

The **APES17** is a 42mm / NEMA 17 frame, hybrid stepper-based actuator. The APES17 is available in standard or custom designs as a linear actuator (non-captive), leadscrew motor (external linear), or guided linear actuator (captive). A variety of resolutions are offered, ranging from 0.006 to 0.050 mm per step, with an output force of up to 1001 N (225 lbs.) ElectroCraft's unique motor, shaft and insert designs offer industry-leading output force per frame size while providing superior precision, speed and efficiency.

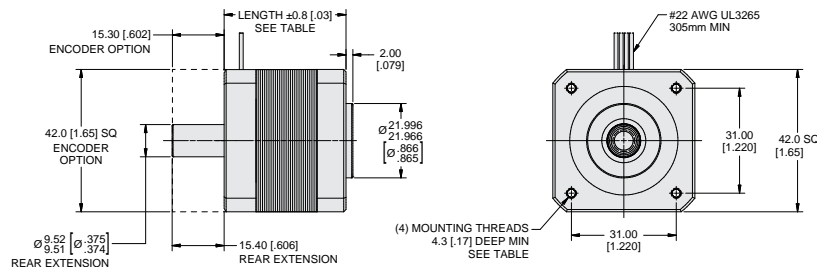


#### APES17 STEPPER LINEAR ACTUATOR

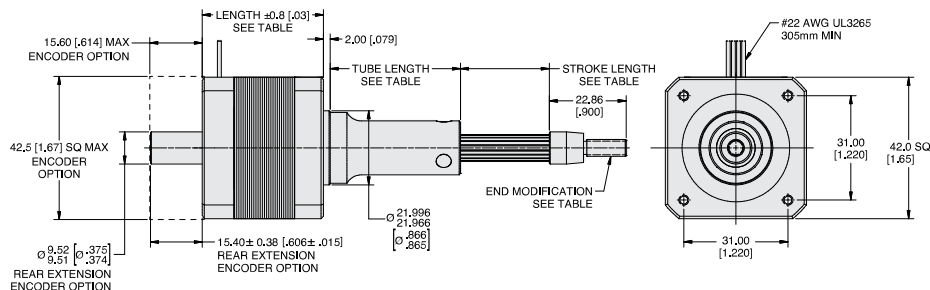
<b>Size</b>	NEMA 17
<b>Force</b>	107 N (24 lbs.) to 1001 N (225 lbs.)

Stepper Motor Dimensions			Linear Actuator and Leadscrew Motor Models	Guided Linear Actuator Models	
Model Number	Motor Length	Motor Mounting Threads	Leadscrew Lengths	Tube Lengths	Stroke Lengths
APES17(M)-45A	1.42 inch (36.1 mm)	4-40 UNC-2B (M3 x 0.5 - 6H)	X = no leadscrew A = 3.0 inch (76.2 mm) B = 6.0 inch (152.4 mm) C = 12.0 inch (304.8 mm) D = 18.0 inch (457.2 mm) E = 24.0 inch (609.6 mm)	G = 1.028 inch (26.10mm) H = 1.528 inch (38.80 mm) J = 2.528 inch (64.20 mm) K = 3.528 inch (89.60 mm)	G = 0.5 inch (12.7 mm) H = 1.0 inch (25.4 mm) J = 2.0 inch (50.8 mm) K = 3.0 inch (76.2 mm)
APES17(M)-63A	1.62 inch (41.1 mm)				
APES17(M)-78A	1.93 inch (49.1 mm)				

#### Linear Actuator and Leadscrew Motor Models



#### Guided Linear Actuator Models



# APES17

## ElectroCraft AxialPower™ Enhanced

### STEPPER LINEAR ACTUATOR



### APES17 Model Number Example

Model Number	Length (in)	Length (mm)	Weight (g)	Rotor Inertia (g-cm <sup>2</sup> )
APES17(M)-45A	1.42	36.1	250	40.7
APES17(M)-63A	1.62	41.1	300	60.6
APES17(M)-78A	1.93	49.1	370	82.7

Thread Description	Lead (in)	Lead (mm)	Travel/Step (in)	Travel/Step (mm)	Max Force APES17-45 (lbs)	Max Force APES17-45 (N)	Max Force APES17-78 (lbs)	Max Force APES17-78 (N)
<b>A</b> 1/4-16 (15)	0.06250	1.5875	0.0003125	0.007938	117	520	186	827
<b>B</b> 1/4-16 (25)	0.12500	3.1750	0.0006250	0.015875	69	307	115	512
<b>C</b> 1/4-16 (45)	0.25000	6.3500	0.0012500	0.031750	38	169	79	351
<b>M</b> 6mm x 1.2mm (15)	0.04724	1.20000	0.00023622	0.006000	142	632	225	1001
<b>N</b> 6mm x 1.2mm (25)	0.09449	2.40000	0.00047244	0.012000	93	414	151	672
<b>P</b> 6mm x 2.5mm (45)	0.39370	10.0000	0.0019685	0.050000	24	107	50	222

