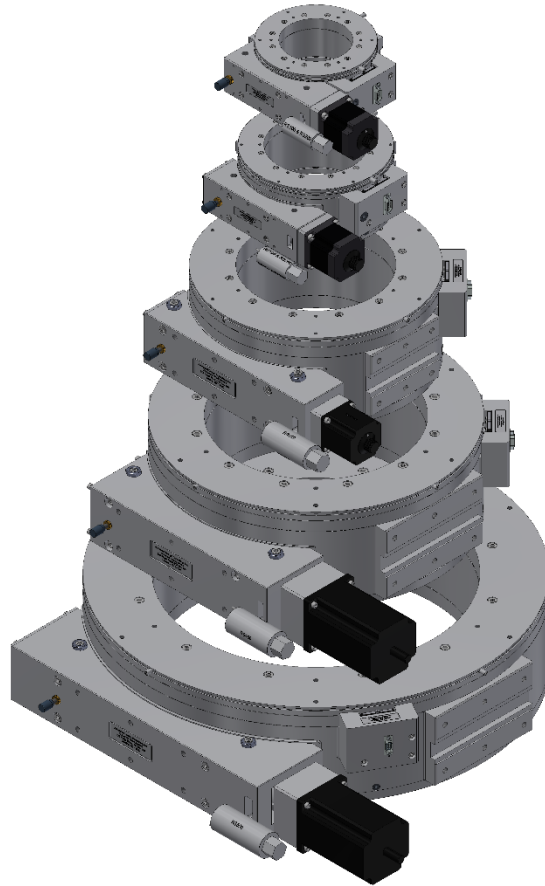


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RS SERIES

-High Precision Rotation Stages-

June 2023



SPECIFICATIONS

The Precision Mechanical Rotation Stages are precision rotation stages are built upon an industry leading, preloaded, duplexed angular contact bearing set. These stages not only give an exceptionally high running accuracy but allow for large radial and thrust loads as well. Each stage is driven by a precision ground worm gear set and a high resolution, high torque stepper motor. Backlash is reduced by employing a flexure style shimming technique to preload the worm and worm wheel.

MECHANICAL

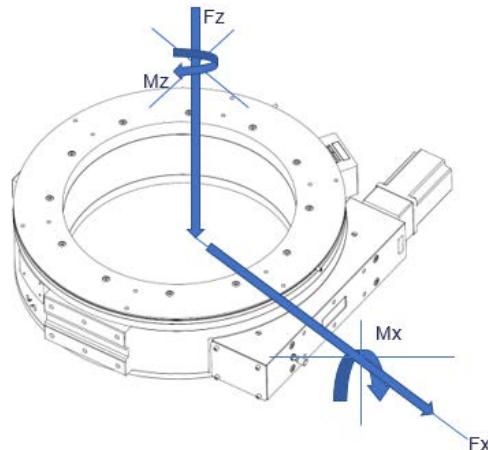
| Specification | RS100 | RS200 | RS300 | RS400 | RS500 |
|---------------------------|--------|-------|-------|-------|-------|
| Travel Range (°) | +/-360 | | | | |
| Accuracy (μrad) | 150 | 125 | 125 | 100 | 125 |
| Gear Reduction | 360:1 | 356:1 | 364:1 | 380:1 | 260:1 |
| Repeatability (μrad RMS) | 1.5 | 1 | 1 | 1 | 5 |
| Runout (μm) | 7.5 | 7.5 | 10 | 15 | 15 |
| Load Capacity Radial (kg) | 23 | 39 | 103 | 125.5 | 243.5 |
| Stiffness (μrad/Nm) | 1.26 | .556 | .112 | .051 | .021 |

ELECTRICAL

| Motor | Limit Switches | Optical Encoder |
|------------------------------|-----------------------------|---|
| 2-Phase; 5-Phase Stepper; DC | Mechanical, Normally Closed | Renishaw Incremental or Absolute (http://www.renishaw.com) |

