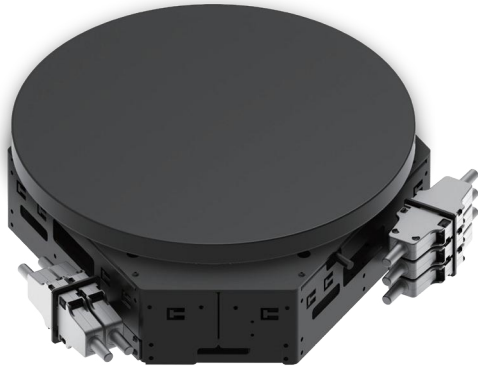


Multi-Axis Micropositioning Stage



Features

- $\pm 0.1^\circ$ Tip/Tilt precision adjustment
- High precision infinity rotation
- Constant stiffness maglev gravity compensation technology
- High positioning accuracy, excellent motion control capability, and outstanding stability

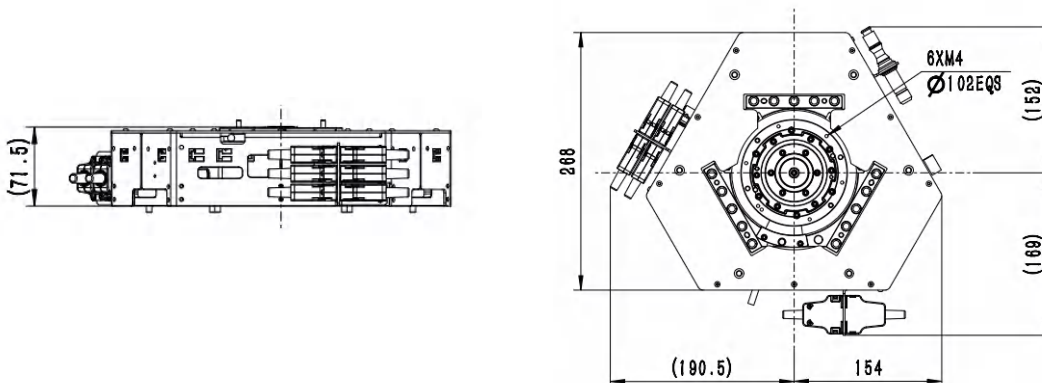
Description

The multi-axis micropositioning stage offers four independent degrees of freedom, including infinite theta rotation, Z-axis motion, and Tip-Tilt correction. The Z3T70 is highly compact while providing excellent positioning accuracy and dynamic performance. This module not only improves the motion system's accuracy and simplifies the design for users, but also enhances reliability and integration, reduces complexity and overall cost, and improves the price-to-performance ratio. Its unique maglev gravity compensation technology significantly reduces heat generation in the vertical actuator, thereby ensuring nanometer-level positioning accuracy along the vertical axis.

Applications

- Wafer process control applications such as optical critical dimension metrology and thin film metrology
- Wafer scribing, cleaning, and cutting
- Laser heat processing of wafer

Interface Definition



Technical Specifications

Z3T70-40			
	Fine Z	Tip-Tilt	Theta
Motor Type	DD		
Load	2 Kg		
Drive Control	ACS		
Ambient Temperature	22±1 °C		
Travel range	4 mm	±0.1°	infinite
Drive Mass (excluding chuck)	4 Kg	/	2 Kg
Module Mass (excluding chuck)	10 Kg		
Max. Axial Load	2.2 Kg		
Max. velocity	0.03 m/s	-	15 rad/s
Max. acceleration	0.5 m/s ²	-	100 rad/s ²
Position stability	±10 nm	-	±0.05 μrad
Unidirectional Repeatability	-	-	-
Bidirectional Repeatability	±0.05 μm	-	±0.5 arcsec
Radial runout	-	-	±3.5 μm
Axial runout	-	-	±3 μm
Signal Type	Incremental		
Output Signal	TTL		1Vpp

Customization Information

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

Table 1 Encoder Options

-S1	Incremental analog optical encoder, 1Vpp
-S2	Incremental digital optical encoder, RS422