APES 17 M - 78 A 20 - 0 M B 0 0 - X

Windings	Rated Voltage (VDC)	Rated Current (A)	Phase Resistance (Ohm)	Phase Inductance (mH)
<b>45A10</b>	4.51	1.00	4.51	7.30
<b>45A15</b>	2.93	1.50	1.95	3.41
<b>45A20</b>	2.22	2.00	1.11	1.90
<b>63A10</b>	5.26	1.00	5.26	10.30
<b>63A15</b>	3.39	1.50	2.26	4.46
<b>63A20</b>	2.62	2.00	1.31	2.50
<b>78A10</b>	6.37	1.00	6.37	15.8
<b>78A15</b>	4.19	1.50	2.79	7.00
<b>78A20</b>	3.22	2.00	1.61	4.00

Actuator Type	
<b>0</b>	Linear Actuator
<b>1</b>	Leadscrew Motor
<b>2</b>	Guided Linear Actuator

Lead Termination	
<b>0</b>	Flying Leads
<b>1</b>	Leads w/Connector

Feedback	
<b>X</b>	None
<b>Y*</b>	None - Rear Extension
<b>H</b>	400 Line Single Ended
<b>K</b>	1000 Line Single Ended

\* Guided Models Only

Leadscrew End Features	Guided Linear End Features
<b>0</b> No End Feature	8-32 - UNC-2A
<b>1</b> 6-32 UNC x 12.7mm	
<b>2</b> M2.5 x 0.45 x 12.7mm	
<b>3</b> Ø.098/Ø.097 x 12.7mm	
<b>4</b> #10-32 UNF x 12.7mm	M4 x 0.7 - 6g
<b>5</b> M5 x 0.8 x 12.7mm	
<b>6</b> Ø.196/Ø.195 x 12.7mm	
<b>7</b>	10-32 - UNF-2A
<b>8</b>	M5 x 0.8 - 6g
<b>9</b>	Ø6.00 (Ø.236)

Note: 4 and 5 not available with leadscrew motor configuration

Screw Length	
<b>X</b>	No Leadscrew
<b>A</b>	76.2mm (3 inches)
<b>B</b>	152.4mm (6 inches)
<b>C</b>	304.8mm (12 inches)
<b>D</b>	457.2mm (18 inches)
<b>E</b>	609.6mm (24 inches)
<b>G*</b>	12.7mm (0.5 in)
<b>H*</b>	25.4mm (1.0 in)
<b>J*</b>	50.8mm (2.0 in)
<b>K*</b>	76.2mm (3.0 in)

