

DB-1500 Matrix Series Specifications

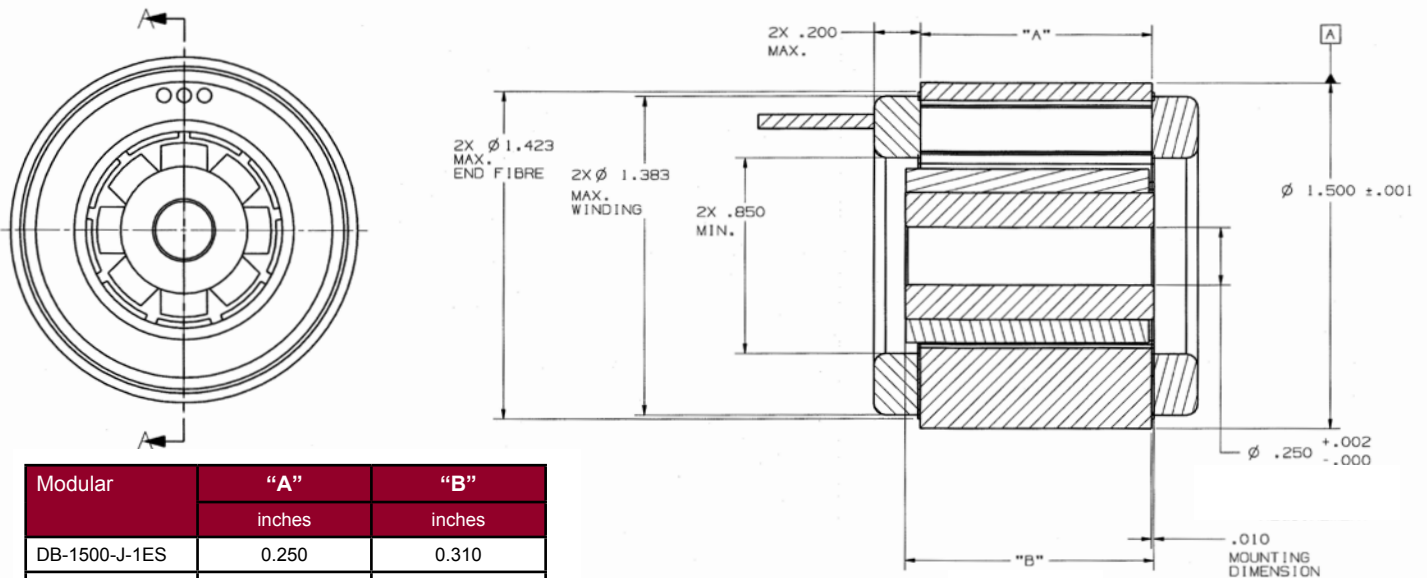
DB-1500 SERIES SPECIFICATIONS @ 25°C

Part Number		DB-1500-J-1ES	DB-1500-K-1ES	DB-1500-L-1ES	DB-1500-M-1ES	DB-1500-N-1ES	DB-1500-P-1ES	DB-1500-Q-1ES	DB-1500-R-1ES
Size Constants	Units								
Peak Torque, T_P	oz-in	21	43	64	85	106	126	170	212
Motor Constant, K_M	oz-in/ \sqrt{W}	2.76	4.85	6.51	8.18	9.47	10.56	12.82	14.66
Number of Poles		8	8	8	8	8	8	8	8
Number of Phases		3"Y"	3"Y"	3"Y"	3"Y"	3"Y"	3"Y"	3"Y"	3"Y"
Weight	oz (nom)	2.7	4.0	5.4	6.7	8.0	9.3	12	15
Motor Inertia, J_M	oz-in-s ²	9.08E-05	1.80E-04	2.68E-04	3.58E-04	4.46E-04	5.27E-040.4	7.14E-04	8.91E-04
Friction Torque, T_F	oz-in	0.4	0.8	1.1	1.5	1.9	2.3	3.0	3.8
Electrical Time Constant, τ_E	ms	0.28	0.44	0.54	0.63	0.69	0.72	0.78	0.82
Mechanical Time Constant, τ_M	ms	1.68	1.09	0.895	0.759	0.703	0.670	0.617	0.589
*Temperature Rise, TPR'	°C/W	13.4	9.8	7.8	6.5	5.6	4.9	3.9	3.3
Sensors		No	No	No	No	No	No	No	No
Winding Constants	Units								
**Torque Sensitivity, K_T	oz-in/amp $\pm 10\%$	1.43	2.85	4.24	5.66	7.05	8.37	11.3	14.1
Back EMF, K_E	V per rad/s $\pm 10\%$	0.010	0.020	0.030	0.040	0.050	0.059	0.080	0.100
Terminal Resistance, R_M	ohms $\pm 10\%$	0.268	0.346	0.424	0.479	0.554	0.628	0.777	0.925
Terminal Inductance, L_M	mH $\pm 30\%$	0.076	0.15	0.23	0.30	0.38	0.46	0.61	0.76
Voltage, Stalled at Peak Torque, V_P	volts	4.0	5.2	6.4	7.2	8.3	9.4	1.7	13.9
Amps at Peak Torque, I_P	amps	15	15	15	15	15	15	15	15

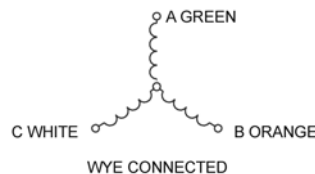
*TPR as listed on the data sheets, is for an un-mounted condition unless otherwise noted. Mounted TPR values are often 50% or less than the un-mounted TPR. For air flow, the TPR may be less than 25% the un-mounted amount and for fluid cooling it may be 10% or less. Many factors affect the TPR value and 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 3.00 inches (2.54 to 76.2 mm) with K_T to 1.78 N.m/amp

DB-1500 Series Typical Outline Drawing



Modular	"A"	"B"
	inches	inches
DB-1500-J-1ES	0.250	0.310
DB-1500-K-1ES	0.500	0.575
DB-1500-L-1ES	0.750	0.835
DB-1500-M-1ES	1.000	1.100
DB-1500-N-1ES	1.250	1.360
DB-1500-P-1ES	1.500	1.625
DB-1500-Q-1ES	2.00	2.150
DB-1500-R-1ES	2.500	2.675



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

Dimensions are in inches