

## RSB Series Datasheet



- Continuous 360° rotation stage
- Speeds up to 300 rpm
- 50.8 mm aperture
- Multiple motor configurations
- Designed for use with an X-MCB1 Series stepper motor controller or any 2-phase stepper motor controller

### Overview

Zaber's RSB motorized rotation stages have a 120 mm table diameter and a 50.8 mm (2 inch) aperture. They feature a compact footprint, low profile, and a load capability of up to 50 kg. With a maximum speed of 300 rpm, these rotation stages are ideal for the rapid positioning of light loads to within a fraction of a degree.

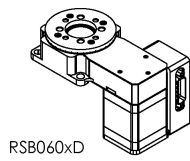
There are two motor configurations available: up and down. Motor up configurations allow flush mounting of the device to a flat surface, and motor down configurations allow for full 360° movement of loads that extend past the edge of the stage top.

RSB stages are designed for plug-and-play use with any of Zaber's controllers.

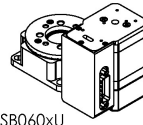
# Drawings

## ZABER

**RSB060 Rotation Stage**  
dimensions in mm



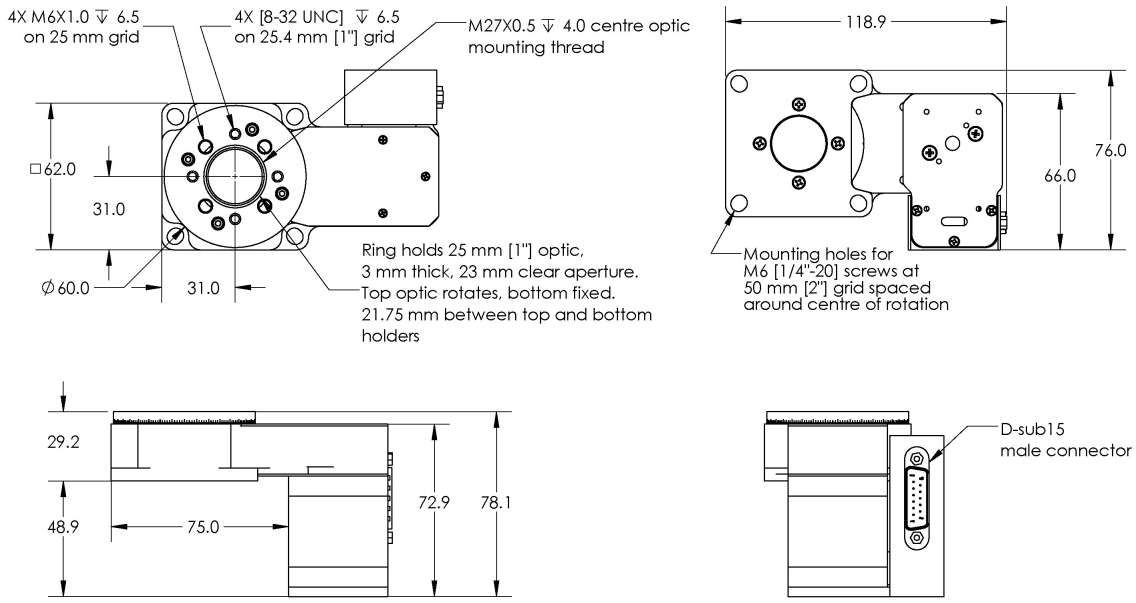
RSB060xD



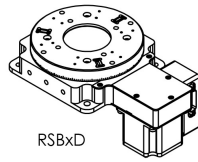
RSB060xU

\*See product page for complete list of available models at [www.zaber.com](http://www.zaber.com)

