

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

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.

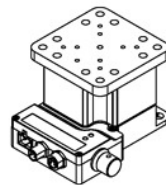
An optional indexed knob provides convenient manual control for versatile operation even without a computer. These stages connect to the RS-232 port or USB port of any computer, and they can be daisy-chained with any other Zaber products. The daisy-chain also shares power, making it possible for multiple 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.

Drawings

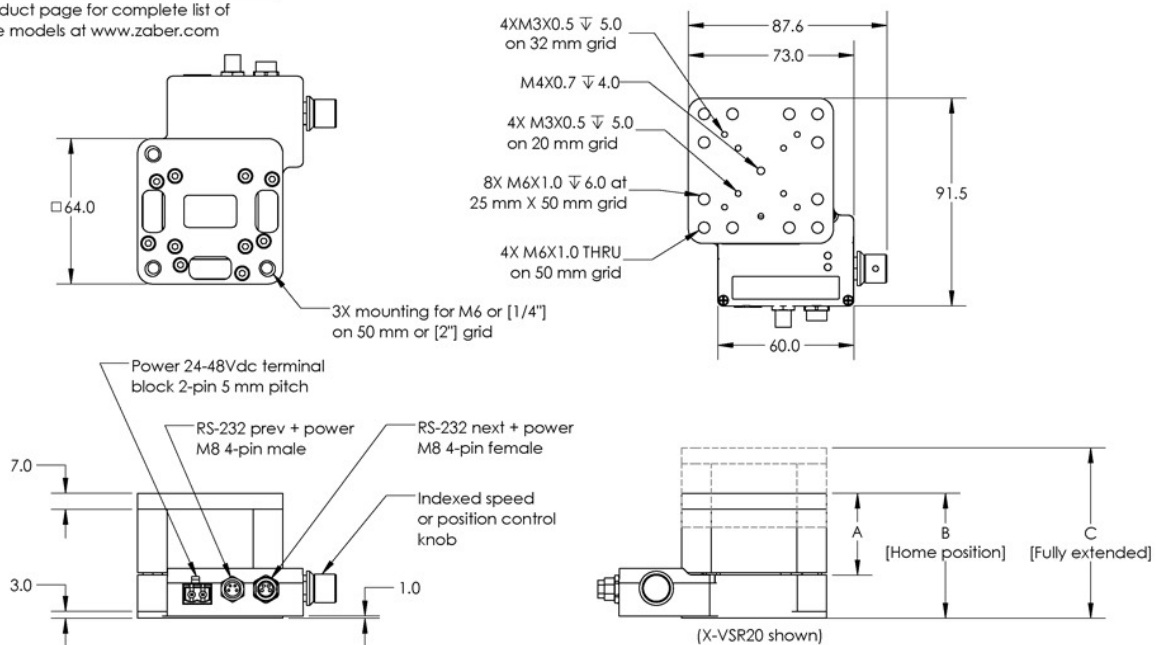
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X-VSR Vertical Lift Stage
dimensions in mm



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



DWG 1057 R03

Specifications

Specification	Value	Alternate Unit
Microstep Size (Default Resolution)	0.09525 μm	
Built-in Controller	Yes	
Accuracy (unidirectional)	35 μm	0.001378 "
Repeatability	< 1 μm	< 0.000039 "
Maximum Speed	48 mm/s	1.890 "/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
Pitch	0.08 $^{\circ}$	1.396 mrad
Roll	0.08 $^{\circ}$	1.396 mrad
Maximum Current Draw	950 mA	
Power Supply	24-48 VDC	
Power Plug	2-pin Screw Terminal	
Linear Motion Per Motor Rev	1.2182 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	
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	
Vacuum Compatible	No	
Operating Temperature Range	0-50 $^{\circ}\text{C}$	

Specification	Value	Alternate Unit
RoHS Compliant	Yes	
CE Compliant	Yes	
Loaded Backlash (10 N)	< 10 μm	< 0.000394 "

Part Number	Travel Range	Backlash	Guide Type	Horizontal Runout
X-VSR20A	20 mm (0.787 ")	< 35 μm (< 0.001378 ")	Ball Bearing	< 30 μm (< 0.001181 ")
X-VSR40A	40 mm (1.575 ")	< 120 μm (< 0.004724 ")	Crossed-Roller Bearing	< 35 μm (< 0.001378 ")

Part Number	Weight
X-VSR20A	0.573 kg (1.263 lb)
X-VSR40A	0.813 kg (1.792 lb)

Charts

Thrust Speed Performance

