

The **APES23** is a 56mm / NEMA 23 frame, hybrid stepper-based linear actuator.

The APES23 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 0.0127 to 0.0635 mm per step, with an output force of up to 1779 N (400 lbs.) ElectroCraft's unique motor, shaft and insert designs offer industry-leading output force per frame size while providing superior precision, speed and efficiency.

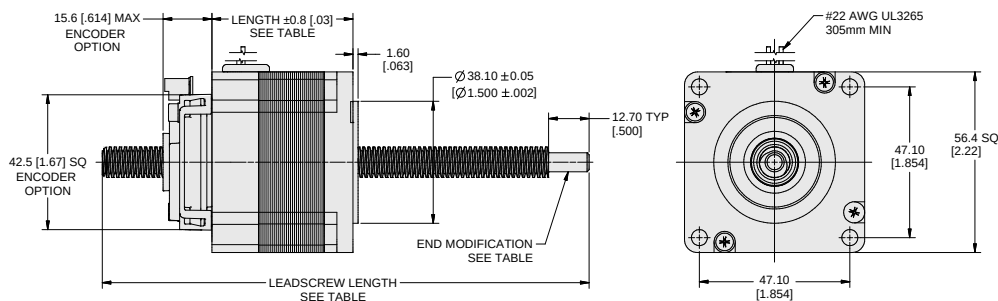


APES23 STEPPER LINEAR ACTUATOR

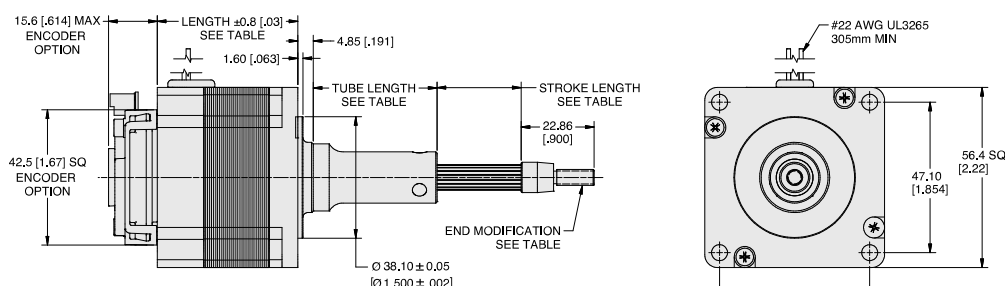
Size	NEMA 23
Force	267 N (60 lbs.) to 1779 N (400 lbs.)

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
APES23-100A	1.75 inch (44.5 mm)	4-40 UNC-2B (M3 x 0.5 - 6H)	X = no leadscrew	G = 1.028 inch (26.10mm)	G = 0.5 inch (12.7 mm)
APES23-166A	2.21 inch (56 mm)		A = 3.0 inch (76.2 mm)	H = 1.528 inch (38.80 mm)	H = 1.0 inch (25.4 mm)
APES23-294A	3.08 inch (78.2 mm)		B = 6.0 inch (152.4 mm)	J = 2.528 inch (64.20 mm)	J = 2.0 inch (50.8 mm)
			C = 12.0 inch (304.8 mm)	K = 3.528 inch (89.60 mm)	K = 3.0 inch (76.2 mm)
			D = 18.0 inch (457.2 mm)		
			E = 24.0 inch (609.6 mm)		

Linear Actuator and Leadscrew Motor Models



Guided Linear Actuator Models



APES23 Stepper Linear Actuator

AxialPower™ Series Linear Actuators

Superior Precision, Speed and Accuracy



APES23 Model Number Example

Thread Description		Lead (in)	Lead (mm)	Travel/Step (in)	Travel/Step (mm)	Max Force APES23-100 (lbs)	Max Force APES23-100 (N)	Max Force APES23-166 (lbs)	Max Force APES23-166 (N)	Max Force APES23-294 (lbs)	Max Force APES23-294 (N)
S	3/8-10 (1S)	0.1000	2.540	0.0005000	0.012700	194	863	269	1197	400	1779
W	3/8-10 (2S)	0.2000	5.080	0.0010000	0.025400	129	574	170	756	256	1139
R	3/8-12 (6S)	0.5000	12.700	0.0025000	0.063500	60	267	84	374	125	556
L	8mm x 2mm (2S)	0.1575	4.000	0.0007874	0.020000	156	694	217	965	322	1432
G	8mm x 2mm (4S)	0.3150	8.000	0.0015748	0.040000	66	294	92	409	137	609

Model Number	Length (in)	Length (mm)	Weight (g)	Rotor Inertia (g-cm ²)
APES23-100A	1.75	44.5	500	150.4
APES23-166A	2.21	56	700	266.1
APES23-294A	3.08	78.2	1069	459

