



Features

- Compact design
- Zero cable force, with high reliability, acceleration and long lifetime
- Maglev gravity compensation in vertical
- Applicable for vacuum
- Optional water-cooling module for higher continuous force and peak force
- Excellent positioning accuracy up to nano level

Description

This motor adopts combination design, integrating passive magnetic levitation device into the voice coil motor and features compact design with maglev gravity compensation. The maglev force can be customized based on customers' requirements, which can provide broad range amplitude of maglev force.

Applications

■ Healthcare

■ Semiconductor equipment

Technical Specifications

	MVCM10-2	MVCM50-3	MVCM85-3	MVCM500-4
Travel range	±1 mm	±1.5 mm	±1.5 mm	±2 mm
Clearance of side of coil	2 mm	2 mm	2 mm	2 mm
Maglev compensation force	10 N	50 N	85 N	500 N
Continuous force	1.8 N	5.72 N	10.26 N	20.94 N
Peak force	5 N	19.46 N	37.61 N	65.82 N
Force constant	2.15 N/A	7.2 N/A	8.08 N/A	12.6 N/A
Back EMF constant	2.15 V/(m/s)	7.2 V/(m/s)	8.08 V/(m/s)	12.6 V/(m/s)
Electrical resistance	3.66 ohms	6.06 ohms	4.82 ohms	7.46 ohms
Electrical inductance	0.94 mH	7.38 mH	6.02 mH	8.12 mH
Electrical time constant	0.26 ms	1.22 ms	1.25 ms	1.09 ms
Continuous current	0.84 A	0.79 A	1.42 A	1.66 A
Continuous power	3.34 W	4.98 W	12.63 W	26.82 W
Peak current	2.33 A	2.7 A	5.22 A	5.22 A
Peak power	25.77 W	57.6 W	169.83 W	264.94 W
Drive voltage	24 V	24 V	48 V	60 V
Motor constant	1.12 Sqrt(N ² /W)	2.93 Sqrt(N ² /W)	3.29 Sqrt(N ² /W)	4.61 Sqrt(N ² /W)
Weight of coil assembly	42 g	215 g	381 g	630 g
Weight of field assembly	86 g	238 g	327 g	598 g