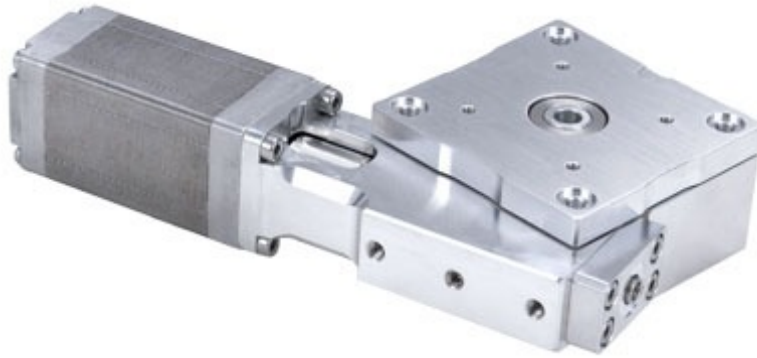


## RSM40B-V1T4 Datasheet



- Vacuum compatible to 10<sup>-3</sup> Torr
- 0.02° repeatability
- 21 mm total height
- 4 mm aperture
- Worm gear driven for continuous rotation
- Designed for use with an X-MCC Series stepper motor controller or any 2-phase stepper motor controller
- Only 7 feedthrough wires required to control these units

### RSM-V1 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 RSM-V1 Series, low-vacuum compatible rotation stages are our most compact stepper and worm gear driven devices.

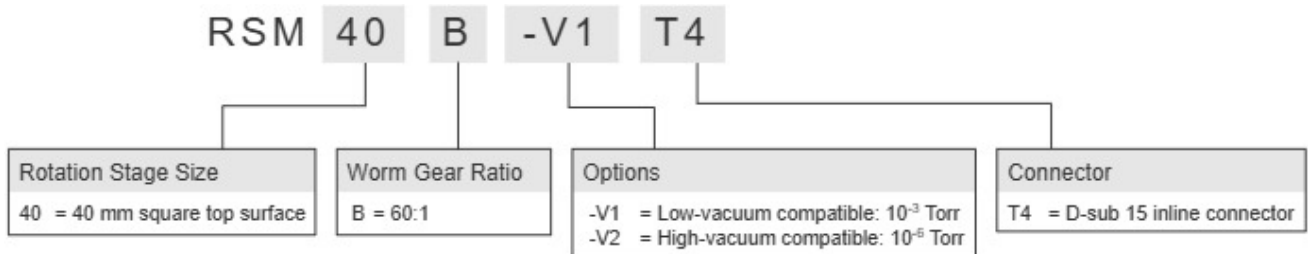
The RSM-V1 is designed with vacuum compatible materials to minimize outgassing and allow for faster pump down times. Like all of Zaber's products, the RSM-V1 Series is designed to be very easy to set up and operate.

These stages are wired with a male D-sub 15 connector for plug-and-play use with our X-MCC Series

stepper motor controllers. Simply cut the connector off for flying leads in vacuum and match the wire connections outside of the vacuum for an easy connection. Our handy kits include free software, and all of the accessories that you will need to get the stage running right out of the box.

For more information visit: <https://www.zaber.com/products/vacuum-compatible-stages/RSM-V1>

