

X-NA-SV1 Series Datasheet



- Vacuum compatible to 10^{-3} Torr
- 25 and 50 mm travel
- Up to 25 mm/s speed and up to 25 N thrust
- Hardened ball-tip (removable so you can use the built-in threaded tip or a flat tip)
- Our most compact, precise and robust actuator
- Designed to replace standard micrometer heads on manual translation stages
- Built-in controller; daisy chains with other X-series devices inside vacuum chamber

X-NA-SV1 Series Overview

Zaber's X-NA-SV1 Series devices are low-vacuum compatible, computer-controlled, motorized miniature linear actuators with high thrust and speed capabilities, and a compact size. They are stand-alone units requiring only a standard 24 V or 48 V power supply.

These actuators 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.

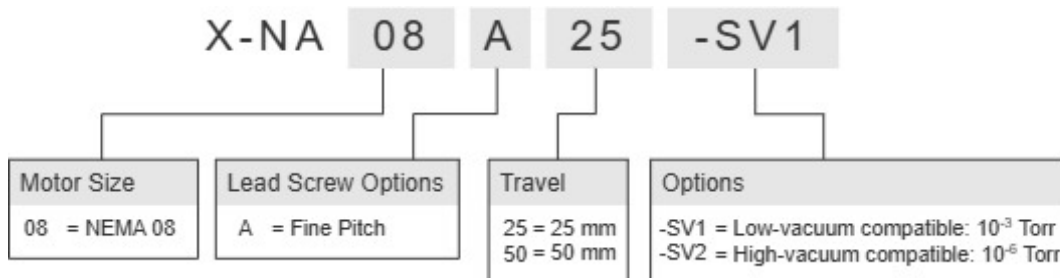
At only 20 mm wide, these miniature actuators are excellent for applications where a small profile is required. The X-NA-SV1 is designed with vacuum compatible materials to minimize outgassing and allow for faster pump down times. Like all of Zaber's products, the X-NA-SV1 Series is designed to be 'plug and play' and very easy to set up and operate.

For more information about the basics of a vacuum system and considerations to keep in mind when gathering requirements for your application, read our technical article, "Motion Device Design Considerations for Vacuum Applications".

See our Vacuum Compatible TSB-V Linear Slides for more information on compatible slides.

For more information visit: <https://www.zaber.com/products/vacuum-compatible-stages/X-NA-SV1>

X-NA-SV1 Series Part Numbering & Options



X-NA-SV1 Series Drawings

- [X-NA-SV.png \(Drawing for the X-NA-SV\)](#)

