

## BN17 IP SPECIFICATIONS - *Continuous Stall Torque 7.0 to 16.0 oz-in (0.049 - 0.113 Nm)* *Peak Torque 64 - 149 oz-in (0.45 - 1.05 Nm)*

Part Number*		BN17-15IP- <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>			BN17-20IP- <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>			BN17-25IP- <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		
Winding Code**		01	02	03	01	02	03	01	02	03
L = Length	inches	2.06			2.56			3.06		
	millimeters	52.32			65.02			77.72		
Terminal Voltage	volts DC	12.0	24.0	36.0	12.0	24.0	36.0	12.0	24.0	36.0
Peak Torque	oz-in	64.0	83.0	88.00	116.0	116.0	124.0	140.0	149.0	142.0
	Nm	0.4519	0.5861	0.6214	0.8191	0.8191	0.8756	0.9886	1.0522	1.0027
Continuous Stall Torque	oz-in	7.0	7.0	8.0	12.0	12.0	12.0	15.0	15.0	16.0
	Nm	0.0494	0.0494	0.0565	0.0847	0.0847	0.0847	0.1059	0.1059	0.1130
Rated Speed	RPM	10623.0	15627.0	14644.0	8659.0	9172.0	9771.0	8414.0	8452.0	7834.0
	rad/sec	1112	1636	1534	907	960	1023	881	885	820
Rated Torque	oz-in	6.7	5.4	6.3	9.5	8.7	8.5	10.7	11.0	11.5
	Nm	0.0473	0.0381	0.0445	0.0671	0.0614	0.0600	0.0756	0.0777	0.0812
Rated Current	Amps	5.65	3.27	2.38	6.29	3.05	2.10	6.90	3.54	2.30
Rated Power	watts	52.2	62.4	68.8	60.8	59.0	61.4	66.6	68.7	66.6
Torque Sensitivity	oz-in/amp	1.28	1.86	2.95	1.64	3.13	4.45	1.70	3.40	5.44
	Nm/amp	0.0090	0.0131	0.0208	0.0116	0.0221	0.0314	0.0120	0.0240	0.0384
Back EMF	volts/KRPM	0.95	1.38	2.18	1.21	2.31	3.29	1.26	2.51	4.02
	volts/rad/sec	0.0090	0.0131	0.0208	0.0116	0.0221	0.0314	0.0120	0.0240	0.0384
Terminal Resistance	ohms	0.24	0.54	1.20	0.17	0.65	1.30	0.15	0.55	1.38
Terminal Inductance	mH	0.23	0.48	1.22	0.17	0.69	1.40	0.15	0.61	1.57
Motor Constant	oz-in/sq.rt.watts	2.69	2.56	2.71	4.13	3.92	3.93	4.67	4.64	4.65
	Nm/sq.rt.watts	0.01900	0.01808	0.01914	0.02916	0.02768	0.02775	0.03298	0.03277	0.03284
Rotor Inertia	oz-in-sec <sup>2</sup> x10 <sup>-3</sup>	0.23	0.23	0.23	0.39	0.39	0.39	0.54	0.54	0.54
	g-cm <sup>2</sup>	16.2	16.2	16.2	27.5	27.5	27.5	38.1	38.1	38.1
Weight	oz	6.7	6.7	6.7	10.5	10.5	10.5	13.4	13.4	13.4
	g	190	190	190	298	298	298	380	380	380
# of Poles		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Timing		120°	120°	120°	120°	120°	120°	120°	120°	120°
Mech. Time Constant	ms	4.8	5.1	4.5	3.5	3.7	3.6	4.0	3.6	3.6
Electrical Time Constant	ms	0.96	0.89	1.02	1.00	1.06	1.08	1.00	1.11	1.14
Thermal Resistivity	deg. C/watt	8.2	8.3	8.1	6.9	6.9	6.9	6.0	6.0	6.0
Speed/Torque Gradient	rpm/oz-in.	197.4	210.4	186.6	85.7	89.9	88.8	70.0	64.4	63.1

Notes:

- Motor mounted to a 4" x 4" x 1/4" aluminum plate, still air.
- Maximum winding temperature of 155°C.
- Typical electrical specifications at 25°C.
- Motor Terminal Voltages are representative only; motors may be operated at voltages other than those listed in the table. For assistance please contact our applications engineer.
- Calculated (theoretical) speed/torque gradient.
- For MS (military style) connector, please specify connector housing and terminal.
- Data for informational purposes only. Should not be considered a binding performance agreement. For specific applications, please contact the factory.

\*Many other custom mechanical options are available – consult factory.