APES 23 - 166 A 30 - 0 S B 0 0 - K

Windings	Rated Voltage (VDC)	Rated Current (A)	Phase Resistance (Ohm)	Phase Inductance (mH)
100A10	5.9	1.0	5.9	19.2
100A20	3.0	2.0	1.5	4.8
100A30	2.1	3.0	0.7	2.1
100A40	1.5	4.0	0.37	1.0
166A10	7.8	1.0	7.8	37.0
166A20	3.8	2.0	1.9	9.2
166A30	2.8	3.0	0.9	4.1
166A40	1.9	4.0	0.48	2.3
294A10	10.6	1.0	10.6	57.0
294A20	5.4	2.0	2.7	14.2
294A30	3.6	3.0	1.2	6.4
294A40	2.6	4.0	0.66	3.5

Actuator Type	
0	Linear Actuator
1	Leadscrew Motor
2	Guided Linear Actuator

Lead Termination	
0	Flying Leads
1	Leads w/Connector

Feedback	
X	None
Y*	None - Rear Extension
H	400 Line Single Ended
K	1000 Line Single Ended

* Guided Models Only

Leadscrew End Features		Guided Linear End Features	
0	No End Feature		8-32 - UNC-2A
4			M4 x 0.7 - 6g
7	10-32 - UNF-2A		10-32 - UNF-2A
8	M5 x 0.8 - 6g		M5 x 0.8 - 6g
9	Ø.235/Ø.236 x 12.7mm		Ø6.00 (Ø.236)

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

* Guided Models Only



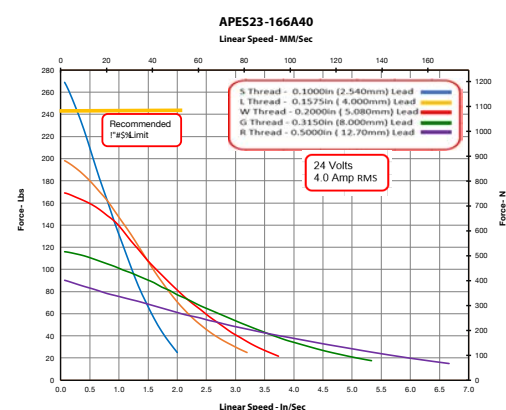
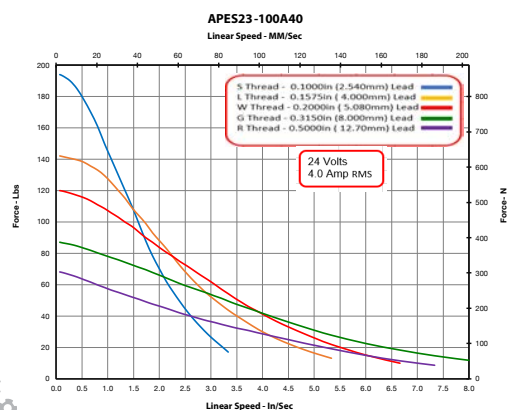
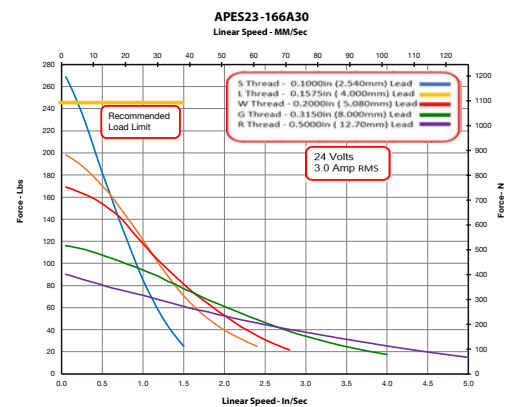
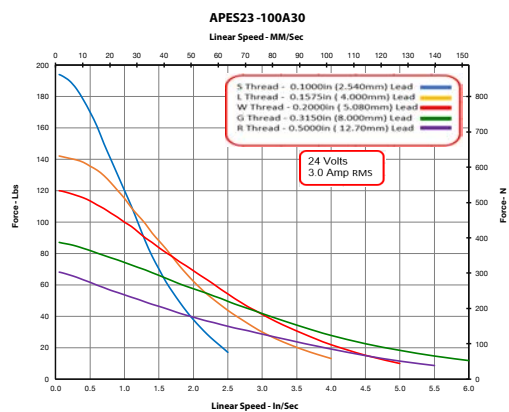
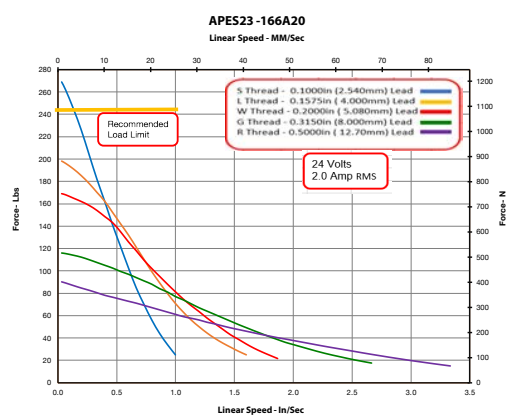
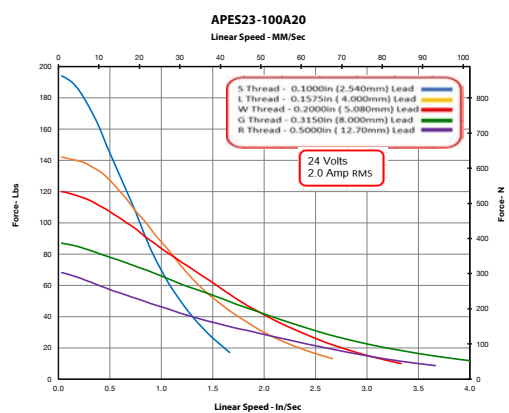
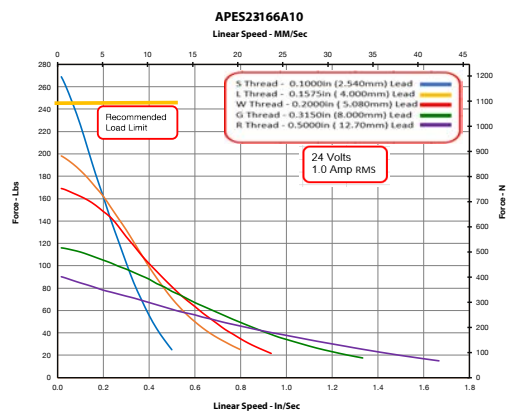
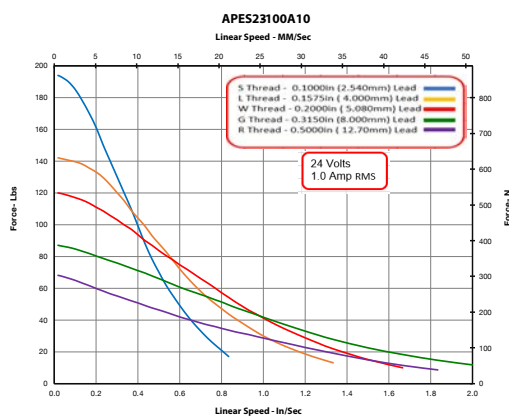
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APES23 Performance Curves



