Z Stage with Maglev Gravity Compensator

Features

- Non-contact direct-drive linear motor drive for high dynamic response
- Optical linear encoder for high precision
- High stiffness, high precision guide
- High load, high eccentricity resistance
- Unique large-stroke maglev gravity compensation technology
- Full closed-loop servo design
- Excellent positioning accuracy and dynamic performance

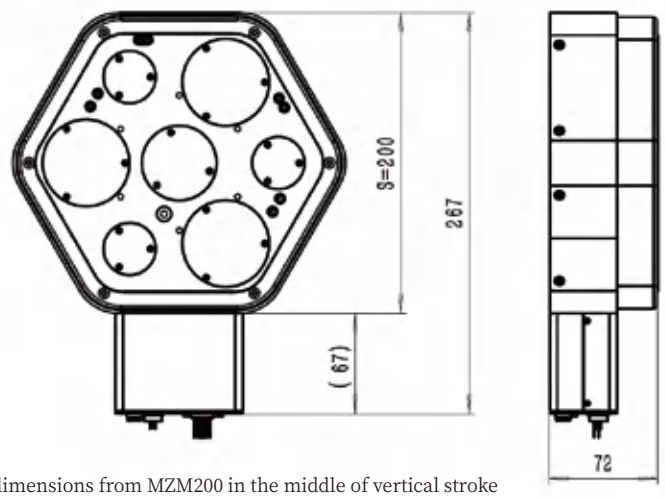
Description

The stage adopts low-profile design. The vertical uses the large-stroke maglev gravity compensation technology, which has the function of reducing the load of the vertical motor and greatly improving the vertical motion performance and lifetime. High-precision up-and-down positioning is possible. The vertical provides high stiffness mechanical bearing and high-performance air-bearing options. Air-bearing provide higher bidirectional repeatability.

Applications

- Wafer production control applications, such as: thin film metrology and critical dimension metrology

Interface Definition



*Interface dimensions from MZM200 in the middle of vertical stroke

Technical Specifications

	MZM200-10
Travel range	10 mm
Max. velocity	100 mm/s
Max. acceleration	2 m/s^2
Accuracy	±0.5 μm
Bidirectional repeatability	±0.2 μm
Position stability (3σ)	±15 nm
Straightness	2 μm
Pitch	100 urad (21 arcsec)
Roll	100 urad (21 arcsec)
Yaw	100 urad (21arcsec)
Mechanical properties	
Moving mass (without payload)	1.8 Kg
Max. load	6.2 Kg
Stage mass	3.5 Kg
Dimensions	S200 mm×72 mm
Material	Aviation aluminum, black anodized

Customization Information

The series is configured with options that can be selected based on the user's actual application. Options include travel, encoder, guide, and more.

Table 1 Travel Options

-5	5mm travel displacement platform with ring motor and limit
-10	10mm travel displacement platform with ring motor and limit
-25	25mm travel displacement platform with ring motor and limit

Table 2 Encoder Options

-S1	Incremental analog optical linear encoder, 1Vpp
-S2	Incremental digital optical linear encoder, RS422
-S3	Absolute optical linear encoder, BISS

Table 3 Guide Options

-G1	High-stiffness mechanical guide
-G2	High-performance air-bearing guide