

DBE-8000 MATRIX SERIES SPECIFICATIONS

MOTOR CHARACTERISTICS @ 25° C

Specification	Units	DBE-8000 A-1ES	DBE-8000 B-1ES	DBE-8000 C-1ES	DBE-8000 D-1ES	DBE-8000 E-1ES	DBE-8000 F-1ES
Peak Torque, T_p	oz-in	18.8	37.7	58.4	75.4	96.1	9.7
Motor Constant, K_M	oz-in / \sqrt{W}	0.75	1.30	1.74	2.06	2.4	0.43
Number of Poles		32	32	32	32	32	32
Number of Phases		3	3	3	3	3	3
Weight	oz (nom)	5.2	9.0	13.2	16.6	20.5	3.53
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	1.3 x 10 ⁻³
Friction Torque, T_f	oz-in	0.11	0.22	0.34	0.44	0.57	6.2
Electrical Time Constant, T_E	ms	1.4	2.0	2.3	2.5	2.7	0.97
Mechanical Time Constant, T_M	ms	2.8	1.5	1.3	1.2	1.1	5.3
*Temperature Rise, TPR ¹	°C / W	1.3	1.0	0.82	0.71	0.61	1.5
Sensors		Yes	Yes	Yes	Yes	Yes	Yes

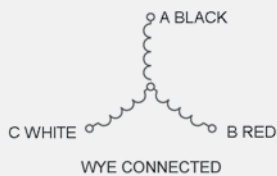
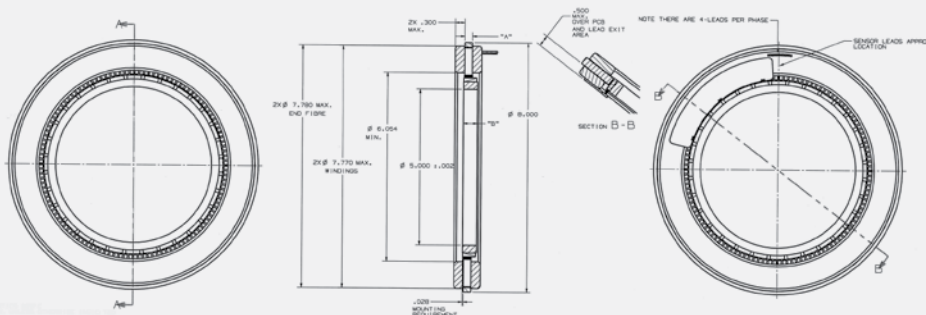
MOTOR WINDING CONSTANTS

Specification	Units	DBE-8000 A-1ES	DBE-8000 B-1ES	DBE-8000 C-1ES	DBE-8000 D-1ES	DBE-8000 E-1ES	DBE-8000 F-1ES
**Torque Sensitivity, K_T	oz-in/amp \pm 10%	1.30	2.60	4.03	5.20	6.63	0.670
Back EMF, K_E	V per rad/s \pm 10%	1.76	3.46	5.47	7.05	8.99	0.910
Terminal Resistance, R_M	ohms \pm 10%	3.04	4.10	5.34	6.36	7.61	2.47
Terminal Inductance, L_M	mH \pm 30%	4.1	8.0	12	16	20	2.4
Voltage, Stalled at Peak Torque, V_p	volts	44.1	59.5	77.5	92.3	111	35.8
Amps at Peak Torque, I_p	amps	14.5	14.5	14.5	14.5	14.5	14.5

¹TPR 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.

²Stack 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)



Dimensions and tolerances are in accordance with ASME Y14.5 - 1994

MOUNTING DIMENSIONS

Modular	"A" Inches	"B" Inches
DBE-8000-A-1ES	0.500	0.715
DBE-8000-B-1ES	1.000	1.165
DBE-8000-C-1ES	1.550	1.873
DBE-8000-D-1ES	2.000	2.323
DBE-8000-E-1ES	2.500	2.839
DBE-8000-F-1ES	0.250	0.445