

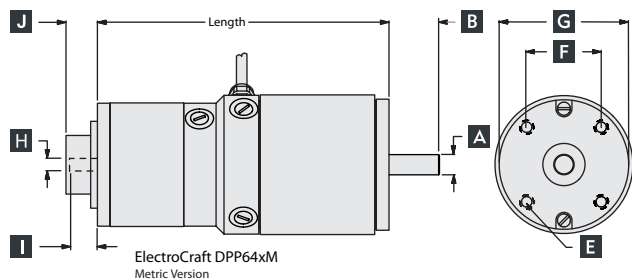
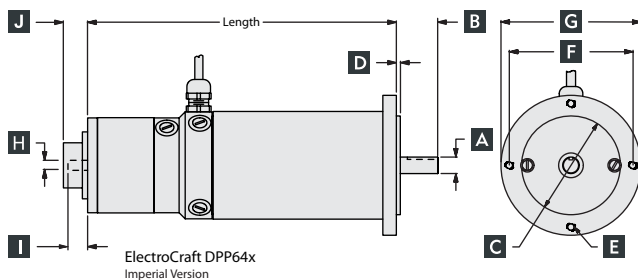
### High-Torque. Long life.

Our ElectroCraft DirectPower™ Plus 640 Series features a rugged, heavy-gauge steel housing construction for long-life and durability. This high-efficiency motor includes dynamically balanced armatures, sealed ball bearings, and replaceable brushes.



DPP640 BRUSH MOTOR	
<b>Size</b>	4.1 inches or 106 mm
<b>Peak Torque</b>	to 240 oz-in or 169 Ncm

Model	MAX Length	MAX Length (with tachometer)	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)
DPP642	4.1 in	6.9 in	0.5000 in 0.4995 in	1.282 in ±0.03	3.000 in 2.997 in	0.12 in	(4) 1/4-20 UNC-2B THRU EQ SP on 3.750 in D.B.C.	2.651 in	4.25 in OD	0.3750 in 0.3747 in	0.70 in ±0.03	0.74 in
DPP643	5.7 in	8.5 in										
DPP644	6.7 in	9.5 in										
DPP642M	106 mm	175 mm	12.00 mm 11.99 mm	30 mm ±0.762	N/A	N/A	(4) M6 x 1-6H 7.62 mm Deep Min EQ SP on 63.5 mm D.B.C.	63.5 mm	78 mm OD	8.00 mm 7.99 mm	19 mm ±0.584	18.8 mm
DPP643M	146 mm	215 mm										
DPP644M	173 mm	242 mm										



### DPP640 Model Number

1 - Frame Size  
(Imperial or Metric)

**D P P 6 4 2**

Product Name      Frame Size

2 - Torque

**T - 1 0 0**

Optional Tachometer      Continuous Torque (oz-in)

