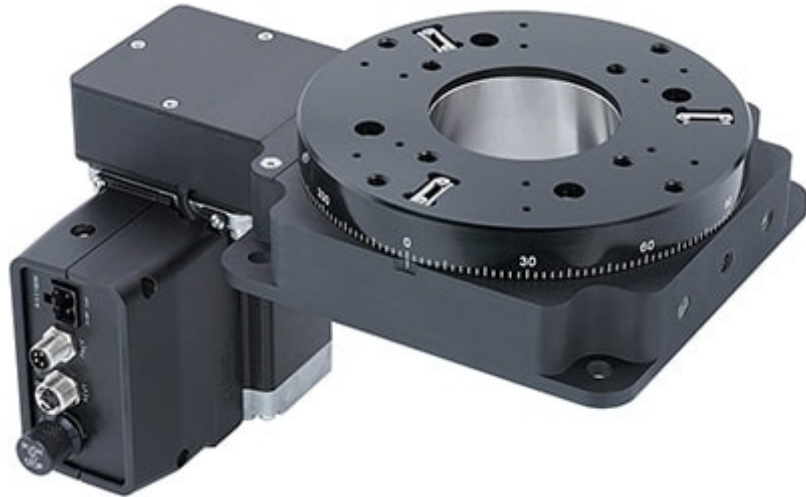


## X-RSB Series Datasheet



- Speeds up to 1,200 rpm
- Continuous 360° rotation stage
- Multiple motor configurations
- Built-in controller; daisy-chains with other Zaber products

### X-RSB Series Overview

Zaber's X-RSB Series rotation stages feature a compact footprint, low profile, and a load capability of up to 50 kg. With a maximum speed of 1,200 rpm, these rotation stages are ideal for the rapid positioning of light loads to within a fraction of a degree.

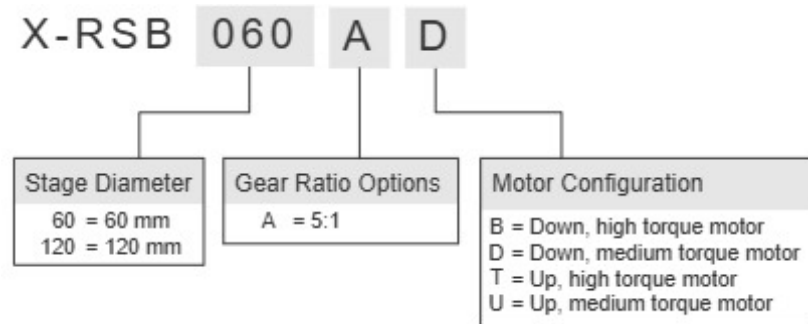
They are stand-alone units requiring either a standard 24 V or 48 V power supply. There are two motor configurations available: up and down. Motor up configurations allow flush mounting of the device to a flat surface, and motor down configurations allow for a full 360° movement of loads that extend past the edge of the stage top. An indexed knob provides convenient manual control for versatile operation even without a computer.

These stages connect to the RS-232 port or USB port of any computer, and they can be daisy-chained with any other Zaber products. The daisy-chain also shares power, making it possible for multiple X-Series products to share a single power supply. Convenient locking, 4-pin, M8

connectors on the unit allow for secure connection between units. Like all of Zaber's products, the X-RSB Series is designed to be 'plug and play' and very easy to set up and operate.

For more information visit: <https://www.zaber.com/products/rotary-stages/X-RSB>

## X-RSB Series Part Numbering & Options



## X-RSB Series Drawings

- [X-RSB060.png \(Drawing for the X-RSB060\)](#)
- [X-RSB120\\_B&T\\_configs.png \(Drawing for the X-RSB120 B&T configs\)](#)
- [X-RSB120\\_D&U\\_configs.png \(Drawing for the X-RSB120 D&U configs\)](#)

## X-RSB Series Specifications

<b>Microstep Size (Default Resolution)</b>	<b>0.005625° (98.173 μrad)</b>
Built-in Controller	Yes
Range	360°
Repeatability	< 0.001° (< 0.017 mrad)
Minimum Speed	0.003434°/s (59.934 μrad/s)
Speed Resolution	0.003434°/s (59.934 μrad/s)
Encoder Type	No
Communication Interface	RS-232
Communication Protocol	Zaber ASCII (Default), Zaber Binary
Data Cable Connection	Locking 4-pin M8
Power Supply	24 - 48 VDC
Power Plug	2-pin Screw Terminal
Angular Motion Per Motor Rev	72°
Motor Steps Per Rev	200
Motor Type	Stepper (2-phase)
Default Resolution	1/64 of a step
Mechanical Drive System	Synchronous belt
Limit or Home Sensing	Magnetic home sensor
Manual Control	Yes
Axes of Motion	1
LED Indicators	Yes
Operating Temperature Range	0 - 50 °C
CE Compliant	Yes
Vacuum Compatible	No

