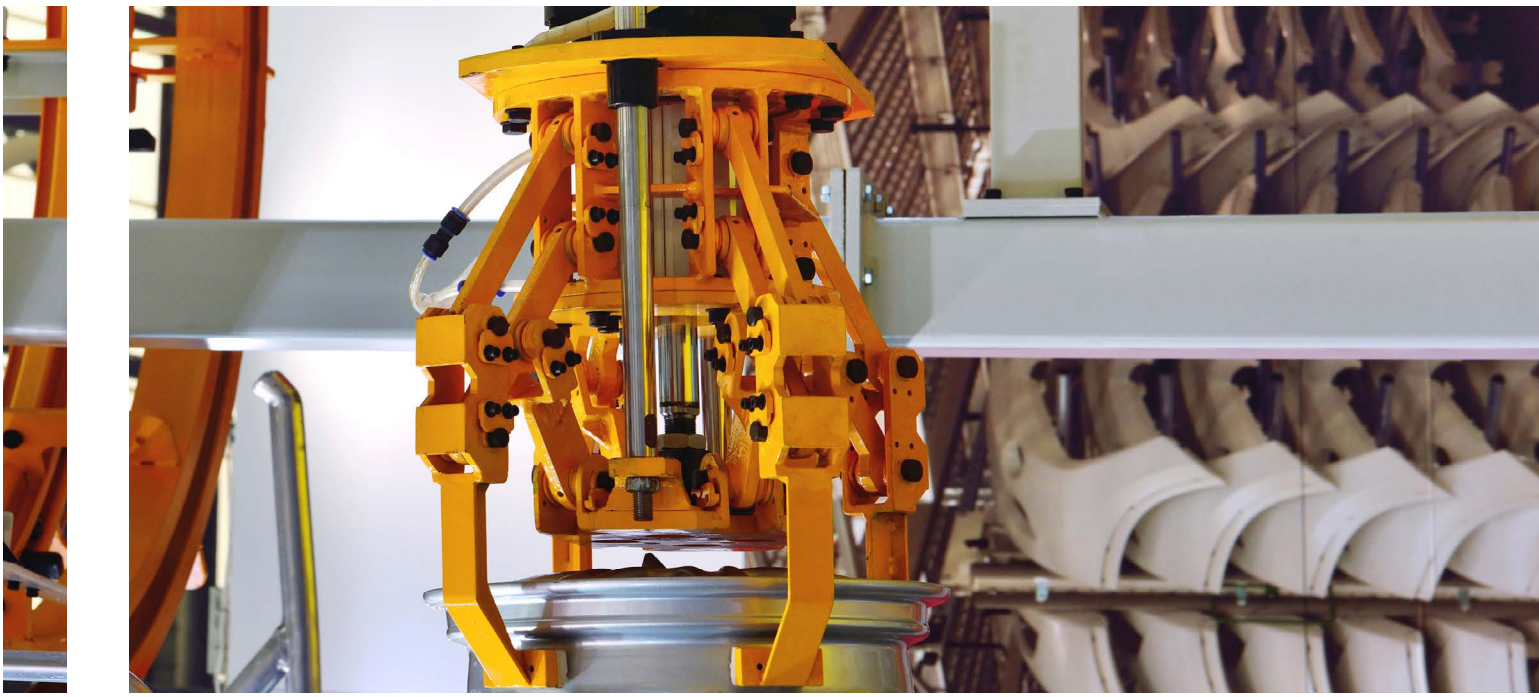
CURTISS-WRIGHT



Exlar® KX Catalog

Universal Electric Roller Screw Actuator

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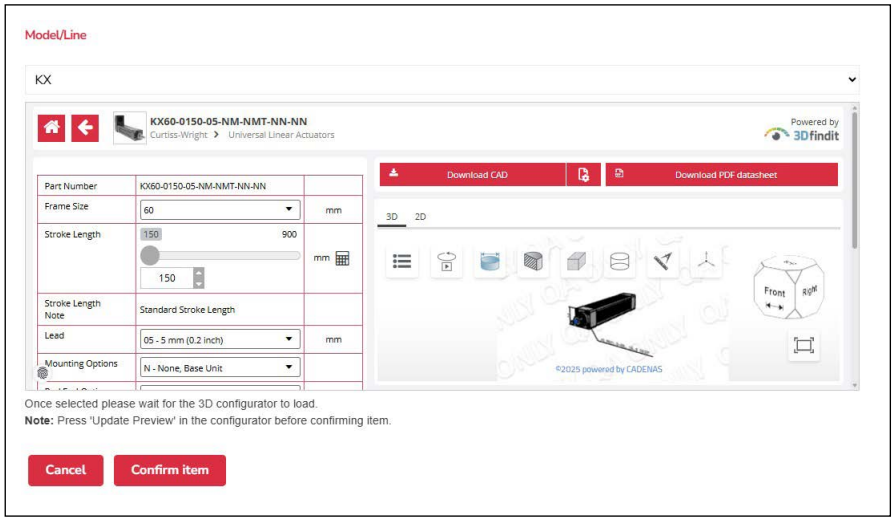
Configure and Download Your Model Today!



CURTISS-WRIGHT

Exlar® KX

Universal Roller Screw Actuator

Key Features

- Mount virtually any servo motor
- Long stroke lengths available
- High speed and long life

Applications

- Automotive
  - Dispensing, automated assembly, and clamping
- Food Processing
  - Packaging machinery and pick and place systems
- Machining
  - Automated flexible fixturing, machine tool, and automatic tool changers
- Entertainment / Simulation
  - Motion simulators and ride automation
- Medical Equipment
  - Volumetric pumps
- Plastics
  - Cut-offs, Die cutters, molding, and formers
- Material Handling
  - Indexing stages, product sorting, material cutting, open / close doors, wire winding, and pressing
- Test
  - Test stands

Exlar KX actuators offer advanced roller screw technology in varying performance levels and allow the use of third-party motors.

A Universal Design for Ultimate Flexibility

The Exlar KX actuator provides an ideal replacement for pneumatic and hydraulic cylinders in linear motion control applications. Unlike most suppliers who employ ballscrews, Exlar KX linear actuators utilize a planetary roller screw, assuring long life and high resistance to shock. This feature makes our actuators far superior to alternative methods for applying all-electric linear actuation in industrial and military applications.

Exlar KX actuators are offered in 60, 75, and 90 mm frame sizes with dimensions and a form-factor consistent with ISO Metric pneumatic cylinder specifications. This allows convenient substitution of Exlar KX actuators for existing pneumatic and hydraulic actuators.

Exlar KX actuators provide high performance planetary roller screw performance that is far superior to any other available rotary-to-linear conversion technologies. The Exlar KX is the ideal choice for demanding applications in industrial automation, mobile equipment, military, process control, or many other applications where millions of inches of travel under load is expected.

Operating Conditions and Usage		
Efficiency:		
Motor Inline	%	80
Motor Parallel	%	80
Ambient Conditions:		
Standard Ambient Temperature	°C	0-65
Extended Ambient Temperature*	°C	-30 to 65
Storage Temperature	°C	-40 to 85
IP Rating		IP65S

*Consult cha_applications@curtisswright.com for extended temperature operation.

Technical Characteristics	
Frame Sizes in (mm)	2.3 (60), 2.9 (75), 3.5 in (90)
Screw Leads in (mm)	0.19 (5), 0.4 (10)
Standard Stroke Lengths in (mm)	5.9 (150), 11.8 (300), 23.6 (600), 35.4 (900)
Force Range	up to 3,500 lbf (15 kN)
Maximum Speed	up to 32.8 in/s (833 mm/s)

Frame Size		60	75	90
Screw Lead Error	µm/1000 mm (in/ft)	G9: 200 (0.0024)	G9: 200 (0.0024)	G9: 200 (0.0024)
Screw Lead Backlash	mm (in)	0.10 (0.004)	0.10 (0.004)	0.10 (0.004)
Friction Torque Values	(Nm) lbf-in	0.34 (3)	0.56 (5)	0.56 (5)

The Exlar KX Advantage

Universal Mounting Options

The Exlar KX Product offers a wide variety of fixed and adjustable mounting accessories consistent with NFPA inch and ISO Metric pneumatic cylinder standards. The mounting options include:

- Front Flange
- Adjustable Side Trunnions
- Rear Clevis

Standard Actuator Construction

The standard Exlar KX actuator design includes an anodized aluminum housing offering a high level of corrosion resistance in many environments. The standard main rod is plated steel with a stainless steel rod end insert, providing excellent wear characteristics.

Sealed Body Design

The standard body design of the Exlar KX Product provides an IP54S sealed housing. IP65S sealing is standard when an inline or parallel motor mount is specified. This feature allows the actuator to be used in applications where water spray is present.

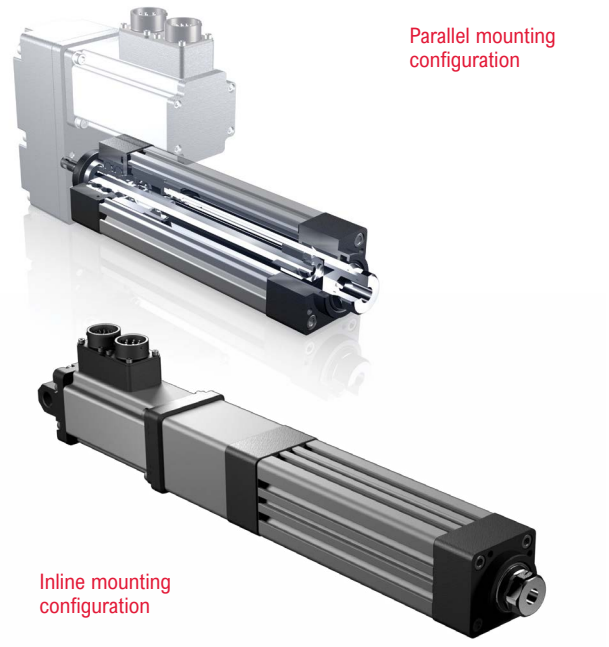
Motor Mounting Options

The Exlar KX allows for complete flexibility in the type and style of motor to drive the actuator. Types of motors compatible with Exlar KX actuators include DC motor, stepper, and servo motors. The Exlar KX Product can be ordered as a base unit without motor mounting, allowing you to manufacture your own mount.

