

VSR20A-E01T3A Datasheet



- 20 mm travel
- Up to 55 mm/s speed and up to 200 N thrust
- 10 kg load capacity
- 73 mm retracted height
- Built-in, 500 CPR, motor encoder provides slip/stall detection and recovery
- Designed for use with MCC Family controllers or any 2-phase stepper motor controller
- With AutoDetect, Zaber controllers automatically configure settings for the connected peripheral

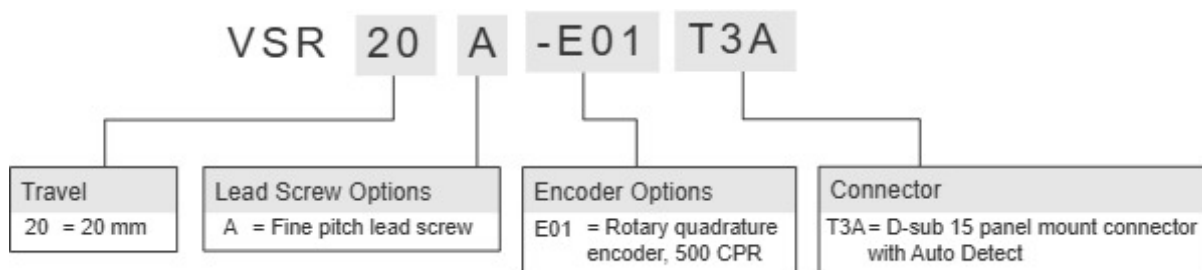
VSR-E Series Overview

Zaber's VSR-E vertical lift stages are stepper actuator driven platforms capable of moving 10 kg loads. They 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 LRT-C and LSQ series of linear stages.

The stages are designed to connect directly to our MCC Family universal motor controllers, or they can be used with any 2-phase stepper motor controller through the panel mount DB15 connector. Set up is easy with AutoDetect. Once connected, the controller will automatically detect and configure the VSR-E.

For more information visit: <https://www.zaber.com/products/vertical-stages/VSR-E>

