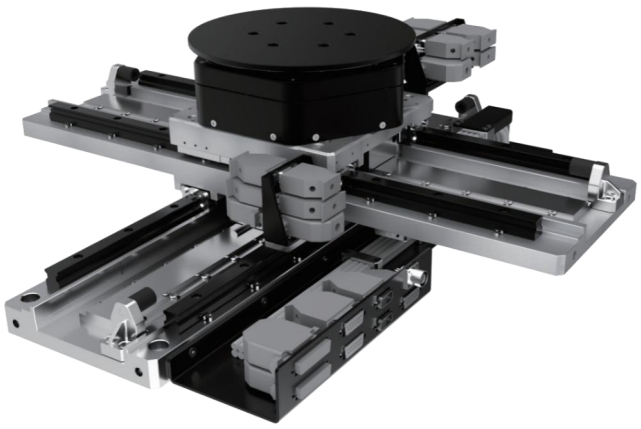
Stacked XYZ Stage



Features

- Stacked 3-axis stage with orthogonality design
- Global flatness and straightness up to to sub-μm level
- X/Y axis
  - High stiffness, high precision guide
  - Consistent design of cable disturbing force
- Z-axis
  - Vertical magnetic levitation gravity compensation for high positioning accuracy
  - High stiffness, high precision guide
  - Vertical incremental encoder for up to 5nm resolution
  - Ultra-thin, lightweight design
  - Vertical mechanical travel up to 30mm

Description

The stage adopts modularization, ultra-thin, orthogonality design, the MZM200-10 Stage standard module is integrated on top of the cross platform L2S125 for high precision, high stiffness linear motion of X, Y and Z axis with 3 degrees of freedom.

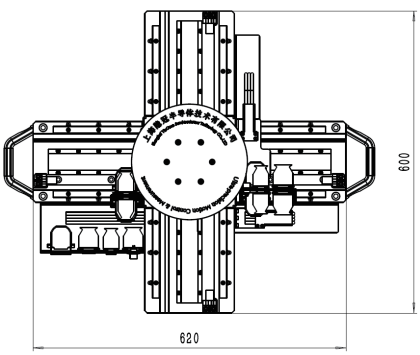
The MZM200-10 uses the large-stroke maglev gravity compensation technology, which has the function of reducing the load of the vertical motor and greatly improving the vertical motion performance and lifetime. High-precision up-and-down positioning is possible.

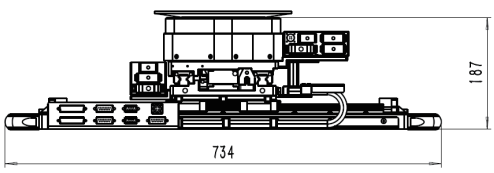
The L2S125 adopts integration, orthogonality design with a compact, low-profile. High-precision, high-stiffness linear motion in horizontal X/Y axis with 2 degrees of freedom.

Applications

- Wafer production control applications such as: thin film metrology and critical dimension metrology
- Wafer scribing
- Wafer laser thermal annealing

Interface Definition





*Interface dimensions from L3S190 in the upper limit

Technical Specifications

	L3S190-350		
Axes name	X	Y	Z
Travel range	350 mm	350 mm	9 mm (customizable)
Max. velocity	0.6 m/s	0.6 m/s	0.1 m/s
Max. acceleration	5 m/s²	5 m/s²	2 m/s²
Accuracy_indicative value	±20 μm	±20 μm	-
Accuracy_calibration value	±2 μm	±2 μm	±0.5 μm
Bidirectional repeatability	±1 μm	±1 μm	±1μm ±0.3μm/1mm
Straightness	±10 μm	±10 μm	-
Pitch	±75 arcsec	±50 arcsec	±50 arcsec
Roll	-	-	±50 arcsec
Yaw	±75 arcsec	±75 arcsec	-
Orthogonality	5 μm		-
Mechanical properties			
Moving mass (without payload)	14.2 Kg	27.5 Kg	6.7 Kg
Max. load	5 Kg		
Stage mass	40 Kg		
Dimensions	734 mm×600 mm×187 mm (vertical upper limit)		

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

Table 2 Guide Options

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