

## X-ASR-E Series Datasheet



- 50 mm up to 305 mm travel per axis
- Up to 12  $\mu\text{m}$  accuracy; 2  $\mu\text{m}$  repeatability; 85 mm/s speed
- Easily adjustable non-contact hall sensor limit switches
- Supported by  $\mu$ Manager and MetaMorph® Microscopy Automation & Image Analysis Software
- Built-in controller allows connection with a single power/data cable and daisy chaining with other Zaber products
- One digital input and two digital outputs
- Custom versions available

### X-ASR-E Series Overview

Zaber's X-ASR-E Series microscope stages are designed as replacements for manual stages on upright and inverted microscopes or for stand-alone operation as scanning stages. Compact, built-in controllers save bench space and allow the stages to be powered and controlled through a single, flex rated cable.

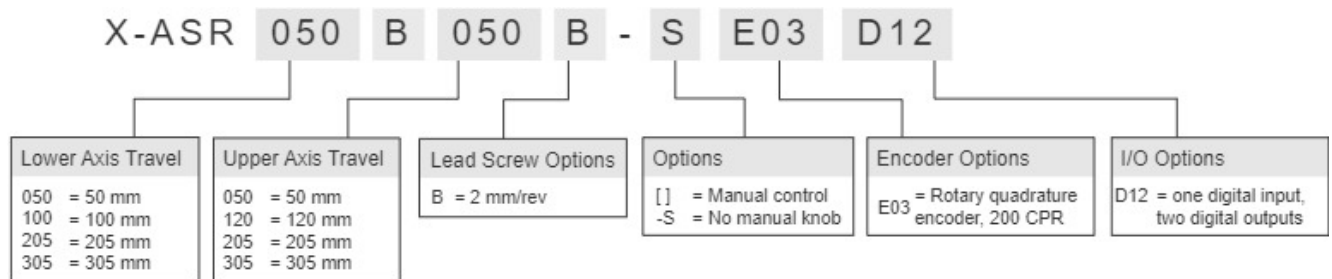
X-ASR-E devices also include a digital input and two digital outputs for interfacing with external systems. An event-driven trigger system allows devices to be programmed for stand-alone operation based on I/O, time, or movement stimuli.

Mounting adaptors are available for breadboards and most common microscopes. Custom adaptors

and plates are available upon request.

For more information visit: <https://www.zaber.com/products/scanning-microscope-stages/X-ASR-E>

