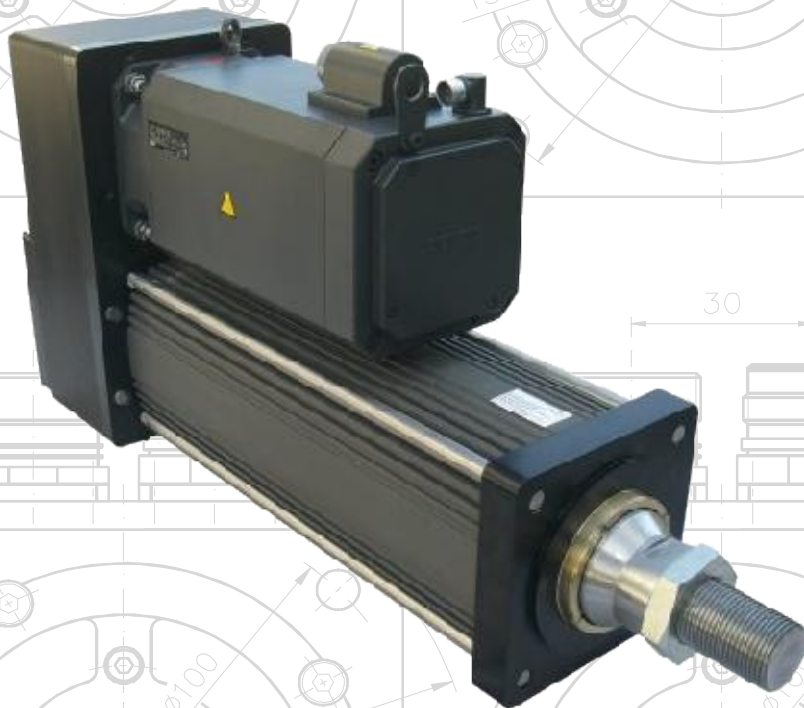


# Linearstellzylinder Baureihe FT



**Optimaler Ersatz für  
Hydraulikzylinder**

A-Drive FT Series force tubes use a roller screw mounted inside a telescoping tube mechanism. The follower is attached to the moveable force tube, which then extends and retracts as the screw rotates. The FT Series is designed to be compatible with a wide variety of standard motors. Motor mounting and gearing configurations are available to meet nearly any application's requirements. The standard product offering includes three frame sizes with strokes from 12 inches to eight feet. The continuous duty thrust load rating is 2000 to 20,000 lbf with a peak load rating up to 40,000 lbf.

As with all A-Drive's roller screw products, the FT Series force tubes provide high load capacity, high speed capabilities and exceptionally long life when compared to other actuator technologies, such as acme or ball screws. Other force tube technologies on the market, specifically ball screw and acme screw tubes, are hindered by their limited load/life and speed characteristics. They also require a larger installation footprint than A-Drive FT series force tubes.

The FT Series force tube design provides the contamination isolation advantages of hydraulic cylinders without the limited load/life/speed drawbacks of ball or acme screws. All converting components in the FT Series force tubes are mounted within the sealed housing. This prevents abrasive particles and other forms of contamination from entering the actuator's critical mechanisms, assuring trouble-free operation even in the most severe environments.

A-Drive FT Series force tube actuators use a planetary roller screw mounted inside a telescoping tube mechanism. The follower is attached to the moveable force tube, which then extends and retracts as the screw rotates. An external motor (supplied by A-Drive or the customer) provides the rotational force.

### **High Performance**

As with all of A-Drive's roller screw products, the FT Series actuators deliver heavy load capacity, high speed capabilities, and exceptionally long life when compared to other linear actuator technologies.

Other comparably-sized screw actuator products on the market - specifically ball screw and acme screw actuators - have relatively low load capacities, short working lives and limited speed capabilities. At equivalent sizes, under moderate to heavy loads, it is reasonable to project that FT units will deliver up to 15X the working life of those other designs. For OEM designers, this often means much more power and durability can be achieved from a much smaller footprint when A-Drive FT units are used.

