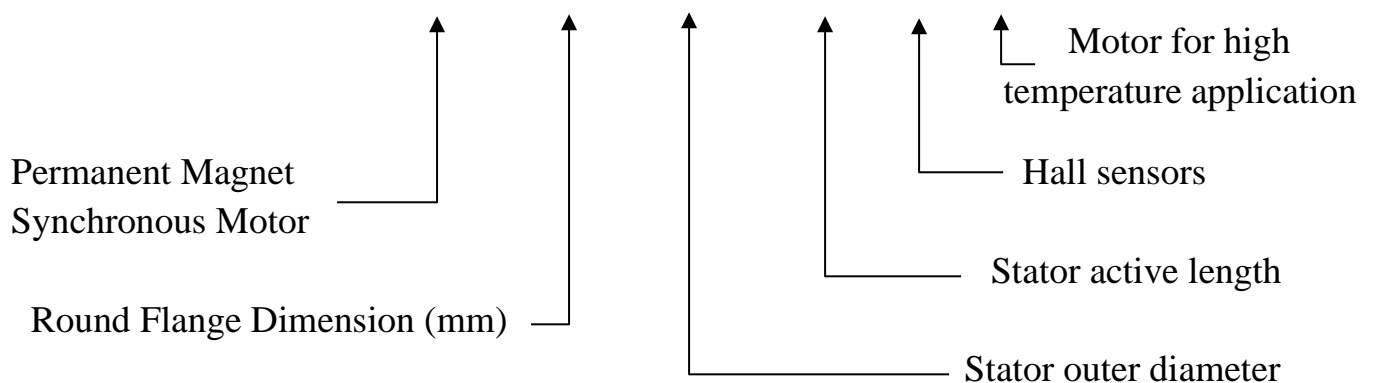




Permanent Magnet Synchronous Motors for High Temperature Applications

IBM-038-036-038-H-HT



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Product Description

The permanent magnet synchronous motor for high temperature applications is a high-performance brushless motor excited by rare earth permanent magnets located on the rotor. This motor is developed to answer to high temperature application being ideal for different type of automation equipment.

High quality materials, ball-bearings, insulating system which includes insulation materials, enameled copper and impregnation treatment are used to ensure a high thermal class up to 200 °C and to guarantee a long-life time of the motor.

The IBM motor for High Temperature Applications is characterized by high torque density, reduced overall dimensions and high dynamic performances. This AC brushless sinusoidal motor was designed as standard for a bus voltage 24 Vdc. The winding can be customized for different bus voltage values.

Features

- Work under high temperature conditions
- Low torque ripple
- Designed to be compact, high performance and cost effective
- Maintenance free
- High energy SmCo magnets
- Customized construction, winding and mounting interfaces
- High temperature Hall sensors

Applications

- High temperature up to 200 °C
- High precision
- Motion simulators
- Tracking systems
- Exploration support motors
- Robotics



