	Minimized maintenance	Worry- and maintenance-free long life, even in applications that require 24/7 motion
Integral Reducer Drive (optional)	Offers increased performance using embedded gear reducer	Move larger loads, improve inertia matching, and complete that using an aesthetically pleasing, cost-effective solution
Extrusion moves; carriage stationary	Less overall weight within that axis	Light weight makes it ideal for Z-axis movement that requires higher speed motion; less torque required to perform motion results in smaller motors and saves on costs

How to Specify

Dimensions

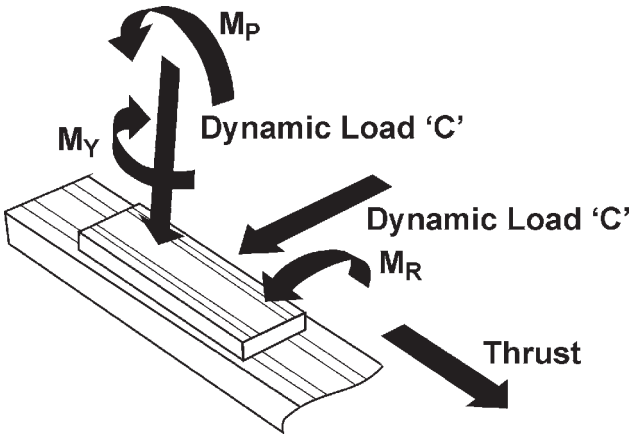
Key specification information for the BT8010 is given below. For additional specification information, contact Bimba Customer Service at cs@bimba.com or 800.44.BIMBA (800.442.4622).



Operating Ranges

Linear Bearings:	-15˚ C to 240˚ C (5˚ F to 464˚ F)
Ball Bearings:	-30˚ C to 250˚ C (-22˚ F to 482˚ F)
Gear Reducers:	-50˚ C to 232˚ C (-58˚ F to 449˚ F)
Belt, Standard:	0˚ C to 80˚ C (32˚ F to 176˚ F)
Belt, Low Temperature:	-25˚ C to 5˚ C (-13˚ F to 41˚ F)
Belt, High Temperature:	20˚ C to 110˚ C (68˚ F to 230˚ F)

Specifications



Linear Actuator	Extrusion	
	Moment of Inertia	
	Ix (cm^4)	Iy (cm^4)
BT80	146	219

Straightness 0.3175mm per 300mm of length
Twist: 1/4˚ per 300mm, 3˚ maximum per 6m length

Linear Actuator	Lead Constant (mm/rev.)	Maximum Input Torque NM (in-lbs)	Belt	
			Maximum Force N (lbs)	Elastic Limit N (lbs)
BT8010	200	19 (168)	875 (197)	1750 (394)

Linear Actuator	Carriage Length (mm)	Dynamic Load Capacity N (lbs)	Dynamic Moment Capacity		
			Roll M_R NM (in-lbs)	Pitch M_P NM (in-lbs)	Yaw M_Y NM (in-lbs)
BT8010	280	30410 (6840)	400 (3540)	320 (2832)	320 (2832)

Inertia (lb-in-sec^2):

B Carriage, J = (38 + Stroke mm * 0.01) * 10^{-4} * 8.85

Weight:

BT8010 = 11kgs + (0.0114 kgs/mm)

How to Accessorize

Motors and Drives

Bimba motors are available to use as the rotary drive mechanism of the BT80/BAT80 Series. With a complete array of stepper and servo motors available in stock, Bimba has a motor*-drive solution that meets many demanding applications.

Configuring your motor and creating your first motion profile program is easier than ever with Bimba's intuitive and icon based IQ® suite of motion software. With our complete software suite available for free download from the Bimba website, there is no additional cost to your motion project. All Bimba stepper and servo programming software uses the same IQ® programming software, greatly reducing the learning curve. Existing programs can be easily shared or adapted among the two motor technologies.

See the Motors Catalog for Bimba's wide selection of available motors and motor drives.

**Contact Bimba's Customer Service team for help in crossing your motor to a Bimba motor.*

IntelliMotor®
ITM-23Q-2-EIP-E-M12

AC Stepper Motor
MTR-AC23T-753-S

AC Servo Motor

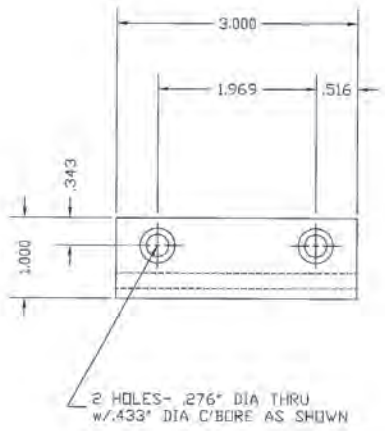
Linear Scale

In extreme cases where precision beyond the normal tight accuracy of the BT80/BAT80 is desired, Bimba offers external linear scales. They are capable of providing extended position precision to as tight as 10µm. These scales are composed of a reading head and external scale. Linear scales are available in incremental or absolute versions which can be added to your actuator as an additional component when included in the final part number.

External Linear Scale

Mounting Clamps

To secure an actuator to the machine frame, hold-down clamps are available. They are designed to fit perfectly in the extruded body actuator T-channel. Appropriate sized clamps are available for the BT80/BAT80 actuator, as well as all of Bimba's electric actuators.



Bimba BT80 Clamp Drawing
CL-80-39

How to Order

The model number of the BT8010 Series rodless actuator consists of an alphanumeric cluster designating product type, carriage type, stroke length, drive type, drive location, gear ratio (optional), external scale (optional), and other optional components that together make up the complete part number to use in ordering. Use the ordering information below to build a valid part number.

An example of a basic BT8010 unit with length 500mm, EZ drive, no scale, and additional options is shown below.

Carriage		
Carriage Type	**Number of Bearing Blocks**	**Carriage Length**
B	2	280

Drive	
SD	Single Shaft Drive
RD	Reducer Drive
EZ	Easy Input Shaft Drive
EZ	EZ Drive

Ratio
XX

Extra Carriage	
0	None
1	1 Extra

Protection	
00	Standard
Z1	Corrosion-Resistant
SS	Stainless Steel

Purge Port*	
PO	None
PL	Left
PR	Right
PB	Both

BT8010 B 00500 EZ 01 N 1 0190 00 N PO

Actuator
BT8010

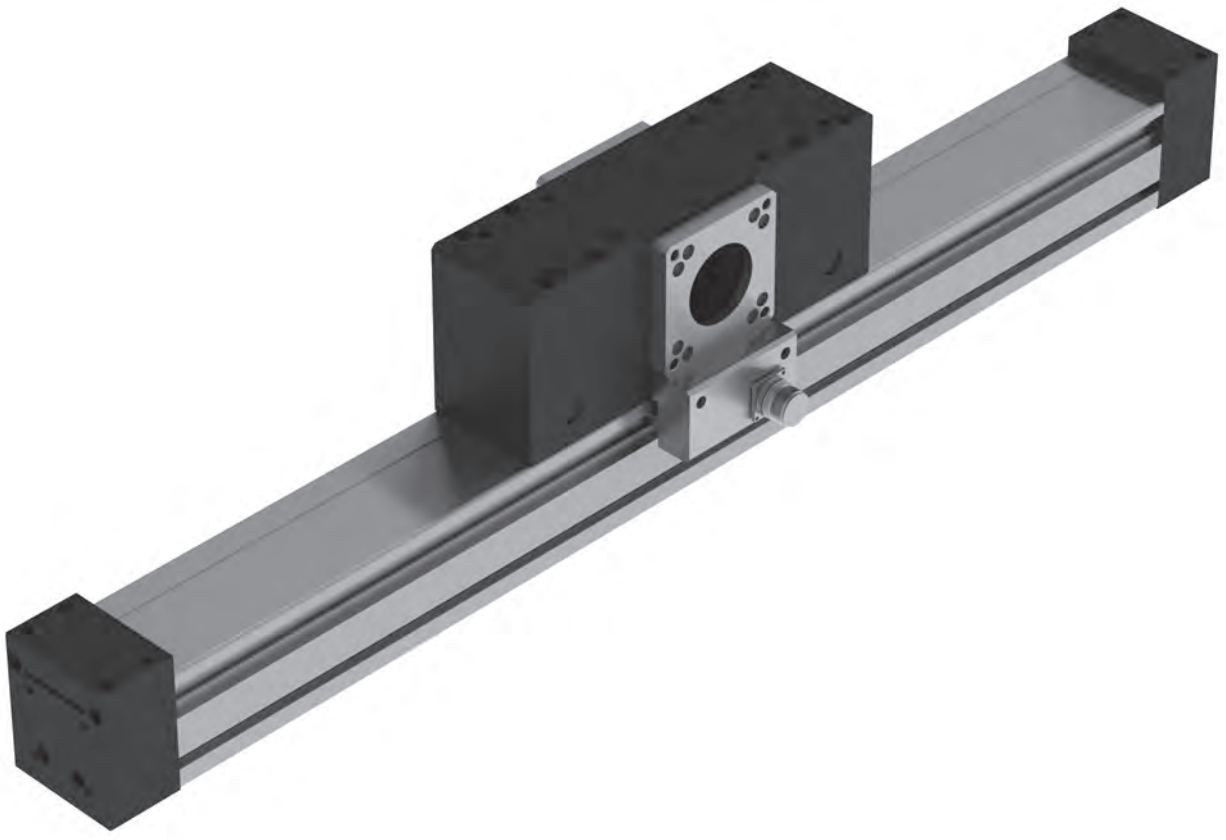
Stroke
XXXXX (mm)

Scale	
Y	Yes
N	No

Distance
XXXX (mm)
280-1000mm

Keyway	
Y	Yes
N	No

[1] *For larger motor, Y=Yes, N=No*



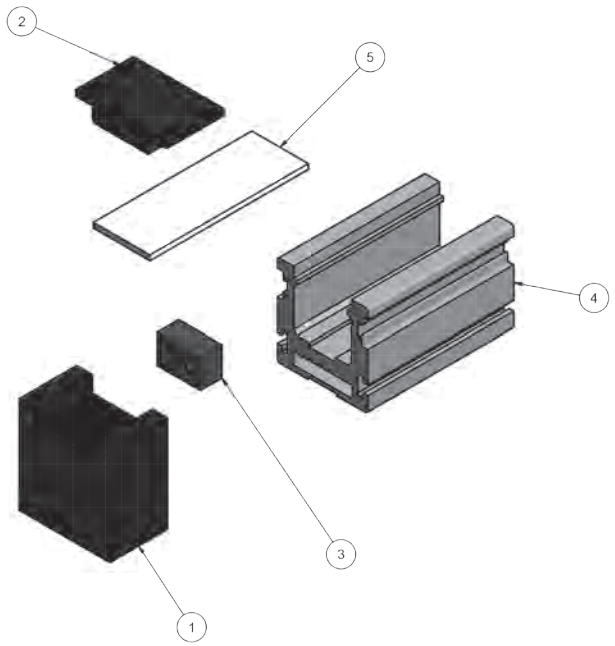
NOTE: If a motor or gearbox adapter is required, please refer to the Adapters section of the Accessories chapter in this catalog.

Bimba BT8010 Series electric actuators are repairable. A list of the individual components is given below that together make up the BT8010 electric actuator.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

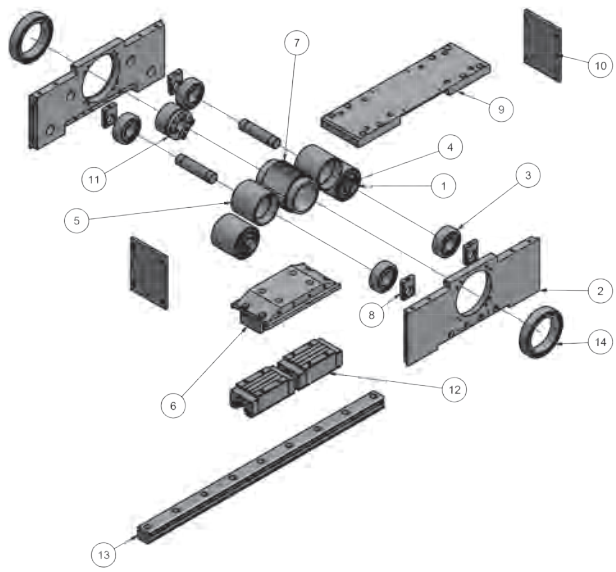
Repair Parts

BT8010 Belt Clamp End View



Part	Quantity	Part No.	Part Description
1	1	BT80-20	End Plate
2	1	BT80-21	Clamp Plate
3	1	BT110-42	Bumper
4	1	B80-01 Machined	Extrusion
5	1	LP20B-15	Belt ATS
5A	1	B110-03	Belt BAT10
5B	1	H8XZ-52	Belt AT10

BT8010 EZ Drive Carriage View



Part	Quantity	Part No.	Part Description
1	4	B80-26	Idler Shaft
2	2	BT80-127	Side Plates
3	8	B80-44	Bearings
4	4	B80-128	Spacer
5	4	BT80-133	Pulley
6	1	BT80-31	Carriage
7	1	BT80-19 for AT5 Belt	Drive Pulley
7A	1	B80-19 for BAT10 Belt	Drive Pulley
7B	1	BT8010-19 for AT10 Belt	Drive Pulley
8	4	BT80-27	Take-up Slides
9	1	BT80-126	Idler Shaft
10	2	BT80-22	Carriage End Plate
11	1	BT80-41	Locking Mechanism
12	2	B80-05	Linear Bearings
13	1	B80-02	Linear Rail
14	2	BT80-40	Bearings

How to Customize

Switches

Switches add versatility to your electric motion application. They can be used to provide end of stroke limits, count strokes, or communicate positioning to an outside source. Switches can provide safety to applications as well, preventing undesirable situations like runaways to prevent damage.

To learn more about Bimba's available switch selection, refer to the Switches section in this catalog.

Air/Purge Ports

Air and purge ports are essential for actuators that operate in dirty applications. In both belt- and screw-driven actuators, ports keep dust and grime from egressing, protecting the internals of the actuator. Air and purge ports are recommended for use with Bimba's air preparation products.

When using purge ports, supply dry filtered air to the actuators in order to achieve optimal protection.

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Motor Mounting

Motor mounts allow you to mount any motor to any actuator (within the actuator's rating). They give end users the ability to use Bimba electric actuators with the motor of their choosing. Careful considerations regarding torque limitations must be made when mounting a motor the actuator is not rated for.

To request custom motor mounting options, please supply Bimba with the following information: shaft diameter, shaft length, pilot diameter, pilot depth, bolt circle, and hole size.

Customer-requested Holes and Dowel Pins

Bimba can provide custom holes and dowel pins to accommodate the customer's specific tooling and mounting holes.

For further customization, contact the factory.

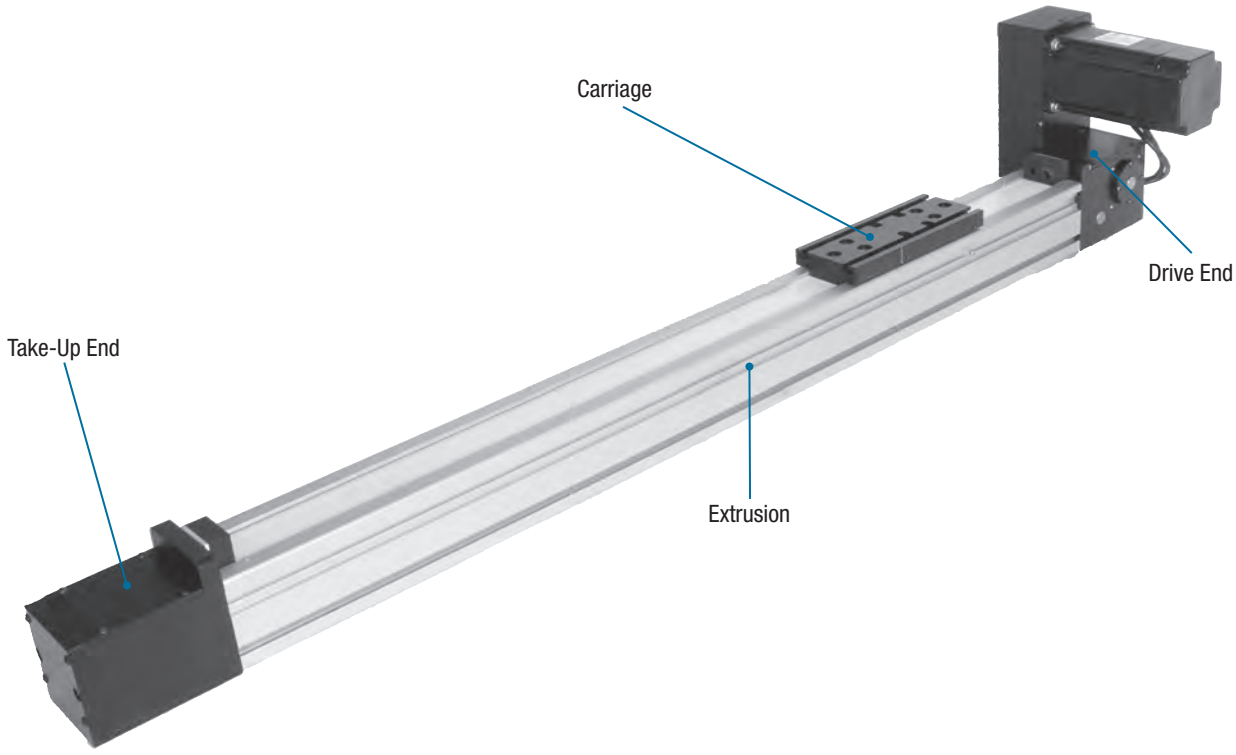
Notes

Notes

ST80 Rodless Belt-Driven Actuators

The ST80 is Bimba's single rail belt driven electric linear actuator designed for use in applications that require enhanced performance in stopping and/or pushing applications. More robust and internally rigid, the ST80 picks up where the B27 leaves off, offering enhanced moment loading capability needed to support tooling found in stopping, insertion, and specialty cutting industries. The ST80 has the additional robustness to perform effortlessly in these higher demand applications where more muscle and long life are paramount.

Contents



Features and Benefits

High Precision Steel Reinforced Belt:

> Reduced noise and vibration
> Zero backlash
> No cogging
> Smooth, precise motion
> Ideal for high speed applications
> Highest thrust per unit size
> Repeatability to 0.001”
> Long lengths: up to 100 ft (30m)
> Outstanding repeatability

80mm Square Aluminum Extrusion:

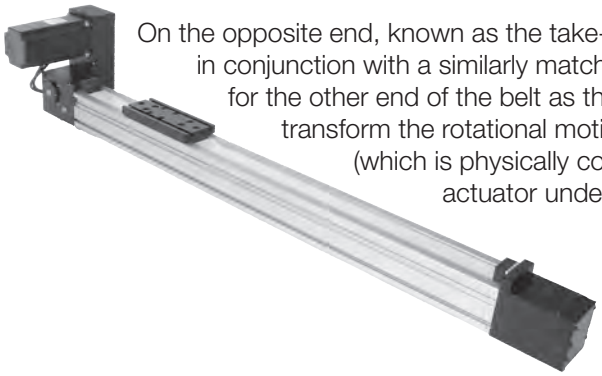
> Heavy duty 7075 aluminum extrusion
> 25% stronger extrusion
> Supports stops and bearings
> Promotes long life

Built-in Linear Ball Rail Guide:

> Maintenance free
> Self-lubricating
> Low friction
> Smooth, quiet operation
> Long life expectancy
> Supports high loads
> Supports high moment loads

How it Works

The Bimba ST80 rodless actuator uses a steel reinforced polyurethane 50mm belt that wraps around an internal drive pulley mechanism on the drive end. That is connected to a drive shaft which gets coupled to an external motor shaft, providing the rotational motion and torque necessary to rotate the pulley and traverse the belt attached to the pulley.



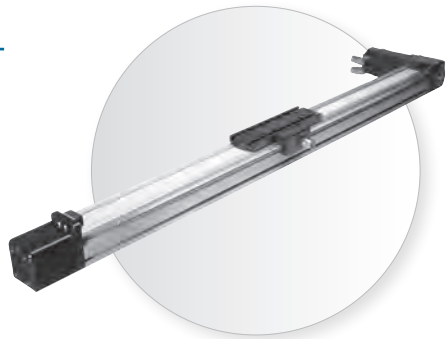
On the opposite end, known as the take-up end, the ST80 uses an equally robust take-up pulley. It works in conjunction with a similarly matched take-up slide and take-up bearing to provide ample support for the other end of the belt as the motor shaft rotates and provides the rotational torque needed to transform the rotational motion into linear motion. The linear motion generated pulls the carriage (which is physically connected to the 50mm belt) and its load along the length of the actuator under direct, defined, and precise control of the user.

Materials of Construction

Body Material:	Aluminum
End Caps:	Aluminum
Carriage:	7075 Aluminum
Belt:	Steel Reinforced Polyurethane

Application Ideas

- Stopping
- Loading
- Wood Cutting
- Sawmill
- Lifting
- Pressing
- Stacking
- Insertion
- Clamping
- Parts Transfer



Target Applications

The ST80 is intended for industrial applications that require continuous and sudden stopping of motion. A common ST80 application is pushing applications where large amounts of loading and side loading are quickly transmitted to the carriage, leading to large G forces to the mechanical components within. To withstand the elevated loading characteristics that are transmitted to the internal construction of the ST80, the interior of the actuator must be specially constructed with only the most durable components that can withstand the rigors of the abrupt high forces needed to stop or push elevated loads.

For applications that call for an alternative solution to a traditional pneumatic or hydraulic application, with force and load capability that mimics these fluid power technologies and that offers a more adaptable and sustainable solution, Bimba electric actuators provide an ideal solution. Growing alongside your changing business needs in an easy-to-use, long-lasting, and tough electric actuator that exceeds the competition in performance, value, and life is what makes the ST80 Bimba's premier electric stop actuator.

Drive Options

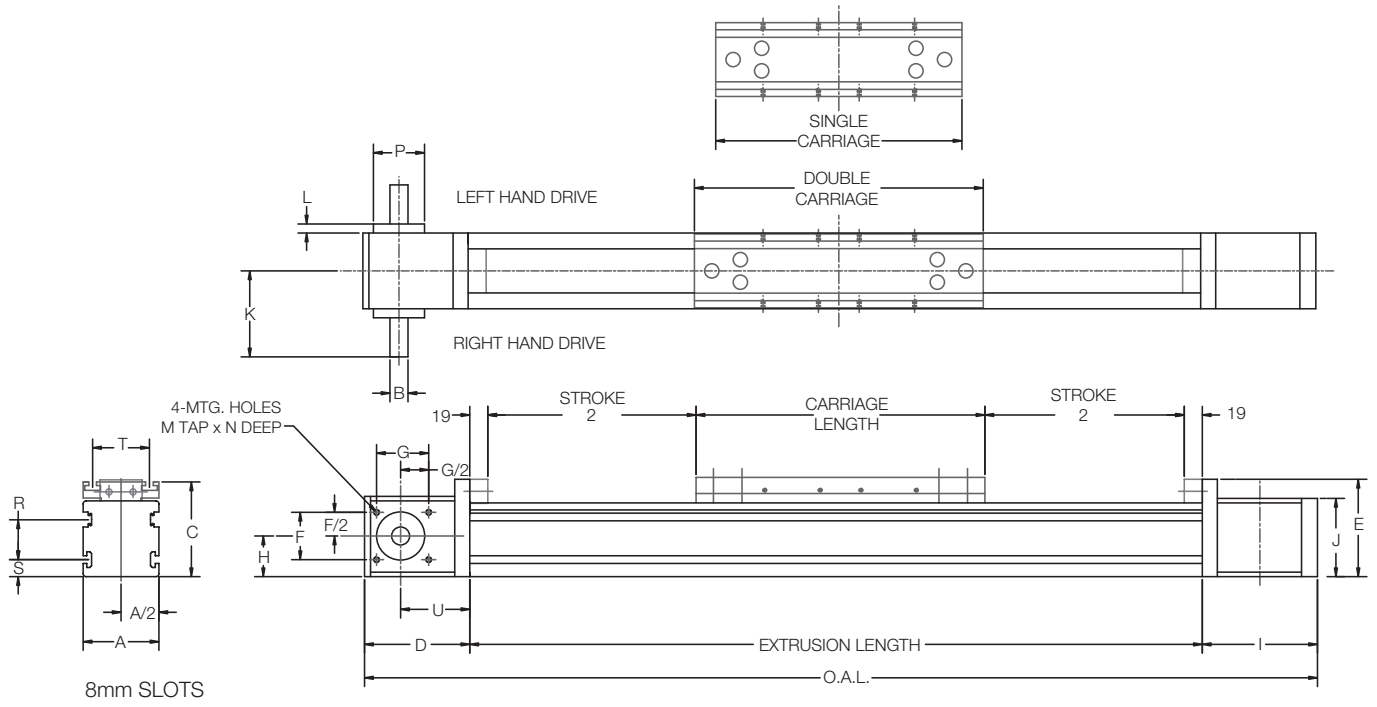
The ST80 offers numerous drive interfaces, ranging from a single or double standard shaft input to our Easy Input shaft, from our integral reducer drive to our belt drive. The choice is yours to select the option that works best for you. With many Bimba stepper and servo motors available to choose from, configuring an electric actuator that best meets the needs of even your most demanding application has never been easier. High load and thrust stopping and pushing applications become an afterthought when adding the optional reducer drive option that, when coupled with a servo motor, provides the necessary torque for use in high load applications.

