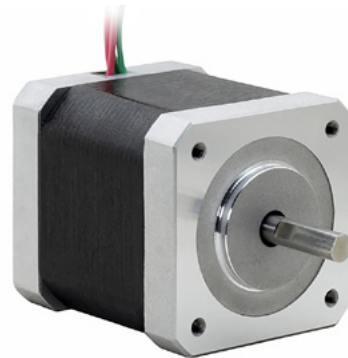


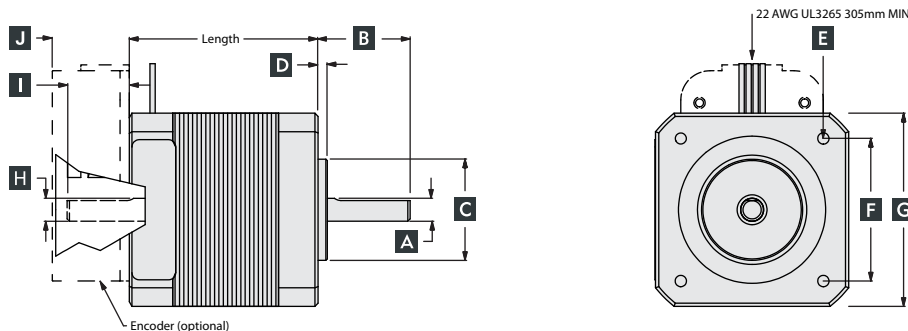
Compact. Powerful.

The ElectroCraft Torque Power™ Enhanced Nema 17 is a high performance stepper motor incorporating creative design and manufacturing techniques to offer improved holding torque. Motors are available in both bipolar and unipolar windings with a variety of shaft configurations and encoder options to meet the needs of any application.



TPE17 STEPPER MOTOR	
Size	Nema 17, 1.8°
Holding Torque	up to 78 oz-in or 55 Ncm
Speed	up to 80 RPS

Bipolar Model	Unipolar Model	MAX Length	A	B	C	D	E	F	G	H	I	J
			Front Shaft Diameter	Front Shaft Length	Pilot Diameter	Pilot Length (Ref)	Mount Hole Callout (Ref)	Mount Hole Spacing (Ref)	Flange External Dimension (Ref)	Rear Shaft Diameter	Rear Shaft Length	Encoder Length (max)
TPE17-45	TPE17-35	1.42 in ±0.03	0.1968 in 0.1963 in	0.79 in ±0.03	0.8660 in 0.8648 in	0.08 in	(4) 4-40 UNC-2B 0.17 in Deep Min	1.22 in ±0.07	1.65 in square	0.1968 in 0.1963 in	0.53 in ±0.04	0.70 in
TPE17-63	TPE17-48	1.62 in ±0.03										
TPE17-78	TPE17-60	1.93 in ±0.03										
TPE17M-32	TPE17M-25	36.1 mm ±0.8	4.999 mm 4.986 mm	20 mm ±0.8	22.00 mm 21.97 mm	2.0 mm	(4) M3 x 0.5-6H 4.31 mm Deep min	31.0 mm ±0.15	42 mm square	4.999 mm 4.986 mm	13.5 mm ±1.0	17.8 mm
TPE17M-44	TPE17M-34	41.1 mm ±0.8										
TPE17M-55	TPE17M-42	49.1 mm ±0.8										



TPE17 Model Number

1 - Frame Size
(Imperial or Metric)

T P E 1 7
Product Name Frame Size

2 - Torque

- 4 5
Holding Torque
(oz-in) Bipolar

3 - Winding

A 1 0
Bipolar
Current
(Amps x 10)

