# **FTX SERIES**



## **NEXT GENERATION HIGH FORCE ACTUATOR**

- HYDRAULIC CYLINDER REPLACEMENT
- HIGH SPEED AND LONG LIFE
- LONG STROKE LENGTHS
- RUGGED AND RELIABLE

CURTISS -WRIGHT



## **FTX Series**

### **High Force Linear Actuators**

#### **Hydraulic Cylinder Replacement**

Hydraulic cylinders provide long life and high force in a small package size. The FTX Series high force electric actuators were designed specifically to allow migration from traditional hydraulic actuation to electric. Based on planetary roller screw technology, the FTX offers life and force density not attainable with more common ball screw based electric actuators. With up to 15X the life and 2X the force density, the roller screw based FTX is the right choice when migrating from hydraulic to electric actuation.

#### Rugged and Reliable

Hydraulic cylinders are commonly installed in harsh industrial settings. Therefore all FTX Series models are environmentally sealed to IP65. In addition, its planetary roller screw mechanism withstands significantly higher shock loads than weaker ball screw alternatives. Migrate to electric with confidence knowing the FTX Series is every bit as rugged and reliable as the hydraulics they are designed to replace.

#### **Minimal Maintenance**

More and more machine builders are looking to eliminate the mess and downtime associated with hydraulic fluid leaks. Electric actuation not only eliminates the problems associated with fluid leaks, it offers significantly higher levels of performance and flexibility than is possible even with servo-hydraulic solutions. FTX Series roller screw actuators allow machine builders to meet the ever-increasing performance demands of their customers while minimizing or eliminating the maintenance issues associated with traditional hydraulic solutions.

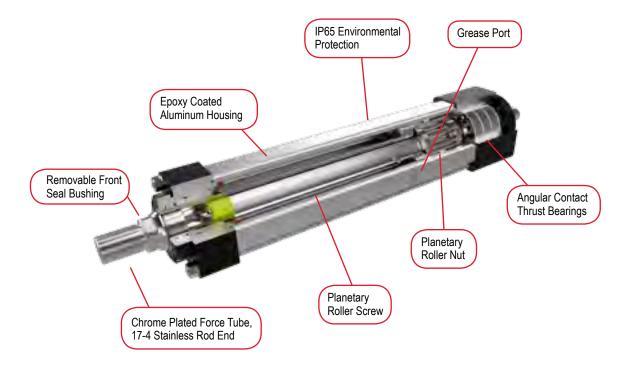
Technical Characteristics					
Frame Sizes - mm (in)	125 (5), 215 (8.5)				
Screw Leads - mm (in)	5 (.20), 6 (.25), 10 (.39), 12 (.50), 20 (.79), 30 (1.18)				
Standard Stroke Lengths mm (in)	150 (6), 300 (12), 600 (24), 900 (36)				
Force Range	up to 178 kN (40000 lbf)				
Maximum Speed	up to 875 mm/sec (34 in/sec)				

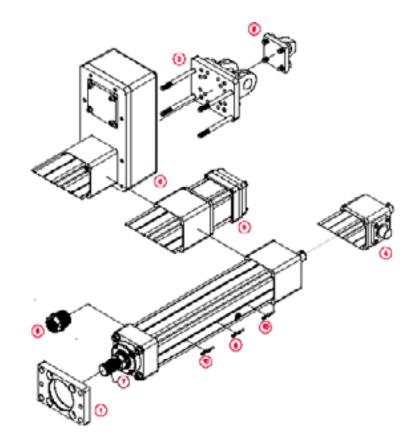
Operating Conditions and Usage				
Accuracy:				
Screw Travel Variation	mm (in)	0.030 (0.0012)		
Screw Lead Error	mm/300 mm (in/ft)	0.025 (0.001)		
Screw Lead Backlash	mm (in)	0.06 (0.002)		
Ambient Conditions:				
Standard Ambient Temperature	-40° to 85°			
IP Rating		IP65		

<sup>\*</sup> Consult Exlar for extended temperature operation.



