

Exlar I Series Linear Actuator

Exlar I Series™ actuators present a new range of alternatives for linear motion solutions. The I Series actuators offer all of the benefits of Exlar's planetary roller screw technology, along with extreme flexibility in actuator mounting style, and the type of motor used to drive the actuator.

Exlar's roller screw technology has been the integral component in creating the most reliable, long lasting electromechanical actuators on the market. Over the last 15 years, Exlar's inverted roller screw actuators have provided a long-life, all-electric replacement for hydraulic cylinders in thousands of applications.

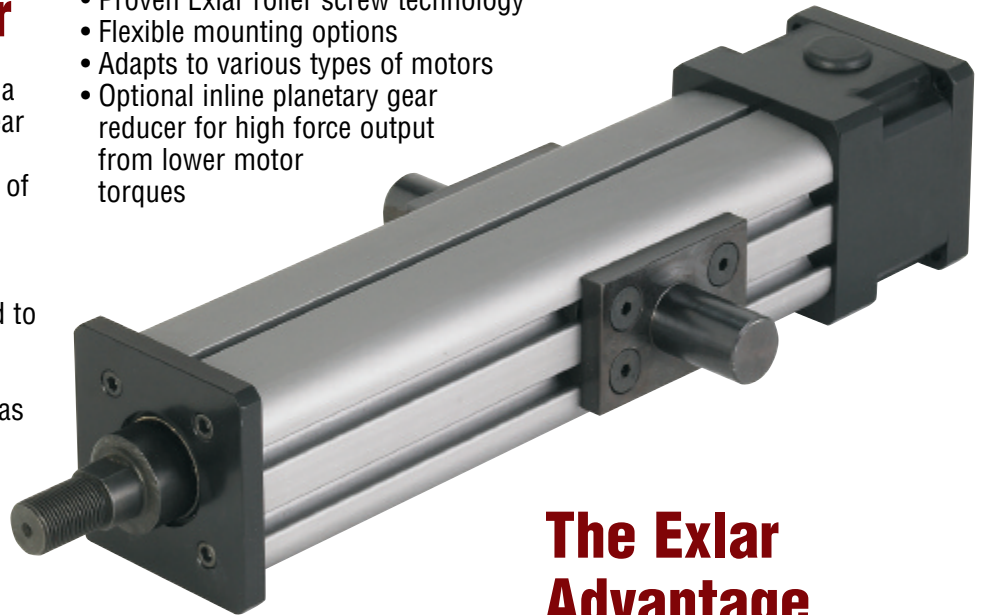
The I Series actuators offer this same technology in a series of actuators that are economical and allow the use of lower cost motor technology.

Two Models to Fit Your Needs

Two product performance levels are available, so you can choose which option best suits your application and budgetary requirements. The IM Series offers Exlar's standard capacity inverted roller screw in actuators with up to 5 times the travel life of ball screw actuators. The IX Series offers the same load carrying capacity as the IM Series but offers up to 15 times the life of an equivalent ball screw.

I Series™ Features

- Proven Exlar roller screw technology
- Flexible mounting options
- Adapts to various types of motors
- Optional inline planetary gear reducer for high force output from lower motor torques



The Exlar Advantage

Motor Flexibility

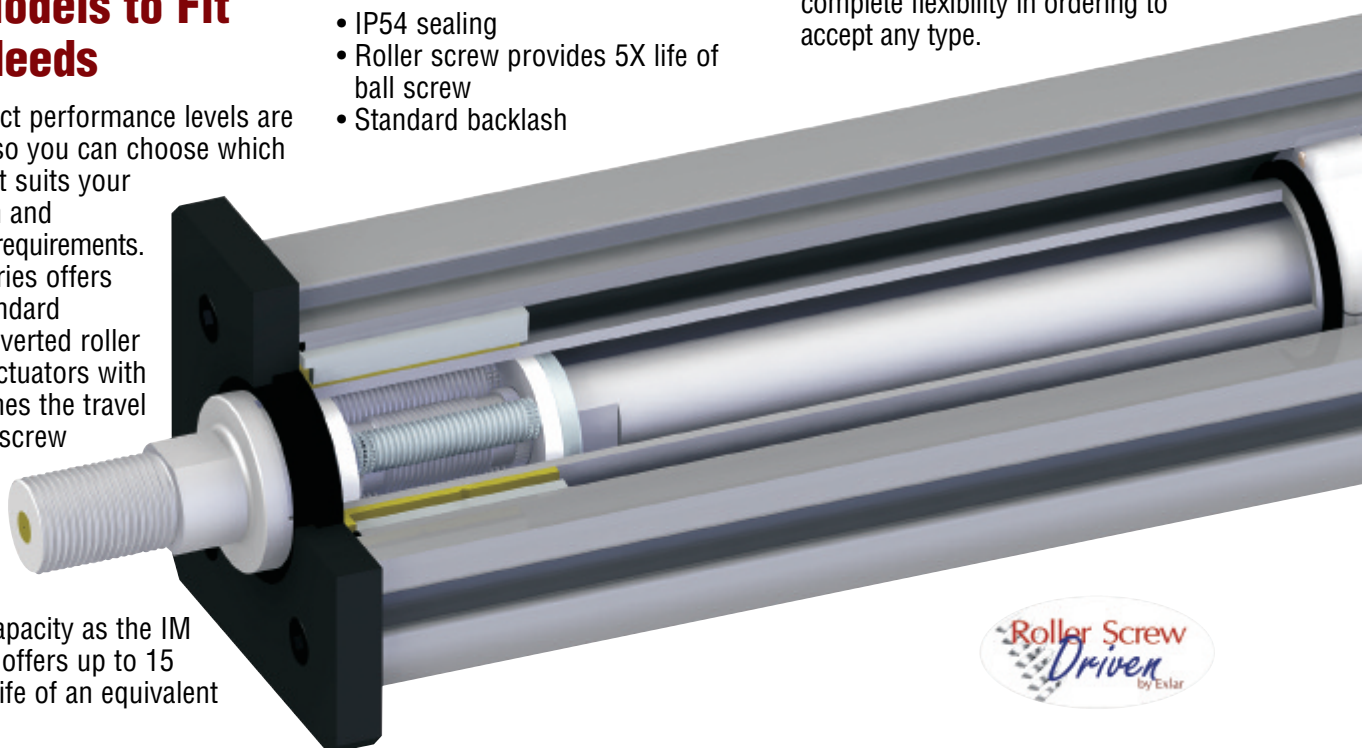
The I Series actuators can be ordered to accept the motor type of your choice. Whether a brushed type DC motor or stepper motor for lower performance applications, or a high performance brushless motor like Exlar's SLM Series, the I Series actuators offer complete flexibility in ordering to accept any type.

IX Series™ Features

- IP65 sealing
- Roller screw provides 15X life of ball screw
- Low backlash

IM Series™ Features

- IP54 sealing
- Roller screw provides 5X life of ball screw
- Standard backlash



Integral Planetary Gearing

The I Series actuators offer economical planetary gearing as an input reduction option. Compared to the low performance spur gears provided by most ball screw actuators, the I Series' planetary gears offer an extended life, high input speed and output torque and quiet operation. The performance of the actuator is not limited by the gearing. Standard available ratios of 5:1 and 10:1 allow you to utilize smaller, lower torque motors to drive the I Series actuators, while still achieving the desired output force from the actuator.

Sealed Actuator Body

The base unit of the IX Series actuators is offered with a standard IP65 rating. The in-line motor

mounting adapters and parallel motor mounting adapters can be ordered as IP65 if required for the application.

The base unit of the IM Series actuators is offered with a standard IP54 rating. An optional IP65 sealed base unit is available.

The in-line motor mounting adapters and parallel motor mounting adapters can be ordered with IP65 if required for the application.

Wear and Corrosion Resistant Output Rod

The standard actuator main extending rods for the I Series actuators are provided with a surface treatment that provides equivalent corrosion resistance and superior wear resistance to chrome plated rods. The thermo-

chemical process creates a surface that is a microstructural zone of iron nitrides, integral with the base material.

The resultant surface not only has superior wear qualities

compared to chrome, and equivalent corrosion resistance, but also eliminates the flaking issues of an electro-

chemically applied process such as chrome plating.

Large Diameter Output Rod

The I Series actuators provide a large diameter output rod and excellent internal bushing support which offers you long life in resistance to side loading.

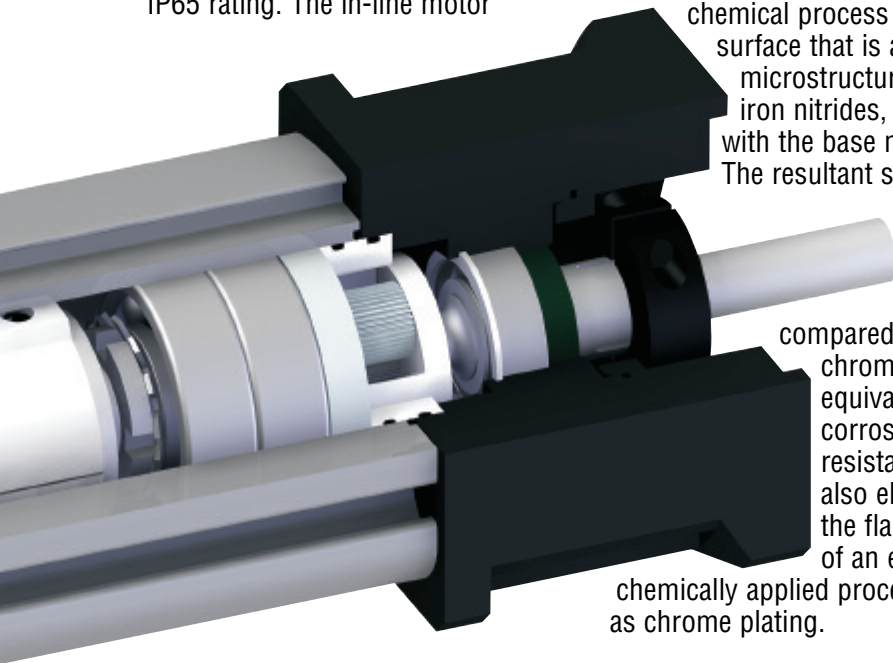
Actuator Materials and Coating

The standard IM and IX Series actuators provide case materials made of aluminum with clear and black anodized coatings. These materials offer a durable and corrosion resistant package. The standard mounting hardware for the actuators are manufactured from black oxide-coated mild steel.

Alternative Materials and Coatings

The I Series actuators offer several options to the standard construction for applications requiring further corrosion resistance. The actuator's case parts can be ordered as electroless nickel coated and white powder coat epoxy. Alternatively, the entire case can be constructed from stainless steel using materials you select.

