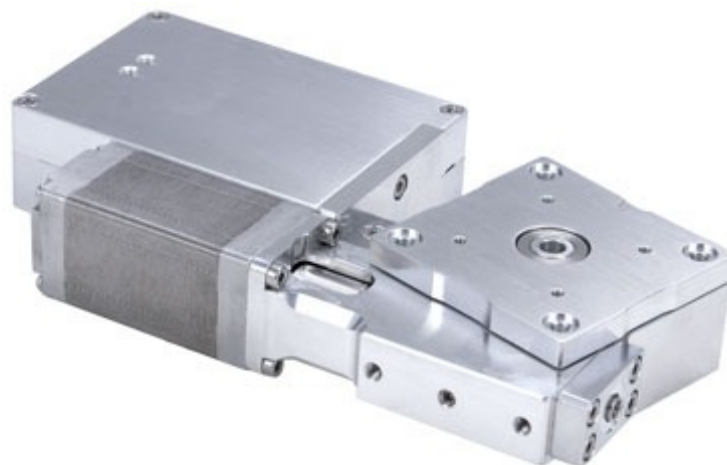


## X-RSM40B-SV1 Datasheet



- Vacuum compatible to 10<sup>-3</sup> Torr
- 0.02° repeatability
- 4 mm aperture
- 21 mm total height
- Worm gear driven for continuous rotation
- Only 4 feedthrough wires required to control all units in the daisy-chain via serial port (with an X-PIB adaptor)
- Integrated stepper motor controller and motor driver allows for easy-to-use control

## X-RSM-SV1 Series Overview

For more information about the basics of a vacuum system and considerations to keep in mind when gathering requirements for your application, read our technical article, "Motion Device Design Considerations for Vacuum Applications".

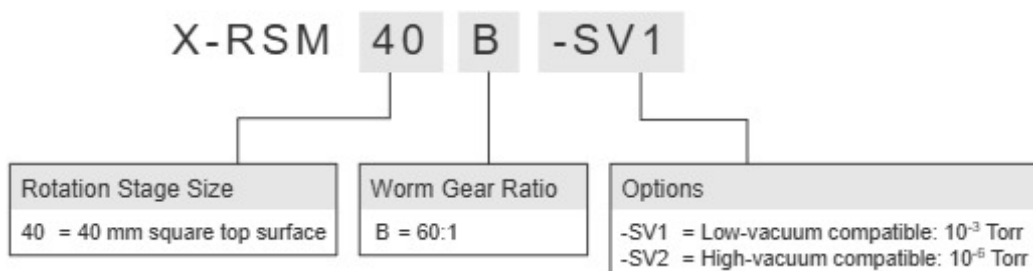
Zaber's X-RSM-SV1 Series, low-vacuum compatible rotation stages are our most compact stepper and worm gear driven devices. These are stand-alone units requiring only 4 wires for power and data connection.

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.

The X-RSM-SV1 is designed with vacuum compatible materials to minimize outgassing and allow for faster pump down times. Like all of Zaber's products, the X-RSM-SV1 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/vacuum-compatible-stages/X-RSM-SV1>

## X-RSM-SV1 Series Part Numbering & Options



## X-RSM40B-SV1 Drawings

- [X-RSM-SV.png \(Drawing for the X-RSM-SV\)](#)

