

DB-8000 MATRIX SERIES SPECIFICATIONS

MOTOR CHARACTERISTICS @ 25° C

Specification	Units	DB-8000 A-1ES	DB-8000 B-1ES	DB-8000 C-1ES	DB-8000 D-1ES	DB-8000 E-1ES
Peak Torque, T_p	oz-in	18.8	37.7	58.4	75.4	96.1
Motor Constant, K_M	oz-in / \sqrt{W}	0.75	1.30	1.74	2.06	2.4
Number of Poles		32	32	32	32	32
Number of Phases		3	3	3	3	3
Weight	oz (nom)	5.2	9.0	13.2	16.6	20.5
Motor Inertia, J_M	oz-in-s ²	2.1 x 10-3	3.4 x 10-3	5.5 x 10-3	6.8 x 10-3	8.3 x 10-3
Friction Torque, T_f	oz-in	0.11	0.22	0.34	0.44	0.57
Electrical Time Constant, T_E	ms	0.50	0.69	0.80	0.87	0.90
Mechanical Time Constant, T_M	ms	19.0	13.1	11.1	10.3	9.7
Temperature Rise, TPR	°C / W	1.3	1.0	0.83	0.71	0.62
Sensors		Yes	Yes	Yes	Yes	Yes

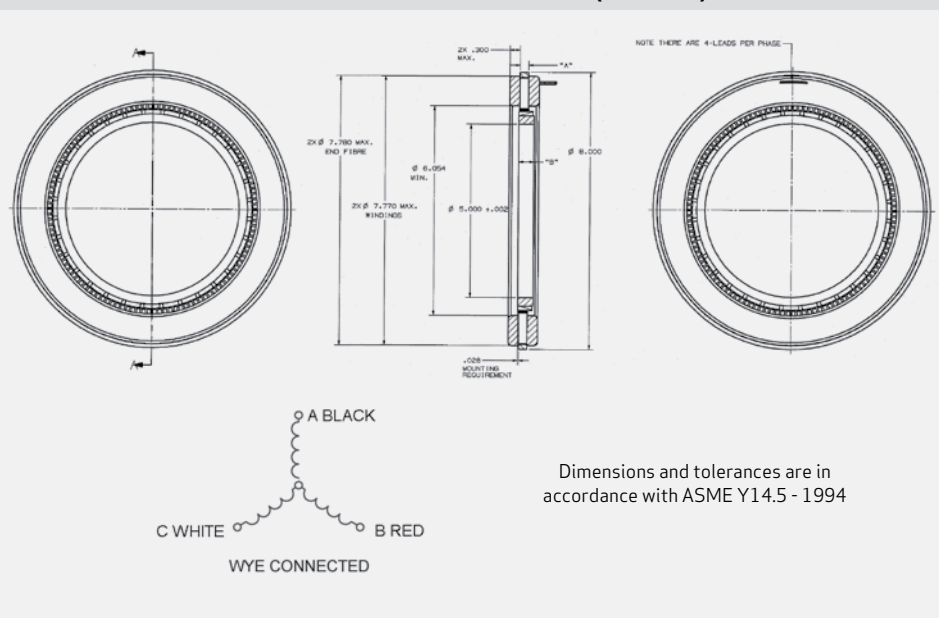
MOTOR WINDING CONSTANTS

Specification	Units	DB-8000 A-1ES	DB-8000 B-1ES	DB-8000 C-1ES	DB-8000 D-1ES	DB-8000 E-1ES
**Torque Sensitivity, K_T	oz-in/amp \pm 10%	1.30	2.60	4.03	5.20	6.63
Back EMF, K_E	V per rad/s \pm 10%	1.76	3.48	5.37	6.92	8.64
Terminal Resistance, R_M	ohms \pm 10%	2.80	3.90	5.10	6.10	7.20
Terminal Inductance, L_M	mH \pm 30%	1.4	2.7	4.1	5.3	6.5
Voltage, Stalled at Peak Torque, V_p	volts	40.6	56.9	75.0	89.7	106
Amps at Peak Torque, I_p	amps	14.5	14.6	14.7	14.7	14.7

*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 a more accurate estimate of the motor's TPR.

**Stack lengths from 0.25 to 16.00 inches (6.35 to 406.4 mm) with K_T to 717 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	"C" Inches
DB-8000-B-1ES	0.520	0.715	1.20
DB-8000-C-1ES	1.020	1.165	1.700
DB-8000-D-1ES	1.570	1.873	2.250
DB-8000-E-1ES	2.020	2.323	2.700
DB-8000-F-1ES	2.520	2.839	3.200
DB-8000-G-1ES	0.450	0.550	0.550