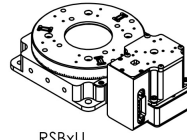
RSB060xD shown below



DWG-2065 R01



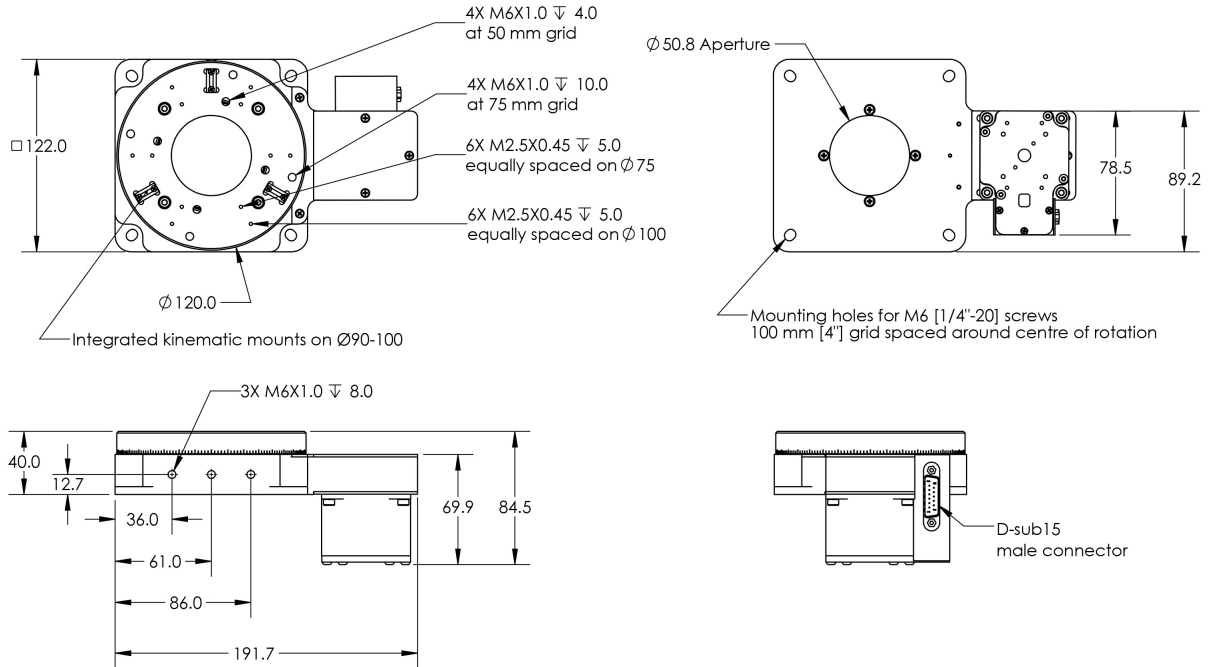
RSBxD



RSBxU

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RSBxD shown below



# Specifications

Specification	Value	Alternate Unit
Microstep Size (Default Resolution)	0.005625 °	98.173 μrad
Built-in Controller	No	
Recommended Controller	X-MCB1 (48 V) Recommended	
Range	360 °	
Minimum Speed	0.026 °/s	453.778 μrad/s
Encoder Type	None	
Angular Motion Per Motor Rev	72 °	
Motor Type	Stepper (2 phase)	
Motor Winding Resistance	2.9 ohms/phase	
Motor Connection	D-sub 15	
Mechanical Drive System	Synchronous belt	
Limit or Home Sensing	Magnetic home sensor	
Vacuum Compatible	No	
RoHS Compliant	Yes	
CE Compliant	Yes	

Part Number	Accuracy (unidirectional)	Repeatability	Backlash	Maximum Speed
RSB060AD-T3	0.2 ° (3.490000 mrad)	< 0.01 ° (< 0.174 mrad)	< 0.1 ° (< 1.745 mrad)	3000 °/s (500.0 rpm)
RSB060AU-T3	0.2 ° (3.490000 mrad)	< 0.01 ° (< 0.174 mrad)	< 0.1 ° (< 1.745 mrad)	3000 °/s (500.0 rpm)
RSB120AD-T3	0.19 ° (3.315500 mrad)	< 0.02 ° (< 0.349 mrad)	< 0.19 ° (< 3.316 mrad)	1800 °/s (300.0 rpm)
RSB120AU-T3	0.19 ° (3.315500 mrad)	< 0.02 ° (< 0.349 mrad)	< 0.19 ° (< 3.316 mrad)	1800 °/s (300.0 rpm)