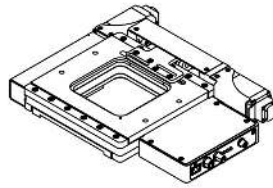
## X-ASR-E Series Part Numbering



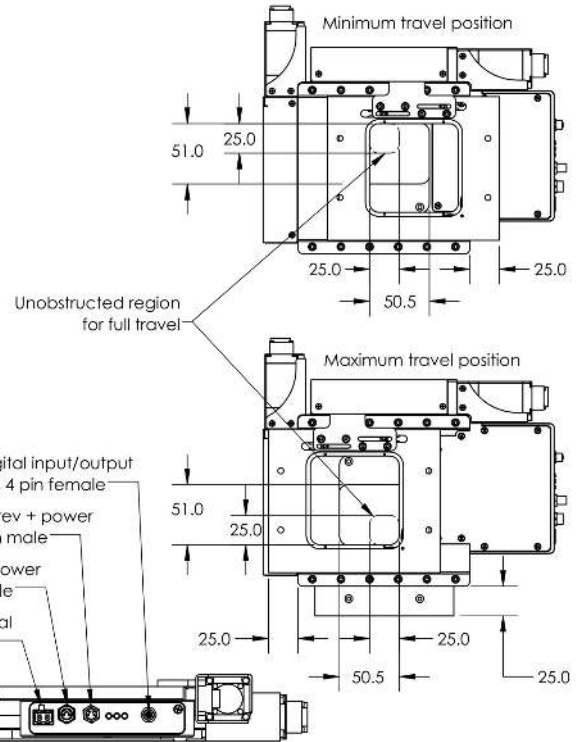
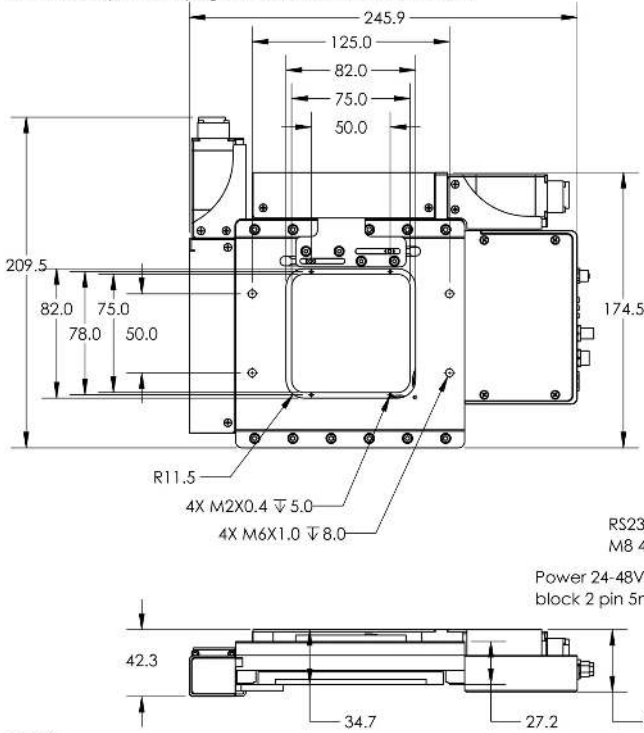
# X-ASR-E Series Drawings

## ZABER

X-ASR050B050B-SE03D12 Motorized XY Microscope Stage  
 dimensions in mm



Adaptor plates required for most applications  
 See related products page for details at [www.zaber.com](http://www.zaber.com)



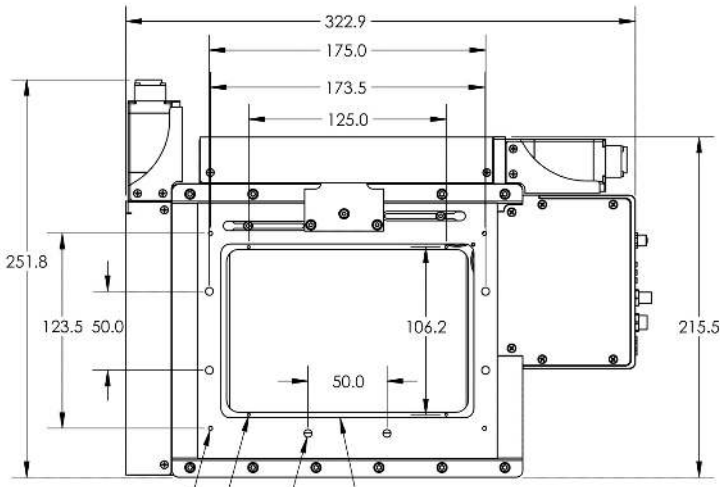
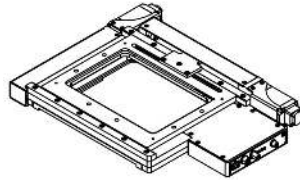
DWG: 3522 R01

# ZABER

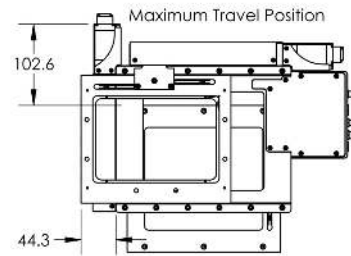
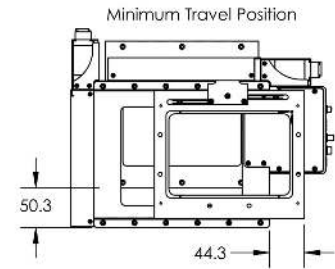
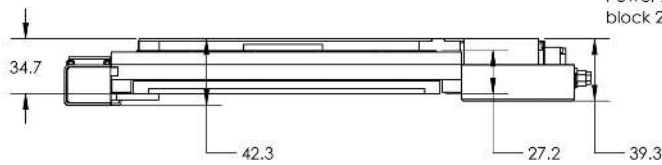
## X-ASR1008120B-SE03D12 Motorized XY Microscope Stage

dimensions in mm

Adaptor plates required for mounting in most applications.  
See accessories page for details at [www.zaber.com](http://www.zaber.com).



