

X-VSR Series Datasheet



- 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

X-VSR Series Overview

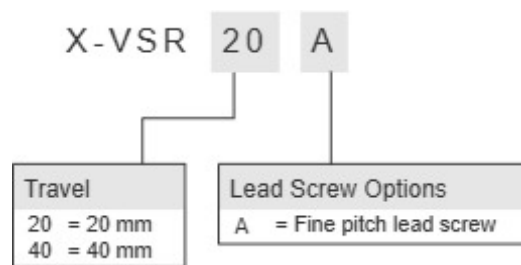
Zaber's X-VSR Series vertical lift stages are computer-controlled, stepper actuator driven platforms capable of moving 10 kg loads. They are stand-alone units requiring only a standard 48 V power supply.

An optional indexed knob provides convenient manual control for versatile operation even without a computer. 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.

Convenient locking, 4-pin, M8 connectors on the unit allow for secure connection between units. The X-VSR stages deliver exceptional travel and load capacity for their compact sizes, measuring only 55 mm (X-VSR20) or 85 mm (X-VSR40) tall when closed. With small footprints these stages can also mount directly onto Zaber's LST and LSQ series linear stages. Like all of Zaber's products, the X-VSR 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/vertical-stages/X-VSR>

X-VSR Series Part Numbering & Options



X-VSR Series Drawings

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

X-VSR Series Specifications

Microstep Size (Default Resolution)	0.09525 μm
Built-in Controller	Yes
Repeatability	< 1 μm (< 0.000039")
Loaded Backlash (10 N)	< 10 μm (< 0.000394")
Maximum Speed	48 mm/s (1.890"/s)
Minimum Speed	0.000058 mm/s (0.000002"/s)
Speed Resolution	0.000058 mm/s (0.000002"/s)
Peak Thrust	200 N (44.9 lb)
Maximum Continuous Thrust	100 N (22.4 lb)
Communication Interface	RS-232
Communication Protocol	Zaber ASCII (Default), Zaber Binary
Data Cable Connection	Locking 4-pin M8
Maximum Centered Load	100 N (22.4 lb)
Maximum Moment (Pitch)	300 N-cm (424.8 oz-in)
Maximum Moment (Roll)	300 N-cm (424.8 oz-in)
Maximum Moment (Yaw)	300 N-cm (424.8 oz-in)
Pitch	0.08° (1.396 mrad)
Roll	0.08° (1.396 mrad)
Yaw	0.08° (1.396 mrad)
Power Supply	24-48 VDC
Power Plug	2-pin Screw Terminal
Maximum Current Draw	950 mA
Linear Motion Per Motor Rev	1.2192 mm (0.048")
Motor Steps Per Rev	200
Motor Type	Stepper (2 phase)
Motor Rated Current	1500 mA/phase
Inductance	1.9 mH/phase
Default Resolution	1/64 of a step
Mechanical Drive System	Precision Lead Screw
Limit or Home Sensing	Magnetic home sensor
Manual Control	Yes

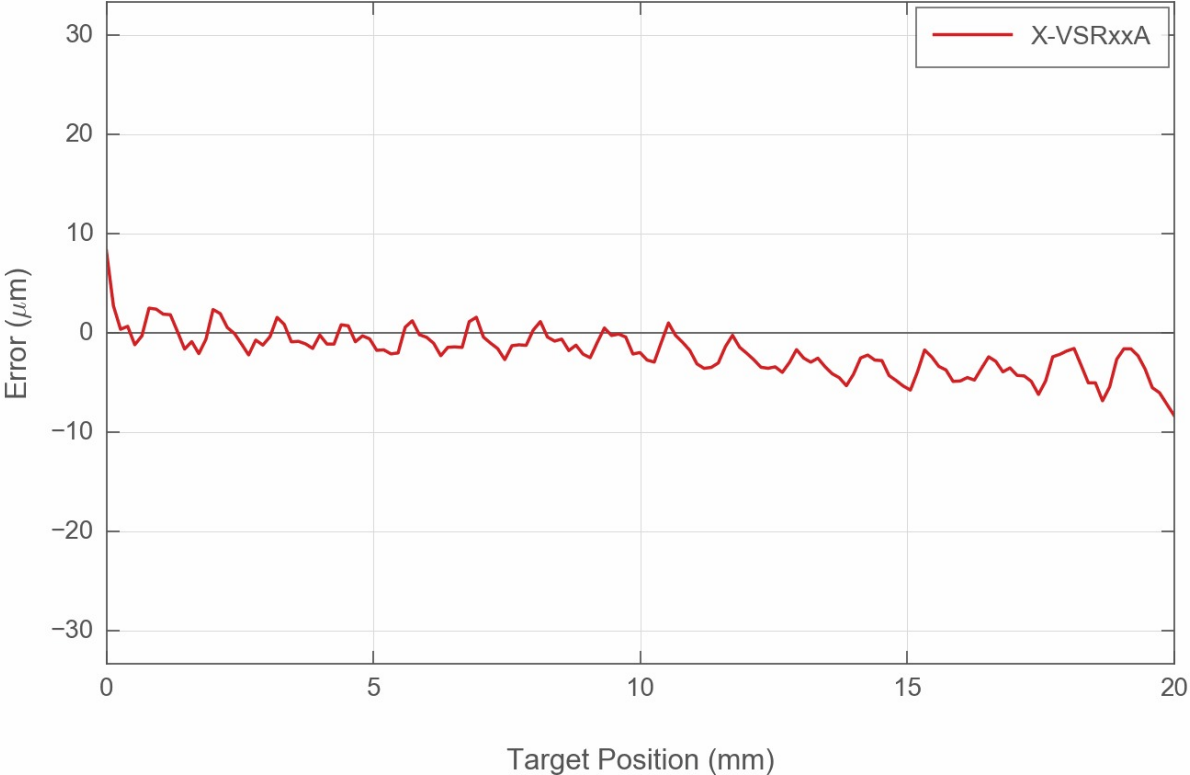
Microstep Size (Default Resolution)	0.09525 μm
Axes of Motion	1
Mounting Interface	M6 and M3 threaded holes
Operating Temperature Range	0-50 $^{\circ}\text{C}$
CE Compliant	Yes
Vacuum Compatible	No