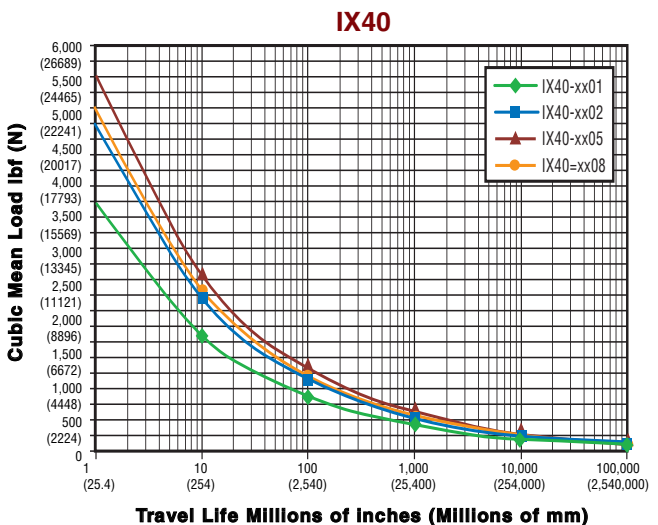
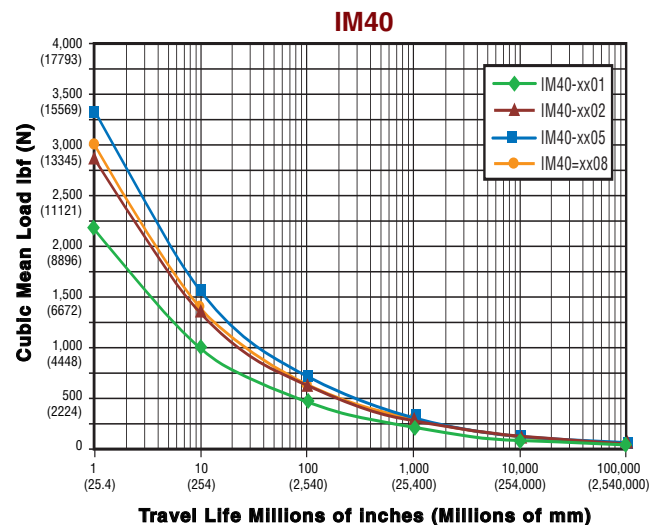
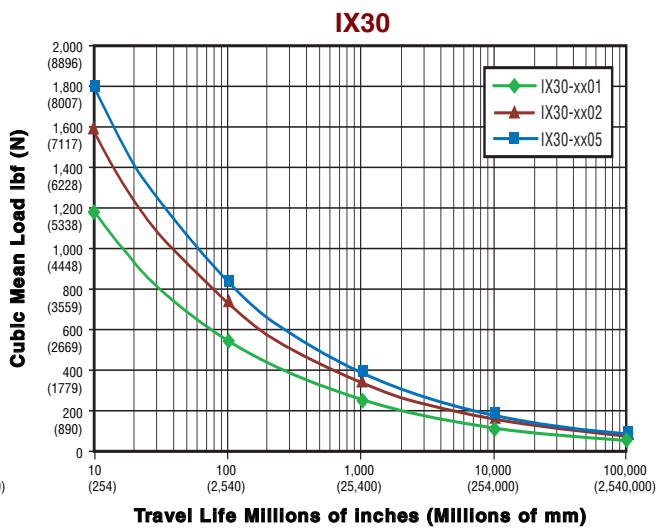
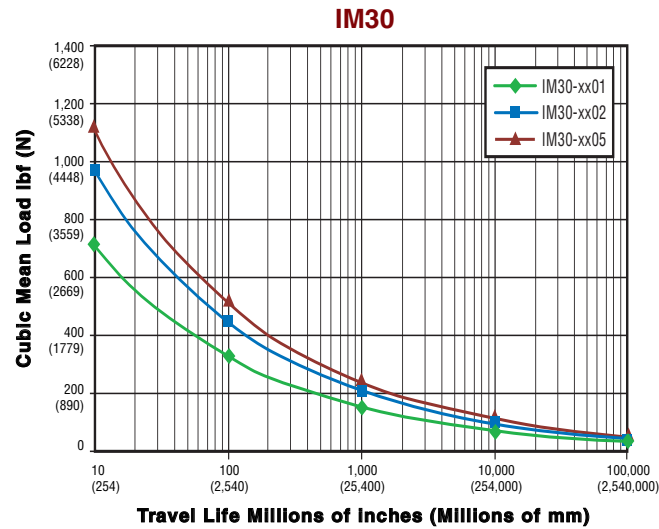
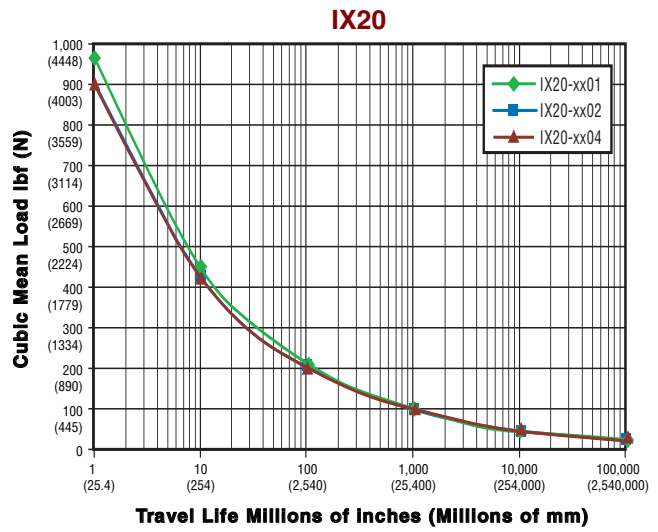
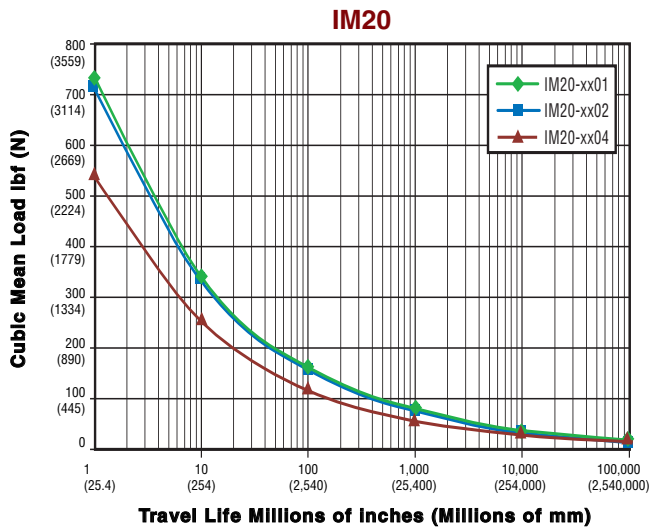
The mounting hardware for the I Series actuators can be ordered in two varieties offering more corrosion resistance than the standard components. These include the "corrosion resistant" mounting accessories which are constructed of mild steel and provided with the same surface preparation as the output rod. Also offered are mounting accessories manufactured from stainless steel.



Ultimate Flexibility

I Series Lifetime Curves

See page 82 for explanation of life curve calculation.



I Series Performance Specifications

Model Number	Approx Frame Size in (mm)	Continuous Force* lbf (N)	Peak Force lbf (N)	Speed at Max Rated RPM in/sec (mm/sec)	Life at Rated Continuous Force $\text{in} \times 10^6 (\text{mm} \times 10^6)$	Dynamic Load Rating lbf (N)	Screw Lead in (mm)	Allowable Continuous Input Torque lbf-in (Nm)	Allowable Peak Input Torque lbf-in (Nm)	Max Rated Input RPM
IM20-xx01	2 (51)	578 (2571)	1106 (4920)	8.33 (212)	2.9 (73.7)	1782 (7927)	0.1 (2.54)	11.5 (1.3)	23 (2.6)	5000
IM20-xx02	2 (51)	289 (1286)	754 (3354)	16.67 (423)	13.1 (332.7)	1165 (5182)	0.2 (5.08)	11.5 (1.3)	23 (2.6)	5000
IM20-xx04	2 (51)	145 (645)	376 (1676)	33.33 (847)	44.7 (1135.4)	696 (3096)	0.4 (10.16)	11.5 (1.3)	23 (2.6)	5000
IX20-xx01	2 (51)	578 (2571)	1106 (4920)	8.33 (212)	7.8 (198.2)	2470 (10987)	0.1 (2.54)	11.5 (1.3)	23 (2.6)	5000
IX20-xx02	2 (51)	385 (1713)	754 (3354)	16.67 (423)	41.3 (1049)	2273 (10111)	0.2 (5.08)	15.3 (1.73)	30.6 (3.5)	5000
IX20-xx04	2 (51)	192 (854)	376 (1676)	33.33 (847)	140.6 (3571.2)	1357 (6036)	0.4 (10.16)	15.3 (1.73)	30.6 (3.5)	5000
IM30-xx01	3 (76)	1347 (5992)	2614 (11626)	6.67 (169)	2.1 (53.3)	3697 (16445)	0.1 (2.54)	26.8 (3.03)	53.6 (6.1)	4000
IM30-xx02	3 (76)	674 (2998)	2210 (8944)	13.33 (338)	7.0 (177.6)	2204 (9804)	0.2 (5.08)	26.8 (3.03)	53.6 (6.1)	4000
IM30-xx05	3 (76)	269 (1197)	804 (3578)	33.33 (846)	346.0 (8788.4)	2383 (10600)	0.5 (12.7)	26.8 (3.03)	53.6 (6.1)	4000
IX30-xx01	3 (76)	1347 (5992)	2614 (11626)	6.67 (169)	5.5 (139.8)	5124 (22793)	0.1 (2.54)	26.8 (3.03)	53.6 (6.1)	4000
IX30-xx02	3 (76)	905 (4026)	2210 (8944)	13.33 (338)	21.5 (546.1)	4300 (19127)	0.2 (5.08)	36.0 (4.07)	72.0 (8.1)	4000
IX30-xx05	3 (76)	362 (1610)	804 (3578)	33.33 (846)	1059.8 (26918.2)	4649 (20680)	0.5 (12.7)	36.0 (4.07)	72.0 (8.1)	4000
IM40-xx01	4 (102)	3966 (17642)	7540 (33538)	5 (127)	0.4 (10.16)	6124 (27241)	0.1 (2.54)	78.9 (8.91)	157.8 (17.8)	3000
IM40-xx02	4 (102)	1983 (8821)	5278 (23478)	10 (254)	2.1 (53.3)	4353 (19363)	0.2 (5.08)	78.9 (8.91)	157.8 (17.8)	3000
IM40-xx05	4 (102)	793 (3527)	2112 (9390)	25 (635)	32.6 (829)	3193 (14203)	0.5 (12.7)	78.9 (8.91)	157.8 (17.8)	3000
IM40-xx08	4 (102)	528 (2351)	1408 (6240)	37.5 (952)	174.3 (4427.2)	3251 (14461)	0.75 (19.05)	78.9 (8.91)	157.8 (17.8)	3000
IX40-xx01	4 (102)	3966 (17642)	7540 (33538)	5 (127)	1.0 (25.4)	8488 (37757)	0.1 (2.54)	78.9 (8.91)	157.8 (17.8)	3000
IX40-xx02	4 (102)	2692 (11975)	5278 (23478)	10 (254)	6.3 (160)	8492 (37774)	0.2 (5.08)	107.1 (12.1)	214.2 (24.2)	3000
IX40-xx05	4 (102)	1077 (4791)	2112 (9390)	25 (635)	96.9 (2461.2)	6230 (27712)	0.5 (12.7)	107.1 (12.1)	214.2 (24.2)	3000
IX40-xx08	4 (102)	718 (3193)	1408 (6240)	37.5 (952)	517.5 (13144.5)	6343 (28215)	0.75 (19.05)	107.1 (12.1)	214.2 (24.2)	3000

*The continuous force rating is achieved at the allowable continuous input torque level.

