

## 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

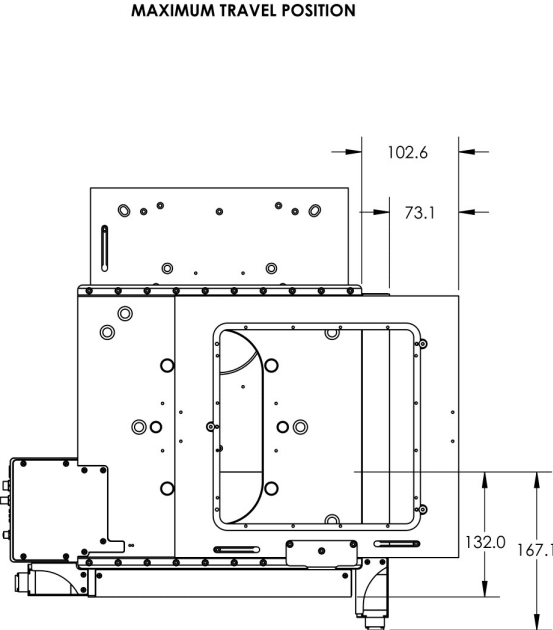
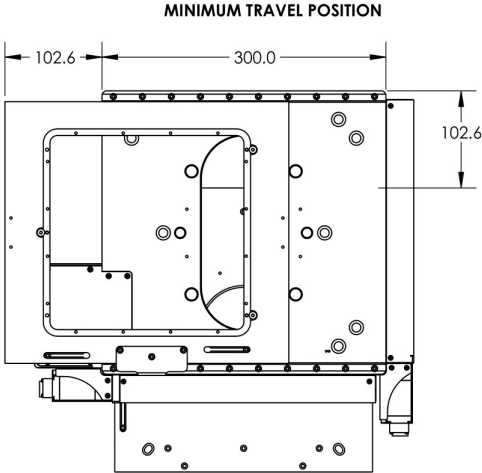
Zaber's X-ASR-E Series microscope stages are designed as replacements for manual stages on upright and inverted microscopes or for stand-alone operation as scanning stages. Compact, built-in controllers save bench space and allow the stages to be powered and controlled through a single, flex rated cable.

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.

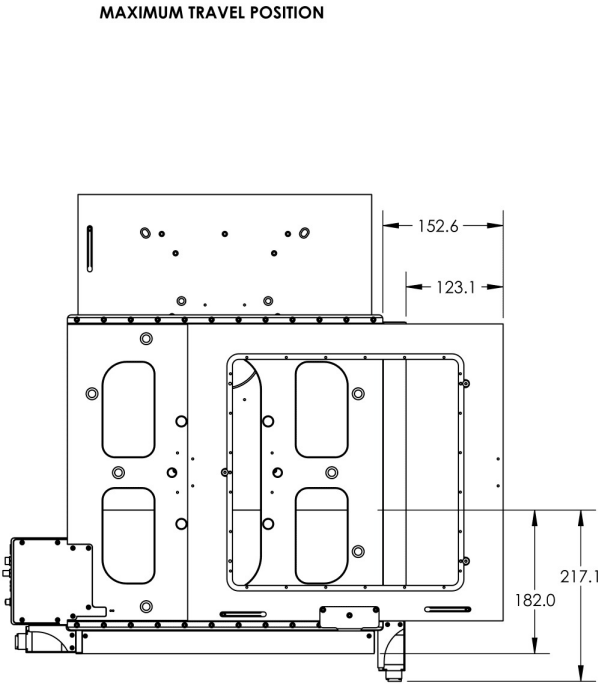
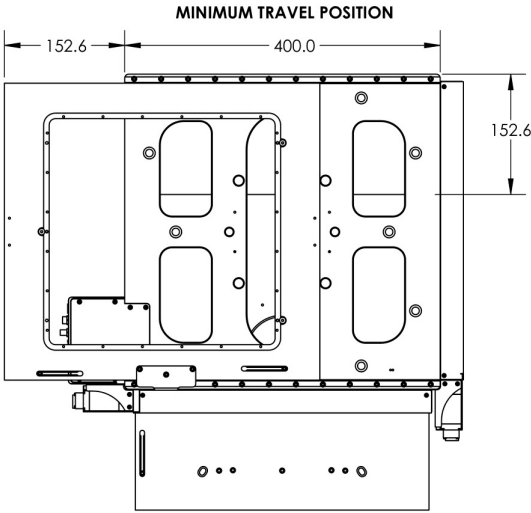
Mounting adaptors are available for breadboards and most common microscopes. Custom adaptors

and plates are available upon request.