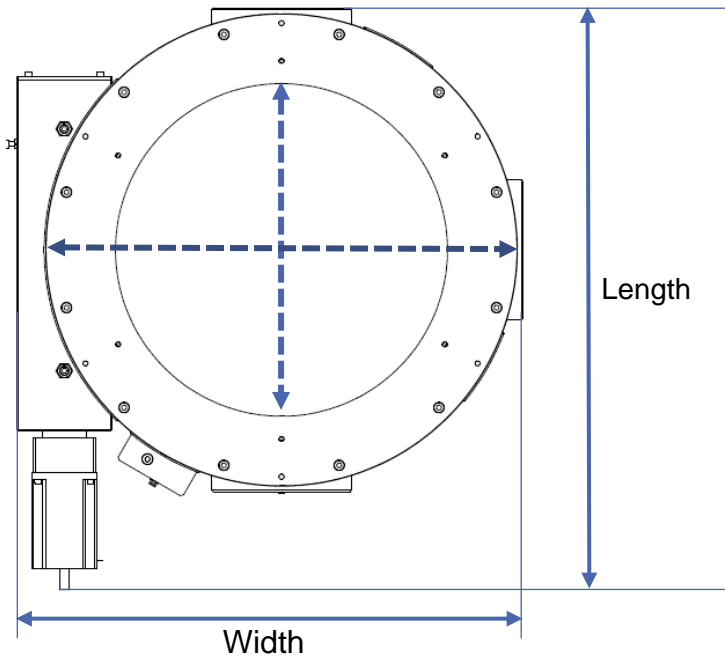
LOAD CHARACTERISTICS

| Series | F _x (N) | F _z (N) | M _x (Nm) | M _z (Nm) |
|--------|--------------------|--------------------|---------------------|---------------------|
| RS100 | 221 | 351 | 26 | 16 |
| RS200 | 412 | 650 | 62 | 39 |
| RS300 | 1015 | 1627 | 237 | 148 |
| RS400 | 1213 | 2008 | 395.5 | 239 |
| RS500 | 2390 | 4050 | 1130 | 645 |



DIMENSIONS

Top View



Side View



| Model | RS100 | RS200 | RS300 | RS400 | RS500 |
|----------------|-------|--------|-------|--------|-------|
| Inner Diameter | 100 | 140 | 215 | 300 | 400 |
| Outer Diameter | 165.1 | 209.5 | 340 | 450 | 625 |
| Length | 272 | 294.25 | 435 | 610 | 770 |
| Width | 191 | 239 | 367.5 | 500 | 670 |
| Height | 71.75 | 94.05 | 147 | 158.75 | 158 |

ORDERING INFORMATION

Rotation Stages can be ordered with different configurations. Please use the codes provided below when ordering. Please call or e-mail to ask about any other customization required.

| RS (Rotation Stage) | RS100 | RS200 | RS300 | RS400 | RS500 |
|--------------------------------|---|-------|-------|-------|-------|
| Air Preparation Options | -A (Standard Air Stage) -V (Vacuum Stage; ask about options when placing order) | | | | |
| Encoder Options | -R (With Incremental Optical Encoder) -A (With Absolute Optical Encoder) -N (Without Encoder) | | | | |
| Brake Options | -B (With Brake, 24VDC) -N (Without Brake) | | | | |
| Motor Options | -2PH (Standard 2 Phase Bi-Polar Stepper Motor) -5PH (5 Phase Stepper Motor) -DC (DC Motor) | | | | |
| Gearbox Option | -G (customer to enter desired ratio; 3:1 to 100:1 available) | | | | |

Example Order:
RS400-A-N-N-2PH

This is an order for a RS400 Precision Rotation Stage in air, no encoder, with no brake, a 2-phase motor, and no gearbox.

OTHER STAGES



| Linear Stages | Lift Stages |
|-----------------------------|-----------------|
| DS210 | DJ210 |
| DS310 | DJ310 |
| DS410 | DJ410 |
| DS510 | BJ10 |
| | BJ25 |
| Tilt Stages/ Goniometers | Rotation Stages |
| TS-50 | RS-100 |
| TS-90 | RS-200 |
| TS-160 | RS-300 |
| TS-300 | RS-400 |
| TS-400 | RS-500 |
| TS-565 | |
| TS-700 | |