## **Product Features**





- 1 Front flange 2 Rear clevis

- 2 Rear clevis
  3 Rear eye
  4 Rear trunnion
  5 Inline direct drive
  6 Parallel, 1:1 belt reduction
  Parallel, 2:1 belt reduction
  7 Male, metric thread
  8 Femple metric thread

- 8 Female, metric thread 9 External limit switch N.O., PNP or NPN 10 External limit switch N.C., PNP or NPN

## Standard Motor Mount Codes for the FTX

### FTX125 (Inline or Parallel - 1:1)

Bolt Circle Diameter (mm)	Pilot Diameter (mm)	Shaft Diameter (mm)	Shaft Length (mm)	Key Width (mm)	Motor Mount Code
120	90	32	88	10	G7A
200	114.3	42	113	10	JSD
215	130	32	60	10	ITE
215	180	38	80	10	ITF
215	180	42	82	12	ITG

### FTX125 (Parallel - 2:1)

Bolt Circle Diameter (mm)	Pilot Diameter (mm)	Shaft Diameter (mm)	Shaft Length (mm)	Key Width (mm)	Motor Mount Code
85	70	22	56	6	GIA
165	130	32	58	10	IRC
200	114.3	35	80	10	JSA

### FTX215 (Inline or Parallel - 1:1)

Bolt Circle Diameter (mm)	Pilot Diameter (mm)	Shaft Diameter (mm)	Shaft Length (mm)	Key Width (mm)	Motor Mount Code
215	160	55	112	16	GTA
265	230	42	110	12	IVC
265	230	60	140	18	JVC
300	250	48	112	14	IWA
300	250	60	140	18	JWA

### FTX215 (Parallel - 2:1)

Bolt Circle Diameter (mm)	Pilot Diameter (mm)	Shaft Diameter (mm)	Shaft Length (mm)	Key Width (mm)	Motor Mount Code
165	130	40	112	12	GRA
215	180	38	80	10	ITF
215	180	42	85	12	ITG
265	230	38	110	10	IVB
265	230	42	110	12	IVC

#### **DEFINITIONS:**

Maximum Force: Calculated Cubic Mean Load for the application should not exceed this value. (Values are derived from the design capacity of the FT Series actuator and should not be exceeded or relied upon for continuous operation.)

**Life at Maximum Force:** Estimated life that can be expected from the actuator when running at Maximum Force for intermittent periods of time. (Theoretical calculation based on the Dynamic Load Rating of the actuator and using the Maximum Force rating as the Cubic Mean Load.)

C<sub>a</sub> (Dynamic Load Rating): A design constant used when calculating the estimated travel life of the roller screw.

Maximum Input Torque: The torque required at the screw to produce the Maximum Force rating. Exceeding this value can cause permanent damage to the actuator.

Maximum Rated RPM: The maximum allowable rotational screw speed determined by either screw length limitations or the rotational speed limit of the roller screw nut.

Maximum Linear Speed: The linear speed achieved by the actuator when Maximum Rated RPM is applied to the roller screw input shaft.



## **Mechanical Specifications**

### FTX125

		05	10	20
Screw Lead	mm	5	10	20
Sciew Lead	in	0.197	0.394	0.787
Maximum Force*	kN	44.5	44.5	TBD
Maximum Force	lbf	10000	10000	TBD
Life at Maximum Force	km	249.2	486.3	TBD
Life at Maximum Force	in x 10 <sup>6</sup>	9.81	19.14	TBD
C (Dynamia Land Rating)	kN	163.7	162.4	153.5
C <sub>a</sub> (Dynamic Load Rating)	lbf	36,800	36,500	34,500
Maximum Innut Torque	Nm	46.5	82.3	TBD
Maximum Input Torque	lbf-in	412	728	TBD
Max Rated RPM @ Input Shaft	RPM	3,500	3,500	3,500
Maximum Linear Speed @ Maximum	mm/sec	292	583	1166
Rated RPM	in/sec	11.5	23	46
Friction Torque	Nm	2.23	2.23	2.23
Friction forque	lbf-in	20	20	20
Efficiency:				
System	%	70	80	87

Intermediate and custom stroke lengths are also available. Belt and pulley inertia varies with ratio and motor selection. Please contact your local sales representative.

## Weights kg (lbs)

Base Actuator Weight (Zero Stroke)		21
		47
Actuator Weight Adder	kg	0.84
(Per 25 mm of stroke)	lb	1.85
Added for Inline (evaluation mater)	kg	6.8
Adder for Inline (excluding motor)	lb	15.0
Address Broth Birth Cold Records A	kg	25.6
Adder for Parallel Drive (excluding motor)		56.5
	kg	3.6
Adder for Front Flange	lb	7.9
Adder for Rear Clevis		6.5
Adder for Real Clevis	lb	14.3
Adder for Boor Evo	kg	6.3
Adder for Rear Eye		13.8
Adder for Rear Trunnion	kg	3.1
Adder for Real Trufffiori	lb	6.8

