

X-ASR-E Series Datasheet



- 50 mm up to 305 mm travel per axis
- Up to 12 μm accuracy; 2 μm repeatability; 85 mm/s speed
- Includes Nucleus microscopy modules
- Easily adjustable non-contact hall sensor limit switches
- Supported by $\mu\text{Manager}$ 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

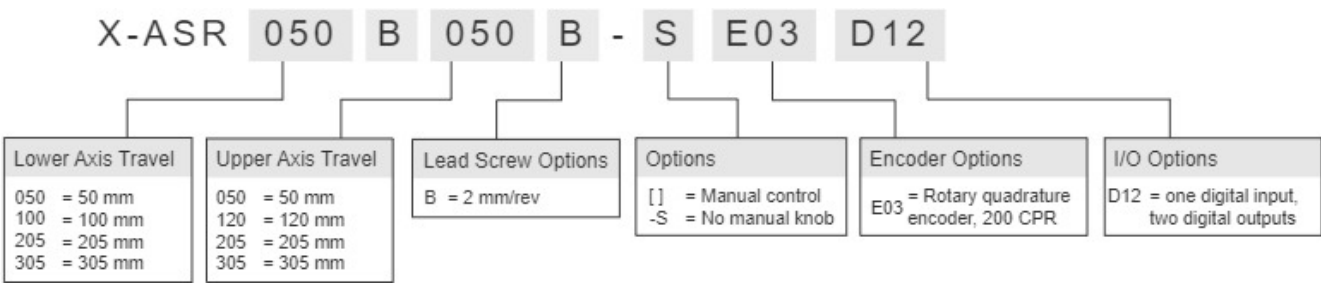
Zaber's X-ASR-E Series microscope stages are designed as replacements for manual stages on upright and inverted microscopes or for stand-alone operation as scanning stages. Compact, built-in controllers save bench space and allow the stages to be powered and controlled through a single, flex rated cable.

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.comproducts/scanning-microscope-stages/X-ASR-E>

