

## 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

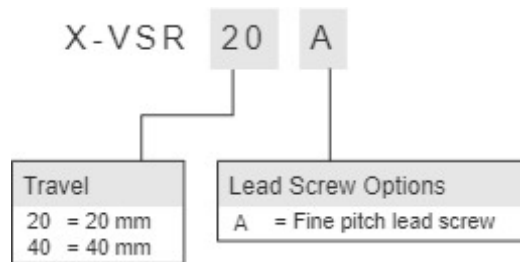
Zaber's X-VSR Series vertical lift stages are computer-controlled, stepper actuator driven platforms capable of moving 10 kg loads. They are stand-alone units requiring only a standard 48 V power supply.

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>

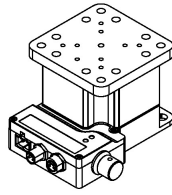
## X-VSR Series Part Numbering



# X-VSR Series Drawings

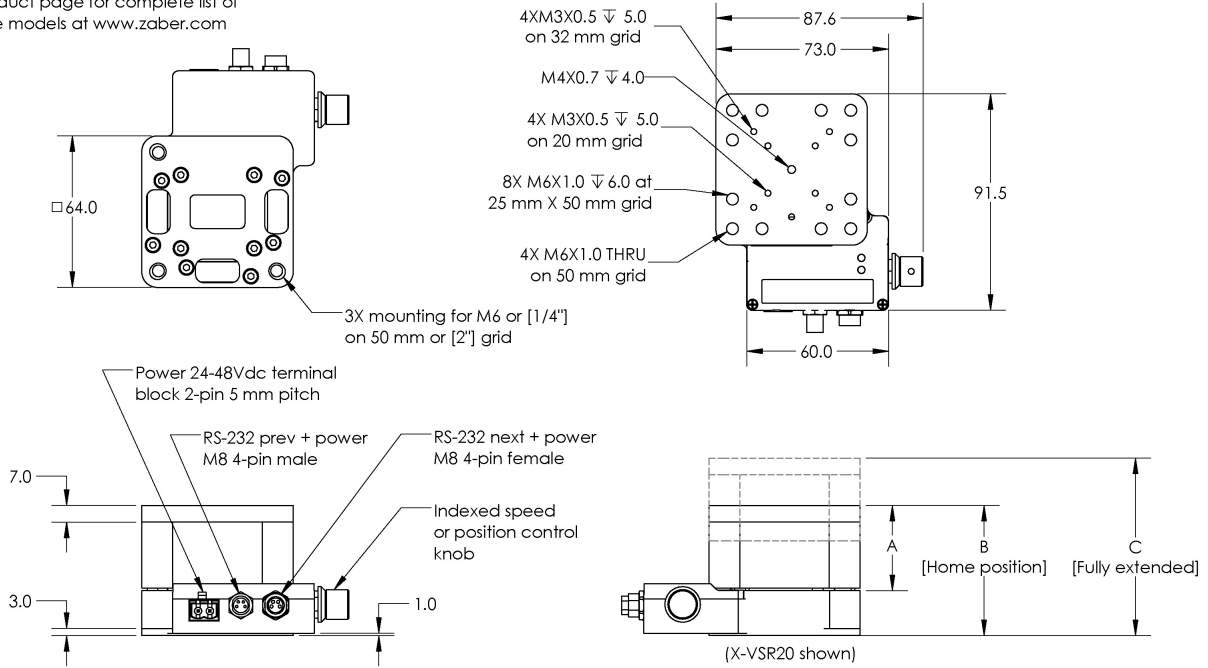
## ZABER

**X-VSR Vertical Lift Stage**  
 dimensions in mm



Model Number*	Travel	A	B	C
X-VSR20	20.0	36.0	55.0	75.0
X-VSR40	40.0	66.0	85.0	125.0

\*See product page for complete list of available models at [www.zaber.com](http://www.zaber.com)