### **Contamination Protection and Lifetime Lubrication**

The FT Series design has all the contamination-isolation advantages of hydraulic cylinders without the limited load, life, and speed of designs built around ball or acme screws. All converting components in the A-Drive FT Series force tubes are mounted within the sealed housing. This prevents abrasive particles and other contaminants from entering the actuator's critical mechanisms, and assures trouble-free operation even in the most severe environments.

FT Series actuators are provided with standard grease lubrication. Custom provisions can be made for oil filled lubrication.

### **Engineered Compatibility**

A-Drive has removed much of the end-user-engineering burden by designing the FT series to be compatible with a wide variety of standard motors. Motor mounting, actuator mounting, and gearing configurations are available to meet nearly any application's requirements.



### FT Series Applications

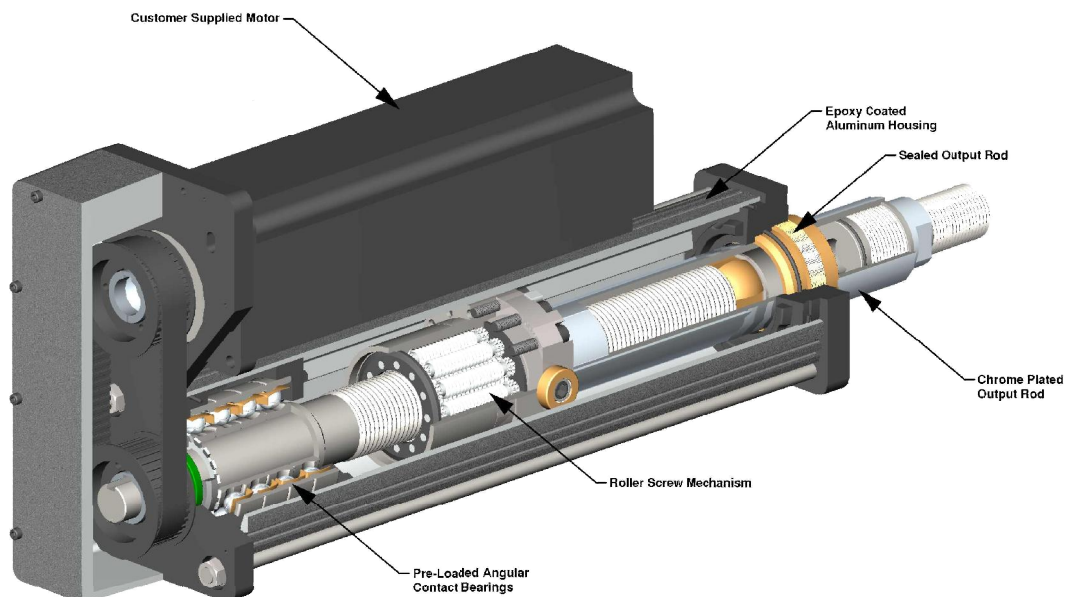
- Hydraulic cylinder replacement
- Ball screw replacement
- Pneumatic cylinder replacement
- Chip and wafer handling
- Automated flexible fixturing
- Dispensers
- Machine tool
- Automated assembly
- Parts clamping
- Automatic tool changers
- Volumetric pumps
- Medical equipment
- Riveting / fastening / joining
- Molding
- Semiconductor
- Pick and place systems
- Robot manipulator arms
- Simulators
- Precision valve control
- Tension control
- Web guidance
- Conveyor diverters / gates
- Plastics equipment
- Cut-offs
- Die cutters
- Packaging machinery
- Entertainment
- Sawmill equipment
- Open / close doors
- Fillers
- Formers
- Precision grinders
- Indexing stages
- Lifts
- Product sorting
- Material cutting
- Material handling
- Ventilation control systems
- Pressing
- Process control
- Tube bending
- Welding
- Stamping
- Test stands

