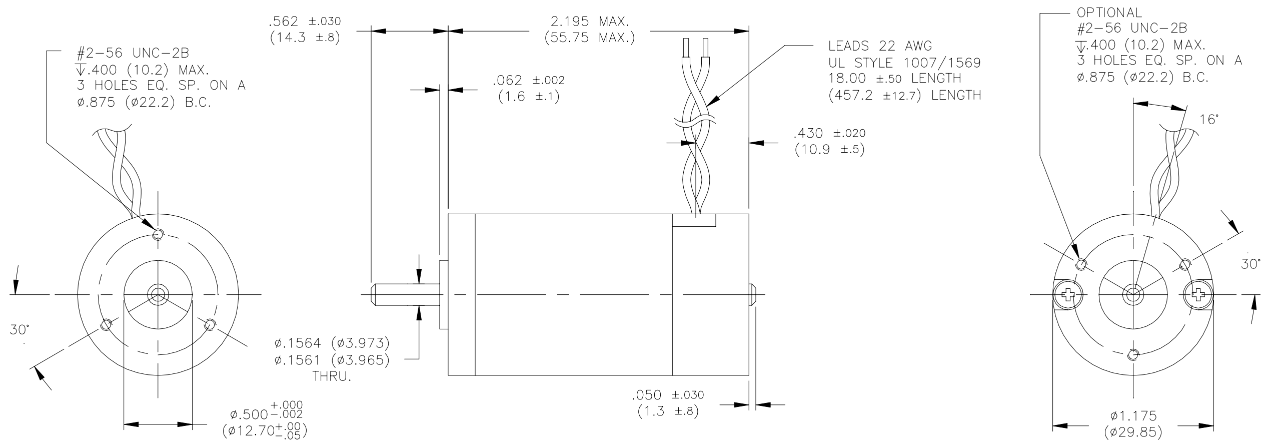
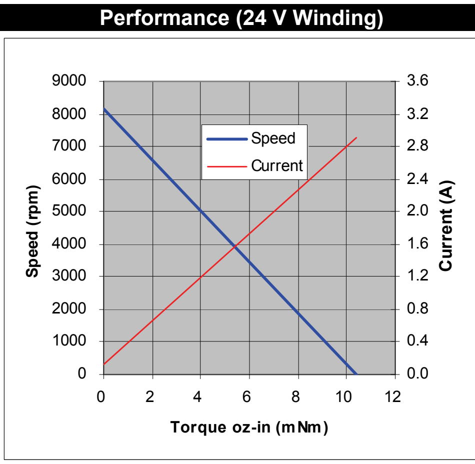
8223 SERIES BRUSH DC SERVO MOTOR

PITTMAN®



Motor Data	Symbol	Units	Winding Designation							
			9.55 V	12.0 V	15.2 V	19.1 V	24.0 V	30.3 V	38.2 V	48.0 V
Supply Voltage (Reference)	V_s	V	9.55	12.0	15.2	19.1	24.0	30.3	38.2	48.0
Continuous Torque	T_c	oz-in	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
		Nm	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014
Speed @ Cont. Torque	S_c	rpm	6000	6100	6340	6420	6410	6390	6490	6360
Current @ Cont. Torque	I_c	A	2.15	1.71	1.36	1.09	0.85	0.68	0.54	0.43
Continuous Output Power	$P_{o,c}$	W	8.9	9.0	9.4	9.5	9.5	9.5	9.6	9.4
Motor Constant	K_M	oz-in/√W	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
		Nm/√W	0.0089	0.0090	0.0091	0.0091	0.0092	0.0092	0.0092	0.0092
Torque Constant	K_T	oz-in/A	1.49	1.88	2.36	2.94	3.73	4.71	5.93	7.50
		Nm/A	0.0105	0.0133	0.0167	0.0208	0.0263	0.0333	0.0419	0.0530
Voltage Constant	K_E	V/krpm	1.10	1.39	1.75	2.17	2.76	3.48	4.39	5.55
		V s/rad	0.0105	0.0133	0.0167	0.0208	0.0263	0.0333	0.0419	0.0530
Terminal Resistance	R_{mt}	Ω	1.40	2.17	3.34	5.20	8.24	13.1	20.6	32.9
Inductance	L	mH	0.73	1.17	1.82	2.85	4.57	7.29	11.6	18.5
No-Load Current	I_{nl}	A	0.34	0.27	0.21	0.17	0.13	0.11	0.080	0.070
No-Load Speed	S_{nl}	rpm	8070	8050	8140	8210	8150	8120	8170	8080
Peak Current (Stall)	I_{pk}	A	6.82	5.53	4.55	3.67	2.91	2.32	1.85	1.46
Peak Torque (Stall)	T_{pk}	oz-in	9.66	9.89	10.2	10.3	10.4	10.4	10.5	10.4
		Nm	0.0682	0.0698	0.0723	0.0727	0.0733	0.0736	0.0742	0.0737
Coulomb Friction Torque	T_f	oz-in	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
		Nm	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Viscous Damping Factor	D	oz-in/krpm	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018
		Nm s/rad	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.2E-06
Electrical Time Constant	τ_e	ms	0.52	0.54	0.54	0.55	0.55	0.56	0.56	0.56
Mechanical Time Constant	τ_m	ms	15	15	14	14	14	14	14	14
Thermal Time Constant	τ_{th}	min	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Thermal Resistance	R_{th}	°C/W	23	23	23	23	23	23	23	23
Max. Winding Temperature	θ_{max}	°C	155	155	155	155	155	155	155	155
Rotor Inertia	J_r	oz-in-sec^2	1.7E-04	1.7E-04	1.7E-04	1.7E-04	1.7E-04	1.7E-04	1.7E-04	1.7E-04
		kg m^2	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.2E-06
Motor Weight (Mass)	w_M	oz	5.05	5.05	5.05	5.05	5.05	5.05	5.05	5.05
		g	143	143	143	143	143	143	143	143

Performance (24 V Winding)



Standard Features

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

Complementary Products

- G32A Planetary Gearbox
- G32B Planetary Gearbox
- G35A Spur Gearbox
- E22A Optical Encoder
- E30A Optical Encoder
- E30B Optical Encoder
- E35A Optical Encoder

Notes:

[1] All values specified at 25°C ambient temperature and without heat sink.

[2] Peak values are theoretical and supplied for reference only.