

## X-VSR20A-E01 Datasheet



- 20 mm travel
- Up to 48 mm/s speed and up to 200 N thrust
- 10 kg load capacity
- Built-in, 500 CPR, motor encoder provides slip/stall detection and recovery
- 73 mm retracted height
- Built-in controller; daisy-chains with other Zaber products

## X-VSR-E Series Overview

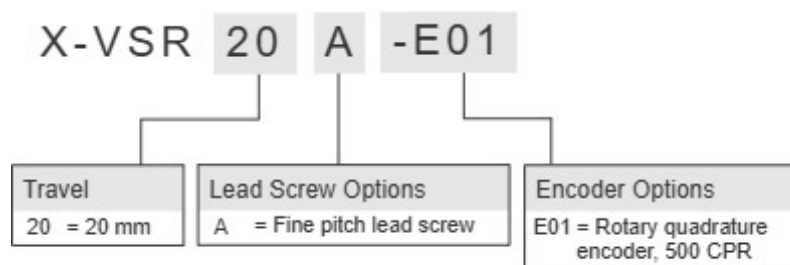
Zaber's X-VSR-E Series vertical lift stages are computer-controlled, stepper actuator driven platforms capable of moving 10 kg loads. They are stand-alone units requiring only a standard 48 V power supply.

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-E stages deliver exceptional travel and load capacity for their compact sizes, measuring only 73 mm tall when closed. With small footprints these stages can also mount directly onto Zaber's LST and LSQ-E series linear stages. Like all of Zaber's products, the X-VSR-E 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-E>