For configurations that use an input ratio, the input torque rating must be divided by the ratio. The output force ratings remain the same.

For the 2:1 parallel belt ratio the input torque ratings must be divided by 2 for allowable motor torque.

For the 5:1 internal planetary gearing option the input torque ratings must be divided by 5 for allowable motor torque.

For the 10:1 internal planetary gearing option the input torque ratings must be divided by 10 for allowable motor torque.

For any custom belt ratio or externally mounted gearing, the input torque ratings must be divided by that ratio for the allowable motor torque.

Specifications subject to change without notice.

I Series Mechanical Specifications

	IM20 / IX20	IM30 / IX30	IM40 / IX40
Nominal Backlash in (mm)	.008 (.2) / .004 (.1)	.008 (.2) / .004 (.1)	.008 (.2) / .004 (.1)
Lead Accuracy in/ft (mm/300 mm)	.001 (.025)	.001 (.025)	.001 (.025)
Maximum Radial Load lb (N)	25 (111)	35 (155)	45 (200)
Environmental Rating: Standard	IP54 / IP65	IP54 / IP65	IP54 / IP65
Maximum Operating Temperature	175°F / 80°C	175°F / 80°C	175°F / 80°C
Weights	lb (kg)		
Base Unit - Zero Stroke	2.32 (1.1)	5.29 (2.4)	14.6 (6.6)
Adder per inch of stroke	0.33 (.15)	0.63 (.3)	1.31 (.6)
Adder for inline (excluding motor)	0.73 (.33)	0.98 (.44)	0.2* (.09)
Adder for gearset	1.63 (.74)	3.32 (1.5)	9.91 (4.5)
Adder for front flange	0.44 (.2)	1.74 (.79)	2.6 (1.2)
Adder for parallel drive (excluding motor)	2.53 (1.15)	2.51(1.14)	11.7** (5.3)
Adder for 2 trunnions	2.12 (.96)	2.12 (.96)	2 (.91)
Adder for 2 side mounts	1.75 (.79)	1.75 (.79)	2.69 (1.2)
Adder for 2 adjustable flanges	1.46 (.66)	2.24 (1.02)	4.28 (1.94)
*For Nema motor size matching actuator size			
**For Nema motor size matching actuator size (I40 adder for Nema 34 = 7.3)			

Specifications subject to change without notice.

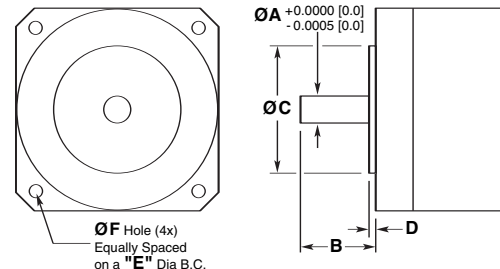
I Series Inertia

	Actuator Configuration	lbf-in-sec ² (kg-cm ²)
I20 Actuator	Base Unit - Input drive shaft only	0.0001+ 0.0000047/in (0.11 + 0.0053/in)
	Inline Unit - w/ motor collar clamp	0.00013+ 0.0000047/in (0.14 + 0.0053/in)
	5:1 Gearhead - w/ motor collar clamp	0.000062+ 0.00000019/in (0.07 + 0.00021/in)
	10:1 Gearhead - w/ motor collar clamp	0.000056+ 0.000000047/in (0.063 + 0.000053/in)
	1:1 Reduction parallel drive	0.00046+ 0.0000047/in (0.52 + 0.0053/in)
	2:1 Reduction parallel drive	0.00048+ 0.0000012/in (0.54 + 0.0013/in)
	1:2 Speed up ratio parallel drive	0.0015+ 0.000019/in (1.7 + 0.021/in)
I30 Actuator	Base Unit - Input drive shaft only	0.00043+ 0.000023/in (0.487 + 0.0256/in)
	Inline Unit - w/ motor collar clamp	0.00053+ 0.000023/in (0.596 + 0.0256/in)
	5:1 Gearhead - w/ motor collar clamp	0.00023+ 0.000001/in (0.254 + 0.001/in)
	10:1 Gearhead - w/ motor collar clamp	0.00020+ 0.0000003/in (0.23 + 0.00026/in)
	1:1 Reduction parallel drive	0.00075+ 0.000023/in (0.845 + 0.0256/in)
	2:1 Reduction parallel drive	0.00046+ 0.0000057/in (0.52 + 0.0256/in)
	1:2 Speed up ratio parallel drive	0.003+ 0.000091/in (3.4 + 0.1/in)
I40 Actuator	Base Unit - Input drive shaft only	0.00145+ 0.000073/in (1.65 + 0.0823/in)
	Inline Unit - w/ motor collar clamp	0.002+ 0.000073/in (2.15 + 0.0823/in)
	5:1 Gearhead - w/ motor collar clamp	0.0045+ 0.000003/in (5.11 + 0.00329/in)
	10:1 Gearhead - w/ motor collar clamp	0.0034+ 0.0000007/in (3.87 + 0.000823/in)
	1:1 Reduction parallel drive, 3 inch motor"	0.0023 + 0.000073/in (2.67 + 0.082/in)
	2:1 Reduction parallel drive, 3 inch motor"	0.00073 + 0.000018/in (0.83 + 0.02/in)
	1:2 Speed up ratio parallel drive, 3 inch motor"	0.011 + 0.00029/in (12.6 + 0.34/in)
	1:1 Reduction parallel drive, 4 inch motor"	0.021 + 0.000073/in (23.9 + 0.082/in)
	2:1 Reduction parallel drive, 4 inch motor"	0.0082 + 0.000018/in (9.27 + 0.020/in)
	1:2 Speed up ratio parallel drive, 4 inch motor"	0.039 + 0.000029/in (44.4 + 0.33/in)

NEMA Standard Motor Dimensions

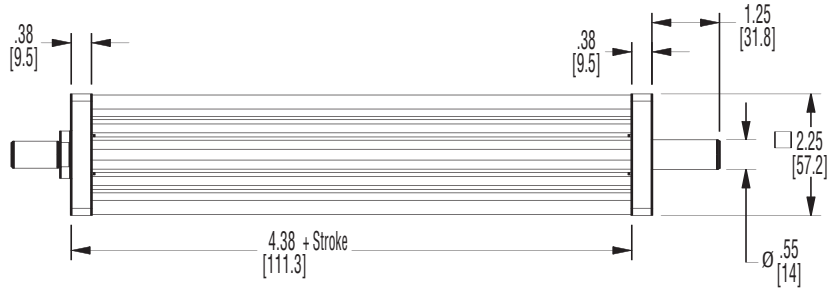
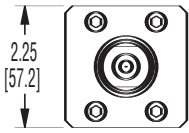
The I Series actuators offer the selection for motor mounting provisions to be the various NEMA motor sizes. Because there are variations from brand to brand of motor as to what is called NEMA dimensions, we publish this table of NEMA dimensions that we use as the standards for the product line. If the motor that you choose differs from these dimensions, it would not be called out by the N23, N34, N42, N56 call outs, and rather, by the A## alpha numeric callout for specific motors.

Dimension (in)	NEMA 23	NEMA 34	NEMA 42	NEMA 56
"A" Motor Shaft Diameter	0.25	0.5	0.75	0.625
"B" Motor Shaft Length	0.81	1.19	2.19	2.0625
"C" Motor Pilot Diameter	1.5	2.875	2.186	4.5
"D" Pilot Depth	0.05	0.0625	0.0625	0.1 - 0.16
"E" Mounting Bolt Circle	2.625	3.875	4.95	5.875
"F" Mounting Bolt Hole Dia.	0.205	0.223	0.328	3/8-16 UNC tap

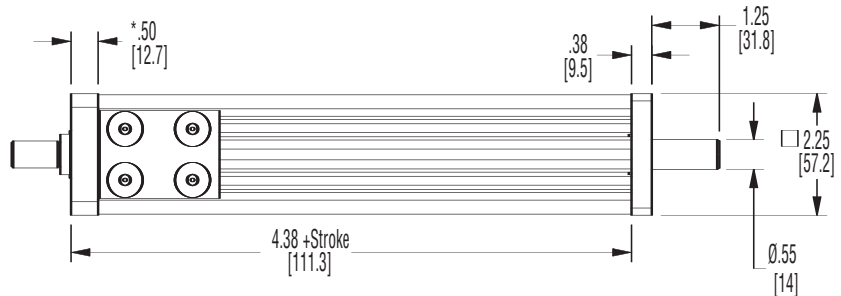
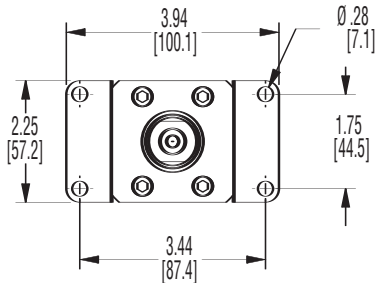


Specifications subject to change without notice.

