

# MZT110 Series

## Maglev ZT stage



### Features

- High precision infinite rotation
- Dual-axis high-stiffness, high-precision guide design
- High-stiffness guide in vertical
- Unique large-stroke magnetic float gravity compensation technology
- High accuracy of Z-axis jitter and stability
- Full closed-loop servo design

### Description

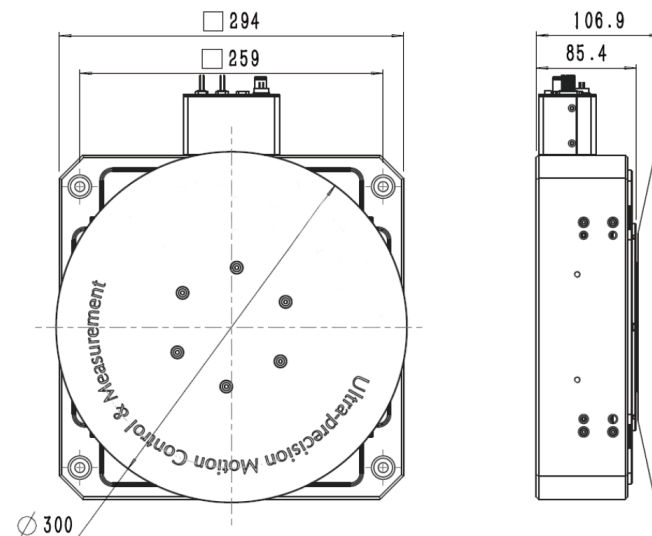
The stage adopts innovative dual-axis coupling design with extremely compact and low-profile. High precision, high stiffness motion with 2 degrees of freedom in vertical and rotary axes.

Compared to the MZT90 series, the vertical performance is higher.

### Applications

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

### Interface Definition



\*Interface dimensions from MZT110 in the middle of vertical stroke

## Technical Specifications

MZT110-24		
Axes name	Z	T
Travel range	24 mm	360 °, Infinite
Max. velocity	100 mm/s	900 °/s
Max. acceleration	2 m/s <sup>2</sup>	6280 °/s <sup>2</sup>
Accuracy	±0.4 μm	±3 arcsec
Bidirectional repeatability	±0.2 μm (1mm)	±2 arcsec
Position stability (3σ)	±15 nm*	±0.2 arcsec
Straightness	1 μm	NA
Axial runout	NA	±2 μm
Radial runout	NA	±2 μm
<b>Mechanical properties</b>		
Moving mass (without payload)	7 Kg	
Inertia (No load)	0.00336 Kg•m <sup>2</sup>	
Max. load	2.7 Kg (customizable)	
Stage mass	15 Kg	
Dimensions	294 mmX294 mmX85.4 mm	
Material	Aviation aluminum, black anodized	

\*Technical data specified with 8μm pitch encoder and under active vibration isolation environment.

## Customization Information

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

Table 1 Encoder Options

-S1	Standard, Renishaw Encoder
-S2	High-end model, Heidenhain encoder

Table 2 Guide Options

-G1	High-precision air-floating guide with a vertical mechanical stroke of 9mm
-G2	High-precision cross roller guide with a vertical mechanical stroke of 24mm
-G3	High-precision anti-creep cross roller guide with vertical mechanical travel of 13mm