<b>Part Number</b>	<b>Accuracy (unidirectional)</b>	<b>Backlash</b>	<b>Maximum Speed</b>	<b>Maximum Continuous Torque</b>
X-RSB060AD	0.2° (3.490000 mrad)	< 0.1° (< 1.745 mrad)	7200°/s (1200 rpm)	230 N-cm (325.7 oz-in)
X-RSB060AU	0.2° (3.490000 mrad)	< 0.1° (< 1.745 mrad)	7200°/s (1200 rpm)	230 N-cm (325.7 oz-in)
X-RSB120AB	0.28°	< 0.25°	5400°/s	750 N-cm

Part Number	Accuracy (unidirectional)	Backlash	Maximum Speed	Maximum Continuous Torque
	(4.886000 mrad)	(< 4.362 mrad)	(900 rpm)	(1062.1 oz-in)
X-RSB120AD	0.28° (4.886000 mrad)	< 0.25° (< 4.362 mrad)	3000°/s (500 rpm)	250 N-cm (354.0 oz-in)
X-RSB120AT	0.28° (4.886000 mrad)	< 0.25° (< 4.362 mrad)	5400°/s (900 rpm)	750 N-cm (1062.1 oz-in)
X-RSB120AU	0.28° (4.886000 mrad)	< 0.25° (< 4.362 mrad)	3000°/s (500 rpm)	250 N-cm (354.0 oz-in)

Part Number	Maximum Centered Load	Maximum Moment (Transverse)	Stage Top Dimension	Radial Error Motion
X-RSB060AD	200 N (44.9 lb)	410 N-cm (580.6 oz-in)	60 mm (2.362")	+/- 4 µm (+/- 0.000157")
X-RSB060AU	200 N (44.9 lb)	410 N-cm (580.6 oz-in)	60 mm (2.362")	+/- 4 µm (+/- 0.000157")
X-RSB120AB	500 N (112.1 lb)	2000 N-cm (2832.2 oz-in)	120 mm (4.724")	+/- 3 µm (+/- 0.000118")
X-RSB120AD	500 N (112.1 lb)	2000 N-cm (2832.2 oz-in)	120 mm (4.724")	+/- 3 µm (+/- 0.000118")
X-RSB120AT	500 N (112.1 lb)	2000 N-cm (2832.2 oz-in)	120 mm (4.724")	+/- 3 µm (+/- 0.000118")
X-RSB120AU	500 N (112.1 lb)	2000 N-cm (2832.2 oz-in)	120 mm (4.724")	+/- 3 µm (+/- 0.000118")