### X-ASR-E Series Drawings



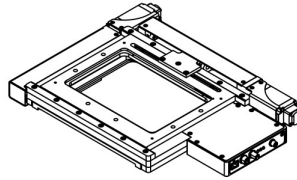
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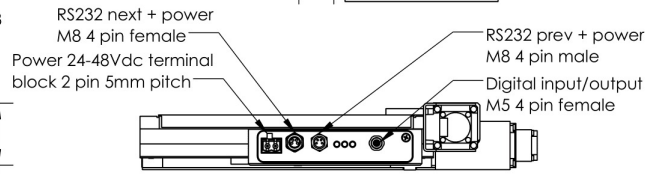
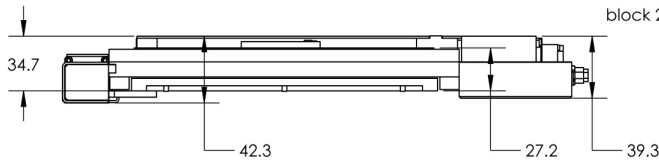
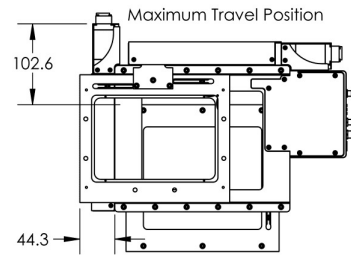
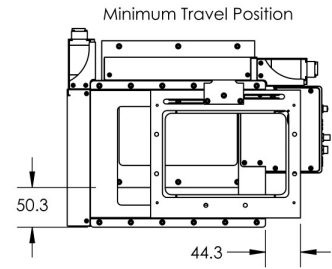
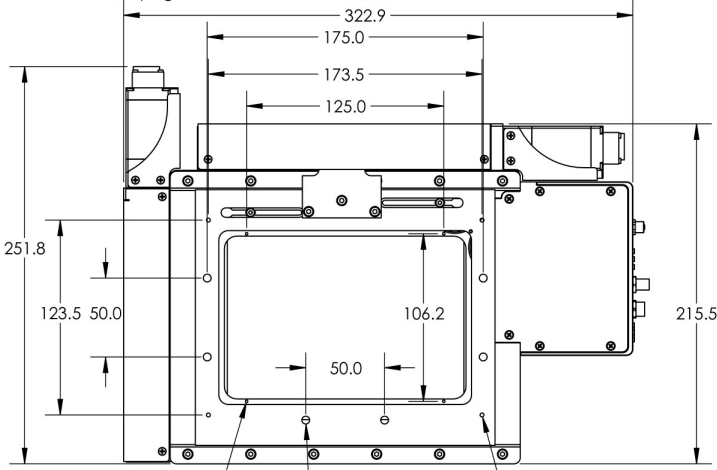
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# ZABER

**X-ASR100B120B-SE03D12 Motorized XY Microscope Stage**  
 dimensions in mm



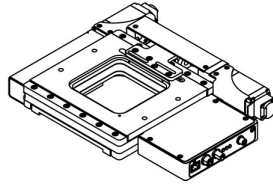
Adaptor plates required for mounting in most applications.  
 See accessories page for details at [www.zaber.com](http://www.zaber.com).