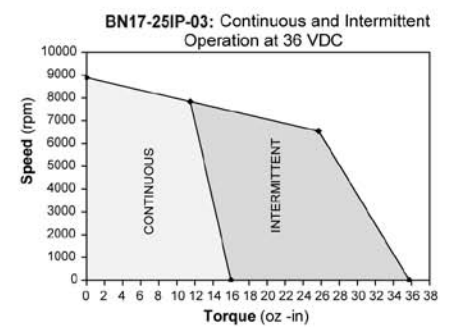
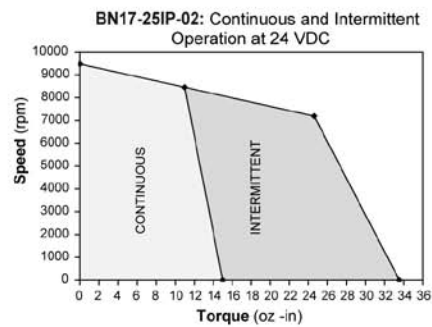
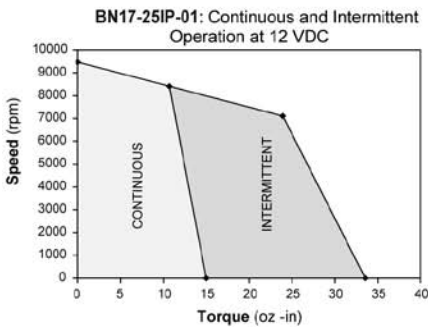
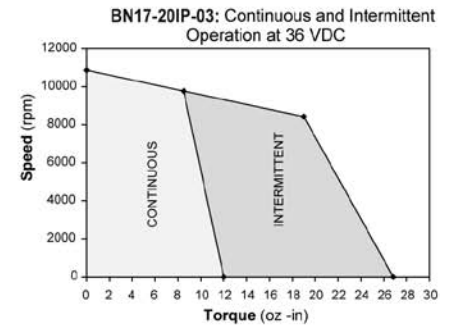
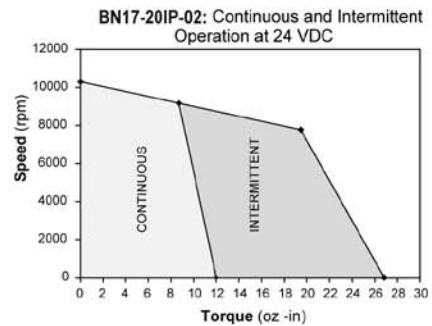
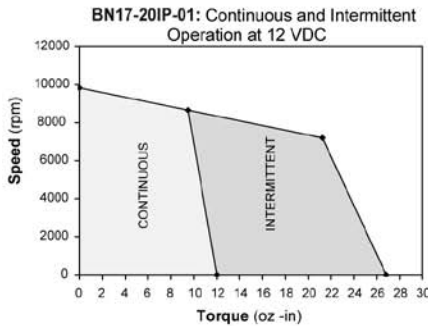
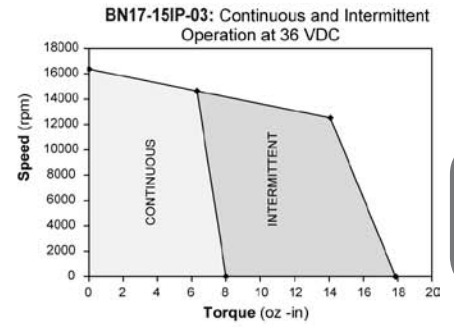
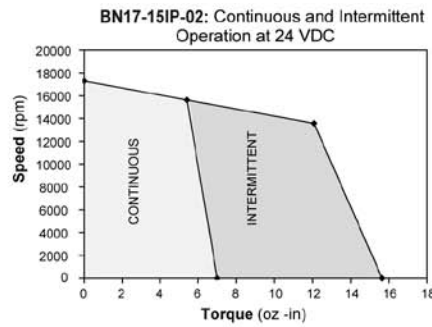
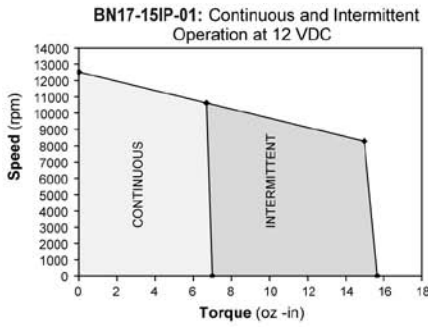
\*\*Many other winding options are available – consult factory.

Select your options below and place their code in its corresponding block as shown on page 6.

- |   |   |  |
|---|---|--|
| <input checked="" type="checkbox"/> TERMINATION | <input type="checkbox"/> FEEDBACK OPTIONS | <input type="checkbox"/> OTHER OPTIONS |
| L – Leads (std)                                 | H – Hall Effect (std)                     | D – Drive                              |
| C – Connector                                   |   | G – Gearhead                           |
| M – MS connector                                |   |  |



## BN17 IP Performance Curves



**Note:** Intermittent operation is based on a 20% duty cycle of one minute on, four minutes off. Please contact the factory regarding the duty cycle of your application.

## Timing Diagram (4 Pole) CCW Rotation

DEGREES	ELEC	0	60	120	180	240	300	360	60	120	180	240	300	360
	MECH	0	30	60	90	120	150	180	210	240	270	300	330	360
S1 OUT	[Timing diagram showing pulse sequence for S1 OUT]													
S2 OUT	[Timing diagram showing pulse sequence for S2 OUT]													
S3 OUT	[Timing diagram showing pulse sequence for S3 OUT]													
A COIL	0	-	-	0	+	+	0	-	-	0	+	+	0	-
B COIL	+	+	0	-	-	0	+	+	0	-	-	0	+	+
C COIL	-	0	+	+	0	-	-	0	+	+	0	-	-	0