Advantages

Feature	Advantage	Benefit
Carriage constructed of high-strength 7075 aluminum	Offers enhanced strength and robustness over the competitor	Less deflection and increased load and moment loading capability per carriage size
Self-lubricating linear guides	Minimized maintenance	Worry- and maintenance-free long life, even in applications that require 24/7 motion
Integral Reducer Drive (optional)	Offers increased performance using embedded gear reducer	Move larger loads, improve inertia matching, and complete that using an aesthetically pleasing, cost-effective solution
Steel reinforced polyurethane belt	25% higher thrust leads to higher loading capacity	Ballscrew-type thrust with belt drive speed capability

Dimensions

Key specification information for the ST80 is given below. For additional specification information, contact Bimba Customer Service at cs@bimba.com, or 800.44.BIMBA (800.442.4622).

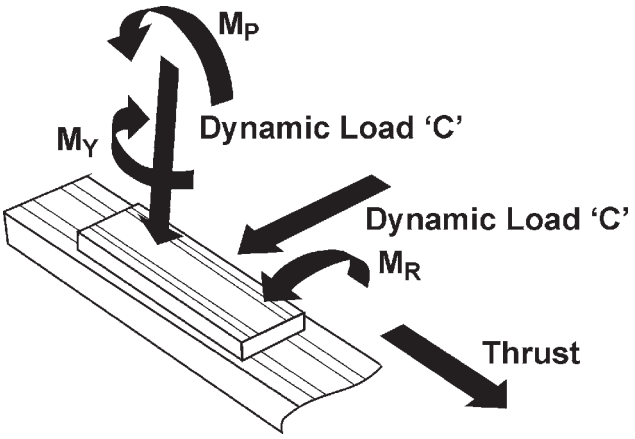


	Dimensions																		
Actuator	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**P**	**R**	**S**	**T**	**U**
ST80	80	19	100	111	102	31.75	69.85	40	121	82.5	90.25	9.5	M6	8	66.68	45	18	55	-

	Carriage Length	
Actuator	**Single**	**Double**
ST80	190	260

O.A.L = "D" + "I" + 38 + Stroke + Carriage Length

Specifications



Linear Actuator	Extrusion	
	Moment of Inertia	
	Ix (cm^4)	Iy (cm^4)
ST80	146	219

Straightness 0.3175mm per 300mm of length
Twist: 1/4° per 300mm, 3° maximum per 6m length

Linear Actuator	Lead Constant (mm/rev.)	Maximum Input Torque (NM)	Belt	
			Maximum Force N (lbs)	Elastic Limit N (lbs)
ST80	200	19	875 (197)	1750 (394)

Linear Actuator	Carriage Length (mm)	Dynamic Load Capacity N (lbs)	Dynamic Moment Capacity		
			Roll M_R NM (in-lbs)	Pitch M_P NM (in-lbs)	Yaw M_Y NM (in-lbs)
ST80	190	15205 (3418)	281	207	207
	260	30410 (6836)	562	1080	1080

Inertia (lb-in-sec²):

A Carriage, J = (23 + Stroke mm * 0.001) * 10^{-4} * 8.85
B Carriage, J = (35 + Stroke mm * 0.001) * 10^{-4} * 8.85

Weight:

9 kgs + (0.0114 kgs/mm)

How to Accessorize

Motors and Drives

Bimba motors are available to use as the rotary drive mechanism of the ST80 Series. With a complete array of stepper and servo motors available in stock, Bimba has a motor*-drive solution that meets many demanding applications.

Configuring your motor and creating your first motion profile program is easier than ever with Bimba's intuitive and icon based IQ® suite of motion software. With our complete software suite available for free download from the Bimba website, there is no additional cost to your motion project. All Bimba stepper and servo programming software uses the same IQ® programming software, greatly reducing the learning curve. Existing programs can be easily shared or adapted among the two motor technologies.

See the Motors Catalog for Bimba's wide selection of available motors and motor drives.

**Contact Bimba's Customer Service team for help in crossing your motor to a Bimba motor.*

IntelliMotor®
ITM-23Q-2-EIP-E-M12

AC Stepper Motor
MTR-AC23T-753-S

AC Servo Motor

General Accessories

- T-bars for mounting to the carriages
- Mechanical and proximity limit switches
- Torque tubes for dual axis gantry style applications
- Adapter plates for creating most any X-Y-Z configuration

Linear Scale

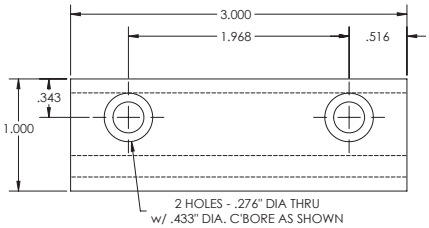
In extreme cases where precision beyond the normal tight accuracy of the ST80 is desired, Bimba offers external linear scales. They are capable of providing extended position precision to as tight as 10µm. These scales are composed of a reading head and external scale. Linear scales are available in incremental or absolute versions which can be added to your actuator as an additional component when included in the final part number.

External Linear Scale

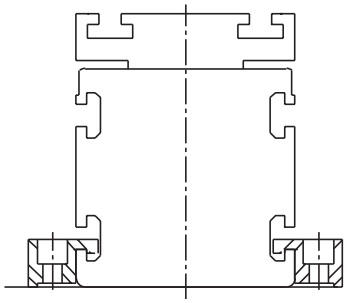
Mounting Clamps

To secure an actuator to the machine frame, hold-down clamps are available. They are designed to fit perfectly in the extruded body actuator T-channel. Appropriate sized clamps are available for the ST80 actuator, as well as all of Bimba's electric actuators.

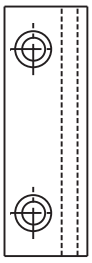
Bimba ST80 Clamp
CL-80-39



ST80 Clamp Dimensions



ST80 Clamp Drawing



ST80 Clamp Drawing

How to Order

The model numbers of the ST80 Series belt-driven rodless stop actuator consist of an alphanumeric cluster designating product type, carriage type, stroke length, drive type, drive location, gear ratio (optional), external scale (optional), and other optional components that together make up the complete part number to use in ordering. Use the ordering information below to build a valid part number.

An example of a basic ST80 unit with two bearing block carriages, 500mm length, an EZ double drive for left-hand mounting with no external scale, and additional options is shown below.

Carriage		
Carriage Type	**Number of Bearing Blocks**	**Carriage Length**
A	1	190
B	2	260

Drive	
SD	Single Shaft
DD	Double Shaft
RD	Reducer Drive
EZ	EZ Drive[2]
ED	EZ Double Drive[2]

Ratio
XX

Extra Carriages	
0	None
1	1 Extra
2	2 Extra

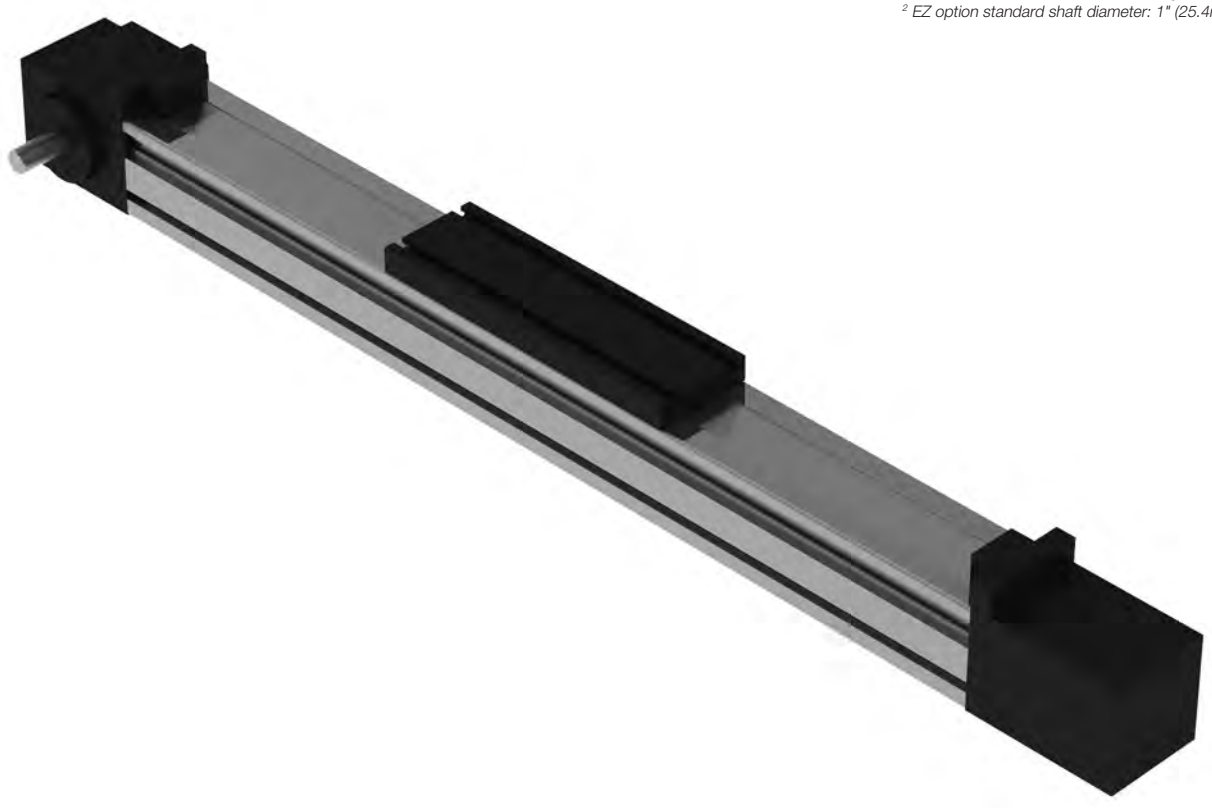
Protection	
00	Standard
Z1	Corrosion-Resistant
SS	Stainless Steel

Purge Port[1]	
P0	None
PL	Left
PR	Right
PB	Both

ST80 - B 00500 SD R 1 N 0 0 00 N P0

Actuator	Stroke	Hand		Scale[1]		Distance	Keyway	
ST80	XXXXX (mm)	L	Left Hand	N	No Scale	XXXX (mm)	Y	Yes
		R	Right Hand	L	Left	190-1000mm	N	No
				R	Right			

[1] *Referenced from drive end with carriage on top.*
[2] *EZ option standard shaft diameter: 1" (25.4mm)*



NOTE: If a motor or gearbox adapter is required, please refer to the Adapters section of the Accessories chapter in this catalog.

Bimba ST80 electric actuators are repairable. A list of the individual components is given below that together make up the ST80 electric actuator.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

ST80 Single Drive (A Carriage)

Quantity	Part No.	Part Description
1	B80-321	Take-up Plate
1	B80-322	Take-up Plate
1	B80-316	Drive End Plate
1	B80-26	Take-up Shaft
2	B80-27	Take-up Slides
2	B80-44	Bearing
2	S110-24	Retainer
1	B80-313	Drive Plate
2	B80-314	Drive Plate
2	B80-317	Retainer
1	STOP-29	Pulley
1	B80-18	Drive Shaft
1	B110-45	Retainer
2	B80-40	Bearing
1	B80-45	Locking Mechanism
1	B80-01	Extrusion
1	B80-02	Linear Rail
2	B80-320	End Plate
2	B110-42	Bumper
1	LP20B-15	Belt
2	STOP-20	Belt Clamp
1	B80-41	Magnet Clamp
4	B80-42	Magnets
1	B80-30-B	Carriage
1	B80-05	Bearing

ST80 Single Drive (B Carriage)

Quantity	Part No.	Part Description
1	B80-321	Take-up Plate
1	B80-322	Take-up Plate
1	B80-316	Drive End Plate
1	B80-26	Take-up Shaft
2	B80-27	Take-up Slides
2	B80-44	Bearing
2	S110-24	Retainer
1	B80-313	Drive Plate
2	B80-314	Drive Plate
2	B80-317	Retainer
1	STOP-29	Pulley
1	B80-18	Drive Shaft
1	B110-45	Retainer
2	B80-40	Bearing
1	B80-45	Locking Mechanism
1	B80-01	Extrusion
1	B80-02	Linear Rail
2	B80-320	End Plate
2	B110-42	Bumper
1	LP20B-15	Belt
2	STOP-20	Belt Clamp
1	B80-41	Magnet Clamp
4	B80-42	Magnets
1	B80-31-B	Carriage
2	B80-05	Bearing

How to Repair

Bimba ST80 electric actuators are repairable. A list of the individual components is given below that together make up the ST80 electric actuator.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

ST80 Double Drive (A Carriage)

Quantity	Part No.	Part Description
1	B80-321	Take-up Plate
1	B80-322	Take-up Plate
1	B80-316	Drive End Plate
1	B80-26	Take-up Shaft
2	B80-27	Take-up Slides
2	B80-44	Bearing
2	S110-24	Retainer
1	B80-313	Drive Plate
2	B80-314	Drive Plate
2	B80-317	Retainer
1	B80-13	Drive Shaft
1	STOP-29	Pulley
2	B80-40	Bearing
1	B110-42	Bumper
1	B80-45	Locking Mechanism
2	B110-45	Retainer
1	B80-10	Long Shaft
1	B80-01	Extrusion
1	B80-02	Linear Rail
2	B80-320	End Plate
2	B110-42	Bumper
1	LP20B-15	Belt
2	STOP-20	Belt Clamp
1	B80-41	Magnet Clamp
4	B80-42	Magnets
1	B80-30-B	Carriage
1	B80-05	Bearing

ST80 Double Drive (B Carriage)

Quantity	Part No.	Part Description
1	B80-321	Take-up Plate
1	B80-322	Take-up Plate
1	B80-316	Drive End Plate
1	B80-26	Take-up Shaft
2	B80-27	Take-up Slides
2	B80-44	Bearing
2	S110-24	Retainer
1	B80-313	Drive Plate
2	B80-314	Drive Plate
2	B80-317	Retainer
1	B80-13	Drive Shaft
1	STOP-29	Pulley
2	B80-40	Bearing
1	B110-42	Bumper
1	B80-45	Locking Mechanism
2	B110-45	Retainer
1	B80-01	Extrusion
1	B80-02	Linear Rail
2	B80-320	End Plate
2	B110-42	Bumper
1	LP20B-15	Belt
2	STOP-20	Belt Clamp
1	B80-41	Magnet Clamp
4	B80-42	Magnets
1	B80-31-B	Carriage
2	B80-05	Bearing

Bimba ST80 electric actuators are repairable. A list of the individual components is given below that together make up the ST80 electric actuator.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

ST80 Belt Reducer Drive (A Carriage)

Quantity	Part No.	Part Description
1	B80-321	Take-up Plate
1	B80-322	Take-up Plate
1	B80-316	Drive End Plate
1	B80-26	Take-up Shaft
2	B80-27	Take-up Slides
2	B80-44	Bearing
2	S110-24	Retainer
1	B80-313	Drive Plate
2	B80-314	Drive Plate
2	B80-317	Retainer
1	STOP-29	Pulley
1	B80-18	Drive Shaft
1	B110-45	Retainer
2	B80-40	Bearing
1	B80-45	Locking Mechanism
1	B80-01	Extrusion
1	B80-02	Linear Rail
2	B80-320	End Plate
2	B110-42	Bumper
1	LP20B-15	Belt
2	STOP-20	Belt Clamp
1	B80-41	Magnet Clamp
4	B80-42	Magnets
1	B80-30-B	Carriage
1	B80-05	Bearing
1	B80-10	Reducer

ST80 Belt Reducer Drive (B Carriage)

Quantity	Part No.	Part Description
1	B80-321	Take-up Plate
1	B80-322	Take-up Plate
1	B80-316	Drive End Plate
1	B80-26	Take-up Shaft
2	B80-27	Take-up Slides
2	B80-44	Bearing
2	S110-24	Retainer
1	B80-313	Drive Plate
2	B80-314	Drive Plate
2	B80-317	Retainer
1	STOP-29	Pulley
1	B80-18	Drive Shaft
1	B110-45	Retainer
2	B80-40	Bearing
1	B80-45	Locking Mechanism
1	B80-01	Extrusion
1	B80-02	Linear Rail
2	B80-320	End Plate
2	B110-42	Bumper
1	LP20B-15	Belt
2	STOP-20	Belt Clamp
1	B80-41	Magnet Clamp
4	B80-42	Magnets
1	B80-31-B	Carriage
2	B80-05	Bearing
1	B80-10	Reducer

How to Customize

Switches

Switches add versatility to your electric motion application. They can be used to provide end of stroke limits, count strokes, or communicate positioning to an outside source. Switches can provide safety to applications as well, preventing undesirable situations like runaways to prevent damage.

To learn more about Bimba's available switch selection, refer to the Switches section in this catalog.

Air/Purge Ports

Air and purge ports are essential for actuators that operate in dirty applications. In both belt- and screw-driven actuators, ports keep dust and grime from egressing, protecting the internals of the actuator. Air and purge ports are recommended for use with Bimba's air preparation products.

When using purge ports, supply dry filtered air to the actuators in order to achieve optimal protection.

Protection

Bimba offers several protection options for our actuators. Our primary options are Armoloy® and stainless steel. **Armoloy®** offers additional protection against moisture and dirt. It is used to coat the steel linear rail and bearings in a Bimba actuator. Armoloy® coating can also be applied to the aluminum extrusion upon request. **Stainless steel** works in conjunction with Armoloy® coatings, providing additional protection to the end caps and carriage.

Additional coatings are available upon request.

Motor Mounting

Motor mounts allow you to mount any motor to any actuator (within the actuator's rating). They give end users the ability to use Bimba electric actuators with the motor of their choosing. Careful considerations regarding torque limitations must be made when mounting a motor the actuator is not rated for.

To request custom motor mounting options, please supply Bimba with the following information: shaft diameter, shaft length, pilot diameter, pilot depth, bolt circle, and hole size.

Customer-requested Holes and Dowel Pins

Bimba can provide custom holes and dowel pins to accommodate the customer's specific tooling and mounting holes.

For further customization, contact the factory.

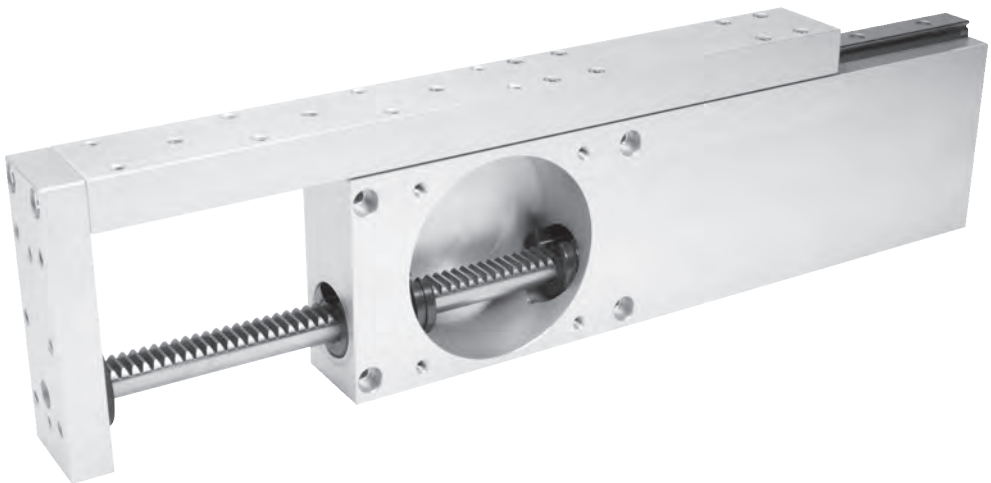
Notes

Notes

RS Rack & Pinion Electric Actuator

The RS Series is Bimba's first rack & pinion style electric actuator that features a square linear rail bearing assembly. The internal self-lube square ball rail bearing provides smooth motion and maximum moment loading capacity in all mounting directions, and ensures long reliable performance throughout its lifetime.

A smooth ball rail guide offers efficient and effortless motion in both horizontal and vertical orientations in a sleek, cost effective body style even when subjected to significant side loads.



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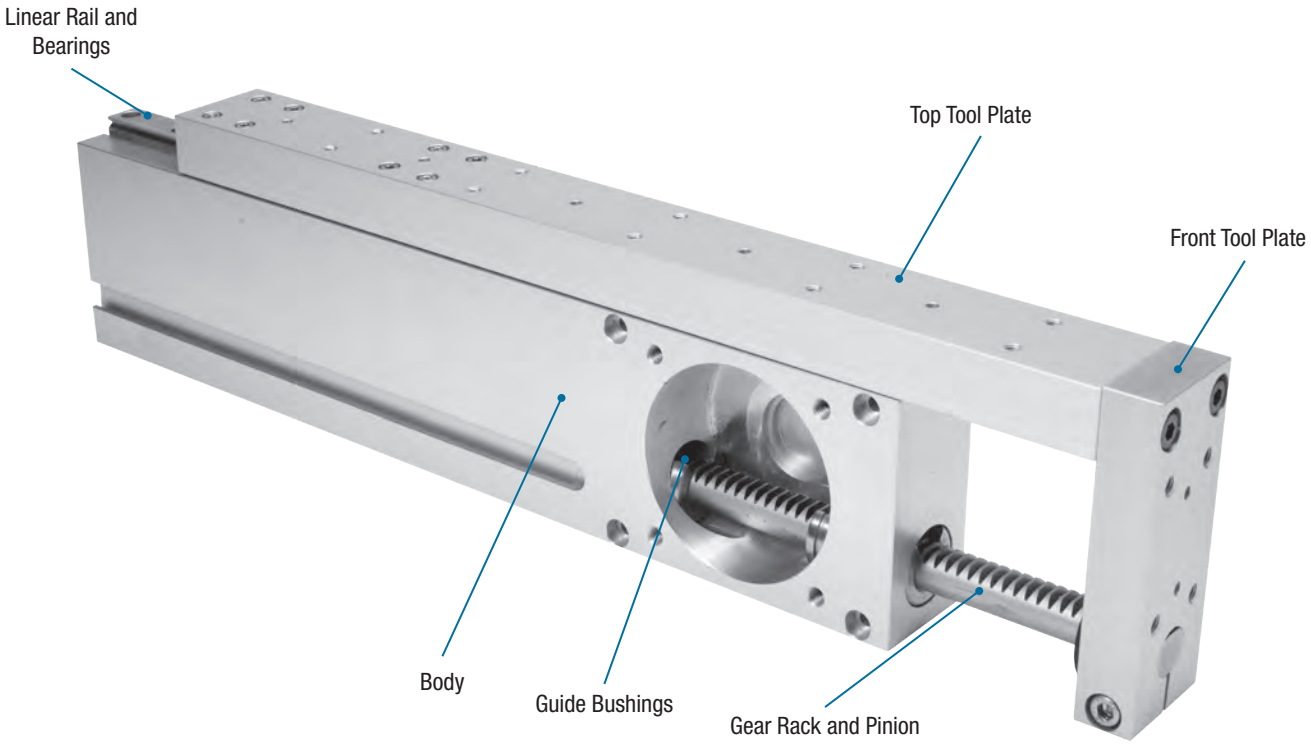


Rack and pinion electric actuators offer numerous advantages not found in other electric actuator technologies. Paramount among them is the high thrust force and speed per unit size in a robust, cost effective package due to an inherent square rail linear bearing.

Features and Benefits

Linear Ball Rail System:
- High force
- Long life
- Self-lubricating
- High moment loading

Many Options:
- Optional pneumatically actuated brake
- Optional limit switches
- Special coating for harsh environments

Drive Options:
- NEMA 23 or 34 ready
- Integrated gear reducer available
- Motor mounts to fit your motor or gear reducer

How it Works

A rack & pinion is a type of linear actuator made from a pair of gears which convert rotational motion into linear motion. A circular gear called the “pinion” engages teeth on a linear “gear” bar called the “rack”. Rotational motion applied to the pinion from a motor causes the rack to move relative to the pinion, thereby translating the rotational motion of the pinion into linear motion.

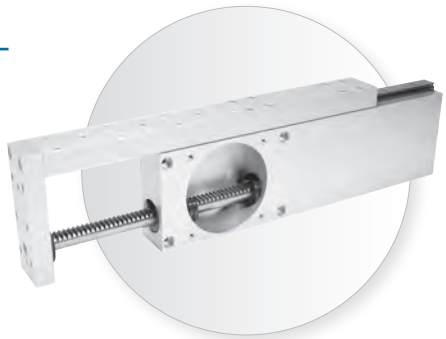
While it may be used in a single-axis motion application, the robust design of this rack & pinion actuator makes it an ideal actuator for use in the Z-axis of a dual actuator or gantry system. Transition plates are available to couple a Bimba rod, rodless, or rack & pinion actuator to an RS actuator, which means solving motion applications in two dimensions is an easy task.

