

RSB-E Series Datasheet



- Continuous 360° rotation stage
- Speeds up to 300 rpm
- 50.8 mm aperture
- Multiple motor configurations
- Encoder position feedback with slip/stall detection and automatic recovery
- Designed for use with an X-MCB1 Series stepper motor controller or any 2-phase stepper motor controller

Overview

Zaber's RSB-E Series motorized rotation stages have a 120 mm table diameter and a 50.8 mm (2 inch) aperture. They also feature a compact footprint, low profile, and a load capability of up to 50 kg. With a maximum rotational speed of 300 rpm, these rotation stages are ideal for the rapid positioning of light loads. A built-in motor encoder allows for closed-loop operation and slip/stall recovery features.

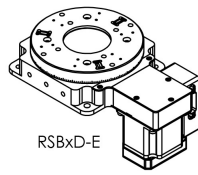
There are two motor configurations available: up and down. Motor up configurations allow flush mounting of the device to a flat surface, and motor down configurations allow for full 360° movement of loads that extend past the edge of the stage top.

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

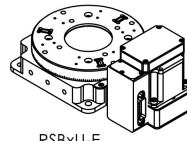
Drawings

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RSB-E Rotation Stage
dimensions in mm



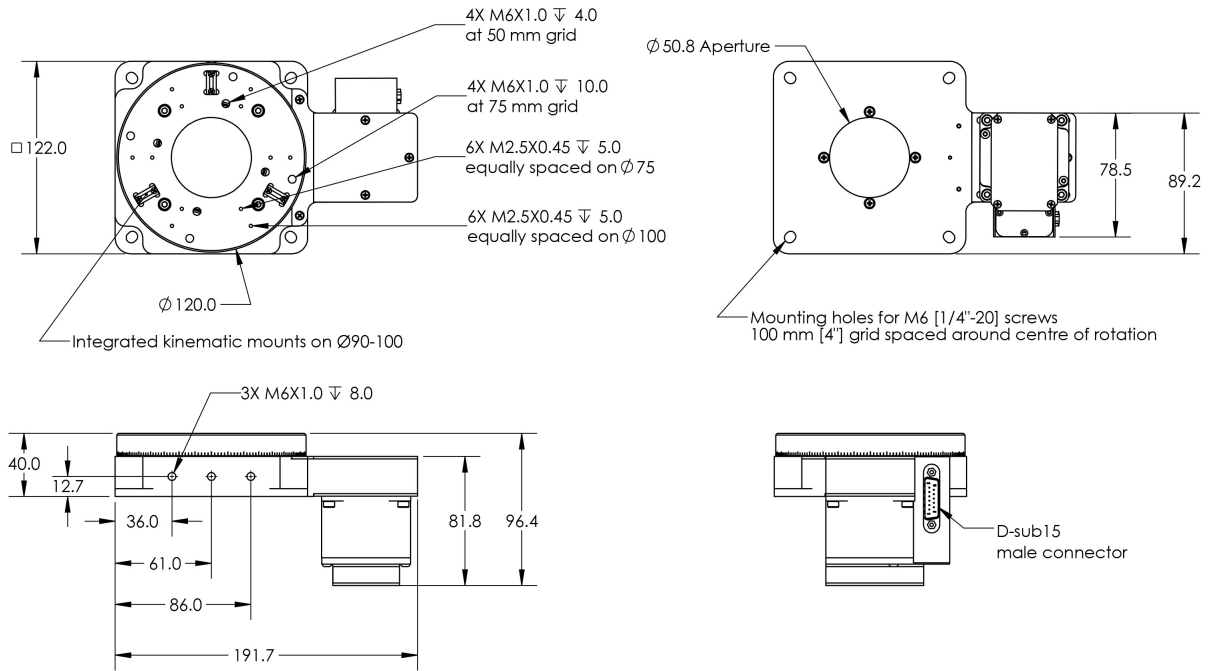
RSBxD-E



RSBxU-E

*See product page for complete list of available models at www.zaber.com

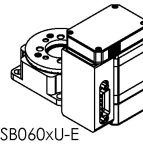
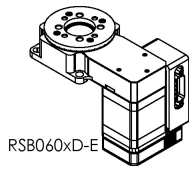
RSBxD-E shown below



