

# ALIO INDUSTRIES

## NANOMETER PRECISION THETA STAGES

ALIO Industries designs and manufactures high resolution precision linear and rotary stages for demanding nanometer applications. The precision stages are available with controllers and integrated process hardware and software or they can be purchased with our high resolution encoders and amps, ready for connection to OEM and customer controllers.

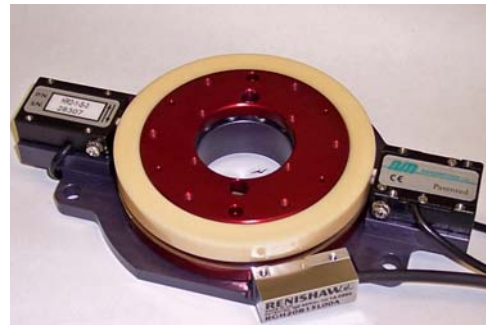
### Features/Benefits

#### **Flexibility:**

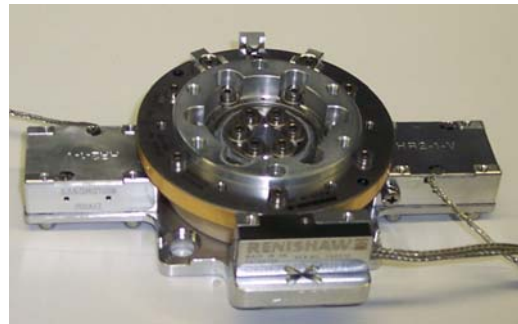
- Modular design for any multi-axis configuration.
- Linear, rotary and vertical stages for application specific kinematics.
- Complete systems for Plug and Play simplicity and low start up costs.
- Powerful motion controller for demanding alignment tasks and motion requirements.

#### **Price and Performance**

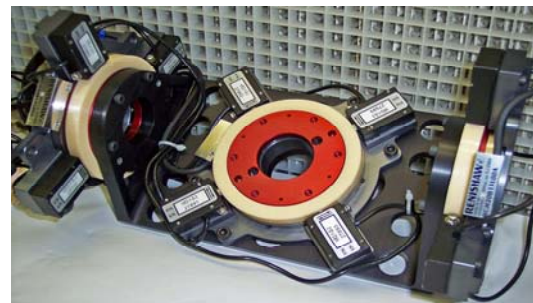
- High-resolution non-contact encoders for exceptional repeatability.
- Ceramic servomotors provide high speed with fast settling time and no servo dither.
- Precision bearings assure high accuracy with long life.
- Efficient stage design provides exceptionally competitive value.
- CE compliant components and assemblies.
- Clean room and vacuum chamber capable.



AI-80R-D Rotary Axis



AI-40R-D-HV Vacuum Rotary



AI-80R-Q Custom Gimbal

Rotary, Goniometric and Gimbal Axes Available

## Rotary Stage Specifications

<b>MODEL</b>	<b>40R</b>	<b>80R</b>	<b>105R</b>	<b>133R</b>
<b>Dimensions (mm)</b>	<b>40d/22h</b>	<b>100d/28h</b>	<b>105d/38h</b>	<b>130 d/60 h</b>
<b>Stroke</b>	<b>360 deg.</b>	<b>360 deg.</b>	<b>360 deg.</b>	<b>360 deg.</b>
<b>Resolution</b>	<b>0.03 arc sec</b>	<b>0.02 arc sec</b>	<b>0.08 arc sec</b>	<b>0.06 arc sec</b>
<b>Velocity</b>	<b>360 deg/sec</b>	<b>270 deg/sec</b>	<b>180 deg/sec</b>	<b>360 deg/sec</b>

## Gimbal Stage Specifications

<b>MODEL</b>	<b>105G</b>	<b>133G</b>	<b>80G-Q</b>
<b>Dimensions (mm)</b>	<b>133 d/157h</b>	<b>133 d/183 h</b>	<b>Custom</b>
<b>Stroke</b>	<b>360 degrees</b>	<b>360 degrees</b>	<b>360 degrees</b>
<b>Resolution</b>	<b>0.08 arc sec</b>	<b>0.06 arc sec</b>	<b>0.02 arc sec</b>
<b>Velocity</b>	<b>180 deg/sec</b>	<b>180 deg/sec</b>	<b>270 deg/sec</b>

### STANDARD STAGE EQUIPMENT:

- Ceramic servomotors.
- High resolution non-contact encoders with analog outputs.
- Ultra-precision ball and crossed roller bearings.
- Precision 6061 aluminum enclosure.

### OPTIONAL FEATURES:

- High-end controllers and amplifiers.
- ALIO electrical enclosure with power sources.
- Clean room and vacuum compatible.
- Special designed stages for integration with OEM products.
- Alternate materials and plating finishes.

### Environmental:

Operating Temperature: 0 to 100 degrees C

Humidity: 10 to 80% non-condensing

### Standard Stage Products Electrical:

Amplifier Differential Analog Input: +/- 10V

Controller encoder input: 15 MHZ minimum

Encoder power input: +5 VDC



**11919 W. I-70 Frontage Rd. N. #119**

**Wheat Ridge, Colorado U.S.A. 80033**

**Telephone: 303-339-7500**

[www.alioindustries.com](http://www.alioindustries.com)