For convenience these actuators are available with preconfigured motor mounts. We maintain a large library of motor mounting dimension information for most manufacturers' servos and stepper motors.

The inline mount places the motor on the input end of the actuator and allows the most compact form factor. In addition, we offer a clevis mount attached to the rear of the inlinemounted motor for rear mounting.

The parallel motor mounts (side mount) utilize a belt drive system to transmit the motor torque to the actuator input shaft. Belt reductions of 1:1 and 2:1 are offered, allowing you to conveniently match the speed and output force to properly apply your Exlar KX Product actuator to your specific application.



Parallel mounting configuration

Inline mounting configuration

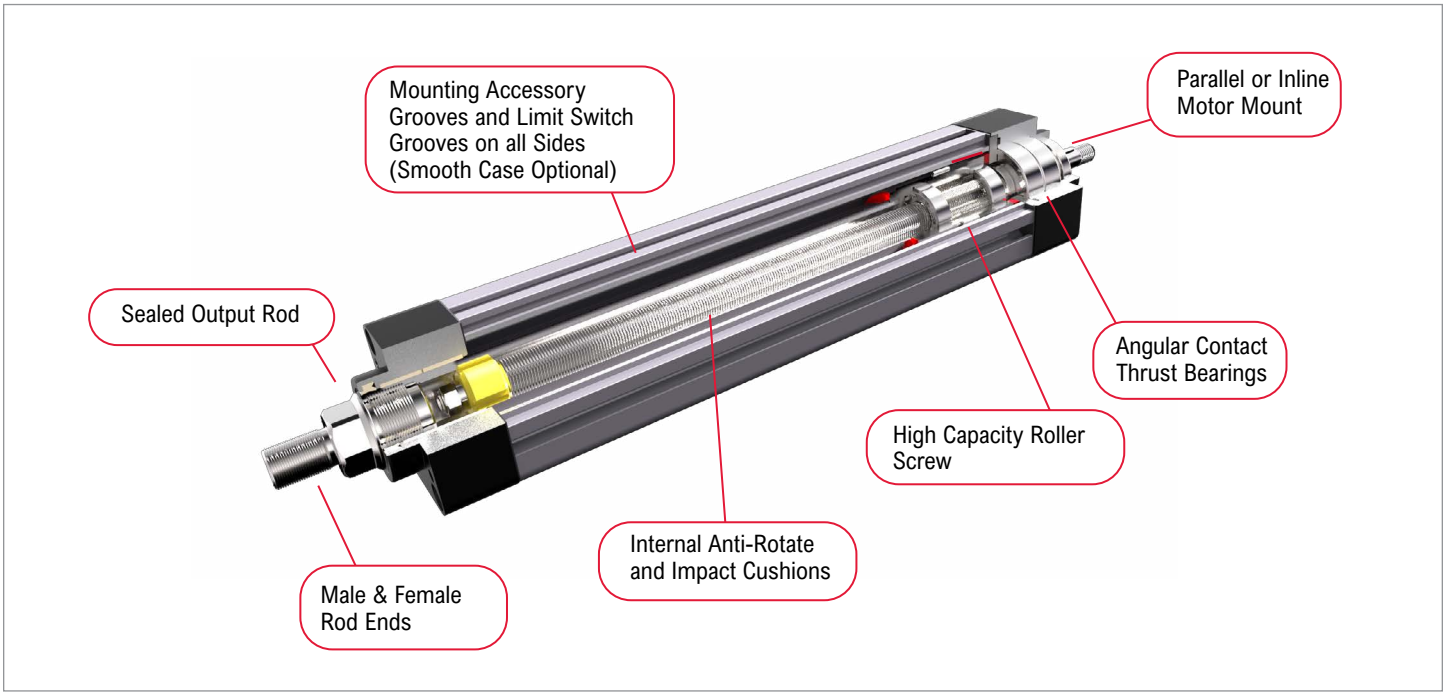


Figure 1: Product Features

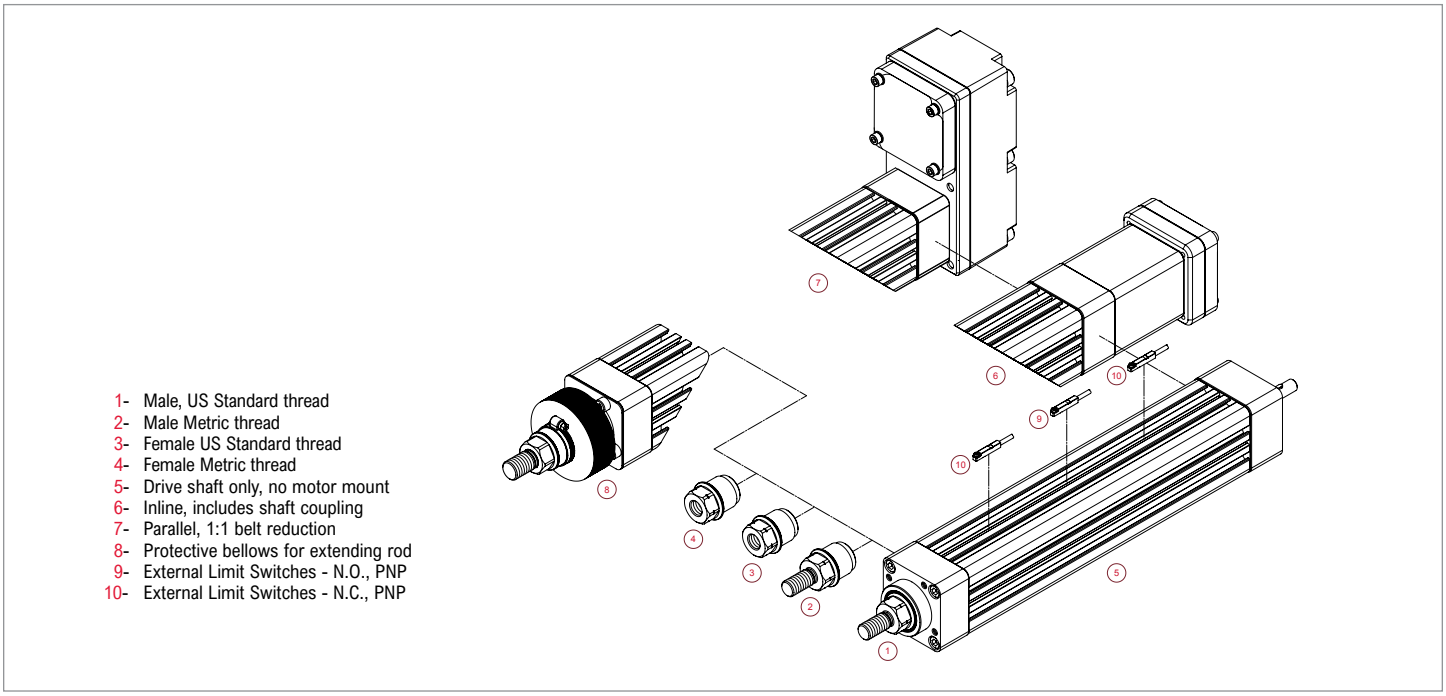


Figure 2: Exploded View

Specifications

Exlar KX60

Models	KX	
	5	10
Screw Lead	0.1969 in (5 mm)	0.3937 in (10 mm)
Maximum Force[3]	1350 lbf (6.0 kN)	675 lbf (3.0 kN)
Life at Maximum Force[1]	1.6 in x 10^6 (41.7 km)	18.2 in x 10^6 (461.4 km)
C_a (Dynamic Load Rating)	2738 lbf (12.2 kN)	2421 lbf (10.8 kN)
Maximum Input Torque[2]	53 lbf-in (6 Nm)	53 lbf-in (6 Nm)
Max Rated RPM @ Input Shaft	5000 RPM	5000 RPM
Maximum Linear Speed @ Maximum Rated RPM	16.4 in/s (417 mm/s)	32.8 in/s (833 mm/s)

1. See life calculation information.
2. Input torque should be limited such that Max Force is not exceeded. For a parallel belt ratio, the input torque ratings must be divided by the belt ratio for allowable motor torque. The output force ratings remain the same.
3. Maximum allowable actuator–generated force that can be applied routinely. Exceeding this force may result in permanent damage to the actuator. For maximum allowable externally-applied axial forces, consult factory. For high force, short stroke applications, consult factory.

