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-VSR-E Series 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

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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 X-LRT-EC and X-LRQ-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-VSR 20 A - E01

Travel	Lead Screw Options	Encoder Options
20 — 20 mm	**A** — Fine pitch lead screw	**E01** — Motor Encoder, 500 CPR

X-VSR-E Series Drawings

- X-VSR-E.png (Drawing for the X-VSR-E vertical lift stage with built-in controllers and motor encoders)
- View all drawings and documents at zaber.com

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X-VSR-E Series Specifications

Overview

Specification	Value
Built-in Controller	Yes
Travel Range	20 mm (0.787 ")
Manual Control	Yes
Axes of Motion	1
Weight	0.609 kg (1.343 lb)

Positioning Performance

Specification	Value
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 ")
Straightness of Travel	<30 µm (<0.001181 ")
Pitch Error	0.12 ° (2.094 mrad)
Roll Error	0.12 ° (2.094 mrad)
Yaw Error	0.12 ° (2.094 mrad)
Microstep Size (Default Resolution)	0.09525 µm
Default Resolution	1/64 of a step

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Load Performance

Specification	Value
Peak Thrust	200 N (44.9 lb)
Maximum Continuous Thrust	100 N (22.4 lb)
Maximum Centred Load	100 N (22.4 lb)
Maximum Moment (Pitch)	3 N·m (2.2 lb·ft)
Maximum Moment (Roll)	3 N·m (2.214 lb·ft)
Maximum Moment (Yaw)	3 N·m (2.214 lb·ft)

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
Encoder Type	Rotary quadrature encoder (incremental)
Encoder Resolution	500 CPR (2 states/rev)
Limit or Home Sensing	Magnetic home sensor

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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	1500 mA/phase
Motor Winding Inductance	2.2 mH/phase
Motor Rotor Inertia	2.5e-6 kg·m2

Power and Communication

Specification	Value
Communication Interface	RS-232
Communication Protocol	Zaber ASCII (default), Zaber Binary
Data Cable Connection	Locking 4-pin M8
Power Supply	24-48 VDC
Power Plug	2-pin screw terminal
Maximum Current Draw	950 mA

Mechanical

Specification	Value
Guide Type	Ball bearing
Mechanical Drive System	Precision lead screw
Mounting Interface	M6 and M3 threaded holes
Moving Mass	0.139 kg (0.306 lbs)

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Environmental & Compliance

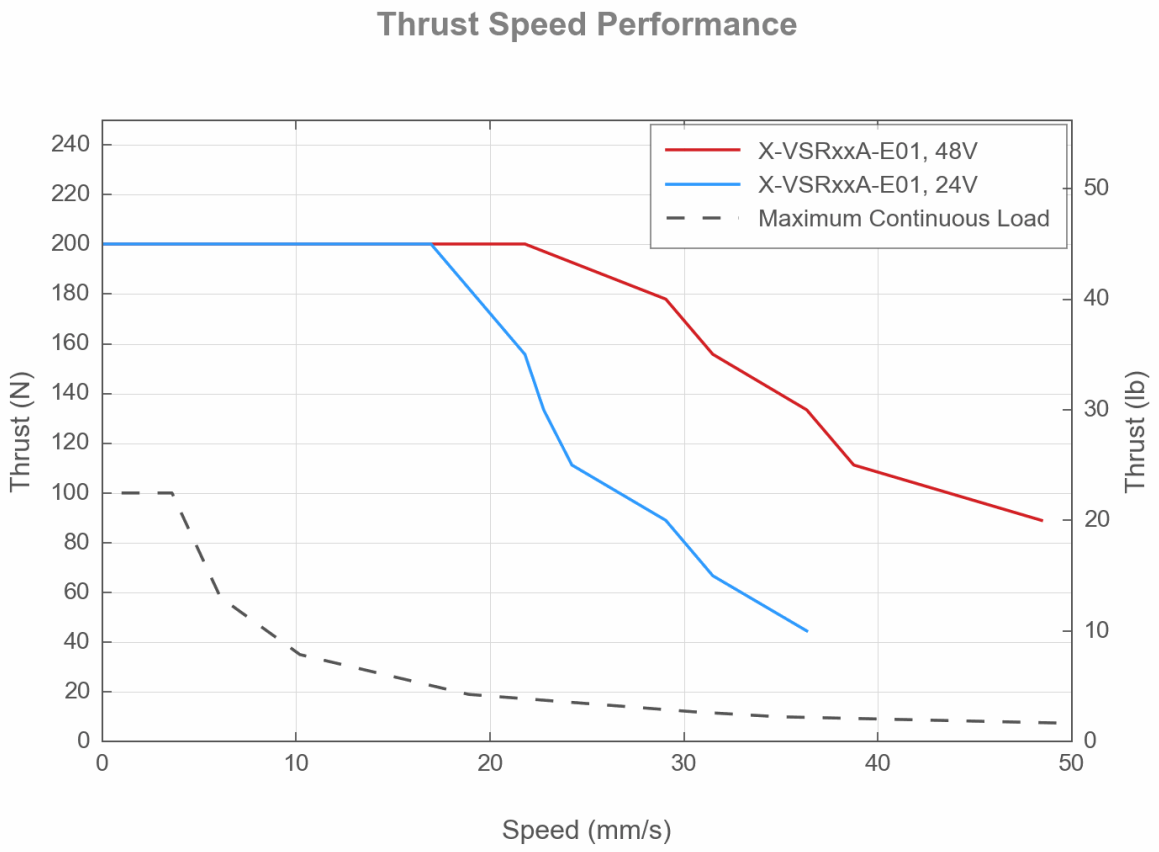
Specification	Value
Operating Temperature Range	0-50 °C
CE Compliant	Yes
Vacuum Compatible	No