3 - Winding

4 - Features

**V 6 0 - 1 2 2 - C**

Voltage      Rear Shaft      Front Shaft      Lead Shaft Option      Encoder

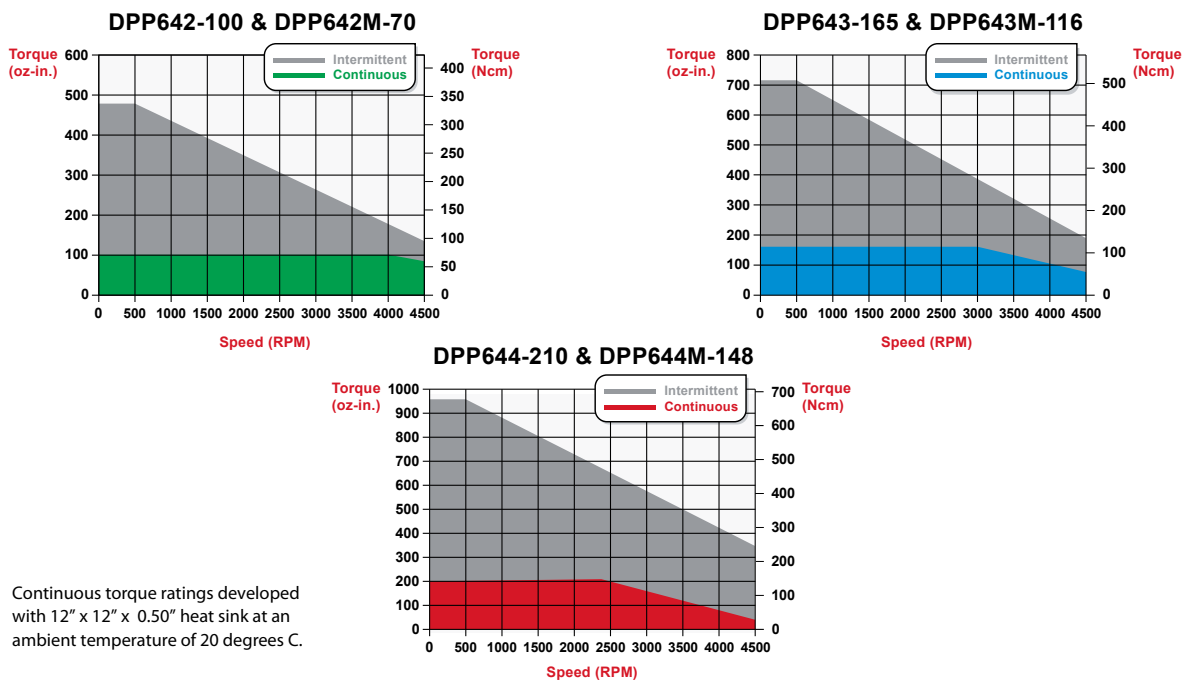
**D P P 6 4 2 M**

Product Name      Frame Size

**T - 7 0**

Optional Metric Tachometer      Continuous Torque (Ncm)

## DPP640 - Performance



## DPP640 Mechanical / Winding Data

### DPP640 Stack/Torque Sizes

Stack Size Models	DPP642-100	DPP643-165	DPP644-210
Continuous Stall Torque (oz-in)	100	165	210
Continuous Stall Torque (Ncm)	70.61	116.51	148.28
Peak Torque (oz-in)	480	775	960
Peak Torque (Ncm)	338.93	547.23	677.86
Rotor Inertia (oz-in-sec <sup>2</sup> )	0.0190	0.0300	0.0370
Rotor Inertia (g-cm <sup>2</sup> )	1341.8	2118.6	2612.9
Thermal Resistance (C / Watts)	2.7	2.2	1.9
Weight (lbs)	8.0	10.5	12.0
Weight (Kg)	3.62	4.76	5.44
Length (inches)	4.1	5.7	6.7
Length (mm)	10.4	14.5	17.0
Number of Poles	2	2	2

### DPP640 Winding Options

Winding Models	100V48	100V60	165V48	165V60	210V48	210V60
Design Voltage (VDC)	48	60	48	60	48	60
Continuous Current (Amps)	6	5	6	6	7	5
Peak Current (Amps)	25	20	30	23	28	22
Voltage Constant ±10% (VDC/kRPM)	13.7	17.5	19.3	24.8	25.2	32.4
Torque Constant ±10% (oz-in / Amp)	18.5	23.6	26.1	33.6	34.1	43.8
Torque Constant ±10% (Ncm / Amp)	13.064	16.665	18.431	23.727	24.080	30.930
Resistance ±10% (Ohms)	1.0	1.5	1.2	1.5	1.1	1.7
Inductance ±10% (mH)	1.2	2.0	1.2	2.0	2.0	3.3
Motor Constant (oz-in / √ Watt)	18.54	19.27	24.2	27.84	32.43	33.58
Motor Constant (Nm / √ Watt)	2.09	2.18	2.73	3.15	3.66	3.79
Electrical Constant (msec)	1.23	1.33	1.04	1.37	1.81	1.94
Mechanical Constant (msec)	7.83	7.24	7.26	5.48	4.98	4.65