VSR-E Series Part Numbering & Options



VSR20A-E01T3A Drawings

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

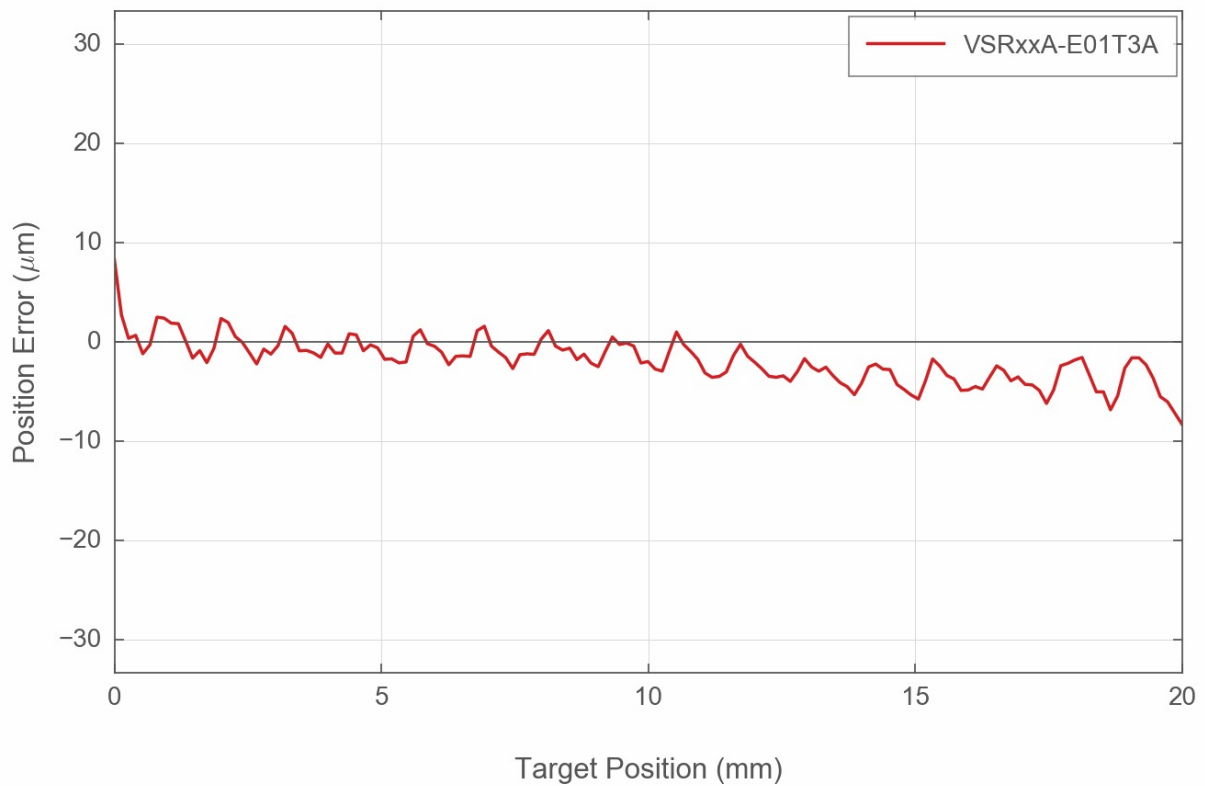
VSR20A-E01T3A Specifications

Microstep Size (Default Resolution)	0.09525 μm
Built-in Controller	No
Recommended Controller	MCC (48 V) Recommended
AutoDetect	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	55 mm/s (2.165"/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)
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	0.12° (2.094 mrad)
Roll	0.12° (2.094 mrad)
Yaw	0.12° (2.094 mrad)
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	2.2 mH/phase
Motor Connection	D-sub 15

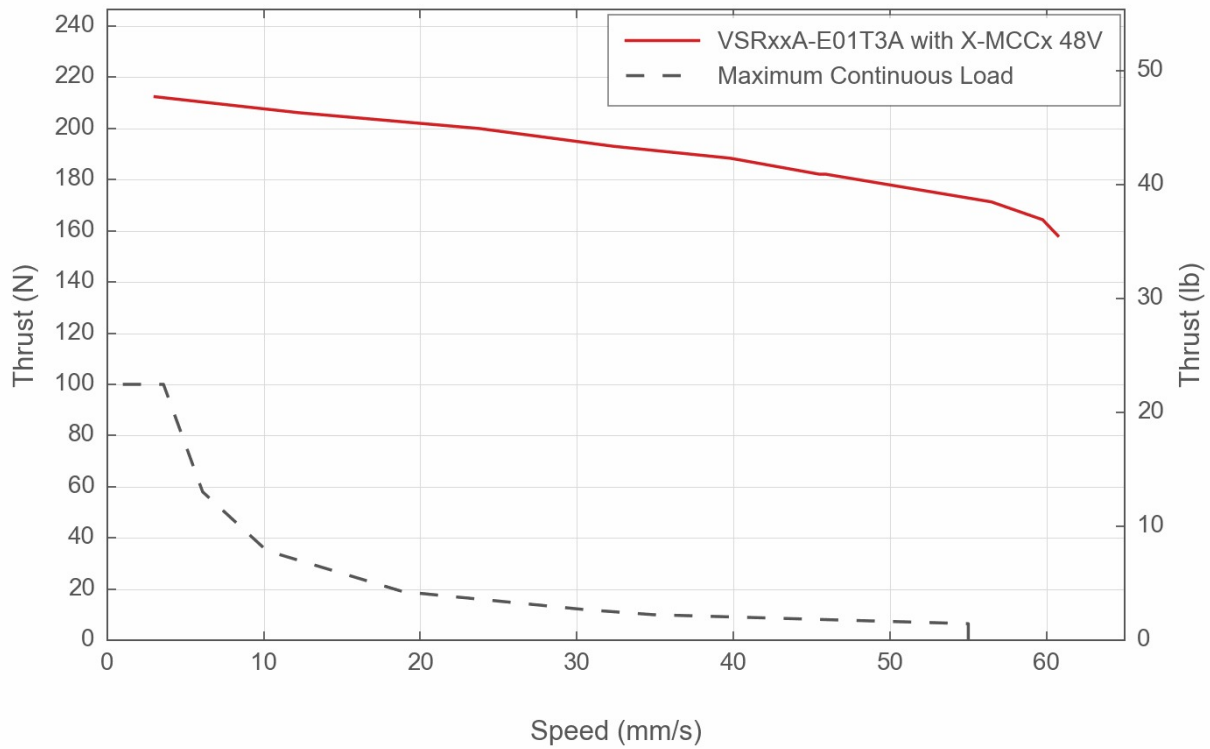
Microstep Size (Default Resolution)	0.09525 μm
Default Resolution	1/64 of a step
Guide Type	Ball Bearing
Mechanical Drive System	Precision Lead Screw
Limit or Home Sensing	Magnetic home sensor
Axes of Motion	1
Mounting Interface	M6 and M3 threaded holes
Operating Temperature Range	0-50 $^{\circ}\text{C}$
CE Compliant	Yes
Vacuum Compatible	No
Weight	0.57 kg (1.257 lb)

VSR-E Series Charts

Typical Accuracy



Thrust Speed Performance



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>