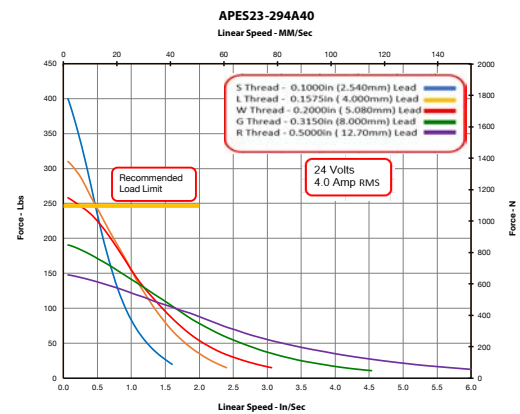
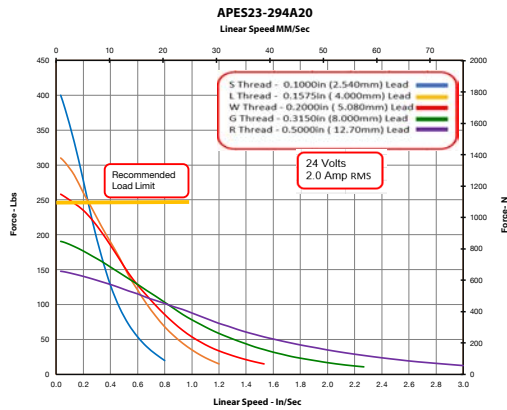
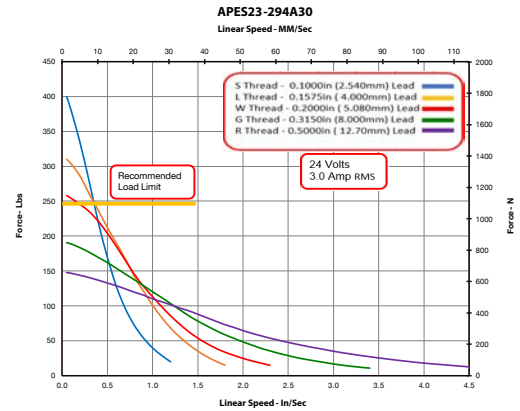
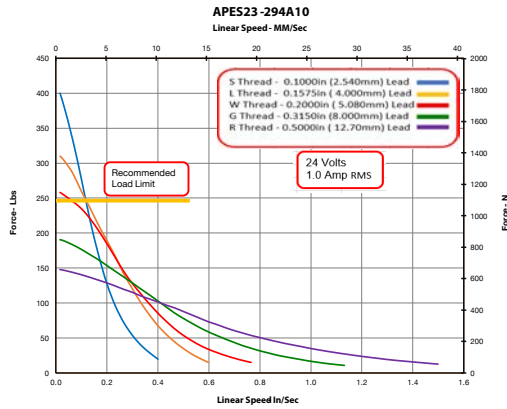
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APES23 Performance Curves Cont.



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