



GM8724S029

Lo-Cog® DC Servo Gearmotor

Assembly Data	Symbol	Units	Value	
Reference Voltage	E	V	24	
No-Load Speed	S _{NL}	rpm (rad/s)	24	(2.5)
Continuous Torque (Max.) ¹	T _C	oz-in (N-m)	175	(1.2E+00)
Peak Torque (Stall) ²	T _{PK}	oz-in (N-m)	911	(6.4E+00)
Weight	W _M	oz (g)	11.6	(328)
Motor Data				
Torque Constant	K _T	oz-in/A (N-m/A)	6.18	(4.36E-02)
Back-EMF Constant	K _E	V/krpm (V/rad/s)	4.57	(4.36E-02)
Resistance	R _T	Ω	17.0	
Inductance	L	mH	9.35	
No-Load Current	I _{NL}	A	0.09	
Peak Current (Stall) ²	I _P	A	1.41	
Motor Constant	K _M	oz-in/√W (N-m/√W)	1.49	(1.05E-02)
Friction Torque	T _F	oz-in (N-m)	0.35	(2.5E-03)
Rotor Inertia	J _M	oz-in-s ² (kg-m ²)	2.3E-04	(1.6E-06)
Electrical Time Constant	τ _E	ms	0.54	
Mechanical Time Constant	τ _M	ms	14.7	
Viscous Damping	D	oz-in/krpm (N-m-s)	0.020	(1.4E-06)
Damping Constant	K _D	oz-in/krpm (N-m-s)	1.6	(1.1E-04)
Maximum Winding Temperature	θ _{MAX}	°F (°C)	311	(155)
Thermal Impedance	R _{TH}	°F/watt (°C/watt)	70.5	(21.4)
Thermal Time Constant	τ _{TH}	min	10.7	
Gearbox Data				
Reduction Ratio			187.7	
Efficiency ³			0.72	
Maximum Allowable Torque		oz-in (N-m)	175	(1.24)
Encoder Data				
Channels			3	
Resolution		CPR	500	

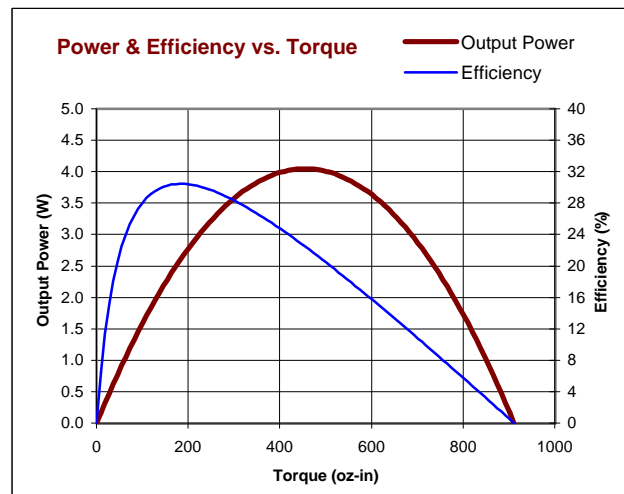
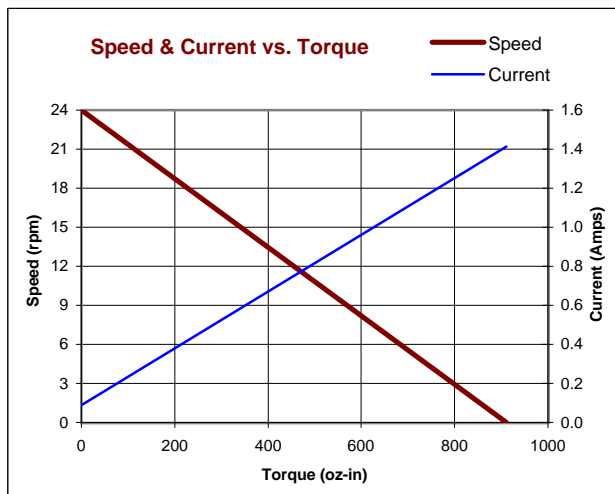
1 - Specified at max. winding temperature at 25°C ambient without heat sink. 2 - Theoretical values supplied for reference only.
3 - Effective gearbox efficiency for this unit improved by use of ball bearings.

Included Features

- 2-Pole Stator
- Ceramic Magnets
- Heavy-Gauge Steel Housing
- 7-Slot Armature
- Silicon Steel Laminations
- Stainless Steel Shaft
- Copper-Graphite Brushes
- Diamond Turned Commutator
- Motor Ball Bearings
- Output Ball Bearing
- Wide Face Gears

Customization Options

- Alternate Winding
- Sleeve or Ball Bearings
- Modified Output Shaft
- Custom Cable Assembly
- Special Brushes
- EMI/RFI Suppression
- Alternate Gear Material
- Special Lubricant
- Optional Encoder
- Fail-Safe Brake



All values are nominal. Specifications subject to change without notice. Graphs are shown for reference only.

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