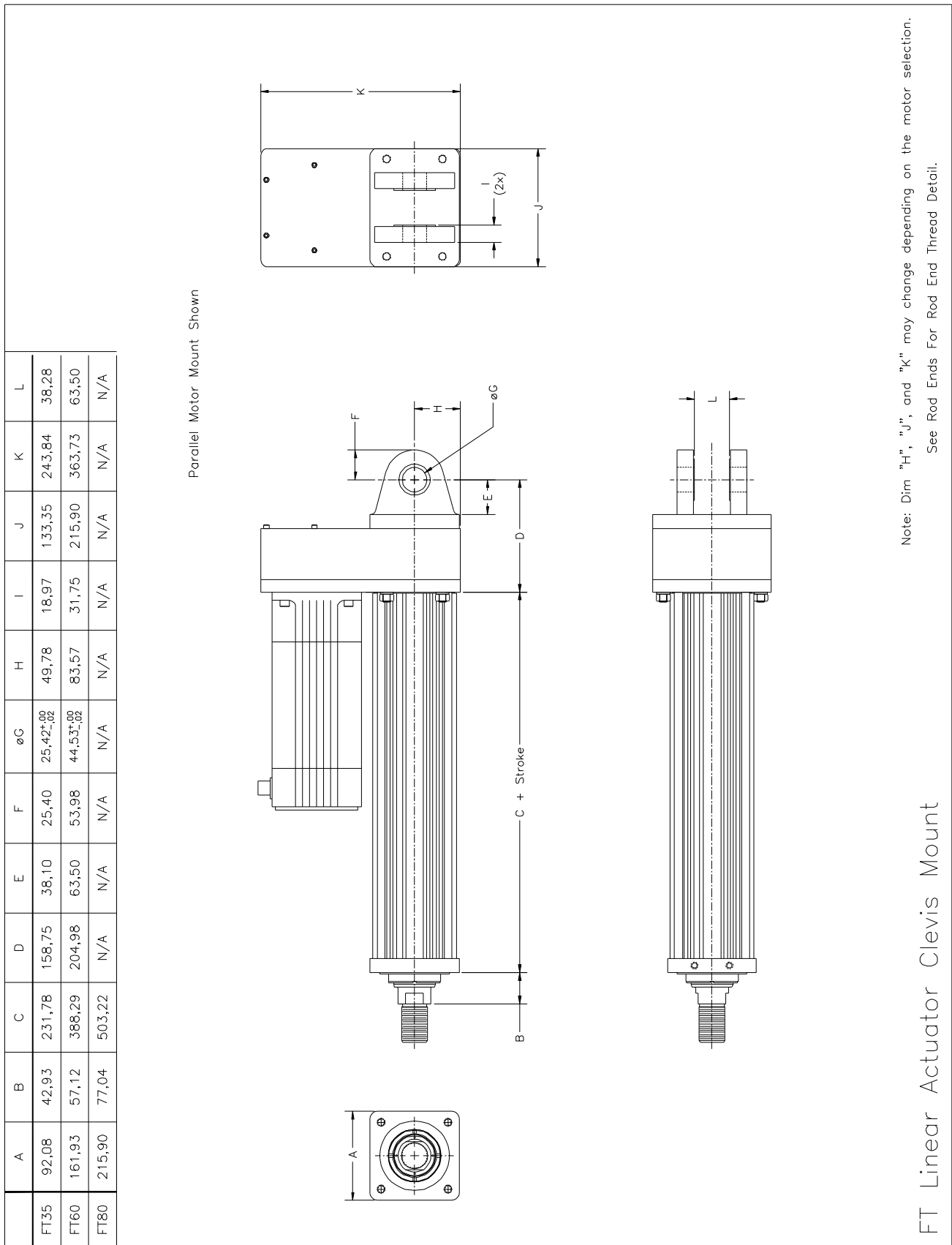
### FT Series Mechanical Specifications

Roller Screw Backlash in (mm)	0.0004 - 0.001 (0.01 - 0.03)
Preloaded Loader Screw Backlash	0
System Backlash:* in (mm)	0.002 (0.006)
Standard Lead Accuracy:** in/ft (mm/mm)	0.001 (30/300)
Maximum Radial Load	0
Environmental Rating: Standard	IP65 (standard) / IP67 (optional)
Case: Standard	Epoxy-coated aluminum
Case: Optional	Food Grade Coating

\* System backlash will be different with various types of motor mounting arrangements and couplings. Please discuss your particular configuration with A-Drive application engineers.