Base Unit Inertia		Zero Stroke	Add per 25 mm
5 mm Lead		2.55 x 10 <sup>-3</sup> (2.26 x 10 <sup>-2</sup> )	4.62 x 10 <sup>-5</sup> (4.09 x 10 <sup>-4</sup> )
10 mm Lead		2.56 x 10 <sup>-3</sup> (2.27 x 10 <sup>-2</sup> )	4.65 x 10 <sup>-5</sup> (4.12 x 10 <sup>-4</sup> )
20 mm Lead		2.61 x 10 <sup>-3</sup> (2.31 x 10 <sup>-2</sup> )	4.81 x 10 <sup>-5</sup> (4.26 x 10 <sup>-4</sup> )
Inline Drive Inertia	<32 mm Motor Shaft Diameter	>32 mm Motor Shaft Diameter	Add per 25 mm
5 mm Lead	2.81 x 10 <sup>-3</sup> (2.49 x 10 <sup>-2</sup> )	3.35 x 10 <sup>-3</sup> (2.97 x 10 <sup>-2</sup> )	4.62 x 10 <sup>-5</sup> (4.09 x 10 <sup>-4</sup> )
10 mm Lead	2.82 x 10 <sup>-3</sup> (2.50 x 10 <sup>-2</sup> )	3.36 x 10 <sup>-3</sup> (2.98 x 10 <sup>-2</sup> )	4.65 x 10 <sup>-5</sup> (4.12 x 10 <sup>-4</sup> )
20 mm Lead	2.87 x 10 <sup>-3</sup> (2.54 x 10 <sup>-2</sup> )	3.41 x 10 <sup>-3</sup> (3.02 x 10 <sup>-2</sup> )	4.81 x 10 <sup>-5</sup> (4.26 x 10 <sup>-4</sup> )
Parallel Drive Inertia		1:1 Reduction	2:1 Reduction
5 mm Lead (zero stroke)		9.43 x 10 <sup>-3</sup> (8.34 x 10 <sup>-2</sup> )	4.66 x 10 <sup>-3</sup> (4.12 x 10 <sup>-2</sup> )
Add per 25 mm stroke		4.62 x 10 <sup>-5</sup> (4.09 x 10 <sup>-4</sup> )	1.15 x 10 <sup>-5</sup> (1.02 x 10 <sup>-4</sup> )
10 mm Lead (zero stroke)		9.44 x 10 <sup>-3</sup> (8.35 x 10 <sup>-2</sup> )	4.66 x 10 <sup>-3</sup> (4.13 x 10 <sup>-2</sup> )
Add per 25 mm stroke		4.65 x 10 <sup>-5</sup> (4.12 x 10 <sup>-4</sup> )	1.16 x 10 <sup>-5</sup> (1.03 x 10 <sup>-4</sup> )
20 mm Lead (zero stroke)		9.49 x 10 <sup>-3</sup> (8.39 x 10 <sup>-2</sup> )	4.81 x 10 <sup>-5</sup> (4.26 x 10 <sup>-4</sup> )
Add per 25 mm stroke		4.81 x 10 <sup>-5</sup> (4.26 x 10 <sup>-4</sup> )	1.20 x 10 <sup>-5</sup> (1.06 x 10 <sup>-4</sup> )

<sup>\*</sup> Maximum allowable actuator-generated force that can be applied routinely. Exceeding this force may result in permanent damage to the actuator. For high force, short stroke applications, consult factory.

### **FTX215**

		06	12	30	
Screw Lead	mm	6	12	30	
Screw Lead	in	0.24	0.5	1.18	
Maximum Force*	kN	178	178	178	
Maximum Force	lbf	40000	40000	40000	
Life at Maximum Force	km	79	111	414	
Life at Maximum Force	in x 10 <sup>6</sup>	3	4	16	
C (Dynamic Load Dating)	kN	420	374	427	
C <sub>a</sub> (Dynamic Load Rating)	lbf	89,500	86,400	84,700	
Maximum Input Targue	Nm	243	425	976	
Maximum Input Torque	lbf-in	2,148	3,760	8,642	
Max Rated RPM @ Input Shaft	RPM	1,750	1,750	1,750	
Maximum Linear Speed @ Maximum	mm/sec	175	351	875	
Rated RPM	in/sec	7	14	34	
Eriotion Torquo	Nm	5.7	5.7	5.7	
Friction Torque	lbf-in	50	50	50	
Efficiency:	Efficiency:				
System	%	70	80	87	

Intermediate and custom stroke lengths are also available. Belt and pulley inertia varies with ratio and motor selection. Please contact your local sales representative.

