

# DBE-6000 MATRIX SERIES SPECIFICATIONS

## MOTOR CHARACTERISTICS @ 25° C

Specification	Units	DBE-6000 B-2ES	DBE-6000 C-2ES	DBE-6000 D-2ES	DBE-6000 E-2ES	DBE-6000 F-2ES	DBE-6000 G-2ES
Peak Torque, $T_p$	oz-in	52.5	44	35	26.3	17.5	8.8
Motor Constant, $K_M$	oz-in / $\sqrt{W}$	1.41	1.27	1.11	0.93	0.72	0.419
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)	10.5	9.2	7.6	6.0	4.4	2.8
Motor Inertia, $J_M$	oz-in-s <sup>2</sup>	$3.54 \times 10^{-3}$	$3.04 \times 10^{-3}$	$2.50 \times 10^{-3}$	$1.95 \times 10^{-3}$	$1.40 \times 10^{-3}$	$8.51 \times 10^{-4}$
Friction Torque, $T_f$	oz-in	0.65	0.54	0.43	0.32	0.22	0.10
Electrical Time Constant, $T_E$	ms	1.9	1.9	1.8	1.7	1.4	1.0
Mechanical Time Constant, $T_M$	ms	1.32	1.40	1.50	1.67	2.02	3.28
*Temperature Rise, TPR <sup>1</sup>	°C / W	0.72	0.90	1.1	1.3	1.7	2.4
Sensors		Yes	Yes	Yes	Yes	Yes	Yes

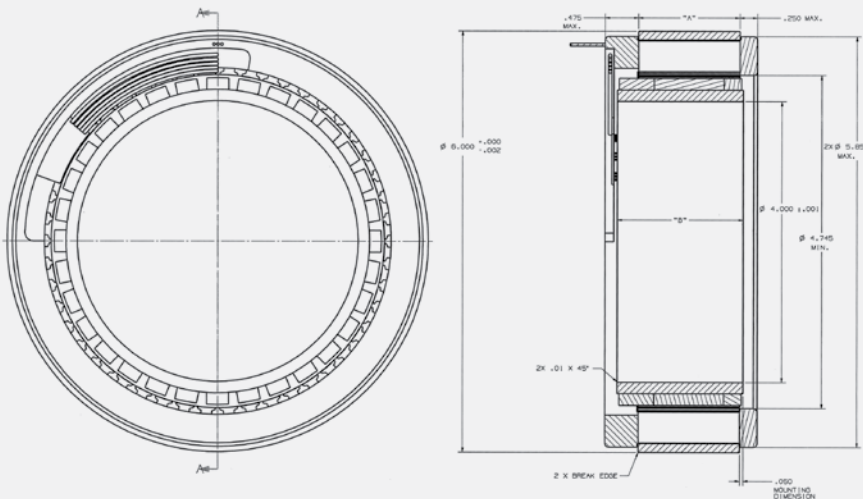
## MOTOR WINDING CONSTANTS

Specification	Units	DBE-6000 B-2ES	DBE-6000 C-2ES	DBE-6000 D-2ES	DBE-6000 E-2ES	DBE-6000 F-2ES	DBE-6000 G-2ES
**Torque Sensitivity, $K_T$	oz-in/amp $\pm$ 10%	2.63	2.19	1.75	1.31	0.875	0.439
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	2.5	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	20.0	20.0	20.0	20.0	20.0	20.0

<sup>1</sup>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.

<sup>2</sup>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
DBE-6000-B-2ES	2.950	3.300
DBE-6000-C-2ES	2.450	2.800
DBE-6000-D-2ES	1.950	2.300
DBE-6000-E-2ES	1.450	1.800
DBE-6000-F-2ES	0.950	1.300
DBE-6000-G-2ES	0.450	0.800

