Zaber Technologies Inc.
#2 - 605 West Kent Ave.
Vancouver, BC

1-604-569-3780 *Direct*
1-888-276-8033 *Toll Free*
1-604-648-8033 *Fax*

X-VSR40A-SV2 Datasheet



- Vacuum compatible to 10-6 Torr
- 20 mm or 40 mm travel
- Up to 48 mm/s speed and up to 200 N thrust
- 10 kg load capacity
- 55 or 85 mm retracted height
- Built-in controller; daisy-chains with other Zaber products
- Only 4 feedthrough wires required to control all units in the daisy-chain via serial port (with an X-PIB adapter)

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X-VSR40A-SV2 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-VSR-SV2 Series devices are high-vacuum compatible, computer-controlled, motorized vertical lift stages capable of moving 10 kg loads. They are stand-alone units requiring only a standard 24 V or 48 V power supply.

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.

Like all of Zaber's products, the X-VSR-SV2 Series is designed to be 'plug and play' and very easy to set up and operate. If you are considering a multi-axis system, with Z-axis, these lift stages make an excellent platform.

For more information visit: https://www.zaber.com/products/vacuum-compatible-stages/X-VSR-SV2?part=X-VSR40A-SV2

X-VSR40A-SV2 Part Numbering & Options

Part number: X-VSR40A-SV2

X-VSR 40 A -SV2

Travel	Lead Screw Options	Options
20 — 20 mm **40** — **40 mm (this part)**	**A** — **Fine pitch lead screw (this part)**	**-SV2** — **High-vacuum compatible: 10-6 Torr (this part)**

X-VSR40A-SV2 Drawings

- X-VSR-SV.png (Drawing for the X-VSR-SV2 high vacuum vertical stage with built-in controllers)
- View all drawings and documents at zaber.com

X-VSR40A-SV2 Specifications

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Overview

Specification	Value
Built-in Controller	Yes
Travel Range	40 mm (1.575 ")
Manual Control	No
Axes of Motion	1
Weight	0.77 kg (1.698 lb)

Positioning Performance

Specification	Value
Accuracy (unidirectional)	35 µm (0.001378 ")
Repeatability	<1 µm (<0.000039 ")
Loaded Backlash (10 N)	<10 µm (<0.000394 ")
Backlash	<120 µm (<0.004724 ")
Straightness of Travel	<35 µm (<0.001378 ")
Pitch Error	0.08 ° (1.396 mrad)
Roll Error	0.08 ° (1.396 mrad)
Microstep Size (Default Resolution)	0.09525 µm
Default Resolution	1/64 of a step

Load Performance

Specification	Value
Peak Thrust	200 N (44.9 lb)
Maximum Continuous Thrust	100 N (22.4 lb)

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Maximum Centred Load	100 N (22.4 lb)
Maximum Moment (Tilt)	300 N·cm (424.8 oz·in)

Speed

Specification	Value
Maximum Speed	48 mm/s (1.89 "/s)
Minimum Speed	0.000058 mm/s (0.000002 "/s)
Speed Resolution	0.000058 mm/s (0.000002 "/s)

Encoder & Sensing

Specification	Value
Limit or Home Sensing	Magnetic home sensor

Motor

Specification	Value
Linear Motion Per Motor Rev	1.2192 mm (0.048 ")
Motor Steps Per Rev	200
Motor Type	Stepper (2 phase)
Motor Rated Current	700 mA/phase
Motor Winding Inductance	8.7 mH/phase

Power and Communication

Specification	Value
Communication Interface	RS-232
Communication Protocol	Zaber ASCII (default), Zaber Binary
Data Cable Connection	Teflon flying leads with M8 4pin M/F
Power Supply	24-48 VDC

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Power Plug	None, use X-PIB
Maximum Current Draw	950 mA

Mechanical

Specification	Value
Guide Type	Crossed roller bearing
Mechanical Drive System	Precision lead screw
Mounting Interface	M6 and M3 threaded holes