## Weights kg (lbs)

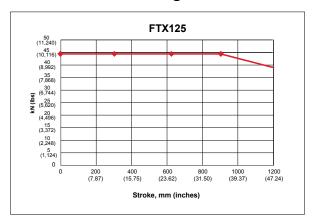
Base Actuator Weight (Zero Stroke)	kg	103
base Actuator Weight (Zero Stroke)		227
Actuator Weight Adder		2.70
(Per 25 mm of stroke)	lb	5.96
Added for Inline (eveluding motor)	kg	38.6
Adder for Inline (excluding motor)		85.1
Adder for Parallel Drive (excluding motor)		62.3
		137.3
		26.7
Adder for Front Flange	lb	58.8
Added for Deep Classic	kg	32.5
Adder for Rear Clevis		71.6
Added for Door Eve	kg	32.5
Adder for Rear Eye		71.6
Added for Door Transien	kg	9.6
Adder for Rear Trunnion	lb	21.2
·		

Base Unit Inertia		Zero Stroke	Add per 25 mm
6 mm Lead		4.25 x 10 <sup>-2</sup> (3.76 x 10 <sup>-1</sup> )	8.00 x 10 <sup>-4</sup> (7.08 x 10 <sup>-3</sup> )
12 mm Lead		4.26 x 10 <sup>-2</sup> (3.77 x 10 <sup>-1</sup> )	8.02 x 10 <sup>-4</sup> (7.10 x 10 <sup>-3</sup> )
30 mm Lead		4.31 x 10 <sup>-2</sup> (3.82 x 10 <sup>-1</sup> )	8.15 x 10 <sup>-4</sup> (7.21 x 10 <sup>-3</sup> )
Inline Drive Inertia	<55 mm Motor Shaft Diameter	>55 mm Motor Shaft Diameter	Add per 25 mm
6 mm Lead	4.43 x 10 <sup>-2</sup> (3.92 x 10 <sup>-1</sup> )	6.15 x 10 <sup>-2</sup> (5.44 x 10 <sup>-1</sup> )	8.00 x 10 <sup>-4</sup> (7.08 x 10 <sup>-3</sup> )
12 mm Lead	4.44 x 10 <sup>-2</sup> (3.93 x 10 <sup>-1</sup> )	6.16 x 10 <sup>-2</sup> (5.45 x 10 <sup>-1</sup> )	8.02 x 10 <sup>-4</sup> (7.10 x 10 <sup>-3</sup> )
30 mm Lead	4.49 x 10 <sup>-2</sup> (3.98 x 10 <sup>-1</sup> )	6.21 x 10 <sup>-2</sup> (5.50 x 10 <sup>-1</sup> )	8.15 x 10 <sup>-4</sup> (7.21 x 10 <sup>-3</sup> )
Parallel Drive Inertia		1:1 Reduction	2:1 Reduction
6 mm Lead (zero stroke)		9.42 x 10 <sup>-2</sup> (8.34 x 10 <sup>-1</sup> )	3.50 x 10 <sup>-2</sup> (3.10 x 10 <sup>-1</sup> )
Add per 25 mm stroke		8.00 x 10 <sup>-4</sup> (7.08 x 10 <sup>-3</sup> )	2.00 x 10 <sup>-4</sup> (1.77 x 10 <sup>-3</sup> )
12 mm Lead (zero stroke)		9.43 x 10 <sup>-2</sup> (8.34 x 10 <sup>-1</sup> )	3.50 x 10 <sup>-2</sup> (3.10 x 10 <sup>-1</sup> )
Add per 25 mm stroke		8.02 x 10 <sup>-4</sup> (7.10 x 10 <sup>-3</sup> )	2.01 x 10 <sup>-4</sup> (1.78 x 10 <sup>-3</sup> )
30 mm Lead (zero stroke)		9.48 x 10 <sup>-2</sup> (8.39 x 10 <sup>-1</sup> )	3.52 x 10 <sup>-2</sup> (3.11 x 10 <sup>-1</sup> )
Add per 25 mm stroke		8.15 x 10 <sup>-4</sup> (7.21 x 10 <sup>-3</sup> )	2.04 x 10 <sup>-4</sup> (1.80 x 10 <sup>-3</sup> )

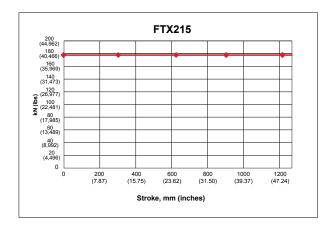
<sup>\*</sup> Maximum allowable actuator-generated force that can be applied routinely. Exceeding this force may result in permanent damage to the actuator. For high force, short stroke applications, consult factory.

## **Data Curves**

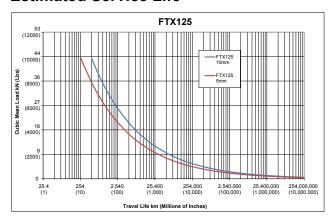
## **Maximum Force Rating**

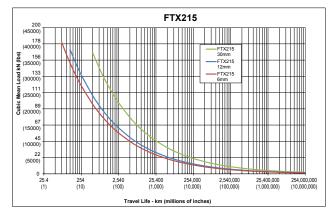


<sup>\*</sup> With longer stroke length actuators, the rated speed of the actuator is determined by the critical speed



#### **Estimated Service Life**





#### Service Life Estimate Assumptions:

- Sufficient quality and quantity of lubrication is maintained throughout service life
- 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.

