

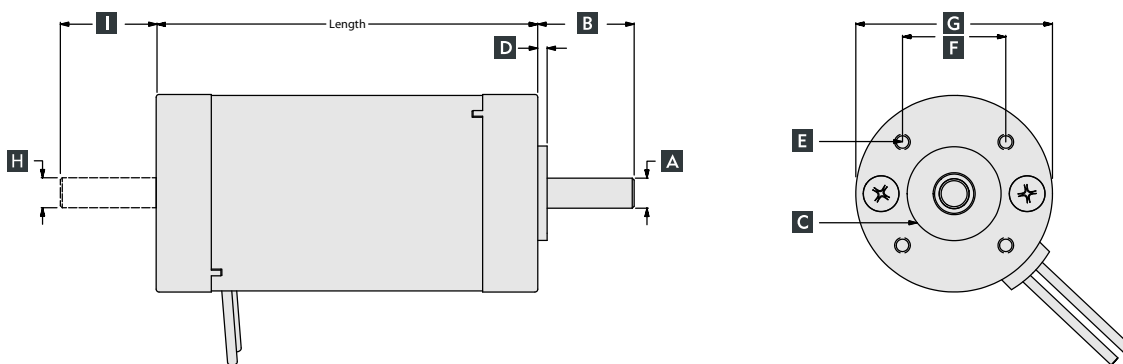
### Good-Performance. Good Price.

Our ElectroCraft DirectPower™ Nema 20 is a conventional brush-type permanent magnet DC motor. It provides torque up to 72 oz-in or 50.8 Ncm.



DP20 BRUSH MOTOR	
Size	Nema 20
Peak Torque	to 72 oz-in or 50.8 Ncm

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)
DP20-10	4.010 in	0.3124 in 0.3127 in	1.00 in ±0.03	0.984 ±0.005	0.098 in	(4) 8-32 UNC-2B 0.254 DP on 1.531 in D.B.C.	1.086	2.06 in	0.3124 in 0.3127 in	1.00 in ±0.03	N/A
DP20-15	4.663 in										
DP20-20	4.663 in										
DP20M-07	101.8 mm	8.000 mm 7.991 mm	25.4 mm ±0.76	25.0 mm ±0.13	2.5 mm	(4) M4 x 6.35 DP on 38.89 mm D.B.C.	27.5	52 mm	8.000 mm 7.987 mm	25.4 mm ±0.76	N/A
DP20M-11	118.5 mm										
DP20M-14	118.5 mm										



### DP20 Model Number

1 - Frame Size  
(Imperial or Metric)

**D P 2 0**

Product Name Frame Size

2 - Torque

**1 0**

Continuous Torque (oz-in)