Weights		
Base Actuator Weight (Zero Stroke)	lb	3.7
	kg	1.7
Actuator Weight Adder (Per mm of Stroke)	lb	0.017
	kg	0.008
Adder for Inline (excluding motor)	lb	0.93
	kg	0.42
Adder for Parallel Drive (excluding motor)	lb	1.6
	kg	.73
Adder for Front Flange	lb	0.93
	kg	0.42
Adder for Rear Clevis	lb	0.98
	kg	0.44

KX60 Inertias kg-m^2 (lbf-in-s^2)	5 mm Lead	Add per 25 mm, 5 mm Lead
Base Unit - Input Drive Shaft Only	1.480 x 10^{-5} (1.31 x 10^{-4})	1.022 x 10^{-6} (9.045 x 10^{-6})
Inline Unit - w/Motor Coupling	2.702 x 10^{-5} (2.39 x 10^{-4})	1.022 x 10^{-6} (9.045 x 10^{-6})
	10 mm Lead	**Add per 25 mm, 10 mm Lead**
Base Unit - Input Drive Shaft Only	1.616 x 10^{-5} (1.43 x 10^{-4})	1.173 x 10^{-6} (1.038 x 10^{-5})
Inline Unit - w/Motor Coupling	2.837 x 10^{-5} (2.51 x 10^{-4})	1.173 x 10^{-6} (1.038 x 10^{-5})
Parallel Drive Inertias (P10 Option)	**5 mm Lead**	**Add per 25 mm, 5 mm Lead**
1:1 Reduction Parallel Belt Drive (66 mm)	4.339 x 10^{-5} (3.84 x 10^{-4})	1.022 x 10^{-6} (9.045 x 10^{-6})
1:1 Reduction Parallel Belt Drive (86 mm)	7.378 x 10^{-5} (6.53 x 10^{-4})	1.022 x 10^{-6} (9.045 x 10^{-6})
1:1 Reduction Parallel Belt Drive (96 mm)	8.564 x 10^{-5} (7.58 x 10^{-4})	1.022 x 10^{-6} (9.045 x 10^{-6})
2:1 Reduction Parallel Belt Drive (96 mm)	7.095 x 10^{-5} (6.28 x 10^{-4})	2.555 x 10^{-7} (2.261 x 1^{-6})
	10 mm Lead	**Add per 25 mm, 10 mm Lead**
1:1 Reduction Parallel Belt Drive (66 mm)	4.474 x 10^{-5} (3.96 x 10^{-4})	1.173 x 10^{-6} (1.038 x 10^{-5})
1:1 Reduction Parallel Belt Drive (86 mm)	7.514 x 10^{-5} (6.65 x 10^{-4})	1.173 x 10^{-6} (1.038 x 10^{-5})
1:1 Reduction Parallel Belt Drive (96 mm)	8.704 x 10^{-5} (7.70 x 10^{-4})	1.173 x 10^{-6} (1.038 x 10^{-5})
2:1 Reduction Parallel Belt Drive (96 mm)	7.129 x 10^{-5} (6.31 x 10^{-4})	2.931 x 10^{-7} (2.595 x 10^{-6})
Parallel Drive Inertias (Smooth Motor Shaft Option)	**5 mm Lead**	**Add per 25 mm, 5 mm Lead**
1:1 Reduction Parallel Belt Drive (66 mm)	6.015 x 10^{-5} (5.32 x 10^{-4})	1.022 x 10^{-6} (9.045 x 10^{-6})
1:1 Reduction Parallel Belt Drive (86 mm)	1.103 x 10^{-4} (9.76 x 10^{-4})	1.022 x 10^{-6} (9.045 x 10^{-6})
1:1 Reduction Parallel Belt Drive (96 mm)	2.176 x 10^{-4} (1.93 x 10^{-3})	1.022 x 10^{-6} (9.045 x 10^{-6})
2:1 Reduction Parallel Belt Drive (96 mm)	8.768 x 10^{-5} (7.76 x 10^{-4})	2.555 x 10^{-7} (2.261 x 10^{-6})
	10 mm Lead	**Add per 25 mm, 10 mm Lead**
1:1 Reduction Parallel Belt Drive (66 mm)	6.150 x 10^{-5} (5.44 x 10^{-4})	1.173 x 10^{-6} (1.038 x 10^{-6})
1:1 Reduction Parallel Belt Drive (86 mm)	1.117 x 10^{-4} (9.88 x 10^{-4})	1.173 x 10^{-6} (1.038 x 10^{-6})
1:1 Reduction Parallel Belt Drive (96 mm)	2.190 x 10^{-4} (1.94 x 10^{-3})	1.173 x 10^{-6} (1.038 x 10^{-6})
2:1 Reduction Parallel Belt Drive (96 mm)	8.802 x 10^{-5} (7.79 x 10^{-4})	2.931 x 10^{-7} (2.595 x 10^{-6})

Exlar KX75

Models	KX	
	5	10
Screw Lead	0.1969 in (5 mm)	0.3937 in (10 mm)
Maximum Force[3]	2500 lbf (11.0 kN)	1250 lbf (5.6 kN)
Life at Maximum Force[1]	2.4 in x 10^6 (60.7 km)	22.6 in x 10^6 (573.3 km)
C_a (Dynamic Load Rating)	5746 lbf (25.6 kN)	4820 lbf (21.4 kN)
Maximum Input Torque[2]	98 lbf-in (11 Nm)	98 lbf-in (11 Nm)
Max Rated RPM @ Input Shaft	4000 RPM	4000 RPM
Maximum Linear Speed @ Maximum Rated RPM	13.1 in/s (333 mm/s)	26.2 in/s (666 mm/s)

1. See life calculation information.
2. Input torque should be limited such that Max Force is not exceeded. For a parallel belt ratio, the input torque ratings must be divided by the belt ratio for allowable motor torque. The output force ratings remain the same.
3. Maximum allowable actuator–generated force that can be applied routinely. Exceeding this force may result in permanent damage to the actuator. For maximum allowable externally-applied axial forces, consult factory. For high force, short stroke applications, consult factory.

Weights		
Base Actuator Weight (Zero Stroke)	lb	6.75
	kg	3.06
Actuator Weight Adder (Per mm of Stroke)	lb	0.0235
	kg	0.0107
Adder for Inline (excluding motor)	lb	2.46
	kg	1.12
Adder for Parallel Drive (excluding motor)	lb	4.06
	kg	1.84
Adder for Front Flange	lb	1.91
	kg	0.87
Adder for Rear Clevis	lb	1.85
	kg	0.84
Adder for Two Trunnions	lb	1.56
	kg	0.71

KX75 Inertias kg-m² (lbf-in-s²)	5 mm Lead	Add per 25 mm, 5 mm Lead
Base Unit - Input Drive Shaft Only	9.26 x 10^{-5} (8.20 x 10^{-4})	3.13 x 10^{-6} (2.77 x 10^{-5})
Inline Unit - w/Motor Coupling	1.25 x 10^{-4} (1.11 x 10^{-3})	3.13 x 10^{-6} (2.77 x 10^{-5})
	10 mm Lead	**Add per 25 mm, 10 mm Lead**
Base Unit - Input Drive Shaft Only	9.48 x 10^{-5} (8.39 x 10^{-4})	3.32 x 10^{-6} (2.94 x 10^{-5})
Inline Unit - w/Motor Coupling	1.44 x 10^{-4} (1.28 x 10^{-3})	3.32 x 10^{-6} (2.94 x 10^{-5})
Parallel Drive Inertias (P10 Option)	**5 mm Lead**	**Add per 25 mm, 5 mm Lead**
1:1 Reduction Parallel Belt Drive (86 mm)	2.29 x 10^{-4} (2.03 x 10^{-3})	3.13 x 10^{-6} (2.77 x 10^{-5})
1:1 Reduction Parallel Belt Drive (96 mm)	3.19 x 10^{-4} (2.82 x 10^{-3})	3.13 x 10^{-6} (2.77 x 10^{-5})
1:1 Reduction Parallel Belt Drive (130 mm)	5.96 x 10^{-4} (5.28 x 10^{-3})	3.13 x 10^{-6} (2.77 x 10^{-5})
2:1 Reduction Parallel Belt Drive (130 mm)	2.82 x 10^{-4} (2.50 x 10^{-3})	7.83 x 10^{-7} (6.93 x 10^{-6})
	10 mm Lead	**Add per 25 mm, 10 mm Lead**
1:1 Reduction Parallel Belt Drive (86 mm)	2.31 x 10^{-4} (2.05 x 10^{-3})	3.32 x 10^{-6} (2.94 x 10^{-5})
1:1 Reduction Parallel Belt Drive (96 mm)	3.21 x 10^{-4} (2.84 x 10^{-3})	3.32 x 10^{-6} (2.94 x 10^{-5})
1:1 Reduction Parallel Belt Drive (130 mm)	5.98 x 10^{-4} (5.30 x 10^{-3})	3.32 x 10^{-6} (2.94 x 10^{-5})
2:1 Reduction Parallel Belt Drive (130 mm)	2.83 x 10^{-4} (2.51 x 10^{-3})	8.30 x 10^{-7} (7.36 x 10^{-6})
Parallel Drive Inertias (Smooth Motor Shaft Option)	**5 mm Lead**	**Add per 25 mm, 5 mm Lead**
1:1 Reduction Parallel Belt Drive (86 mm)	2.84 x 10^{-4} (2.51 x 10^{-3})	3.13 x 10^{-6} (2.77 x 10^{-5}
1:1 Reduction Parallel Belt Drive (96 mm)	4.25 x 10^{-4} (3.76 x 10^{-3})	3.13 x 10^{-6} (2.77 x 10^{-5})
1:1 Reduction Parallel Belt Drive (130 mm)	7.33 x 10^{-4} (6.48 x 10^{-3})	3.13 x 10^{-6} (2.77 x 10^{-5})
2:1 Reduction Parallel Belt Drive (130 mm)	3.32 x 10^{-4} (2.94 x 10^{-3})	7.83 x 10^{-7} (6.93 x 10^{-6})
	10 mm Lead	**Add per 25 mm, 10 mm Lead**
1:1 Reduction Parallel Belt Drive (86 mm)	2.86 x 10^{-4} (2.53 x 10^{-3})	3.32 x 10^{-6} (2.94 x 10^{-5})
1:1 Reduction Parallel Belt Drive (96 mm)	4.27 x 10^{-4} (3.78 x 10^{-3})	3.32 x 10^{-6} (2.94 x 10^{-5})
1:1 Reduction Parallel Belt Drive (130 mm)	7.35 x 10^{-4} (6.50 x 10^{-3})	3.32 x 10^{-6} (2.94 x 10^{-5})
2:1 Reduction Parallel Belt Drive (130 mm)	3.33 x 10^{-4} (2.94 x 10^{-3})	8.30 x 10^{-7} (7.35 x 10^{-6})
2:1 Reduction Parallel Belt Drive (96 mm)	3.33 x 10^{-4} (2.94 x 10^{-3})	8.30 x 10^{-7} (7.35 x 10^{-6})

