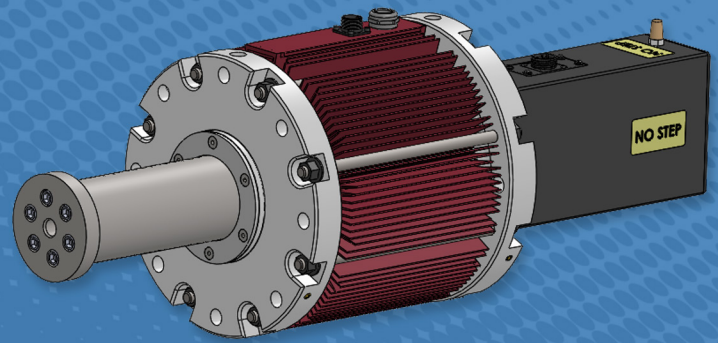


# HIGH POWER LINEAR SERVOMOTOR (MODEL 8435X)

Capable of producing up to 2,500 lbs (11 kN) of continuous linear force



The brushless tubular linear motor's shaft contains rings of powerful rare earth magnets that interact with the stator coils to produce rapid, precise and powerful linear motion. The stator's length and diameter determine the force level, while the shaft length determines the stroke length desired.

Linear motion is initiated by a motion controller, which relays detailed move profiles to the motor. A precision encoder reports motor position to the controller for closed loop control. The linear motor's position and force are fully programmable and there is no backlash or compressibility to compromise position accuracy. Common names for this type of device include linear motor, linear servo, brushless motor and linear servomotor.

The linear motor is also available as a complete system solution that includes drives, motion controllers, cabling and accessories.

Features:

- Single moving part supported by integral bearings
- Brushless direct drive technology
- Fully programmable
- Up to 4,500 lbs (20 kN) of peak force (1-3 seconds ON)
- Up to 2,500 lbs (11 kN) of continuous duty force
- Speeds up to 100 in/sec (2.5 m/sec)
- 40 G acceleration
- Stroke lengths up to 12 in (300 mm)
- Compact size
- Clean, quiet energy efficient operation
- Long life/low maintenance
- Includes integral encoder

## ADVANTAGES

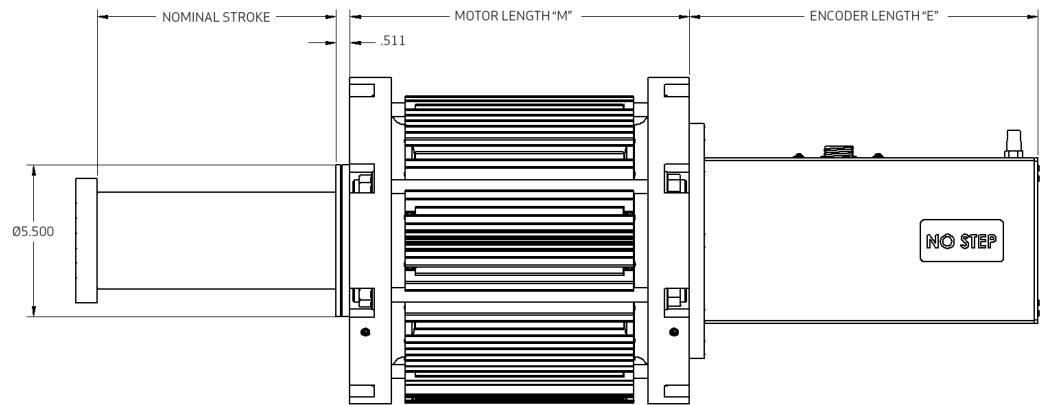
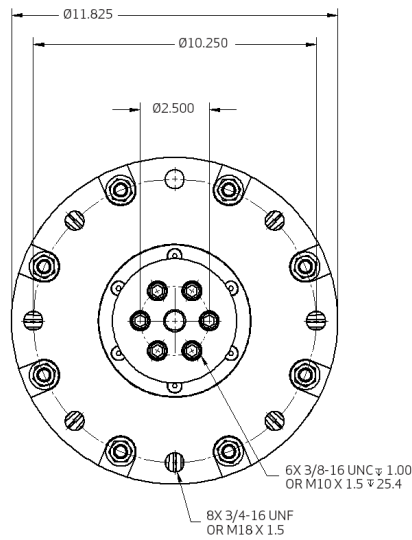
- Increased throughput, a function of its high acceleration
- Exceptional accuracy
- Environmentally friendly - no hydraulic fluids
- Exceptionally high force per volume
- High force/weight ratio
- Lower total cost of ownership due to:
  - Reduced wear and friction
  - High operating efficiency
  - Low power consumption
  - Low maintenance operation
  - Less downtime
- Complete linear motion control solution available

## APPLICATIONS

- Material/product testing
- Automotive life, fatigue and EOL testing
- Processing equipment
- Hydraulic retrofit
- Robotics and factory automation
- Packaging equipment
- Pumping/dispensing
- Machine tools
- Textile (tufting equipment)
- Paper covering
- Transfer equipment
- Automation welding
- Pneumatic retrofit
- Acoustic/vibration simulation

# SPECIFICATIONS

## DIMENSIONAL DRAWING



Encoder
LAF: 508,000 counts/inch (0.010 $\mu\text{m}$ ), optical, absolute, EnDat 2.2.

Model number	Motor length M in (mm)	Model number	Encoder length E in (mm)
84351	8.74 (221)	8435X02	6.62 (168)
84352	12.30 (313)	8435X04	8.62 (219)
84353	15.86 (403)	8435X06	10.62 (270)
84354	19.41 (493)	8435X08	12.62 (321)
84355	22.97 (584)	8435X10	14.62 (372)
84356	26.53 (674)	8435X12	16.62 (422)
		8435X14	18.62 (473)
		8435X16	20.62 (524)
		8435X18	22.62 (575)
		8435X20	24.62 (626)
		8435X22	26.62 (696)
		8435X24	28.62 (727)
		8435X26	30.62 (778)
		8435X28	32.62 (829)
		8435X30	34.62 (880)

# SPECIFICATIONS

## TECHNICAL DATA

Parameter	Units	84351	84352	84353	84354	84355	84356
<b>PEAK force (liquid cooled)</b>	lbf	Consult factory				4,500	Consult factory
	N					20,000	
<b>PEAK current</b>	amp	Consult factory				80	Consult factory
<b>Continuous static force (liquid cooled)</b>	lbf	Consult factory				2,500	Consult factory
	N					10,680	
<b>Force sensitivity (at 50% of 3 sec PEAK current)</b>	lbf/amp	Consult factory				78	Consult factory
	N/amp					347	
<b>DC winding resistance (phase-to-phase)</b>	ohms	Consult factory				1	Consult factory

\*Note: Performance will change with use of heat sinks versus liquid cooling

Moog has offices around the world. For more information or the office nearest you, contact us online.  
[mcg@moog.com](mailto:mcg@moog.com)

Moog is a registered trademark of Moog Inc. and its subsidiaries. All trademarks as indicated herein are the property of Moog Inc. and its subsidiaries.  
 ©2018 Moog Inc. All rights reserved. All changes are reserved.

84352 Linear Servomotor Technical Data Sheet  
 MS3317L, rev. 1 08/18

For product information, visit  
[www.moog.com](http://www.moog.com)

This technical data is based on current available information and is subject to change at any time. Specifications for specific systems or applications may vary.