Materials of Construction

Body Material:	Aluminum
Tool Plates:	Aluminum
Rack & Pinion:	Armoloy®-coated Steel

Application Ideas

- Pick & Place
- Sorting
- Loading
- Stacking
- Insertion
- Clamping
- Parts Transfer
- Labeling
- Machine Tool
- Conveyor



Target Applications

The RS Series is intended for medium-duty industrial applications that require flexible motion with ample moment loading capacity. The RS Series excels in and is often used with multi-axis applications as the "Z-axis" member; multi-axis systems can take advantage of the relatively lightweight yet robust performance of the RS. The light weight adds value by providing a significant thrust force with speeds approaching a belt actuator using a smaller motor. When thrust and speed are the primary characteristics required in your linear motion application, and extreme precision is a secondary characteristic, the RS Series can often be the best motion solution.

For applications that call for an alternative to a traditional pneumatic application, one that offers a more adaptable solution for your motion needs, Bimba rack & pinion electric actuators provide the interchangeable solution that adapts with your business in an easy-to-use, long-lasting, and tough electric actuator that exceeds the competition.

Mounting & Drive Options

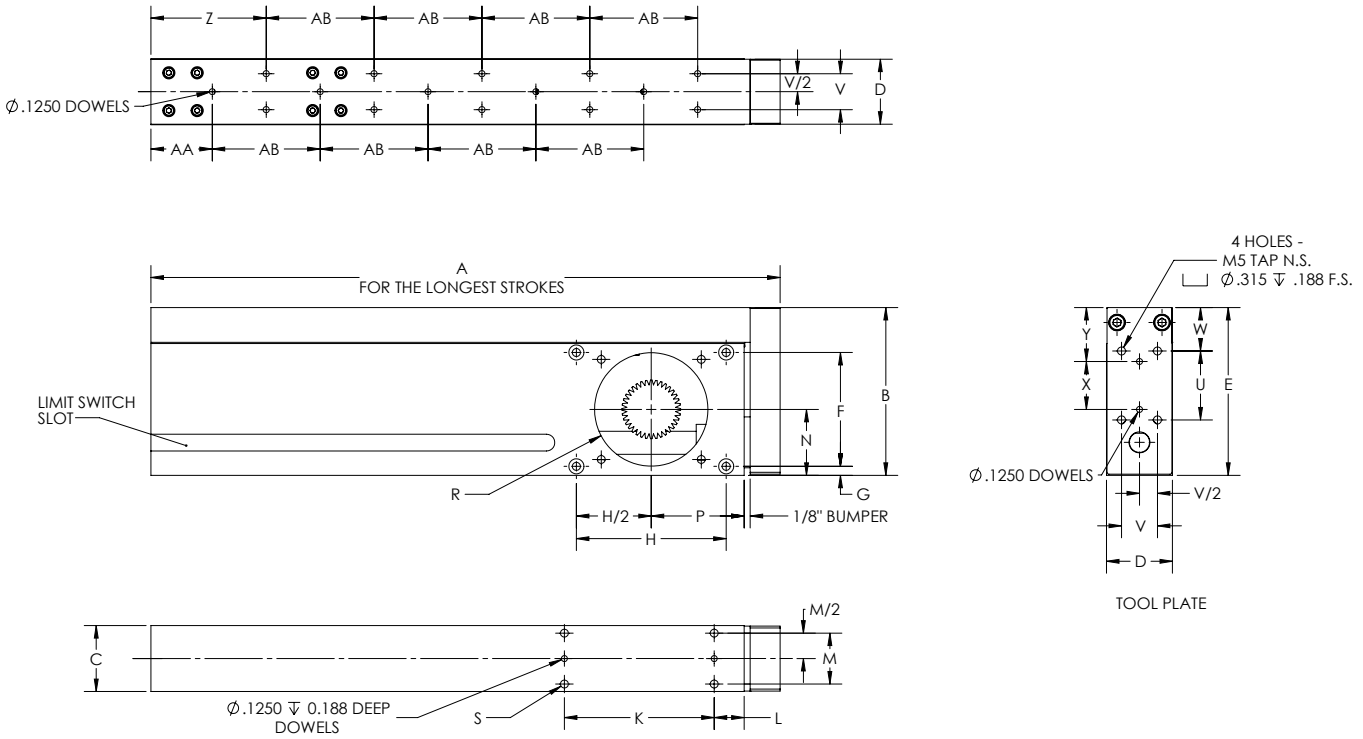
While the RS Series comes ready for direct mounting of NEMA-sized motors, Bimba offers a number of additional motor mounts to choose from so you can mount the motor of your choice. With many Bimba NEMA standard size stepper and servo motors to choose from, configuring a RS electric actuator that best meets the needs of even your most demanding application has never been easier.

Advantages

Feature	Advantage	Benefit
Slim construction	Light; requires minimal space	Mounted in many applications with limited real estate
Rack and pinion	Speed	Maximize through-put
Square linear bearing	Robust	Carry high loads and moment capacities
Pneumatic gear rack brake	Suspends linear loads	Prevents crashing and damage
High thrust force	Robust	Maximize thrust force per size

Dimensions

Key specification information for RS Series actuators is given below. For additional specification information, contact Bimba Customer Service at cs@bimba.com, or 800.44.BIMBA (800.442.4622).



	Dimensions																
Size	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**	**P**	**R**	**S**	**T**
RS9	10.43	2.94	1.13	1.12	2.92	1.06	1.00	2.66	0.50	2.66	0.28	0.84	1.14	1.61	1.50	M4	2.63
RS12	13.25	3.38	1.38	1.36	3.35	2.38	0.19	3.13	0.62	2.88	0.63	1.06	1.38	1.94	2.37	M5	2.95
RS15	17.00	4.28	1.50	1.48	4.25	2.75	0.38	4.75	0.63	3.75	0.63	1.00	1.75	2.50	3.17	M5	3.94

	Dimensions							
Size	**U**	**V**	**W**	**X**	**Y**	**Z**	**AA**	**AB**
RS9	1.38	0.75	0.77	1.00	0.96	2.13	1.00	2.25
RS12	1.44	0.75	0.91	1.00	1.13	2.41	1.28	1.25
RS15	2.50	1.00	1.00	2.50	1.13	2.63	3.63	2.00

Actuator	Gear Pinion Diameter	Load Ratings N (lbs)
RS9	1.00"	222 (50)
RS12	1.00"	334 (75)
RS15	1.25"	556 (125)

Motors and Drives

Bimba motors are available to use as the rotary drive mechanism of the RS Series. With a complete array of stepper and servo motors available in stock, Bimba has a motor*-drive solution that meets many demanding applications.

Configuring your motor and creating your first motion profile program is easier than ever with Bimba's intuitive and icon based IQ® suite of motion software. With our complete software suite available for free download from the Bimba website, there is no additional cost to your motion project. All Bimba stepper and servo programming software uses the same IQ® programming software, greatly reducing the learning curve. Existing programs can be easily shared or adapted among the two motor technologies.

See the Motors Catalog for Bimba's wide selection of available motors and motor drives.

*Contact Bimba's Customer Service team for help in crossing your motor to a Bimba motor.

IntelliMotor®
ITM-23Q-2-EIP-E-M12

AC Stepper Motor
MTR-AC23T-753-S

RS12 with Servo Motor

Limit Switches

Part Numbers	Switch Type	Operation
SW-PNO	PNP	Normally Open
SW-PNC	PNP	Normally Closed
SW-NNO	NPN	Normally Open

Specifications: 24VDC, 200ma

How to Order

The model numbers of RS Series rack & pinion actuators consist of an alphanumeric cluster designating product type, size, stroke length, drive type, pitch, and shaft diameter that together make up the complete part number to use in ordering. Use the ordering information below to build a valid part number.

An example of a basic RS9 unit with 4" stroke, rod lock, and standard protection is shown below.

Stroke*	
RS9	1-6”
RS12	1-8”
RS15	1-10”

Protection	
Z1	Corrosion-Resistant
SS	Stainless Steel

RS9 4 Y 00

Style
RS9
RS12
RS15

Rod Lock	
Y	Yes
N	No

NOTE: If a motor or gearbox adapter is required, please refer to the Adapters section of the Accessories chapter in this catalog.

Bimba RS Series rack & pinion actuators are repairable. A list of the individual components is given below that together make up the RS Series actuator.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

RS9

Quantity	Part No.	Part Description
1	RS9-32-03	Housing
1	RS9-32-04	Front Tool plate
1	RS9-32-05-C	Side Tool plate
2	RS9-32-13	Bushing
1	RS9-32-08	Pinion Stock
1	RS9-32-09	Linear Rail
2	RS9-32-10	Linear Bearing
1	RS9-32-11	Stop Collar
1	THC-RP-5	Gear Rack
2	RS9-32-12	Bumper

RS12

Quantity	Part No.	Part Description
1	RS12-24-03	Housing
1	RS12-24-04	Front Tool plate
1	RS12-24-05-C	Side Tool plate
2	RS12-24-13	Bushing
1	RS12-24-08	Pinion
1	RS12-24-09	Linear Rail
2	RS12-24-10	Linear Bearing
1	RS15-20-20	Stop
1	RP-24-XX	Gear Rack
1	RS12-24-12	Rubber Stop

RS15

Quantity	Part No.	Part Description
1	RS15-20-03	Housing
1	RS15-20-04	Front Tool plate
1	RS15-20-05-C	Side Tool plate
4	RS15-20-13	Bushing
1	RS15-20-08	Pinion
1	MS15-P05	Linear Rail
2	MS15-P06	Linear Bearing
1	RS15-20-20	Stop
1	RP-20-48	Gear Rack
1	RS15-20-12	Rubber Stop
1	RS15-20-21	Stop Collar

How to Customize

Switches

Switches add versatility to your electric motion application. They can be used to provide end of stroke limits, count strokes, or communicate positioning to an outside source. Switches can provide safety to applications as well, preventing undesirable situations like runaways to prevent damage.

To learn more about Bimba's available switch selection, refer to the Switches section in this catalog.

Protection

Bimba offers several protection options for our actuators. Our primary options are Armoloy® and stainless steel. **Armoloy®** offers additional protection against moisture and dirt. It is used to coat the steel linear rail and bearings in a Bimba actuator. Armoloy® coating can also be applied to the aluminum extrusion upon request. **Stainless steel** works in conjunction with Armoloy® coatings, providing additional protection to the end caps and carriage.

Additional coatings are available upon request.

Motor Mounting

Motor mounts allow you to mount any motor to any actuator (within the actuator's rating). They give end users the ability to use Bimba electric actuators with the motor of their choosing. Careful considerations regarding torque limitations must be made when mounting a motor the actuator is not rated for.

To request custom motor mounting options, please supply Bimba with the following information: shaft diameter, shaft length, pilot diameter, pilot depth, bolt circle, and hole size.

Customer-requested Holes and Dowel Pins

Bimba can provide custom holes and dowel pins to accommodate the customer's specific tooling and mounting holes.

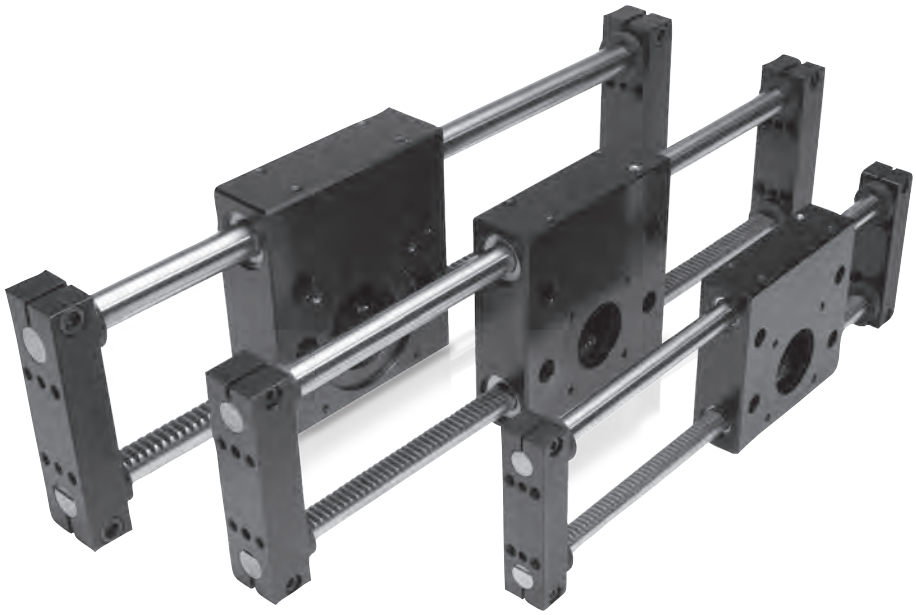
For further customization, contact the factory.

Notes

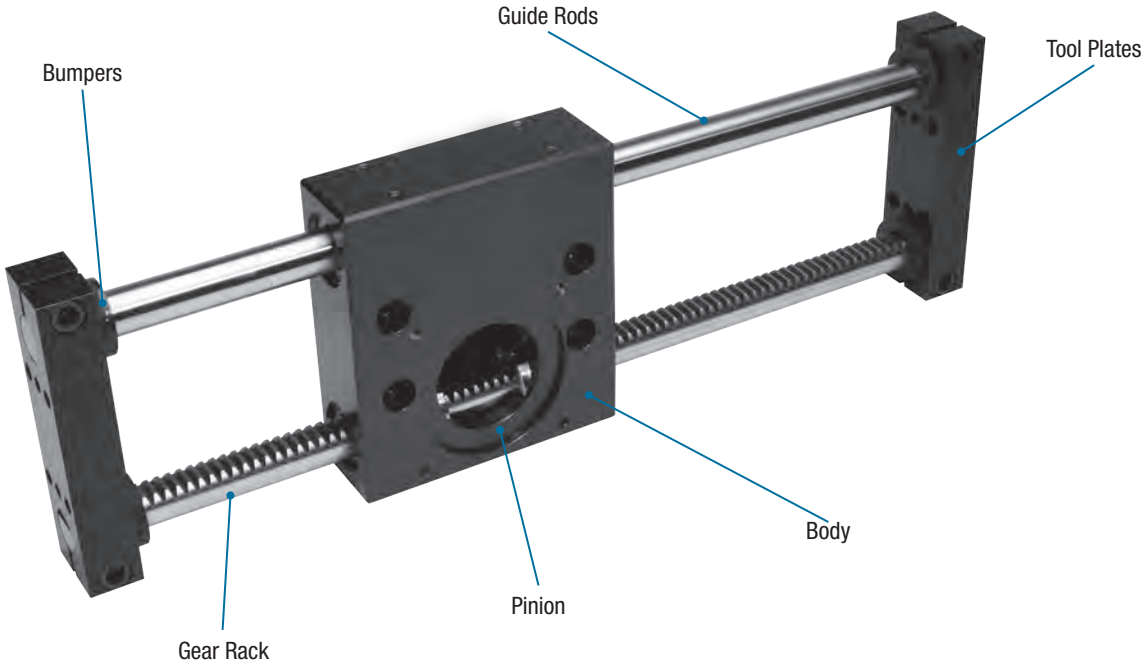
Notes

TRP Rack & Pinion Electric Actuator

The TRP Series is Bimba's first rack & pinion style electric actuator. This series features a hardened round shaft linear bearing and a high speed rack & pinion drive. Depending on the load and speed requirements of the application, the motor can either be direct coupled to the drive pinion or interfaced through a planetary gear reducer. The TRP actuator can be mounted with the motor driven platen fixed or moving with the load.



Contents



TRP Series rack and pinion electric actuators offer numerous advantages not found in many other electric actuator technologies. This series has a unique hardened round shaft linear bearing that lends itself to high force applications that require more speed than a traditional ballscrew actuator. When high thrust and high speed within a small envelope package are essential, the Bimba TRP is often the best, most logical choice.

Features and Benefits

Anodized Aluminum:
- Aluminum Alloy tool plates and body
- Reduces actuator weight
- Increases speed
- Ease of mounting

Hardened Guide Shafts:
- Maintenance free
- Self-Lubricating
- Low friction
- Smooth operation
- Long Life expectancy
- Four Bushings - two per shaft
- Provides rugged precise motion

Hardened Precision Ground Shafts
- High Thrust applications
- Repeatability to 0.003”
- Handles moment loading
- Several pinion pitches available
- End of travel stop pads

How it Works

A rack & pinion is a type of linear actuator made from a pair of gears which convert rotational motion into linear motion. A circular gear called the “pinion” engages teeth on a linear “gear” bar called the “rack”. Rotational motion applied to the pinion from a motor causes the rack to move relative to the pinion, thereby translating the rotational motion of the pinion into linear motion.

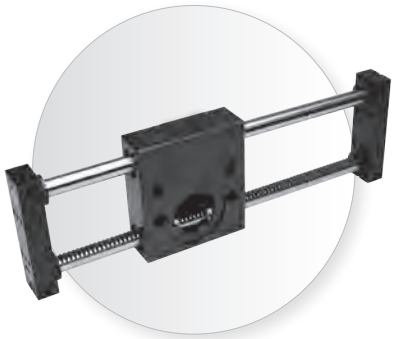
While it may be used in a single axis motion application, due to the robust design of this rack & pinion actuator, it is an ideal actuator for use in the Z-axis of a dual actuator or gantry system. With transition plates available for coupling a TRP to a Bimba rod, rodless, or rack & pinion actuator, solving motion applications in two dimensions becomes an easy task.

Materials of Construction

Tool Plates:	Aluminum
Body:	Aluminum
Guide Rod:	Stainless Steel
Rack & Pinion:	Armoloy® Coated Steel

Application Ideas

- Pick & Place
- Sorting
- Loading
- Stacking
- Insertion
- Clamping
- Parts Transfer
- Labeling
- Machine Tool
- Conveyor



Target Applications

The TRP Series is intended for medium-duty industrial applications that require flexible motion with ample moment loading capacity. The TRP Series excels in and is often used with multi-axis applications as the "Z-axis" member. A multi-axis system can take advantage of the relatively lightweight yet robust performance of the TRP. The light weight adds value by providing significant thrust force with speeds approaching that of a belt actuator using a smaller motor. The inherent cost savings over a ballscrew actuator is yet another reason for selecting the TRP rack & pinion actuator. When thrust and speed are the primary characteristics required in your linear motion application and extreme precision is a secondary characteristic, the TRP Series can often be the best motion solution for your application.

For applications that call for an alternative to a traditional pneumatic application, one that offers a more adaptable solution for your motion needs, Bimba rack & pinion electric actuators provide the interchangeable solution that adapts with your business in an easy-to-use, long-lasting, and tough electric actuator that exceeds the competition.

Mounting & Drive Options

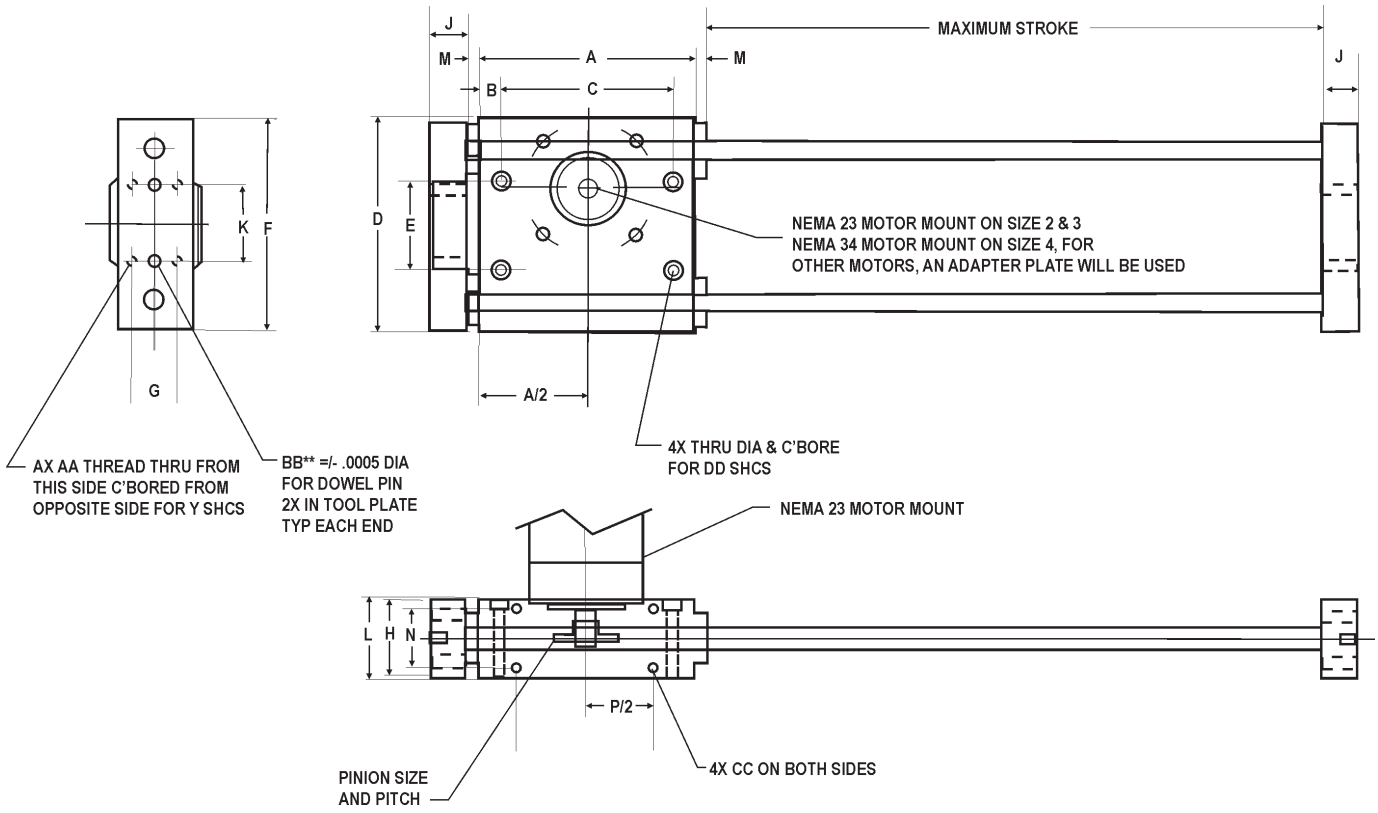
While the TRP Series comes ready for direct mounting of NEMA-sized motors, Bimba makes available a number of additional motor mounts to choose from for mounting the motor of your choice. With many Bimba NEMA standard size stepper and servo motors to choose from, configuring a TRP electric actuator that best meets the needs of even your most demanding application has never been easier.

Advantages

Feature	Advantage	Benefit
Slim design with high strength	Offers great robustness in a cost-effective package	Outstanding performance per dollar spent
Dual guide shafts	Great loading and side load potential	Move large unguided loads easily and swiftly
Reducer Drive (optional with adapter)	Offers increased performance using embedded gear reducer	Move larger loads and improve inertia matching, using an aesthetically pleasing, cost-effective solution
Armoloy®-coated rack & pinion	Corrosion resistant	Long life and less friction

Dimensions

Key specification information for TRP actuators is given below. For additional specification information, contact Bimba Customer Service at cs@bimba.com, or 800-44-BIMBA (800-442-4622).



	Dimensions									
Size	A	B	C	D	E	F	G	H	J	K
2	4.125	0.500	3.125	3.880	1.625	3.800	0.580	1.000	0.700	1.625
3	4.750	0.625	3.500	4.820	1.875	4.720	0.750	1.250	0.950	1.875
4	5.000	0.750	3.500	5.500	2.000	5.400	0.900	1.500	0.950	2.000
5	10.000	1.750	6.500	7.000	3.250	6.875	1.000	1.750	1.000	3.250

	Dimensions								
Size	L	M	N	P	Y	AA	BB	CC	DD
2	1.200	0.250	0.750	2.625	.201 X .215 DP	1/4-20 UNC	0.1884	10-24 X 3/8	1/4
3	1.500	0.250	1.062	2.875	.201 X .215 DP	1/4-20 UNC	0.2509	1/4-20 X 3/8	5/16
4	1.700	0.250	1.125	2.875	.257 X .275 DP	5/16-18 UNC	0.2509	1/4-20 X 7/16	3/8
5	1.900	0.250	1.250	5.000	.344 X .500 DP	3/8-16 UNC	0.2509	3/8-16 X 7/16	1/2

All dimensions are in inches.

NOTE: All motors must be evaluated to ensure that the motor shaft in an overhung condition can sustain the load.

Actuator	Pitch	Load Ratings N (lbs)	Pinion Diameter in	Load Ratings N (lbs)
TRP2	32	445 (100)	1.125	445 (100)
	24	667 (150)	1.000	667 (150)
TRP3	24	667 (150)	1.000	667 (150)
	20	1023 (230)	1.000	1023 (230)
TRP4	20	1023 (230)	1.000	1023 (230)
	16	1468 (330)	1.000	1468 (330)
TRP5	12	3559 (800)	2.000	3559 (800)

Motors and Drives

Bimba motors are available to use as the rotary drive mechanism of the TRP Series. With a complete array of stepper and servo motors available in stock, Bimba has a motor*-drive solution that meets many demanding applications.

Configuring your motor and creating your first motion profile program is easier than ever with Bimba's intuitive and icon based IQ® suite of motion software. With our complete software suite available for free download from the Bimba website, there is no additional cost to your motion project. All Bimba stepper and servo programming software uses the same IQ® programming software, greatly reducing the learning curve. Existing programs can be easily shared or adapted among the two motor technologies.

See the Motors Catalog for Bimba's wide selection of available motors and motor drives.