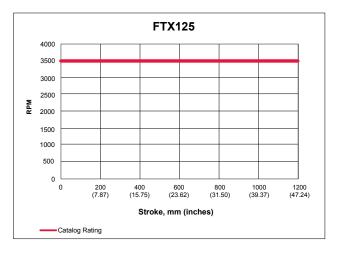
The L<sub>10</sub> expected life of a roller screw linear actuator is expressed as the linear travel distance that 90% of properly maintained roller screws manufactured are expected to meet or exceed. This is not a guarantee and these charts should be used for estimation purposes only.

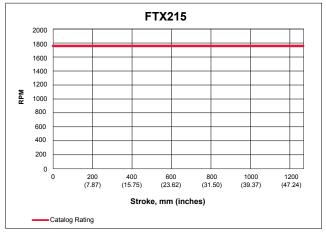
The underlying formula that defines this value is: Travel life in millions of inches, where:

C<sub>a</sub> = Dynamic load rating (lbf) F<sub>cml</sub> = Cubic mean applied load (lbf)

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

## **Critical Speed vs Stroke Length:**



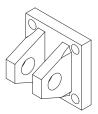


 $<sup>^{\</sup>star}$  With longer stroke length actuators, the rated speed of the actuator is determined by the critical speed

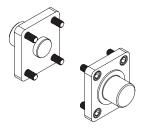
## **FTX Series Accessories**

	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, 1m. 3 wire embedded cable)			
L2	2	2 43404 Normally Closed PNP Limit Switch (10-30 VDC, 1m. 3 wire embedded cable)				
L3 1 43403 Normally Open PNP Limit Switch (10-30 VDC, 1m. 3 wire embedded cable) Normally Closed PNP Limit Switch (10-30 VDC, 1m. 3 wire embedded cable)						
L4	1	67634	Normally Open NPN Limit Switch (10-30 VDC, 1m. 3 wire embedded cable)			
L5	2	67635	Normally Closed NPN Limit Switch (10-30 VDC, 1m. 3 wire embedded cable)			
L6	1 2	67634 67635	Normally Open NPN Limit Switch (10-30 VDC, 1m. 3 wire embedded cable) Normally Closed NPN Limit Switch (10-30 VDC, 1m. 3 wire embedded cable)			

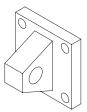
Rear Clevis Mount



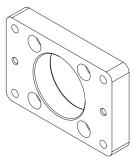
Rear Trunnion Mount



Rear Eye Mount

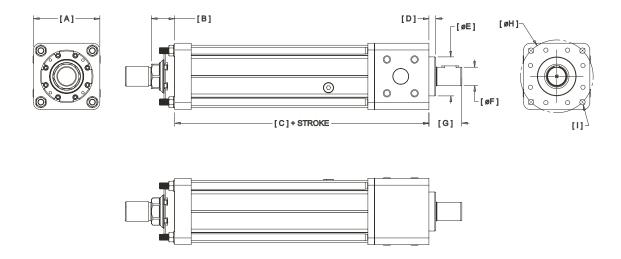


Front Flange Mount



## **Dimensions**

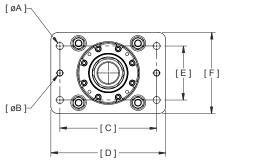
## Base Actuator (FTX125, FTX215)

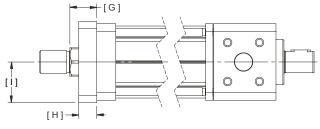


		FTX125	FTX215
A	mm	125.0	215.9
	in	4.92	8.50
В	mm	49.1	76.0
	in	1.98	2.99
С	mm	358.6 ± 1.5	523.0 ± 1.5
	in	14.12 ± 0.06	20.59 ± 0.06
D	mm	18.0	22.4
	in	0.72	0.88
E	mm	Ø80.0	Ø127.0
	in	Ø3.15	Ø5.00

		FTX125	FTX215
F	mm	Ø28.0 +0.00 / -0.0013	Ø60.0 +0.00 / -0.0013
	in	Ø1.102 +0.00 / -0.0005	Ø2.362 +0.00 / -0.0005
G	mm	80.0	107.3
	in	3.15	4.23
H mm		Ø137.0	Ø237.0
in		Ø5.39 BC	Ø9.33 BC
ı		4X M12x1.75 - 6H ↓ 33 mm	4X M20x2.5 - 6H ↓ 20 mm