Environmental & Compliance

Specification	Value
Operating Temperature Range	0-50 °C
CE Compliant	Yes
Vacuum Compatible	High vacuum (10-6 Torr)

X-VSR40A-SV2 Charts

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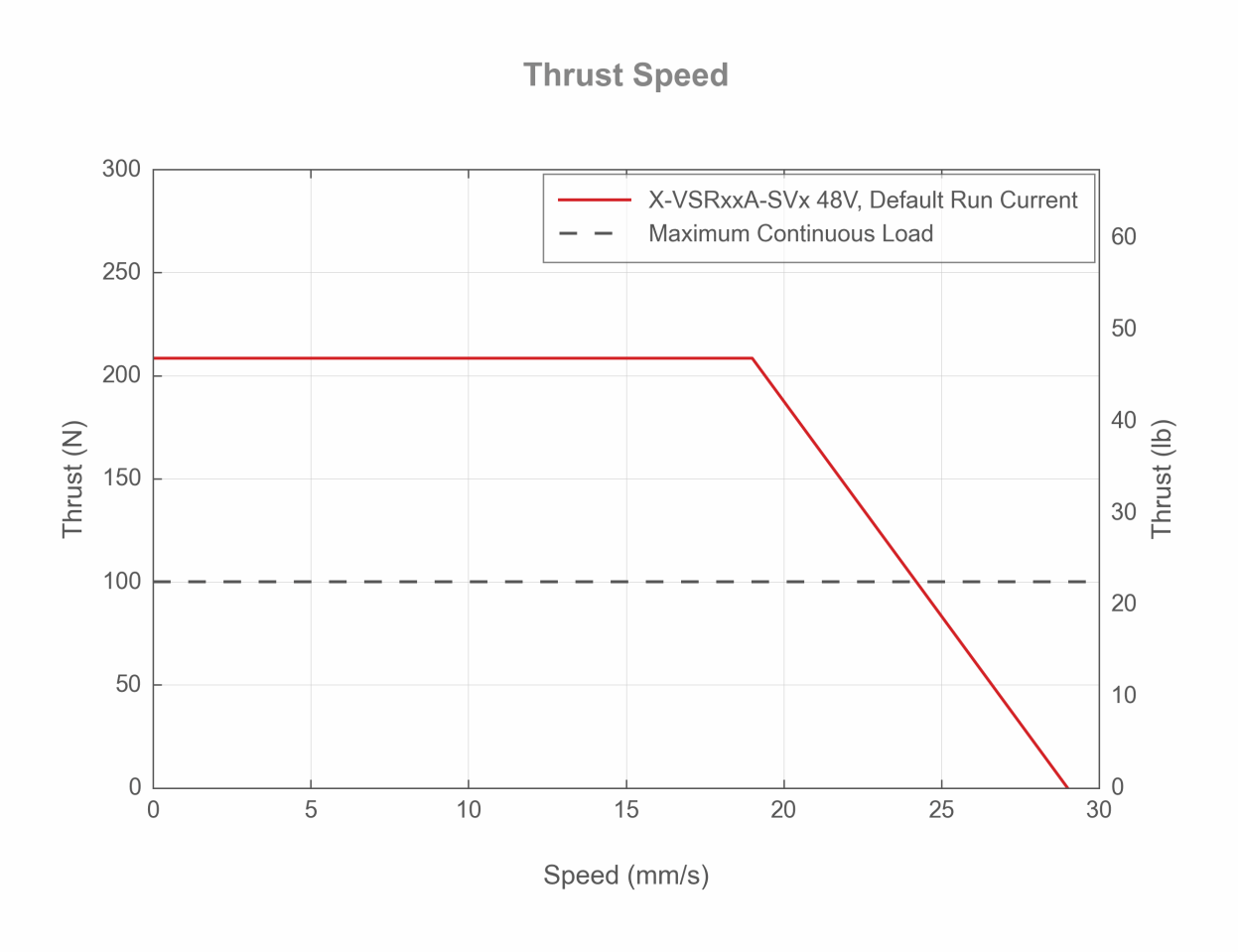
Thrust Speed Performance