Exlar KX90

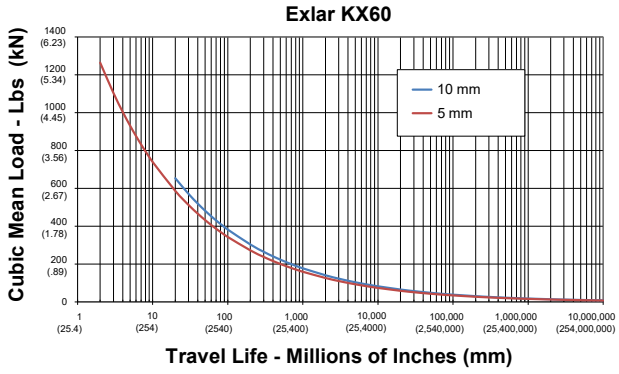
Models	KX	
	5	10
Screw Lead	0.1969 in (5 mm)	0.3937 in (10 mm)
Maximum Force[3]	3500 lbf (15.6 kN)	1750 lbf (7.8 kN)
Life at Maximum Force[1]	7.1 in x 10^6 (179.6 km)	90.4 in x 10^6 (2295 km)
C_a (Dynamic Load Rating)	11548 lbf (51.4 kN)	10715 lbf (47.7 kN)
Maximum Input Torque[2]	137 lbf-in (16 Nm)	137 lbf-in (16 Nm)
Max Rated RPM @ Input Shaft	3000 RPM	3000 RPM
Maximum Linear Speed @ Maximum Rated RPM	9.8 in/s (250 mm/s)	19.7 in/s (500 mm/s)

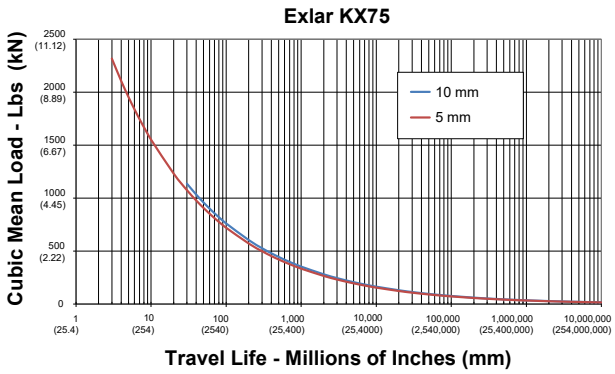
1. See life calculation information.
2. Input torque should be limited such that Max Force is not exceeded. For a parallel belt ratio, the input torque ratings must be divided by the belt ratio for allowable motor torque. The output force ratings remain the same.
3. Maximum allowable actuator–generated force that can be applied routinely. Exceeding this force may result in permanent damage to the actuator. For maximum allowable externally-applied axial forces, consult factory. For high force, short stroke applications, consult factory.

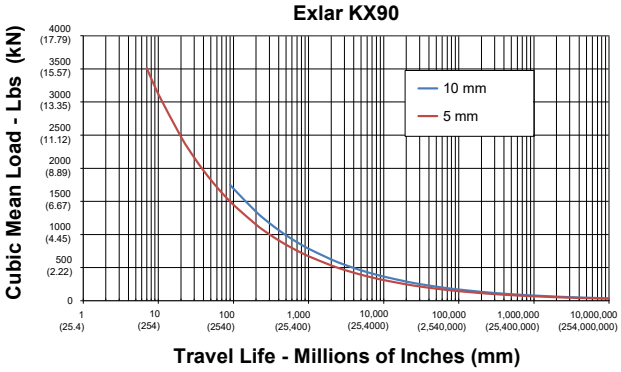
Weights		
Base Actuator Weight (Zero Stroke)	lb	11.96
	kg	5.42
Actuator Weight Adder (Per mm of Stroke)	lb	0.0366
	kg	0.016
Adder for Inline (excluding motor)	lb	3.35
	kg	1.51
Adder for Parallel Drive (excluding motor)	lb	5.80
	kg	2.62
Adder for Front Flange	lb	3.40
	kg	1.54
Adder for Rear Clevis	lb	3.21
	kg	1.45
Adder for Two Trunnions	lb	1.768
	kg	0.80

KX90 Inertias kg-m² (lbf-in-s²)	5 mm Lead	Add per 25 mm, 5 mm Lead
Base Unit - Input Drive Shaft Only	2.97 x 10^{-4} (2.63 x 10^{-3})	1.11 x 10^{-5} (9.80 x 10^{-5})
Inline Unit - w/Motor Coupling	3.84 x 10^{-4} (3.40 x 10^{-3})	1.11 x 10^{-5} (9.80 x 10^{-5})
	10 mm Lead	**Add per 25 mm, 10 mm Lead**
Base Unit - Input Drive Shaft Only	3.00 x 10^{-4} (2.66 x 10^{-3})	1.13 x 10^{-5} (1.00 x 10^{-4})
Inline Unit - w/Motor Coupling	3.87 x 10^{-4} (3.43 x 10^{-3})	1.13 x 10^{-5} (1.00 x 10^{-4})
Parallel Drive Inertias (P10 Option)	**5 mm Lead**	**Add per 25 mm, 5 mm Lead**
1:1 Reduction Parallel Belt Drive (96 mm)	5.12 x 10^{-4} (4.53 x 10^{-3})	1.11 x 10^{-5} (9.80 x 10^{-5})
1:1 Reduction Parallel Belt Drive (130 mm)	7.98 x 10^{-4} (7.07 x 10^{-3})	1.11 x 10^{-5} (9.80 x 10^{-5})
2:1 Reduction Parallel Belt Drive (130 mm)	3.41 x 10^{-4} (3.02 x 10^{-3})	2.77 x 10^{-6} (2.45 x 10^{-5})
	10 mm Lead	**Add per 25 mm, 10 mm Lead**
1:1 Reduction Parallel Belt Drive (96 mm)	5.15 x 10^{-4} (4.56 x 10^{-3})	1.13 x 10^{-5} (1.00 x 10^{-4})
1:1 Reduction Parallel Belt Drive (130 mm)	8.02 x 10^{-4} (7.10 x 10^{-3})	1.13 x 10^{-5} (1.00 x 10^{-4})
2:1 Reduction Parallel Belt Drive (130 mm)	3.42 x 10^{-4} (3.03 x 10^{-3})	2.82 x 10^{-6} (2.50 x 10^{-5})
Parallel Drive Inertias (Smooth Motor Shaft Option)	**5 mm Lead**	**Add per 25 mm, 5 mm Lead**
1:1 Reduction Parallel Belt Drive (96 mm)	6.18 x 10^{-4} (5.47 x 10^{-3})	1.11 x 10^{-5} (9.80 x 10^{-5})
1:1 Reduction Parallel Belt Drive (130 mm)	9.35 x 10^{-4} (8.27 x 10^{-3})	1.11 x 10^{-5} (9.80 x 10^{-5})
2:1 Reduction Parallel Belt Drive (130 mm)	3.91 x 10^{-4} (3.46 x 10^{-3})	2.77 x 10^{-6} (2.45 x 10^{-5})
	10 mm Lead	**Add per 25 mm, 10 mm Lead**
1:1 Reduction Parallel Belt Drive (96 mm)	6.21 x 10^{-4} (5.50 x 10^{-3})	1.13 x 10^{-5} (1.00 x 10^{-4})
1:1 Reduction Parallel Belt Drive (130 mm)	9.38 x 10^{-4} (8.30 x 10^{-3})	1.13 x 10^{-5} (1.00 x 10^{-4})
2:1 Reduction Parallel Belt Drive (130 mm)	3.92 x 10^{-4} (3.47 x 10^{-3})	2.82 x 10^{-6} (2.50 x 10^{-5})

Estimated Service Life







Service Life Estimate Assumptions:

- Sufficient quality and quantity of lubrication is maintained throughout service life (please refer to manual for lubrication interval estimates.)
- Bearing and screw temperature between 20 °C and 40 °C
- No mechanical hard stops (external or internal) or impact loads
- No external side loads
- Does not apply to short stroke, high frequency applications such as fatigue testing or short stroke, high force applications such as pressing. (For information on calculating estimating life for unique applications check with your local representative.

The L_{10} expected life of a roller screw linear actuator is expressed as the linear travel distance that 90% of properly maintained roller screws manufactured are expected to meet or exceed. This is not a guarantee and these charts should be used for estimation purposes only.