DWG 1187 E01

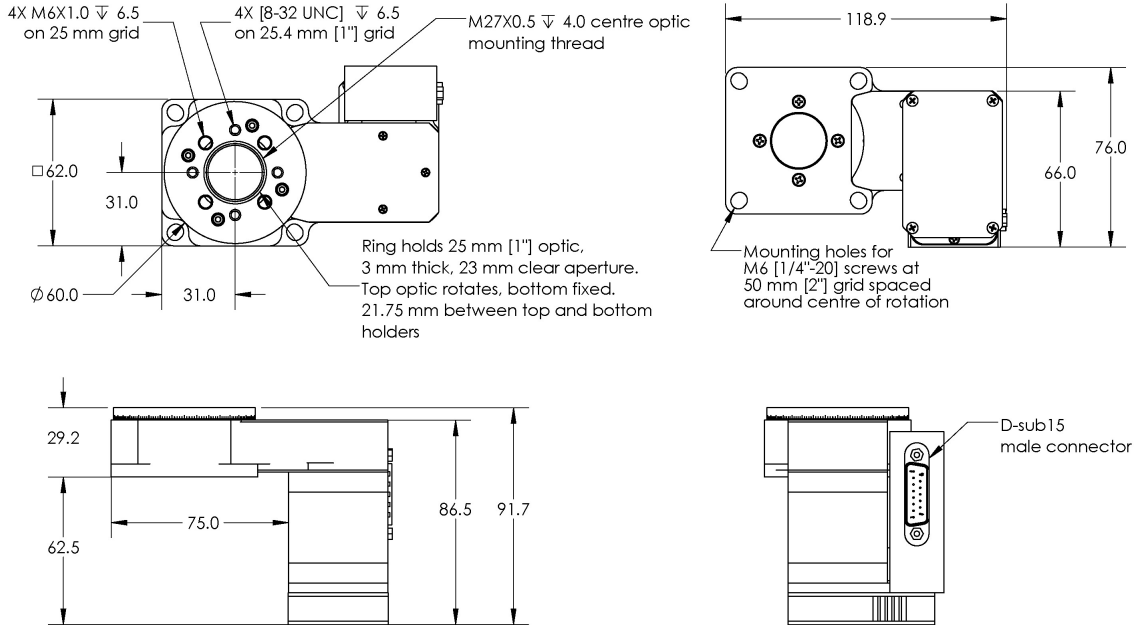
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RSB060-E Rotation Stage
 dimensions in mm



RSB060xD-E shown below

*See product page for complete list of available models at www.zaber.com



DWG-2063 R01

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 Resolution	500 CPR	2000 states/rev
Encoder Type	Rotary quadrature encoder	
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-E01T3	0.2 ° (3.490000 mrad)	< 0.01 ° (< 0.174 mrad)	< 0.1 ° (< 1.745 mrad)	3000 °/s (500.0 rpm)
RSB060AU-E01T3	0.2 ° (3.490000 mrad)	< 0.01 ° (< 0.174 mrad)	< 0.1 ° (< 1.745 mrad)	3000 °/s (500.0 rpm)
RSB120AD-E01T3	0.19 ° (3.315500 mrad)	< 0.02 ° (< 0.349 mrad)	< 0.19 ° (< 3.316 mrad)	1800 °/s (300.0 rpm)
RSB120AU-E01T3	0.19 ° (3.315500 mrad)	< 0.02 ° (< 0.349 mrad)	< 0.19 ° (< 3.316 mrad)	1800 °/s (300.0 rpm)

