

DBE-2000 MATRIX SERIES SPECIFICATIONS

MOTOR CHARACTERISTICS @ 25° C

Specification	Units	DBE-2000 A-1ES	DBE-2000 B-1ES	DBE-2000 C-1ES	DBE-2000 D-1ES	DBE-2000 E-1ES	DBE-2000 F-1ES	DBE-2000 G-1ES	DBE-2000 H-1ES
Peak Torque, T_p	oz-in	43	75	100	126	192	256	315	377
Motor Constant, K_M	oz-in / \sqrt{W}	5.93	9.16	11.1	12.8	17.1	20.6	23.2	25.8
Number of Poles		8	8	8	8	8	8	8	8
Number of Phases		3	3	3	3	3	3	3	3
Weight	oz (nom)	4.6	7.6	10.1	13	18	23	28	34
Motor Inertia, J_M	oz-in-s ²	4.41E-04	6.59E-04	8.81E-04	1.10E-03	1.54E-03	1.98E-03	2.41E-03	2.85E-03
Friction Torque, T_F	oz-in	1.0	2.0	3.0	4.00	6.0	8.0	10	12
Electrical Time Constant, T_E	ms	0.48	0.74	0.92	1.0	1.2	1.3	1.4	1.4
Mechanical Time Constant, T_M	ms	1.77	1.11	1.02	0.949	0.741	0.660	0.638	0.606
*Temperature Rise, TPR'	°C / W	11.0	8.4	6.8	5.8	4.4	3.6	3.0	2.6
Sensors		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

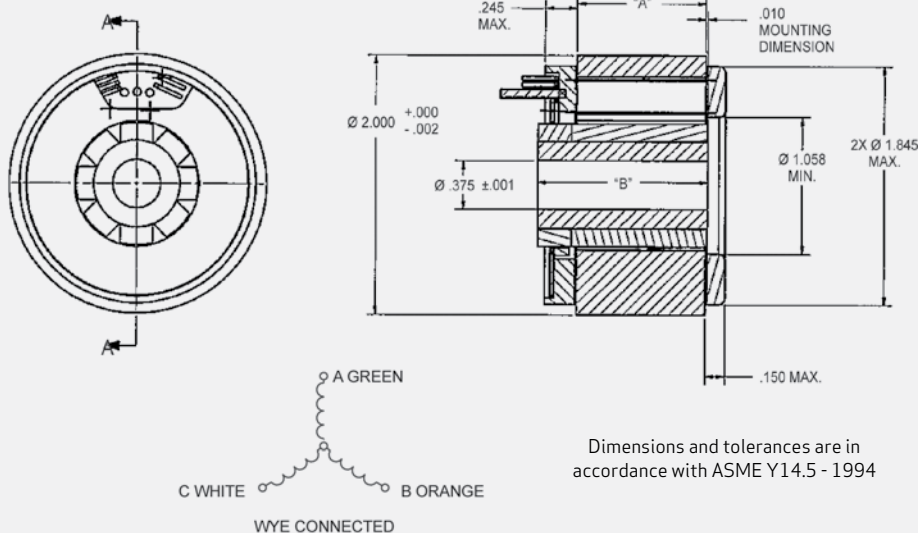
MOTOR WINDING CONSTANTS

Specification	Units	DBE-2000 A-1ES	DBE-2000 B-1ES	DBE-2000 C-1ES	DBE-2000 D-1ES	DBE-2000 E-1ES	DBE-2000 F-1ES	DBE-2000 G-1ES	DBE-2000 H-1ES
**Torque Sensitivity, K_T	oz-in/amp \pm 10%	8.60	15.0	20	25.2	38.5	51.3	62.9	75.5
Back EMF, K_E	V per rad/s \pm 10%	0.0607	0.106	0.141	0.178	0.272	0.362	0.444	0.533
Terminal Resistance, R_M	ohms \pm 10%	2.10	2.68	3.27	3.87	5.04	6.21	7.38	8.55
Terminal Inductance, L_M	mH \pm 30%	1.0	2.0	3.0	4.0	6.0	8.0	10	12
Voltage, Stalled at Peak Torque, V_p	volts	10.5	13.4	16.4	19.3	25.2	31.0	36.9	42.8
Amps at Peak Torque, I_p	amps	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00

*TPR as listed on the data sheets, is for an un-mounted condition unless otherwise noted. Mounted TPR values are often 50% or less than the un-mounted TPR. For air flow, the TPR may be less than 25% the un-mounted amount and for fluid cooling it may be 10% or less. Many factors affect the TPR value and its change relative to the mounting or external cooling applied. Consult the factory for an more accurate estimate of the motor's TPR.

**Stack lengths from 0.10 to 4.00 inches (2.54 to 101.6 mm) with K_T to 4.49 N.m/amp. Consult factory for additional designs. Refer to our online documentation for product updates.

MECHANICAL DIMENSIONS (INCHES)



MOUNTING DIMENSIONS

Modular	"A" Inches	"B" Inches
DBE-2000-A-1ES	0.250	0.540
DBE-2000-B-1ES	0.500	0.805
DBE-2000-C-1ES	0.750	1.065
DBE-2000-D-1ES	1.000	0.330
DBE-2000-E-1ES	1.500	1.860
DBE-2000-F-1ES	2.000	2.385
DBE-2000-G-1ES	2.500	2.915
DBE-2000-H-1ES	3.000	3.440