The underlying formula that defines this value is:
Travel life in millions of inches, where:

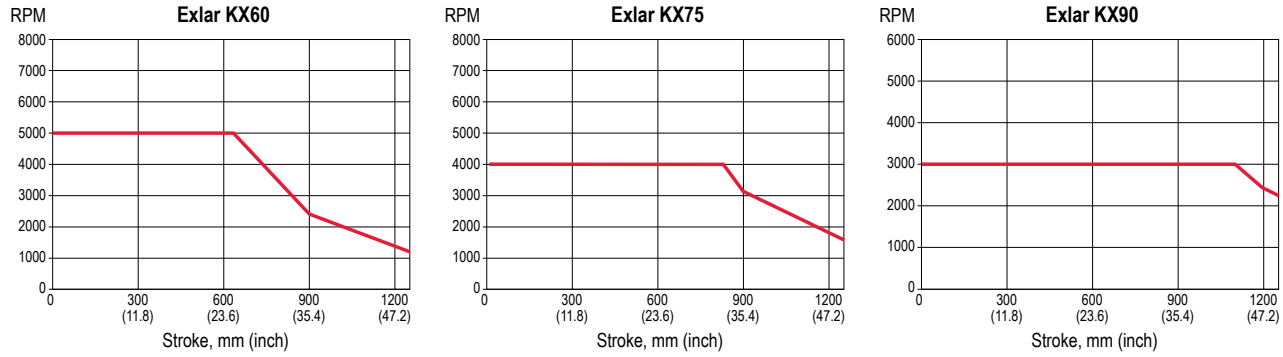
C_a = Dynamic load rating (lbf)
F_{cml} = Cubic mean applied load (lbf)
l = Roller screw lead (inches)

$$L_{10} = \left(\frac{C_a}{F_{cml}}\right)^3 \times l$$

For additional details on calculating estimated service life, please contact your lcoal representative.

Data Curves

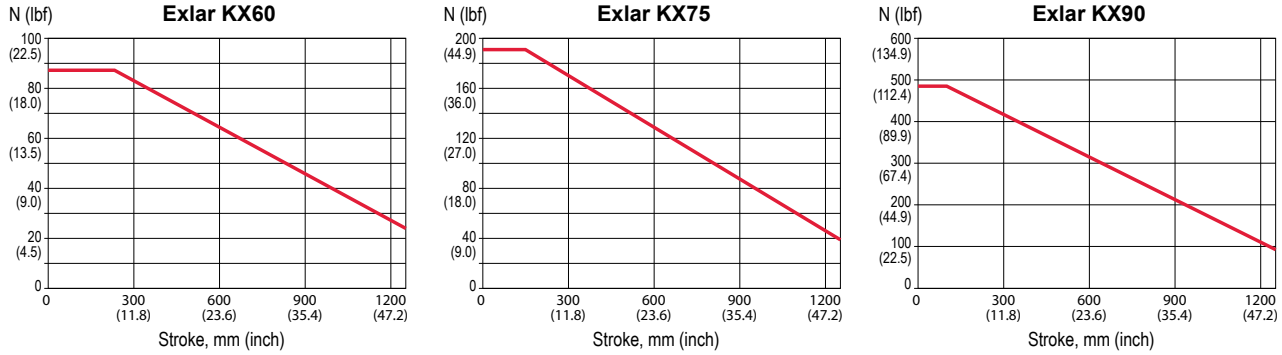
Critical Speed vs Stroke Length:



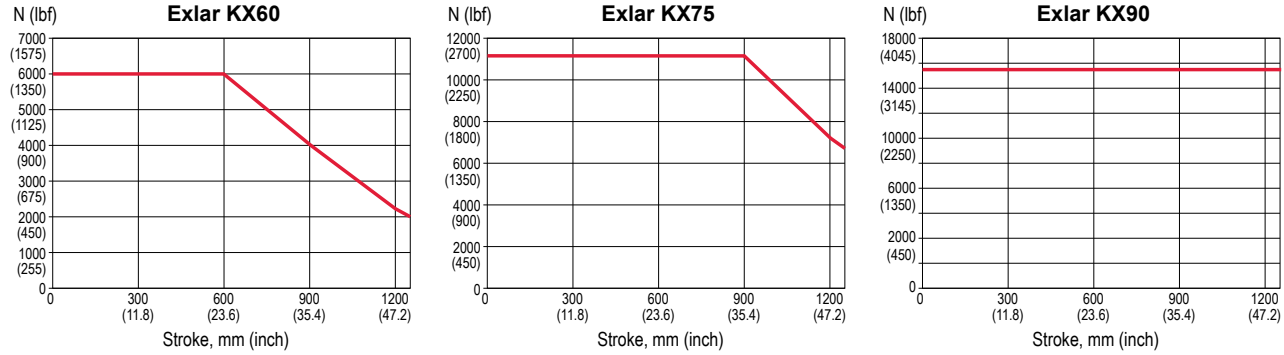
Actuator Rated Speed
speed at which we have tested and rated the actuator

* With longer stroke length actuators, the rated speed of the actuator is determined by the critical speed

Maximum Side Load:



Rated Force vs Stroke:



Options

PB = Protective Bellows

This option provides an accordion style protective bellows to protect the main actuator rod from damage due to abrasives or other contaminants in the environment in which the actuator must survive. The standard material of this bellows is S2 Neoprene Coated Nylon, Sewn Construction. This standard bellows is rated for environmental temperatures of -40 to 250 degrees F. Longer strokes may require the main rod of the actuator to be extended beyond standard length. Not available with extended tie rod mounting option. Please contact your local sales representative.

L1 … L6 = Adjustable External Travel Switches

This option allows up to 3 external switches to be included. These switches provide travel indication to the controller and are adjustable.

Exlar KX Product Accessories

KX60	KX75	KX90	
			Mounting Attachments (including proper number of standard T nuts and screws)
KSFF-60	KSFF-75	KSFF-90	Front Flange Attachment
KSST-60	KSST-75	KSST-90	Side Trunnions (includes 2)
KSRC-60	KSRC-75	KSRC-90	Rear Clevis (includes pins)
KSMT-60	KSMT-75	KSMT-90	Metric Side Trunnion
KSMC-60	KSMC-75	KSMC-90	Metric Rear Clevis (includes pins)
			Rod End Attachments
SRM050	SRM075	SRM075	Front Spherical Rod Eye, fits “M” Rod only
REI050	RE075	RE075	Front Rod Eye, fits “M” Rod only
RCI050	RC075	RC075	Front Rod Clevis, fits “M” Rod only
Limit Switches (if required in addition to L1, L2, L3 option in actuator model)			
Option	**Quantity**	**Part Number**	**Description**
L1	1	43403	Normally Open PNP Limit Switch (10-30 Vdc, 1 M, 3 wire embedded cable)
L2	2	43404	Normally Closed PNP Limit Switch (10-30 Vdc, 1 M, 3 wire embedded cable)
L3	1 2	43403 43404	Normally Open PNP Limit Switch (10-30 Vdc, 1 M, 3 wire embedded cable) Normally Closed PNP Limit Switch (10-30 Vdc, 1 M, 3 wire embedded cable)
L4	1	67634	Normally Open NPN Limit Switch (10-30 Vdc, 1 M, 3 wire embedded cable)
L5	2	67635	Normally Closed NPN Limit Switch (10-30 Vdc, 1 M, 3 wire embedded cable)
L6	1 2	67634 67635	Normally Open NPN Limit Switch (10-30 Vdc, 1 M, 3 wire embedded cable) Normally Closed NPN Limit Switch (10-30 Vdc, 1 M, 3 wire embedded cable)

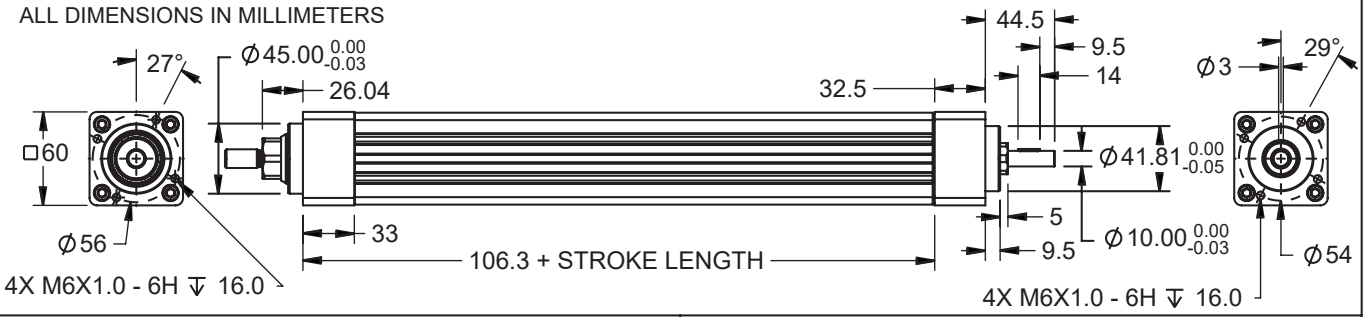
Consult your local sales representative to discuss maximum stroke length allowable with your final configuration.