## RSM-V1 Series Part Numbering & Options



## RSM40B-V1T4 Drawings

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

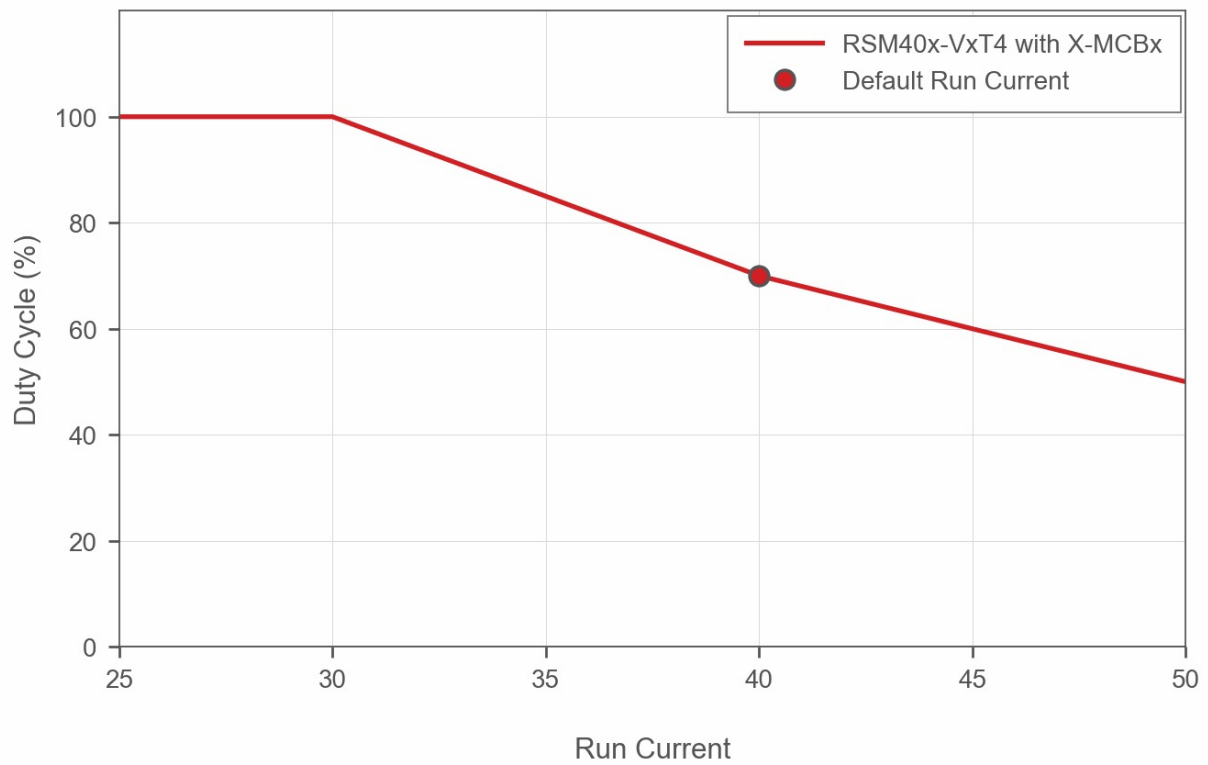
## RSM40B-V1T4 Specifications

<b>Microstep Size (Default Resolution)</b>	<b>0.00046875° (8.181 μrad)</b>
Built-in Controller	No
Recommended Controller	MCC (48 V) Recommended
AutoDetect	No
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
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")
Angular Motion Per Motor Rev	6°
Motor Steps Per Rev	200
Motor Type	Stepper (2 phase)
Inductance	3.5 mH/phase
Motor Connection	Teflon flying leads with D-sub15 connector
Default Resolution	1/64 of a step
Motor Frame Size	NEMA 08
Mechanical Drive System	Precision Worm Gear
Limit or Home Sensing	Magnetic home sensor
Manual Control	No
Mounting Interface	M2 and M3 mounting holes

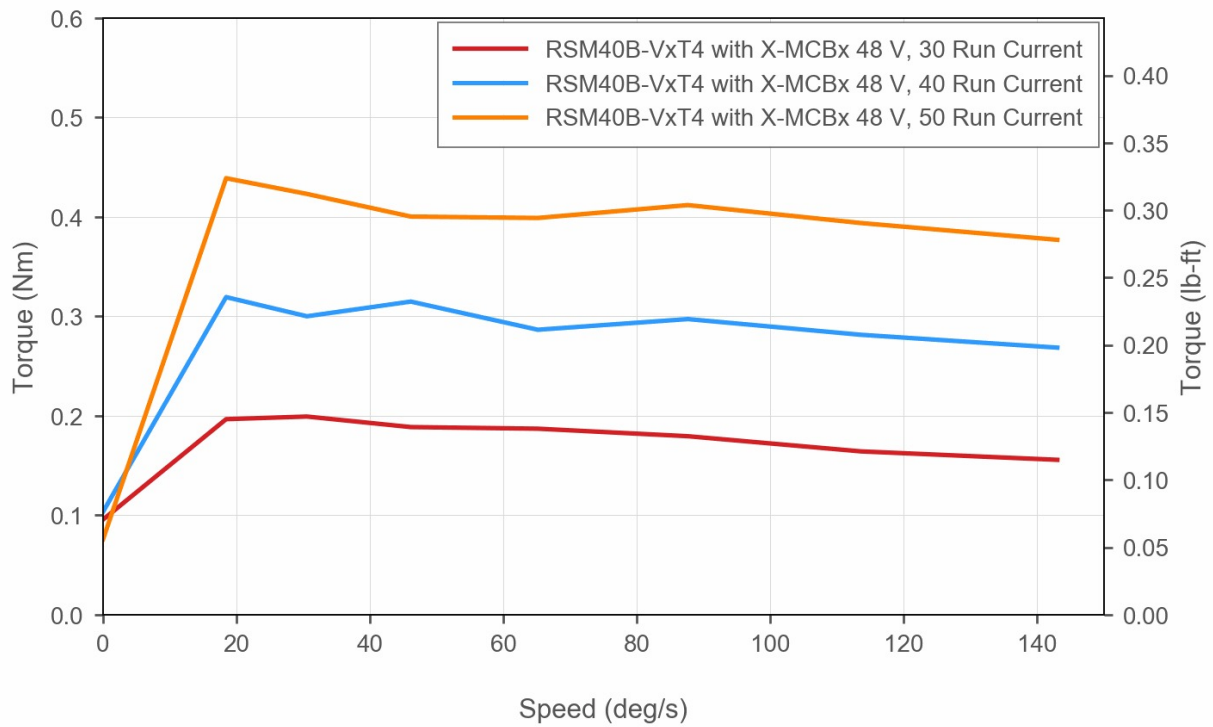
<b>Microstep Size (Default Resolution)</b>	<b>0.00046875° (8.181 μrad)</b>
Operating Temperature Range	0-50 °C
CE Compliant	Yes
Vacuum Compatible	Low vacuum (10 <sup>-3</sup> Torr)
Weight	0.300 kg (0.661 lb)

## RSM-V1 Series Charts

### Recommended Duty Cycle



## Torque Speed Performance



## Contact

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