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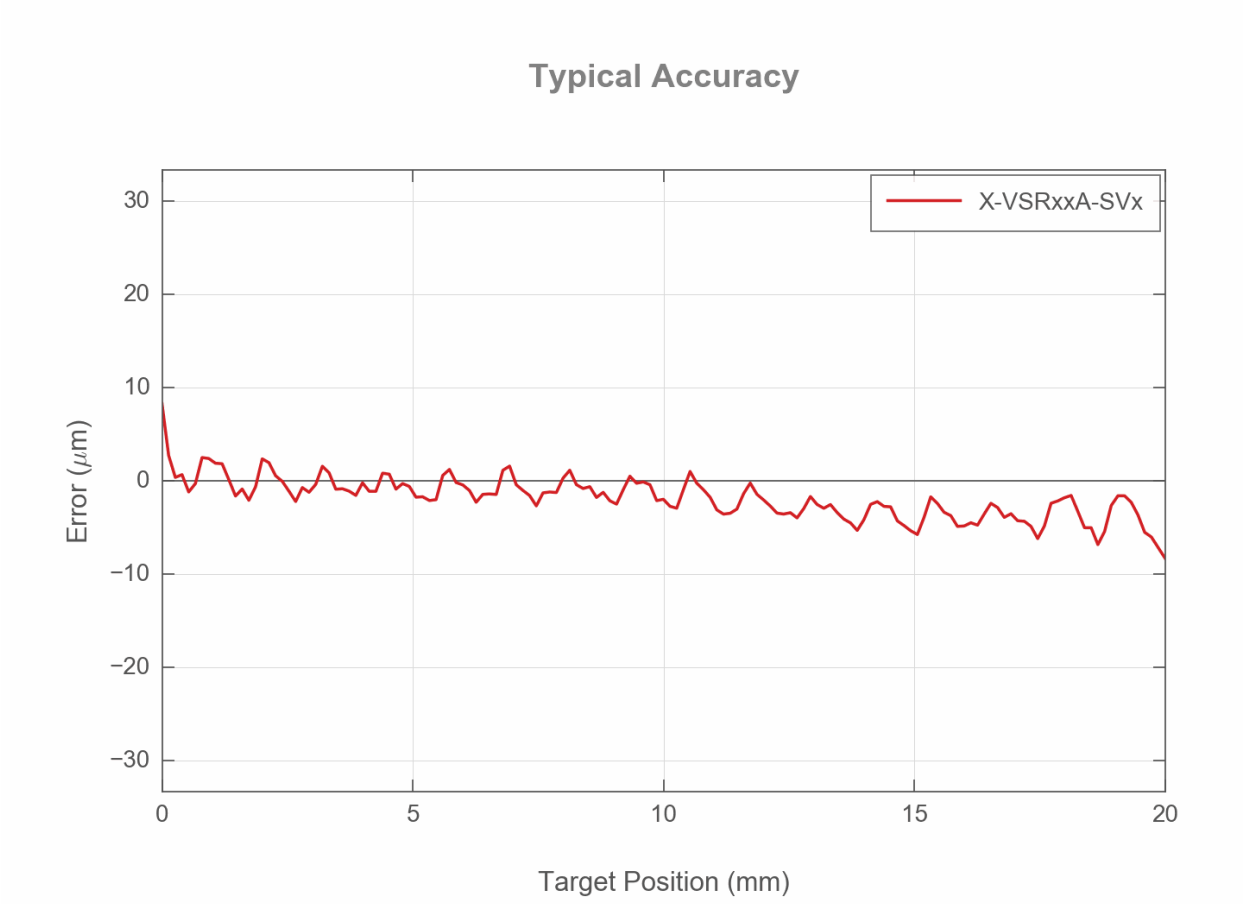
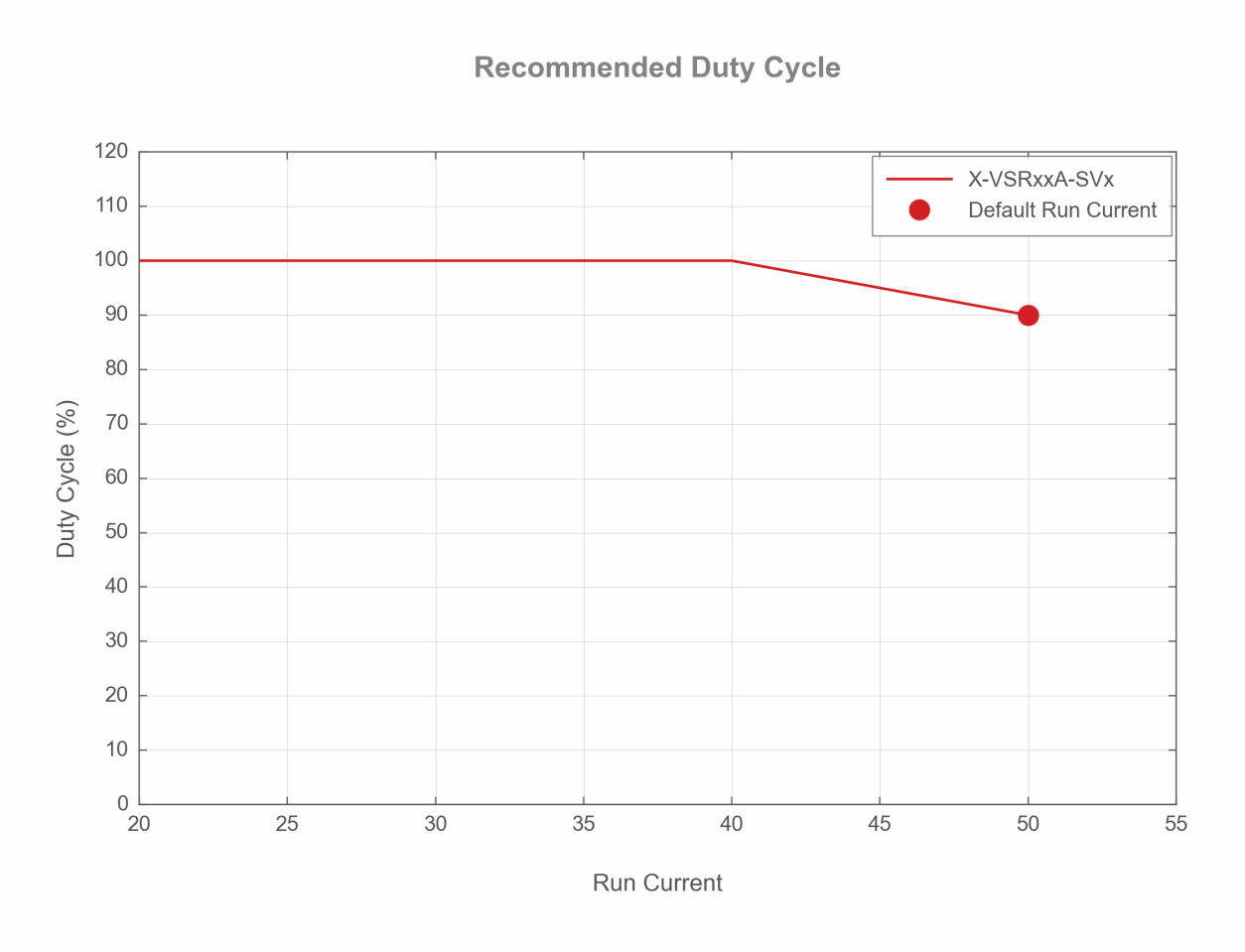
ERROR POSITION



Run Current Duty Cycle



Contact

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