IntelliMotor®
ITM-23Q-2-EIP-E-M12

AC Stepper Motor
MTR-AC23T-753-S

How to Order

The model numbers of TRP Series rack & pinion actuators consist of an alphanumeric cluster designating product type, size, stroke length, drive type, pitch, and shaft diameter that together make up the complete part number to use in ordering. Use the ordering information below to build a valid part number.

An example of a basic TRP2 unit with 5" stroke, 32mm pitch, and 3/8" shaft diameter is shown below.

Actuator
TRP2
TRP3
TRP4
TRP5

Pitch
32/24
24/20
20/16
12

Protection	
Z1	Corrosion-Resistant
SS	Stainless Steel

TRP2 05 32 375 00 SB

Stroke
XX (inches)

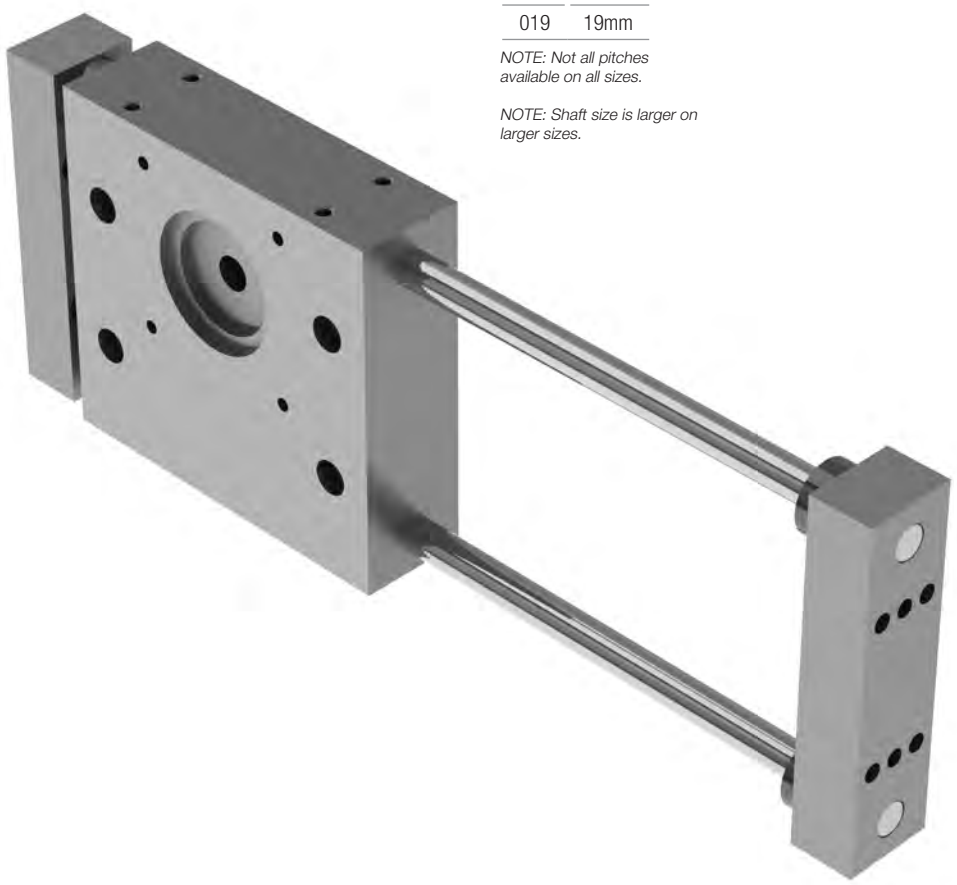
NOTE: Maximum stroke is 40". Stroke is determined in 1" increments.

Diameter	
375	3/8"
500	1/2"
750	3/4"
010	10mm
011	11mm
014	14mm
019	19mm

NOTE: Not all pitches available on all sizes.

NOTE: Shaft size is larger on larger sizes.

Bushing	
SB	Solid
BB	Ball



NOTE: If a motor or gearbox adapter is required, please refer to the Adapters section of the Accessories chapter in this catalog.

Bimba TRP Series rack & pinion actuators are repairable. A list of the individual components is given below that together make up the TRP Series actuator.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

Disassembly

Call Bimba before any disassembly of the linear actuator. Bimba warranty may be voided if the customer disassembles the linear actuator.

Qualified personnel should do disassembly of the tooling plates from the guide rod and gear rack only. If disassembly is required, then the rack and the pinion needs to be checked closely to insure proper alignment.

TRP2 Repair Parts (Pitch 24)

Quantity	Part No.	Part Description
1	TRP2-24-HSG	Housing Size 2 for 1/2" Rods
2	TRP2-24-TLPL	Tool Plate for 1/2" Rods
4	TRP2-24-RR	Retaining Rings
4	TRP2-24-BRG-A	Bushing
1	TRP2-24-ROD	1/2" Diameter Rod
1	RP-24-36	Gear Rack
1	RS12-24-08	Pinion
4	TRP2-24-BUMP	Bumper

TRP2 Repair Parts (Pitch 32)

Quantity	Part No.	Part Description
1	TRP2-32-HSG	Housing Size 2 for 3/8" Rods
2	TRP2-32-TLPL	Tool Plate for 3/8" Rods
4	TRP2-32-RR	Retaining Rings
4	TRP2-32-BRG-A	Bushing
1	TRP2-32-ROD	3/8" Diameter Rod
1	THC-RP-5	Gear Rack
1	THC-RP-32	Pinion
4	TRP2-32-BUMP	Bumper

TRP3 Repair Parts (Pitch 20)

Quantity	Part No.	Part Description
2	TRP3-20-TLPL	Tool Plate for 5/8" Rods
1	TRP3-20-ROD	5/8" Diameter Rod
1	RP-20	Gear Rack
1	THC-RP-20	Pinion
4	TRP3-20-BUMP	Bumper
1	TRP3-20-HSG-SPEC	Housing Size 3 for 5/8" Rods
4	TRP3-20-RR-BB	Retaining Rings
4	TRP3-20-BRG-BB	Bushing

TRP3 Repair Parts (Pitch 24)

Quantity	Part No.	Part Description
2	TRP3-24-TLPL	Tool Plate for 1/2" Rods
1	TRP2-24-ROD	1/2" Diameter Rod
1	RP-24-36	Gear Rack
1	THC-RP-24	Pinion
4	TRP2-24-BUMP	Bumper
1	TRP3-24-HSG-SPEC	Housing Size 3 for 1/2" Rods
4	TRP3-20-RR	Retaining Rings
4	TRP3-20-BRG-BB	Bushing

How to Repair

Bimba TRP Series rack & pinion actuators are repairable. A list of the individual components is given below that together make up the TRP Series actuator.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

TRP4 Repair Parts (Pitch 16)

Quantity	Part No.	Part Description
2	TRP4-16-TLPL	Tool Plate for 3/4" Rods
1	TRP4-16-ROD	3/4" Diameter Rod
1	RP-16	Gear Rack
1	THC-RP-16	Pinion
1	THC-RP-16-CC	Clamp Collar
4	TRP4-16-BUMP	Bumper
1	TRP4-16-HSG-SPEC	Housing Size 4 for 3/4" Rods
4	TRP4-16-RR-BB	Retaining Rings
4	TRP4-16-BRG-BB	Bushing

TRP5 Repair Parts (Pitch 12)

Quantity	Part No.	Part Description
1	TRP5-12-HSG	Housing Size 5 for 1" Rods
2	TRP5-12-TLPL	Tool Plate for 1" Rods
1	TRP5-12-ROD	1" Diameter Rod
1	TRP5-12DP	Gear Rack
1	THC-RP-12	Pinion
1	THC-RP-12-CC	Clamp Collar
1	TRP5-12-BUMP	Bumper
4	TRP5-12-RR-BB	Retaining Rings
2	TRP5-12-BRG-BB-OPN	Open Bushing
2	TRP5-12-BRG-BB	Bushing

Switches

Switches add versatility to your electric motion application. They can be used to provide end of stroke limits, count strokes, or communicate positioning to an outside source. Switches can provide safety to applications as well, preventing undesirable situations like runaways to prevent damage.

To learn more about Bimba's available switch selection, refer to the Switches section in this catalog.

Protection

Bimba offers several protection options for our actuators. Our primary options are Armoloy® and stainless steel. **Armoloy®** offers additional protection against moisture and dirt. It is used to coat the steel linear rail and bearings in a Bimba actuator. Armoloy® coating can also be applied to the aluminum extrusion upon request. **Stainless steel** works in conjunction with Armoloy® coatings, providing additional protection to the end caps and carriage.

Additional coatings are available upon request.

Motor Mounting

Motor mounts allow you to mount any motor to any actuator (within the actuator's rating). They give end users the ability to use Bimba electric actuators with the motor of their choosing. Careful considerations regarding torque limitations must be made when mounting a motor the actuator is not rated for.

To request custom motor mounting options, please supply Bimba with the following information: shaft diameter, shaft length, pilot diameter, pilot depth, bolt circle, and hole size.

Customer-requested Holes and Dowel Pins

Bimba can provide custom holes and dowel pins to accommodate the customer's specific tooling and mounting holes.

For further customization, contact the factory.

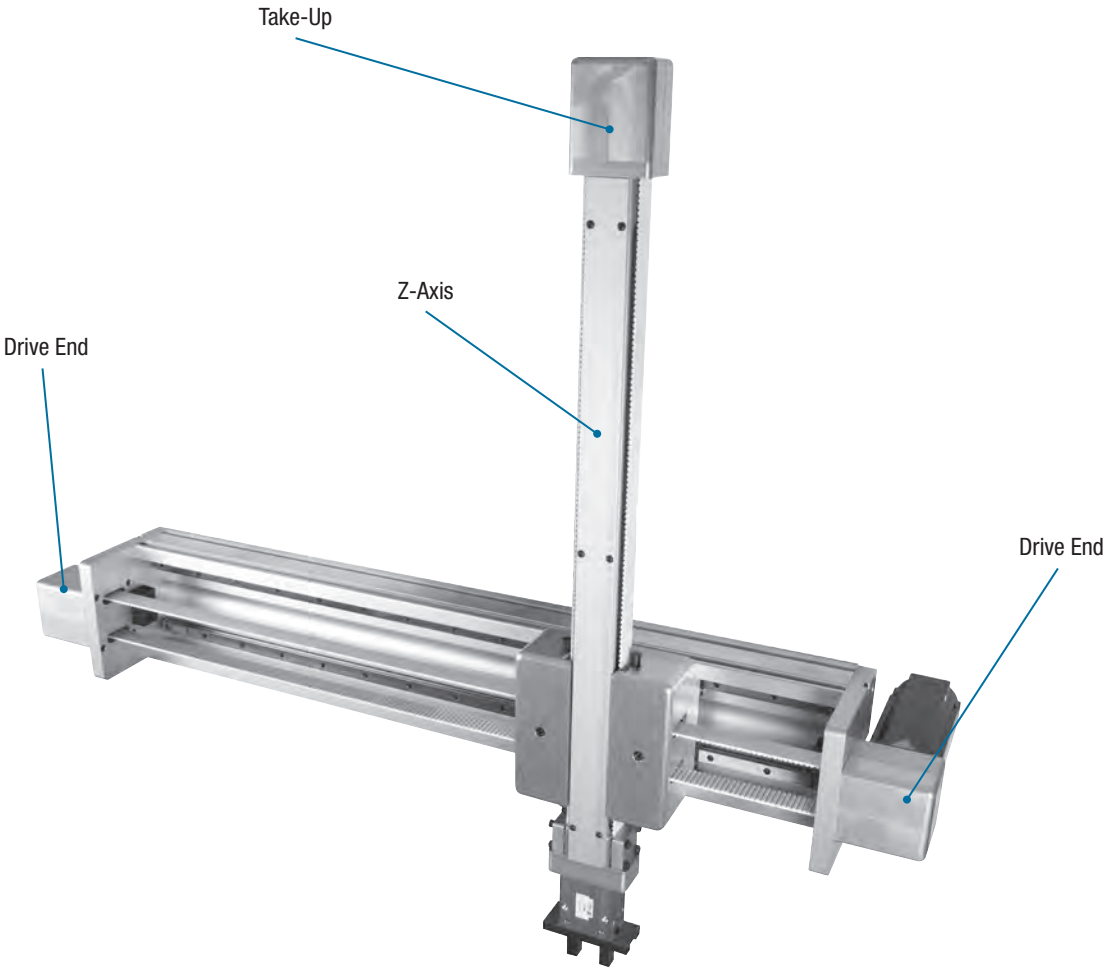
Notes

IntelliAxis™ Linear Robots

Bimba's multi-axis HSXY and HSXZ electric belt drive actuators offer two-axis linear motion control using a unique single belt transport system. The single belt system serpentines around both the X- and Z- (or Y-) axis in such a way that it eliminates the need for a motor in the Z- or Y-axis while using two coordinated motors in the X-axis. These configurations mean coordinated control for complex motion profiles including circles, ellipses, sine waves, and more.

The HSXY/Z offers high thrust capability with high speed performance via a robust belt construction.

Contents



Features and Benefits

High Precision Steel Reinforced Belt

- Arc-belt power design (80)
- Reduced noise and vibration
- Zero backlash
- Self-aligning
- No cogging
- Smooth motion; quiet
- Ideal for high speed applications
- Highest thrust per unit size
- High precision to 0.001”
- Lengths up to 20’
- Outstanding repeatability

Square Aluminum Extrusion:

- Heavy duty, stronger aluminum extrusion
- 25% stronger extrusion
- Supports stops and bearings
- Provides better fit in tight applications
- Promotes long life

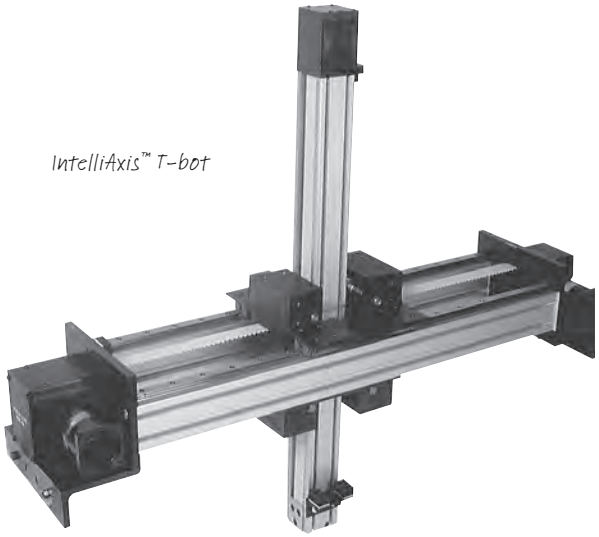
Built-in Linear Ball Rail Guide:

- Maintenance free
- Self-lubricating
- Low friction
- Smooth, quiet operation
- Long life expectancy
- Supports high loads
- Supports high moment loads

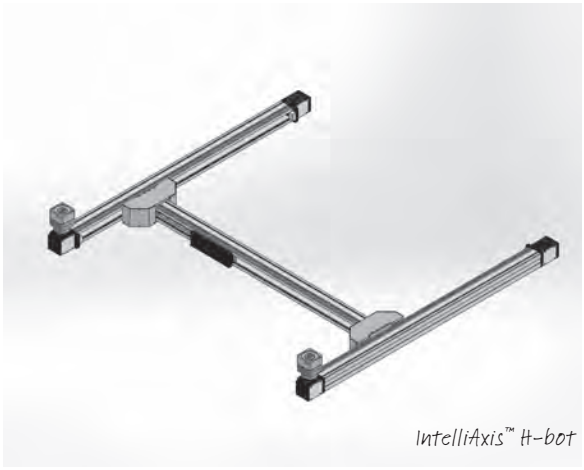
How it Works

The Bimba HSXY and HSXZ actuators use a unique two-axis system for either the X-Z or X-Y motion application. The unit features a single continuous belt operated in a coordinated fashion to provide motion in both axes. The single continuous belt winds around the two axes much like an automobile serpentine belt.

Both motors are stationary, eliminating cable tracks and expensive flex cable from the system. Having the two motors in the X-axis eliminates overall weight of the carried axis, resulting in a lighter carried load. The smaller load will require a smaller overall motor selection since the torque of both motors is shared and thus doubles the available torque. A smaller motor selection results in less cost, less energy, and fits easier within a designated installation envelope. The final multi-axis construction is aesthetically pleasing and provides a natural, non-obtrusive install.



IntelliAxis™ T-bot



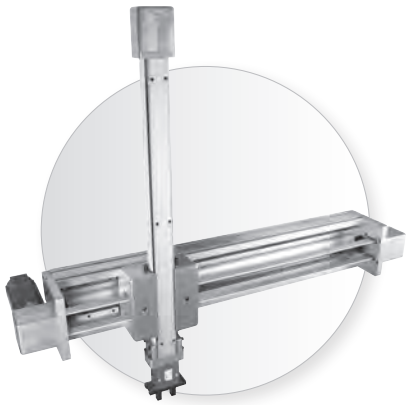
IntelliAxis™ H-bot

Materials of Construction

Carriage:	Aluminum
Drive Ends:	Aluminum
Belt:	Steel Reinforced Polyurethane Belt
Extrusion:	Aluminum

Application Ideas

- Pick & Place
- Sorting
- Loading
- Pressing
- Stacking
- Insertion
- Parts Transfer
- Machine Tool
- Assembly



Target Applications

The HSXY and HSXZ are intended for medium and heavy duty two-axis industrial applications that require flexible motion within a two-dimensional plane. When your application calls for long X-Y or X-Z distance, high speed motion with robust load, and moment loading capacity, the HSXY/Z Series provides an optimal solution.

With capability that allows for up to a 20' x 10' range of motion with up to 562 lbs (~2500N) and speed capability in the 5m/sec (~200"/sec) range, the HSXY/Z Series offers you a canned solution that also offers you maximum value.

For applications that call for force and load capability that mimics a pneumatic solution and offers a more adaptable solution that can grow with your motion needs, Bimba electric actuators provide the interchangeable solution. Changing alongside your business in an easy-to-use, long-lasting, and tough electric actuator that exceeds the competition in performance, value, and life, the HSXY/Z Series is the best two-axis electric actuator available today

Drive Options

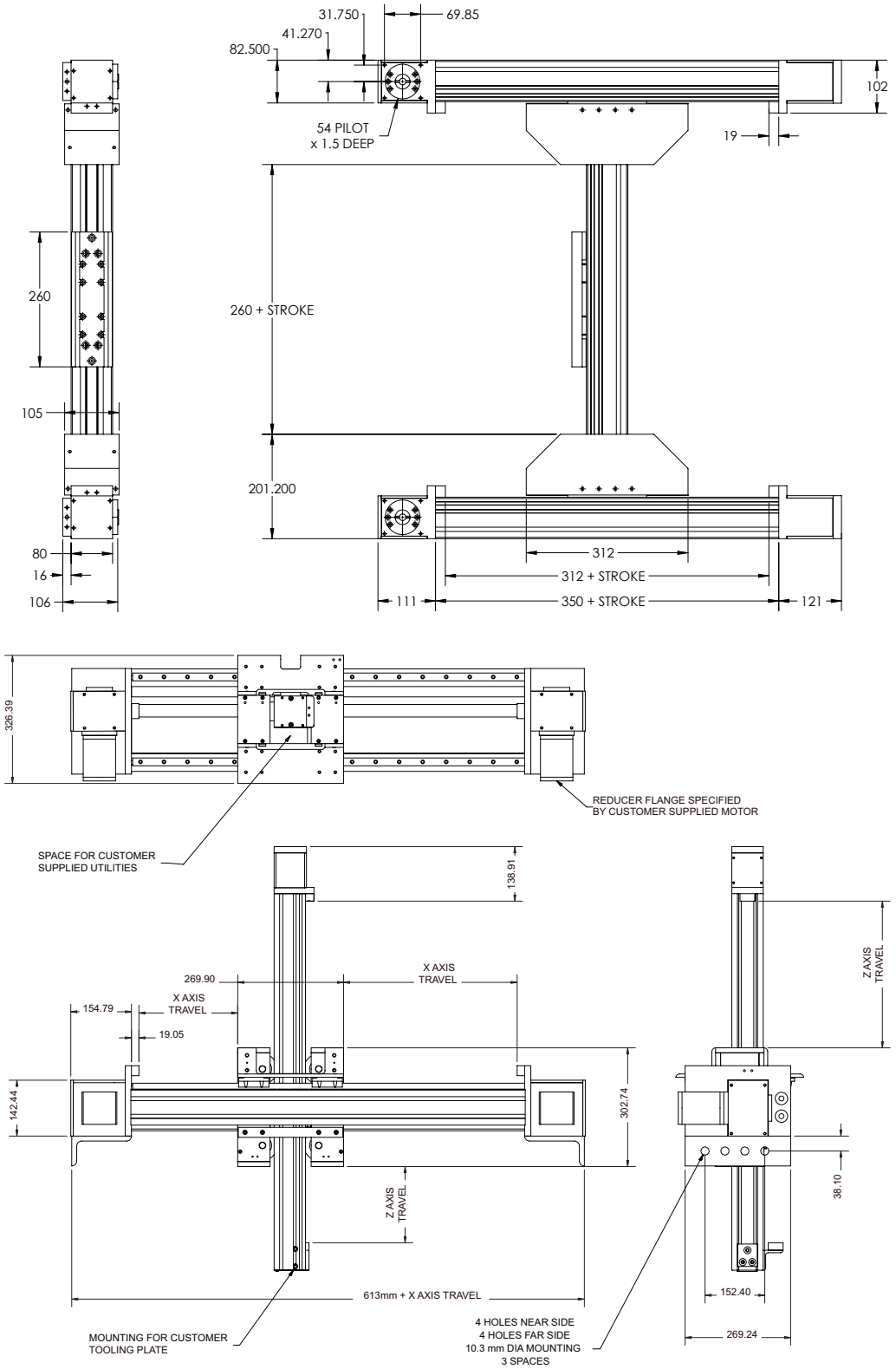
With two drive interfaces to select from–either the standard EZ Input shaft or our integral reducer drive–you're able to select the option that works best for you. The wide variety of Bimba stepper and servo motors available to choose from makes it easy to configure an electric actuator that best meets your needs. High load and thrust applications become an afterthought when adding the optional reducer drive option that, when coupled with a servo motor, provides the necessary torque to move high load applications according to the needs of your machine or process.

Advantages

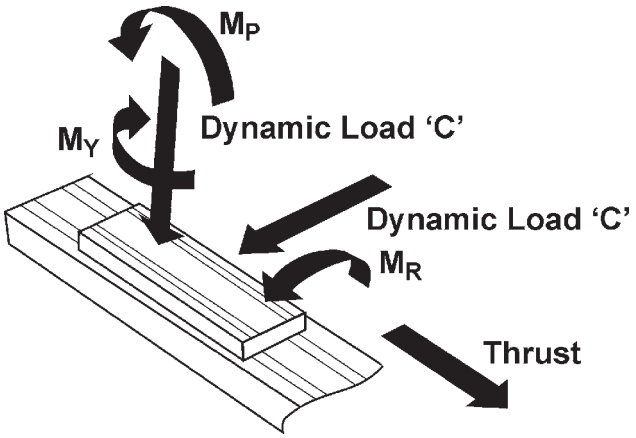
Feature	Advantage	Benefit
H-Bot and T-Bot construction	One drive belt serpentines around both axes; no Y motor (or Z) required	Reduced weight of carried axis improves loading capability; high stiffness leads to enhanced precision; motor torque doubled in Z-direction
Carriage constructed of high strength 7075 aluminum	Offers enhanced strength and robustness over the competitor	Less deflection and increased load and moment loading capability per carriage size
Self-lubricating linear guides	Minimized maintenance	Worry- and maintenance-free long life, even in applications that require 24/7 motion
Integral Reducer Drive (optional)	Offers increased performance using embedded gear reducer	Move larger loads and improve inertia matching with an aesthetically pleasing, cost-effective solution
ARC-Power Belt	25% higher thrust leads to higher loading capacity	Ballscrew type thrust with belt drive speed ability

Dimensions

Key specification information for the HSXY/HSXZ is given below. For additional specification information, contact Bimba Customer Service at cs@bimba.com, or 800-44-BIMBA (800-442-4622).



Specifications



Linear Actuator	Extrusion	
	Moment of Inertia	
	Ix (cm^4)	Iy (cm^4)
HSXZ-80 Z-Axis	146	219
HSXZ-80 X-Axis	643	66
HSXZ-15 Z-Axis	8	13
HSXZ-15 X-Axis	982	102

Straightness 0.0125" per foot per length
Twist: 1/4˚ per foot, 3˚ maximum per 6mm length

Linear Actuator	Lead Constant (mm/rev.)	Maximum Input Torque NM	Belt	
			Maximum Force N (lbs)	Elastic Limit N (lbs)
HSXZ-80	360	290	2500 (562)	5000 (1124)
HSXZ-15	161	22	875 (197)	1944 (437)
HSXY-80	200	90	3750 (843)	7500 (1686)

Linear Actuator	Carriage Length (mm)	Dynamic Load Capacity N (lbs)	Dynamic Moment Capacity		
			Roll M_R NM (in-lbs)	Pitch M_P NM (in-lbs)	Yaw M_Y NM (in-lbs)
HSXZ80 Z-Axis	260	30412 (6835)	600 (5300)	1400 (12390)	1400 (12390)
HSXZ80 X-Axis	265	45000 (10116)		TO SUIT	
HSXZ-15 Z-Axis	165	9960 (2239)	100 (885)	172 (1522)	144 (1275)
HSXZ-15 X-Axis	165	30560 (6870)		TO SUIT	
HSXY-80 (A)	190	21000 (4720)	310 (2745)	270 (2390)	270 (2390)
HSXY-80 (B)	260	42000 (9440)	620 (5487)	1400 (12390)	1400 (12390)

Inertia (lb-in-sec^2)*:

Z-Axis Actuator - J=(23 + Stroke mm * 0.01) * 10-4 * 3417
X-Axis Actuator - J=(35 + Stroke mm * 0.02) * 10-4 * 3417

Weight*:

Z-Axis = 9kgs + (0.0114 kgs/mm)
X-Axis = 16kgs + (0.0195 kgs/mm)

** Size 80 only*

How to Accessorize

Motors and Drives

Bimba motors are available to use as the rotary drive mechanism of the HSXY/Z Series. With a complete array of stepper and servo motors available in stock, Bimba has a motor*-drive solution that meets many demanding applications.

