

X-VSR20A 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

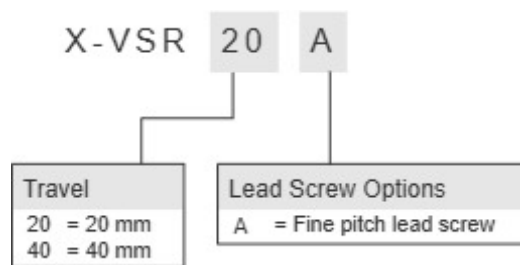
Zaber's X-VSR Series vertical lift stages are computer-controlled, stepper actuator driven platforms capable of moving 10 kg loads. They are stand-alone units requiring only a standard 48 V power supply.

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-VSR20A Drawings

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

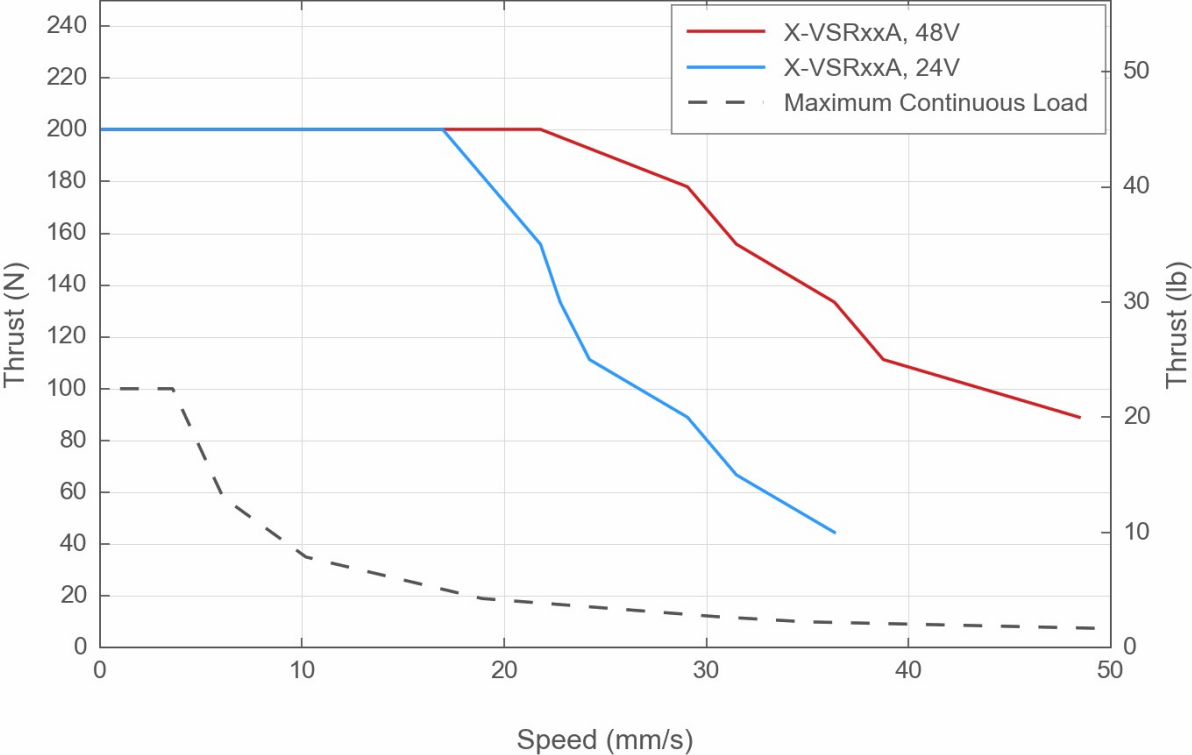
X-VSR20A Specifications

Microstep Size (Default Resolution)	0.09525 μm
Built-in Controller	Yes
Travel Range	20 mm (0.787")
Accuracy (unidirectional)	50 μm (0.001968")
Loaded Accuracy (10 N)	35 μm (0.001378")
Repeatability	< 1 μm (< 0.000039")
Loaded Backlash (10 N)	< 10 μm (< 0.000394")
Backlash	< 35 μm (< 0.001378")
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)
Horizontal Runout	< 30 μm (< 0.001181")
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