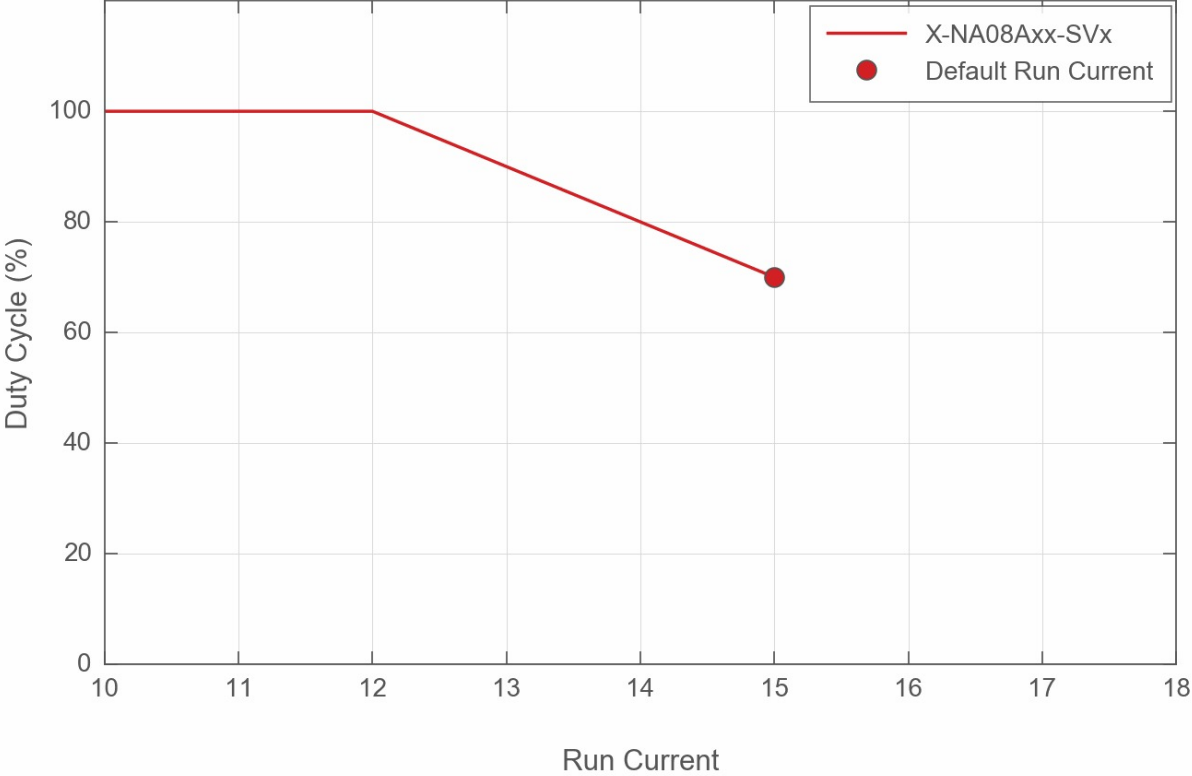
X-NA-SV1 Series Specifications

Microstep Size (Default Resolution)	0.047625 μm
Built-in Controller	Yes
Repeatability	< 1 μm (< 0.000039")
Backlash	< 15 μm (< 0.000591")
Maximum Speed	25 mm/s (0.984"/s)
Minimum Speed	0.000029 mm/s (0.000001"/s)
Speed Resolution	0.000029 mm/s (0.000001"/s)
Encoder Type	No
Peak Thrust	25 N (5.6 lb)
Maximum Continuous Thrust	25 N (5.6 lb)
Communication Interface	RS-232
Communication Protocol	Zaber ASCII (Default), Zaber Binary
Data Cable Connection	Teflon flying leads with 4-pin M8 M/F
Power Supply	24-48 VDC
Power Plug	None, use X-PIB
Maximum Current Draw	180 mA
Motor Steps Per Rev	200
Motor Type	Stepper (2 phase)
Inductance	1.5 mH/phase
Default Resolution	1/64 of a step
Mechanical Drive System	Precision lead screw
Limit or Home Sensing	Magnetic hall sensor
Axes of Motion	1
Mounting Interface	3/8-32 nut, 3/8" shank, or M3 screws
Operating Temperature Range	0 to 50 °C
CE Compliant	Yes
Vacuum Compatible	Low vacuum (10-3 Torr)

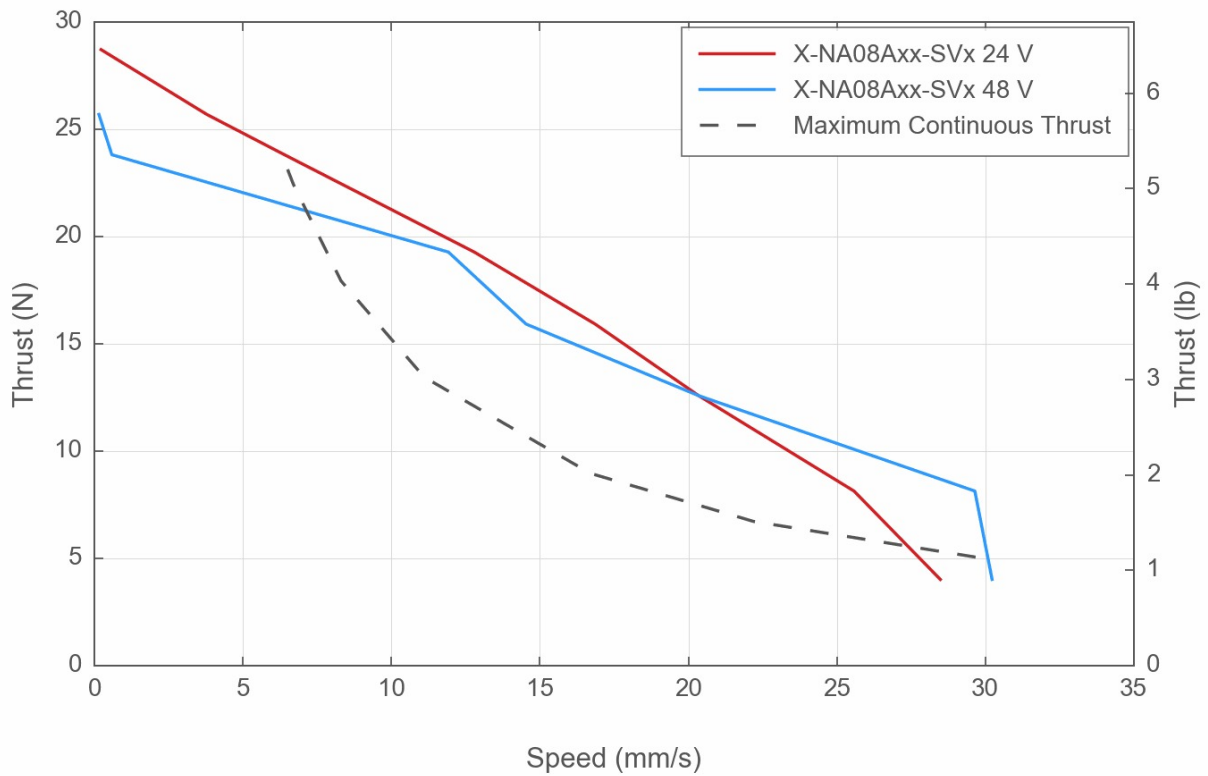
Part Number	Travel Range	Accuracy (unidirectional)	Weight
X-NA08A25-SV1	25.4 mm (1.000")	40 μm (0.001575")	0.156 kg (0.344 lb)
X-NA08A50-SV1	50.8 mm (2.000")	55 μm (0.002165")	0.176 kg (0.388 lb)

X-NA-SV1 Series Charts

Recommended Duty Cycle



Thrust Speed Performance



Contact

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