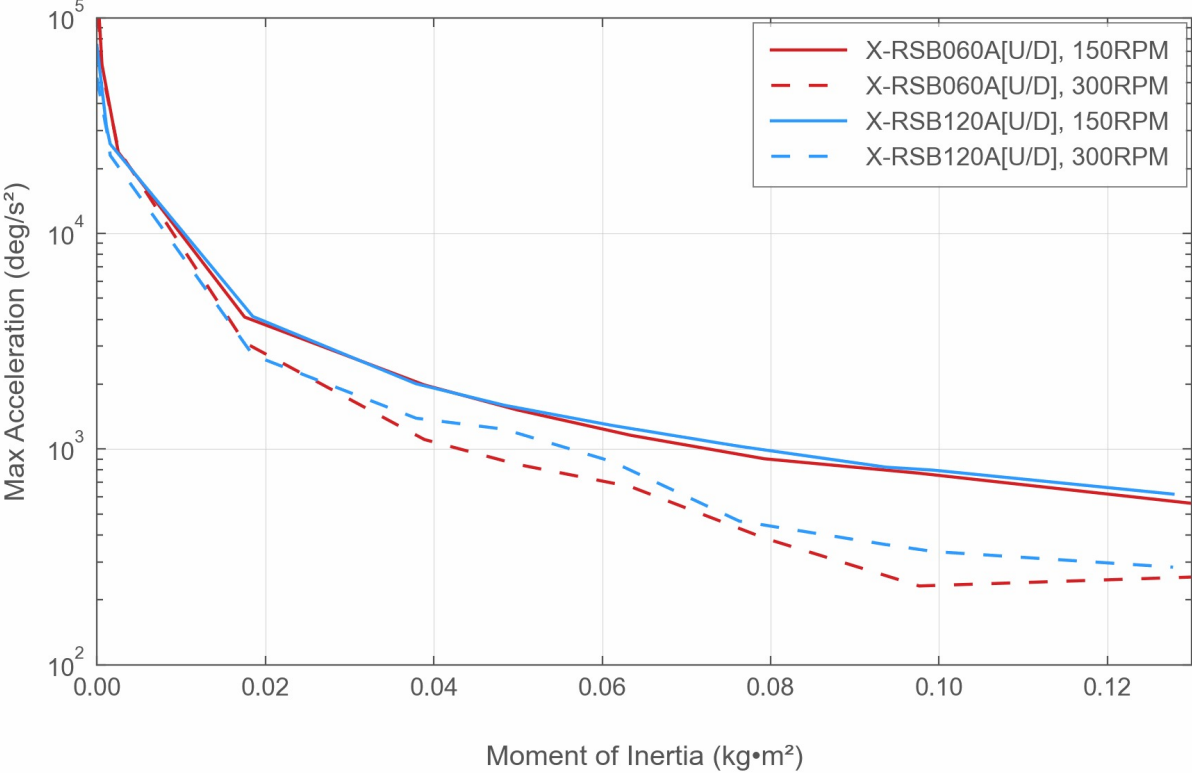
Part Number	Axial Error Motion	Tilt Error Motion	Bearing Plane Offset	Maximum Current Draw
X-RSB060AD	< 4 µm (< 0.000157")	+/- 0.0033° (+/- 57.60 µrad)	16.37 mm (0.644")	2000 mA
X-RSB060AU	< 4 µm (< 0.000157")	+/- 0.0033° (+/- 57.60 µrad)	16.37 mm (0.644")	2000 mA
X-RSB120AB	< 3 µm (< 0.000118")	+/- 0.0014° (+/- 24.43 µrad)	20 mm (0.787")	3600 mA
X-RSB120AD	< 3 µm (< 0.000118")	+/- 0.0014° (+/- 24.43 µrad)	20 mm (0.787")	2000 mA
X-RSB120AT	< 3 µm (< 0.000118")	+/- 0.0014° (+/- 24.43 µrad)	20 mm (0.787")	3600 mA
X-RSB120AU	< 3 µm (< 0.000118")	+/- 0.0014° (+/- 24.43 µrad)	20 mm (0.787")	2000 mA

<b>Part Number</b>	<b>Motor Rated Current</b>	<b>Inductance</b>	<b>Mounting Interface</b>	<b>Weight</b>
X-RSB060AD	2300 mA/phase	2.8 mH/phase	M6 and #8-32 threaded holes	0.82 kg (1.808 lb)
X-RSB060AU	2300 mA/phase	2.8 mH/phase	M6 and #8-32 threaded holes	0.82 kg (1.808 lb)
X-RSB120AB	3000 mA/phase	2 mH/phase	Kinematic with M2.5 and M6 threaded holes	2.04 kg (4.497 lb)
X-RSB120AD	2100 mA/phase	7.2 mH/phase	Kinematic with M2.5 and M6 threaded holes	2.04 kg (4.497 lb)
X-RSB120AT	3000 mA/phase	2 mH/phase	Kinematic with M2.5 and M6 threaded holes	2.04 kg (4.497 lb)
X-RSB120AU	2100 mA/phase	7.2 mH/phase	Kinematic with M2.5 and M6 threaded holes	2.04 kg (4.497 lb)