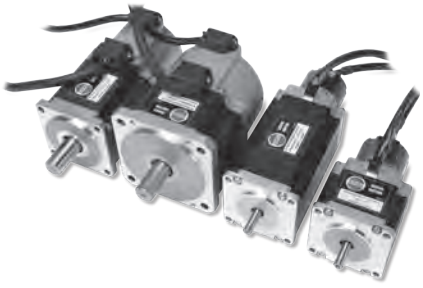
Configuring your motor and creating your first motion profile program is easier than ever with Bimba's intuitive and icon based IQ® suite of motion software. With our complete software suite available for free download from the Bimba website, there is no additional cost to your motion project. All Bimba stepper and servo programming software uses the same IQ® programming software, greatly reducing the learning curve. Existing programs can be easily shared or adapted among the two motor technologies.

See the Motors Catalog for Bimba's wide selection of available motors and motor drives.

**Contact Bimba's Customer Service team for help in crossing your motor to a Bimba motor.*

IntelliMotor®
ITM-23Q-2-EIP-E-M12

AC Stepper Motor
MTR-AC23T-753-S

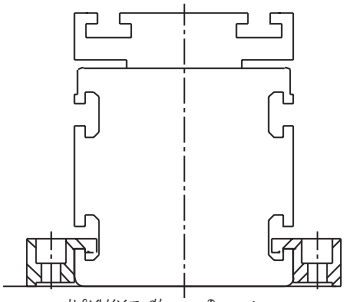


AC Servo Motor

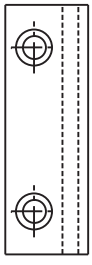
Bimba IQ® Stepper

Mounting Clamps

To secure an actuator to the machine frame, hold-down clamps are available. They are designed to fit perfectly in the extruded body actuator T-channel. Appropriate sized clamps are available for the HSXY/Z actuator, as well as all of Bimba's electric actuators.



HSXY/XZ Clamp Drawing



HSXY/XZ Clamp Drawing

The model numbers of HSXY/Z Series two-axis belt driven actuators consist of an alphanumeric cluster designating product type, X-stroke, Z-stroke, drive type, drive location, gear ratio (optional), external scale (optional), and other optional components that together make up the complete part number to use in ordering. Use the ordering information below to build a valid part number.

An example of a basic HSXY80 unit with an X-stroke of 2000mm, Y-stroke of 1000mm, and reducer drive is shown below.

HSXY80 02000 01000 RD 10 N

Actuator
HSXY80
HSXZ80
HSXZ15

X- Axis Stroke
XXXXX (mm)

Y- or Z- Axis Stroke
XXXXX (mm)

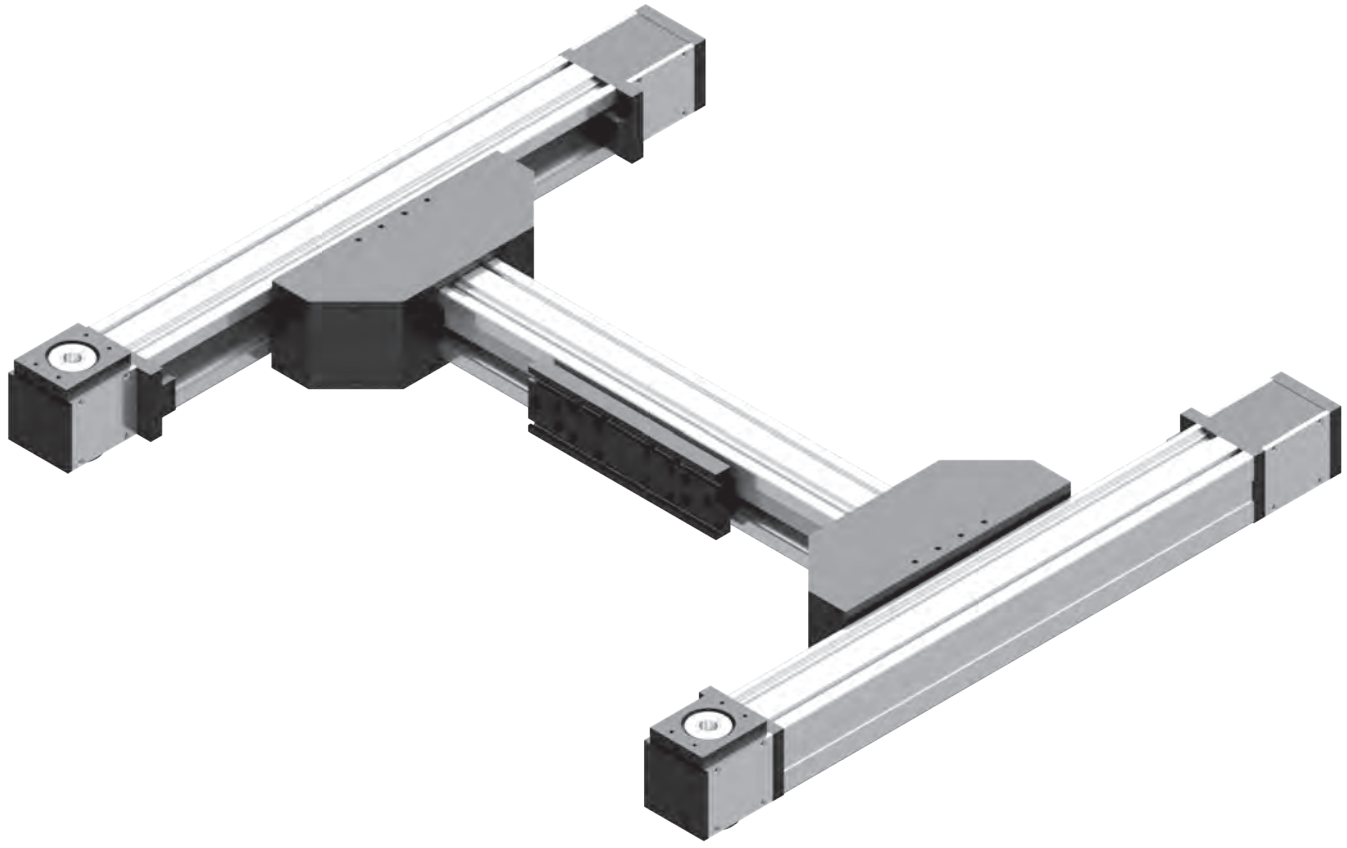
Drive	
RD	Reducer Drive
EZ	Easy Input Shaft Drive

Ratio**
XX

Motor**	
Y	Yes
N	No

***Are you installing a larger motor or a non-NEMA motor onto the reducer?*

Maximum Strokes		
Actuator	**X-Axis**	**Y- or Z-Axis**
HSXZ80	4500mm	3300mm
HSXZ15	2000mm	2000mm
HSXY80	2000mm	2000mm



Note: If a motor or gearbox adapter is required, please refer to the Adapters section of the Accessories chapter in this catalog.

How to Repair

Bimba HSXY80 Series multi-axis electric actuators are repairable. The quantities below represent the total quantity in the system, not the order quantities.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

HSXY80 (Take-up End)

Quantity	Part No.	Part Description
2	B80-21	Take-up End
2	B80-22	Take-up End
2	B80-23	Take-up End Plate
4	B80-24	Covers
2	B80-25	Take-up Pulley
2	B80-26	Take-up Shaft
4	B80-27	Slide Bars
4	B80-44	Bearing
4	S110-24	Retainer
1	B80-01Y	Extrusion
1	B80-02Y	Linear Rail
2	B80-01X	Extrusion
2	B80-02X	Linear Rail
4	B110-42	Bumper
1	B110-03	Belt
2	B110-04	Belt Clamp
4	B80-20	End Plate
1	B80-41	Magnet Bracket
4	B80-42	Magnet

HSXY80 A-Carriage (Take-up End)

Quantity	Part No.	Part Description
1	B80-30-B	Carriage
1	B80-05	Bearing

HSXY80 B-Carriage, Y-Axis (Take-up End)

Quantity	Part No.	Part Description
1	B80-31-B	Carriage
2	B80-05	Bearing

HSXY80 B-Carriage, X-Axis (Take-up End)

Quantity	Part No.	Part Description
2	B80-131-Z	Dual XY Carriage
4	B80-05	Bearing
8	B80-126	Idler Shaft
4	B80-127	Support Plate
16	B80-128	Spacer
4	B80-129	Guard
8	B80-133-D	Idler Pulley

Bimba HSXZ80 Series multi-axis electric actuators are repairable. A list of the individual components is given below that together make up the HSXZ electric actuator. The quantities below represent the total quantity in the system, not the order quantities.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

HSXZ80 (Z-Axis system)

Quantity	Part No.	Part Description
1	B80-320	End Plate
2	B80-321	Take-up End
1	B80-323	Take-up End Plate
1	HSXZ-05	Take-up Pulley
1	B80-26	Take-up Shaft
2	B80-27	Slide Bars
10	B80-44	Bearing
4	B110-42	Bumper
2	S110-24	Retainer
2	HSXZ-06	Clamp
1	HSXZ-10	Clamp
1	HSXZ-27	Stop
1	B80-01-XXX	Z-Axis Extrusion
1	LP20-16R-XXX	Linear Rail (Z-Axis)
1	HSXZ-03-XXX	Belt
2	B110-04	Belt Clamp
1	HSXZ-17	Carriage
4	HSXZ-18	Bottom Plate
2	HSXZ-21 ITEM A	Carriage Side Plate
2	HSXZ-21 ITEM B	Carriage Side Plate
2	HSXZ-22	Guide Plate
2	HSXZ-23	Tie Bar
2	LP20-16B	Bearing
16	S110-24	Retainer

Note: XXX represents the length of the extrusion; it does not represent the stroke.

HSXZ80 (X-Axis System)

Quantity	Part No.	Part Description
2	B80-09	Adapter Reducer
2	B80-17	Retainer
1	HSXZ-08	Angle Support Carriage
1	HSXZ-09	Angle Support Carriage
4	HSXZ-14	Drive Side Plate
2	HSXZ-15	Drive Support Angle
2	HSXZ-16	Drive End Plate
2	HSXZ-80-19	Drive Pulley
1	HSXZ-20 ITEM A	End Plate
1	HSXZ-20 ITEM B	End Plate
2	HSXZ-24	Cover
4	HSXZ-25	Idler Roller
4	HSXZ-26	Idler Shaft
2	B80-40	Bearing
2	B110-43	Transtorque
2	B110-42	Bumper
2	HSXZ-12	Reducer
2	LP20-16R-XXX	Linear Rail
4	HSXZ-28	Linear Bearing
2	IPI 3842-990-300 (45 X 90H)	Extrusion
8	IPI 8981-020-302	Bolts for Extrusion

HSXZ80 (EZ MOUNT)

Quantity	Part No.	Part Description
2	HSXZ80-114	Drive Plate
2	HSXZ80-118	Drive Shaft

How to Repair

Bimba HSXZ15 Series multi-axis electric actuators are repairable. A list of the individual components is given below that together make up the HSXZ electric actuator. The quantities below represent the total quantity in the system, not the order quantities.

Please use the linear actuator serial number located at the drive end for all inquiries, along with the original purchase order number (if available). Describe the part required along with part number below. Contact Bimba Customer Service at 800-442-4622 (800-44-BIMBA) or e-mail cs@bimba.com.

HSXZ15 (XZ-AXIS)

Quantity	Part No.	Part Description
2	LP20-01-XXX	Extrusion (X-Axis)
2	B27-P23	Clamp Collar
2	LP15-16R-XXX	Rail
4	LP15-16B	Bearings
1	HSXZ-15-002	X-Axis Bottom Carriage
1	HSXZ-15-003	Z-Axis Extrusion
2	HSXZ-15-005	Covers
2	HSXZ-15-006	Bearing Tie Plate
2	HSXZ-15-007	End Plate
4	HSXZ-15-008	Idler Rolls
2	HSXZ-15-009	Take-up Side Plates
2	HSXZ-15-010	Slide Plates
2	HSXZ-15-011	Drive Plate
2	HSXZ-15-012	EZ Drive Plate
2	HSXZ-15-013	EZ Drive Shaft
2	HSXZ-15-014	Adapter Plate for VRB042 Reducer
2	HSXZ-15-015	Belt Clamp
2	HSXZ-15-016	Belt Clamp
1	HSXZ-15-017	Take-up Shaft
1	HSXZ-15-021	Mounting Plate
1	HSXZ-15-022	Take-up Mounting Plate
1	HSXZ-15-023	Z-Axis Cover Plate
2	HSXZ-15-024	Drive Pulleys
1	HSXZ-15-025	Take-up Pulley
10	HSXZ-15-026	Take-up Bearings
1	HSXZ-15-027	Belt
4	HSXZ-15-028	Idler Shafts (1/2 Shoulder Bolts)
1	MS15-P05	Rail
2	MS15-P06	Bearings
2	HSXZ-15-029	Bumper
2	HSXZ-15-032	Drive Cover
1	HSXZ-15-030	Take-up Cover
4	HSXZ-15-031	Spacers
2	LP20-25	Bearings
4	IPI-0308-025	Bumper

Notes

Notes

Switches and Cables

Magnetic switch products are designed to signal when an actuator with an integrated magnet has reached a set point in its travel. Bimba switches are pretested for use with Bimba actuators, eliminating the costly and time-consuming design and fabrication required to integrate third party switches. Switches are available in multiple configurations to meet your application needs. A variety of outputs are offered for each switch family, including PNP (transistor sourcing), NPN (transistor sinking), normally open contacts, and higher power triac.

Contents

Bimba offers more than twenty switch product series. The series are grouped by mounting style: band or track mounted. The choice of mounting style depends on the actuator used and user preference. Each series offers a unique mix of features allowing the user to select the right balance of price, performance and features for their application.

Magnetic Switches

Bimba magnetic limit switches offer a one-stop selection experience with a large offering of reed and solid-state switches. These switches provide a position interface between the electric actuator and the electrical control system. Our pre-tested solutions also eliminate costly, time-consuming design and testing required if the magnetic switch is purchased separately and provides an aesthetically pleasing installation. They are available in AC, DC, reed, PNP, NPN, TRIAC, 2-wire SS (EdgeSwitch™) NO, NC, illuminated, track-mounted, band-mounted, pigtail, or M8 quick-connect types. Bimba is sure to have a magnetic switch to meet your unique application needs.

Switch accessory PNO

Part Number	Switch Type	Operation
SW-PNO	PNP	Normally Open
SW-PNC	PNP	Normally Closed
SW-NNO	NPN	Normally Open

Cordset with Quick Connect

For Non-Flex 5M Cables:	Part Number CBL-NFX-050-M
For Flex 5M Cables:	Part Number CBL-FX-050-M
	Part Number CBL-FX-100-M

Features

Magnetic Reed Switch

- Lower cost
- Optional integrated LED
- AC or DC options
- Compact size
- Straight or 90° take out
- Quick disconnect or flying lead cable ends
- Track or band mounted

Solid State Switch

- Solid state reliability
- Faster response time
- Integrated LED
- Compact size
- Straight or 90° take out
- Quick disconnect or flying lead cable ends
- Reverse polarity and over-voltage protection
- Track or band mounted

Benefits

- Small operating window enables precise control of machine and processes
- Solid State switches have longer life than mechanical switches, reducing downtime
- Optional 90° take out simplifies wire routing
- Multiple cable length options simplify installation
- LED provides visual confirmation of switch function
- Compact size enables multiple switches to be installed on one actuator
- Multiple mounting options enable users to select the option that fits their needs

Limit Switches

Limit switches are available from Bimba in many different types, styles, and feature sets, leading to a near certain likelihood of finding one that meets your application needs.

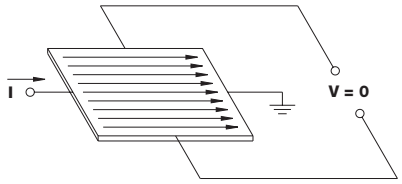
How it Works

Bimba Solid State Magnetic Switch

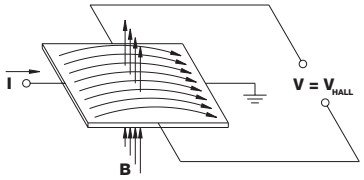
A Bimba solid state switch is a three-wire device recommended for low current DC loads such as interfacing with programmable controllers. It provides compact, reliable sensing with virtually infinite life. An LED indicator light illuminates when switching occurs. Models are available in current sinking (NPN) and current sourcing (PNP) models. Either can be used for loads like counters and solid state relays. Selection of sinking or sourcing models depends on the requirements of the programmable controller.

The Bimba Solid State Switch is based on giant magnetoresistive (GMR) technology. It includes four solid state resistors (two active, two shielded), each of which has many thin layers of magnetoresistive material. In each layer, the electrons are oriented opposite the adjacent layer, providing a great deal of resistance to electrical flow. The presence of a magnetic field overcomes the magnetic coupling between the adjacent layers, causing parallel alignment of magnetic moments between layers, and resistance drops significantly.

By connecting the four resistors in a classic Wheatstone bridge configuration, the voltage across a single resistor is doubled, providing a linear output. This voltage is then amplified and sent to a comparator that switches the sensor output when it detects that a minimum magnetic field strength is present. High voltage transistors provide TTL-compatible output rated at 25 milliamps. The switch includes reverse polarity, overvoltage, and transient protection.



PRINCIPLE OF SOLID STATE (NO MAGNETIC FIELD)



PRINCIPLE OF SOLID STATE (MAGNETIC FIELD PRESENT)

Sinking vs. Sourcing

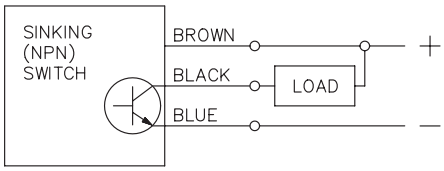
Bimba offers both sinking and sourcing Solid State Switch models:

- **Sinking switches** are applied to the **negative** side of a load. When the switch is activated, the negative (ground) is connected, completing the circuit.
- **Sourcing switches** are applied to the **positive** side of a load. When the switch is activated, power is connected, completing the circuit.

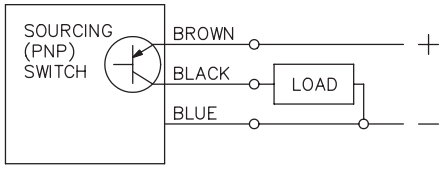
The model needed will be determined by a number of factors, including:

- Company standards.
- PLC input cards. (You may have sinking input cards available or your PLC only has a sinking type. Be aware that for some PLC manufacturers, sourcing input cards require a sinking switch or sinking input cards require a sourcing switch; check the specifications to clarify.)
- Type of circuit. PLC manufacturers typically filter input modules that use sourcing field devices and use unfiltered input modules with sinking field devices.

Typical Solid State Sinking Configuration (NPN)



Typical Solid State Sourcing Configuration (PNP)



Magnetic Switch Selection Chart

Mounting Style	Model	Description	Original Line Electric®	Original Line Electric® Thruster	Extruded Body Electric Actuators	Extruded Body T30 Series Electric Actuators
Track Mounted	MD	4mm round track (C-Slot), EdgeSwitch™	X1	X1		X
	MH	4mm round track (C-Slot), Mini EdgeSwitch™	X1	X1		X
	MR	4mm round track (C-Slot), Reed switch	X1	X1		X
	MS	4mm round track (C-Slot), Solid State switch	X1	X1		X
	SW	Extruded body electric, Solid State switch			X	
Band Mounted	HS	Band mounted, Solid State switch	X			
	MRS-.087-B	Band mounted, Heavy duty reed switch	X			
	MRS-1.5-B	Band mounted, Heavy duty AC-only triac switch	X			
	MSS	Band mounted, High illumination solid state switch	X			

X1 - "T" option required

Mounting Style	Model	Description	Sensor Type	Output Type	Operating Voltage	Actuating Time (mS)	Maximum Load Current (mA)	Reverse Polarity Protection
Track Mounted	MDF	4mm round track (C-Slot), EdgeSwitch™	Solid State	Normally open solid state	10V to 28V, DC	1.0	50	
	MHF	4mm round track (C-Slot), Mini EdgeSwitch™	Solid State	Normally open solid state	10V to 28V, DC	1.0	50	
	MHC or MHK	4mm round track (C-Slot), Mini EdgeSwitch™	Solid State	PNP, NPN	5V to 28V, DC	1.0	100	X
	MR	4mm round track (C-Slot), Reed switch	Reed	Normally open contact	5V to 120V, AC or DC	1.0	30	
	MS	4mm round track (C-Slot), Reed switch	Solid State	Autoconfig (PNP or NPN)	5V to 30V, DC	0.2	100	X
	MSC or MSK	4mm round track (C-Slot), Solid state switch	Solid State	PNP, NPN	4.5V to 30V, DC	1.0	200	X
	SW	Extruded body electric, Solid state switch	Solid State	PNP, NPN	10V to 30V, DC	1.0	200	X
Band Mounted	MRS-.027-B	Band mounted (ISO 6432), Heavy duty reed switch, No LED	Reed	Normally open contact	28V Max., AC or DC	1.0	250	
	MRS-.027-BL	Band mounted (ISO 6432), Heavy duty reed switch, LED	Reed	Normally open contact	6V to 24V, AC or DC	1.0	250	
	MRS-.087-B	Band mounted, Heavy duty reed switch, No LED	Reed	Normally open contact	120 (200)V, AC or DC	1.0	500	
	MRS-.087-BL	Band mounted, Heavy duty 3-wire reed switch, LED	Reed	Normally open contact	6V to 24V, AC or DC	1.0	500	
	MRS-.087-PBL	Band mounted, Heavy duty 2-wire reed switch, LED	Reed	Normally open contact	3V to 120V, AC or DC	1.0	20	
	MRS-1.5-B	Band mounted, Heavy duty AC-only triac switch	Reed	Triac	12V to 230V, AC	2.0	1500	
	HS	Band mounted, Solid state switch	Solid State	PNP, NPN	4.5V to 30V, DC	1.0	150	X
	MSS	Band mounted, High illumination solid state switch	Solid State	PNP, NPN	10V to 30V, DC	1.0	300	X

Magnetic Switch Specification Chart

Mounting Style	Model	Description	Sensor Type	Output Type	Operating Voltage	Actuating Time (mS)	Maximum Load Current (mA)	Reverse Polarity Protection
Track Mounted	MHF	4mm round track (C-Slot), Mini EdgeSwitch™	Solid State	Normally open solid state	10V to 28V, DC	1.0	50	
	MHC or MHK	4mm round track (C-Slot), Mini EdgeSwitch™	Solid State	PNP, NPN	5V to 28V, DC	1.0	100	X
	MR	4mm round track (C-Slot), Reed switch	Reed	Normally open contact	5V to 120V, AC or DC	1.0	30	
	MS	4mm round track (C-Slot), Reed switch	Solid State	Autoconfig (PNP or NPN)	5V to 30V, DC	0.2	100	X
	MSC or MSK	4mm round track (C-Slot), Solid state switch	Solid State	PNP, NPN	4.5V to 30V, DC	1.0	200	X
	SW	Extruded body electric, Solid state switch	Solid State	PNP, NPN	10V to 30V, DC	1.0	200	X
Band Mounted	MRS-.027-B	Band mounted (ISO 6432), Heavy duty reed switch, No LED	Reed	Normally open contact	28V Max., AC or DC	1.0	250	
	MRS-.027-BL	Band mounted (ISO 6432), Heavy duty reed switch, LED	Reed	Normally open contact	6V to 24V, AC or DC	1.0	250	
	MRS-.087-B	Band mounted, Heavy duty reed switch, No LED	Reed	Normally open contact	120 (200)V, AC or DC	1.0	500	
	MRS-.087-BL	Band mounted, Heavy duty 3-wire reed switch, LED	Reed	Normally open contact	6V to 24V, AC or DC	1.0	500	
	MRS-.087-PBL	Band mounted, Heavy duty 2-wire reed switch, LED	Reed	Normally open contact	3V to 120V, AC or DC	1.0	20	
	MRS-1.5-B	Band mounted, Heavy duty AC-only triac switch	Reed	Triac	12V to 230V, AC	2.0	1500	
	HS	Band mounted, Solid state switch	Solid State	PNP, NPN	4.5V to 30V, DC	1.0	150	X
	MSS	Band mounted, High illumination solid state switch	Solid State	PNP, NPN	10V to 30V, DC	1.0	300	X

Magnetic Switch Specification Chart

Mounting Style	Model	Description	Over Voltage Protection	Transient Protection	LED	Temperature Rating	Enclosure
Track Mounted	MHF	4mm round track (C-Slot), Mini EdgeSwitch™	X	X	X	-10C to 70C	IP67
	MHC or MHK	4mm round track (C-Slot), Mini EdgeSwitch™	X	X	X	-10C to 70C	IP67
	MR	4mm round track (C-Slot), Reed switch			X	-10C to 60C	IP67
	MS	4mm round track (C-Slot), Solid state switch	X	X	X	-20C to 80C	IP67
	MSC or MSK	4mm round track (C-Slot), Solid state switch	X	X	X	-20C to 80C	IP67
	SW	Extruded body electric, Solid state switch			X	-25C to 85C	IP67
Band Mounted	MRS-.027-B	Band mounted (ISO 6432), Heavy duty reed switch, No LED				-25C to 85C	IP65
	MRS-.027-BL	Band mounted (ISO 6432), Heavy duty reed switch, LED			X	-25C to 85C	IP65
	MRS-.087-B	Band mounted, Heavy duty reed switch, No LED				-25C to 85C	IP65
	MRS-.087-BL	Band mounted, Heavy duty 3-wire reed switch, LED			X	-25C to 85C	IP65
	MRS-.087-PBL	Band mounted, Heavy duty 2-wire reed switch, LED			X	-25C to 85C	IP65
	MRS-1.5-B	Band mounted, Heavy duty AC-only triac switch				-25C to 85C	IP65
	HS	Band mounted, Solid state switch	X	X	X	-20C to 80C	IP67
	MSS	Band mounted, High illumination solid state switch	X	X	X	-20C to 70C	IP67

Wire Color Codes

Generally the wire colors for Bimba switches conform to CENELEC EN 50 044 wiring standard. All switches with the “Q” option used with Bimba cables conform to the standard, which is: Brown – Positive, Blue – Ground, and Black – Output. Some legacy switches do not conform to the standard as indicated in the catalog and documentation provided with the switch.