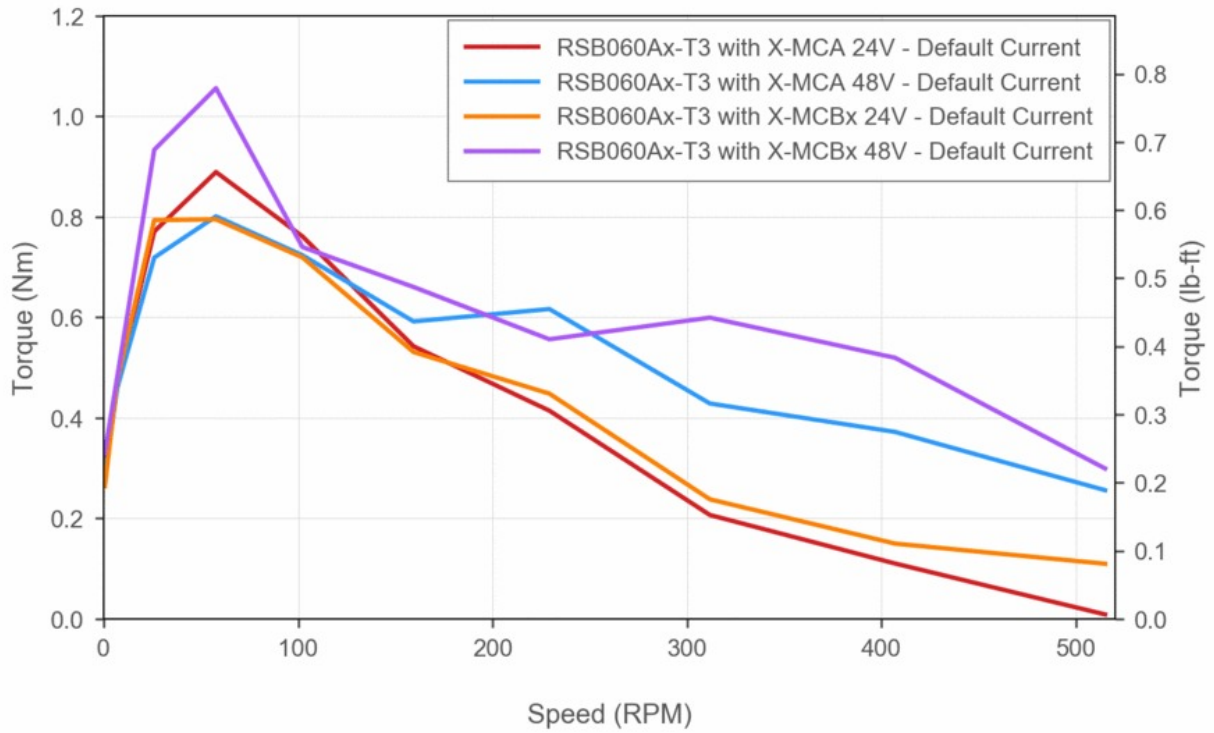
Part Number	Maximum Continuous Torque	Maximum Centered Load	Maximum Cantilever Load	Stage Top Dimension
RSB060AD-T3	100 N-cm (141.6 oz-in)	200 N (44.9 lb)	410 N-cm (580.6 oz-in)	60 mm (2.362 ")
RSB060AU-T3	100 N-cm (141.6 oz-in)	200 N (44.9 lb)	410 N-cm (580.6 oz-in)	60 mm (2.362 ")

Part Number	Maximum Continuous Torque	Maximum Centered Load	Maximum Cantilever Load	Stage Top Dimension
RSB120AD-T3	140 N-cm (198.3 oz-in)	500 N (112.1 lb)	2000 N-cm (2832.2 oz-in)	120 mm (4.724 ")
RSB120AU-T3	140 N-cm (198.3 oz-in)	500 N (112.1 lb)	2000 N-cm (2832.2 oz-in)	120 mm (4.724 ")