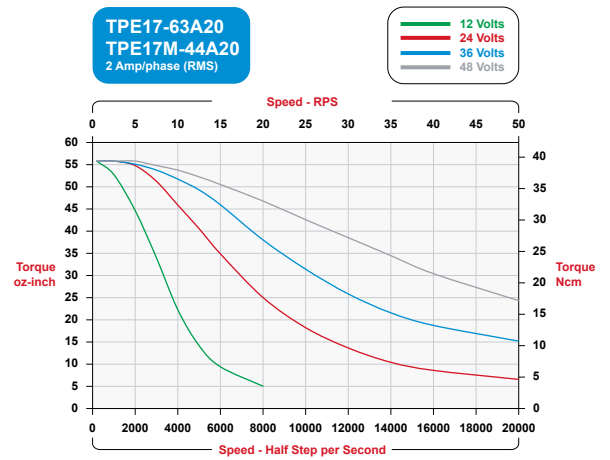
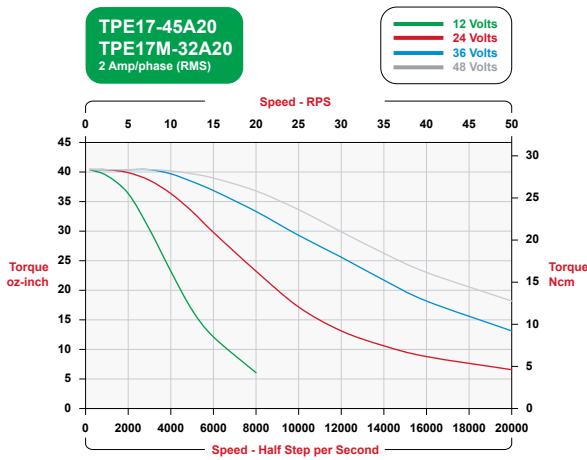
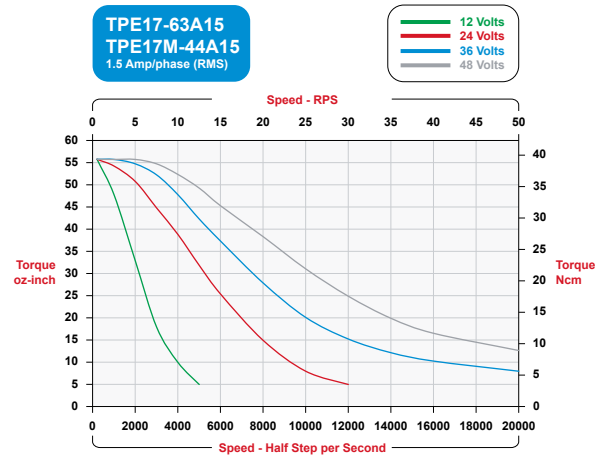
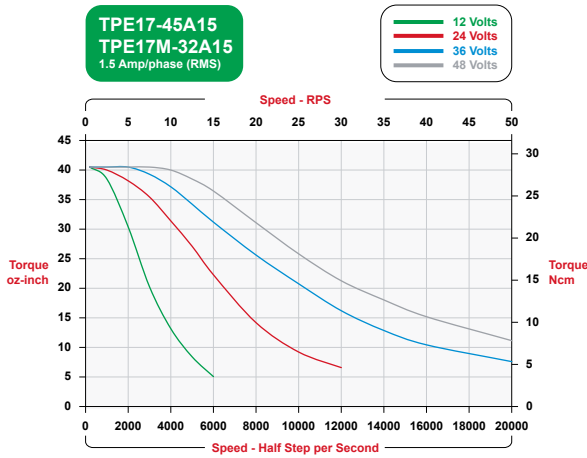
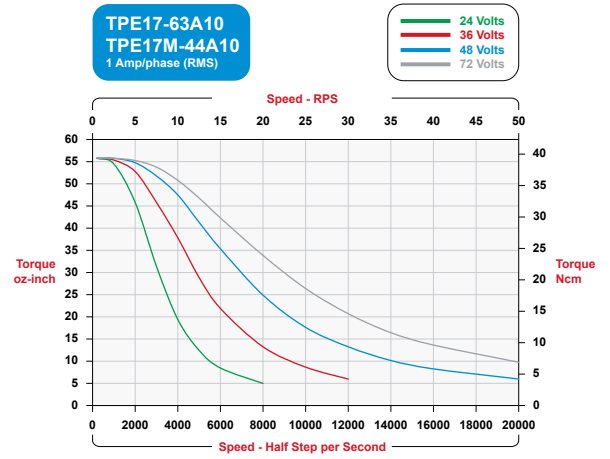
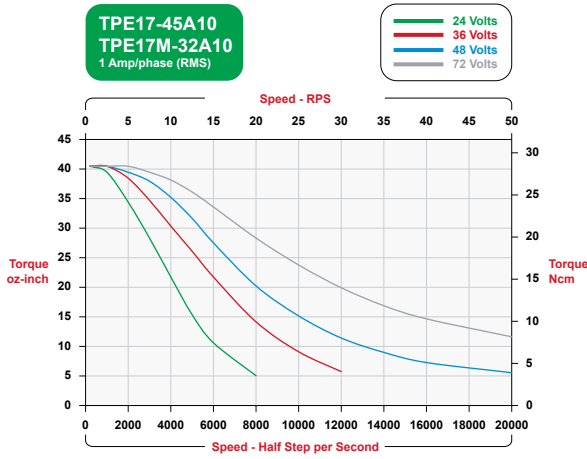
4 - Features

- 1 1 0 0 - X
Step Angle Front Shaft Rear Shaft Termination Feedback

T P E 1 7 M - 3 2
Product Name Frame Size Optional Metric Holding Torque
(Ncm) Bipolar

