Miniature Brushless DC Motors

DBH-0472 Models

TYPICAL APPLICATIONS

- Medical
- Robotics
- Unmanned Aerial Vehicle (UAV)

FEATURES

- High temperature
- High torque density
- Stainless steel shaft
- Rear lead exits

BENEFITS

- Ultra compact in size
- Ruggedized construction
- 90% efficiency
- High dynamic response
- Supports miniature assemblies
- Benefits high speed applications beyond 10,000 rpm

High torque density in a small package

Our DBH-0472 motors offer the greatest torque density available in a miniaturized package. The high technology motor uses Neo magnets in a unique magnetic circuit to deliver maximum power for the application. These are available packaged in a ruggedized housing / bearing structure and using a high temperature insulating scheme to offer superior environmental robustness. The design is intended to fill the need for a small motor with exceptional direct drive performance.

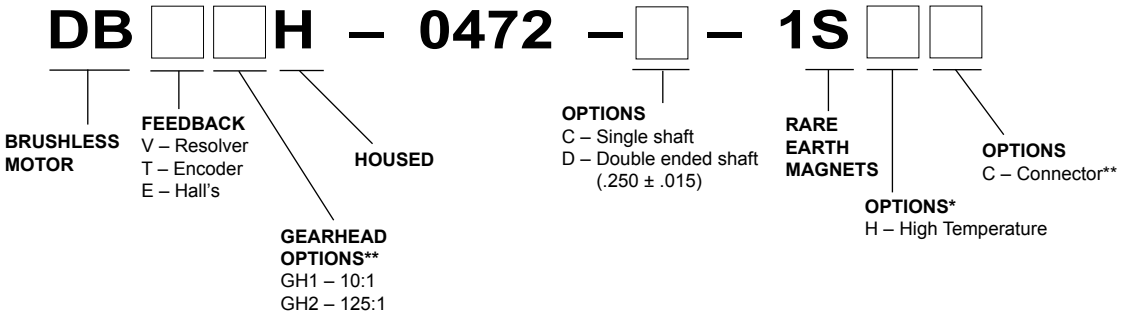
Options include the following:
- Feedback
- Gearheads
- Mechanical configurations

Along with our standard motors, our engineers design custom solutions. If our existing models don't meet your needs, we will tailor them or provide options for a best value solution to meet your exact requirements.

Note: *This catalog contains basic marketing information and general part descriptions of Moog Components Group product lines. With respect to the U.S. export regulations, the products described herein are controlled by the U.S. Commerce Department or the U.S. State Department. Contact Moog Components Group for additional detail on the export controls that are applicable to your part.*

SPECIFICATION AND NUMBERING SYSTEM

Part Numbering System Guide

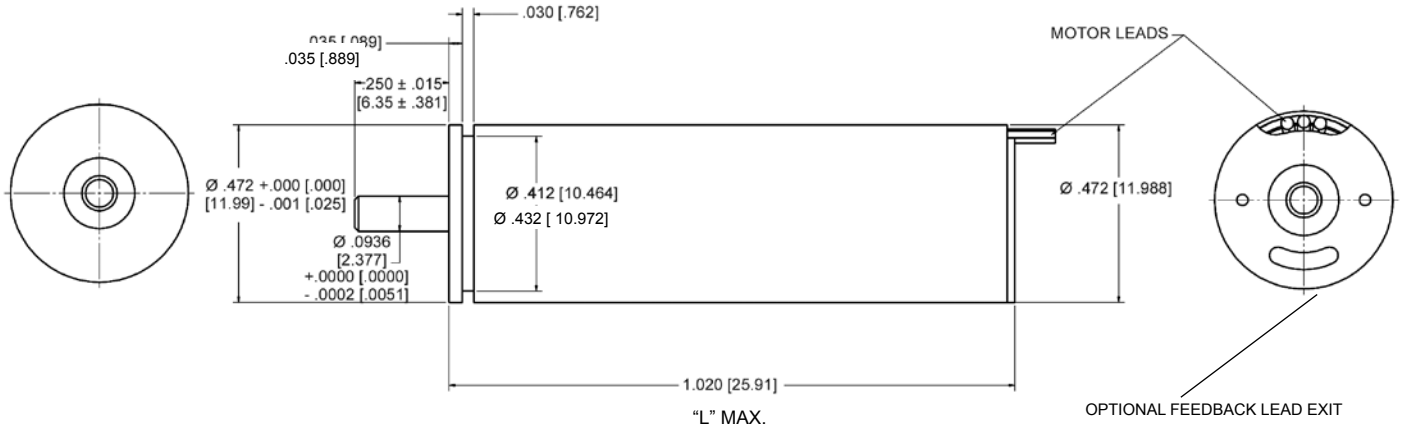


Notes:
**Standard model uses ABEC 3 bearing and temperature rating to 155°C. High temperature model [H] uses ABEC 5 bearing and temperature rating to 180°C.*
***Please contact our application engineers for options*