Dimensions

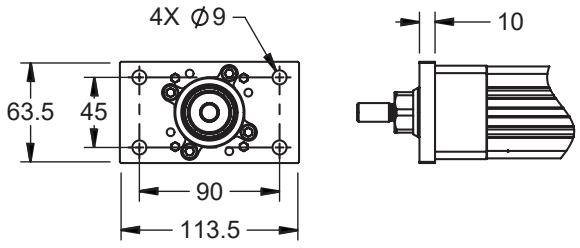
Exlar KX60

EXLAR KX60 BASE ACTUATOR

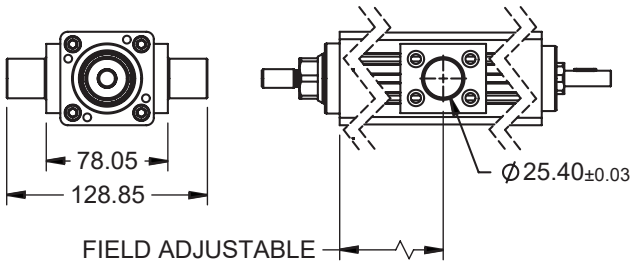
ALL DIMENSIONS IN MILLIMETERS



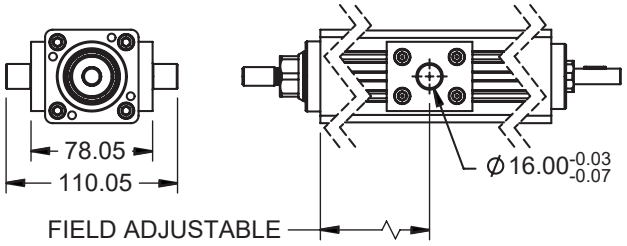
KSFF-60 (FRONT FLANGE)



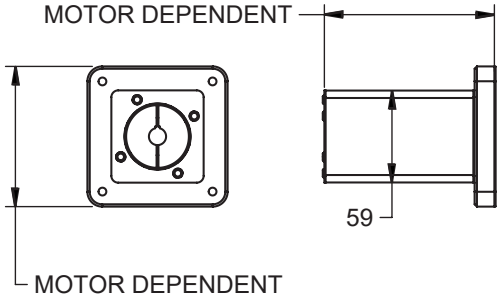
KSST-60 (INCH TRUNNION)



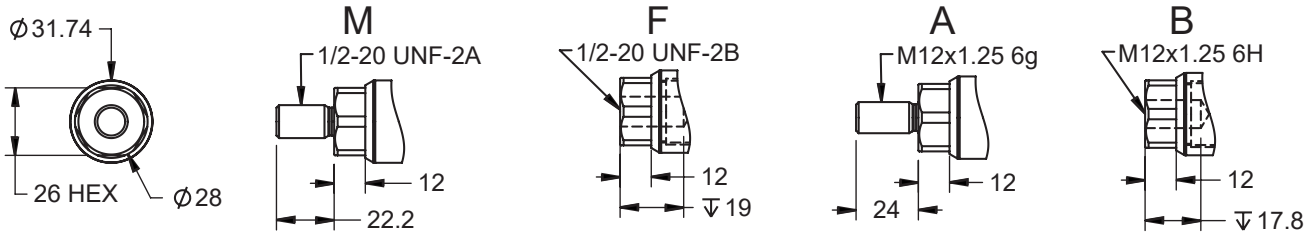
KSMT-60 (METRIC TRUNNION)



INLINE MOUNT

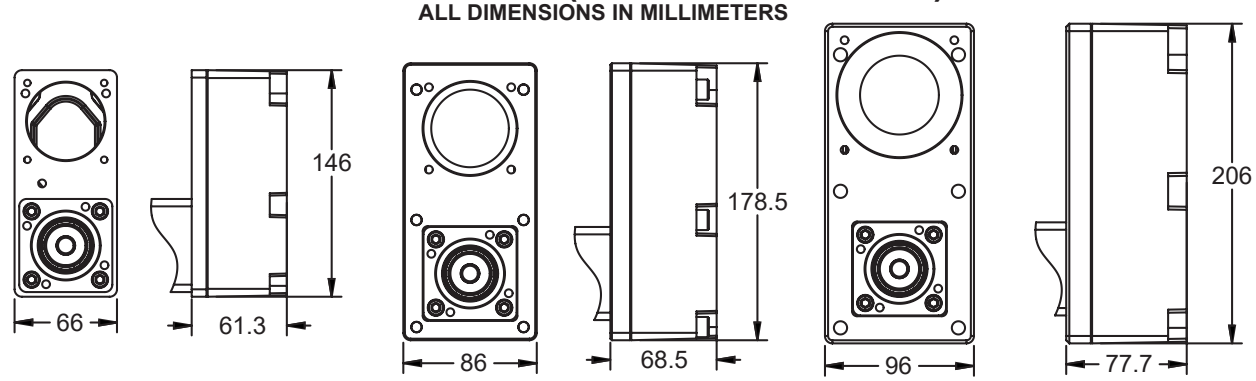


ROD ENDS

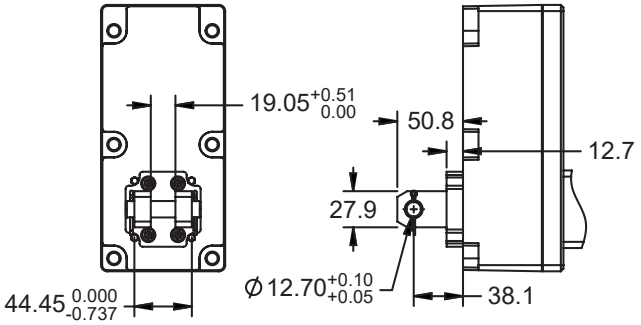


P10/S10/P20/S20 (PARALLEL MOUNT)

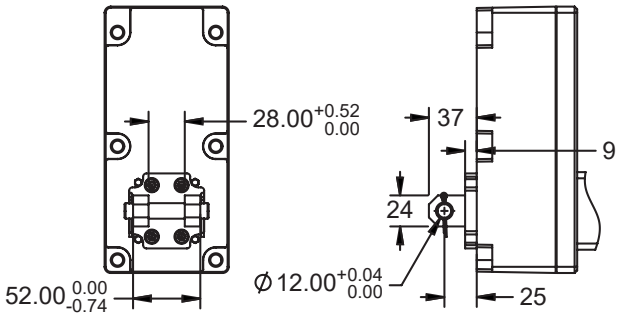
ALL DIMENSIONS IN MILLIMETERS



KSRC-60 (INCH CLEVIS)



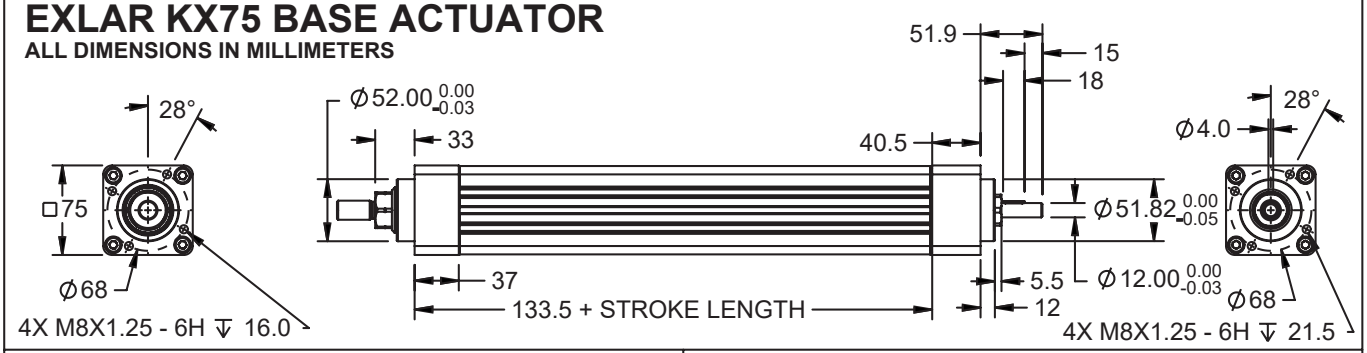
KSMC-60 (METRIC CLEVIS)



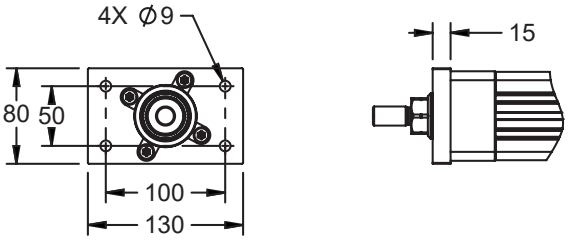
Exlar KX75

EXLAR KX75 BASE ACTUATOR

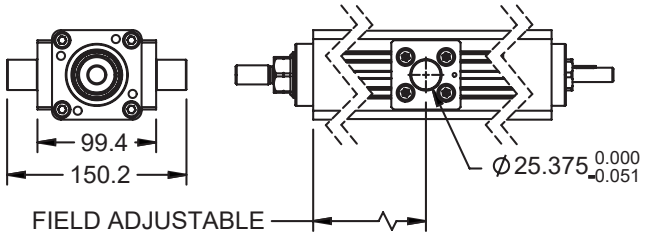
ALL DIMENSIONS IN MILLIMETERS



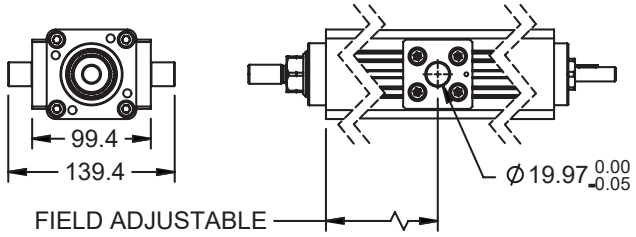
KSFF-75 (FRONT FLANGE)



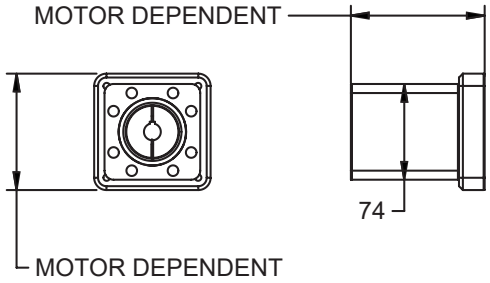
KSST-75 (INCH TRUNNION)