## X-VSR-E Series Part Numbering & Options



## X-VSR20A-E01 Drawings

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

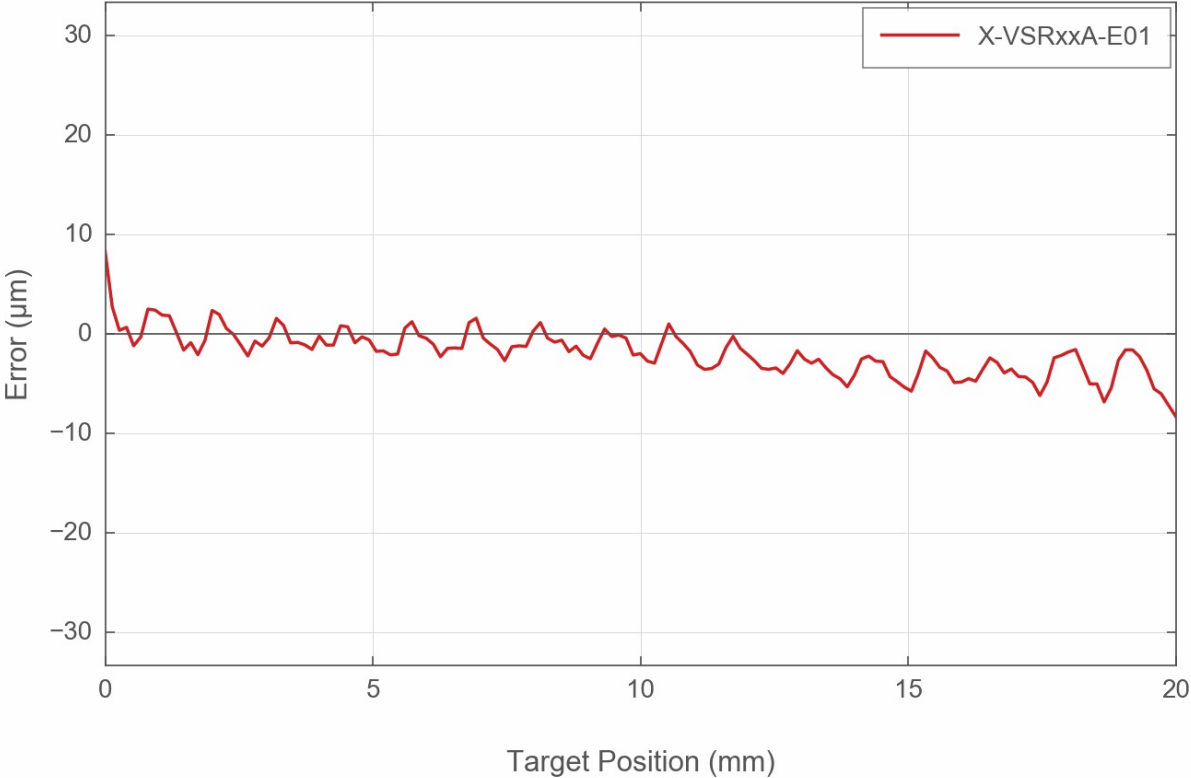
## X-VSR20A-E01 Specifications

<b>Microstep Size (Default Resolution)</b>	<b>0.09525 <math>\mu\text{m}</math></b>
Built-in Controller	Yes
Travel Range	20 mm (0.787")
Accuracy (unidirectional)	50 $\mu\text{m}$ (0.001968")
Loaded Accuracy (10 N)	35 $\mu\text{m}$ (0.001378")
Repeatability	< 1 $\mu\text{m}$ (< 0.000039")
Loaded Backlash (10 N)	< 10 $\mu\text{m}$ (< 0.000394")
Backlash	< 35 $\mu\text{m}$ (< 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)
Encoder Resolution	500 CPR (2000 states/rev)
Encoder Type	Rotary quadrature encoder
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 $\mu\text{m}$ (< 0.001181")
Pitch	0.12° (2.094 mrad)
Roll	0.12° (2.094 mrad)
Yaw	0.12° (2.094 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

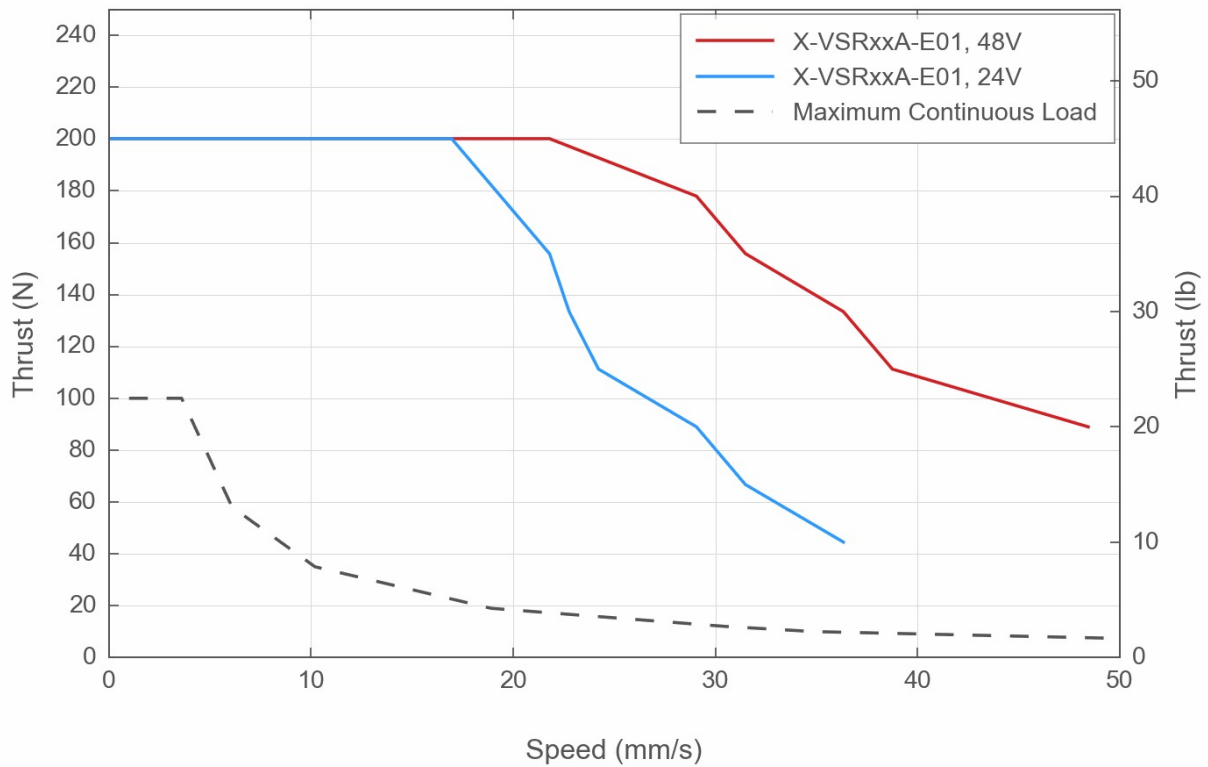
<b>Microstep Size (Default Resolution)</b>	<b>0.09525 <math>\mu\text{m}</math></b>
Motor Type	Stepper (2 phase)
Motor Rated Current	1500 mA/phase
Inductance	2.2 mH/phase
Default Resolution	1/64 of a step
Guide Type	Ball Bearing
Mechanical Drive System	Precision Lead Screw
Limit or Home Sensing	Magnetic 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	0.609 kg (1.343 lb)

X-VSR-E Series Charts

Typical Accuracy



## Thrust Speed Performance



## Contact

Email: [contact@zaber.com](mailto: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>