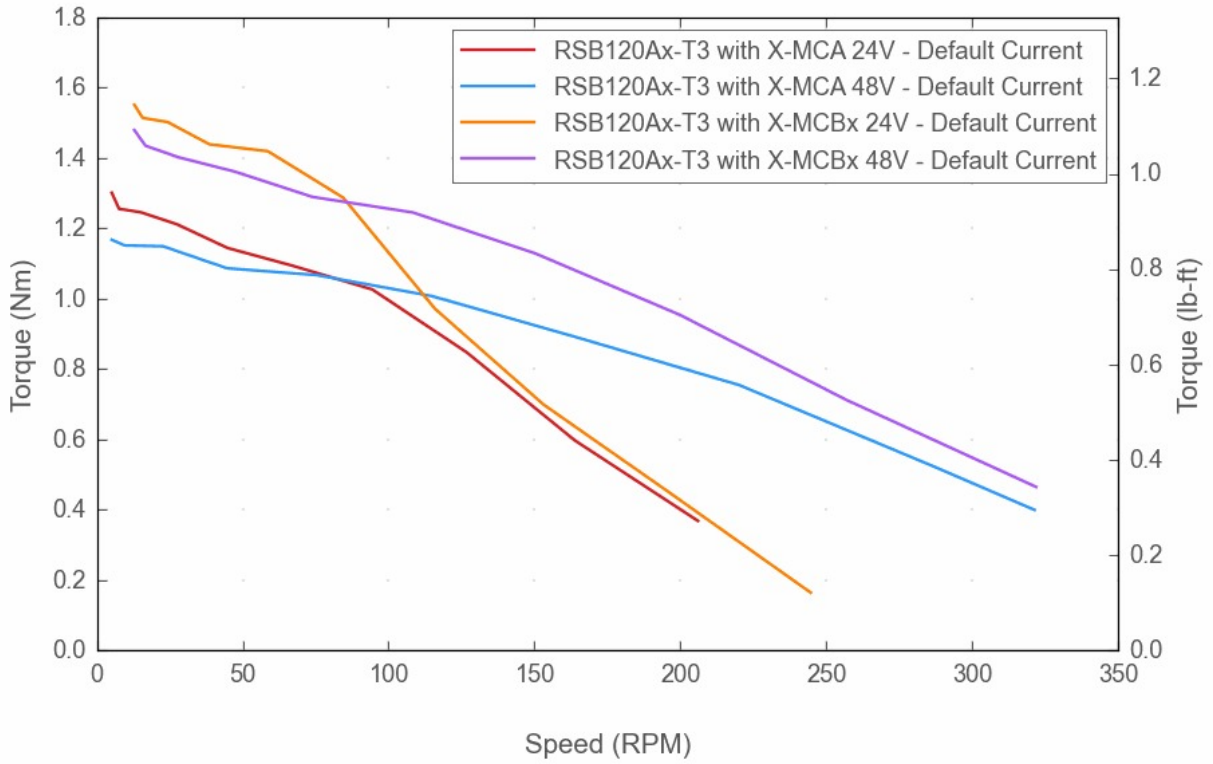
Part Number	Motor Rated Current	Inductance	Mounting Interface	Weight
RSB060AD-T3	2300 mA/phase	2.8 mH/phase	M6 and #8-32 threaded holes	0.78 kg (1.720 lb)
RSB060AU-T3	2300 mA/phase	2.8 mH/phase	M6 and #8-32 threaded holes	0.78 kg (1.720 lb)
RSB120AD-T3	2100 mA/phase	7.2 mH/phase	Kinematic with M2.5 and M6 threaded holes	2.00 kg (4.409 lb)
RSB120AU-T3	2100 mA/phase	7.2 mH/phase	Kinematic with M2.5 and M6 threaded holes	2.00 kg (4.409 lb)

# Charts

## Torque Speed Performance



### Torque Speed Performance



### Angular Acceleration