I20 Base Unit

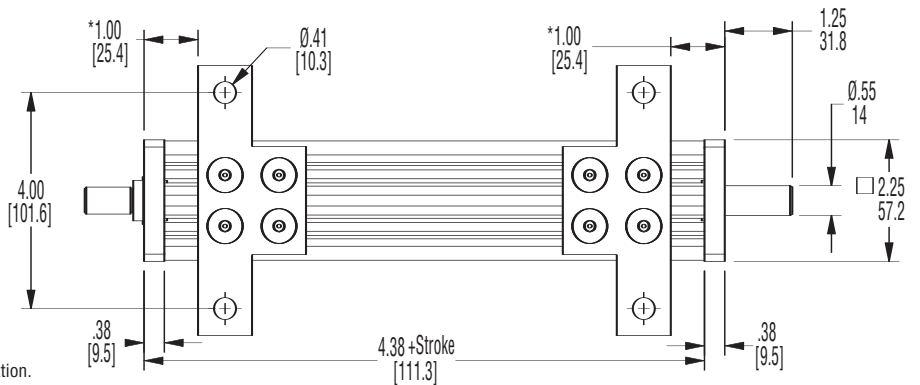
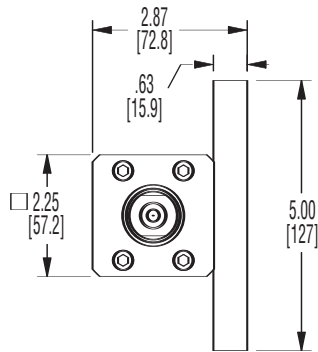


I20 Side Flange Attachments (*Integral Flange)



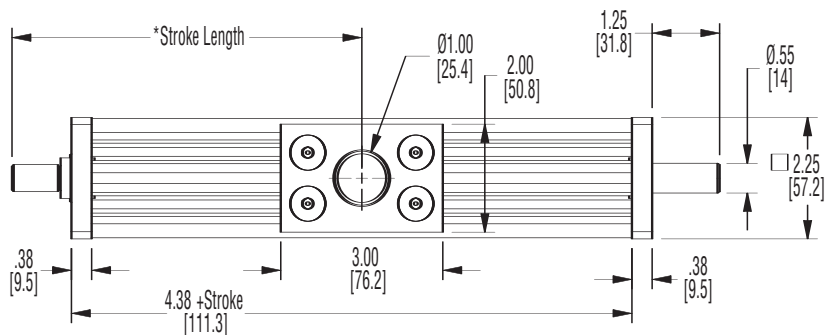
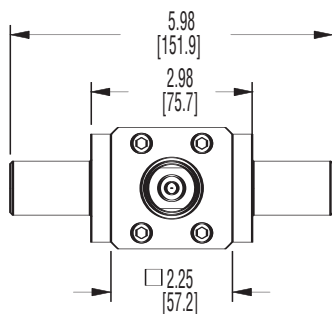
*Note: If using integral flange this dimension is .38 [9.5]

I20 Side Lug Attachments



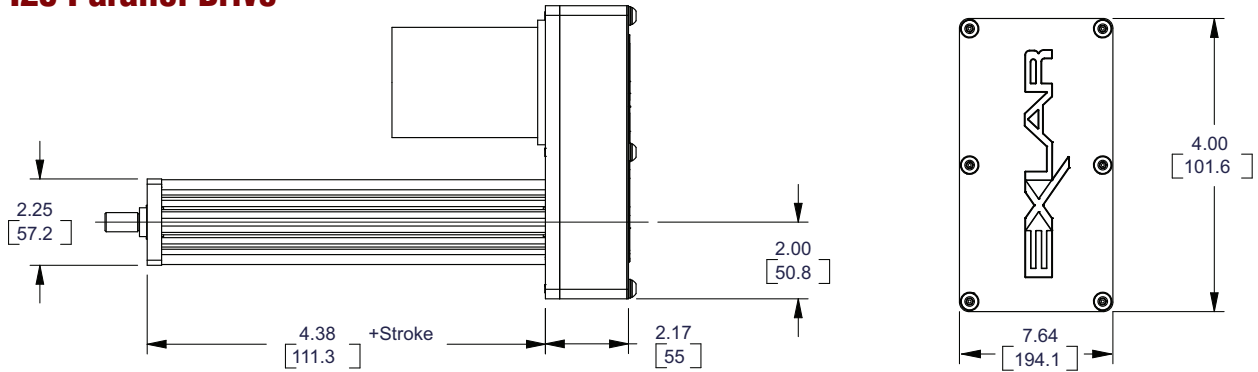
*Note: Approximate distance for shipping. May be re-positioned by customer per application.

I20 Side Trunnion Attachments

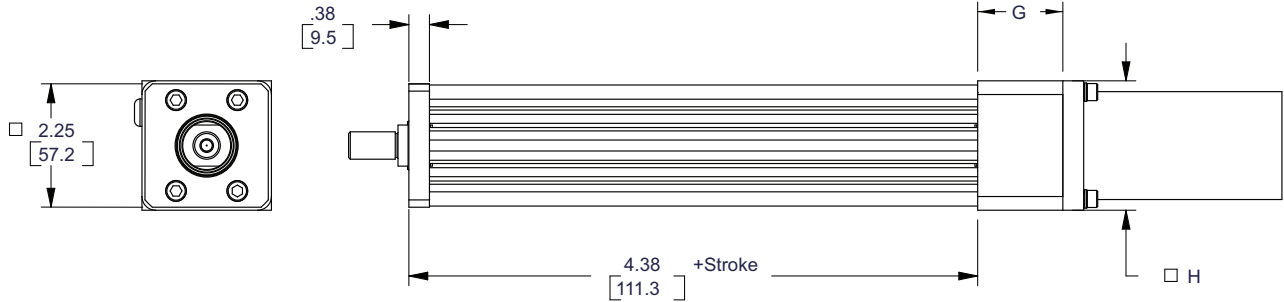


*Note: Approximate distance for shipping. May be re-positioned by customer per application.

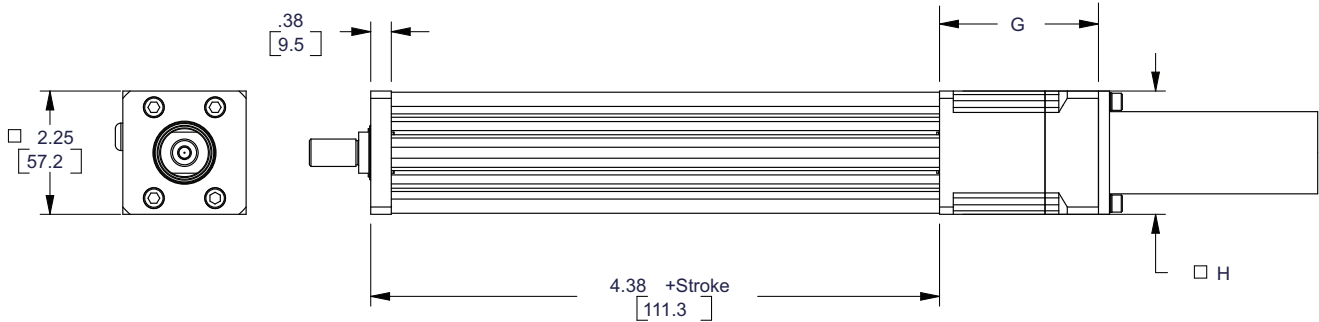
I20 Parallel Drive



I20 Inline Integrated Coupling

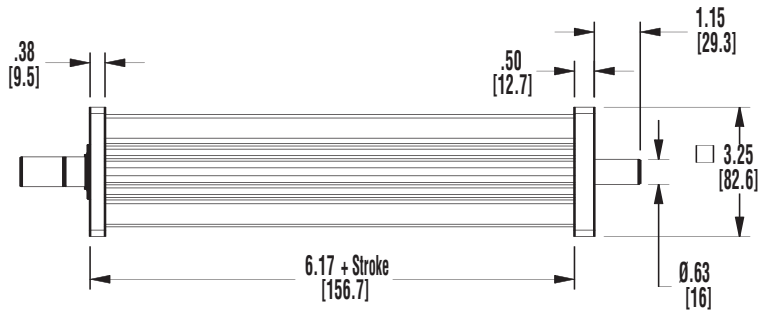
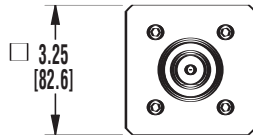


I20 5:1, 10:1 Planetary Gearset

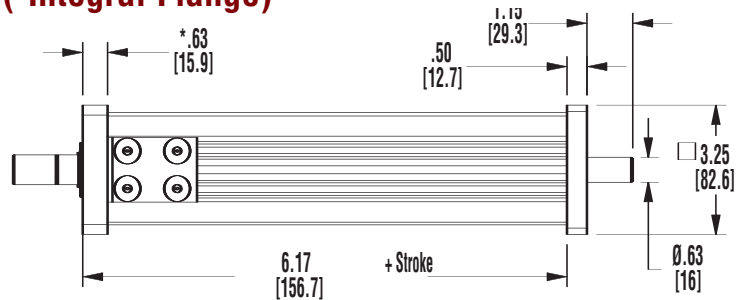
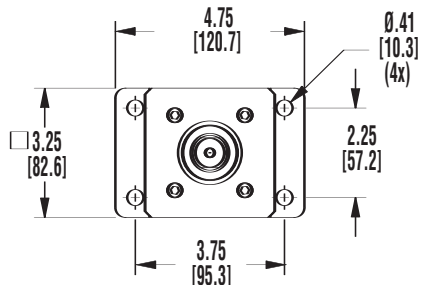


Motor Frame Size (Inline Integrated Coupling)	G	H
NEMA 23	1.25" (31.8 mm)	2.25" (57.2 mm)
Exlar 60mm	1.55" (39.4 mm)	2.36" (60.0 mm)
NEMA 34	1.37" (34.7 mm)	3.25" (82.6 mm)
NEMA 42	1.37" (34.7 mm)	4.19" (106.4 mm)
Motor Frame Size (5:1, 10:1 Planetary Gearset)		
NEMA 23	2.90" (73.7 mm)	2.25" (57.2 mm)
NEMA 34	8.57" (217.7 mm)	11.04" (280.5 mm)

I30 Base Unit

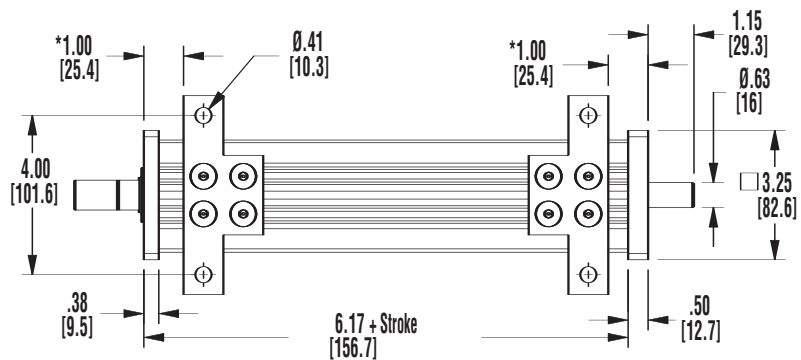
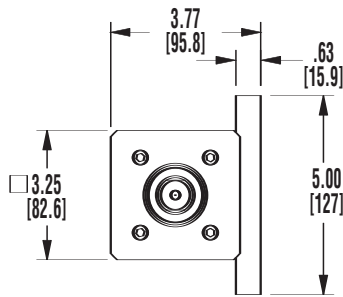


I30 Side Flange Attachments (*Integral Flange)



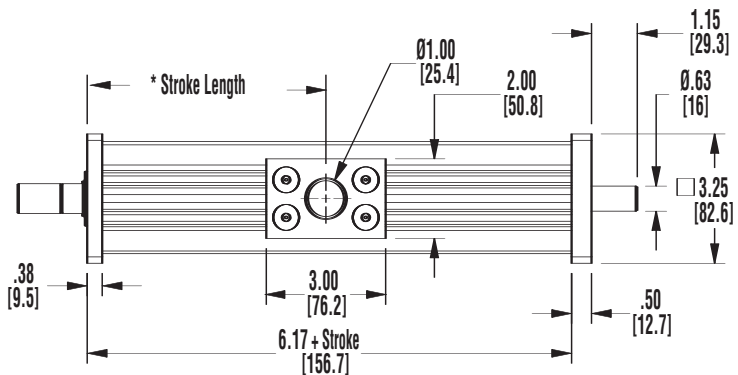
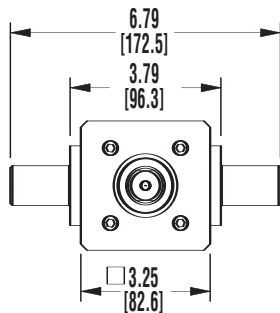
* Note: If using integral flange this dimension is .50 [12.7]