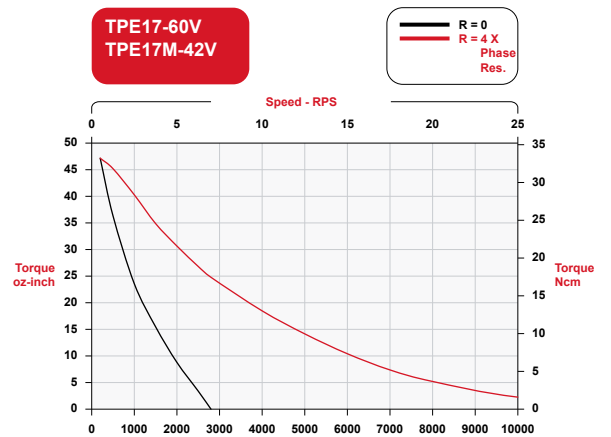
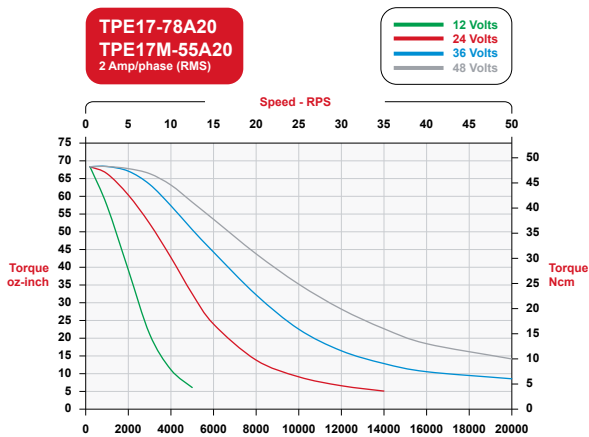
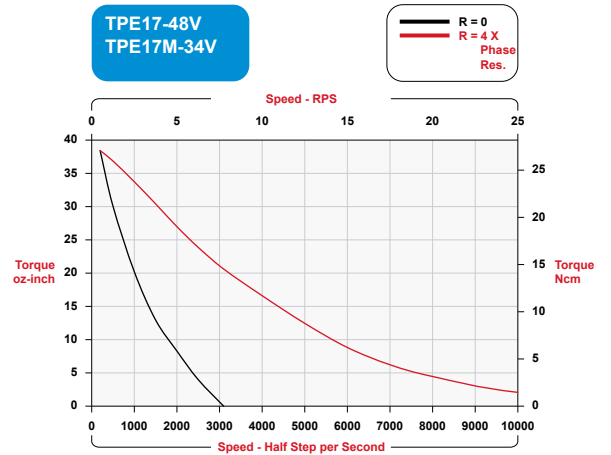
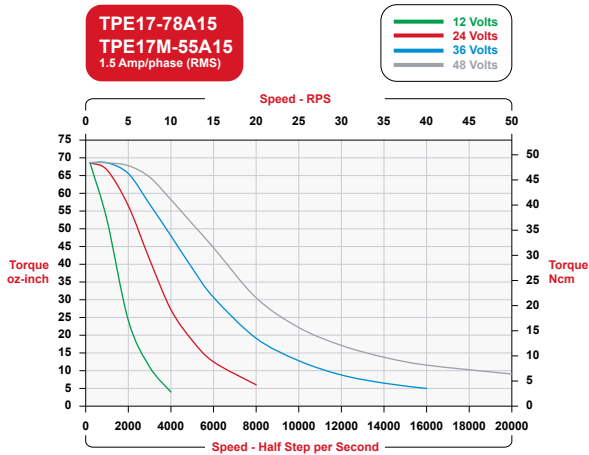
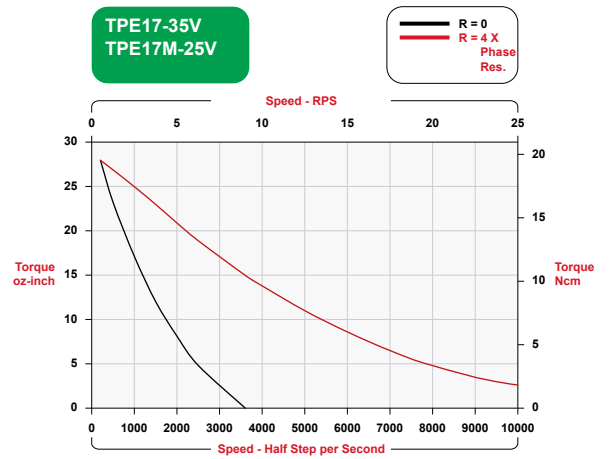
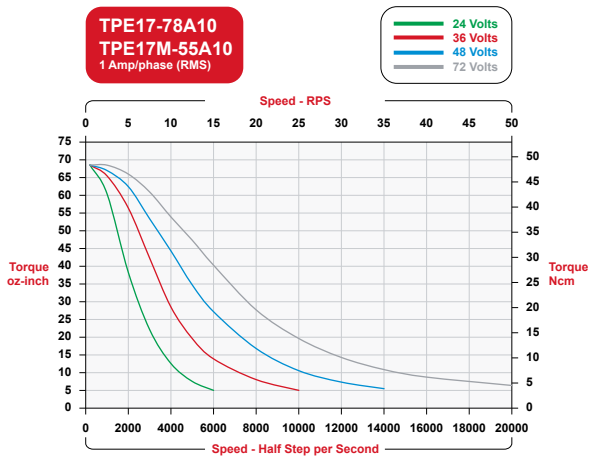
V 1 0
Unipolar
Voltage
(Volts x 10)