\*\* Optional lead accuracies from 0.0002 in/ft (6mm/300mm) to 0.002 in/ft (200mm/10000mm) are also available.





## FT35 Performance Specs

Model No.	Frame Size in (mm)	Stroke in (mm)	Screw Lead in (mm)	Max. Linear Speed in/sec (mm/sec)	Rated Force lb (N)	Dynamic Load Rating (std follower) Kip (kN)	Torque at Rated Force lb-in (N-m)	Screw Inertia lb-in-s <sup>2</sup> (kg-m <sup>2</sup> )	Max. Force* lb (kN)	Max. Rot. Speed rpm	Weight. Base Unit lb (kg)
<b>FT35-0605</b>	3.5 (89)	6 (152)	0.2 (5)	14.7 (373)	2000 (8900)	10.7 (47.5)	75 (8.3)	0.0019 (0.00022)	4000 (17.8)	4500	30 (14)
<b>FT35-0610</b>	3.5 (89)	6 (152)	0.39 (10)	29.5 (750)	2000 (8900)	8.7 (38.5)	150 (16.5)	0.0019 (0.00022)	4000 (17.8)	4500	30 (14)
<b>FT35-0620</b>	3.5 (89)	6 (152)	0.79 (20)	59.3 (1500)	2000 (8900)	7.1 (31.5)	300 (33.0)	0.0019 (0.00022)	4000 (17.8)	4500	30 (14)
<b>FT35-1205</b>	3.5 (89)	12 (304)	0.2 (5)	14.7 (373)	2000 (8900)	10.7 (47.5)	75 (8.3)	0.0027 (0.00031)	4000 (17.8)	4500	35 (16)
<b>FT35-1210</b>	3.5 (89)	12 (304)	0.39 (10)	29.5 (750)	2000 (8900)	8.7 (38.5)	150 (16.5)	0.0027 (0.00031)	4000 (17.8)	4500	35 (16)
<b>FT35-1220</b>	3.5 (89)	12 (304)	0.79 (20)	59.3 (1500)	2000 (8900)	7.1 (31.5)	300 (33.0)	0.0027 (0.00031)	4000 (17.8)	4500	35 (16)
<b>FT35-1805</b>	3.5 (89)	18 (457)	0.2 (5)	14.7 (373)	2000 (8900)	10.7 (47.5)	75 (8.3)	0.0037 (0.0004)	4000 (17.8)	4500	40 (18)
<b>FT35-1810</b>	3.5 (89)	18 (457)	0.39 (10)	29.5 (750)	2000 (8900)	8.7 (38.5)	150 (16.5)	0.0037 (0.0004)	4000 (17.8)	4500	40 (18)
<b>FT35-1820</b>	3.5 (89)	18 (457)	0.79 (20)	59.3 (1500)	2000 (8900)	7.1 (31.5)	300 (33.0)	0.0037 (0.0004)	4000 (17.8)	4500	40 (18)
<b>FT35-2405</b>	3.5 (89)	24 (610)	0.2 (5)	14.7 (373)	2000 (8900)	10.7 (47.5)	75 (8.3)	0.0045 (0.0005)	4000 (17.8)	4500	45 (21)
<b>FT35-2410</b>	3.5 (89)	24 (610)	0.39 (10)	29.5 (750)	2000 (8900)	8.7 (38.5)	150 (16.5)	0.0045 (0.0005)	4000 (17.8)	4500	45 (21)
<b>FT35-2420</b>	3.5 (89)	24 (610)	0.79 (20)	59.3 (1500)	2000 (8900)	7.1 (31.5)	300 (33.0)	0.0045 (0.0005)	4000 (17.8)	4500	45 (21)
<b>FT35-3605</b>	3.5 (89)	36 (914)	0.2 (5)	8.9 (226)	2000 (8900)	10.7 (47.5)	75 (8.3)	0.0061 (0.00069)	4000 (17.8)	2700	55 (25)
<b>FT35-3610</b>	3.5 (89)	36 (914)	0.39 (10)	17.8 (452)	2000 (8900)	8.7 (38.5)	150 (16.5)	0.0061 (0.00069)	4000 (17.8)	2700	55 (25)
<b>FT35-3620</b>	3.5 (89)	36 (914)	0.79 (20)	35.6 (903)	2000 (8900)	7.1 (31.5)	300 (33.0)	0.0061 (0.00069)	4000 (17.8)	2700	55 (25)
<b>FT35-4805</b>	3.5 (89)	48 (1219)	0.2 (5)	5.7 (145)	2000 (8900)	10.7 (47.5)	75 (8.3)	0.0076 (0.00088)	4000 (17.8)	1700	65 (30)
<b>FT35-4810</b>	3.5 (89)	48 (1219)	0.39 (10)	11.4 (290)	2000 (8900)	8.7 (38.5)	150 (16.5)	0.0076 (0.00088)	4000 (17.8)	1700	65 (30)
<b>FT35-4820</b>	3.5 (89)	48 (1219)	0.79 (20)	22.4 (568)	2000 (8900)	7.1 (31.5)	300 (33.0)	0.0076 (0.00088)	4000 (17.8)	1700	65 (30)

