

Motor

CM-2-500



Permanent-magnet motor CM-2-500

Permanent-magnet machine for direct drive of applications with highest speed demands.

- Special mechanical rotor construction for highest stresses
- Stator winding and core configuration for optimal efficiency despite highest rotational speeds
- Low heat generation in stator and rotor
- High-speed ball bearings with permanent lubrication
- Ideal in combination with converter CC-75-400 or CC-75-500
- Customized adaptations available

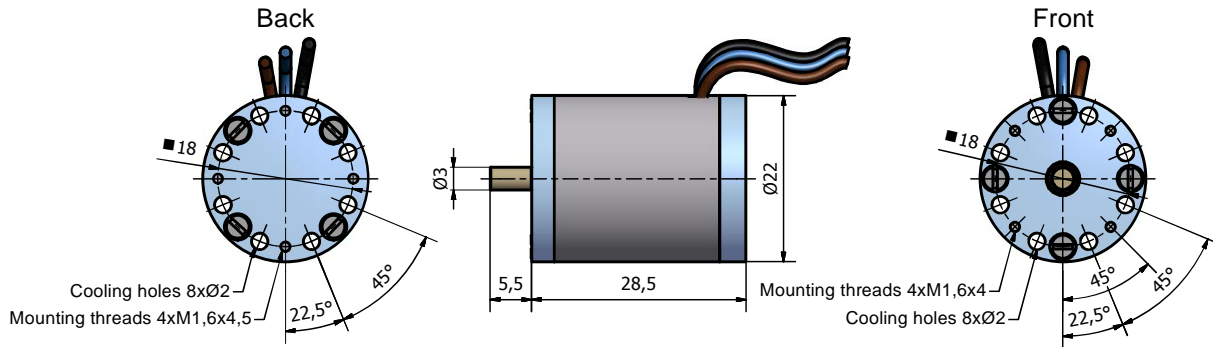


Specifications

Pole-pair number	1
Rated speed	500,000 rpm
Rated power (passive/active cooling)	100 W / 200 W
Rated torque	2 mNm / 4 mNm
Weight	36 g
Input voltage converter (min. DC)	69 V
Permanent-magnet flux linkage	$0.75 \cdot 10^{-3} \text{ V s}$
Phase current (rms)	
▪ Rated	1.2 A / 2.4 A
▪ Maximum	2.4 A / 4.8 A
▪ Sync	1.0 A / 1.0 A
Motor losses at rated operating point ¹	15.7 W / 21.6 W
Temperature measurement	Thermocouple Type K
Axial moment of inertia (rotor)	$1.95 \cdot 10^{-8} \text{ kg m}^2$
Phase resistance	0.37 Ω
Phase inductance	9.3 μH

¹Losses for other operating points (power/rotational speed) on request

Drawing (in mm)



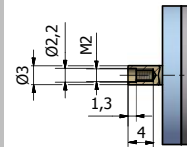
Optional services for customized adaptations

- Thermal design
- Balancing
- Rotordynamic design
- Mechanical design

Motor options *CM-2-500.Rxx.Bx.Fx.Cx*

Rotor type *Rxx*

- RM0: Without boring/thread (standard)
- RM2: With M2 thread (right hand)
- RD2: With 2 mm boring
- Other bore diameter/threads on request



Bearing type *Bx*

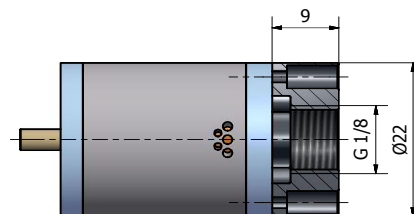
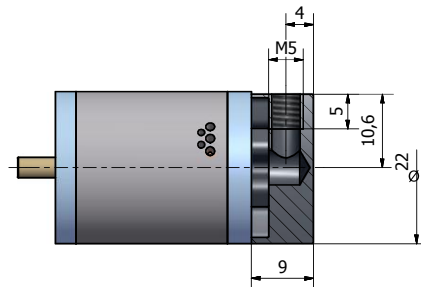
- B0: Standard ball bearing, up to 500,000 rpm (standard)
- B1: Vacuum ball bearing, up to 200,000 rpm (higher speeds on request)

Front flange *Fx*

- F0: Standard flange, rotor dismountable only without front load attached (standard)
- F1: Half-shell flanges, rotor dismountable with front load attached

Cooling flange *Cx* (air cooling)

- C0: no cooling flange (standard)
- C1: Cooling flange with radial inlet
- C2: Cooling flange with axial inlet



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