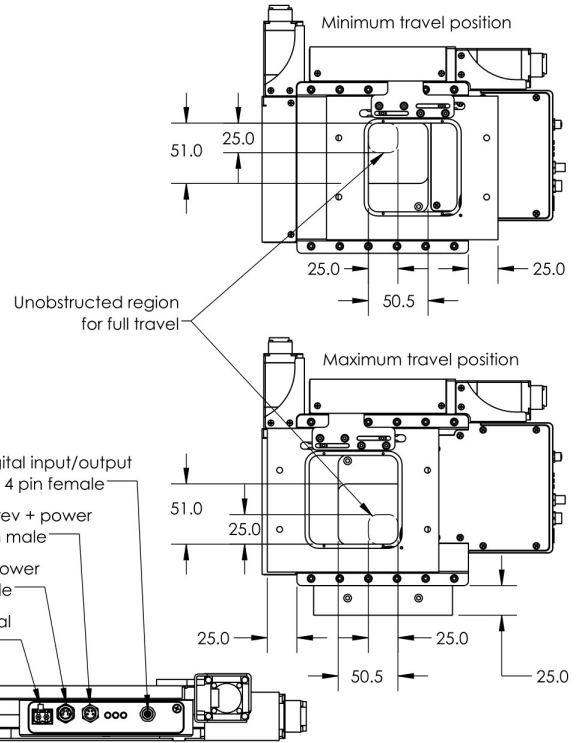
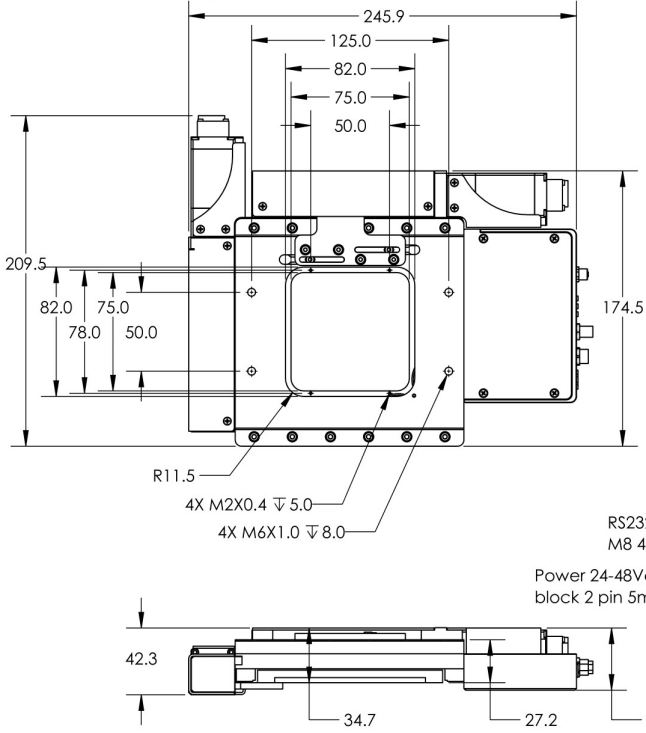
DWG 3324 R01



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



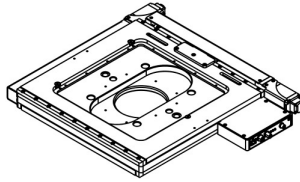
Adaptor plates required for most applications  
See related products page for details at [www.zaber.com](http://www.zaber.com)



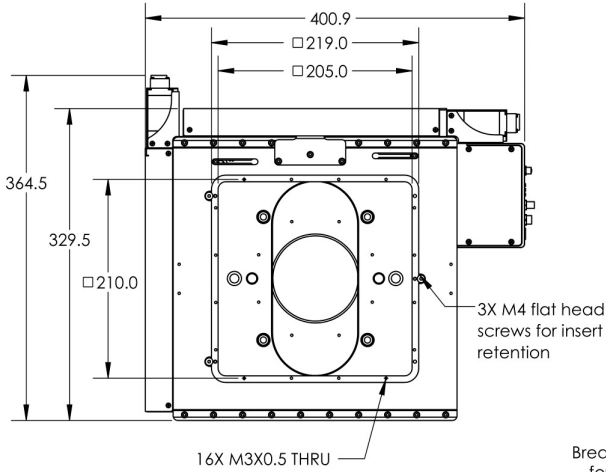
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# ZABER