Synchronous motor IBM-038-036-038-H-HT Specifications

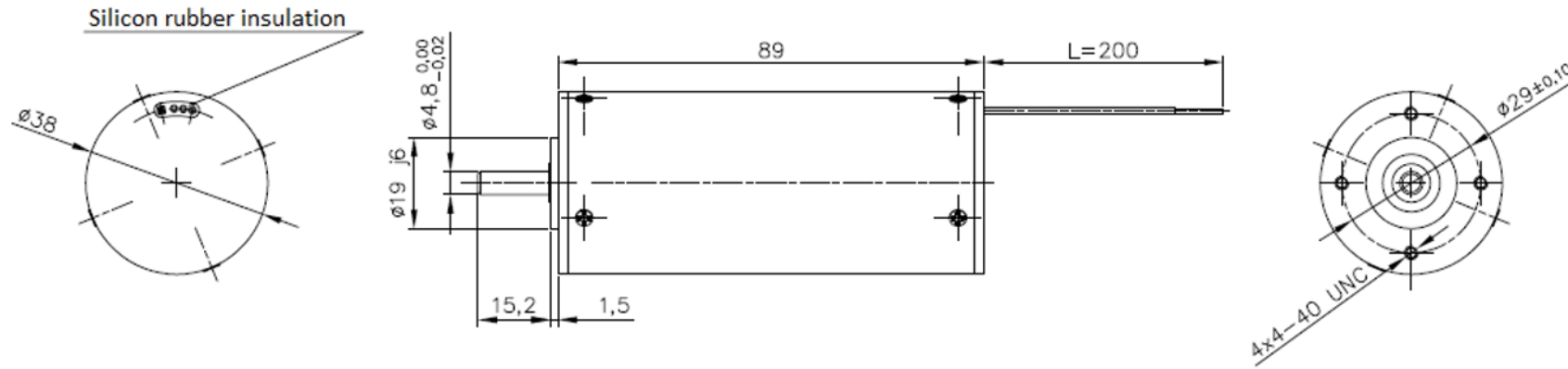
Parameters	Tolerances	Units	IBM-038-036-038-H-HT
Rated Power ¹⁾	+/-10%	<i>W</i>	20
Rated Torque ¹⁾	+/-10%	<i>Nm</i>	0.1
Continuous Stall Torque ¹⁾	+/-10%	<i>Nm</i>	0.1
Peak Torque	+/-10%	<i>Nm</i>	0.55
Rated current ¹⁾	±10%	<i>A_{rms}</i>	1.5
Rated voltage	±10%	<i>V_{DC}</i>	24
Continuous Stall current ¹⁾	±10%	<i>A_{rms}</i>	1.5
Peak current	±10%	<i>A_{rms}</i>	8
Rated speed	±10%	<i>rpm</i>	1900
Maximum speed	±10%	<i>rpm</i>	3600
Electrical resistance ²⁾	±10%	Ω	2.3
Electrical inductance ²⁾	±20%	<i>mH</i>	1.9
Torque constant (K_T) ¹⁾	±10%	<i>Nm/A_{rms}</i>	0.067
Back EMF constant (K_E) ²⁾	±10%	<i>V_{rms}/Krpm</i>	4.67
Number of poles	-	-	6
Thermal resistance	±10%	<i>°C/W</i>	2.94
Static friction torque	±25%	<i>Nm</i>	0.004
Hall sensors	-	-	Yes
Moment of inertia	-	<i>Kg·cm²</i>	0.03
Weight	±10%	<i>Kg</i>	0.5
Degree of protection	-	<i>IP</i>	55
Ambient temperature	-	<i>°C min...max</i>	-15 → +110
Insulation class	-	<i>°C</i>	200
Vibration severity	-	<i>Class</i>	G2.5
Shaft rotational accuracy	-	<i>mm</i>	0.035
Shaft height tolerance	-	<i>mm</i>	0.012

1) Motor mounted on a metallic flange with an area equal to twice the cross section of the housing
Ambient temperature 110 °C

2) Measured at 25 °C



Synchronous motor IBM-038-036-038-H-HT Dimensions

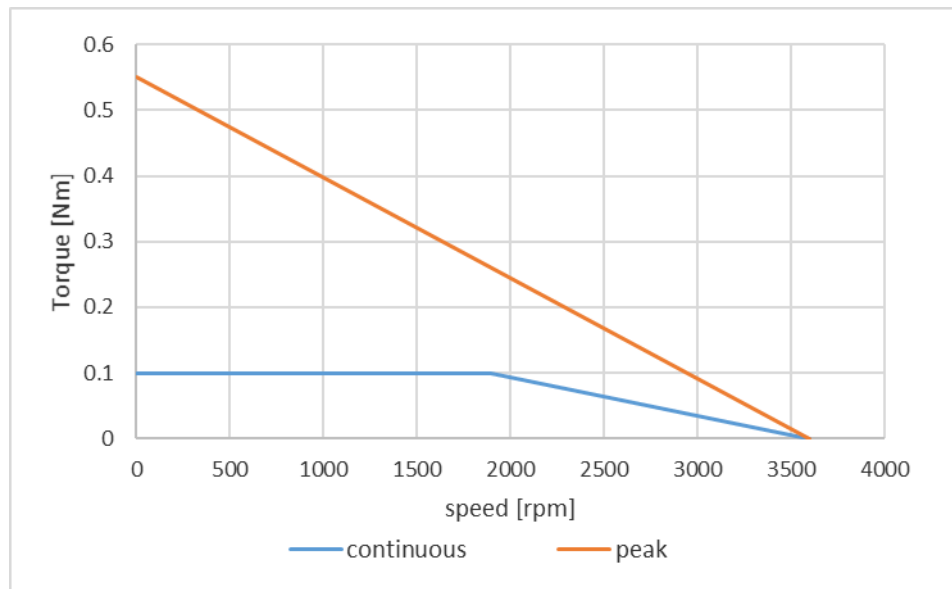


* Dimension in mm

** Motor terminals length of 200 mm



Synchronous motor IBM-038-036-038-H-HT Performances



* Graphs for hot motor