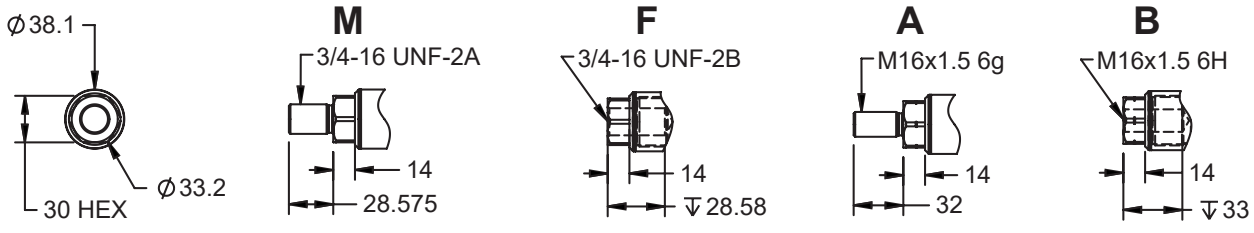
KSMT-75 (METRIC TRUNNION)



INLINE MOUNT

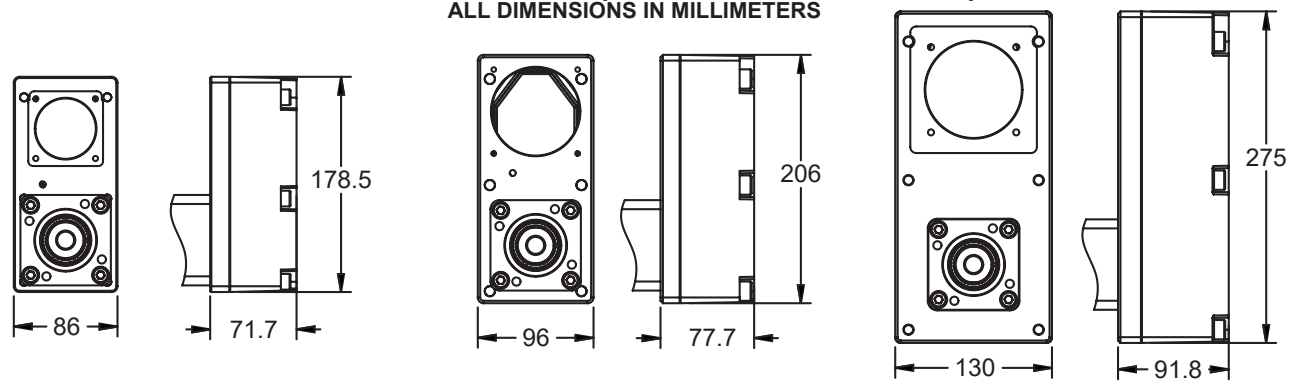


ROD ENDS

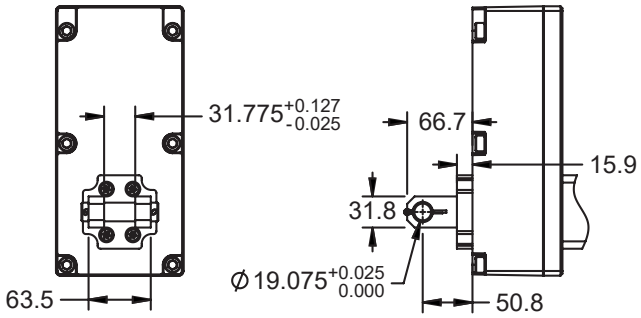


P10/S10/P20/S20 (PARALLEL MOUNT)

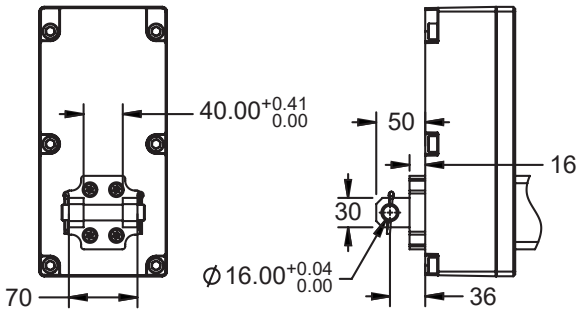
ALL DIMENSIONS IN MILLIMETERS



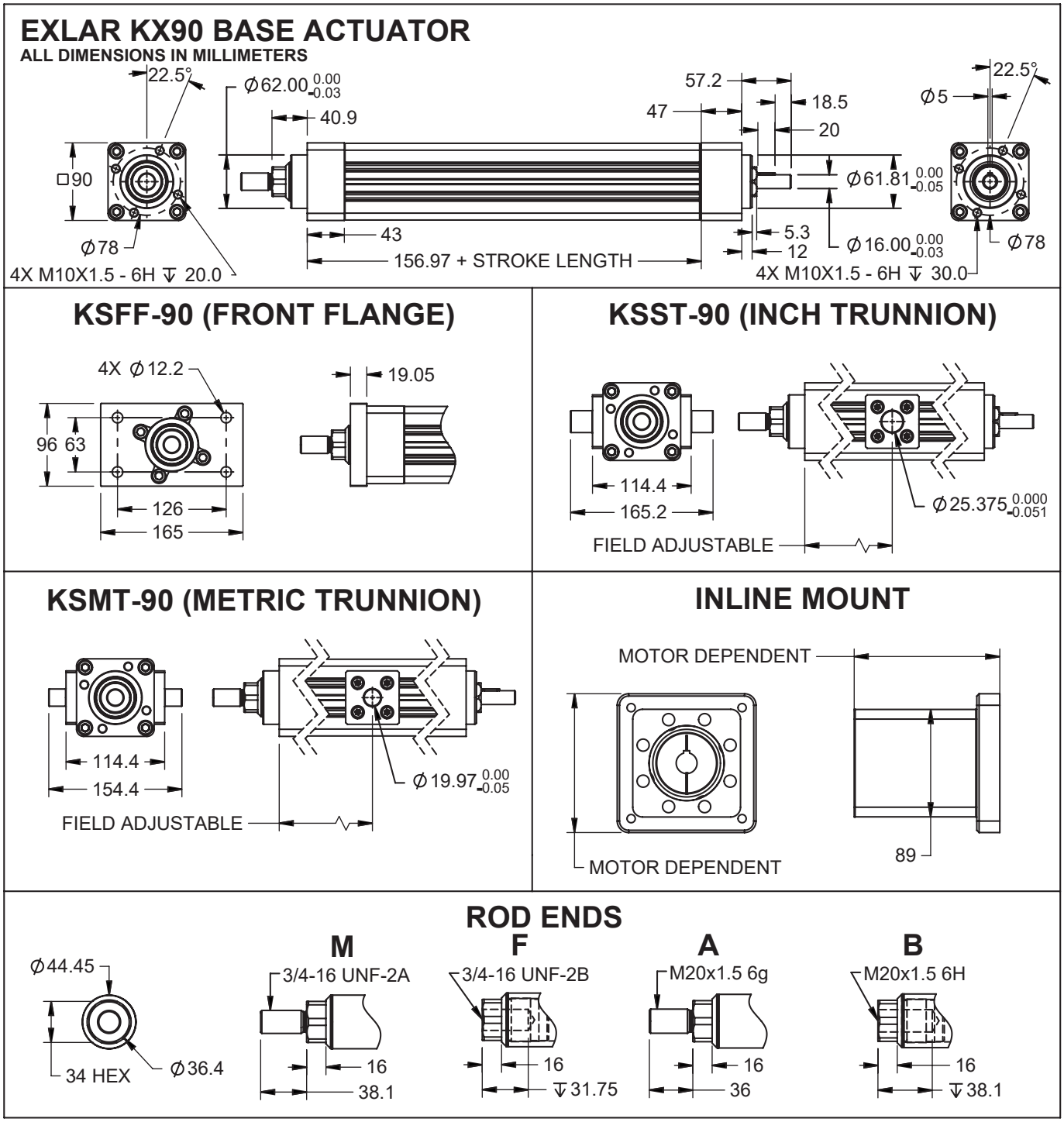
KSRC-75 (INCH CLEVIS)



KSMC-75 (METRIC CLEVIS)

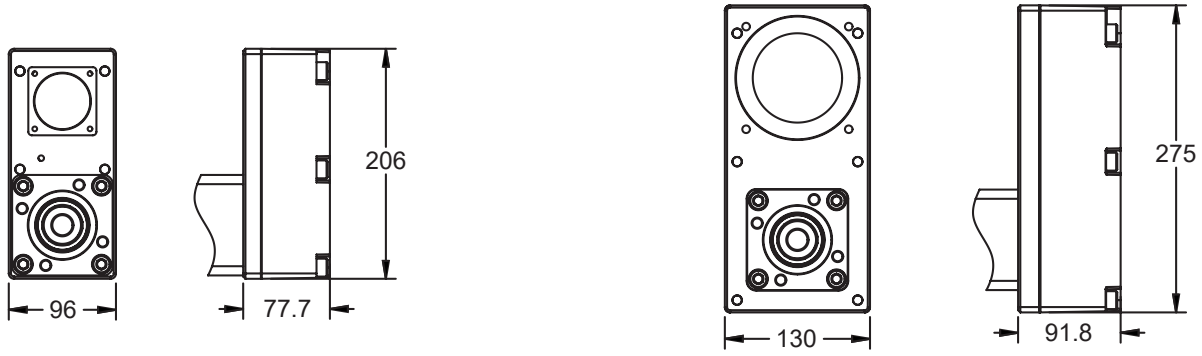


Exlar KX90

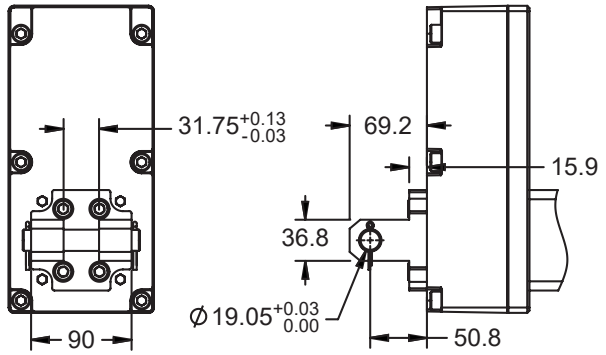


P10/S10/P20/S20 (PARALLEL MOUNT)