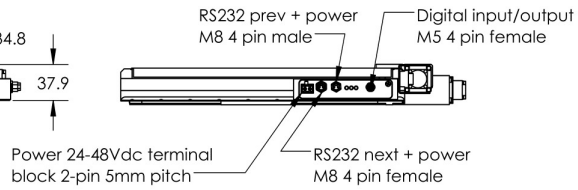
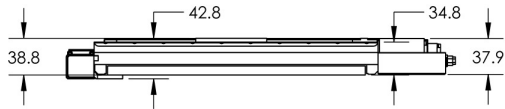
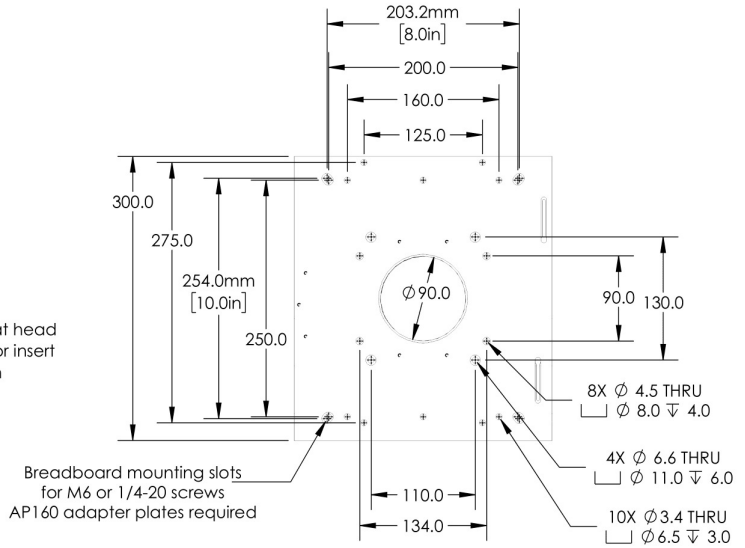
X-ASR205B205B-SE03D12  
 Motorized XY Microscope Stage  
 dimensions in mm



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



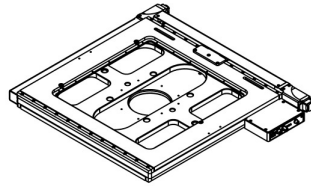
### Base-plate mounting features



DWG 3327 R01

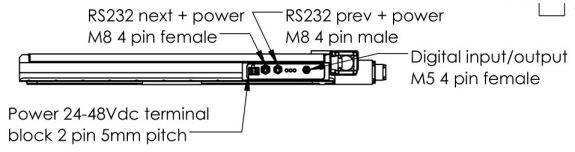
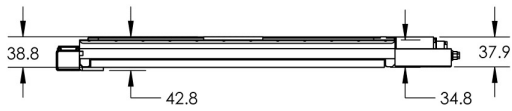
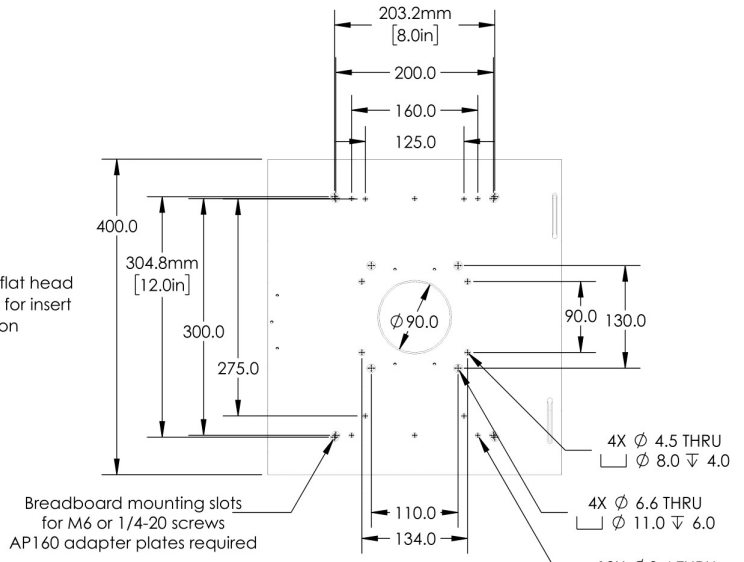
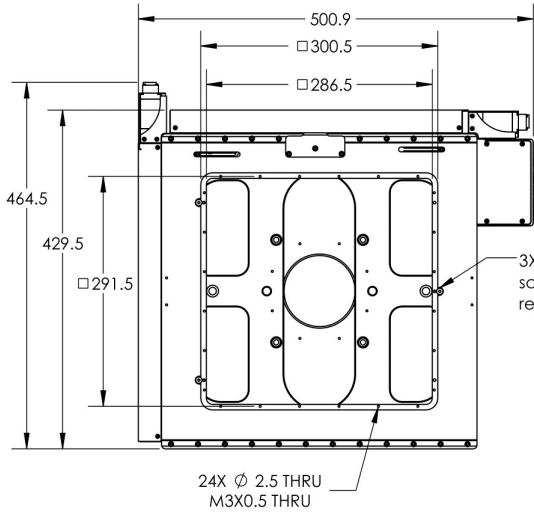
# ZABER