Part Number	Travel Range	Accuracy (unidirectional)	Loaded Accuracy (10 N)	Backlash
X-VSR20A	20 mm (0.787")	50 μm (0.001968")	35 μm (0.001378")	< 35 μm (< 0.001378")
X-VSR40A	40 mm (1.575")	35 μm (0.001378")	20 μm (0.000787")	< 120 μm (< 0.004724")

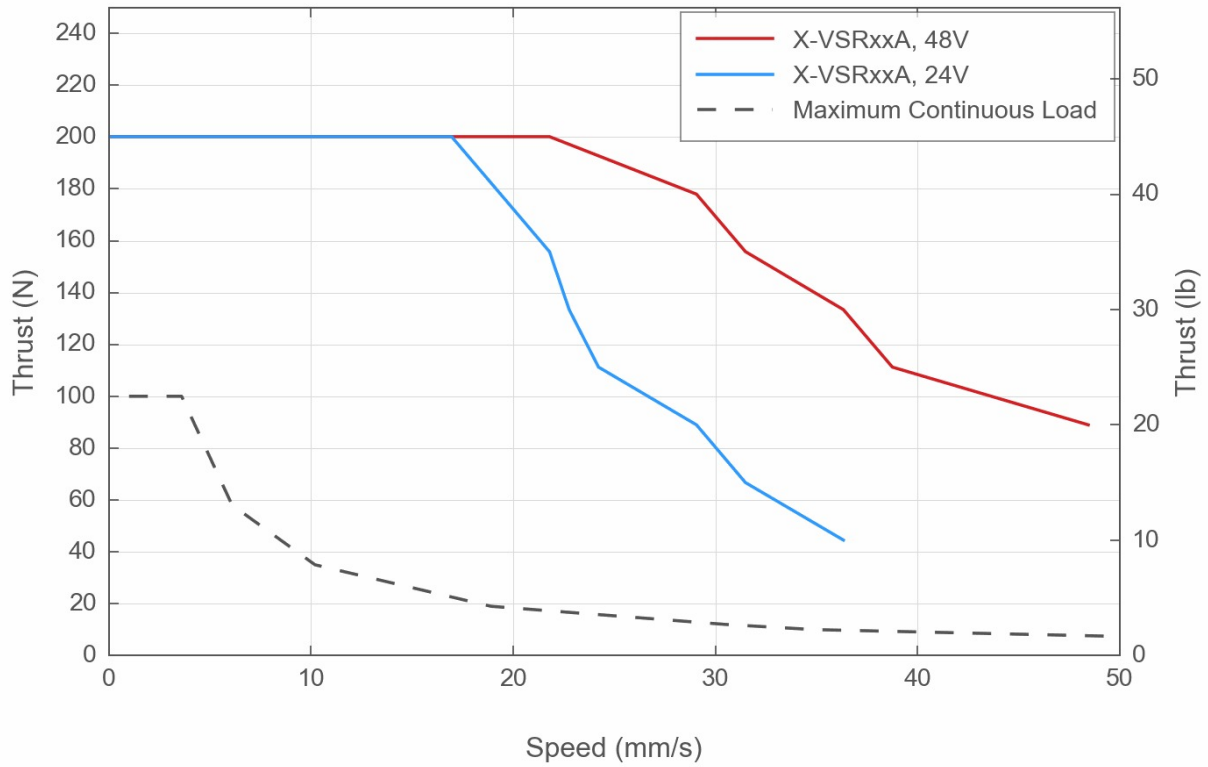
Part Number	Horizontal Runout	Guide Type	Weight
X-VSR20A	< 30 μm (< 0.001181")	Ball Bearing	0.573 kg (1.263 lb)
X-VSR40A	< 35 μm (< 0.001378")	Crossed-Roller Bearing	0.813 kg (1.792 lb)

X-VSR Series Charts

Typical Accuracy



Thrust Speed Performance



Contact

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