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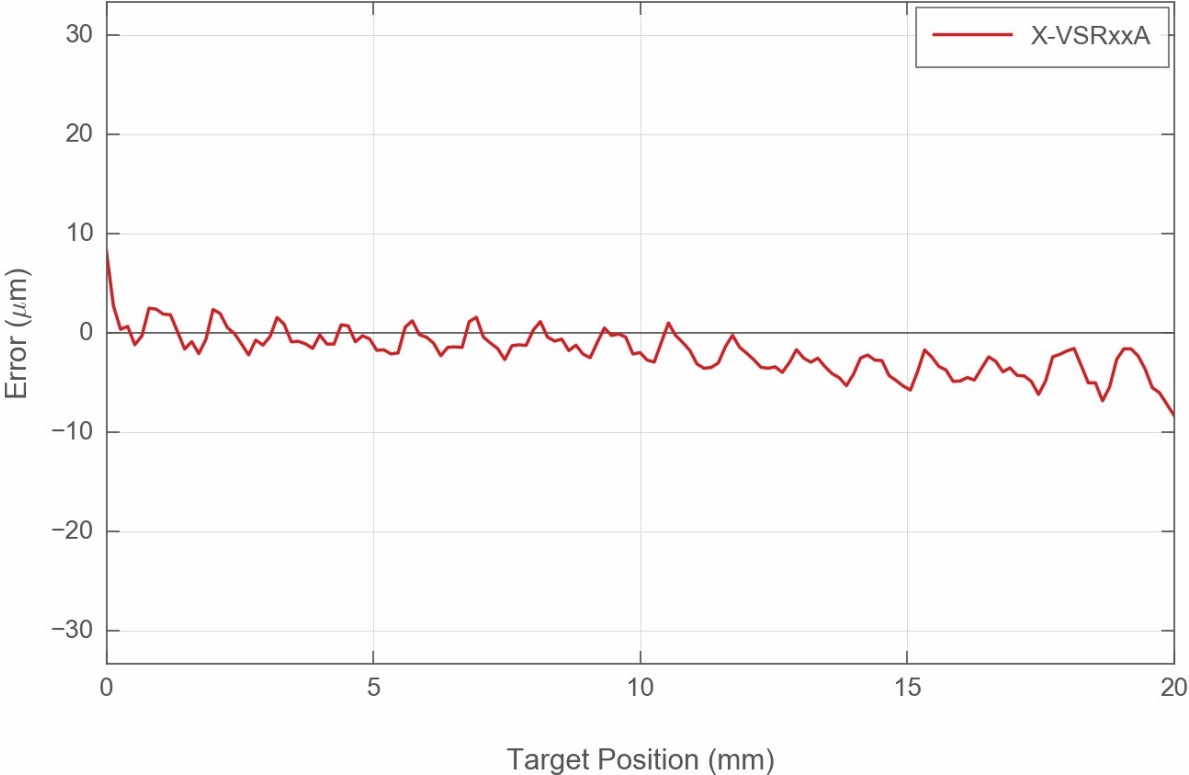
## X-VSR Series Specifications

Specification	Value	Alternate Unit
Microstep Size (Default Resolution)	0.09525 $\mu\text{m}$	
Built-in Controller	Yes	
Travel Range	40 mm	1.575"
Accuracy (unidirectional)	35 $\mu\text{m}$	0.001378"
Loaded Accuracy (10 N)	20 $\mu\text{m}$	0.000787"
Repeatability	< 1 $\mu\text{m}$	< 0.000039"
Loaded Backlash (10 N)	< 10 $\mu\text{m}$	< 0.000394"
Backlash	< 120 $\mu\text{m}$	< 0.004724"
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	
Maximum Centered Load	100 N	22.4 lb
Maximum Cantilever Load	300 N-cm	424.8 oz-in
Guide Type	Crossed-Roller Bearing	
Horizontal Runout	< 35 $\mu\text{m}$	< 0.001378"
Pitch	0.08°	1.396 mrad
Roll	0.08°	1.396 mrad
Maximum Current Draw	950 mA	
Power Supply	24-48 VDC	
Power Plug	2-pin Screw Terminal	
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	