Important note: two wire switches use only the brown and blue wires. (Some legacy switches use red and black.) Do not connect the blue and brown wires across the power supply without a load in series with the switch; it will be destroyed by the short circuit.

Switch Information Location

Mounting Style	Model	Description	Dimensions Page Number	Circuit Diagram Page Number	How to Order Page Number
Track Mounted	MH	4mm round track (C-Slot), Mini EdgeSwitch™	257,258	259	268
	MR	4mm round track (C-Slot), Reed switch	257,258	259	268
	MS	4mm round track (C-Slot), Solid State switch	257,258	259	268
	SW	Extruded body electric, Solid State switch	261	261	269
Band Mounted	HS	Band mounted, Solid State switch	264	264	272
	MRS-.027-B	Band mounted (ISO 6432), Heavy duty reed switch	262	262	270
	MRS-.087-B	Band mounted, Heavy duty reed switch	263	263	270
	MRS-1.5-B	Band mounted, Heavy duty AC-only triac switch	363	263	271
	MSS	Band mounted, High illumination solid state switch	264	264	273

Switch Application Information

Actuator Application Data

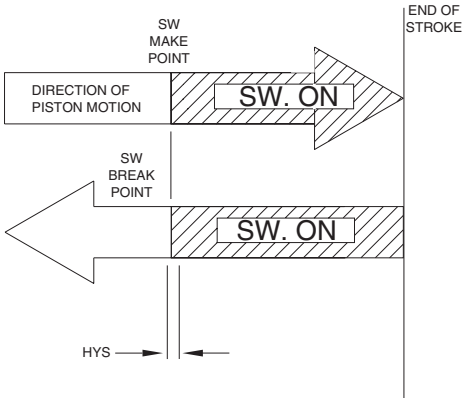
Hysteresis and Operating Windows

Bimba Solid State switches are subject to hysteresis. Hysteresis is the difference in magnetic field strength needed to initiate switch operation versus the field strength needed to sustain switch operation. The effect is that the switch break point will be different from the switch make point in the piston travel.

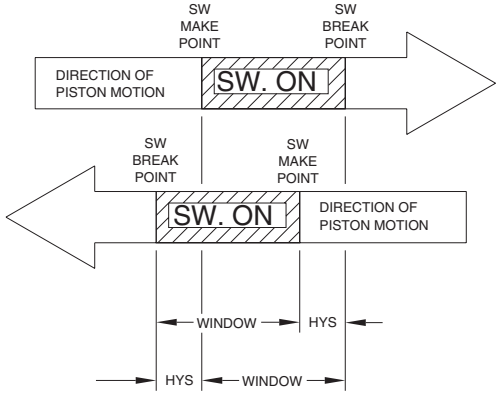
The operating window is the distance the piston travels while the switch is in the “ON” state, and includes the hysteresis action. For the Solid State Switch, hysteresis is greater on one side of the operating window because this switch is sensitive to only one side of the magnet.

For high speed equipment, the time duration of the switch signal may be critical. The time duration is a function of the operating window length and the speed of operation of the actuator. It is calculated by dividing the minimum travel in the operating window by the piston speed, taking into account the hysteresis effect. The illustrations and chart below show the operating windows for the Solid State Switch.

END OF STROKE OPERATION



MID STROKE OPERATION



Switch Application Information

Original Line® Electric Cylinders with Indicated Switches

Bore Size			MHF, MHC, MHK			MR, MS, MSC, MSK		
			Operating Window	Maximum Hysteresis	Repeatability	Operating Window	Maximum Hysteresis	Repeatability
17	1-1/2"	38mm	0.125" (3mm)	0.030" (1mm)	0.005" (0.1mm)	0.450" (11mm)	0.050" (1mm)	0.010" (0.03mm)
31	2"	50mm	0.125" (3mm)	0.030" (1mm)	0.005" (0.1mm)	0.450" (11mm)	0.050" (1mm)	0.010" (0.03mm)
70	3"		0.125" (3mm)	0.030" (1mm)	0.005" (0.1mm)	0.500" (11mm)	0.050" (1mm)	0.010" (0.03mm)

Bore Size			HSC, HSK		
			Operating Window	Maximum Hysteresis	Repeatability
17	1-1/2"	38mm	0.350" (9mm)	0.040" (1mm)	0.015" (0.4mm)
31	2"	50mm	0.360" (9mm)	0.040" (1mm)	0.015" (0.4mm)
70	3"		0.380" (10mm)	0.040" (1mm)	0.015" (0.4mm)

Mini 4mm Round (C-Slot) Track Mounted Switches

MHF, MHF-90, MHC, MHC-90, MHK, MHK-90, MR, MR-90, MS, MS-90, MSC, MSC-90, MSK, MSK-90

Compatible and Tested for use with:

Original Line Electric Cylinders

EdgeSwitch™ Solid-State Switch Features:

- Solid-State construction
- Direct replacement for Reed Switch
- Responsive 40-800 Gauss Detection
- Precise Edge Detection technology senses magnet edges/thickness
- Smaller operating window than Reed Switch
- Better repeatability than Reed Switch
- Longer life than Reed Switch
- Low leakage currrent, 0.1 mA at 28VDC
- CE, RoHS compliant
- Stock units

90° Switch (MHF-90 shown)

Part Numbers

Part Number	Description
MHF	Mini EdgeSwitch™, 2-wire, Solid-State Type, LED, 10-28VDC, 50mA, 24" Pigtail Leads
MHF-90	Mini EdgeSwitch™, 2-wire, Solid-State Type, LED, 10-28VDC, 50mA, 24" Pigtail Leads, 90° version
MHFX	Mini EdgeSwitch™, 2-wire, Solid-State Type, LED, 10-28VDC, 50mA, 144" Pigtail Leads
MHFX-90	Mini EdgeSwitch™, 2-wire, Solid-State Type, LED, 10-28VDC, 50mA, 144" Pigtail Leads, 90° version
MHFQS	Mini EdgeSwitch™, 2-wire, Solid-State Type, LED, 10-28VDC, 50mA, with M8 Male Swivel Connector
MHFQS-90	Mini EdgeSwitch™, 2-wire, Solid-State Type, LED, 10-28VDC, 50mA, with M8 Male Swivel Connector, 90° version
MHFQCS	Mini EdgeSwitch™, 2-wire, Solid-State Type, LED, 10-28VDC, 50mA, with M8 Male Swivel Connector and 2m Mating Cable
MHFQCS-90	Mini EdgeSwitch™, 2-wire, Solid-State Type, LED, 10-28VDC, 50mA, with M8 Male Swivel Connector and 2m Mating Cable, 90° version
MHFQCXS	Mini EdgeSwitch™, 2-wire, Solid-State Type, LED, 10-28VDC, 50mA, with M8 Male Swivel Connector and 5m Mating Cable
MHFQCXS-90	Mini EdgeSwitch™, 2-wire, Solid-State Type, LED, 10-28VDC, 50mA, with M8 Male Swivel Connector and 5m Mating Cable, 90° version
MHC	Mini EdgeSwitch™ Sourcing Switch (PNP), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, 24" Pigtail Leads
MHC-90	Mini EdgeSwitch™ Sourcing Switch (PNP), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, 24" Pigtail Leads, 90° version
MHCX	Mini EdgeSwitch™ Sourcing Switch (PNP), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, 144" Pigtail Leads
MHCX-90	Mini EdgeSwitch™ Sourcing Switch (PNP), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, 144" Pigtail Leads, 90° version
MHCQS	Mini EdgeSwitch™ Sourcing Switch (PNP), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, with M8 Male Swivel Connector
MHCQS-90	Mini EdgeSwitch™ Sourcing Switch (PNP), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, with M8 Male Swivel Connector, 90° version
MHCQCS	Mini EdgeSwitch™ Sourcing Switch (PNP), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, with M8 Male Swivel Connector and 2m Mating Cable
MHCQCS-90	Mini EdgeSwitch™ Sourcing Switch (PNP), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, with M8 Male Swivel Connector and 2m Mating Cable, 90° version
MHCQCXS	Mini EdgeSwitch™ Sourcing Switch (PNP), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, with M8 Male Swivel Connector and 2m Mating Cable
MHCQCXS-90	Mini EdgeSwitch™ Sourcing Switch (PNP), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, with M8 Male Swivel Connector and 5m Mating Cable, 90° version
MHK	Mini EdgeSwitch™ Sinking Switch (NPN), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, 24" Pigtail Leads
MHK-90	Mini EdgeSwitch™ Sinking Switch (NPN), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, 24" Pigtail Leads, 90° version
MHKX	Mini EdgeSwitch™ Sinking Switch (NPN), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, 144" Pigtail Leads

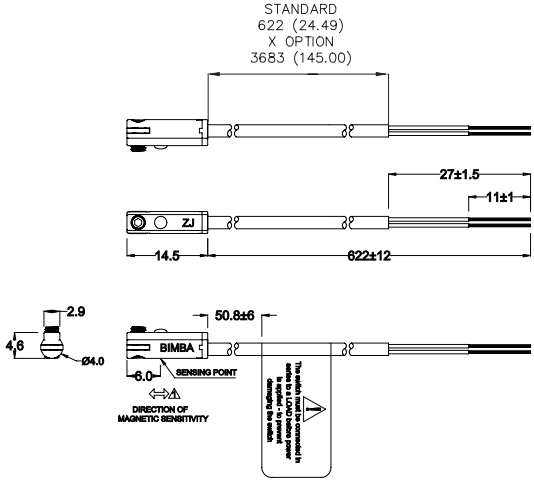
Mini 4mm Round (C-Slot) Track Mounted Switches

Part Number	Description
MHKX-90	Mini EdgeSwitch™ Sinking Switch (NPN), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, 144" Pigtail Leads, 90° version
MHKQS	Mini EdgeSwitch™ Sinking Switch (NPN), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, with M8 Male Swivel Connector
MHKQS-90	Mini EdgeSwitch™ Sinking Switch (NPN), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, with M8 Male Swivel Connector, 90° version
MHKQCS	Mini EdgeSwitch™ Sinking Switch (NPN), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, with M8 Male Swivel Connector and 2m Mating Cable
MHKQCS-90	Mini EdgeSwitch™ Sinking Switch (NPN), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, with M8 Male Swivel Connector and 2m Mating Cable, 90° version
MHKQCXS	Mini EdgeSwitch™ Sinking Switch (NPN), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, with M8 Male Swivel Connector and 5m Mating Cable
MHKQCXS-90	Mini EdgeSwitch™ Sinking Switch (NPN), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, with M8 Male Swivel Connector and 5m Mating Cable, 90° version
MR	Reed Switch, 2 wire, LED, 5-120VAC/VDC, 30mA, 1m Pigtail Leads
MR-90	Reed Switch, 2 wire, LED, 5-120VAC/VDC, 30mA, 1m Pigtail Leads, 90° version
MRQ	Reed Switch, 2 wire, LED, 5-120VAC/VDC, with M8 Male Connector
MRQ-90	Reed Switch, 2 wire, LED, 5-120VAC/VDC, 30mA, with M8 Male Connector, 90° version
MRQC	Reed Switch, 2 wire, LED, 5-120VAC/VDC, with M8 Male Connector and 2m Mating Cable
MRQC-90	Reed Switch, 2 wire, LED, 5-120VAC/VDC, 30mA, with M8 Male Connector and 2m Mating Cable, 90° version
MRQCX	Reed Switch, 2 wire, LED, 5-120VAC/VDC, with M8 Male Connector and 5m Mating Cable
MRQCX-90	Reed Switch, 2 wire, LED, 5-120VAC/VDC, 30mA, with M8 Male Connector and 5m Mating Cable, 90° version
MRX	Reed Switch, 2 wire, LED, 5-120VAC/VDC, with 144" Pigtail Leads
MRX-90	Reed Switch, 2 wire, LED, 5-120VAC/VDC, 30mA, with 144" Pigtail Leads, 90° version
MS	Auto Configure, PNP or NPN, 3 wire, LED, 30VDC, 100mA, with 24" Pigtail Leads
MS-90	Auto Configure, PNP or NPN, 3 wire, LED, 30VDC, 100mA, with 24" Pigtail Leads, 90° version
MSQ	Auto Configure, PNP or NPN, 3 wire, LED, 30VDC, 100mA, with M8 Male Connector
MSQ-90	Auto Configure, PNP or NPN, 3 wire, LED, 30VDC, 100mA, with M8 Male Connector, 90° version
MSQC	Auto Configure, PNP or NPN, 3 wire, LED, 30VDC, 100mA, with M8 Male Connector and 2m Mating Cable
MSQC-90	Auto Configure, PNP or NPN, 3 wire, LED, 30VDC, 100mA, with M8 Male Connector and 2m Mating Cable, 90° version
MSQCX	Auto Configure, PNP or NPN, 3 wire, LED, 30VDC, 100mA, with M8 Male Connector and 5m Mating Cable
MSQCX-90	Auto Configure, PNP or NPN, 3 wire, LED, 30VDC, 100mA, with M8 Male Connector and 5m Mating Cable, 90° version
MSX	Auto Configure, PNP or NPN, 3 wire, LED, 30VDC, 100mA, with 144" Pigtail Leads
MSX-90	Auto Configure, PNP or NPN, 3 wire, LED, 30VDC, 100mA, with 144" Pigtail Leads, 90° version
MSC	Sourcing Switch (PNP), LED, 30VDC, 50mA, with 24" Pigtail Leads
MSC-90	Sourcing Switch (PNP), LED, 30VDC, 200mA, with 24" Pigtail Leads, 90° version
MSCQ	Sourcing Switch (PNP), LED, 30VDC, 200mA, with M8 Male Connector
MSCQ-90	Sourcing Switch (PNP), LED, 30VDC, 200mA, with M8 Male Connector, 90° version
MSCQC	Sourcing Switch (PNP), LED, 30VDC, 200mA, with M8 Male Connector and 2m Mating Cable
MSCQC-90	Sourcing Switch (PNP), LED, 30VDC, 200mA, with M8 Male Connector and 2m Mating Cable, 90° version
MSCQCX	Sourcing Switch (PNP), LED, 30VDC, 200mA, with M8 Male Connector and 5m Mating Cable
MSCQCX-90	Sourcing Switch (PNP), LED, 30VDC, 200mA, with M8 Male Connector and 5m Mating Cable, 90° version
MSCX	Sourcing Switch (PNP), LED, 30VDC, 200mA, with 144" Pigtail Leads
MSCX-90	Sourcing Switch (PNP), LED, 30VDC, 200mA, with 144" Pigtail Leads, 90° version
MSK	Sinking Switch (NPN), LED, 30VDC, 200mA, with 24" Pigtail Leads
MSK-90	Sinking Switch (NPN), LED, 30VDC, 200mA, with 24" Pigtail Leads, 90° version
MSKQ	Sinking Switch (NPN), LED, 30VDC, 200mA, with M8 Male Connector
MSKQ-90	Sinking Switch (NPN), LED, 30VDC, 200mA, with M8 Cable Connector, 90° version
MSKQC	Sinking Switch (NPN), LED, 30VDC, 200mA, with M8 Male Connector and 2m Mating Cable
MSKQC-90	Sinking Switch (NPN), LED, 30VDC, 200mA, with M8 Cable Connector and 2m Mating Cable, 90° version
MSKQCX	Sinking Switch (NPN), LED, 30VDC, 200mA, with M8 Male Connector and 5m Mating Cable
MSKQCX-90	Sinking Switch (NPN), LED, 30VDC, 200mA, with M8 Cable Connector and 5m Mating Cable, 90° version
MSKX	Sinking Switch (NPN), LED, 30VDC, 200mA, with 144" Pigtail Leads
MSKX-90	Sinking Switch (NPN), LED, 30VDC, 200mA, with 144" Pigtail Leads, 90° version

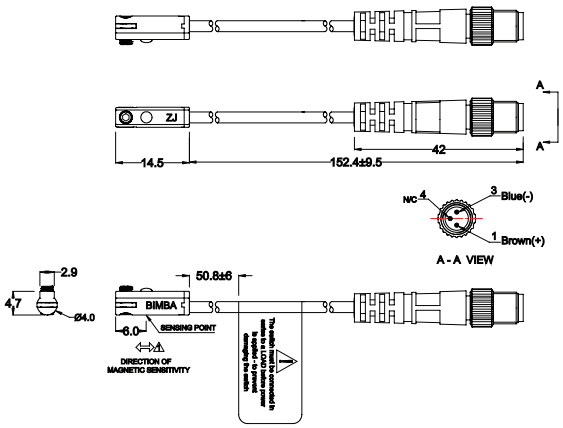
Dimensions

M Series, 4mm Round Track (C-Slot), EdgeSwitch™, Mini EdgeSwitch™, Reed and Solid State Switches

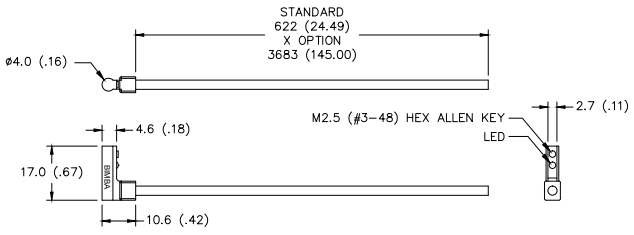
MHF, MHF-90, MHC, MHC-90, MHK, MHK-90, MR, MR-90,
MS, MS-90, MSC, MSC-90, MSK, MSK-90



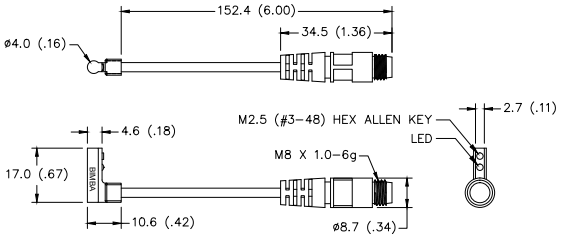
MHF, MHFX, MHK, MHKX, MHC, MHCX



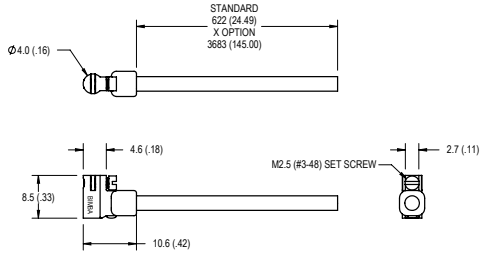
MHFQS, MHFQCS, MHFQCXS
MHKQS, MHKQCS, MHKQCXS
MHCQS, MHCQCS, MHCQCXS



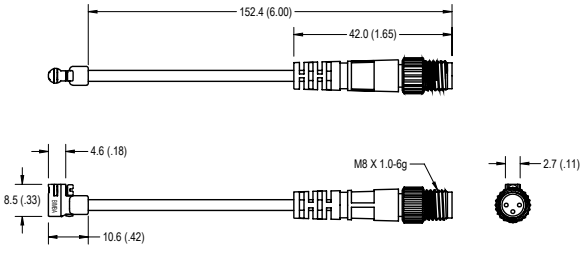
MSC-90, MSCX-90, MSK-90, MSKX-90



MSCQ-90, MSCQC-90, MSCQCX-90,
MSKQ-90, MSKQC-90, MSKQCX-90



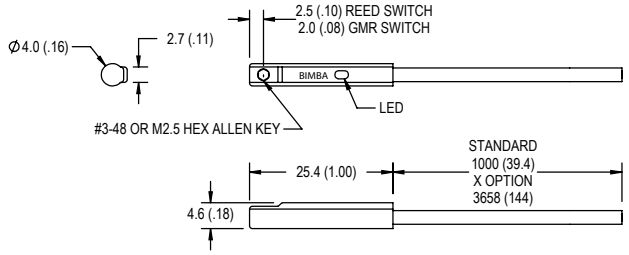
MHF-90, MHFX-90, MHC-90, MHCX-90, MHK-90, MHKX-90



MHFQS-90, MHFQCS-90, MHFQCXS-90,
MHCQS-90, MHCQCS-90, MHCQCXS-90
MHKQS-90, MHKQCS-90, MHKQCXS-90

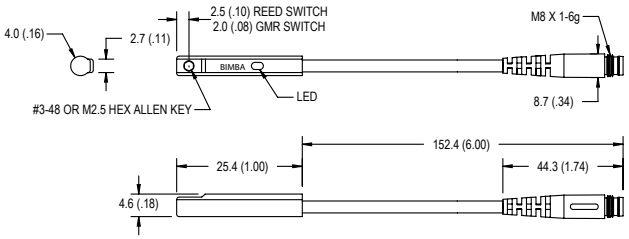
Dimensions

Mini 4mm Round (C-Slot) Track Mounted Switches

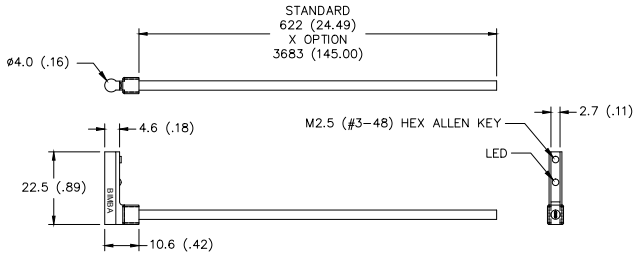


MR, MRX, MS*, MSX, MSC*, MSCX, MSK*, MSKX

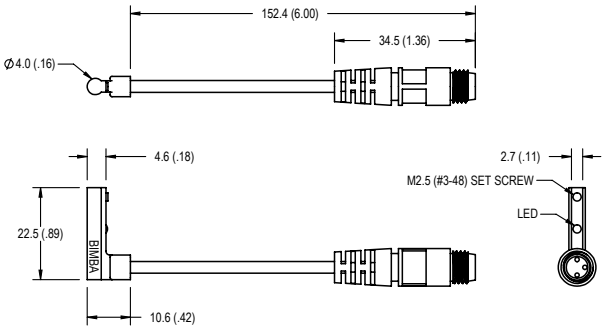
**Standard pigtail length for MS, MSC, and MSK switches is 622 (24.49)*



MRQ, MRQC, MRQCX, MSQ, MSQC, MSQCX, MSCQ, MSCQC, MSCQCX, MSKQ, MSKQC, MSKQCX



MR-90, MRX-90, MS-90, MSX-90



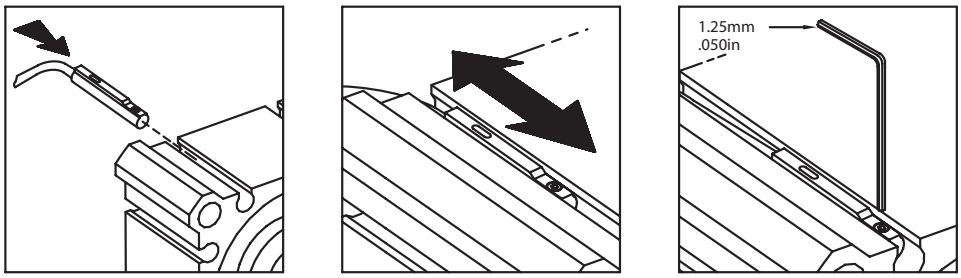
MRQ-90, MRQC-90, MRQCX-90, MSQ-90, MSQC-90, MSQCX-90

Mounting Instructions

Mini 4mm Round (C-Slot) Track Mounted Switches

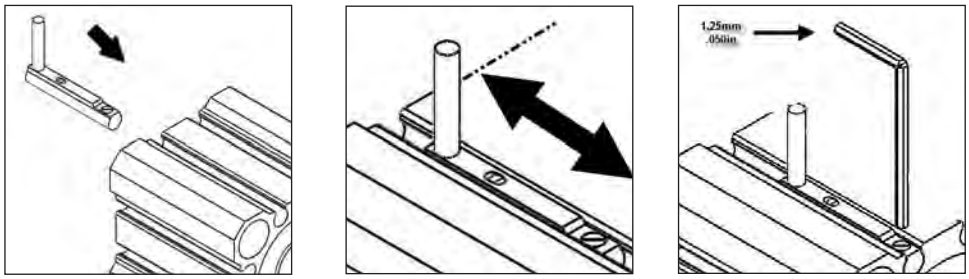
Bimba Mini Round Switches are designed to easily slide mount and lock into the existing "C-Slot" on the cylinder extension or on the attached switch track (optional) as shown below for both inline and 90° switch types. See the provided switch assembly instructions for additional detail.