I30 Side Lug Attachments



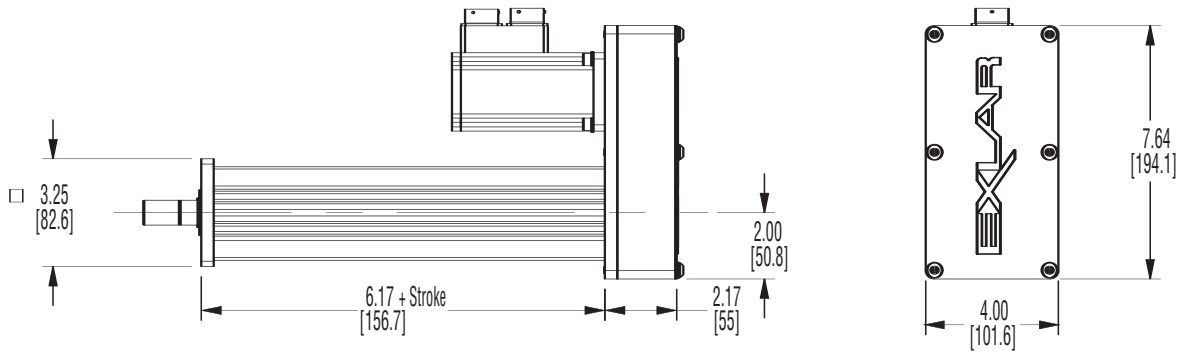
* Note: Approximate distance for shipping.
May be re-positioned by customer per application.

I30 Side Trunnion Attachments

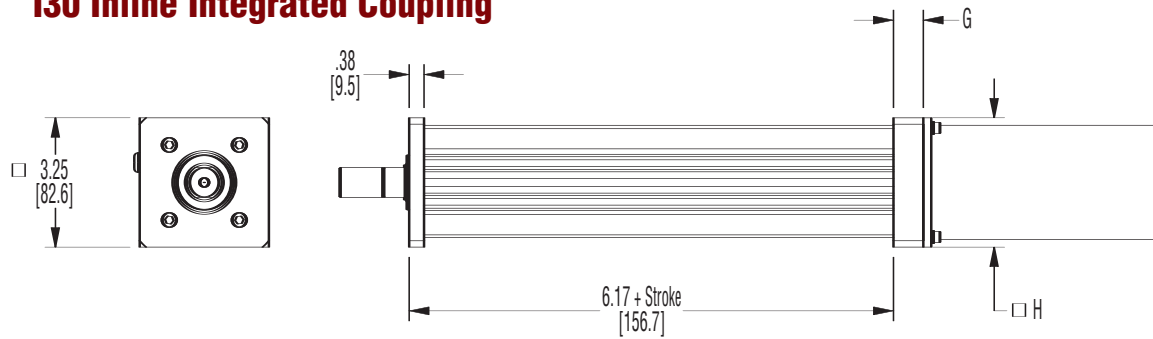


* Note: Approximate distance for shipping.
May be re-positioned by customer per application.

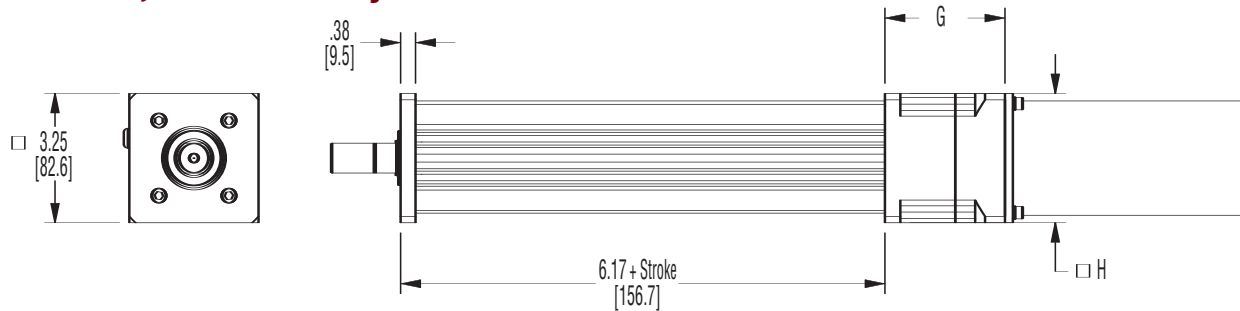
I30 Parallel drive



I30 Inline Integrated Coupling

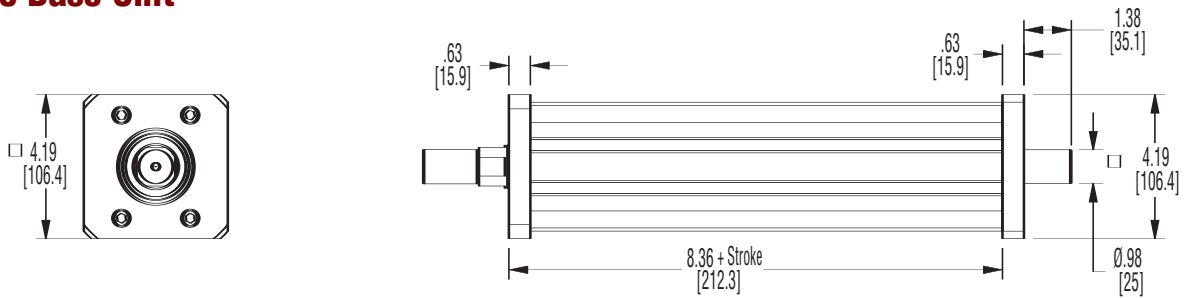


I30 5:1, 10:1 Planetary Gearset

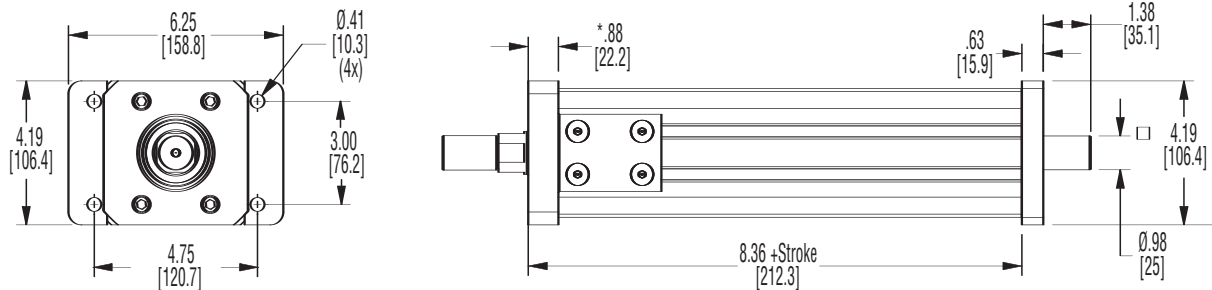


Motor Frame Size (Inline Integrated Coupling)	G	H
NEMA 23	0.80" (20.3 mm)	3.25" (82.6 mm)
Exlar 60mm	0.80" (20.3 mm)	3.25" (82.6 mm)
NEMA 34	0.68" (17.1 mm)	3.25" (82.6 mm)
NEMA 42	0.68" (17.1 mm)	4.19" (106.4 mm)
Motor Frame Size (5:1, 10:1 Planetary Gearset)		
NEMA 23	2.95" (74.8 mm)	3.25" (82.6 mm)
Exlar 60mm	2.95" (74.8 mm)	3.25" (82.6 mm)
NEMA 34	2.95" (74.8 mm)	3.25" (82.6 mm)
Exlar 90mm	3.29" (83.4 mm)	3.52" (89.4 mm)
NEMA 42	2.95" (74.8 mm)	4.19" (106.4 mm)

I40 Base Unit

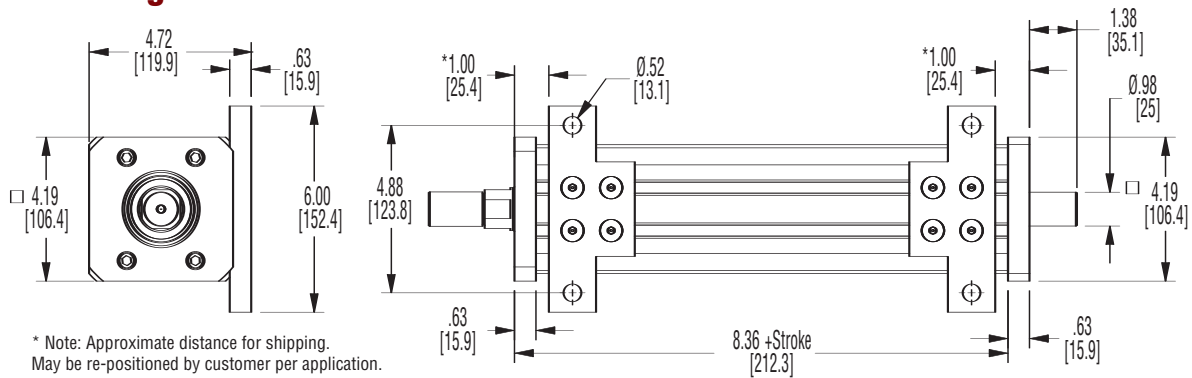


I40 Side Flange Attachments (*Integral Flange)



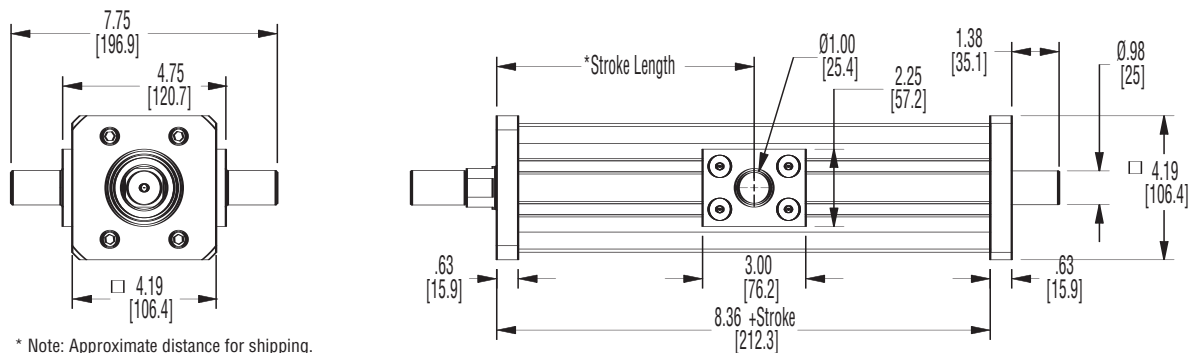
* Note: If using integral flange this dimension is .63 [15.9]