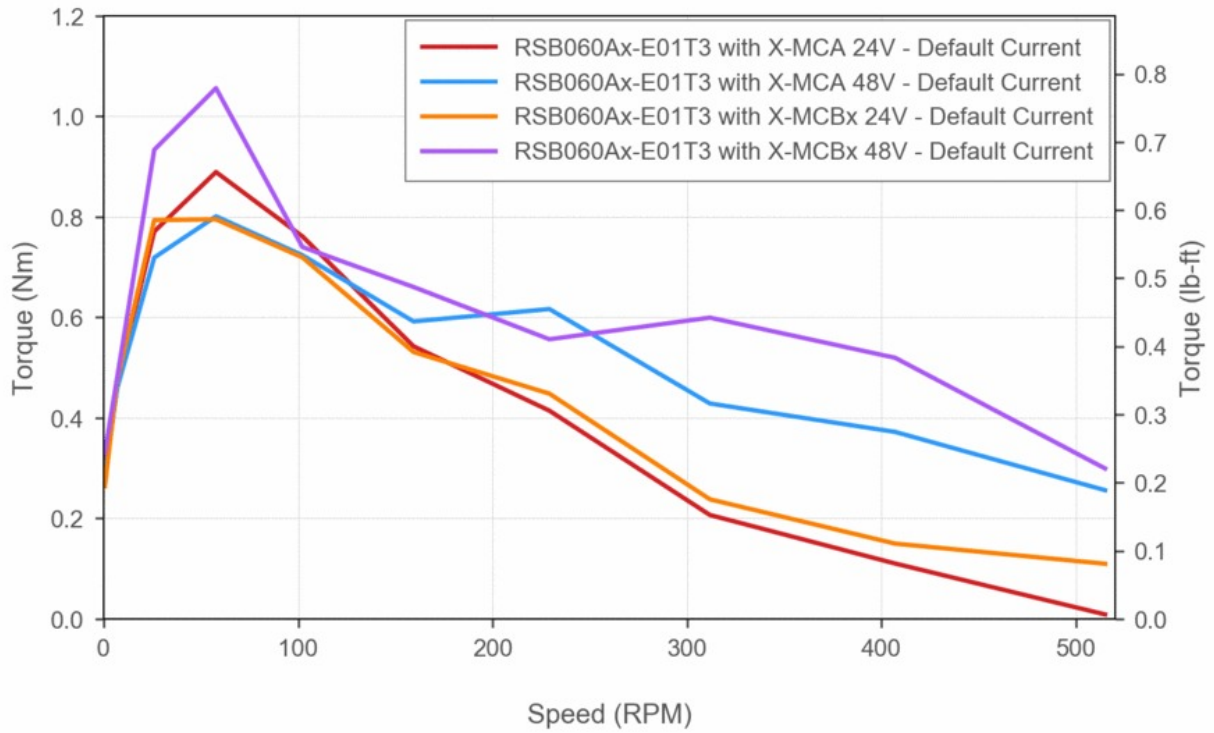
Part Number	Maximum Continuous Torque	Maximum Centered Load	Maximum Cantilever Load	Stage Top Dimension
RSB060AD-E01T3	100 N-cm (141.6 oz-in)	200 N (44.9 lb)	410 N-cm (580.6 oz-in)	60 mm (2.362 ")
RSB060AU-E01T3	100 N-cm	200 N (44.9 lb)	410 N-cm	60 mm (2.362 ")

Part Number	Maximum Continuous Torque	Maximum Centered Load	Maximum Cantilever Load	Stage Top Dimension
	(141.6 oz-in)		(580.6 oz-in)	
RSB120AD-E01T3	140 N-cm (198.3 oz-in)	500 N (112.1 lb)	2000 N-cm (2832.2 oz-in)	120 mm (4.724 ")
RSB120AU-E01T3	140 N-cm (198.3 oz-in)	500 N (112.1 lb)	2000 N-cm (2832.2 oz-in)	120 mm (4.724 ")