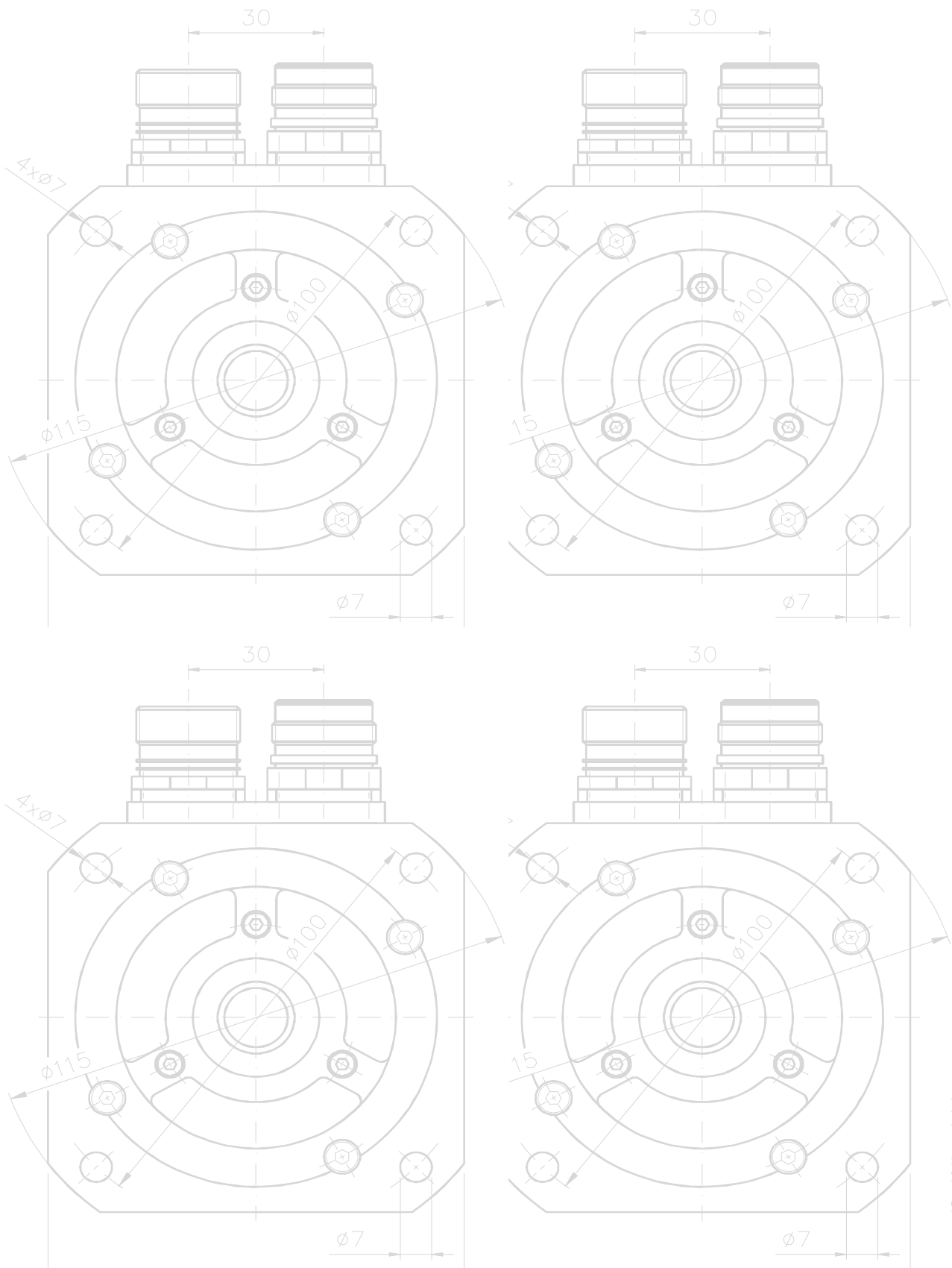
**FT60 Performance Specs**

Model No.	Frame Size in (mm)	Stroke in (mm)	Screw Lead in (mm)	Max. Linear Speed in/sec (mm/sec)	Rated Force lb (N)	Dynamic Load Rating (std follower) Kip (kN)	Torque at Rated Force lb-in (N-m)	Screw Inertia lb-in-s <sup>2</sup> (kg-m <sup>2</sup> )	Max. Force* lb (kN)	Max. Rot. Speed rpm	Weight. Base Unit lb (kg)
<b>FT60-1206</b>	6.0) (152)	12 (305)	0.23 (6)	7.9 (201)	10,000 (45.4)	51.9 (231)	460 (50.6)	0.0454 (0.0051)	20,000 (90.8)	2000	100 (45)
<b>FT60-1212</b>	6.0 (152)	12 (305)	0.47 (12)	15.8 (401)	10,000 (45.4)	44.6 (199)	860 (94.6)	0.0454 (0.0051)	20,000 (90.8)	2000	100 (45)
<b>FT60-1230</b>	6.0 (152)	12 (305)	1.18 (30)	39.0 (1000)	10,000 (45.4)	41.7 (186)	2200 (242)	0.0454 (0.0051)	20,000 (90.8)	2000	100 (45)
<b>FT60-2406</b>	6.0 (152)	24 (610)	0.23 (6)	7.9 (201)	10,000 (45.4)	51.9 (231)	460 (50.6)	0.073 (0.0083)	20,000 (90.8)	2000	130 (59)
<b>FT60-2412</b>	6.0 (152)	24 (610)	0.47 (12)	15.8 (401)	10,000 (45.4)	44.6 (199)	860 (94.6)	0.073 (0.0083)	20,000 (90.8)	2000	130 (59)