- 4X M3X0.5  $\nabla$  8
- 4X M2X0.4  $\nabla$  5
- 6X M6X1.0  $\nabla$  8
- Recess accepts 160 x 110 mm (K-type) microscope stage inserts



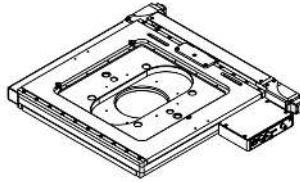
- RS232 next + power M8 4 pin female
- Power 24-48Vdc terminal block 2 pin 5mm pitch
- RS232 prev + power M8 4 pin male
- Digital input/output M5 4 pin female



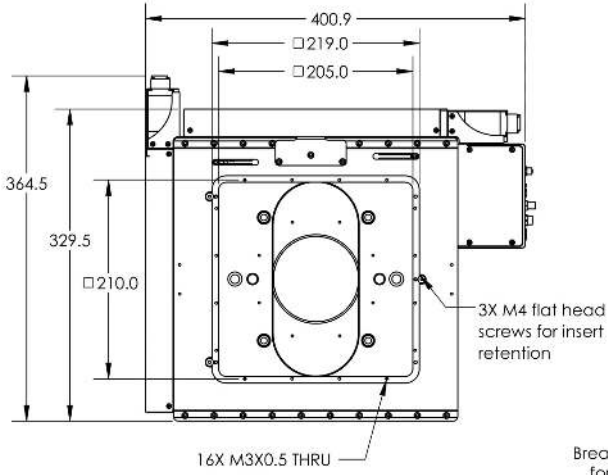
DPO-3324-001A

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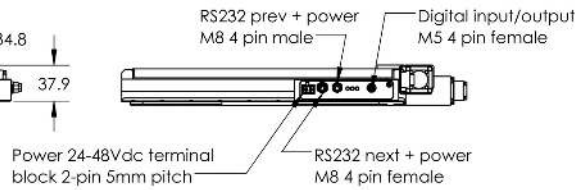
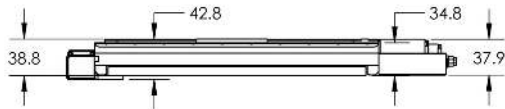
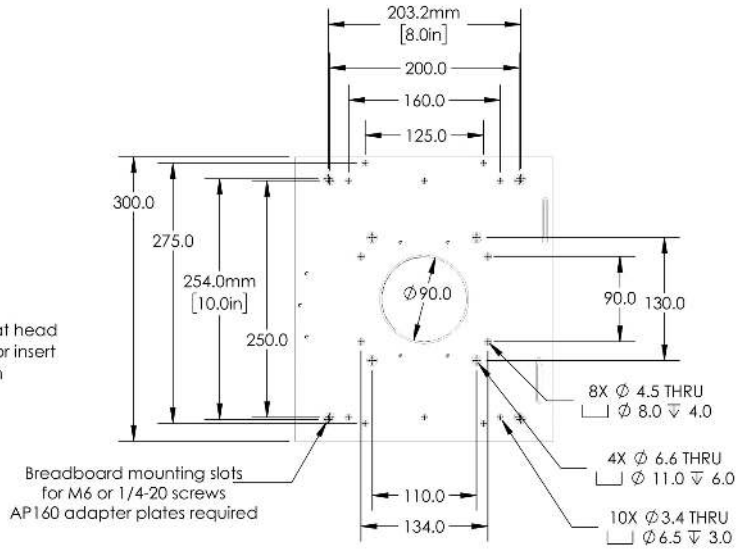
X-ASR205B205B-SE03D12  
 Motorized XY Microscope Stage  
 dimensions in mm



