

DB-8000 Matrix Series Specifications

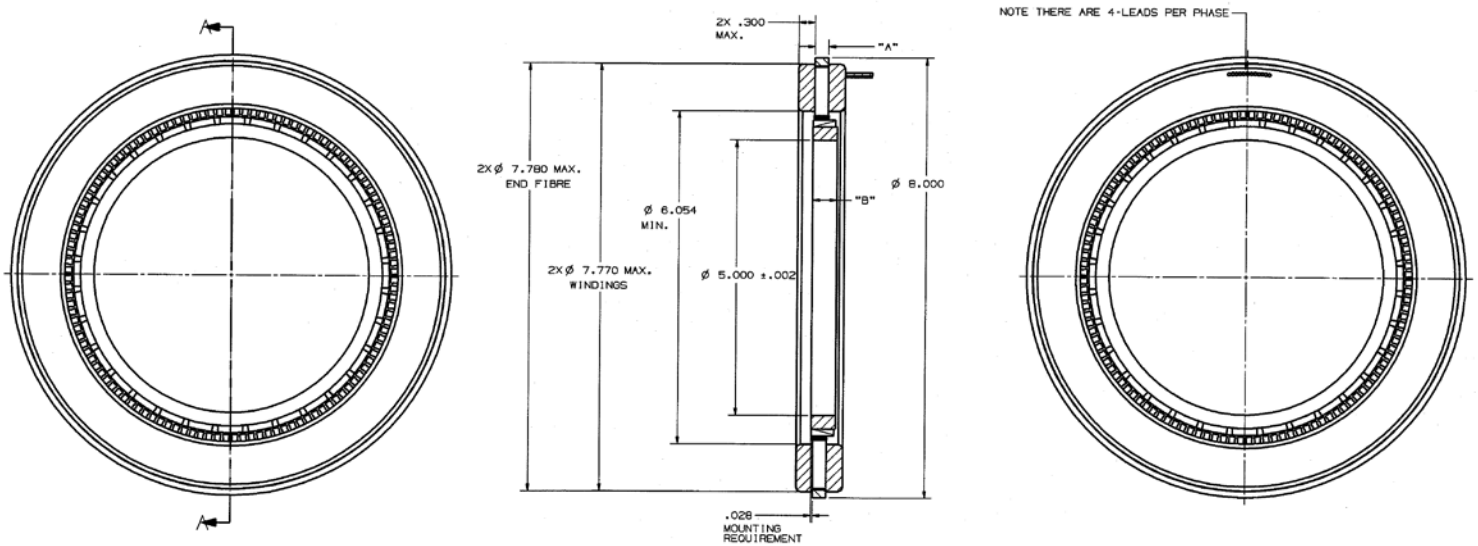
DB-8000 SERIES SPECIFICATIONS @ 25°C

Part Number		DB-8000-A-1ES	DB-8000-B-1ES	DB-8000-C-1ES	DB-8000-D-1ES	DB-8000-E-1ES
Size Constants	Units					
Peak Torque, T_P	lb-ft	18.8	37.7	58.4	75.4	96.1
Motor Constant, K_M	lb-ft/√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	lbs	5.2	9.0	13.2	16.6	20.5
Motor Inertia, J_M	lb-ft-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	lb-ft	0.11	0.22	0.34	0.44	0.57
Electrical Time Constant, τ_E	ms	0.50	0.69	0.80	0.87	0.90
Mechanical Time Constant, τ_M	ms	19.0	13.1	11.1	10.3	9.7
*Temperature Rise, Housed TPR'	°C/W	1.3	1.0	0.83	0.71	0.62
Sensors		Yes	Yes	Yes	Yes	Yes
Winding Constants	Units					
**Torque Sensitivity, K_T	lb-ft/amp	1.30	2.60	4.03	5.20	6.63
Back EMF, K_E	V per rad/s	1.76	3.48	5.37	6.92	8.64
Terminal Resistance, R_M	ohms (nom)	2.80	3.90	5.10	6.10	7.20
Terminal Inductance, L_M	mH (nom)	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.

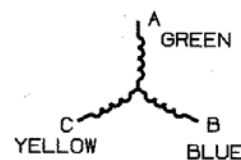
**Stack lengths from 0.25 to 16.00 inches (6.35 to 406.4 mm) with K_T to 717 N.m/amp

DB-8000 Series Typical Outline Drawing



Dimensions are in inches

Modular	"A"	"B"	"C"
	inches	inches	inches
DB-8000-A-1ES	0.520	0.715	1.20
DB-8000-B-1ES	1.020	1.165	1.700
DB-8000-C-1ES	1.570	1.873	2.250
DB-8000-D-1ES	2.020	2.323	2.700
DB-8000-E-1ES	2.520	2.839	3.200



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