

9412C 436-A2

LO-COG (R) DC SERVO MOTORS & GEARMOTORS - Series 9000 Motors

Revised February, 1992

9X12 MOTOR SIZE DATA (25 deg C)

$P_o = 7.19 \text{ watts}$

MOTOR MODEL

$T_c = 1.58 \text{ oz-in}$

PARAMETER	SYMBOL	UNITS	9X12	9X32	9X13	9X33	9X14	9X34
* 1 Motor Constant	KH	oz-in/root W	1.16					
* 2 Peak Torque (Stall)	TP	oz-in	8.35					
3 No Load Speed	SO	rpm	8251					
4 Motor Friction Torque	TF	oz-in	0.40					
5 Viscous Damping Factor	D	oz-in/krpm	0.0086					
6 Damping Constant	KD	oz-in/krpm	1.00					
7 Electrical Time Constant	TE	ms	0.53					
8 Mechanical Time Constant	TM	ms	22.8					
9 Thermal Time Constant	TR	min	7.21					
10 Thermal Impedance	RTH	deg C/W	22.7					
11 Maximum Winding Temperature	MAX	deg C max	155					
12 Motor Inertia	JM	oz-in-s ²	2.2E-04					
13 Motor Weight	WM	oz	6.96					
14 Motor Length, 94XX	L1	in max	1.828					
15 Motor Length, 95XX	L1	in max	1.779					

This winding

9X12 MOTOR WINDING DATA (25 deg C)

WINDING CODE

PARAMETER	SYMBOL	UNITS	WINDING CODE							
16 Voltage	E	V	6.00	7.58	9.55	12.0	15.1	19.1	24.0	30.3
17 Torque Constant	KT	oz-in/A	0.93	1.16	1.47	1.86	2.35	2.95	3.72	4.68
18 Back EMF Constant	KE	V/krpm	0.69	0.86	1.09	1.38	1.74	2.18	2.75	3.46
19 Terminal Resistance	RT	ohm	0.75	1.11	1.70	2.63	4.13	6.45	10.2	16.1
20 Inductance	L	mH	0.34	0.53	0.85	1.35	2.16	3.40	5.42	8.56
21 No Load Current	IO	A	0.51	0.41	0.32	0.26	0.20	0.16	0.13	0.10
* 22 Peak Current (Stall)	IP	A	8.03	6.84	5.62	4.56	3.67	2.96	2.35	1.88

9X12 MOTOR WINDING DATA (25 deg C)

WINDING CODE

PARAMETER	SYMBOL	UNITS	WINDING CODE							
23 Voltage	E	V	38.2	48.0						
24 Torque Constant	KT	oz-in/A	5.92	7.44	9.38					
25 Back EMF Constant	KE	V/krpm	4.37	5.50	6.93					
26 Terminal Resistance	RT	ohm	25.6	40.5	64.4					
27 Inductance	L	mH	13.7	21.7	34.4					
28 No Load Current	IO	A	0.08	0.06						
* 29 Peak Current (Stall)	IP	A	1.49	1.18						

* Theoretical values supplied for reference only. See pages 2 and 3, section III, in "Servo Motor Application Notes".

- Symbolizes lowercase Tau.

a Symbolizes uppercase Theta.