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



DWG 3329 R01

## X-ASR-E Series Specifications

Specification	Value	Alternate Unit
Microstep Size (Default Resolution)	0.15625 $\mu\text{m}$	
Built-in Controller	Yes	
Repeatability	< 2 $\mu\text{m}$	< 0.000079"
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 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	
Guide Type	Crossed roller bearing	
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	
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 $^{\circ}\text{C}$	



Specification	Value	Alternate Unit
Vacuum Compatible	No	
RoHS Compliant	Yes	
CE Compliant	Yes	
Digital Input	1	
Digital Output	2	

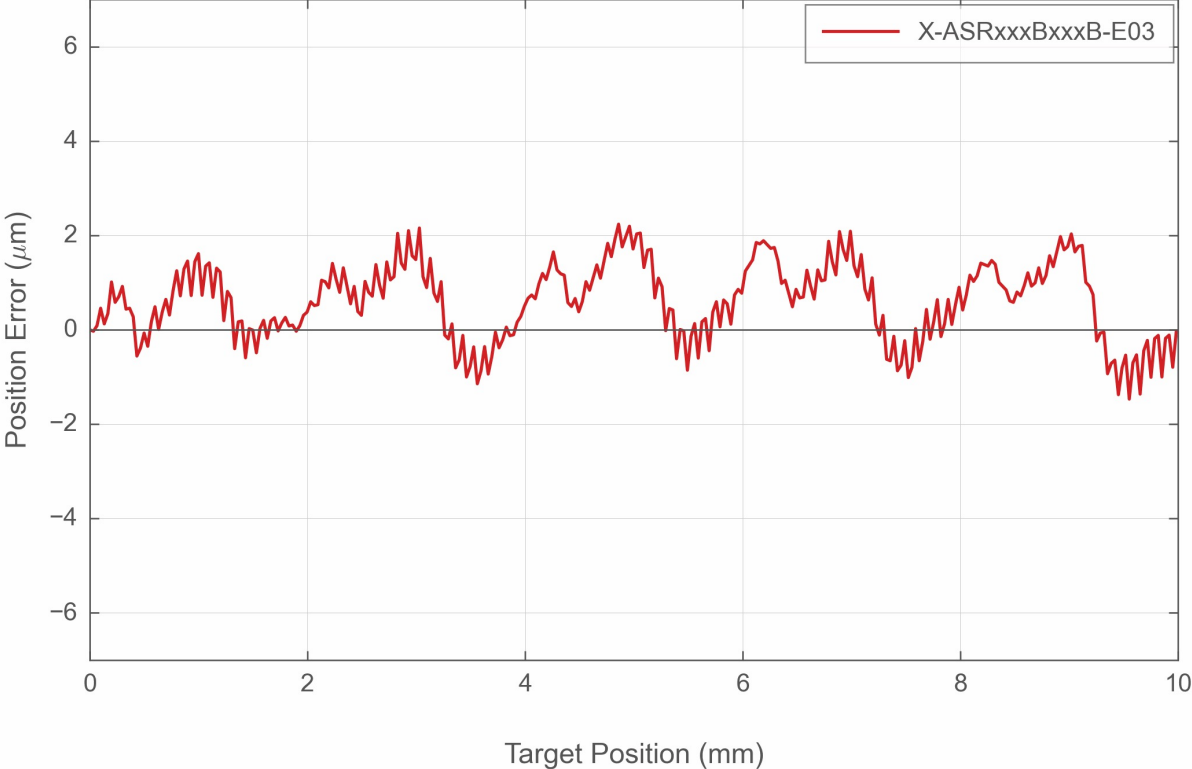
Part Number	X Travel Range	Y Travel Range	Accuracy (unidirectional)	Flatness
X-ASR050B050B-SE03D12	50 mm (1.969")	50 mm (1.969")	12 µm (0.000472")	8 µm (0.0003")
X-ASR100B120B-SE03D12	120 mm (4.724")	100 mm (3.937")	40 µm (0.001575")	15 µm (0.0006")
X-ASR205B205B-SE03D12	205 mm (8.071")	205 mm (8.071")	50 µm (0.001968")	25 µm (0.0010")
X-ASR305B305B-SE03D12	305 mm (12.008")	305 mm (12.008")	80 µm (0.003150")	50 µm (0.0020")

