

# DB-6000 MATRIX SERIES SPECIFICATIONS

## MOTOR CHARACTERISTICS @ 25° C

Specification	Units	DB-6000 B-1ES	DB-6000 C-1ES	DB-6000 D-1ES	DB-6000 E-1ES	DB-6000 F-1ES	DB-6000 G-1ES
Peak Torque, $T_p$	oz-in	10083	8407	6727	5048	3368	1686
Motor Constant, $K_M$	oz-in / $\sqrt{W}$	270	243	213	178	137	80.4
Number of Poles		32	32	32	32	32	32
Number of Phases		3"Y"	3"Y"	3"Y"	3"Y"	3"Y"	3"Y"
Weight	oz (nom)	160	139	114	88	62	37
Motor Inertia, $J_M$	oz-in-s <sup>2</sup>	0.637	0.532	0.427	0.321	0.216	0.111
Friction Torque, $T_f$	oz-in	125	104	83	62	42	19
Electrical Time Constant, $T_E$	ms	1.92	1.87	1.76	1.65	1.47	0.91
Mechanical Time Constant, $T_M$	ms	1.24	1.27	1.34	1.43	1.62	2.43
*Temperature Rise, TPR <sup>1</sup>	°C / W	0.72	0.90	1.1	1.3	1.7	2.4
Sensors		No	No	No	No	No	No

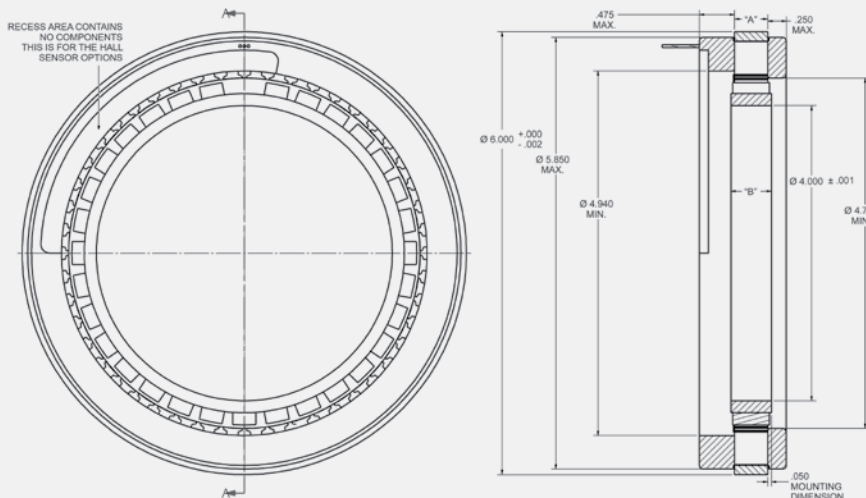
## MOTOR WINDING CONSTANTS

Specification	Units	DB-6000 B-1ES	DB-6000 C-1ES	DB-6000 D-1ES	DB-6000 E-1ES	DB-6000 F-1ES	DB-6000 G-1ES
**Torque Sensitivity, $K_T$	oz-in/amp $\pm$ 10%	504	420	336	252	168	84.3
Back EMF, $K_E$	V per rad/s $\pm$ 10%	3.56	2.97	2.38	1.78	1.19	0.595
Terminal Resistance, $R_M$	ohms $\pm$ 10%	3.48	2.99	2.50	2.00	1.50	1.10
Terminal Inductance, $L_M$	mH $\pm$ 30%	6.7	5.6	4.4	3.3	2.2	1.0
Voltage, Stalled at Peak Torque, $V_p$	volts	69.8	59.9	50.0	40.0	30.0	22.0
Amps at Peak Torque, $I_p$	amps	20	20	20	20	20	20

\*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 6.00 inches (2.54 to 125.4 mm) with  $K_T$  to 32.5 N.m/amp. Consult factory for additional designs. Refer to our online documentation for product updates.

## MECHANICAL DIMENSIONS (INCHES)



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

## MOUNTING DIMENSIONS

Modular	"A" Inches	"B" Inches
DB-6000-B-1ES	2.950	3.050
DB-6000-C-1ES	2.450	2.550
DB-6000-D-1ES	1.950	2.050
DB-6000-E-1ES	1.450	1.550
DB-6000-F-1ES	0.950	1.050
DB-6000-G-1ES	0.450	0.550