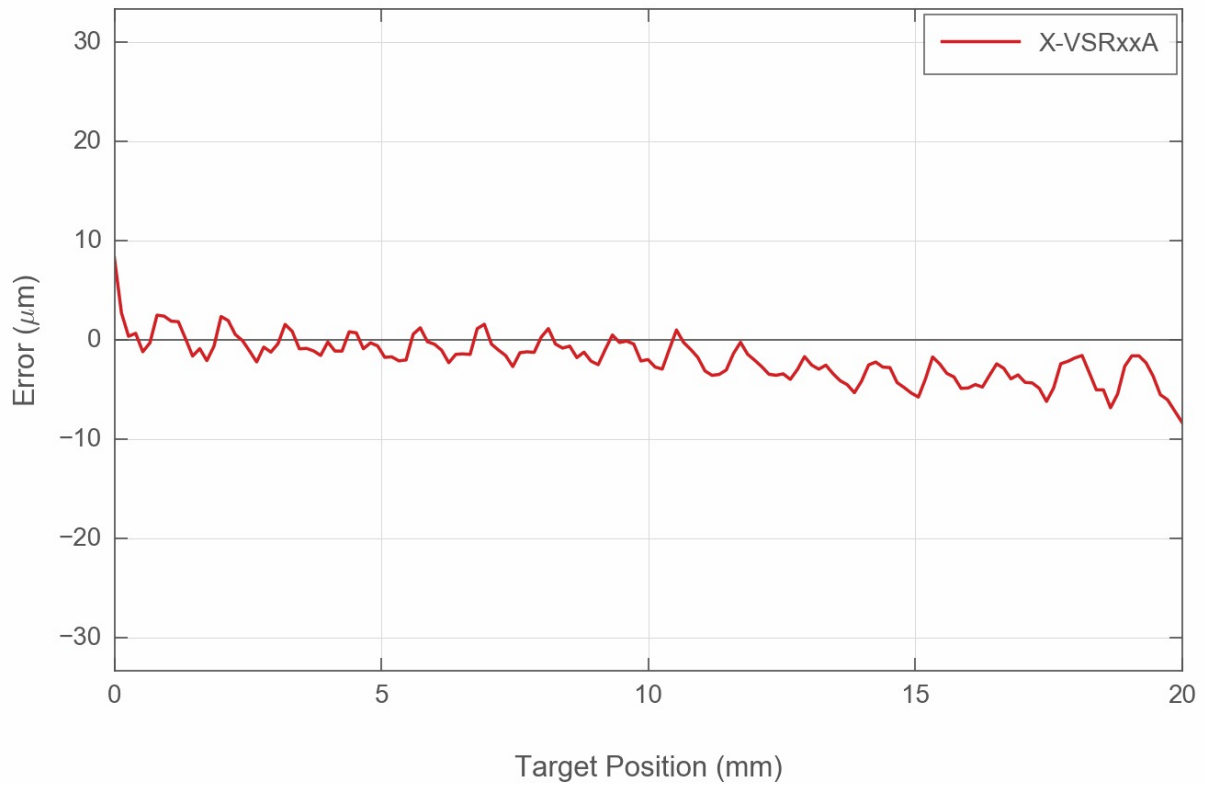
Microstep Size (Default Resolution)	0.09525 μm
Inductance	1.9 mH/phase
Default Resolution	1/64 of a step
Guide Type	Ball Bearing
Mechanical Drive System	Precision Lead Screw
Limit or Home Sensing	Magnetic home sensor
Manual Control	Yes
Axes of Motion	1
Mounting Interface	M6 and M3 threaded holes
Operating Temperature Range	0-50 °C
CE Compliant	Yes
Vacuum Compatible	No
Weight	0.573 kg (1.263 lb)

X-VSR Series Charts

Thrust Speed Performance



Typical Accuracy



Contact

Email: contact@zaber.com

Phone (toll free Canada/USA): 1-888-276-8033

Phone (direct): 1-604-569-3780

Fax: 1-604-648-8033

Zaber Technologies Inc.

#2 - 605 West Kent Ave. N.

Vancouver, British Columbia

Canada, V6P 6T7

<https://www.zaber.com>