Part Number	Backlash	Maximum Centered Load	Pitch	Roll
X-ASR050B050B-SE03D12	< 4 µm (< 0.000157")	200 N (44.9 lb)	0.02° (0.349 mrad)	0.02° (0.349 mrad)
X-ASR100B120B-SE03D12	< 4 µm (< 0.000157")	100 N (22.4 lb)	0.02° (0.349 mrad)	0.02° (0.349 mrad)
X-ASR205B205B-SE03D12	< 10 µm (< 0.000394")	100 N (22.4 lb)	0.02° (0.349 mrad)	0.01° (0.174 mrad)
X-ASR305B305B-SE03D12	< 10 µm (< 0.000394")	100 N (22.4 lb)	0.04° (0.698 mrad)	0.015° (0.262 mrad)

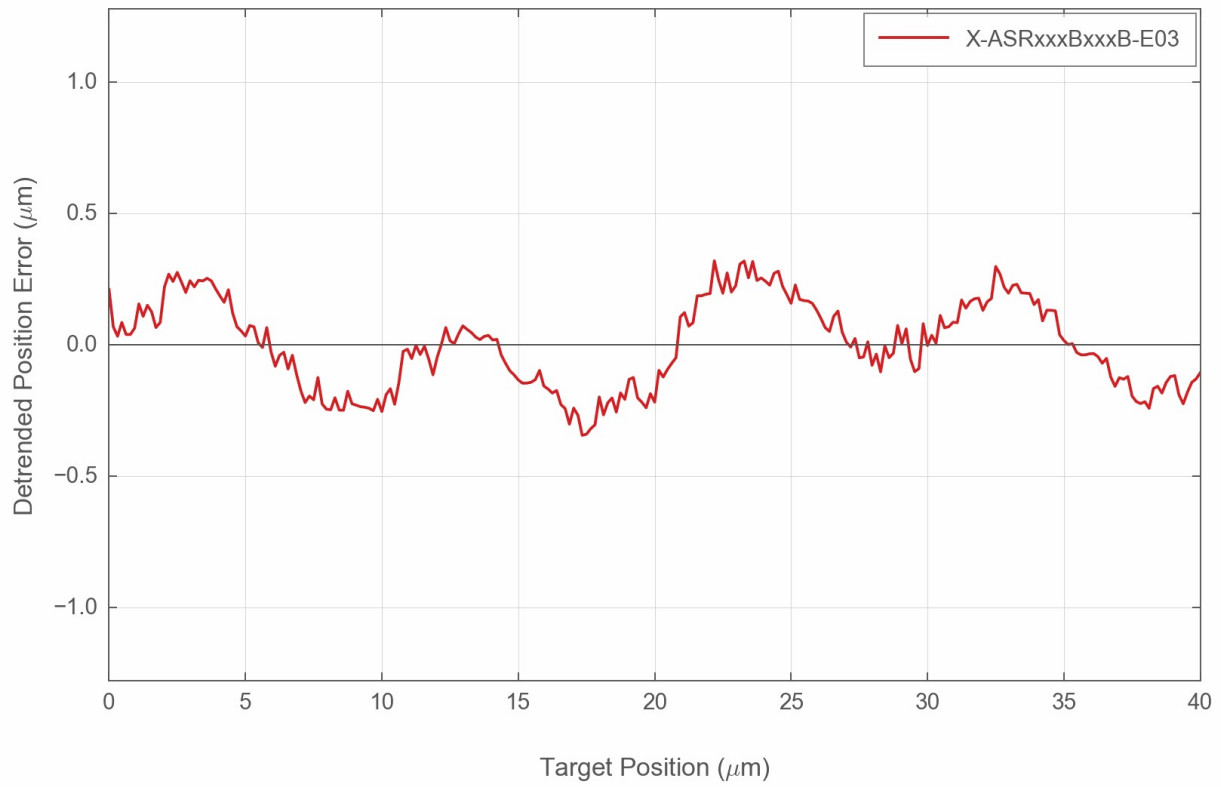
Part Number	Yaw	Weight
X-ASR050B050B-SE03D12	0.005° (0.087 mrad)	2.10 kg (4.630 lb)
X-ASR100B120B-SE03D12	0.005° (0.087 mrad)	3.30 kg (7.275 lb)
X-ASR205B205B-SE03D12	0.01° (0.174 mrad)	6.90 kg (15.212 lb)
X-ASR305B305B-SE03D12	0.015° (0.262 mrad)	10.60 kg (23.369 lb)