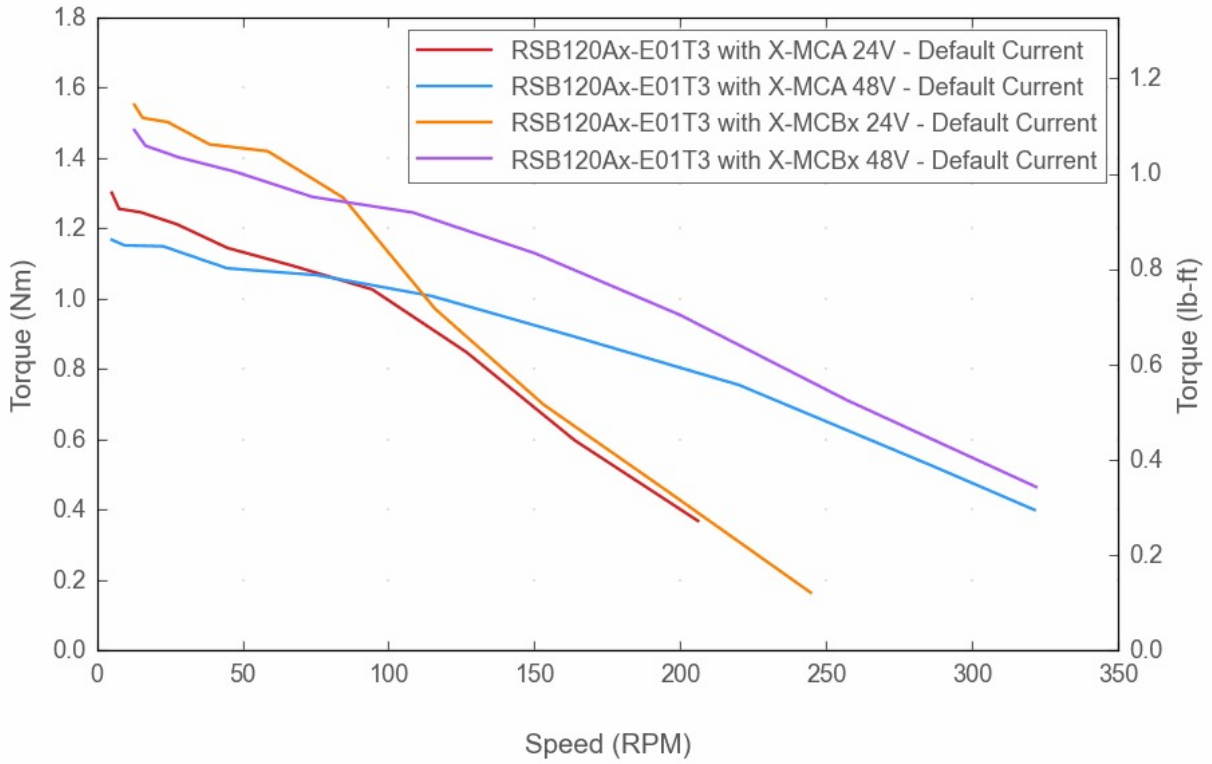
Part Number	Motor Rated Current	Inductance	Mounting Interface	Weight
RSB060AD-E01T3	2300 mA/phase	2.8 mH/phase	M6 and #8-32 threaded holes	0.84 kg (1.852 lb)
RSB060AU-E01T3	2300 mA/phase	2.8 mH/phase	M6 and #8-32 threaded holes	0.84 kg (1.852 lb)
RSB120AD-E01T3	2100 mA/phase	7.2 mH/phase	Kinematic with M2.5 and M6 threaded holes	2.10 kg (4.630 lb)
RSB120AU-E01T3	2100 mA/phase	7.2 mH/phase	Kinematic with M2.5 and M6 threaded holes	2.10 kg (4.630 lb)

Charts

Torque Speed Performance



Torque Speed Performance



Angular Acceleration

