

Moving Magnet Actuator MI – MMA series

The designs of the Moving Magnet Actuators have been proven in various high-end industrial equipment. These actuators can be applied frequently where high speed, high force density and a high reliability/lifetime are required. These actuators are also suitable for application in vacuum environments.

The working principle of these moving magnet actuators is that the moving part is a magnet. The coils are attached to the static part of the actuator which enables a good thermal path. A good thermal path is beneficial for high force densities. The absence of moving wires leads to a very high reliability and lifetime and does not limit the achievable accelerations and speeds.



Left: static part consisting of coil and housing
Right: moving part on which driving force acts on



Moving magnet linear actuator with mechanical interface, sensor ring and bearing.

Key features:

- High reliability and lifetime due to the absence of moving wires
- Compact design
- No heat load on the moving part
- Suitable for vacuum environments
- High peak and continuous force possible
- Simple control through integrated sensor possible
- Optional: leaf springs, air bearings, low-cost slide bearings, hall sensor, linear encoder

Technical Data						
Parameter [unit]	Note	Models				
		1545	2368	4022	6033	9050
OD [mm]	1)	15	23	40	60	90
Height [mm]	1)	45	68	22	33	50
Stroke [mm]	1)	18	28	5	8	12
F continuous [N]	2)	2.2	7.1	12.3	38.4	114
F peak [N]	3)	4.5	26.7	46	259	709
Moving mass [kg]		0.007	0.025	0.04	0.13	0.44

Note

- 1) Standard range. Other dimensions and force ranges available upon request.
- 2) Continuous force at 25°C ambient and 155 °C coil temperature
- 3) Peak force for 10 sec. at 25°C ambient and 155 °C coil temperature