X-ASR-E Series Charts

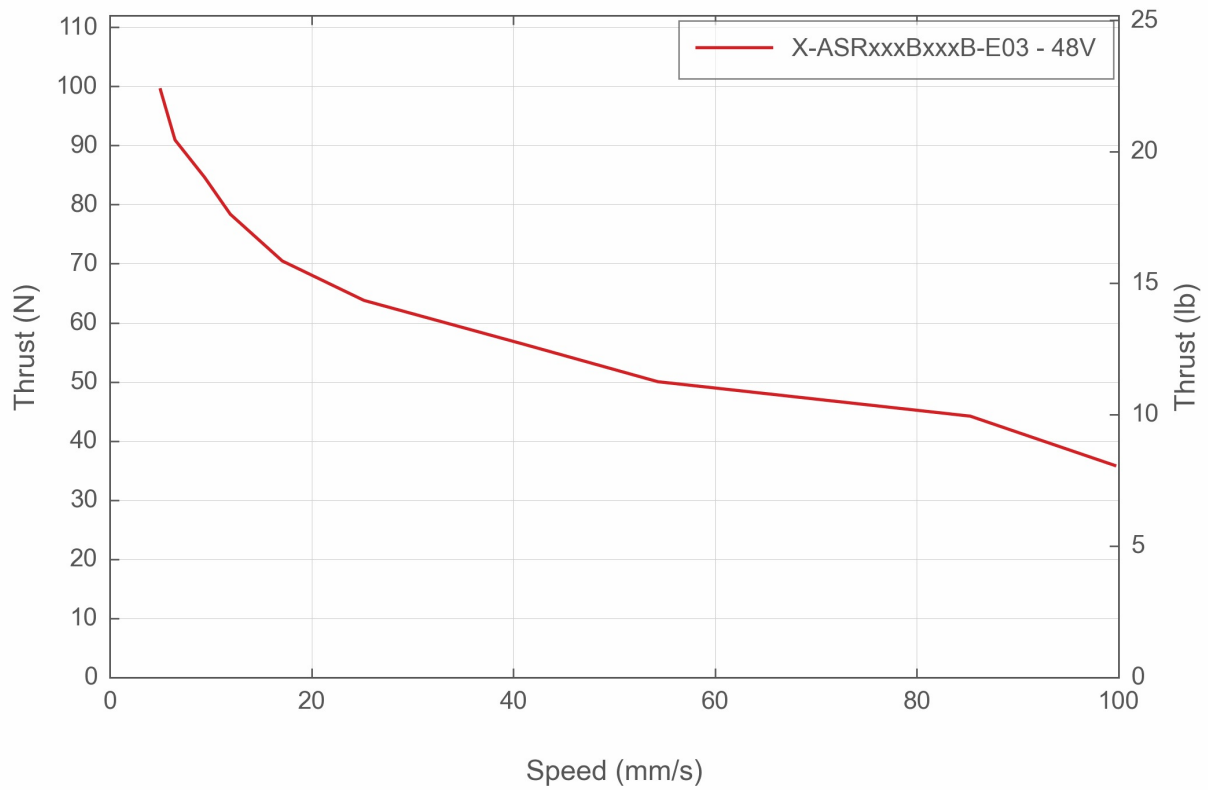
Typical Accuracy



## Typical Microstepping Accuracy



## Thrust Speed Performance



## Contact

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