

# DB-22000 MATRIX SERIES SPECIFICATIONS

## MOTOR CHARACTERISTICS @ 25° C

Specification	Units	DB-22000 -A	DB-22000 -B	DB-22000 -C	DB-22000 -D	DB-22000 -E	DB-22000 -F	DB-22000 -G
Peak Torque, $T_p$	lb.ft	535	1035	1542	2040	2539	3037	3535
Motor Constant, $K_M$	lb.ft/√W	6.34	10.7	14.3	17.4	20.0	22.5	24.7
Electrical Time Constant, $\tau_E$	ms	1.8	2.8	3.3	3.7	4.0	4.2	4.4
Mechanical Time Constant, $\tau_M$	ms	5.92	3.91	3.21	2.88	2.68	2.55	2.46
Power, Input, Stalled at $T_p$ - $P_p$	watts	7132	9361	11591	13820	16050	18280	20509
Viscous Damping Coefficient Zero Source Impedance - $F_0$	lb.ft per rad/s	54	155	278	408	545	684	826
Friction Torque, $T_f$	lb.ft	0.73	1.2	2.2	2.9	3.7	4.4	5.1
Maximum Winding Temperature	°C	155	155	155	155	155	155	155
Temperature Rise Per Watt-TPR	°C/Watt	0.35	0.25	0.19	0.16	0.13	0.12	0.10
Number of Poles		48	48	48	48	48	48	48
Rotor Inertia - $J_M$	lb.ft.s <sup>2</sup>	3.22E-01	6.06E-01	8.92E-01	1.18E+00	1.46E+00	1.74E+00	2.03E+00
Weight	lb.	48	82	115	148	181	214	248

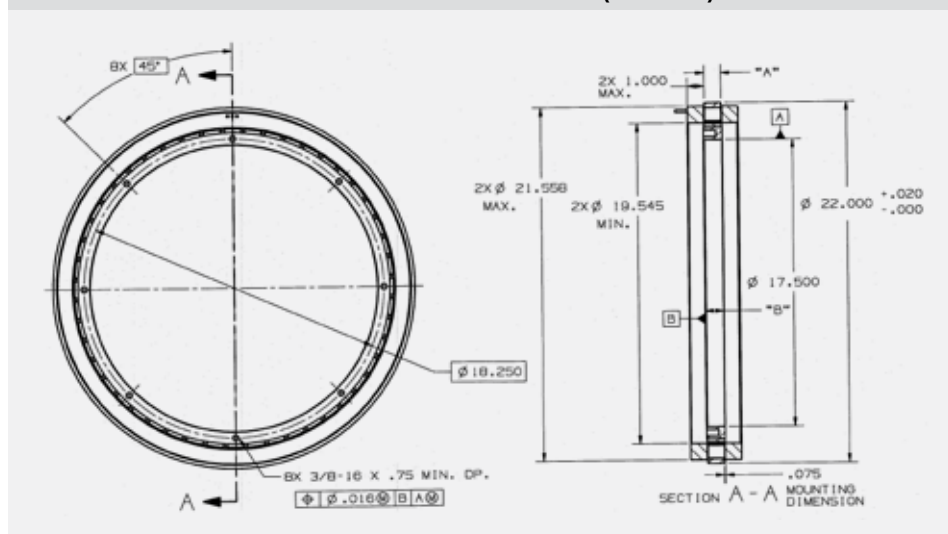
## MOTOR WINDING CONSTANTS

Specification	Units	DB-22000 -A	DB-22000 -B	DB-22000 -C	DB-22000 -D	DB-22000 -E	DB-22000 -F	DB-22000 -G
Voltage, Stalled at $V_p$	Volts	178	234	290	346	401	457	513
Peak Current - $I_p$	Amperes	40.0	40.0	40.0	40.0	40.0	40.0	40.0
DC Resistance - $R_M$	Ohms	4.46	5.85	7.24	8.64	10.0	11.4	12.8
**Torque Sensitivity, $K_T$	lb.ft/amp	13.4	25.9	38.5	51.0	63.5	75.9	88.4
Back EMF Constant $K_E$	V per rad/s	18.1	35.1	52.3	69.2	86.0	103	120
Inductance - $L_M$	mH	8.1	16	24	32	40	48	56

\*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 0.5 to 7.00 inches (12.7 to 177.8 mm) with  $K_T$  to 88.5 lb.ft/amp

## MECHANICAL DIMENSIONS (INCHES)



## MOUNTING DIMENSIONS

Modular	"A" Inches	"B" Inches
DB-22000-A	1.000	1.150
DB-22000-B	2.000	2.150
DB-22000-C	3.000	3.150
DB-22000-D	4.000	4.150
DB-22000-E	5.000	5.150
DB-22000-F	6.000	6.150
DB-22000-G	7.000	7.150