MHF, MHC, MHK, MR, MS, MSC, MSK



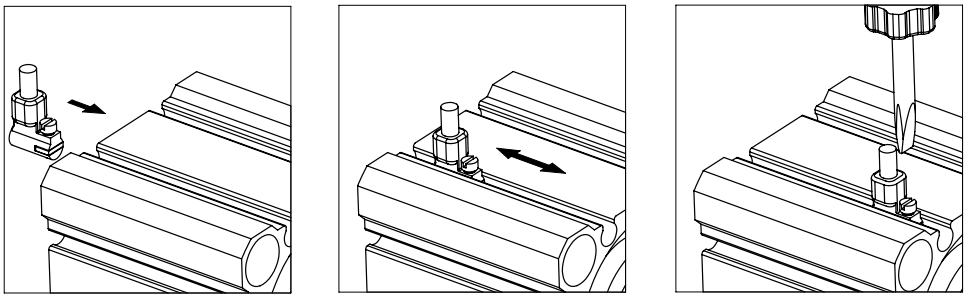
NOTE: Maximum torque on set screw is .170 N-m (1.5 in-lbs.). Do not overtorque.

MR-90, MS-90, MSC-90, MSK-90



NOTE: Maximum torque on set screw is .170 N-m (1.5 in-lbs.). Do not overtorque.

MHF-90, MHC-90, MHK-90

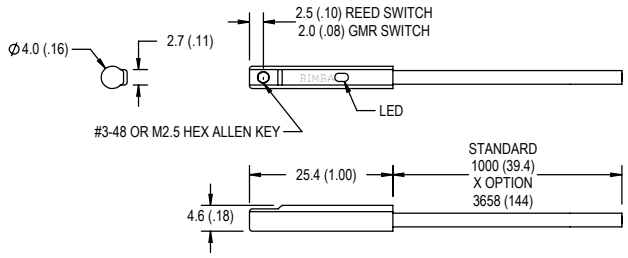


NOTE: Maximum torque on set screw is .170 N-m (1.5 in-lbs.). Do not overtorque.

Dimensions

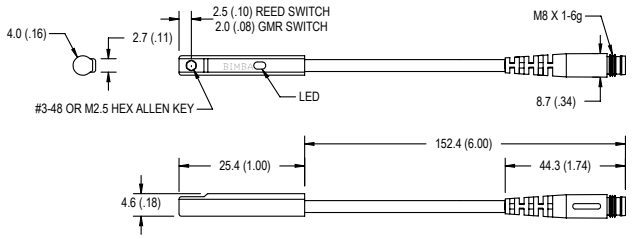
M Series, 4mm Round Track (C-Slot), EdgeSwitch™, Mini EdgeSwitch™, Reed and Solid State Switches

MDF, MDF-90, MHF-90, MHC-90, MHK-90, MR, MR-90,
MS, MS-90, MSC, MSC-90, MSK, MSK-90

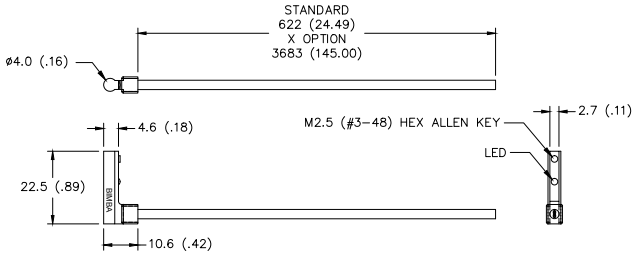


MR, MRX, MS*, MSX, MSC*, MSCX, MSK*, MSKX

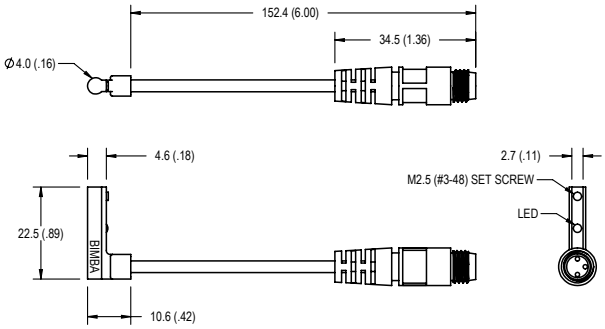
**Standard pigtail length for MS, MSC, and MSK switches is 622 (24.49)*



MRQ, MRQC, MRQCX, MSQ, MSQC, MSQCX, MSCQ, MSCQC, MSCQCX, MSKQ, MSKQC, MSKQCX



MR-90, MRX-90, MS-90, MSX-90



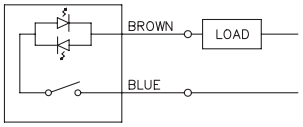
MRQ-90, MRQC-90, MRQCX-90, MSQ-90, MSQC-90, MSQCX-90

Wiring Diagrams

M Series, 4mm Round Track (C-Slot), EdgeSwitch™, Mini EdgeSwitch™, Reed and Solid State Switches

MDF, MDF-90, MHF-90, MHC-90, MHK-90, MR, MR-90, MS, MS-90, MSC, MSC-90, MSK, MSK-90

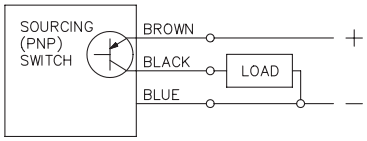
MDF, MHF (All types)



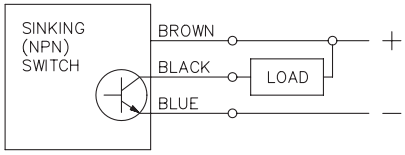
Reverse Polarity Not Protected

On Quick Connect switch models, connect only the Blue and Brown wires on the mating cable and cut back the black wire. Do not connect switch to a mating cable that has been previously wired for a three-wire solid state switch as it will short the MDFQ switch.

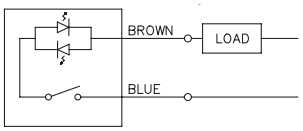
MHC, MSC (All types) (PNP, Sourcing, Solid State)



MHK, MSK (All types) (NPN, Sinking, Solid State)



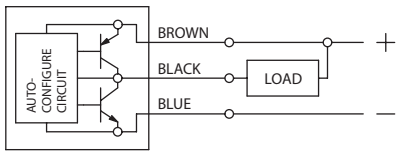
MR (All types) (Reed Switch)



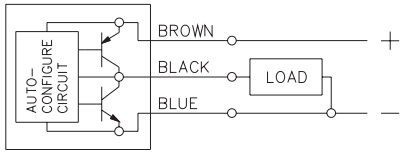
Reverse Polarity Not Protected

On Quick Connect switch models, connect only the Blue and Brown wires on the mating cable and cut back the Black wire. Do not connect switch to a mating cable that has been previously wired for a three-wire solid state switch as it will short the MRQ switch.

MS (All types) (Auto Configure PNP, Sourcing)



MS (All types) (Auto Configure NPN, Sinking)

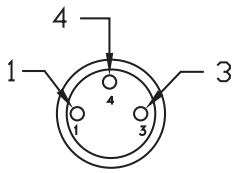


Color Codes	
Brown	(+) Positive
Black	Output
Blue	(-) Negative

Pin and Wire Assignments for Quick Connect

Switch "Q" Option Male Connector

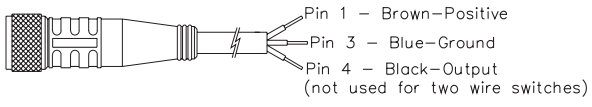
Face View of M8 Male Connector



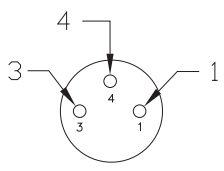
1. POSITIVE / HOT
3. NEGATIVE / NEUTRAL
4. OUTPUT

C4 and C5 Cable Female Connector

Side View of M8 Female Connector



Face View of M8 Female Connector

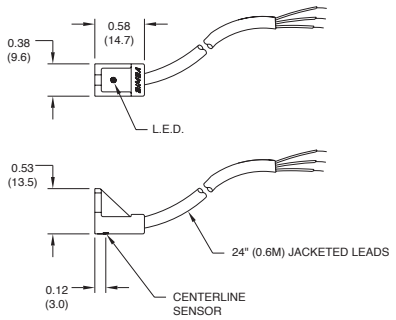


How to Specify

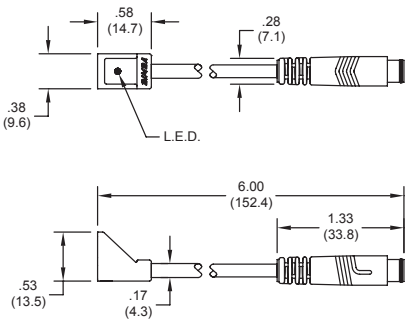
Dimensions

Flat Actuator Track Mounted, Solid State Switches

HC and HK



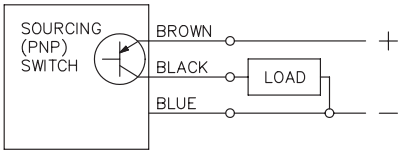
HC, HK



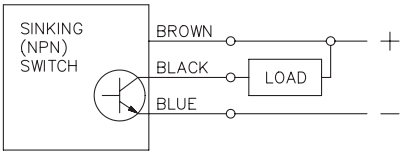
HCQ, HKQ

Wiring Diagrams

HC
(All Types) (Sourcing, PNP, Solid State)



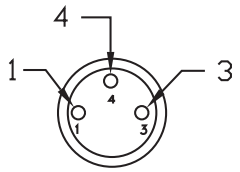
HK
(All Types) (Sinking, NPN, Solid State)



Color Codes	
Brown	(+) Positive
Black	Output
Blue	(-) Negative

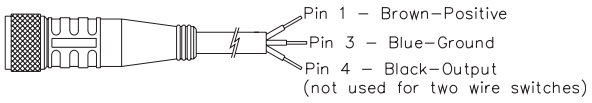
Pin and Wire Assignments for Quick Connect

Switch "Q" Option Male Connector
Face View of M8 Male Connector

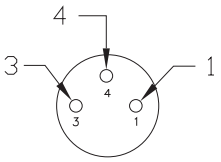


1. POSITIVE / HOT
3. NEGATIVE / NEUTRAL
4. OUTPUT

C4 and C5 Cable Female Connector
Side View of M8 Female Connector



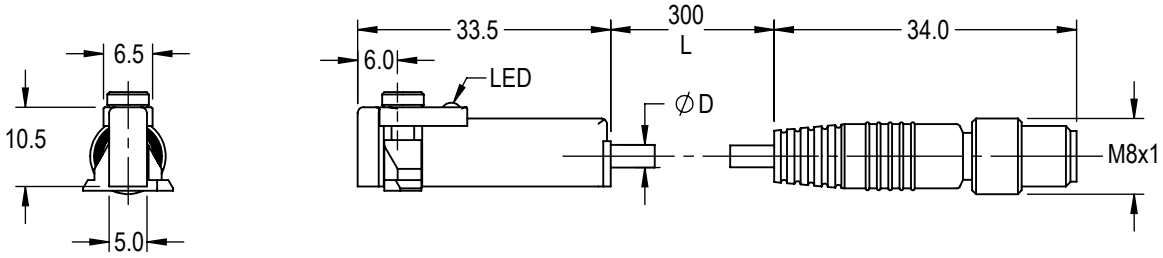
Face View of M8 Female Connector



Dimensions

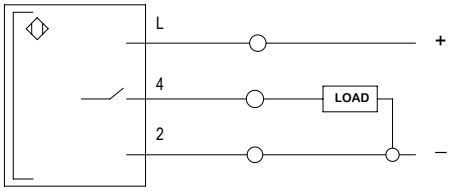
SW Series, Extruded Body Electric, Solid State Switches

SW Series

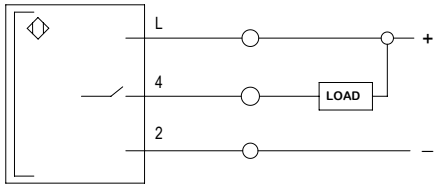


Wiring Diagrams

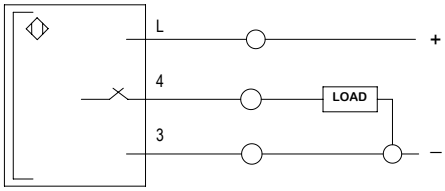
SW-PNO
(Sourcing, PNP, Solid State, Normally Open)



SW-NNO
(Sinking, NPN, Solid State, Normally Open)

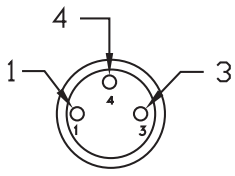


SW-PNC
(Sourcing, PNP, Solid State, Normally Closed)



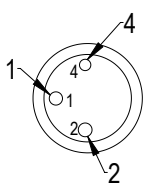
Pin and Wire Assignments for Quick Connect

Face View of Male Connector Normally Closed Switches
Compatible with C4/C5 Cables



1. POSITIVE / HOT
3. NEGATIVE / NEUTRAL
4. OUTPUT

Face View of Male Connector Normally Open Switches
Not Compatible with C4/C5 Cables



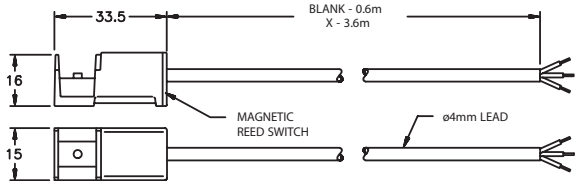
1. POSITIVE / HOT
2. NEGATIVE / NEUTRAL
4. OUTPUT

How to Specify

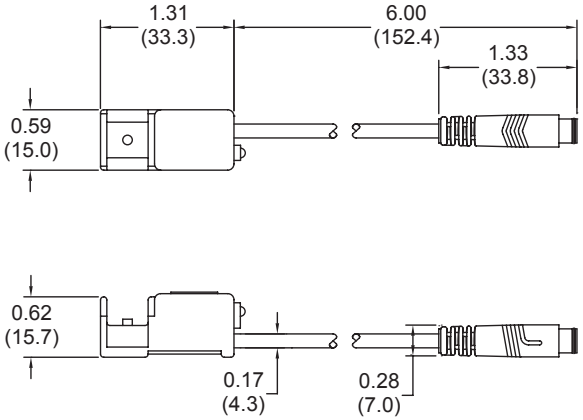
Dimensions

MRS-.027-B Series, Band Mounted (ISO 6432), Heavy Duty Reed Switches

MRS-.027-B, MRS-.027-BL

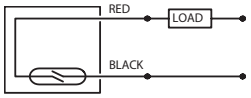


LED INDICATOR: A 'L' in the model number signifies the presence of a LED indicator.
CABLE LENGTH: The standard cable length is 0.6m. Switches with a 'X' in the model number indicate a cable length of 3.6m.



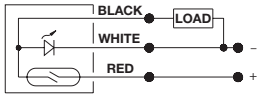
Wiring Diagrams

MRS-.027-B
(All Types) (Reed Switch)



2 wire models, no LED

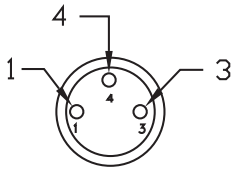
MRS-.027-BL
(All Types) (Reed Switch)



3 wire models, with LED

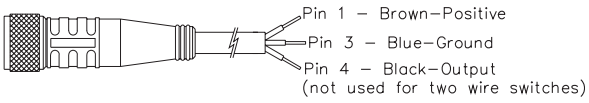
Pin and Wire Assignments for Quick Connect

Switch “Q” Option Male Connector
Face View of M8 Male Connector

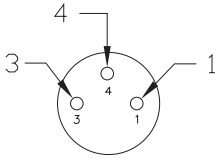


1. POSITIVE / HOT
3. NEGATIVE / NEUTRAL
4. OUTPUT

C4 and C5 Cable Female Connector
Side View of M8 Female Connector



Face View of M8 Female Connector

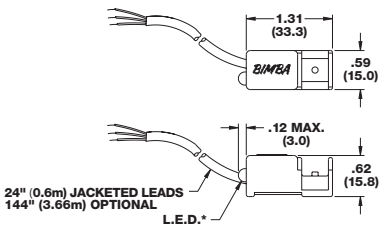


Dimensions

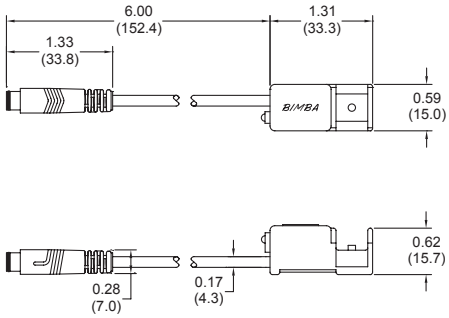
MRS-.087-B and MRS-1.5-B Series, Band Mounted, Heavy Duty Reed Switches

MRS-.087-B, MRS-.087-PB, and MRS-1.5-B

MRS-.087-B
MRS-.087-BL
MRS-.087-PBL
MRS-1.5-B

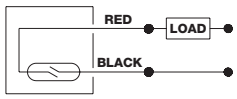


MRS-.087-BQ
MRS-.087-BLQ
MRS-.087-PBLQ

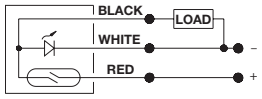


Wiring Diagrams

MRS-.087-B
(All Types) (Reed Switch)

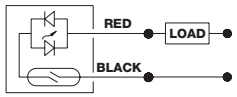


MRS-.087-BL
(All Types) (Reed Switch)

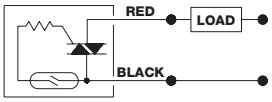


8mm Male Connector

MRS-.087-BL
(All Types) (Reed Switch)



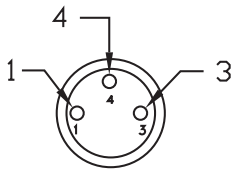
MRS-1.5-B
(All Types) (Reed Switch)



8mm Male Connector

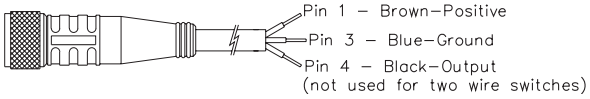
Pin and Wire Assignments for Quick Connect

Switch "Q" Option Male Connector
Face View of M8 Male Connector

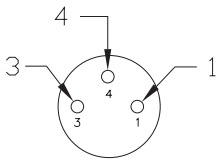


1. POSITIVE / HOT
3. NEGATIVE / NEUTRAL
4. OUTPUT

C4 and C5 Cable Female Connector
Side View of M8 Female Connector



Face View of M8 Female Connector

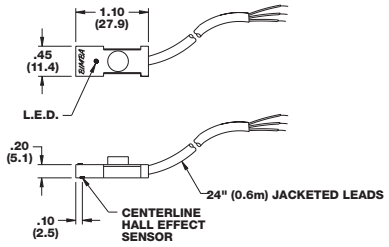


How to Specify

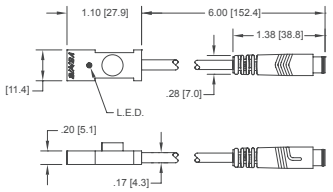
Dimensions

HS Series, Band Mounted, Solid State Switches

HSC and HSK



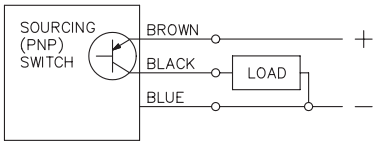
HSC, HSK



HSCQ, HSKQ

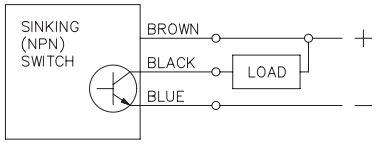
Wiring Diagrams

HSC
(All Types) (Sourcing, PNP, Solid State)



CAUTION: Shorting black wire to ground will damage switch.

HSK
(All Types) (Sinking, NPN, Solid State)

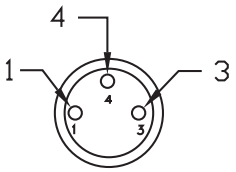


CAUTION: Shorting black wire to supply voltage will damage switch.

Color Codes	
Brown	(+) Positive
Black	Output
Blue	(-) Negative

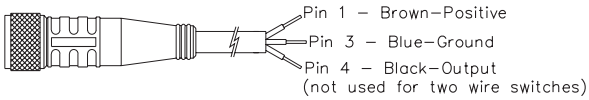
Pin and Wire Assignments for Quick Connect

Switch "Q" Option Male Connector
Face View of M8 Male Connector

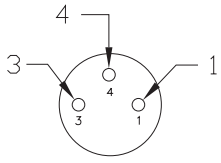


1. POSITIVE / HOT
3. NEGATIVE / NEUTRAL
4. OUTPUT

C4 and C5 Cable Female Connector
Side View of M8 Female Connector



Face View of M8 Female Connector

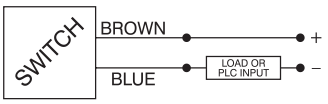


Wiring Diagrams

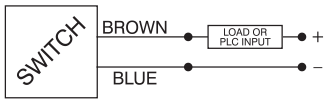
R Series Band Mounted, High Illumination Reed Switches

MSS

MSS / MSSX
Miniature Solid State Switch, Cable Type
(2 Wire Switch)



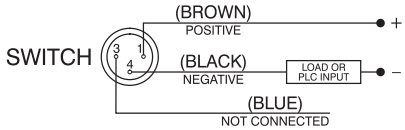
Typical Current Sourcing (PNP) Configuration



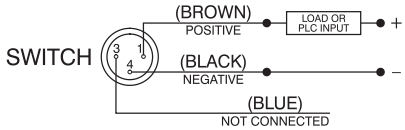
Typical Current Sinking (NPN) Configuration

Input Voltage	10 to 30 V DC
Minimum Load Current	4 mA
Maximum Load Current	300 mA
On Voltage Drop	2.5 Volts @ 4 mA 3.5 Volts @ 300 mA
Operating Temperature	-20ºC to 70ºC

MSSQ
Miniature Solid State Switch, 8mm Male Quick
Connect (2 Wire Switch)



Typical Current Sourcing (PNP) Configuration



Typical Current Sinking (NPN) Configuration

Magnetic Switch Application Information

Helpful Hints

> Be sure your actuator has a magnet option.
> Be sure to match your Solid State Switches to the proper circuits, i.e., sinking switches for sinking circuits and sourcing switches for sourcing circuits.
> Be sure to choose the correct input voltage for the switch ratings.
> Don't try to use a switch with a low current output to drive a high power circuit.
> If you have a high speed application, be sure your load circuitry doesn't have a high signal delay (some circuits have filters which cause signal delays).

Bimba has technical bulletins that describe the following situations:

1. Contact Protection (transient suppression for Reed Switches) for inductive or capacitive load switching.
2. “Or” logic operation for Solid State Switches connected in parallel.
3. “And” logic operation for Solid State Switches connected in Series.

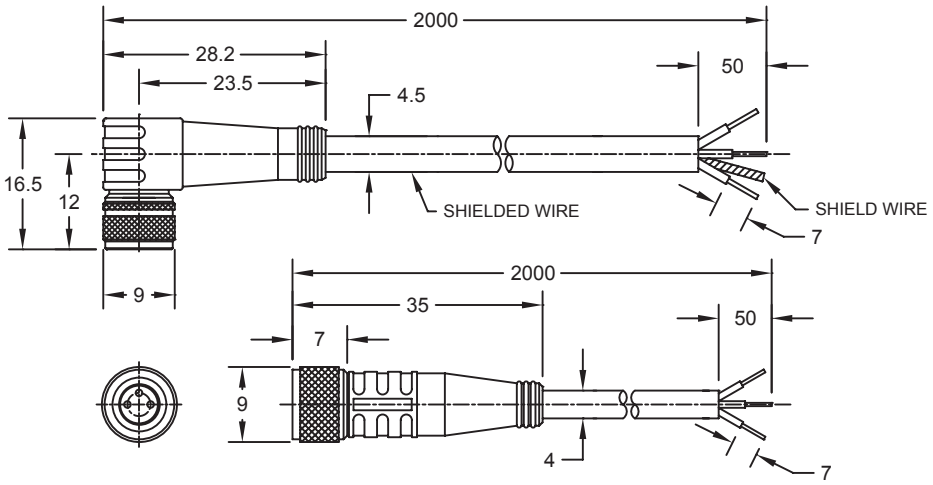
Call 1-800-44-BIMBA to speak to our Technical Assistance Center and request a copy at no charge or visit our website at www.bimba.com and click Tech Center.