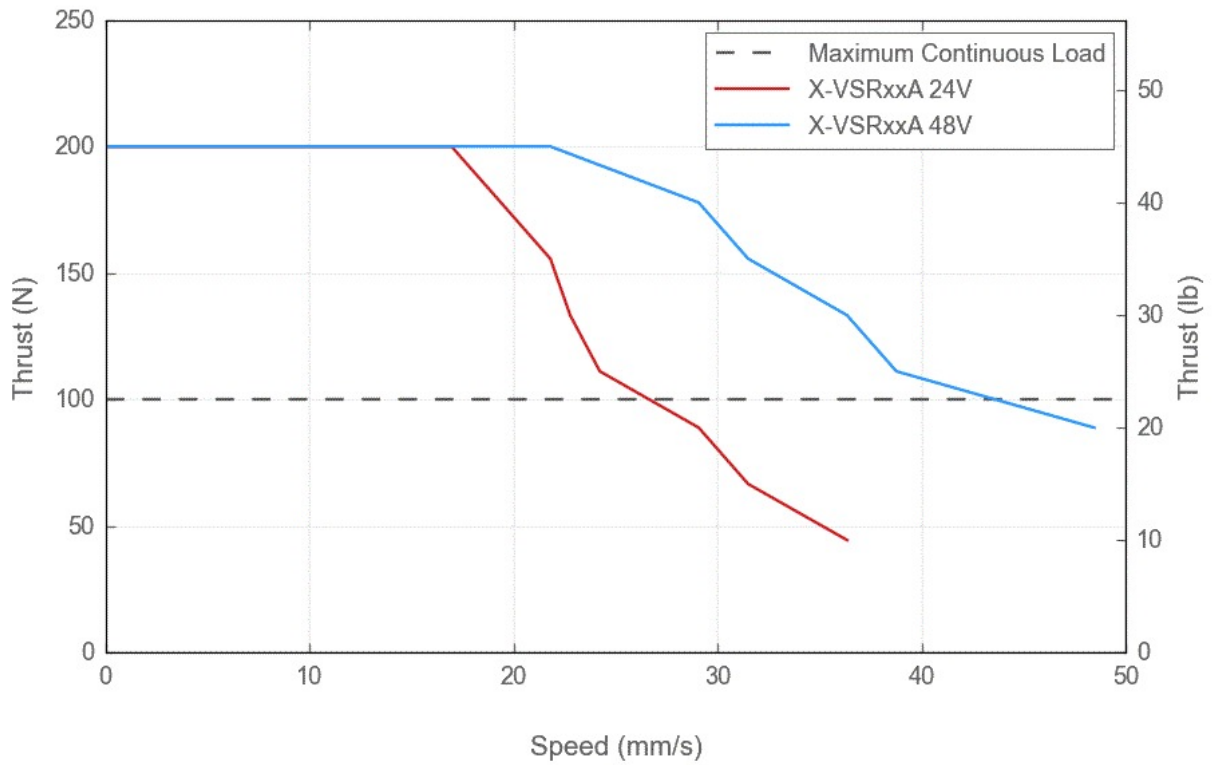
Specification	Value	Alternate Unit
Data Cable Connection	Locking 4-pin M8	
Mechanical Drive System	Precision Lead Screw	
Limit or Home Sensing	Magnetic home sensor	
Manual Control	Yes	
Axes of Motion	1	
Mounting Interface	M6 and M3 threaded holes	
Operating Temperature Range	0-50 °C	
Vacuum Compatible	No	
RoHS Compliant	Yes	
CE Compliant	Yes	
Weight	0.813 kg	1.792 lb

# X-VSR Series Charts

## Typical Accuracy



## Thrust Speed Performance



## Contact

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