Frameless
Moving Magnet Voice Coil Actuator
MI-MMA series

Model MMA

The designs of the Moving Magnet Voice Coil 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 voice coil 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.

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 optional integrated sensor possible. (MMS-series contact factory)
- Very high acceleration.
- Optional: leaf springs, air bearings, low-cost slide bearings, hall sensor, linear encoder, see model MMA-6033-ENC-LS

Application Areas:

- Production automation.
- Cryogenic pumps.
- Fast-tool applications.

Technical Data						
Parameter [unit]	Note	MMA Models				
		1555	2368*	4022*	6033	9050
OD [mm]	1)	15	23	40	60	90
Height [mm]	1)	55	68	22	33	50
Stroke [mm]	1)	18	28	5	8	12
F continuous [N] middle position	2)	2	7.1	12.3	38.4	114
F peak [N]	3)	6	26.7	46	259	665
Moving mass [kg]		0.007	0.025	0.04	0.13	0.5

*Preliminary info for models 2368 and 4022

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
MI-MMA series are patented

Mechanical drawings are available upon request. Please contact info@magneticinnovations.com

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