Glossary

Actuating Time Average	Average time to close contacts on a reed switch.
Solid State	Solid State switching device activated by magnetic field
Hysteresis	The difference (in distance) between the spot where the switch turns “on” when the piston moves in one direction, and when the switch turns “off” when the piston moves in the opposite direction. This difference occurs because it takes more magnetic force to turn the switch “on” than it does to keep it on.
Inductive Load	The characteristic of an electrical load or device that enables it to store energy while operating and to return that energy to the circuit, as electricity, when the current is turned off, i.e., solenoids
Input Current	The amount of current needed to power switch
Inrush Current	Initial current draw from inductive loads. May be two or three times the rated holding current for such devices
Kickback, Inductive	Occurs when inductive loads are switched off. This may cause transients that can damage reed switches
MRS	Magnetic Reed Switch is a mechanical switch activated by a magnetic field
Off-state Leakage	Amount of current flow to output in the off state
Operating Window	See charts. The active window that the sensor will be in the "on" state
R-C Network	A filter network that combines a resistor and capacitor in series across a reed switch, that filters the switch from inductive kickback or transients
Response	Same as on/off time or actuating time average
Reverse Polarity Protection	Protects switch damage caused by switching the positive and negative leads
Self-Commutation	A condition inherent in triac switching when transients cause the triac to momentarily turn on, even though a magnetic field is not present
Signal Repeatability	Range at which switch will turn on or off, given the same physical switching point
Sinking	Term used for device that switches a load to ground (NPN)
Sourcing	Term used for device that switches power supply to load (PNP)
Triac	A solid state device used to switch inductive AC loads
Turn On/Off Time	The amount of time it takes to turn on or off a Solid State device

Dimensions

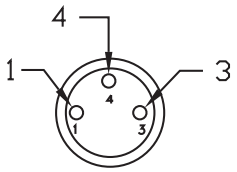
M8 Female Quick Connect Cables
C4 and C5



Wiring Diagrams

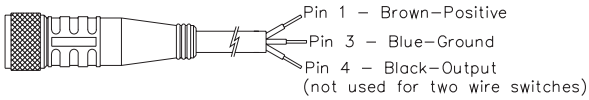
Pin and Wire Assignments for Quick Connect

Switch "Q" Option Male Connector
Face View of M8 Male Connector

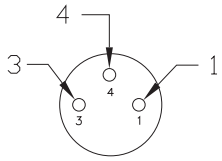


1. POSITIVE / HOT
3. NEGATIVE / NEUTRAL
4. OUTPUT

C4 and C5 Cable Female Connector
Side View of M8 Female Connector



Face View of M8 Female Connector



Quick Connect Cable Specifications

Contact Carrier Material:	Nylon
Conductors:	3 x 24 AWG
Molded Connector Head:	Polyurethane (PUR)
Contact Material:	Gold plated brass
Power Rating:	125 V @ 3A
Wire Insulation Material:	Polyvinyl Chloride (PVC)
Jacket Material:	Polyurethane (PUR)
Temperature Range:	-4° F to 200° F (-20° C to 90° C)
Protection Class:	NEMA 1, 3, 4, 6, and IEC IP67
Insulation Resistance:	10^9

How to Order

M Series, 4mm Round Track (C-Slot), Edgeswitch™, Mini-Edgeswitch™, Reed and Solid State Switches

Series	
MH	Mini EdgeSwitch Solid State
MR	Reed Switch
MS	Solid State Switch

Cable End	
Blank	24" (0.6m) with Flying Leads
	MR Series 39" (1m) with Flying Leads
X	144" (3.6m) with Flying Leads
Q	6" (0.15m) M8 Male Connector

MHKQCXS - 90

Output	
Blank [1]	MR Series - 2 Wire Reed Switch
	MS Series - 3 Wire Auto Configure NPN/ PNP
C [2]	3 Wire Sourcing (PNP)
K [2]	3 Wire Sinking (NPN)
F [2, 3]	2 Wire Solid State

Mating Cable [4]	
Blank	No cable
C	2m Mating Cable (C4)
CX	5m Mating Cable (C4X)

Swivel Connector [5]	
S [6]	Swivel Connector

Cable Take Out	
Blank	Straight
90	90°

[1] Not applicable to MH Series
[2] Not applicable to MR Series
[3] Not applicable to MS Series
[4] Q option required
[5] MH Series with Q option requires S option
[6] Not applicable to MR/MS Series

Compatible and Tested for use with:

> Original Line® Electric Cylinders

SW Series, Extruded Body Electric, Solid State Switches

Output, Cable End	
P	3 Wire Sourcing (PNP), 12" (0.3m) M8 Male Connector
N	3 Wire Sinking (NPN), 12" (0.3m) M8 Male Connector

SW - PNO

Series	
SW	Solid State Switch

Switch Contact	
NO	Normally Open
NC	Normally Closed

Compatible and Tested for use with:

- Belt Driven Actuator S Series B27
- Belt Driven Actuator S Series B80-B110
- Belt Driven Actuator ST Series ST80
- Belt Driven Actuator D Series LP15B-LP20B
- Belt Transfer Actuator Series BAT80-BT80
- Ballscrew Actuator Series S27
- Ballscrew Actuator Series S80-S110
- IntelliAxisTM H- Bot
- IntelliAxisTM T- Bot
- RS Rack Slide

How to Order

MRS-.087-B Series, Band Mounted, Heavy Duty Reed Switches

Series	
MRS-.087	AC/DC Switch

Cable End	
Blank	24" (0.6m) with Flying Leads
Q	6" (0.15m) M8 Male Connector

MRS - .087 - BLQCX - DW5

Wire Count, Cable Length, LED	
B[1]	2 Wire, 24" (0.6m) with Flying Leads, No LED
PBL[1]	2 Wire, 24" (0.6m) with Flying Leads, LED
BL[1]	3 Wire, 24" (0.6m) with Flying Leads, LED
XB[2]	2 Wire, 144" (3.6m) with Flying Leads, No LED
PCBL[2]	2 Wire, 144" (3.6m) with Flying Leads, LED
XBL[2]	3 Wire, 144" (3.6m) with Flying Leads, LED

Mating Cable[3]	
Blank	No cable
C	2m Mating Cable (C4)
CX	5m Mating Cable (C4X)

Band	
Blank	No band
-17	1-1/2" (38mm)
-31	2" (50mm)
-70	3"
-DW1	1-1/2" Double Wall
-DW2	2" Double Wall
-DW3	2-1/2" Double Wall
-DW4	3-1/4" Double Wall
-DW5	4" Double Wall

[1] Cable length applies to flying lead only
[2] Not valid with Q option
[3] Q option required

Compatible and Tested for use with:

> Original Line Electric Cylinders

MRS-1.5-B Series, Band Mounted, Heavy Duty High Current AC-Only Reed Switch

Series	
MRS-1.5	AC Switch

MRS - 1.5XB - DW5

Wire Count, Cable Length, LED	
B	2 Wire, 24" (0.6m) with Flying Leads, No LED
XB	2 Wire, 144" (3.6m) with Flying Leads, No LED

Band	
Blank	No band
-02	9/16" (14mm)
-04	3/4" (19mm)
-06	7/8"
-09	1-1/16" (27mm)
-12	1-1/4"
-17	1-1/2" (38mm)
-24	1-3/4"
-31	2" (50mm)
-50	2-1/2"
-70	3"
-M10	10mm
-M12	12mm
-M16	16mm
-M20	20mm
-M25	25mm
-DW1	1-1/2" Double Wall
-DW2	2" Double Wall
-DW3	2-1/2" Double Wall
-DW4	3-1/4" Double Wall
-DW5	4" Double Wall

Compatible and Tested for use with:

> Original Line Electric Cylinders

How to Order

HS Series, Band Mounted, Solid State Switches

Series	
HS	Solid State Switch

Cable End	
Blank	24" (0.6m) with Flying Leads
X	144" (3.6m) with Flying Leads
Q	6" (0.15m) M8 Male Connector

HSCQCX - 17

Output	
C	3 Wire Sourcing (PNP)
K	3 Wire Sinking (NPN)

Mating Cable[1]	
Blank	No cable
C	2m Mating Cable (C4)
CX	5m Mating Cable (C4X)

[1] Q option required

Band	
Blank	No band
-17	1-1/2" (38mm)
-31	2" (50mm)
-70	3"

Compatible and Tested for use with:

> Original Line Electric Cylinders

MSS Series, High Illumination, Reed Switches

Cable End	
Blank	24" (0.6m) with Flying Leads
X	120" (3m) with Flying Leads
Q[2]	6" (0.15m) M8 Male Connector

MSSXCX

Series	
MSS	2 Wire, Solid State Sourcing (PNP)/Sinking (NPN)

Mating Cable[1]	
Blank	No cable
C	2m Mating Cable (C4)
CX	5m Mating Cable (C4X)

Band Size[2]	
Part Number	**Bore Size**
USB25	Mounting band for cylinders up to 2-1/2" (63mm) bore
USB50	Mounting band for cylinders 2-1/2" (63mm) bore up to 5" (127mm) bore
USB80	Mounting band for cylinders 2-1/2" (63mm) bore up to 8" (203mm) bore

[1] Q option required
[2] All switches above are band mounted. Band is ordered separately.

Compatible and Tested for use with:

> Original Line Electric Cylinders

How to Order

M8 Female Quick Connect Cables (C4 and C5)

Compatible and Tested for use with:
All Bimba Actuators with “Q” Option

Cable End	
4	Straight 3-Pin M8 Female Connector
5	Right Angle 3-Pin M8 Female Connector

Cable Length	
Blank	2 meter
X	5 meter

C4X - S

Series	
C	Cable

Shielding	
Blank[1]	Unshielded Cable
S	Shielded Cable

[1] *Not available with Right Angle Connector*

Linear Scale

In extreme cases where precision beyond the normal tight accuracy of the HSXY/Z is desired, Bimba offers external Linear Scales. They are capable of providing extended position precision to as tight as 10µm. These scales are composed of a reading head and external scale. Linear scales are available in incremental or absolute versions which can be added to your actuator as an additional component when included in the final part number.

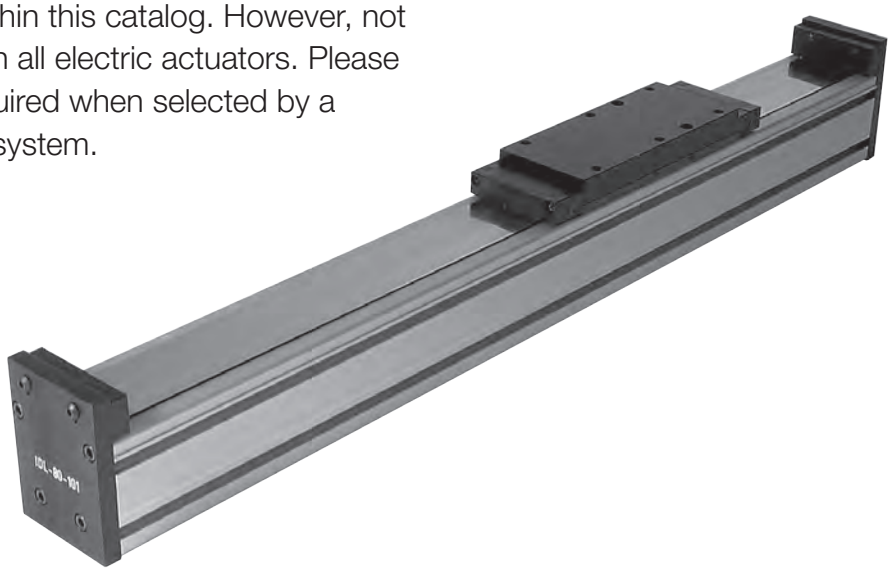
External Linear Scale

Notes

Accessories

This section covers available standard accessories for use with many or all of the Bimba electric actuator family. Please review these pages for available options that may be used with your selected electric actuator. It is important to remember that there may be other accessory options available that are not shown in this section of the catalog.

The various parts shown within each section constitute potential accessories that you may wish to employ with one or more Bimba electric actuators found within this catalog. However, not all accessories are compatible with all electric actuators. Please note that an accessory is only required when selected by a customer to complete his motion system.



Contents

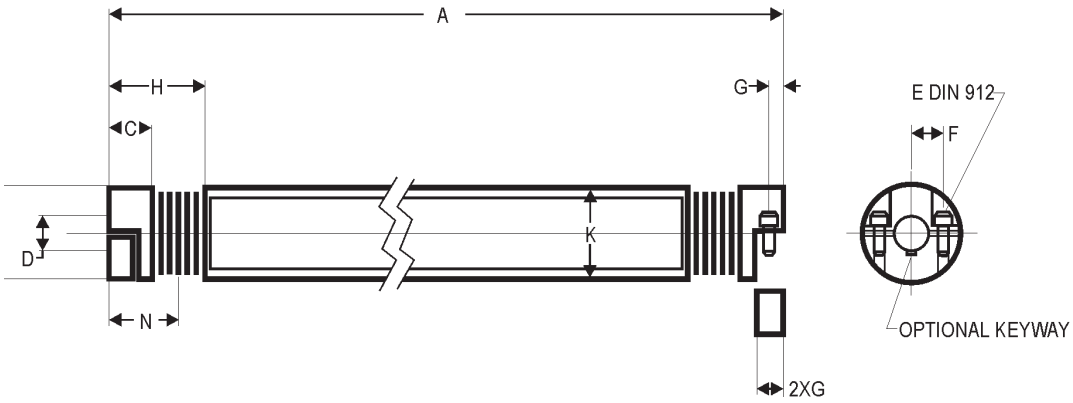
Torque Tubes

A torque tube is a mechanical tube member of a single or multi-axis electric actuator system. It is intended to provide support and high stiffness to systems that span a longer distance than is often found in a gantry system. Providing backlash-free, torsionally stiff performance, a Bimba torque tube is a perfect complement to Bimba electric actuators that require an external support member.

Features and Benefits

- > Backlash-free and torsionally stiff
- > Spanning larger axial distances
- > Easy mounting and dismounting
- > Clamping hubs with two radial screws
- > Intermediate tube section mounted on gimbals in the clamping hub
- > Bellows made of flexible high grade stainless steel
- > Aluminum intermediate tube section
- > Low moment of inertia

Dimensions

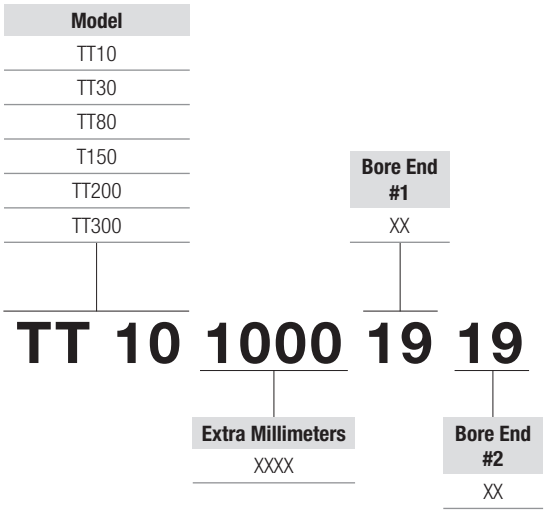


Size Rated Torque (Nm)	Overall Length From-To (mm)	Outer Diameter (mm)	Fit Length (mm)	Inter Diameter (mm)	With Keyway (mm)	DIN912 Screw Size	Tightening Torque (Nm)
TT	A	B	C	D	DN	E	
10	110-6000	40	18	5-20	17	M4	5
30	140-6000	55	27	10-28	23	M8	15
80	170-6000	68	31	12-32	29	M8	40
150	190-6000	81	35.5	19-42	36	M10	70
200	210-6000	90	40.5	22-45	45	M12	110
300	250-6000	110	43	30-60	60	M12	110

Size Rated Torque (Nm)	Distance (mm)	Clamp Width (mm)	Bellows Body (mm)	Outer Tube Diameter (mm)	Center Lines (mm)	Axial Mis-Alignment (mm)
TT	F	G	H	K	N	
10	15	5	44.5	35	25	2
30	19	7.5	57.5	50	34	2
80	23	9.5	71	60	41	3
150	27	11	78	75	47	4
200	31	12.5	88	90	52	4
300	38	13	94	100	58	4

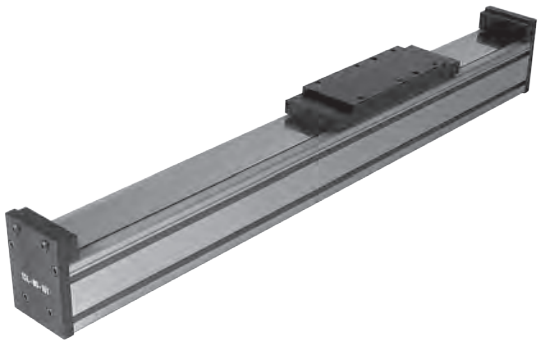
How to Order

An example of a basic torque tube unit with length 10 and one extra meter of length is shown below.



Idlers

An idler is a mechanical member of a single or multi-axis electric actuator system. It is essentially built from the base foundation of an S80 or S110 electric actuator but is assembled without the internal ballscrew drive system and associated external drive shaft. However, it does contain an external carriage assembly with the internal self-lube ball-bearing rail system found on the S80.



It is intended to be used as a supporting member and provide high stiffness to single-axis or gantry applications that span shorter distances. An idler allows the design engineer to move much larger loads than would be possible by a single electric actuator. It effectively becomes the adjacent or parallel support member of a Bimba actuator, leading to greater load and moment loading capability.

Features and Benefits

- Stainless steel sealing strip cover
- Long life self-lubricant linear bearings
- Smooth operation with high stiffness and moment capacity
- Low friction
- Supports high loads in most any mounting configuration

Disassembly

Call Bimba before any disassembly of the linear actuator. Bimba's warranty may be voided if the customer disassembles the linear actuator.

If disassembly is required, then the first thing to be removed is the sealing strip. At each end of the actuator is a sealing strip clamp as listed below. Remove the bolts holding the clamps, then flip the end of the strip over to access the bottom clamp fixture. Remove this by disassembling the bolts and slide the strip out of the carriage.

To reinstall, reverse this procedure, making sure that adequate tension is on the strip to insure that buckling of the strip does not occur.

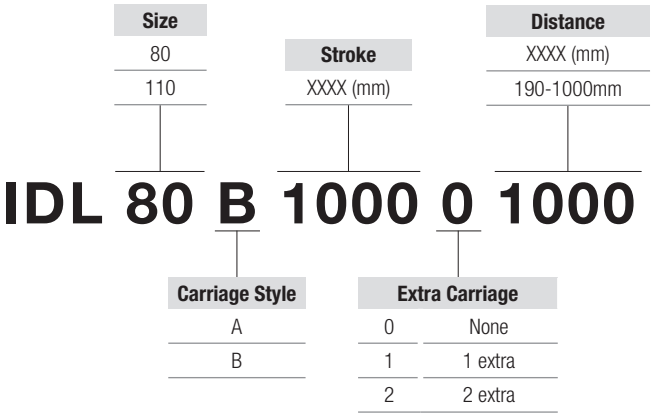
Spare Parts

Please use the linear actuator serial number installed at the drive end for all inquiries along with the original purchase order number (if available). Describe the part required and contact Bimba at cs@bimba.com.

Available Spare Parts	Size 80	Size 110
Stainless Sealing Strip	S80-16	S110-13
Sealing Strip Clamp	S80-14	S110-14
Double Carriage Assembly	S80-09	S110-09
Single Carriage Assembly	S80-10	S110-10

How to Order

An example of a basic size 80 idler with a B-style carriage and 10000m stroke is shown below.



Magnetic Switches

Bimba magnetic limit switches offer a one-stop selection experience with a large offering of reed and solid-state switches. These switches provide a position interface between the electric actuator and the electrical control system. Our pre-tested solutions also eliminate costly, time-consuming design and testing required if the magnetic switch is purchased separately and provides an aesthetically pleasing installation. They are available in AC, DC, reed, PNP, NPN, TRIAC, 2-wire SS (EdgeSwitch™) NO, NC, illuminated, track-mounted, band-mounted, pigtail, or M8 quick-connect types. Bimba is sure to have a magnetic switch to meet your unique application needs.

Switch accessory PNO

Part Number	Switch Type	Operation
SW-PNO	PNP	Normally Open
SW-PNC	PNP	Normally Closed
SW-NNO	NPN	Normally Open

Cordset with Quick Connect

For Non-Flex 5M Cables:	Part Number CBL-NFX-050-M
For Flex 5M Cables:	Part Number CBL-FX-050-M

Limit Switches

Limit switches are available from Bimba in many different types, styles, and feature sets, leading to a near certain likelihood of finding one that meets your application needs.

Product Features

Mounting Clamps

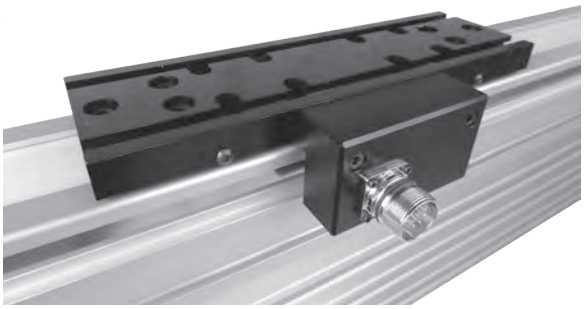
To secure an actuator to the machine frame, hold-down clamps are available. They are designed to fit perfectly in the extruded body actuator T-channel. Appropriate sized clamps are available for the IDL80/110 actuator, as well as all of Bimba's electric actuators.

Features and Benefits

- Pre-configured mounting clamps allow for secure mounting in horizontal or vertical positions
- Anodized aluminum mounting clamps offer strength and protection in harsh installs

Linear Scales

In those extreme cases where precision beyond the normal tight accuracy of our actuator is desired, Bimba offers external Linear Scales that are capable of providing extended position precision to as tight as 10µm. These scales are composed of a reading head and external scale and are available in incremental or absolute versions which can be added to your actuator, as an additional component, when included in the final part number.



Features and Benefits

- Standard 10µ position resolution offers extreme precision for high precision positioning applications
- 1µ and 0.1µ types available, increasing precision by 10 and 100 times

Product Features

T-bars

A T-bar is a mechanical tube member of a Bimba electric belt-drive actuator system. These T-bars slide and mount into the T-slot on the carriage and are intended for customers to drill and tap as they want so that they can mount to any B80, B110 or ST80 carriages. The length matches the carriage lengths.

It is intended to be a supporting member and provide high stiffness to systems that span a longer distance as is often found in single axis actuators.

Features and Benefits

- Offers customized mounting
- Available with most Bimba belt and ballscrew rodless actuators
- Provides increased stiffness, leading to more stable positioning
- Ideal for long length actuators

Part Number
B80-190L
B80-260L
B110-210L
B110-305L

Adapter plates are available for a variety of Bimba electric actuators. If an adapter plate is required, please submit the adapter plate style (ADIL) and actuator code (B27, B80, etc.), as well as either the motor print or the five dimensions noted below.

Adapter Plate (Inline Style)

Adapter Style	Actuator	Pilot Diameter	Bolt Pattern	Bolt Specifications	Shaft Length	Shaft Diameter
ADIL	B27	XX.XX (mm)	XX.XX (mm)	XX.XX (mm)	XX.XX (mm)	XX.XX (mm)
	B80					
	B110					
	ST80					
	BT80					
	LP15B					
	LP20B					

ADIL B27 - 25.40 - 38.10 - 06.60 - 29.97 - 18.97

Adapter Plate Tips

> Inline adapters (IL) are used with any Bimba electric actuator, including both ballscrew and belt drive types.
> When an adapter is ordered, the adapter plate information listed above must be provided at the time of order to avoid delays.
> As an option, you may submit the motor drawing print in lieu of the five dimensions (e.g., ADIL-B27 Motor Print).

How to Order

Adapter plates are available for a variety of Bimba electric actuators. If an adapter plate is required, please submit the adapter plate style (ADBR) and actuator code (S27, S80, etc.), as well as either the motor print or the five dimensions noted below.

Adapter Plate (Belt Reduction Style)

Adapter Style	Actuator	Pilot Diameter	Bolt Pattern	Bolt Specifications	Shaft Length	Shaft Diameter
ADBR	B27	25.40	38.10	06.60	29.97	18.97

Actuator
- S27
- S80
- S110
- LP15S
- LP20S

Pilot Diameter: XX.XX (mm)

Bolt Pattern: XX.XX (mm)

Bolt Specifications: XX.XX (mm)

Shaft Length: XX.XX (mm)

Shaft Diameter: XX.XX (mm)

Adapter Plate Tips

- Belt Reduction (BR) adapters are typically used with ballscrew actuators, such as the Bimba S Series.
- When an adapter is ordered, the adapter plate information listed above must be provided at the time of order to avoid delays.
- Belt Reduction adapters are available in 1:1, 1.5:1, 2:1, and 2.5:1 ratios.
- As an option, you may submit the motor drawing print in lieu of the five dimensions (e.g., ADBR-B27-Motor Part Number-Reduction Ratio).

Notes

Notes

Notes

For further information, scan this QR code or visit
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