I40 Side Lug Attachments



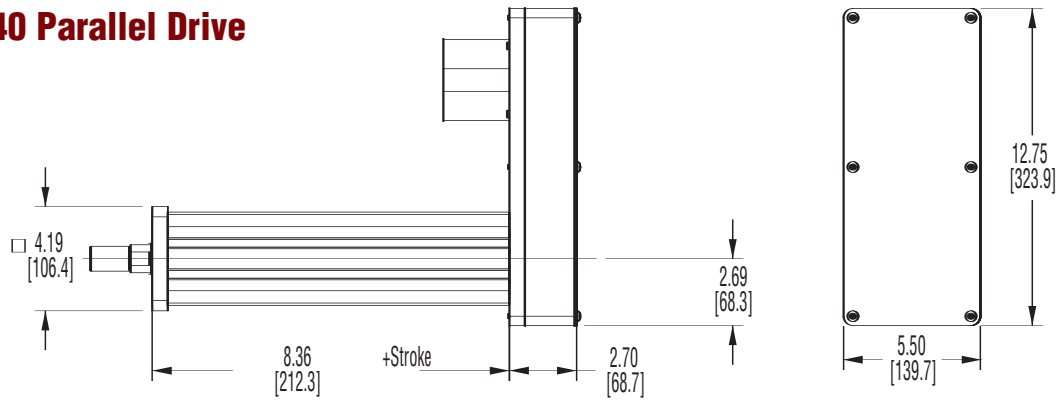
* Note: Approximate distance for shipping. May be re-positioned by customer per application.

I40 Side Trunnion Attachments

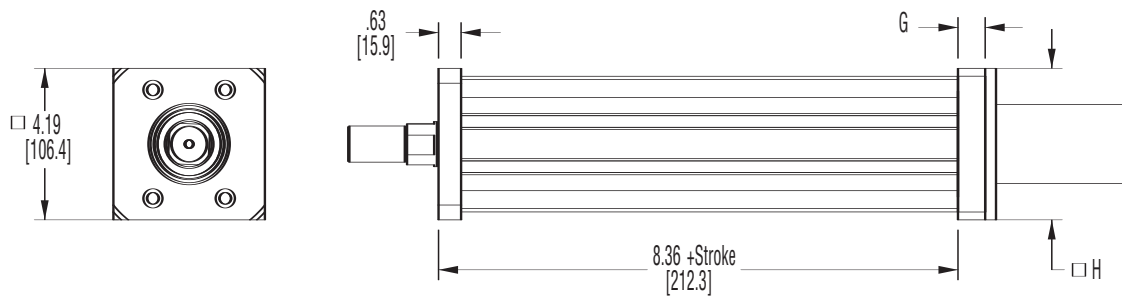


* Note: Approximate distance for shipping. May be re-positioned by customer per application.

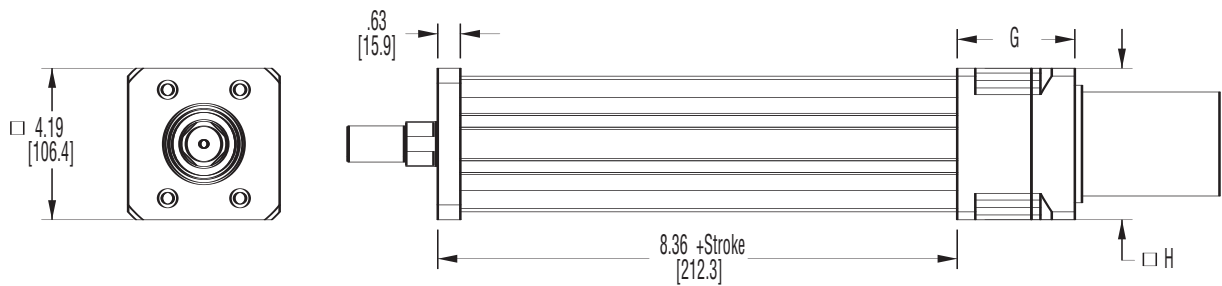
I40 Parallel Drive



I40 Inline Integrated Coupling

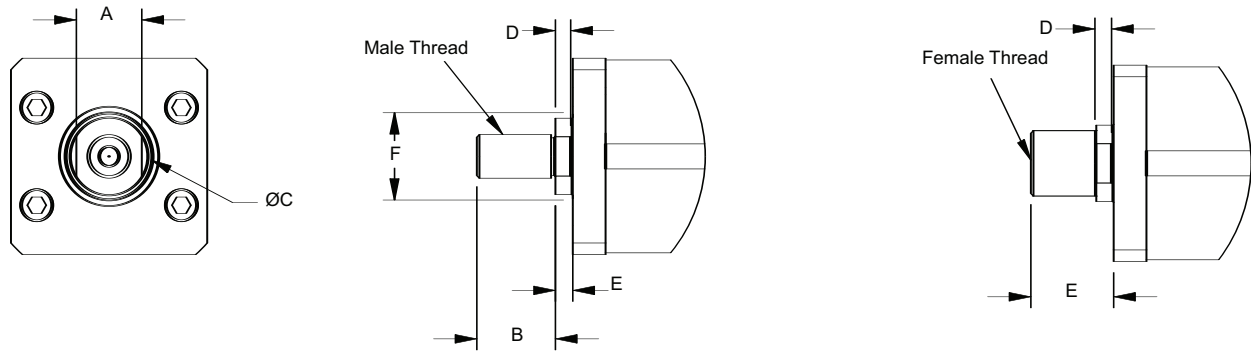


I40 5:1, 10:1 Planetary Gearset



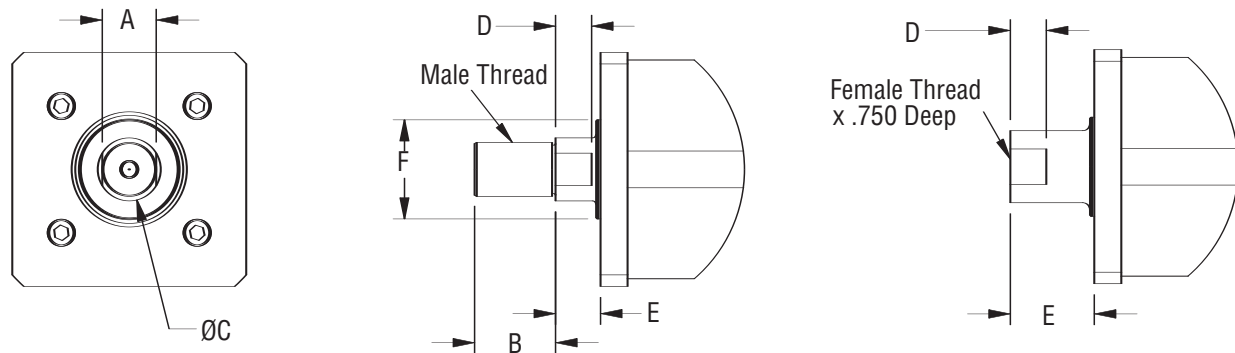
Motor Frame Size (Inline Integrated Coupling)	G	H
NEMA 34	0.75" (19.1 mm)	4.19" (106.4 mm)
Exlar 90mm	1.00" (25.4 mm)	4.19" (106.4 mm)
NEMA 42	0.75" (19.1 mm)	4.19" (106.4 mm)
Exlar 115mm	1.25" (31.75 mm)	4.19" (106.4 mm)
Motor Frame Size (5:1, 10:1 Planetary Gearset)		
NEMA 34	3.25" (82.6 mm)	4.19" (106.4 mm)
Exlar 90mm	3.45" (87.6 mm)	4.19" (106.4 mm)
NEMA 42	3.25" (82.6 mm)	4.19" (106.4 mm)

I20 Rod Ends



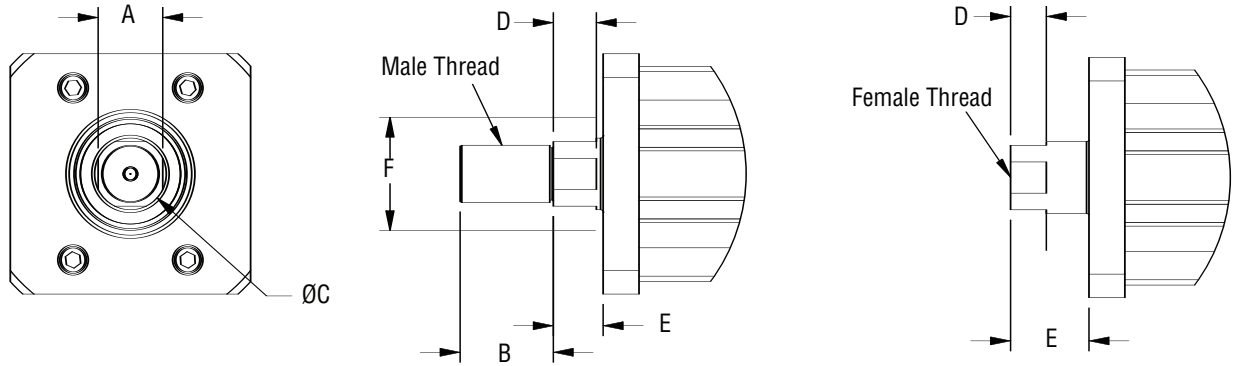
Rod End Option	Thread	A	B	C	D	E	F
M	U.S. Male 1/2-20 UNF-2A	0.75" (19.1 mm)	0.90" (22.9 mm)	0.88" (22.2 mm)	0.18" (4.4 mm)	0.20" (5.1 mm)	1.00" (25.4 mm)
F	U.S. Female 1/2-20 UNF-2B	0.75" (19.1 mm)	na na	0.88" (22.2 mm)	0.18" (4.4 mm)	0.95" (24.1 mm)	1.00" (25.4 mm)
A	Metric Male M12 x 1.5	0.75" (19.1 mm)	0.90" (22.9 mm)	0.88" (22.2 mm)	0.18" (4.4 mm)	0.20" (5.1 mm)	1.00" (25.4 mm)
B	Metric Female M12 x 1.5	0.75" (19.1 mm)	na na	0.88" (22.2 mm)	0.18" (4.4 mm)	0.95" (24.1 mm)	1.00" (25.4 mm)