<b>FT60-2430</b>	6.0) (152)	24 (610)	1.18 (30)	39.0 (1000)	10,000 (45.4)	41.7 (186)	2200 (242)	0.073 (0.0083)	20,000 (90.8)	2000	130 (59)
<b>FT60-3606</b>	6.0 (152)	36 (914)	0.23 (6)	7.9 (201)	10,000 (45.4)	51.9 (231)	460 (50.6)	0.1 (0.011)	20,000 (90.8)	2000	160 (72)
<b>FT60-3612</b>	6.0 (152)	36 (914)	0.47 (12)	15.8 (401)	10,000 (45.4)	44.6 (199)	860 (94.6)	0.1 (0.011)	20,000 (90.8)	2000	160 (72)
<b>FT60-3630</b>	6.0 (152)	36 (914)	1.18 (30)	39.0 (1000)	10,000 (45.4)	41.7 (186)	2200 (242)	0.1 (0.011)	20,000 (90.8)	2000	160 (72)
<b>FT60-4806</b>	6.0 (152)	48 (1219)	0.23 (6)	7.9 (201)	10,000 (45.4)	51.9 (231)	460 (50.6)	0.126 (0.014)	20,000 (90.8)	2000	190 (86)
<b>FT60-4812</b>	6.0 (152)	48 (1219)	0.47 (12)	15.8 (401)	10,000 (45.4)	44.6 (199)	860 (94.6)	0.126 (0.014)	20,000 (90.8)	2000	190 (86)
<b>FT60-4830</b>	6.0 (152)	48 (1219)	1.18 (30)	39.0 (1000)	10,000 (45.4)	41.7 (186)	2200 (242)	0.126 (0.014)	20,000 (90.8)	2000	190 (86)