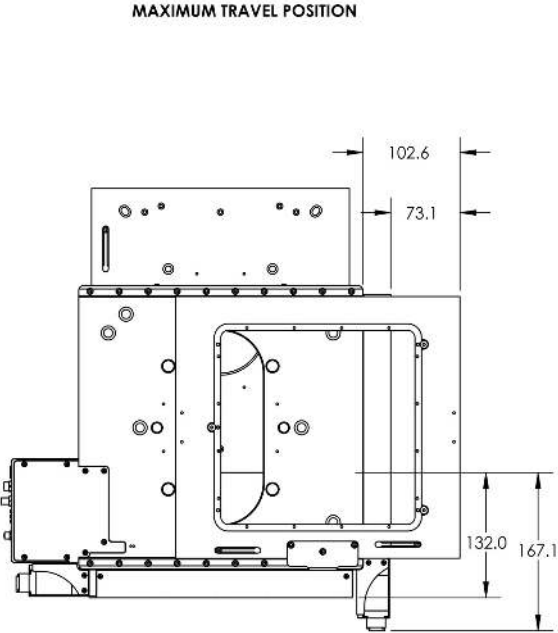
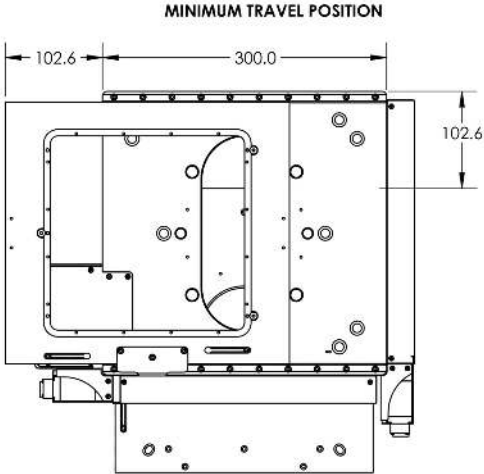
Adaptor plates required for breadboard mounting.  
 See accessories page for details at [www.zaber.com](http://www.zaber.com)



### Base-plate mounting features



DWG: 2327-920



DWG. 3327 931

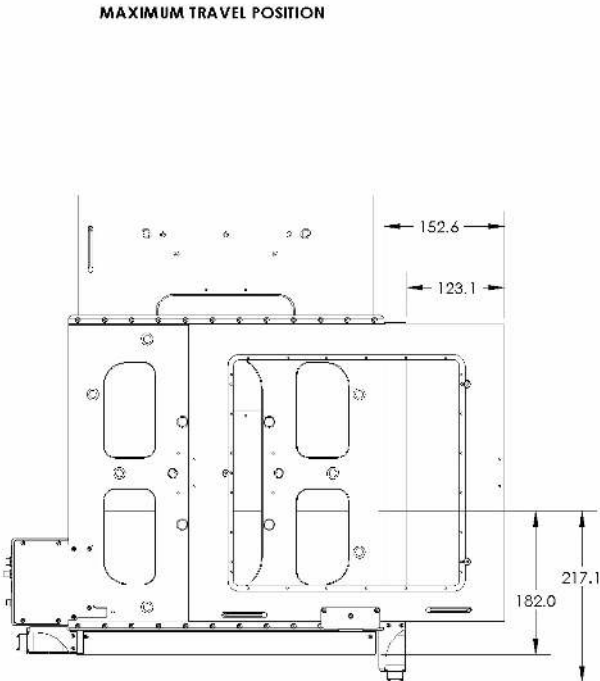
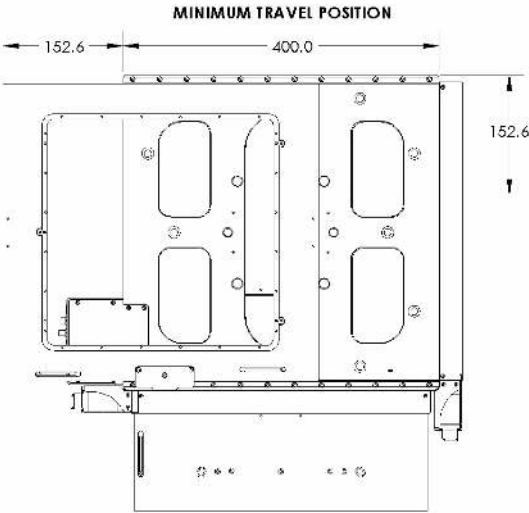
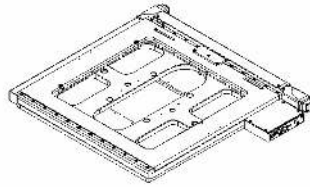