## Front Flange Mount (ME5 Option)

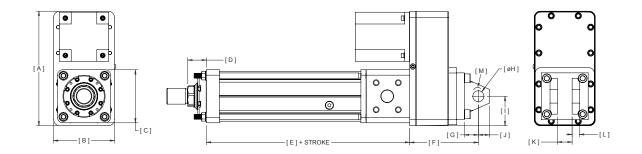




		FTX125	FTX215
Α	mm	Ø18.0	Ø22.0
A	in	Ø0.71	Ø0.87
В	mm	Ø12.00 +0.03 / -0.00	Ø16.00 +0.03 / -0.00
	in	Ø0.472 +0.001 / -0.000	Ø0.630 +0.001 / -0.000
С	mm	162.0	300.0
C	in	6.38	11.81
D	mm	200.0	360.0
U	in	7.87	14.17
Е	mm	97.0	190.0
	in	3.82	7.48
F	mm	130.0	245.0
r	in	5.12	9.65
G	mm	49.1	76.0
G	in	1.93	2.99
н	mm	30.0	58.0
П	in	1.18	2.28
1	mm	65.0	112.5
	in	2.56	4.82

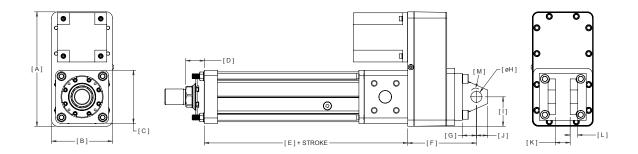
Pre-sale drawings and models are representative and are subject to change. Certified drawings and models are available for a fee. Consult your local Exlar representative for details.

## Rear Clevis Mount (MP1 Option)



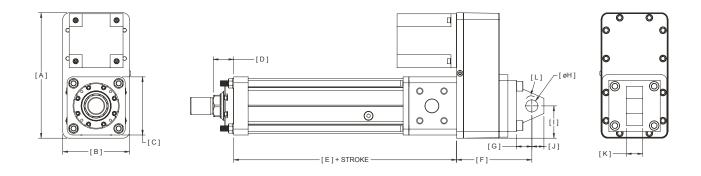
		FTX125 190 mm wide housing	FTX125 217 mm wide housing
Α	mm	369.5	395.0
	in	14.55	15.55
B mm		190.0	216.7
	in	7.48	8.53
С	mm	125.0	125.0
C	in	4.92	4.92
D	mm	49.1	49.1
U	in	1.93	1.93
Е	mm	358.6 ± 1.5	358.6 ± 1.5
	in	14.12 ± 1.06	14.12 ± 0.06
F	mm	200.7 ± 1.0	201.6 ± 1.0
F	in	$7.90 \pm 0.04$	$7.93 \pm 0.04$
G	mm	32.0	32.0
G	in	1.26	1.26
ш	mm	Ø20.0 H9	Ø20.0 H9
Н	in	Ø0.79 H9	Ø0.79 H9
	mm	77.9 ± 1.8	95.3 ± 1.8
'	in	$3.07 \pm 0.07$	3.75 ± 0.07
J	mm	N/A	N/A
	in	N/A	N/A
К	mm	30.0	30.0
, n	in	1.18	1.18
	mm	15.0	15.0
L	in	0.59	0.59
M	mm	29.0	29.0
М	in	1.14	1.14

## **Rear Clevis Mount (MP1 Option)**



		FTX215 248 mm wide housing	FTX215 292 mm wide housing	
Α	mm	466.0	533.4	
A	in	18.35	21.00	
В	mm	248.0	292.1	
	in	9.76	11.50	
С	mm	215.9	215.9	
	in	8.50	8.50	
D	mm	76.0	76.0	
U	in	2.99	2.99	
Е	mm	523.0 ± 1.5	523.0 ± 1.5	
<b>-</b>	in	20.59 ±0.06	20.59 ±0.06	
F	mm	279.4 ± 1.0	288.7 ± 1.0	
F	in	11.00 ± 0.04	11.37 ± 0.04	
G	mm	57.0	57.0	
G	in	2.24	2.24	
н	mm	Ø45.0 H9	Ø45.0 H9	
П	in	Ø1.77 H9	Ø1.77 H9	
1	mm	120.0 ± 1.18	133.4 ± 1.8	
•	in	4.72 ± 0.07	$5.25 \pm 0.07$	
J	mm	45.0	45.0	
	in	1.77	1.77	
K	mm	60.13 +0.76 / -0.00	60.13 +0.76 / -0.00	
N.	in	2.367 +0.030 / -0.000	2.367 +0.030 / -0.000	
L	mm	30.0	30.0	
_	in	1.18	1.18	
М	mm	53.0	53.0	
IVI	in	2.09	2.09	