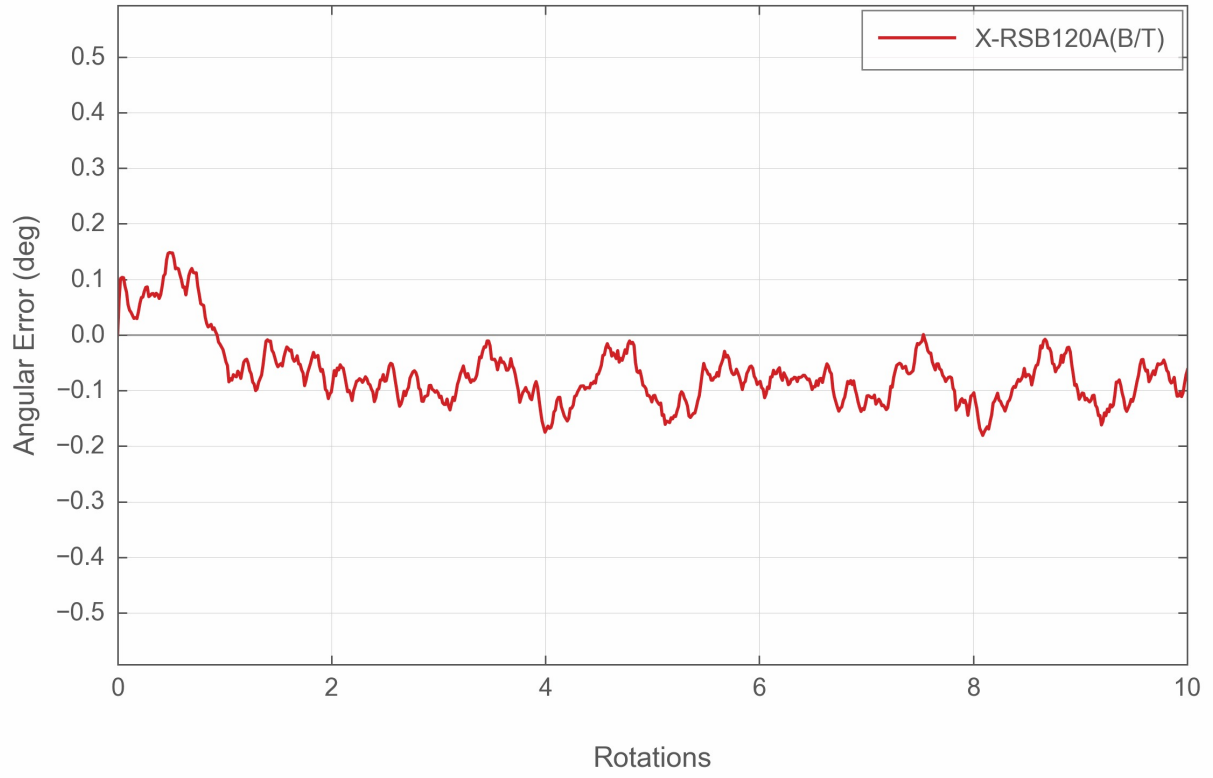
X-RSB Series Charts

Angular Acceleration

48V, Default Run Current

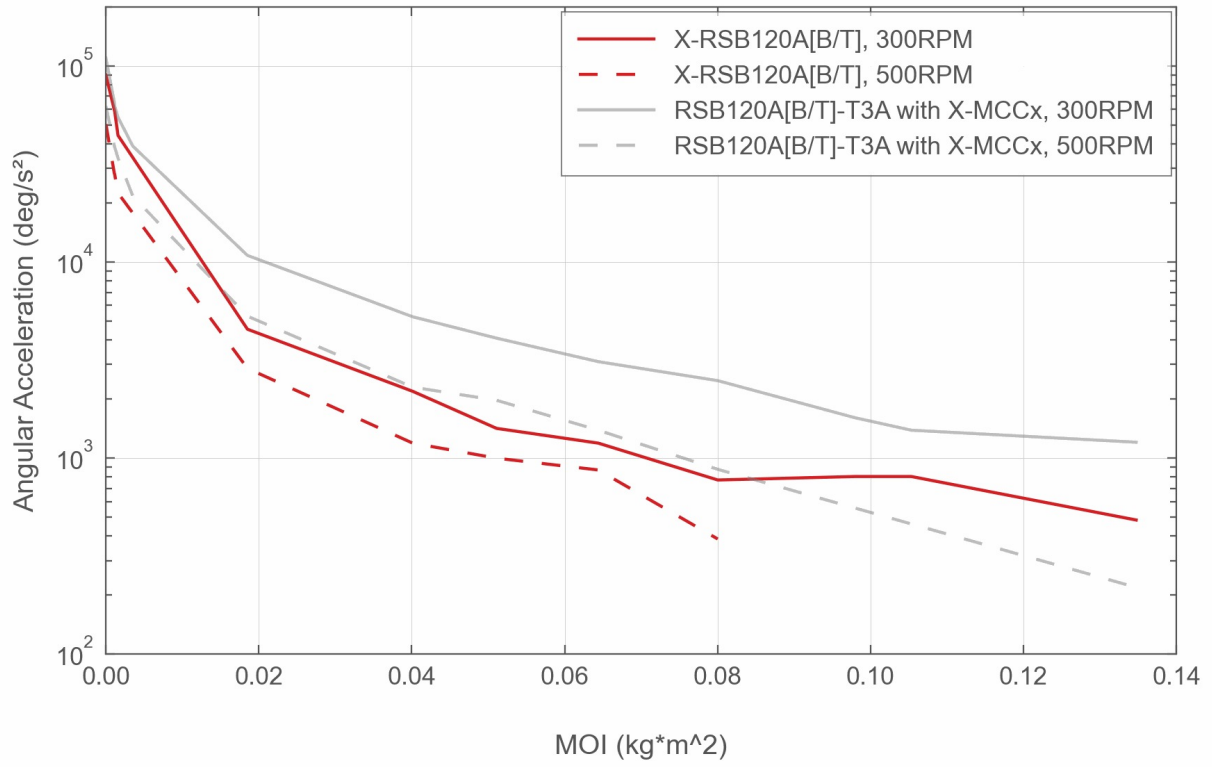


## Typical Accuracy