FIGURE 47

# ZABER

X-ASR305B305B-SE03D12

Motorized XY Microscope Stage  
 dimensions in mm



Adaptor plates required for breadboard mounting.  
 See accessories page for details at [www.zaber.com](http://www.zaber.com)

### Base-plate mounting features

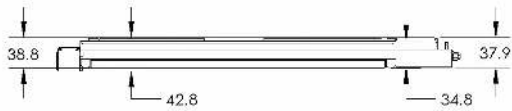
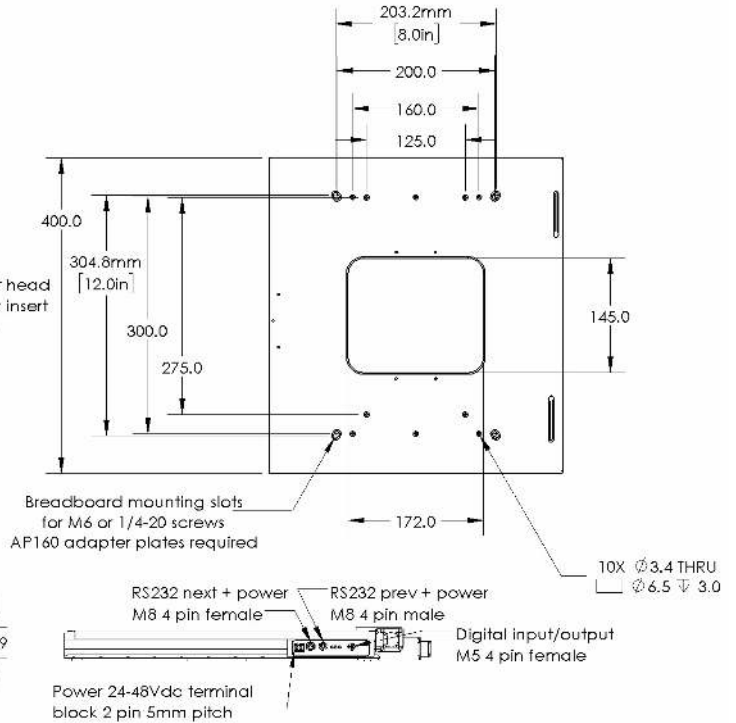
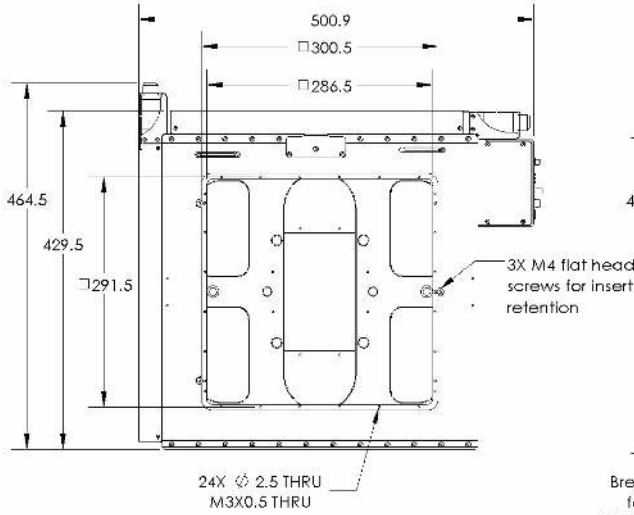