I30 Rod Ends



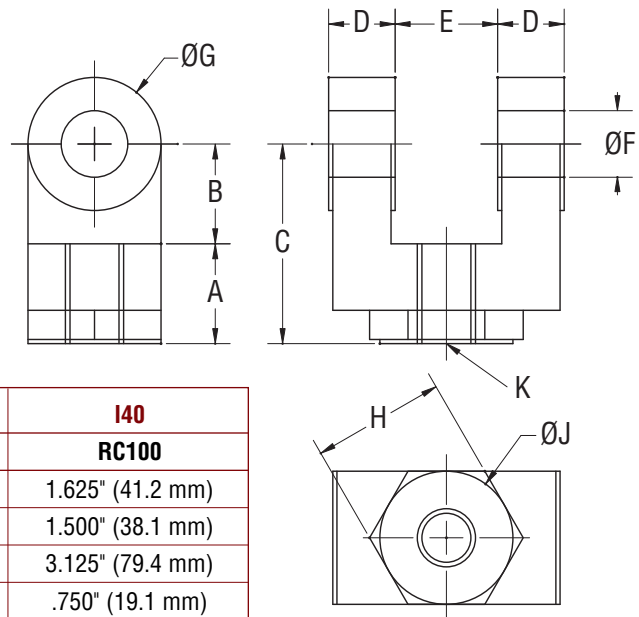
Rod End Option	Thread	A	B	C	D	E	F
M	U.S. Male 3/4-16 UNF	0.75" (19.1 mm)	1.13" (28.6 mm)	0.88" (22.3 mm)	0.50" (12.7 mm)	0.62" (15.8 mm)	1.38" (35.0 mm)
F	U.S. Female 3/4-16 UNF	0.87" (22.1 mm)	na na	1.00" (25.4 mm)	0.50" (12.7 mm)	1.17" (29.7 mm)	1.38" (35.0 mm)
A	Metric Male M16 x 1.5	0.75" (19.1 mm)	1.13" (28.6 mm)	0.88" (22.3 mm)	0.50" (12.7 mm)	0.62" (15.8 mm)	1.38" (35.0 mm)
B	Metric Female M16 x 1.5	0.87" (22.1 mm)	na na	1.00" (25.4 mm)	0.50" (12.7 mm)	1.17" (29.7 mm)	1.38" (35.0 mm)

I40 Rod Ends



Rod End Option	Thread	A	B	C	D	E	F
M	U.S. Male 1-14 UNS-2A	1.13" (28.6 mm)	1.63" (41.3 mm)	1.25" (37.8 mm)	0.75" (19.1 mm)	0.87" (22.1 mm)	1.97" (50.0 mm)
F	U.S. Female 1-14 UNS-2A	1.13" (28.6 mm)	na na	1.25" (37.8 mm)	0.63" (15.9 mm)	1.37" (34.8 mm)	1.97" (50.0 mm)
A	Metric Male M27 x 2.0	1.13" (28.6 mm)	1.63" (41.3 mm)	1.25" (37.8 mm)	0.75" (19.1 mm)	0.87" (22.1 mm)	1.97" (50.0 mm)
B	Metric Female M24 x 2	1.13" (28.6 mm)	na na	1.25" (37.8 mm)	0.63" (15.9 mm)	1.37" (34.8 mm)	1.97" (50.0 mm)

Rod Clevis Dimensions

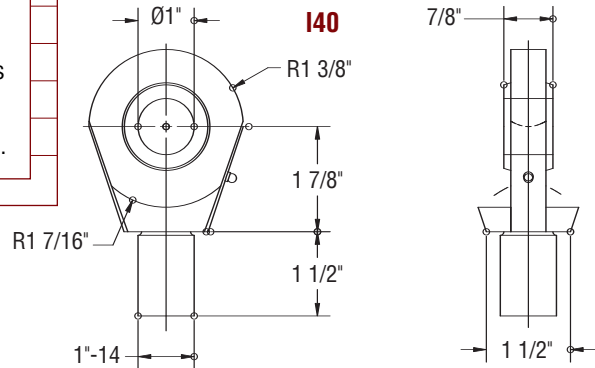
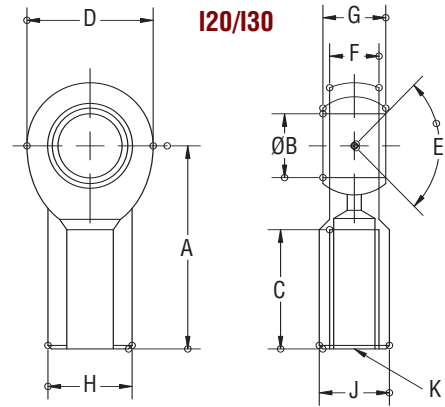


	I20*	I30	I40
	RCI050	RC075	RC100
A	0.750" (19.05 mm)	1.125" (28.58 mm)	1.625" (41.2 mm)
B	0.750" (19.05 mm)	1.25" (31.75 mm)	1.500" (38.1 mm)
C	1.500" (38.1 mm)	2.375" (60.3 mm)	3.125" (79.4 mm)
D	0.500" (12.7 mm)	0.625" (15.88 mm)	.750" (19.1 mm)
E	0.765" (19.43 mm)	1.265" (32.13 mm)	1.515" (38.5 mm)
ØF	0.500" (12.7 mm)	0.75" (19.1 mm)	1.000" (25.4 mm)
ØG	1.000" (25.4 mm)	1.50" (38.1 mm)	2.000" (50.8 mm)
H	1.000" (25.4 mm)	1.25" (31.75 mm)	1.500" (38.1 mm)
ØJ	NA	1.25" (31.75 mm)	1.500" (38.1 mm)
K	1/2-20	3/4-16	1-14

*Requires 0.5 in. dia. pin CP050.

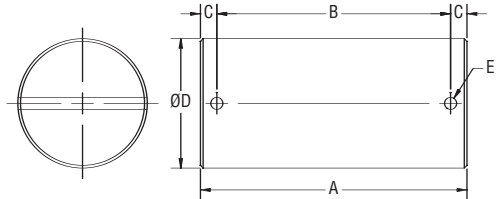
Spherical Rod Eye Dimensions

	I20	I30	I40
	SRM050	SRM075	SRF100
A	2.125" (54.0 mm)	2.88" (73.2 mm)	See Spherical Rod Eye Drawing Below. Requires Female Rod End.
ØB	.500" (12.7 mm)	0.75" (19.1 mm)	
C	1.156" (29.4 mm)	1.72" (43.7 mm)	
D	1.312" (33.3 mm)	1.75" (44.5 mm)	
E	6 Deg	14 Deg	
F	.500" (12.7 mm)	0.69" (17.5 mm)	
G	.625" (15.9 mm)	0.88" (22.3 mm)	
H	.875" (22.2 mm)	1.13" (28.7 mm)	
J	.750" (19.1 mm)	1.00" (25.4 mm)	
K	1/2-20	3/4-16	



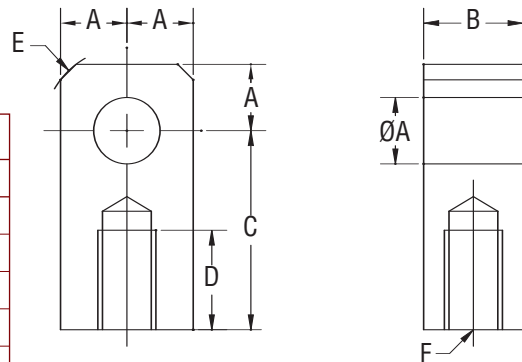
Clevis Pin Dimensions

		A	B	C	ØD	ØE
I20	CP050	2.28" (57.9 mm)	1.94" (49.28 mm)	0.17" (4.32 mm)	0.50" (12.7 mm)	0.095" (2.41 mm)
I30	CP075	3.09" (78.5 mm)	2.72" (69.1 mm)	0.19" (4.82 mm)	0.75" (19.1 mm)	0.14" (3.56 mm)
I40	CP100	3.59" (91.2 mm)	3.22" (81.8 mm)	0.19" (4.82 mm)	1.00" (25.4 mm)	0.14" (3.56 mm)



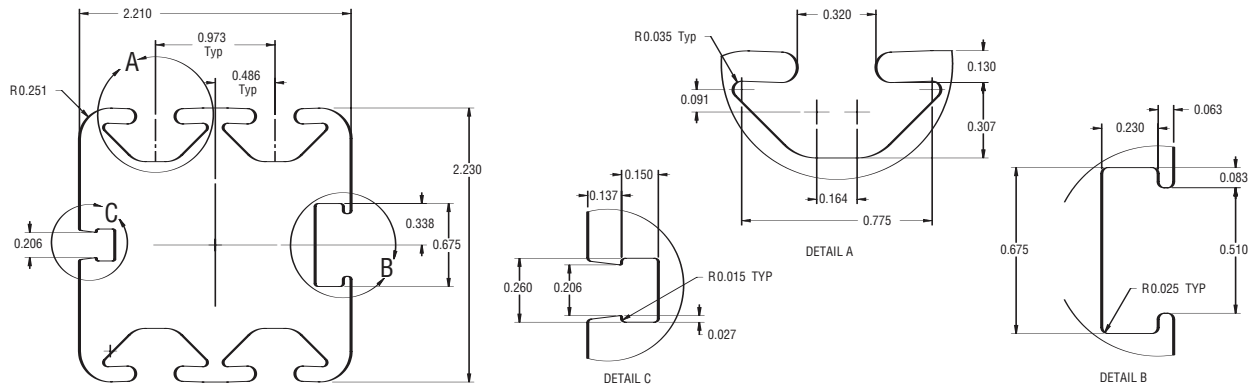
Rod Eye Dimensions

	I20*	I30	I40
	REI050	RE075	RE100
ØA	0.50" (12.7 mm)	0.75" (19.05 mm)	1.00" (25.4 mm)
B	0.75" (19.05 mm)	1.25" (31.8 mm)	1.50" (38.1 mm)
C	1.50" (38.1 mm)	2.06" (52.3 mm)	2.81" (71.4 mm)
D	0.75" (19.05 mm)	1.13" (28.7 mm)	1.63" (41.4 mm)
E	0.375" (9.53 mm)	0.88" (22.2 mm)	1.19" (30.2 mm)
F	1/2-20	3/4-16	1-14

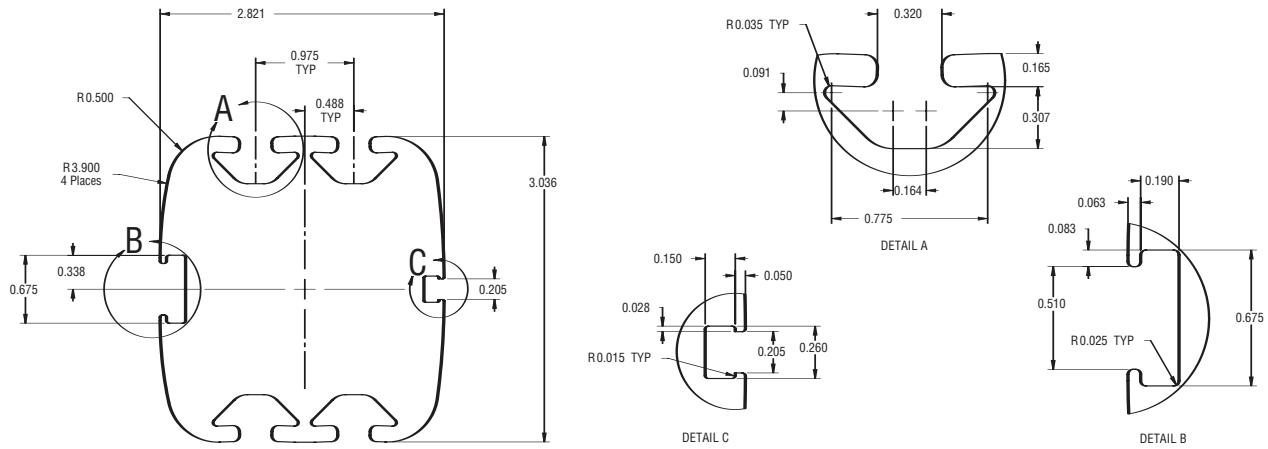


*Requires 0.5 in. dia. pin CP050.