DBH-0472 SPECIFICATIONS @ 25°C

Size Constants	Value	Units
Peak Torque, T_P	1.4 (9.88)	oz-in (m-Nm)
Motor Constant, K_M	0.39 (2.74)	oz-in/√W (m-Nm/√W)
Continuous Torque	0.5 (3.5)	oz-in (m-Nm)
No Load Speed	11,090 (1,161)	rpm (rad/sec)
Number of Poles	4	
Number of Phases	3	
Weight	0.40 (11.33)	oz (gm) max.
Motor Inertia, J_M	1.5 x 10^{-6} (.106)	oz-in-s^2 (gm-cm^2)
Friction Torque, T_F	0.1 (.706)	oz-in (m-Nm)
Electrical Time Constant, τ_E	0.042	ms
Mechanical Time Constant, τ_M	1.41	ms
Temperature Rise, Housed TPR'	52.4	°C/W
Winding Constants	**Value**	**Units**
Torque Sensitivity, K_T	1.4 (9.88) ± 10%	oz-in/amp (m-Nm/amp)
Back EMF, K_E	.0098 ± 10%	V per rad/s
Terminal Resistance, R_M	13.0 ± 10%	ohms
Terminal Inductance, L_M	0.60 ± 30%	mH
Voltage, Stalled at Peak Torque, V_P	12	volts (nom)
Amps at Peak Torque, I_P	1.0	amps
Max. Winding Temperature	*See "Notes" above*	°C

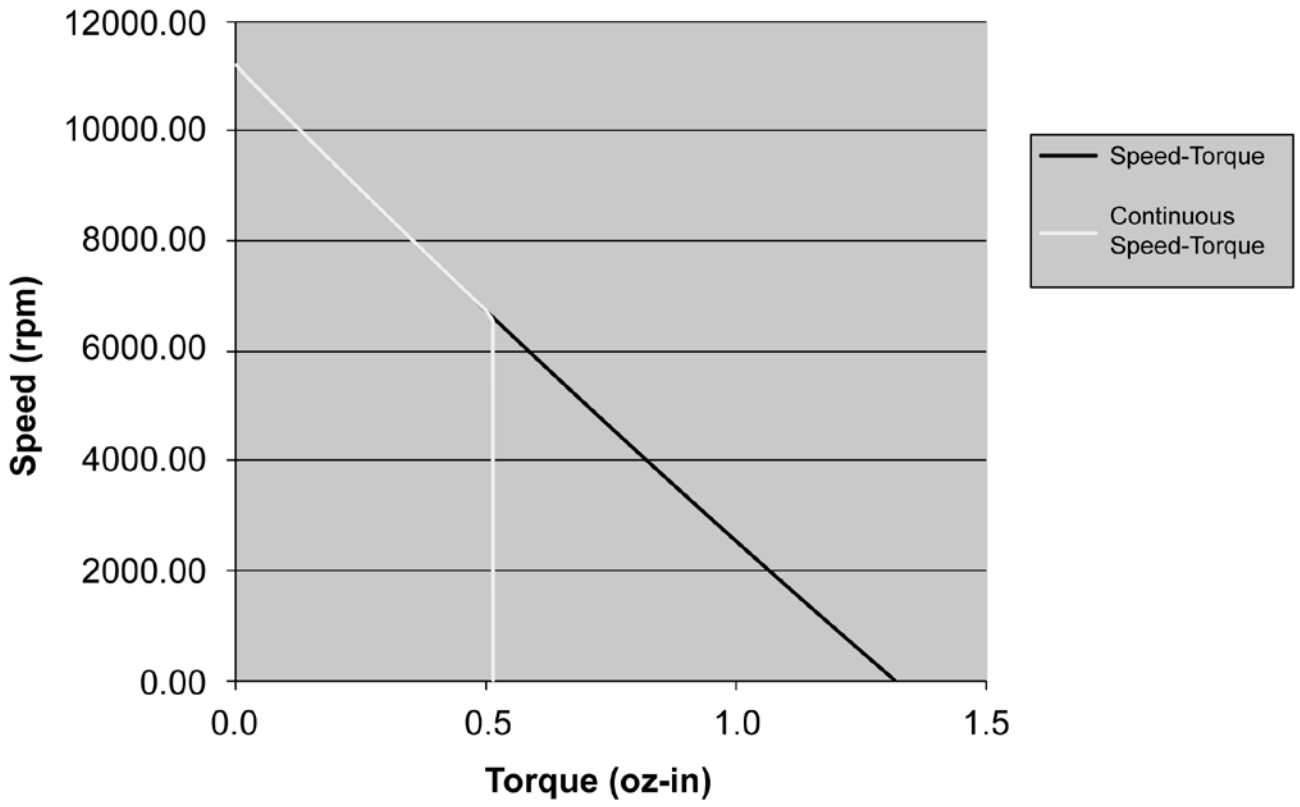
Typical Outline Drawing



Dimensions in inches [millimeters]

Standard		High Temperature	
PART NUMBER	**"L" inches (mm)**	**PART NUMBER**	**"L" inches (mm)**
DBH-0472-C-1S	0.99 (25.15)	DBH-0472-C-1SH	1.07 (27.18)
DBVH-0472-C-1S	1.44 (36.58)	DBVH-0472-C-1SH	1.52 (38.61)
DBEH-0472-C-1S	1.225 (31.13)	DBEH-0472-C-1SH	1.305 (33.15)

Performance Curves



Note: Actual performance will depend upon external environment and mounting conditions.