FIGURE 47



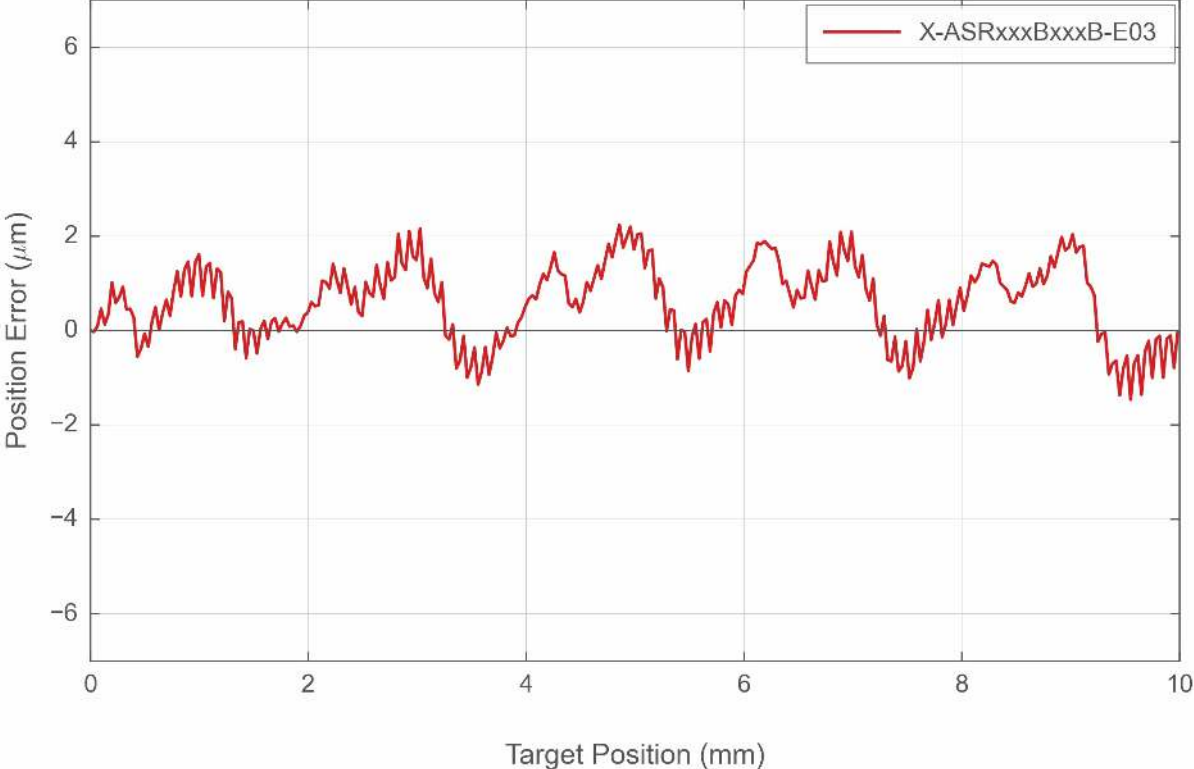
## X-ASR-E Series Specifications

Specification	Value	Alternate Unit
Microstep Size (Default Resolution)	0.15625 $\mu\text{m}$	
Built-in Controller	Yes	
Lower Travel Range	100 mm	3.937"
Upper Travel Range	120 mm	4.724"
Accuracy (unidirectional)	40 $\mu\text{m}$	0.001575"
Repeatability	< 2 $\mu\text{m}$	< 0.000079"
Flatness	20 $\mu\text{m}$	0.0008"
Backlash	< 4 $\mu\text{m}$	< 0.000157"
Maximum Speed	85 mm/s	3.346"/s
Minimum Speed	0.000095 mm/s	0.000004"/s
Speed Resolution	0.000095 mm/s	0.000004"/s
Encoder Resolution	200 CPR	800 states/rev
Encoder Type	Rotary quadrature encoder	
Peak Thrust	95 N	21.3 lb
Maximum Continuous Thrust	95 N	21.3 lb
Communication Interface	RS-232, USB 2.0	
Communication Protocol	Zaber ASCII (Default), RS-232	
Maximum Centered Load	100 N	22.4 lb
Guide Type	Crossed roller bearing	
Pitch	0.02°	0.349 mrad
Roll	0.02°	0.349 mrad
Yaw	0.005°	0.087 mrad
Maximum Current Draw	2600 mA	
Power Supply	24-48 VDC	
Linear Motion Per Motor Rev	2.00 mm	0.079"
Motor Steps Per Rev	200	
Motor Type	Stepper (2 phase)	
Motor Rated Current	1500 mA/phase	
Motor Winding Resistance	2.05 ohms/phase	
Inductance	1 mH/phase	