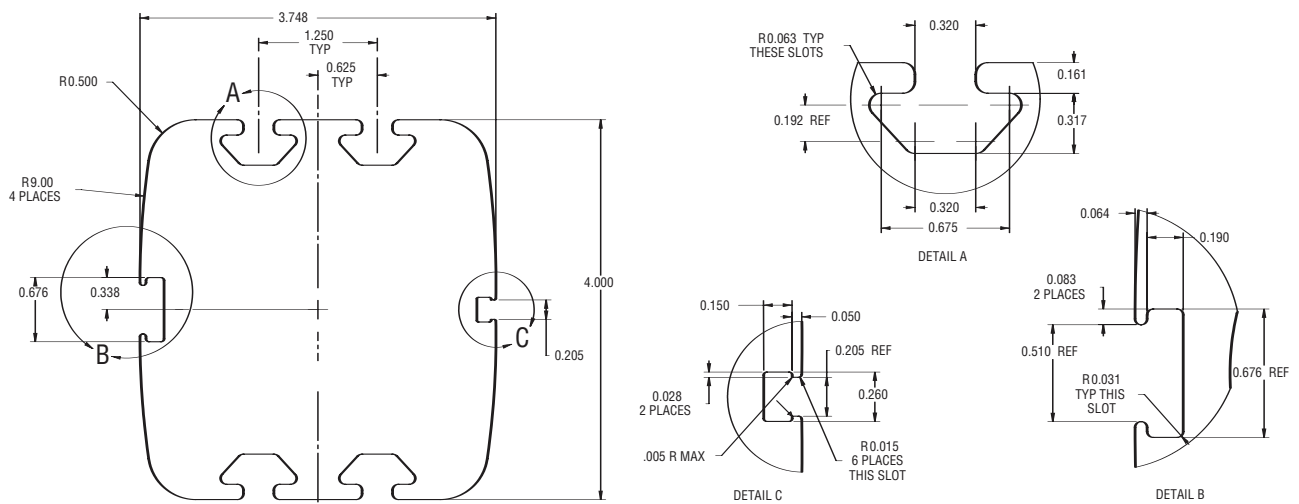
I20 Case Dimensions



I30 Case Dimensions



I40 Case Dimensions



I Series Accessories Ordering Guide	
I Series Mounting Attachments (includes proper number of standard T nuts and screws)	Model Number
Side Flange Attachments (Black Oxide Steel)	
Size 20 I Series (2)	ISFA-20
Size 30 I Series (2)	ISFA-30
Size 40 I Series (2)	ISFA-40
Side Trunnion Attachments	
Size 20 I Series (2)	ISTA-20
Size 30 I Series (2)	ISTA-30
Size 40 I Series (2)	ISTA-40
Side Lug Attachments	
Size 20 I Series (2)	ISLA-20
Size 30 I Series (2)	ISLA-30
Size 40 I Series (2)	ISLA-40
Mounting Attachments, Corrosion Resistant or Stainless Steel	
Stainless Steel Side Flange Attachments (Stainless Steel)	
Size 20 I Series	ISSF-20
Size 30 I Series	ISSF-30
Size 40 I Series	ISSF-40
Corrosion Resistant Side Trunnion Attachments (Treated Hardened Steel Trunnions)	
Size 20 I Series	ICRT-20
Size 30 I Series	ICRT-30
Size 40 I Series	ICRT-40
Stainless Steel Side Trunnion Attachments (Hardened Stainless Steel Trunnions)	
Size 20 I Series	ISST-20
Size 30 I Series	ISST-30
Size 40 I Series	ISST-40
Stainless Steel Side Lug Attachments (Stainless Steel)	
Size 20 I Series	ISSL-20
Size 30 I Series	ISSL-30
Size 40 I Series	ISSL-40
Standard T Nuts and Screws	
5/16 - 18 T nut - use with all mounts	ITNUT
5/16 - 18 x 3/4" screw - use with trunnion mounts	ISCR34
5/16 - 18 x 1" screw - use with side flange and side lug mount	ISCR10
Rod End Attachments, Standard Materials (Consult Factory for Corrosion Resistant Options)	
Spherical Rod Eye	
Size 20 I Series	SRM-050
Size 30 I Series	SRM-075
Size 40 I Series (fits standard imperial female threaded rod)	SRF-100
Rod Eye	
Size 20 I Series	REI-050
Size 30 I Series	RE-075
Size 40 I Series	RE-100
Rod Clevis	
Size 20 I Series (requires 0.5" dia. Pin, CP-050)	RCI-050
Size 30 I Series	RC-075
Size 40 I Series	RC-100
Clevis Pins for Rod Clevis/Rod Eye	
Size 20 I Series	CP-050
Size 30 I Series	CP-075
Size 40 I Series	CP-100
Clevis Pins for Spherical Rod Eye	
Size 20 I Series	CP-050
Size 30 I Series	CP-075
Size 40 I Series	CP-100

Consult Exlar's Application Engineering Department regarding all special actuator components.

<h2>I Series Ordering Information</h2>	<div style="border: 1px solid black; padding: 5px; display: flex; justify-content: space-around;"> IM/XAA - BBCC - DE - FFF - GGG - (XX..XX - #####) </div>
<p>Actuator Series IM = Standard Mechanical Grade, IP54 IX = Premium Mechanical Grade, IP65</p>	<p>GGG = Motor Mount Provisions⁶ A## = Alpha numeric motor call out - contact Exlar Applications Engineering Department. Motor not included. NMT = No motor mount - keyed shaft on base unit only N23 = Nema 23 standard dimension N34 = Nema 34 standard dimension N42 = Nema 42 standard dimension. Not available on I20. N56 = Nema 56 standard demension. Not available on I20 or I30. M60 = Exlar 60 mm SLM. Motor not included. Not available on I40. M90 = Exlar 90 mm SLM. Motor not included. M11 = Exlar 115 mm SLM. Motor not included. Available on I40 only. M14 = Exlar 142 mm SLM. Motor not included. Available on I40 only. G60 = Exlar 60 mm SLG. Motor not included. Not available on I40. G90 = Exlar 90 mm SLG. Motor not included. G11 = Exlar 11 mm SLG. Motor not included. Available on I40 only. AB3,4 = Allen Bradley 3 & 4 inch motors BD3,4 = Baldor 3 & 4 inch motors CE3,4 = Parker (Custom Servo Motors) Imperial 3 & 4 inch motors CM3,4 = Parker (Custom Servo Motors) Metric 3 & 4 inch motors EE3,4 = Emerson EMC Imperial 3 & 4 inch motors EM3,4 = Emerson CT Metric 3 & 4 inch motors FA4 = Fanuc 4 inch motors IN3,4 = Bosch-Rexroth (Indramat) 3 & 4 inch motors KM2,4 = Kollmorgen 2, 3 & 4 inch motors MT3,4 = Mitsubishi 3 & 4 inch motors PS3,4 = Pacific Scientific PMA/PMB Series 3 & 4 inch motors PC2,3 = Parker Compumotor 2.7, 3.6, 4.5, & 5.6 inch motors YS3,4 = Yaskawa 3 & 4 inch motors MXX = Unlisted or special motor mounting provisions to be assigned an alpha numeric code at time of order</p>
<p>AA = Frame Size 20 = 2 inch (50.8 mm) 30 = 3 inch (76 mm) 40 = 4 inch (100 mm)</p>	<p>X..XX = Travel and Housing Options (Multiple Possible) EN = Electroless nickel plating of housing parts HC = Hard coat anodized, acceptable for food grade PB = Protective bellows for extending rod L1 = One external limit switch, channel mount magnetic sensing proximity switch, N.O.³ L2 = Two external limit switches, channel mount magnetic sensing proximity switch, N.C. 10-30 VDC³ L3 = Three external limit switches, channel mount magnetic sensing proximity switch, 1 N.O., 2 N.C. 10-30 VDC³ L# = external limit switches, channel mount magnetic sensing prox switch³. P5 = IP65 sealed housing (option for IM Series) PF = Pre-loaded follower² XH = Special housing option XL = Special lubrication XT = Special travel option</p>
<p>BB = Stroke Length 02-18 = 2 to 18 inches (12 inch max on I20) in 2 inch increments. Special available strokes: Maximum 24 inch stroke is available for the I 30 and maximum 22 inch stroke for the I 40.</p>	<p>##### = 5 digit part number assigned to designate special model numbers. Optional 5 digit assigned part number to designate unique model numbers</p>
<p>CC = Lead (linear motion per screw revolution) 01 = 0.1 inch (2.54 mm) 02 = 0.2 inch (5.08 mm) 04 = 0.4 inch (10.16 mm) (I20 only) 05 = 0.5 inch (12.7 mm) (I30 and I40 only) 08 = 0.75 inch (19.05 mm) (I40 only, up to 8" stroke max.)¹</p>	<p>Note: 1. Maximum stroke length for 0.75 inch lead (19.05 mm) on I40 is 8" (228.6 mm). 2. The dynamic load rating of zero backlash, preloaded screws is 63% of the dynamic load rating of the standard non-preloaded screws. The calculated travel life of a preloaded screw will be 25% of the calculated travel life of the same size and lead of a non-preloaded screw. 3. Please see page 53 for limit switch details and replacements. 4. 90 mm square max frame size for I20. 100 mm square max frame size for I30. 120 mm square max frame size for I40. Consult Application Engineer for larger motors. 5. These housing options would typically be accompanied by the choice of the electroless nickel connectors if a connectorized unit were selected. This choice may also indicate the need for special material main rods or mounting. 6. NEMA callout must meet specifications on page 67 or use alpha numeric callout.</p>
<p>D = Mounting Options N = None, Base Unit F = Front Flange X = Special</p>	
<p>E = Rod End Options M = Male, US Standard Thread A = Male Metric F = Female US Standard B = Female Metric</p>	
<p>FFF = Input Drive Provisions NMT = Drive Shaft Only, No Motor Mount G05 = Inline Planetary Gearing, 5:1 Ratio G10 = Inline Planetary Gearing, 10:1 Ratio ISC = Inline, Includes Shaft Coupling P10 = Parallel, 1:1 Ratio P20 = Parallel, 2:1 Ratio P## = Custom Ratio, (ex. P13 = 1.3:1 ratio)</p>	

Consult Exlar's Application Engineering Department regarding all special actuator components.