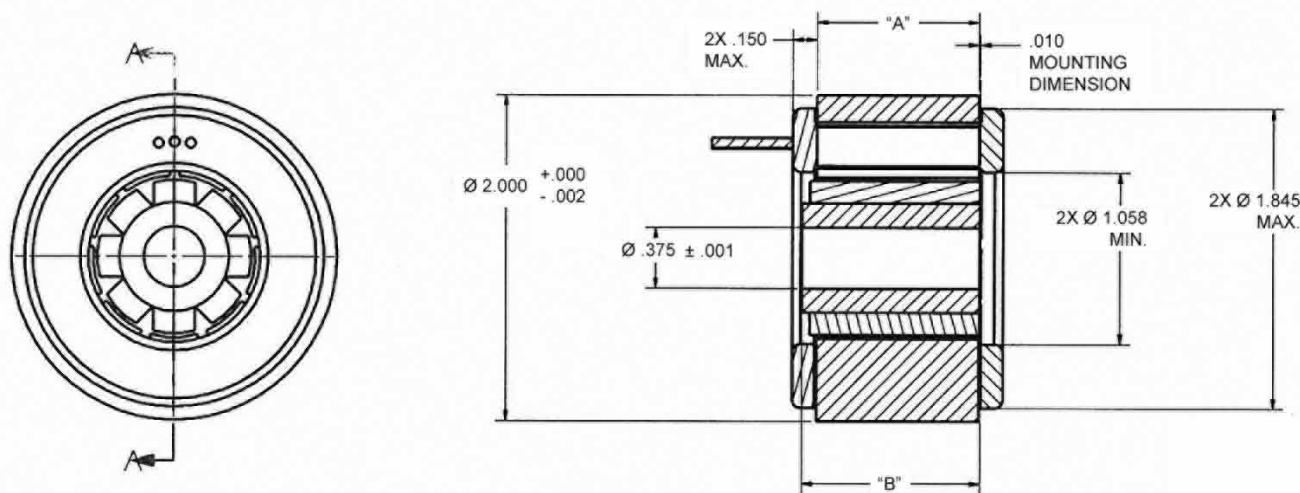


Brushless Torque Motors

DB-2000-1ES SERIES SPECIFICATIONS @ 25°C

Part Number		DB-2000-A-1ES	DB-2000-B-1ES	DB-2000-C-1ES	DB-2000-D-1ES	DB-2000-E-1ES	DB-2000-F-1ES	DB-2000-G-1ES	DB-2000-H-1ES
Size Constants									
	Units								
Peak Torque, T_P	oz-in	34.4	67	99	126	192	256	313	376
Motor Constant, K_M	oz-in/ \sqrt{W}	4.75	8.18	11.0	12.8	17.1	20.5	23.1	25.7
Number of Poles		8	8	8	8	8	8	8	8
Number of Phases		3	3	3	3	3	3	3	3
Weight	oz (nom)	4.0	6.65	9.2	12	17	22	27	33
Motor Inertia, J_M	oz-in-s ²	2.20E-04	4.41E-04	6.59E-04	8.89E-03	1.32E-03	1.76E-03	2.20E-03	2.64E-03
Friction Torque, T_F	oz-in	1.0	2.0	3.0	4.0	6.0	8.0	10	12
Electrical Time Constant, τ_E	ms	0.48	0.74	0.91	1.0	1.2	1.3	1.4	1.4
Mechanical Time Constant, τ_M	ms	1.38	0.933	0.777	0.767	0.638	0.591	0.584	0.565
Temperature Rise, Housed TPR'	°C/W	11.0	8.4	6.8	5.8	4.4	3.6	3.0	2.6
Sensors		No	No	No	No	No	No	No	No
Winding Constants									
	Units								
Torque Sensitivity, K_T	oz-in/amp	6.89	13.4	19.8	25.2	38.4	51.1	62.7	75.2
Back EMF, K_E	V per rad/s	0.0486	0.0947	0.140	0.178	0.271	0.361	0.443	0.531
Terminal Resistance, R_M	ohms (nom)	2.10	2.68	3.27	3.87	5.04	6.21	7.38	8.55
Terminal Inductance, L_M	mH (nom)	1.0	2.0	3.0	4.0	6.0	8.0	10	12
Voltage, Stalled at Peak Torque, V_P	volts	10.5	13.4	16.4	19.3	25.2	31.0	36.9	42.8
Amps at Peak Torque, I_P	amps	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00

DB-2000-1ES Series Typical Outline Drawing



Dimensions are in inches

Modular	"A"	"B"
	inches	inches
DB-2000-A-1ES	.250	.275
DB-2000-B-1ES	.500	.540
DB-2000-C-1ES	.750	.805
DB-2000-D-1ES	1.000	1.065
DB-2000-E-1ES	1.500	1.595
DB-2000-F-1ES	2.000	2.120
DB-2000-G-1ES	2.500	2.650
DB-2000-H-1ES	3.000	3.175

Tolerances are:

Angles ± 0.5
 $.XXX \pm .005$
 $.XX \pm .01$
 $.X \pm .03$

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

Unless otherwise Specified
 Finish: E.S. 411
 For machined surfaces