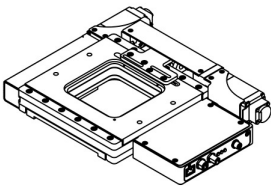
X-ASR-E Series Part Numbering & Options



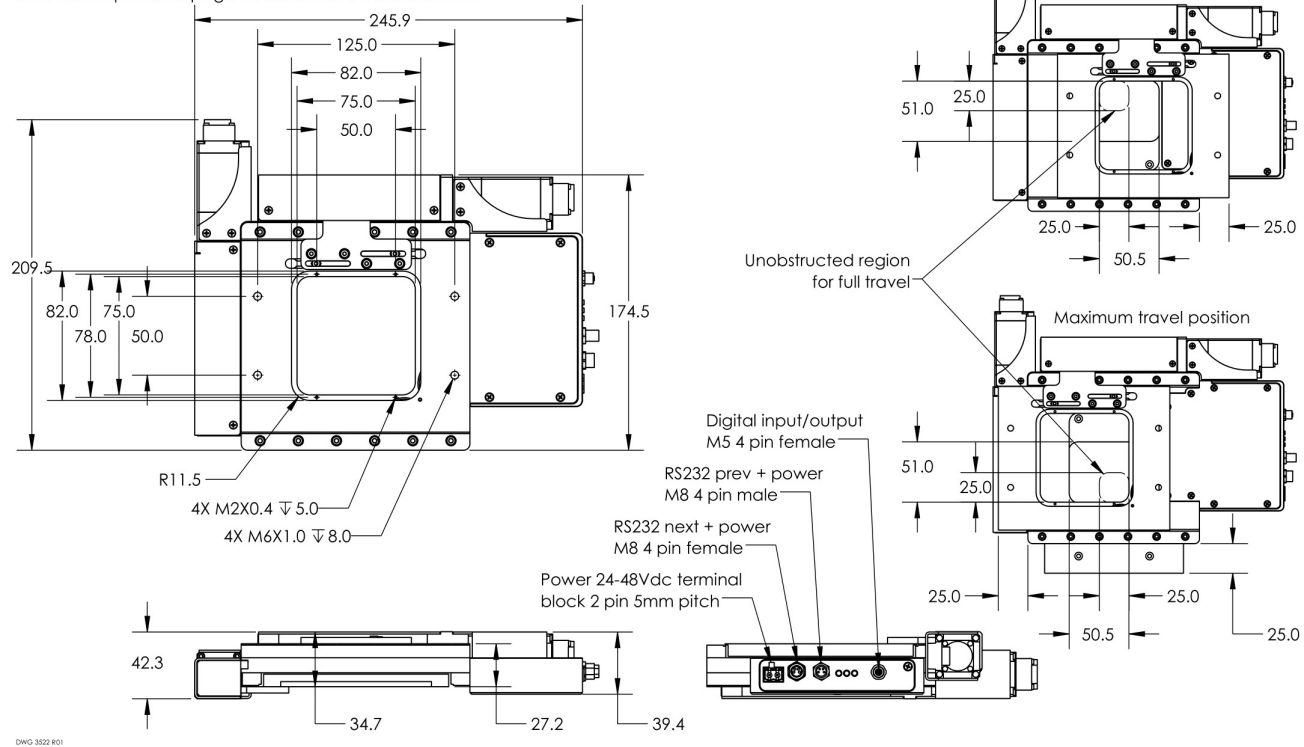
X-ASR-E Series Drawings

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



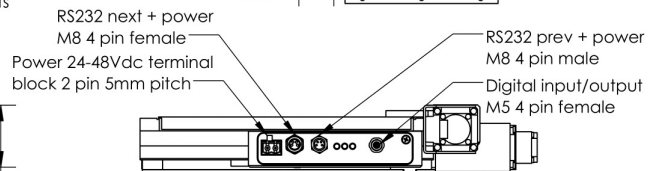
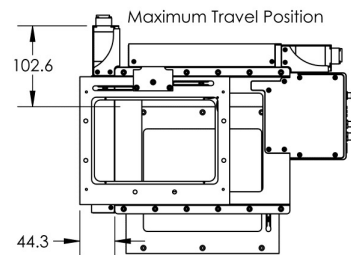
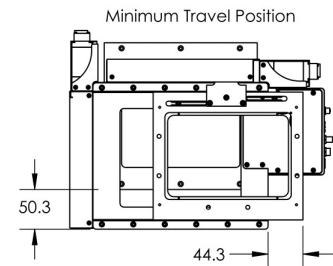
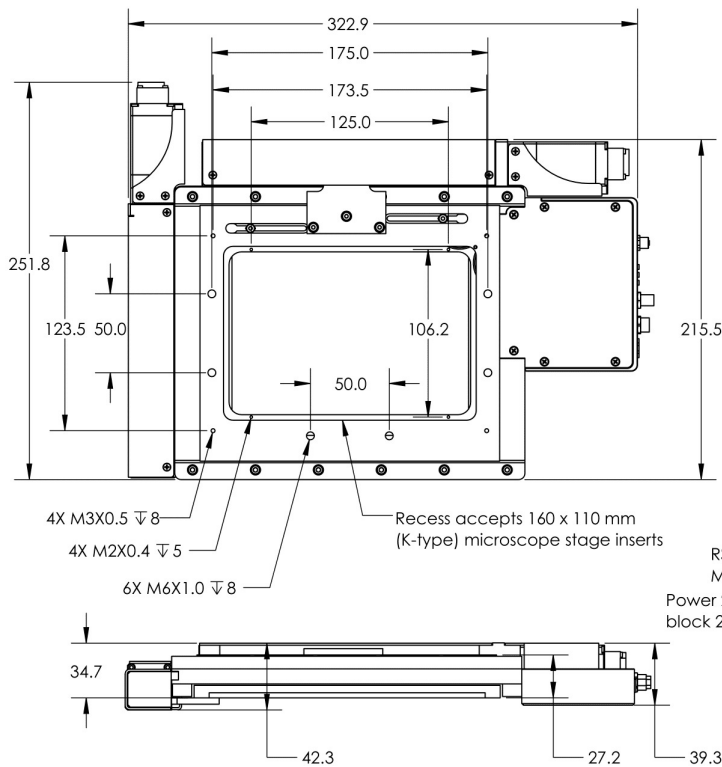
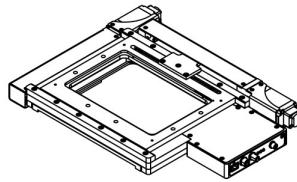
DWG 3522 R01