## FT80 Performance Specs

Model No.	Frame Size in (mm)	Stroke in (mm)	Screw Lead in (mm)	Max. Linear Speed in/sec (mm/sec)	Rated Force lb (N)	Dynamic Load Rating (std follower) Kip (kN)	Torque at Rated Force lb-in (N-m)	Screw Inertia lb-in-s2 (kg-m2)	Max. Force* lb (kN)	Max. Rot. Speed rpm	Weight. Base Unit lb (kg)
<b>FT80-1206</b>	8.0 (203)	12 (305)	0.23 (6)	6.9 (175)	20,000 (90.8)	80.7 (358)	975 (107)	0.1630 (0.0183)	40,000 (178)	1750	190 (86)
<b>FT80-1212</b>	8.0 (203)	12 (305)	0.47 (12)	13.8 (351)	20,000 (90.8)	70.2 (312)	1775 (195)	0.1630 (0.0183)	40,000 (178)	1750	190 (86)
<b>FT80-1230</b>	8.0 (203)	12 (305)	1.18 (30)	34.4 (875)	20,000 (90.8)	64.7 (288)	4420 (485)	0.1630 (0.0183)	40,000 (178)	1750	190 (86)
<b>FT80-2406</b>	8.0 (203)	24 (610)	0.23 (6)	6.9 (175)	20,000 (90.8)	80.7 (358)	975 (107)	0.247 (0.028)	40,000 (178)	1750	265 (120)
<b>FT80-2412</b>	8.0 (203)	24 (610)	0.47 (12)	13.8 (351)	20,000 (90.8)	70.2 (312)	1775 (195)	0.247 (0.028)	40,000 (178)	1750	265 (120)
<b>FT80-2430</b>	8.0 (203)	24 (610)	1.18 (30)	34.4 (875)	20,000 (90.8)	64.7 (288)	4420 (485)	0.247 (0.028)	40,000 (178)	1750	265 (120)
<b>FT80-3606</b>	8.0 (203)	36 (914)	0.23 (6)	6.9 (175)	20,000 (90.8)	80.7 (358)	975 (107)	0.331 (0.037)	40,000 (178)	1750	340 (153)
<b>FT80-3612</b>	8.0 (203)	36 (914)	0.47 (12)	13.8 (351)	20,000 (90.8)	70.2 (312)	1775 (195)	0.331 (0.037)	40,000 (178)	1750	340 (153)
<b>FT80-3630</b>	8.0 (203)	36 (914)	1.18 (30)	34.4 (875)	20,000 (90.8)	64.7 (288)	4420 (485)	0.331 (0.037)	40,000 (178)	1750	340 (153)
<b>FT80-4806</b>	8.0 (203)	48 (1219)	0.23 (6)	6.9 (175)	20,000 (90.8)	80.7 (358)	975 (107)	0.415 (0.047)	40,000 (178)	1750	415 (187)
<b>FT80-4812</b>	8.0 (203)	48 (1219)	0.47 (12)	13.8 (351)	20,000 (90.8)	70.2 (312)	1775 (195)	0.415 (0.047)	40,000 (178)	1750	415 (187)
<b>FT80-4830</b>	8.0 (203)	48 (1219)	1.18 (30)	34.4 (875)	20,000 (90.8)	64.7 (258)	4420 (485)	0.415 (0.047)	40,000 (178)	1750	415 (187)



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