

DB-4000 Matrix Series Specifications

DB-4000 SERIES SPECIFICATIONS @ 25°C

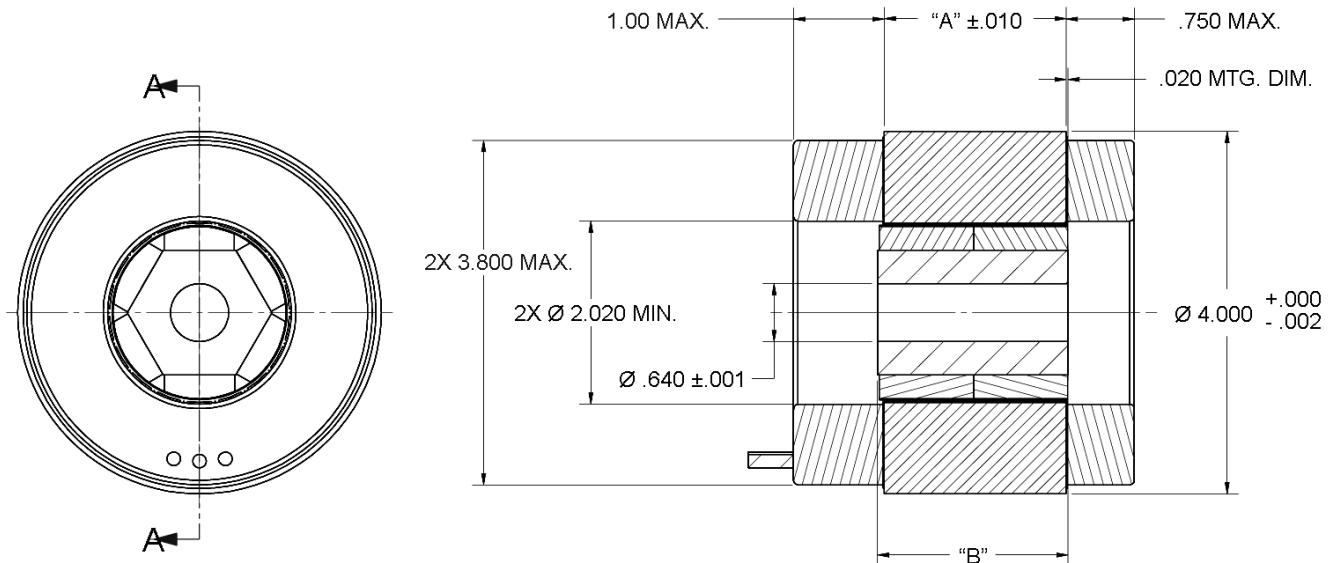
Part Number		DB-4000-B-1ES	DB-4000-C-1ES	DB-4000-D-1ES	DB-4000-E-1ES
Size Constants	Units				
Peak Torque, T_P	oz-in	2000	3000	4000	5000
Motor Constant, K_M	oz-in/ \sqrt{W}	67.2	91.0	111.5	129.7
Number of Poles		6	6	6	6
Number of Phases		3"Y"	3"Y"	3"Y"	3"Y"
Weight	oz (nom)	94.4	136	177.6	217.6
Motor Inertia, J_M	oz-in-s ²	3.65E-02	5.50E-02	7.35E-02	9.20E-02
Friction Torque, T_F	oz-in	10	15	20	25
Electrical Time Constant, τ_E	ms	3.27	3.92	4.44	4.76
Mechanical Time Constant, τ_M	ms	1.15	0.94	0.84	0.77
*Temperature Rise, Housed TPR'	°C/W	1.6	1.2	1.0	0.8
Sensors		No	No	No	No
Winding Constants	Units				
**Torque Sensitivity, K_T	oz-in/amp	66.5	99.7	132.9	166.1
Back EMF, K_E	V per rad/s	0.469	0.704	0.938	1.173
Terminal Resistance, R_M	ohms (nom)	0.98	1.20	1.42	1.64
Terminal Inductance, L_M	mH (nom)	3.2	4.7	6.3	7.8
Voltage, Stalled at Peak Torque, V_P	volts	29.5	36.0	42.6	49.4
Amps at Peak Torque, I_P	amps	30.1	30.0	30.0	30.1

Integral Horsepower Design Maximums: 650 VDC, 12,000 RPM, 7% K_T roll off at I_P

*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 0.25 to 8.00 inches (6.35 to 203.2 mm) with K_T to 47.6 N.m/amp

DB-4000 Series Typical Outline Drawing



Modular	"A"	"B"
	inches	inches
DB-4000-B-1ES	2.000	2.095
DB-4000-C-1ES	3.000	3.136
DB-4000-D-1ES	4.000	4.180
DB-4000-E-1ES	5.000	5.222



Dimensions are in inches

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