\* Guided Models Only



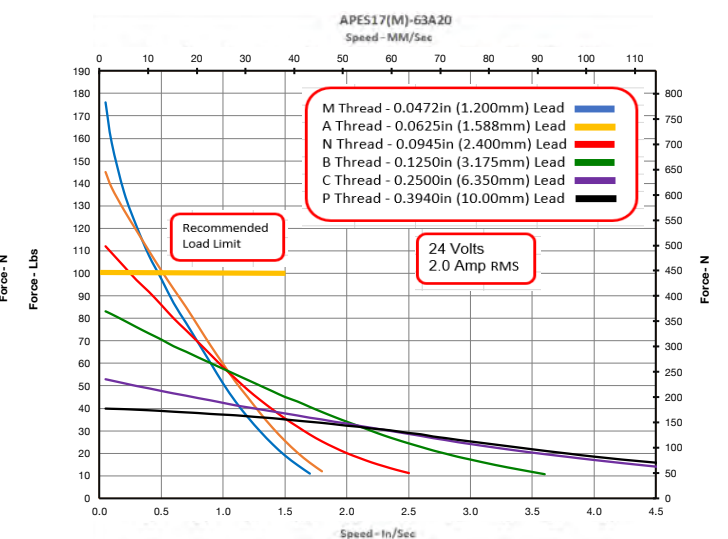
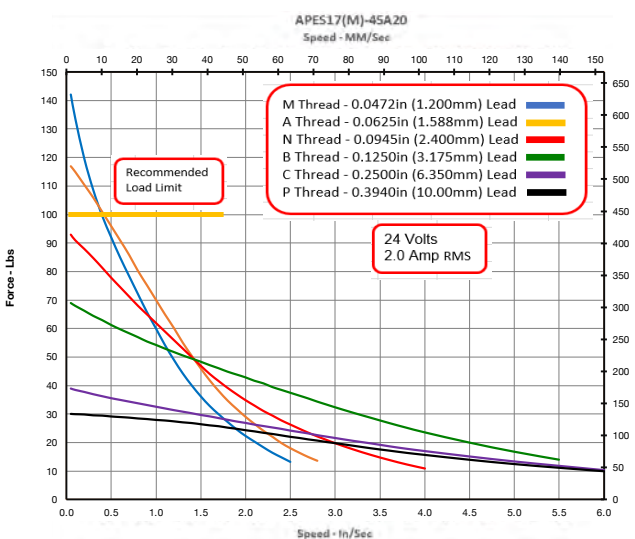
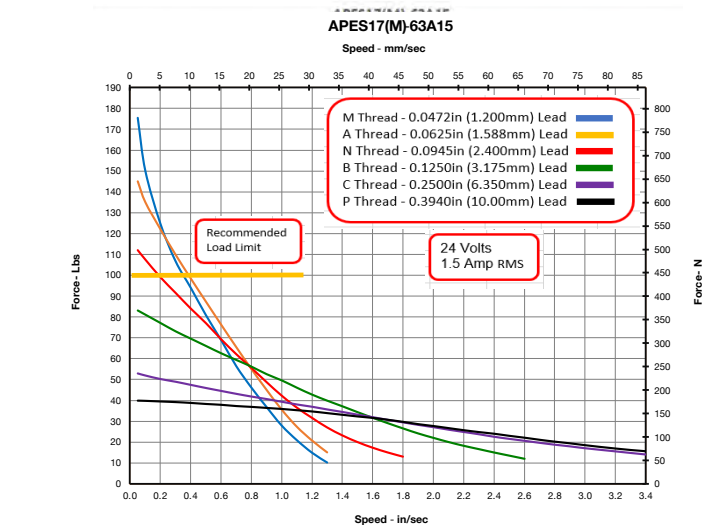
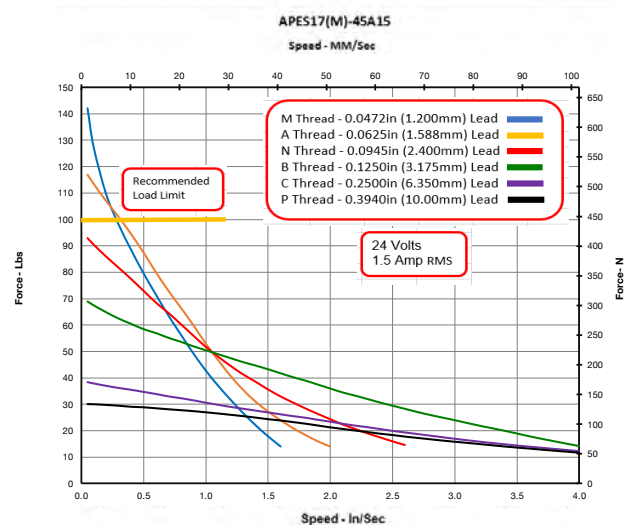
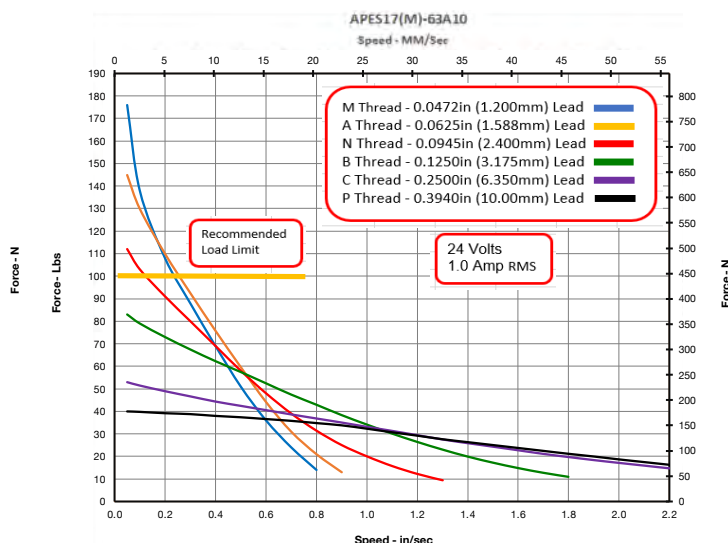
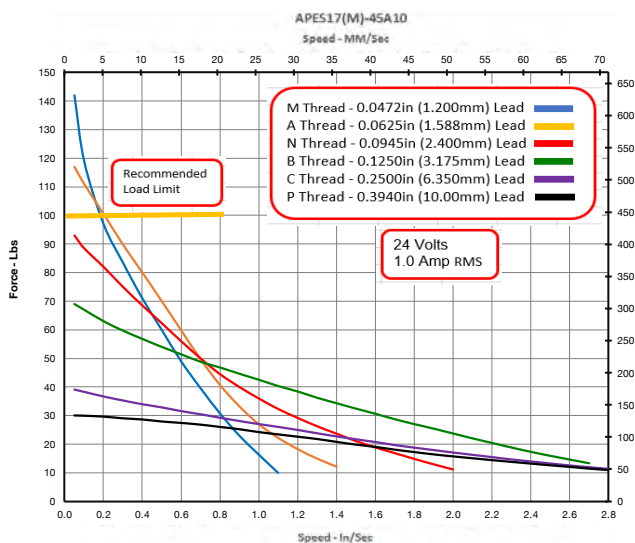
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**APES17 Performance Curves**



APES17 Performance Curves Cont.

