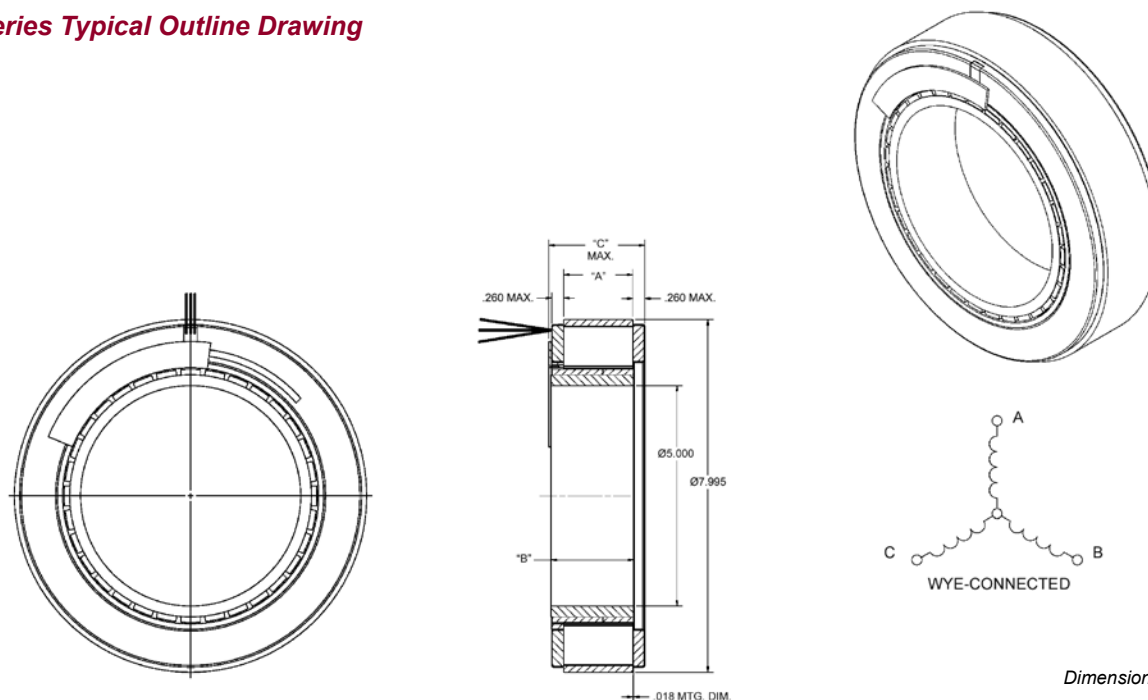


# Brushless Torque Motors

## 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
<b>Size Constants</b>						
	<b>Units</b>					
Peak Torque, $T_P$	oz-in	3619	7204	11177	14394	17979
Motor Constant, $K_M$	oz-in/ $\sqrt{W}$	149	250	337	396	456
Number of Poles		32	32	32	32	32
Number of Phases		3	3	3	3	3
Weight	oz (nom)	83.2	144	211	266	328
Motor Inertia, $J_M$	oz-in-s <sup>2</sup>	2.98	5.79	8.89	11.42	14.23
Friction Torque, $T_F$	oz-in	31	63	97	125	156
Electrical Time Constant, $\tau_E$	ms	0.50	0.69	0.80	0.87	0.90
Mechanical Time Constant, $\tau_M$	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
<b>Winding Constants</b>						
	<b>Units</b>					
Torque Sensitivity, $K_T$	oz-in/amp	250	493	760	979	1223
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

### 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

Tolerances are:

Angles  $\pm 0.5$   
 .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