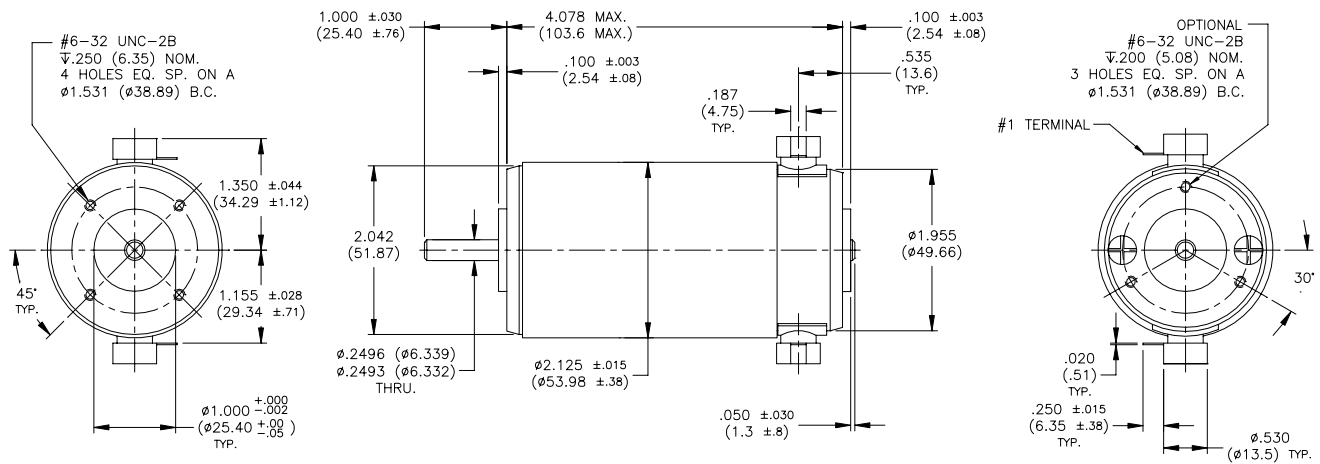
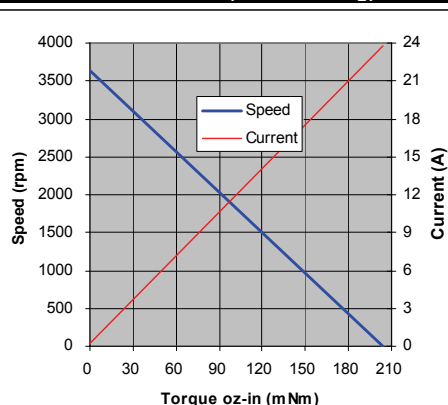


14204 SERIES DC SERVO MOTOR



Motor Data	Symbol	Units	Winding Designation							
			12.0 V	15.2 V	19.1 V	24.0 V	30.3 V	38.2 V	48.0 V	60.0 V
Supply Voltage (Reference)	V _s	V	12.0	15.2	19.1	24.0	30.3	38.2	48.0	60.6
Continuous Torque	T _c	oz-in	26	26	26	26	26	26	26	26
		Nm	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Speed @ Cont. Torque	S _c	rpm	3510	3580	3590	3600	3650	3640	3630	3610
Current @ Cont. Torque	I _c	A	8.63	6.90	5.45	4.31	3.45	2.73	2.16	1.69
Continuous Output Power	P _{o,c}	W	67	69	69	69	70	70	70	69
Motor Constant	K _M	oz-in/√W	8.3	8.4	8.5	8.6	8.7	8.7	8.7	8.8
		Nm/√W	0.059	0.059	0.060	0.061	0.061	0.061	0.062	0.062
Torque Constant	K _T	oz-in/A	4.33	5.42	6.86	8.67	10.8	13.7	17.3	22.0
		Nm/A	0.0306	0.0383	0.0484	0.0612	0.0765	0.0970	0.122	0.156
Voltage Constant	K _E	V/krpm	3.20	4.01	5.07	6.41	8.02	10.2	12.8	16.3
		V s/rad	0.0306	0.0383	0.0484	0.0612	0.0765	0.0970	0.122	0.156
Terminal Resistance	R _{mt}	Ω	0.27	0.42	0.65	1.01	1.57	2.50	3.96	6.33
Inductance	L	mH	0.40	0.62	1.00	1.60	2.50	4.01	6.40	10.3
No-Load Current	I _{nl}	A	0.52	0.42	0.33	0.26	0.21	0.17	0.13	0.10
No-Load Speed	S _{nl}	rpm	3630	3670	3650	3630	3660	3650	3630	3610
Peak Current (Stall)	I _{pk}	A	44.4	36.2	29.4	23.8	19.3	15.3	12.1	9.57
Peak Torque (Stall)	T _{pk}	oz-in	190	194	199	204	207	207	208	209
		Nm	1.34	1.37	1.41	1.44	1.46	1.46	1.47	1.47
Coulomb Friction Torque	T _f	oz-in	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
		Nm	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011
Viscous Damping Factor	D	oz-in/krpm	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
		Nm s/rad	1.2E-05	1.2E-05	1.2E-05	1.2E-05	1.2E-05	1.2E-05	1.2E-05	1.2E-05
Electrical Time Constant	τ _e	ms	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6
Mechanical Time Constant	τ _m	ms	7.5	7.5	7.2	7.0	7.0	6.9	6.9	6.8
Thermal Time Constant	τ _{th}	min	29	29	29	29	29	29	29	29
Thermal Resistance	R _{th}	°C/W	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
Max. Winding Temperature	θ _{max}	°C	155	155	155	155	155	155	155	155
Rotor Inertia	J _r	oz-in-sec ²	3.7E-03	3.7E-03	3.7E-03	3.7E-03	3.7E-03	3.7E-03	3.7E-03	3.7E-03
		kg m ²	2.6E-05	2.6E-05	2.6E-05	2.6E-05	2.6E-05	2.6E-05	2.6E-05	2.6E-05
Motor Weight (Mass)	W _M	oz	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2
		g	998	998	998	998	998	998	998	998

Performance (24 V Winding)



Standard Features

- Sintered Bronze Bearings
- 2-pole Stator
- Ceramic Magnets
- 11-slot Armature
- Heavy-gauge Steel Housing
- Silicon Steel Laminations
- Copper-graphite Brushes
- Diamond-Turned Commutator

Complementary Products

- G42A Planetary Gearbox
- G42B Planetary Gearbox
- G51A Spur Gearbox
- E30A Optical Encoder
- E30B Optical Encoder
- E35A Optical Encoder
- E60A Optical Encoder
- E60B Optical Encoder

Notes:

- All values specified at 25°C ambient temperature and without heat sink.
- Peak values are theoretical and supplied for reference only.