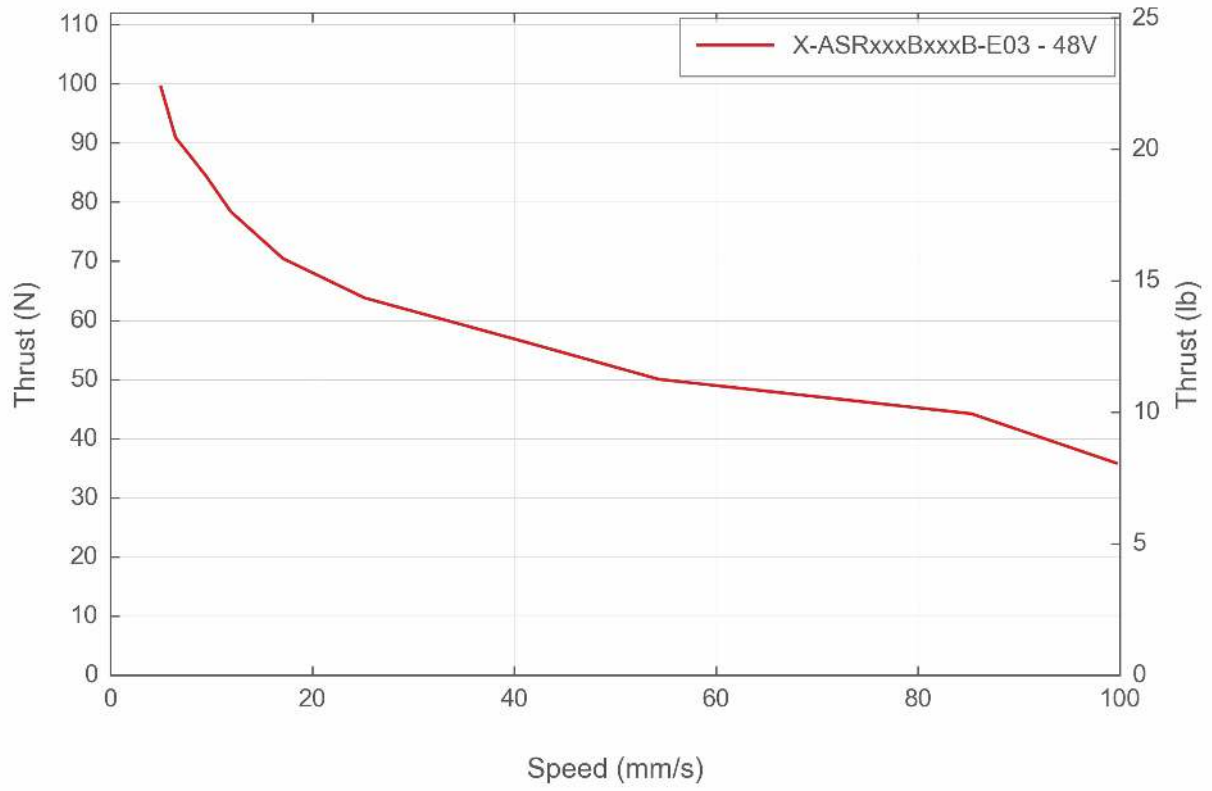
Specification	Value	Alternate Unit
Default Resolution	1/64 of a step	
Data Cable Connection	Locking 4-pin M8	
Mechanical Drive System	Precision lead screw	
Limit or Home Sensing	Magnetic, adjustable home and away sensors	
Manual Control	No	
Axes of Motion	2	
LED Indicators	Yes	
Mounting Interface	Separate mounting adaptors available	
Operating Temperature Range	0 to 50 °C	
Vacuum Compatible	No	
RoHS Compliant	Yes	
CE Compliant	Yes	
Digital Input	1	
Digital Output	2	
Weight	3.30 kg	7.275 lb