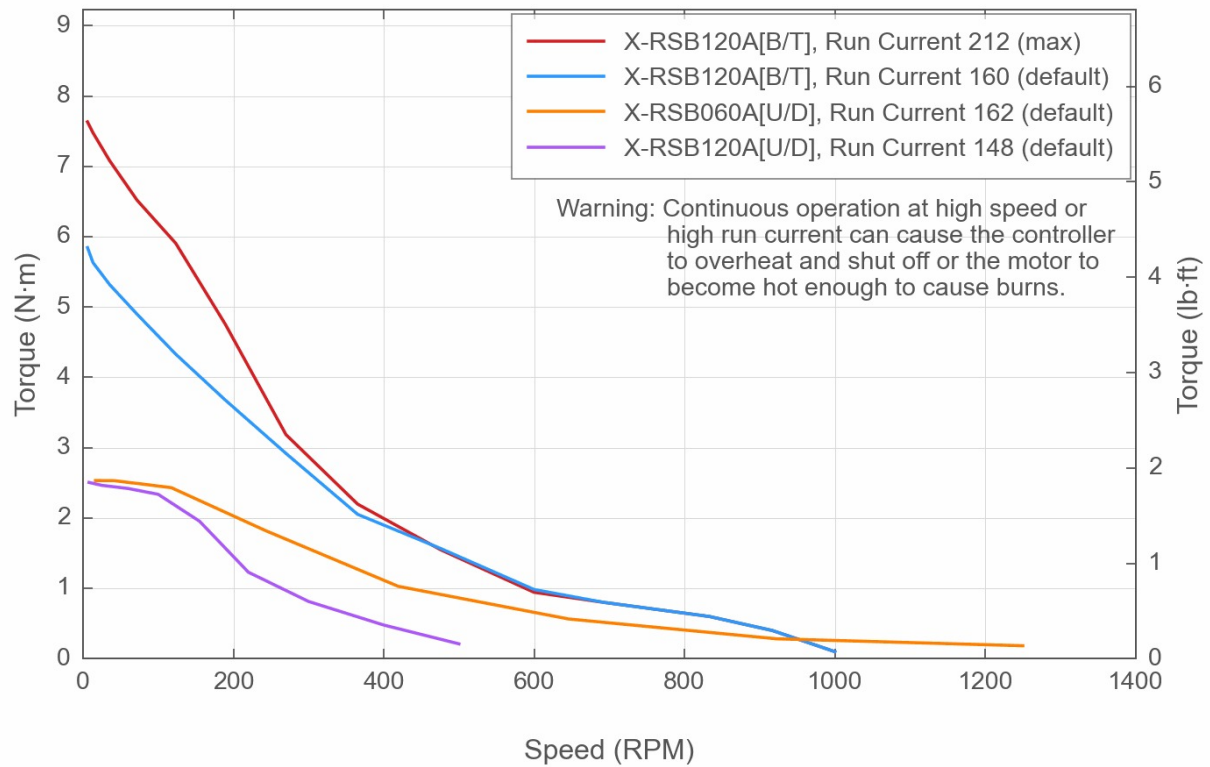
# Angular Acceleration

48V, Run Current 212 (max)



## Torque Speed Performance

48V



## Contact

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