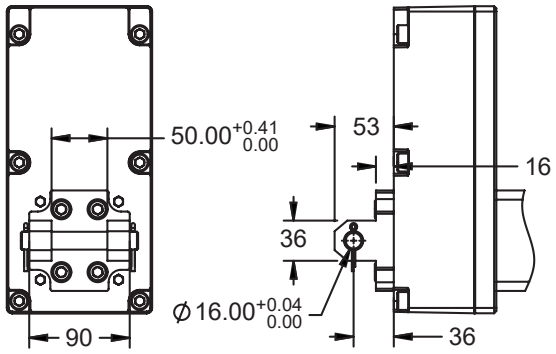
ALL DIMENSIONS IN MILLIMETERS



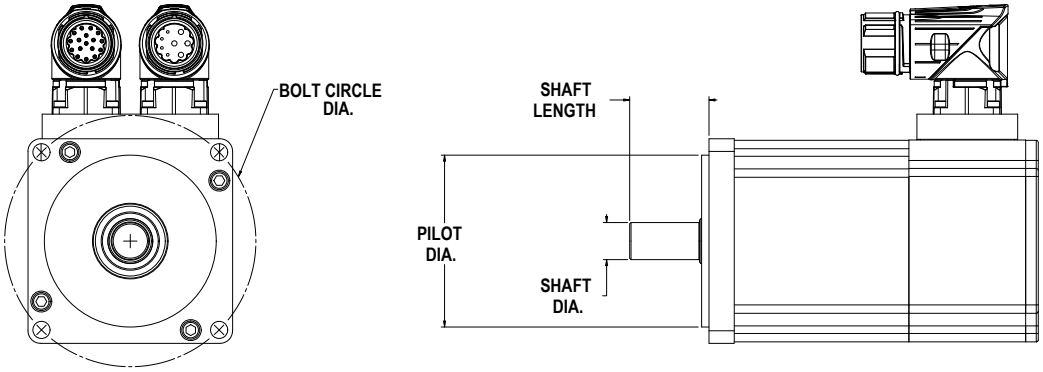
KSRC-90 (INCH CLEVIS)



KSMC-90 (METRIC CLEVIS)



Motor Mount Drawing



Exlar KX60 Motor Mount Codes

Bolt Circle Diameter (mm)	Pilot Diameter (mm)	Shaft Diameter (mm)	Shaft Length (mm)	Key Width (mm)	Motor Mount Code
63	45	14	38	5	GEB
63	50	12	36	4	GEA
68	60	12	30	4	GFB
68	60	16	48	5	GFA
70	50	14	30	5	JGA
70	50	16	30	5	GGB
70	50	16	37	5	GGA
75	60	11	23	4	IHA
75	60	14	30	5	IHB
90	60	19	40	6	JKF
90	70	14	30	5	JKD
90	70	16	35	NA	JKC
90	70	16	40	5	JKG
90	70	19	40	6	JKA
95	50	14	30	5	ILA
95	65	14	30	5	ILB
100	80	10	32	3	IMD
100	80	14	30	5	IMA
100	80	14	40	5	JMC
100	80	16	40	5	IMB
100	80	19	40	6	IMC

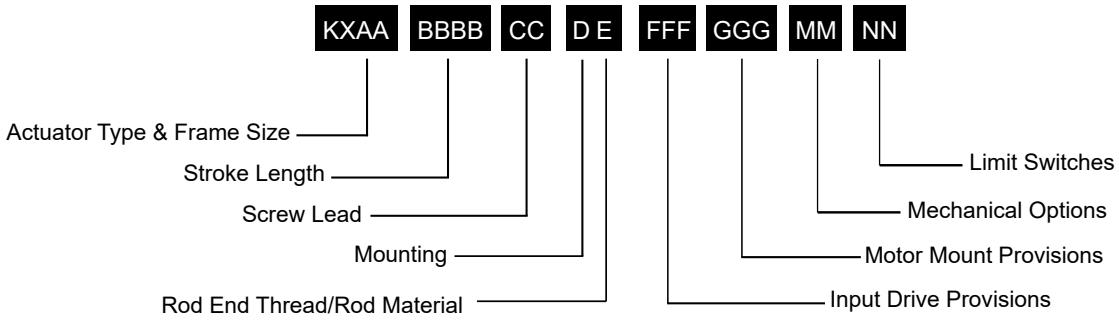
Exlar KX75 Motor Mount Codes

Bolt Circle Diameter (mm)	Pilot Diameter (mm)	Shaft Diameter (mm)	Shaft Length (mm)	Key Width (mm)	Motor Mount Code
68	60	16	48	5	GFA
70	50	16	40	5	GGA
75	60	16	48	5	GHA
85	70	22	56	6	GIA
90	60	19	40	6	JKF
90	70	16	40	5	JKG
90	70	19	40	6	JKA
100	80	14	40	5	JMC
100	80	16	40	5	IMB
100	80	19	40	6	IMC
100	80	19	55	6	JMD
100	80	22	48	6	GMA
115	95	19	40	6	INA
115	95	19	55	6	JNC
115	95	22	45	8	JND
115	95	22	70	NA	JNB
115	95	24	45	8	JNA
115	95	24	50	8	INB
130	95	19	40	6	IPC
130	95	24	50	8	IPD
130	110	19	40	6	IPA
130	110	24	50	8	IPB
145	110	19	40	6	JQJ
145	110	19	55	5	JQG
145	110	19	55	6	JQK
145	110	22	55	8	JQH
145	110	22	55	6	JQF
145	110	22	70	8	JQE

Exlar KX90 Motor Mount Codes

Bolt Circle Diameter (mm)	Pilot Diameter (mm)	Shaft Diameter (mm)	Shaft Length (mm)	Key Width (mm)	Motor Mount Code
70	50	16	40	5	GGA
75	60	16	48	5	GHA
85	70	22	56	6	GIA
90	60	19	40	6	JKF
90	70	16	40	5	JKG
90	70	19	40	6	JKA
100	80	14	40	5	JMC
100	80	16	40	5	IMB
100	80	19	40	6	IMC
100	80	19	55	6	JMD
100	80	20	40	6	GMB
100	80	22	48	6	GMA
115	95	19	40	6	INA
115	95	19	55	6	JNC
115	95	22	45	8	JND
115	95	22	70	NA	JNB
115	95	24	45	8	JNA
115	95	24	50	8	INB
130	95	19	40	6	IPC
130	95	24	50	8	IPD
130	110	19	40	6	IPA
130	110	24	50	8	IPB
145	110	19	40	6	JQJ
145	110	19	55	5	JQG
145	110	19	55	6	JQK
145	110	22	55	8	JQH
145	110	22	55	6	JQF
145	110	22	70	8	JQE
145	110	24	55	8	JQD
145	110	24	65	8	JQC
145	110	28	55	8	JQB
145	110	28	63	8	JQA

Exlar KX Actuator Ordering Information



Actuator Model
Exlar KX = High Capacity Roller Screw

AA = Actuator Frame Size
60 = 60 mm (2.375 inch)
75 = 75 mm (2.95 inch)
90 = 90 mm (3.54 inch)

BBBB = Stroke Length (mm)
0150 = 150 mm (5.9 inch)
0300 = 300 mm (11.8 inch)
0600 = 600 mm (23.6 inch)
0900 = 900 mm (35.4 inch)

CC = Lead (linear motion per screw revolution)
05 = 5 mm (0.2 inch)
10 = 10 mm (0.4 inch)

D = Mounting Options
N = None, Base Unit
C = Rear Clevis
F = Front Flange
G = Metric Rear Clevis
T = Side Trunnion
Q = Metric Side Trunnion

E = Rod Options
M = Male, US Standard thread
A = Male Metric thread
F = Female US Standard thread
B = Female Metric thread

FFF = Input Drive Provisions
NMT = Drive shaft only, no motor mount
ISC = Inline, includes shaft coupling

Keyed Motor Shaft Options
P10 = Parallel, 1:1 belt reduction
P20 = Parallel, 2:1 belt reduction

Smooth Motor Shaft Options
S10 = Parallel, 1:1 belt reduction
S20 = Parallel, 2:1 belt reduction

GGG = Motor Mount Provisions [1]
See page 17-19 for Motor Mount Code.

MM = Mechanical Options [2]
NN = None
PB = Protective bellows for extending rod

NN = Limit Switches
NN = None
L1 = One N.O., PNP
L2 = Two N.C., PNP
L3 = One N.O. PNP & two N.C., PNP
L4 = One N.O., NPN
L5 = Two N.C., NPN
L6 = One N.O., NPN & two N.C., NPN

*See Page 10 for Limit Switch details.

NOTES:
1. For oversized motors, contact your local sales representative.
2. For extended temperature operation consult factory for model number.

Please provide a 3D CAD model of motor with all orders to ensure proper mounting compatibility.

For Exlar KX options or specials not listed above, please contact:
cha_applications@curtisswright.com

Warranty and Limitations of Liability

Please see our warranty on our website here: *https://www.cw-actuation.com/en-gb/about/terms-conditions* for details.

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