

Air-Bearing Rotary Stage



Features

- Non-contact torque motor drive for high dynamic response
- Optical encoder for high precision
- Enclosed air-bearing design for high stiffness, high precision
- Axial runout and radial runout with Nano-precision accuracy
- Low-profile design

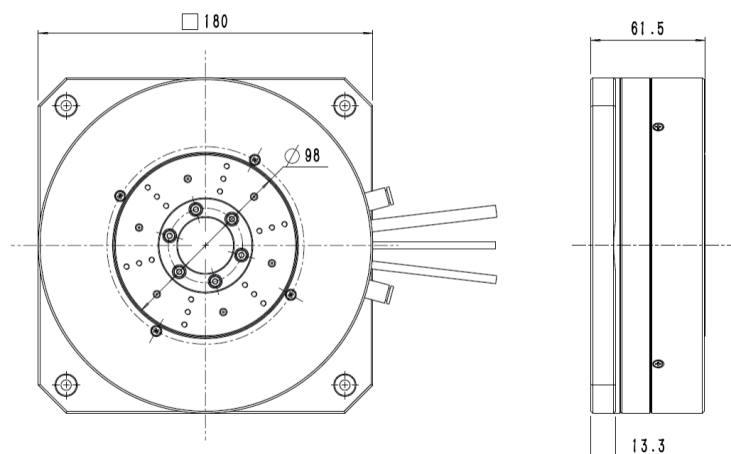
Description

The stage provides excellent angle positioning accuracy, velocity stability and lower runout.

Applications

- Wafer inspection
- High precision metrology
- X-ray diffraction systems
- Optical inspection and manufacturing
- MEMS/nanotechnology equipment manufacturing

Interface Definition



*Interface dimensions from ARD120

Technical Specifications

	ARD120-00	ARD180-00	ARD220-00
Accuracy	± 2 arcsec		
Bidirectional repeatability	± 0.5 arcsec		
Axial runout	<180 nm	<100 nm	
Radial runout	<450 nm	<250 nm	
Tilt error motion	<1 arcsec	<0.7 arcsec	
Continuous torque	0.48 N·m	2.36 N·m	5.99 N·m
Max. velocity	1000 rpm	1000 rpm	1000 rpm
Mechanical properties			
Dimensions	120 mm	180 mm	220 mm
Hollow aperture	10 mm	30 mm	50 mm
Max. load_Axial	8 Kg	30 Kg	66 Kg
Max. load_Radial	4 Kg	15 Kg	36 Kg
Operating pressure_Axial	5 bar $\pm$ 0.5 bar		
Operating pressure_Radial	6 bar $\pm$ 0.5 bar		
Total mass	4.5 Kg	6.1 Kg	8.3 Kg
Material	Aviation aluminum, black anodized/hard anodized		

Customization Information

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

Table 1 Dimension Options

-120	120, Diameter
-180	180, Diameter
-220	220, Diameter

Table 2 Encoder Options

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