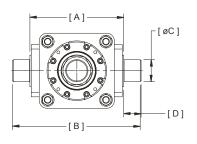
## Rear Eye Mount (MP3 Option)

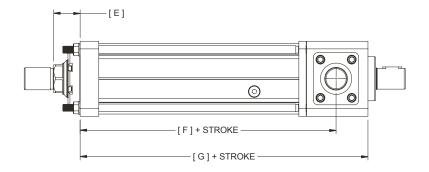


		FTX	(125	FTX215		
		190 mm wide housing	217 mm wide housing	248 mm wide housing	292 mm wide housing	
Α	mm	369.5	395.0	466.0	533.4	
A	in	14.55	15.55	18.35	21.00	
В	mm	190.0	216.7	248.0	292.1	
В	in	7.48	8.53	9.75	11.50	
С	mm	125.0	125.0	215.9	215.9	
C	in	4.92	4.92	8.50	8.50	
	mm	49.1	49.1	76.0	76.0	
D	in	1.93	1.93	2.99	2.99	
_	mm	358.6 ± 1.5	358.6 ± 1.5	523.0 ± 1.5	523.0 ± 1.5	
E	in	14.12 ± 0.06	14.12 ± 0.06	20.59 ± 0.06	20.59 ± 0.06	
_	mm	200.7 ± 1.0	201.6 ± 1.0	279.4 ± 1.0	288.7 ± 1.0	
-	F in	7.90 ± 0.04	7.93 ± 0.04	11.00 ± 0.04	11.37 ± 0.04	
	mm	32.0	32.0	57.0	57.0	
G	in	1.26	1.26	2.24	2.24	
н	mm	Ø20.0 H9	Ø20.0 H9	Ø45.0 H9	Ø45.0 H9	
н	in	Ø0.79 H9	Ø0.79 H9	Ø1.77 H9	Ø1.77 H9	
	mm	77.9 ± 1.18	95.3 ± 1.18	120.0 ± 1.8	133.4 ± 1.8	
1	in	3.07 ± 0.07	3.75 ± 0.07	4.72 ± 0.07	5.25 ± 0.07	
	mm	N/A	N/A	45.0	45.0	
J	in	N/A	N/A	1.77	1.77	
1/	mm	60.00 +0.00 / -0.76	60.00 +0.00 / -0.76	60.00 +0.00 / -0.76	60.00 +0.00 / -0.76	
K	in	2.362 +0.000 / -0.030	2.362 +0.000 / -0.030	2.362 +0.000 / -0.030	2.362 +0.000 / -0.030	
	mm	29.0	29.0	53.0	53.0	
L	in	1.14	1.14	2.09	2.09	

Pre-sale drawings and models are representative and are subject to change. Certified drawings and models are available for a fee. Consult your local Exlar representative for details.

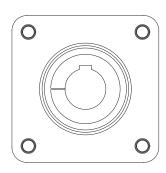
## **Rear Trunnion Mount (MT2 Option)**





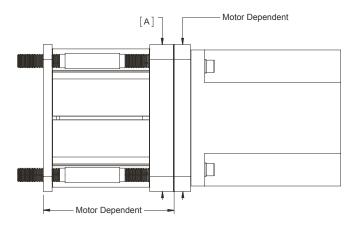
		FTX125	FTX215
Α	mm	167.0 ± 0.64	269.6 ± 0.64
	in	6.57 ± 0.025	10.62 ± 0.025
В	mm	217.0 ± .038	367.0 ± 0.38
В	in	8.54 ± 0.015	14.45 ± 0.015
С	mm	Ø32.00 +0.00 / -0.05	Ø63.00 +0.00 / -0.05
C	in	Ø1.26 +0.000 / -0.002	Ø2.480 +0.000 / -0.002
D	mm	25.00 ± 0.13	50.00 ± 0.13
U	in	$0.984 \pm 0.005$	1.970 ± 0.005
Е	mm	49.1	76.0
_	in	1.93	2.99
F	mm	307.3 ± 1.5	431.3 ± 1.5
	in	12.10 ± 0.06	16.98 ± 0.06
G	mm	358.6 ± 1.5	523.0 ± 1.5
G	in	14.12 ± 0.06	20.59 ± 0.06