X-ASR-E Series Charts

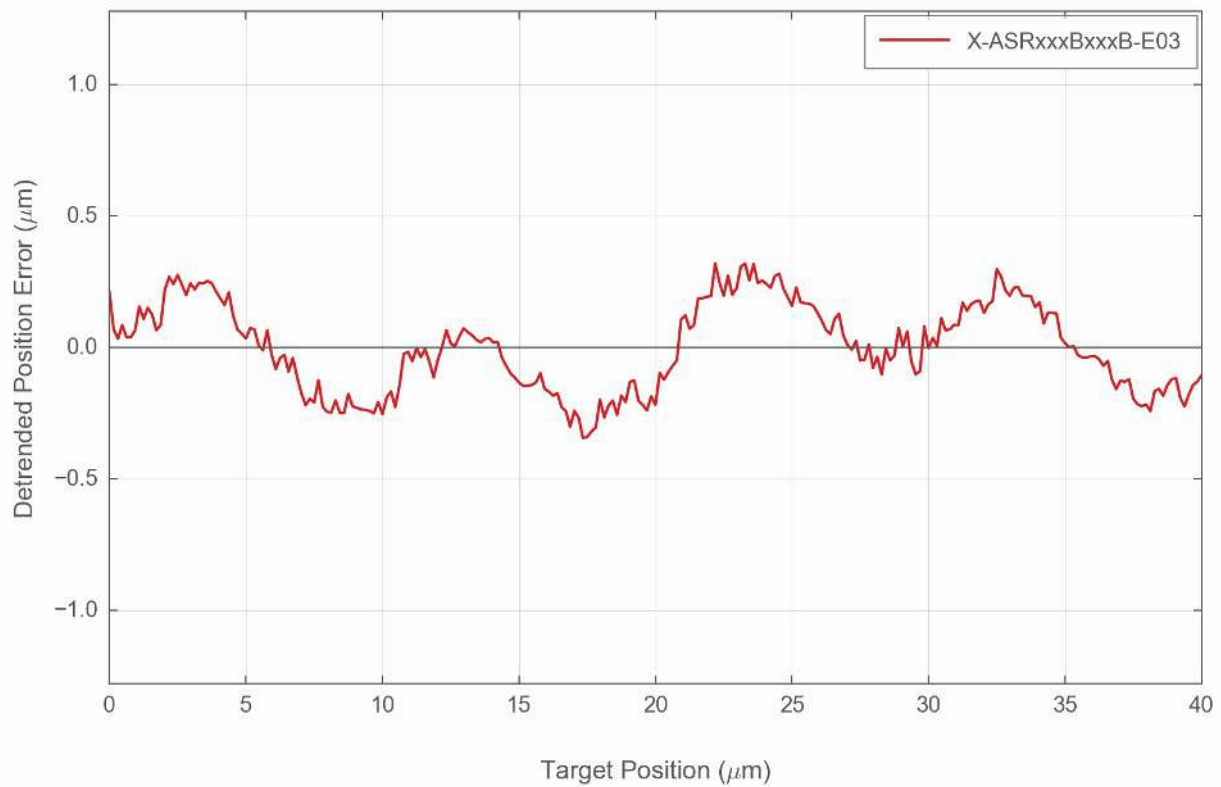
Typical Accuracy



## Thrust Speed Performance



## Typical Microstepping Accuracy



## Contact

Email: [contact@zaber.com](mailto: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>