TPE17 - Bipolar Performance



TPE17 - Bipolar Performance

TPE17 - Unipolar Performance



TPE17 Mechanical / Winding Data

TPE17 Bi-Polar Stack Size

Imperial Models	TPE17-45	TPE17-63	TPE17-78
Metric Models	TPE17M-32	TPE17M-44	TPE17M-55
Holding Torque (oz-in)	45.0	63.0	78.0
Holding Torque (Ncm)	32	44	55
Length (inches)	1.45	1.65	1.96
Length (cm)	3.7	4.2	5.0
Width (inches)	1.6	1.6	1.6
Width (cm)	4.1	4.1	4.1
Weight (oz)	9.0	11.0	13.0
Weight (Kg)	0.3	0.3	0.4
Step Angle (°/step)	1.8	1.8	1.8
Number Leads	4	4	4

TPE17 Uni-Polar Stack Size

Imperial Models	TPE17-35	TPE17-48	TPE17-60
Metric Models	TPE17M-25	TPE17M-34	TPE17M-42
Holding Torque (oz-in)	35.0	48.0	60.0
Holding Torque (Ncm)	25	34	42
Length (inches)	1.45	1.65	1.96
Length (cm)	3.7	4.2	5.0
Width (inches)	1.6	1.6	1.6
Width (cm)	4.1	4.1	4.1
Weight (oz)	9.0	11.0	13.0
Weight (Kg)	0.3	0.3	0.4
Step Angle (°/step)	1.8	1.8	1.8
Number Leads	6	6	6

TPE17 Bi-Polar Windings

Imperial Models	45A10	45A15	45A20	63A10	63A15	63A20	78A10	78A15	78A20
Metric Models	32A10	32A15	32A20	44A10	44A15	44A20	55A10	55A15	55A20
Current (A/Phase)	1.0	1.5	2.0	1.0	1.5	2.0	1.0	1.5	2.0
Voltage (V/Phase)	4.5	2.9	2.2	5.3	3.4	2.6	6.4	4.2	3.2
Resistance (R/Phase)	4.5	1.0	1.1	5.3	2.3	1.3	6.4	2.8	1.6
Inductance (mH)	7.3	3.4	1.9	10.3	4.5	2.5	15.8	7.0	4.0

TPE17 Uni-Polar Windings

Imperial Models	35V40	35V60	35V120	48V40	48V60	48V120	60V40	60V60	60V120
Metric Models	25V40	25V60	25V120	34V40	34V60	34V120	842V40	42V60	42V120
Current Uni-Polar (A/Phase)	1.1	0.7	0.4	1.3	0.9	0.5	1.6	1.0	0.5
Voltage Uni-Polar (V/Phase)	4.3	6.6	12.8	4.2	6.1	11.8	4.0	6.2	12.5
Resistance Uni-Polar (R/Phase)	4.0	9.3	35.6	3.4	7.1	26.1	2.6	6.2	24.9
Inductance Uni-Polar (mH)	3.2	7.3	29.0	3.3	6.8	25.6	3.3	7.9	31.9
Current Bi-Polar (A/Phase)	0.8	0.5	0.3	0.9	0.6	0.3	1.0	0.7	0.4
Voltage Bi-Polar (V/Phase)	6.1	9.3	18.1	6.0	8.6	16.6	5.7	8.8	17.6
Resistance Bi-Polar (R/Phase)	8.0	18.6	71.2	6.8	14.2	52.2	5.2	12.4	49.8
Inductance Bi-Polar (mH)	12.8	29.4	116.0	13.0	27.3	103.0	13.2	31.6	128.0



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