## **Inline Mount**

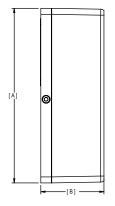


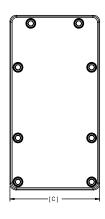


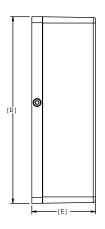


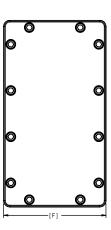


## Parallel Mount (FTX125)









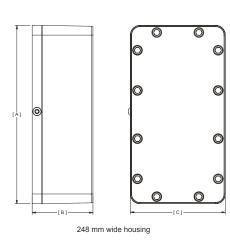
190 mm wide housing

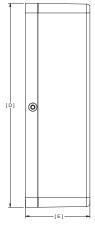
217 mm wide housing

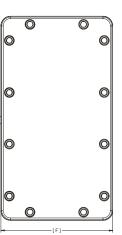
Note: 190 mm wide housing is used for all motors 1:1 drive
217 mm wide housing is used for all 2:1 drive motors

		FTX125	FTX215
Α	mm	369.5	466.0
	in	14.55	18.35
В	mm	133.7	158.9
В	in	5.26	6.25
С	mm	190.0	248.0
C	in	7.48	9.76
D	mm	395.0	533.4
D	in	15.55	21.00
Е	mm	134.5	168.2
_	in	5.30	6.62
F	mm	216.7	292.1
	in	8.53	11.50

## Parallel Mount (FTX215)





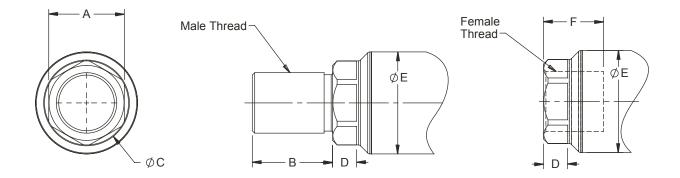


292 mm wide housing

Note: 248 mm wide housing is used for motors with 215 mm B.C. and smaller mounting holes, 1:1 drive

292 mm wide housing is used for all 2:1 drive motors

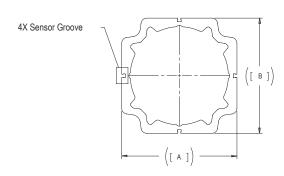
## **Rod Ends**

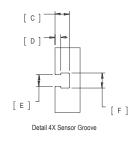


	Α	В	С	D	Е	F	Male	Female
FTX125	46.0 (1.81)	57.2 (2.25)	Ø45.0 (1.77)	50.8 (2.00)	Ø15.9 (0.63)	57.2 (2.25)	M33x2 6G	M33x2 6H
FTX215	80.0 (3.15)	85.0 (3.35)	Ø80.0 (3.50)	25.4 (1.00)	Ø108.0 (4.25)	85.0 (3.35)	M64x3 6G	M64x3 6H

Dimensions shown in metric (English)

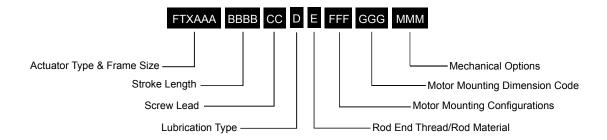
## **Case Dimensions**





	Α	В	С	D	Ε	F
FTX125	118 (4.6)	118 (4.6)	5.6 (.22)	1.8 (.07)	5.2 (.21)	6.6 (.26)
FTX215	203 (8.0)	203 (8.0)	6.4 (.25)	2.5 (.10)	5.2 (.21)	6.6 (.26)

Dimensions shown in metric (English)



#### AAA = Frame Size

125 = 125 mm 215 = 215 mm

#### BBBB = Stroke Length

0150 = 150 mm 0300 = 300 mm0600 = 600 mm0900 = 900 mm

#### CC = Screw Lead

05 = 5 mm (FTX125) 10 = 10 mm (FTX125) 20 = 20 mm (FTX125) 06 = 6 mm (FTX215) 12 = 12 mm (FTX215) 30 = 30 mm (FTX215)

#### D = Lubrication Type

1 = Grease

2 = Oil

#### E = Rod End Thread

A = Male, metric thread B = Female, metric thread

#### FFF = Motor Mounting Configurations<sup>1</sup>

NMT = None, base unit only N10 = Inline, includes shaft coupling P10 = Parallel, 1:1 belt reduction P20 = Parallel, 2:1 belt reduction

#### **GGG = Motor Mounting Dimension Code**

See standard motor mounting code dimension sheet NNN = None, base unit only

#### MMM = Mechanical Options

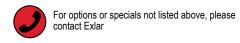
NNN = None

L1/L2/L3... = External limit switches

ME5 = Front Mounting Flange MP1 = Rear Clevis<sup>2</sup>

MP3 = Rear Eye2

MT2 = Rear Trunnion



- 1. Always discuss your motor selection with your local sales representative.
- 2. Not available with inline motor mount, contact your local sales representative.

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