3 - Winding

V

**1 2**

Voltage

4 - Features

**1 1 0 X**

Rear Shaft Front Lead Shaft Option

Encoder

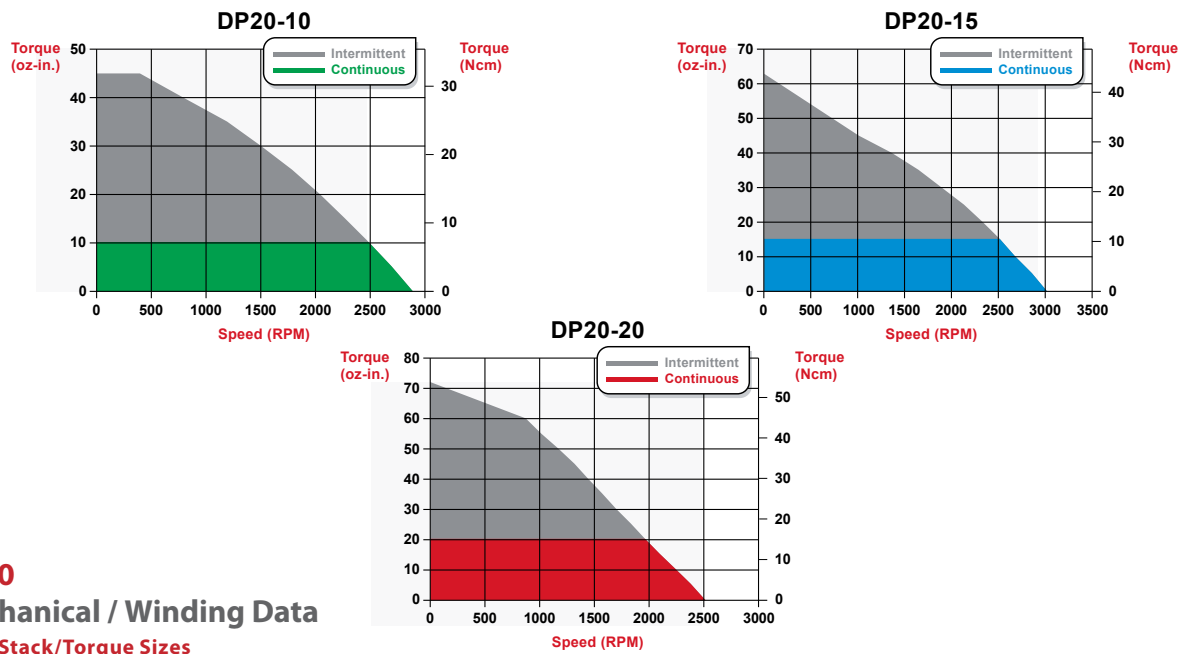
**D P 2 0 M**

Product Name Frame Size

Optional Metric

**0 7**  
Continuous Torque (Ncm)

## DP20 - Performance



## DP20 Mechanical / Winding Data

### DP20 Stack/Torque Sizes

Imperial	DP20-10	DP20-15	DP20-20
Metric	DP20M-07	DP20M-11	DP20M-14
Continuous Stall Torque <sup>1</sup> (oz-in)	10	15	20
Continuous Stall Torque <sup>1</sup> (Ncm)	7.06	10.59	14.12
Peak Torque <sup>2</sup> (oz-in)	53	63	72
Peak Torque <sup>2</sup> (Ncm)	37.42	44.48	50.84
Rotor Inertia (oz-in-sec <sup>2</sup> )	0.0017	0.0025	0.0029
Rotor Inertia (g-cm <sup>2</sup> )	120.1	176.6	204.8
Weight (oz)	32.0	35.2	36.8
Weight (Kg)	0.90	0.99	1.00
Length <sup>3</sup> (inches)	3.98	4.633	4.633
Length <sup>3</sup> (mm)	101.0	117.6	117.6
Number of Poles	2	2	2

### DP20 Winding Options

Imperial	10V12	10V24	15V12	15V24	20V12	20V24
Metric	07V12	07V24	11V12	11V24	14V12	14V24
Design Voltage (VDC)	12	24	12	24	12	24
Continuous Current <sup>1</sup> (Amps)	3.80	1.85	4.00	1.95	4.25	2.1
Peak Current <sup>2</sup> (Amps)	11.5	5.7	13.5	6.7	11.5	2.7
Voltage Constant ±10% (VDC/kRPM)	3.70	7.40	4.00	7.00	4.65	9.30
Torque Constant ±10% (oz-in / Amp)	5.00	10.00	4.70	9.50	6.00	13.00
Torque Constant ±10% (Ncm / Amp)	3.531	7.062	3.319	6.708	4.237	9.180
Resistance ±10% (Ohms)	0.70	3.05	0.60	3.05	0.70	3.05
Inductance ±10% (mH)	1.10	2.97	0.49	1.35	1.08	4.86
Motor Constant (oz-in / √ Watt)	5.976	5.726	6.068	5.440	7.171	7.444
Motor Constant (Nm / √ Watt)	4.220	4.043	4.285	3.841	5.064	5.256
Electrical Constant (msec)	1.57	0.97	0.82	0.44	1.54	1.59
Mechanical Constant (msec)	6.75	7.35	9.61	11.99	7.97	7.41
Thermal Resistance (C / Watts)	6.3	6.3	5.8	5.8	4.9	4.9

<sup>1</sup> Continuous rating based on 25°C ambient temperature, winding temperature rise of 100°C and motor mounted to a 12x12x0.50 inch aluminum heatsink.

<sup>2</sup> 10 seconds at 25°C ambient, 100°C winding temperature.

<sup>3</sup> Inductance bridge measurement method @ 1kHz.



Your Genius. Our Drive.

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