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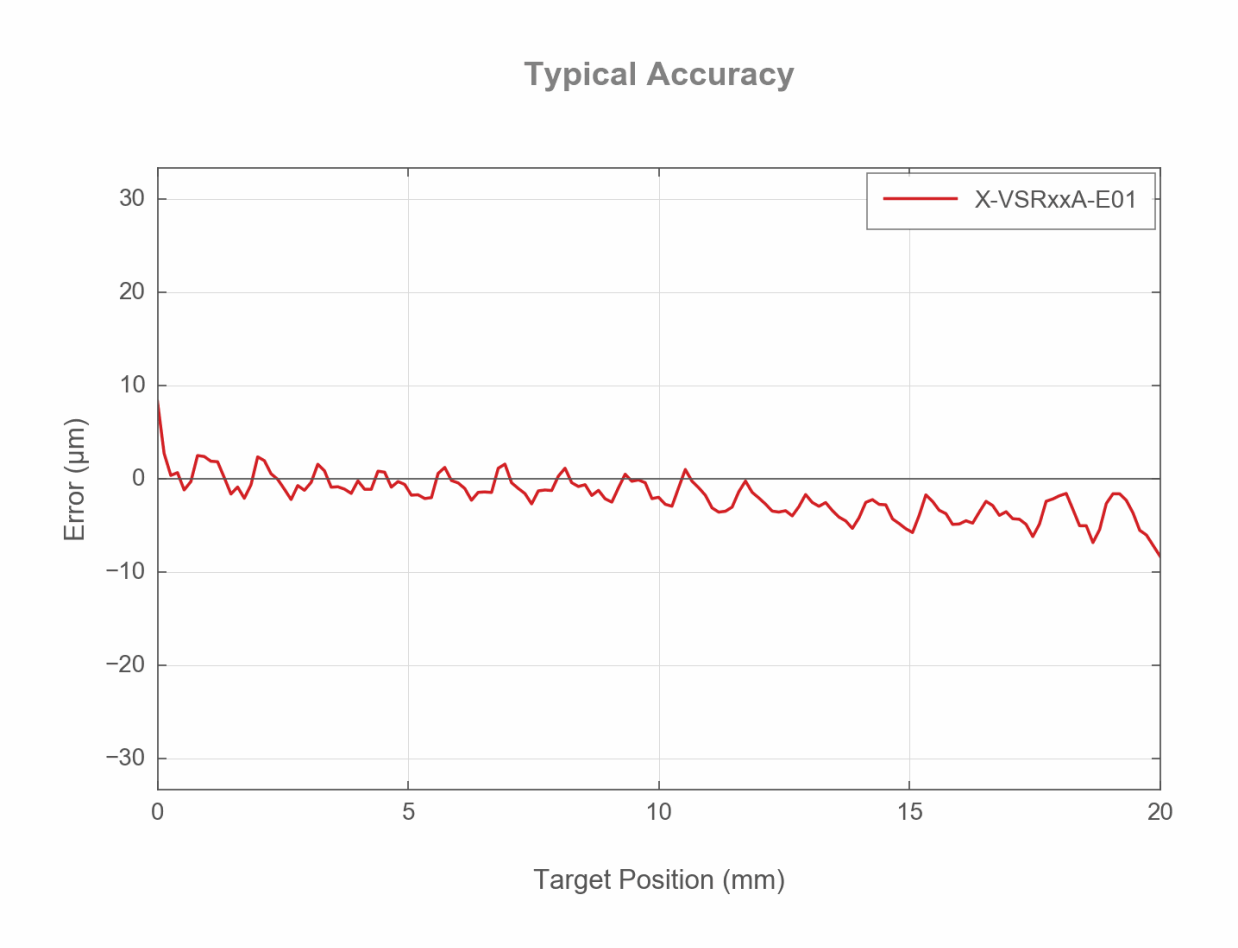
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X-VSR-E Series Charts

THRUST SPEED



ACCURACY



Contact

Email: contact@zaber.com

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