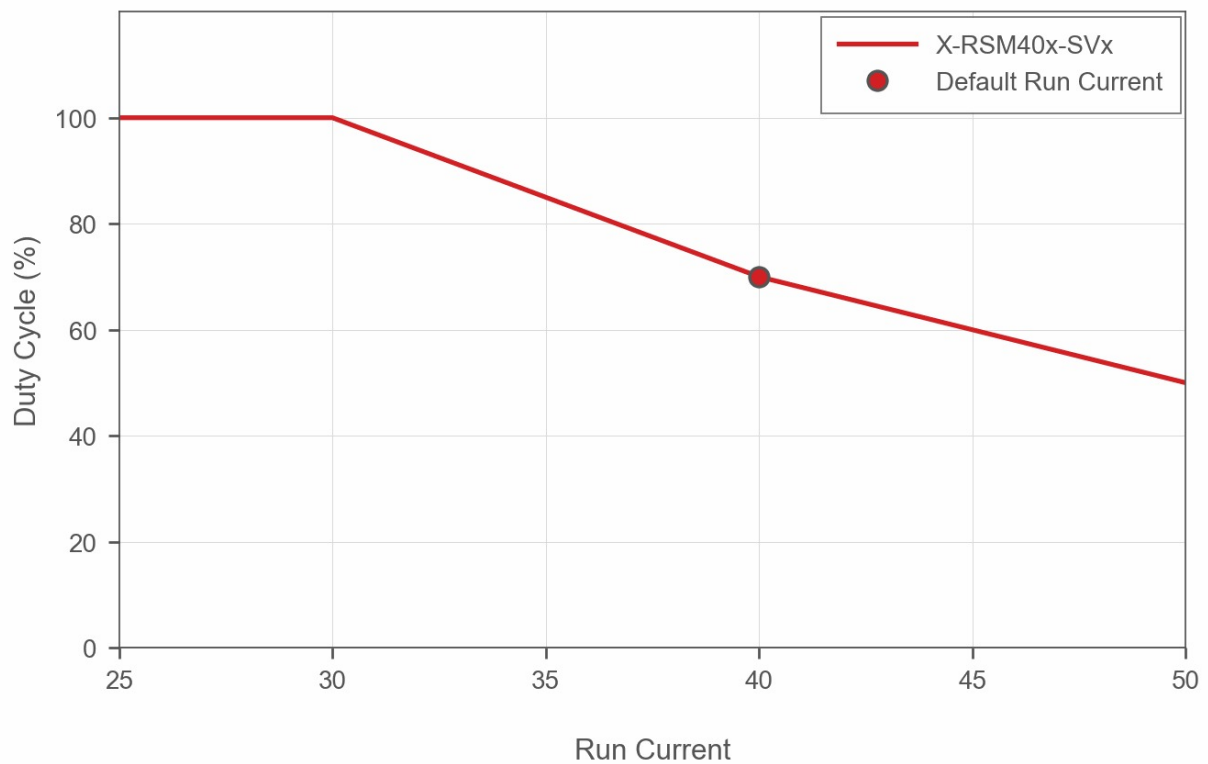
## X-RSM40B-SV1 Specifications

<b>Microstep Size (Default Resolution)</b>	<b>0.00046875° (8.181 μrad)</b>
Built-in Controller	Yes
Range	360°
Accuracy (unidirectional)	0.14° (2.443000 mrad)
Repeatability	< 0.02° (< 0.349 mrad)
Backlash	< 0.04° (< 0.698 mrad)
Maximum Speed	120°/s (20 rpm)
Minimum Speed	0.000286°/s (4.992 μrad/s)
Speed Resolution	0.000286°/s (4.992 μrad/s)
Encoder Type	No
Communication Interface	RS-232
Communication Protocol	Zaber ASCII (Default), Zaber Binary
Data Cable Connection	Teflon flying leads with M8 4 pin M/F
Maximum Continuous Torque	20 N-cm (28.3 oz-in)
Maximum Centered Load	50 N (11.2 lb)
Maximum Moment (Transverse)	30 N-cm (42.5 oz-in)
Stage Top Dimension	40 mm (1.575")
Radial Error Motion	+/- 10 μm (+/- 0.000394")
Axial Error Motion	< 4 μm (< 0.000157")
Tilt Error Motion	+/- 0.011° (+/- 191.99 μrad)
Bearing Plane Offset	11 mm (0.433")
Power Supply	24-48 VDC
Power Plug	None, use X-PIB
Maximum Current Draw	280 mA
Angular Motion Per Motor Rev	6°
Motor Steps Per Rev	200
Motor Type	Stepper (2 phase)
Inductance	3.5 mH/phase
Default Resolution	1/64 of a step
Motor Frame Size	NEMA 08
Mechanical Drive System	Precision Worm Gear

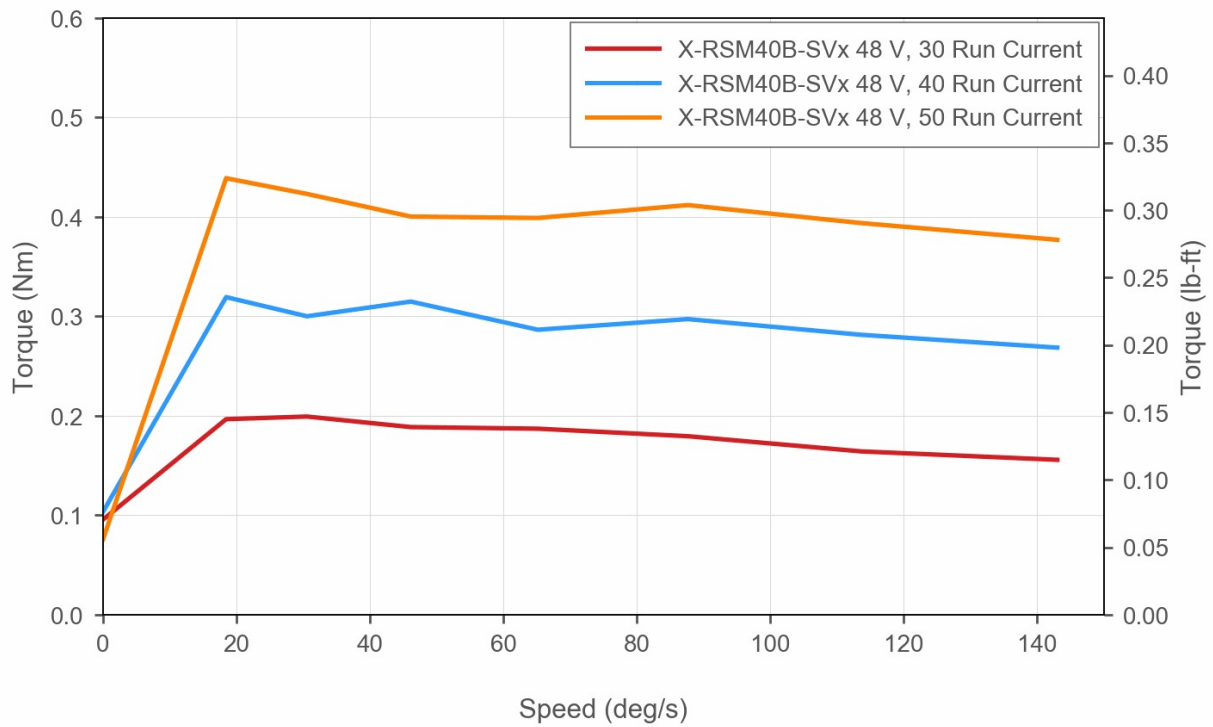
<b>Microstep Size (Default Resolution)</b>	<b>0.00046875° (8.181 μrad)</b>
Limit or Home Sensing	Magnetic home sensor
Manual Control	No
Mounting Interface	M2 and M3 mounting holes
Operating Temperature Range	0-50 °C
CE Compliant	Yes
Vacuum Compatible	Low vacuum (10 <sup>-3</sup> Torr)
Weight	0.300 kg (0.661 lb)

## X-RSM-SV1 Series Charts

### Recommended Duty Cycle



## Torque Speed Performance



## Contact

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