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.



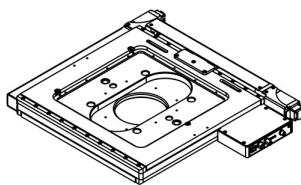
DWG 3324 R01A

ZABER

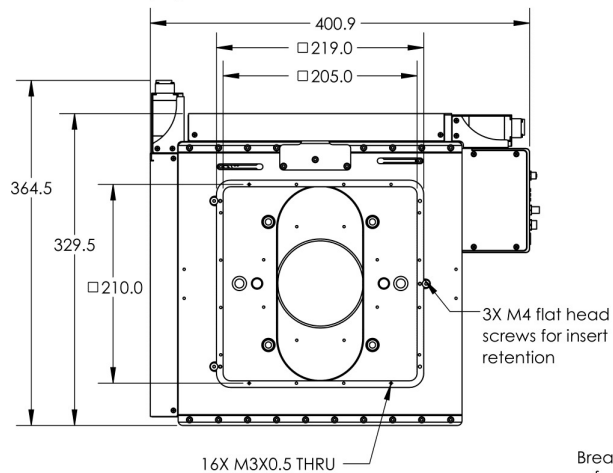
X-ASR205B205B-SE03D12

Motorized XY Microscope Stage

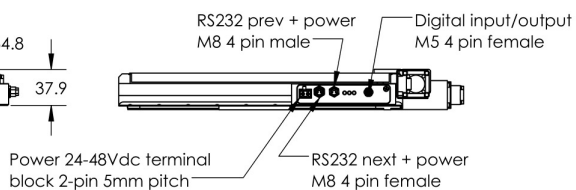
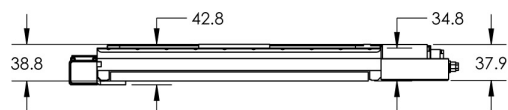
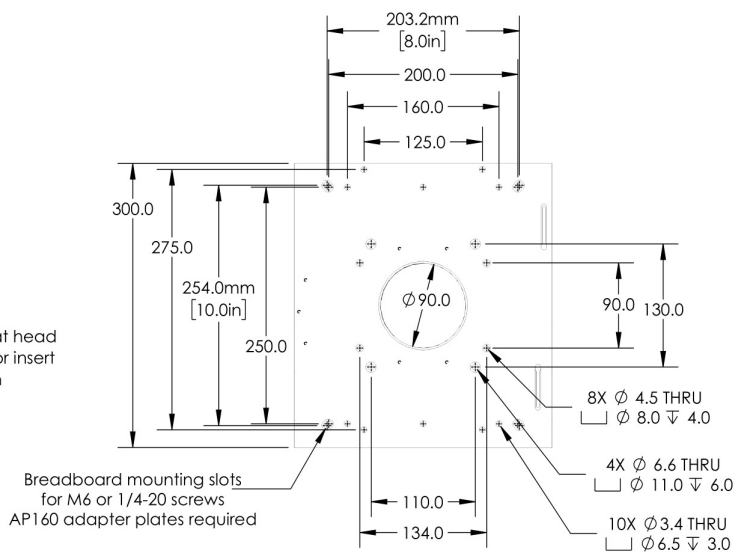
dimensions in mm



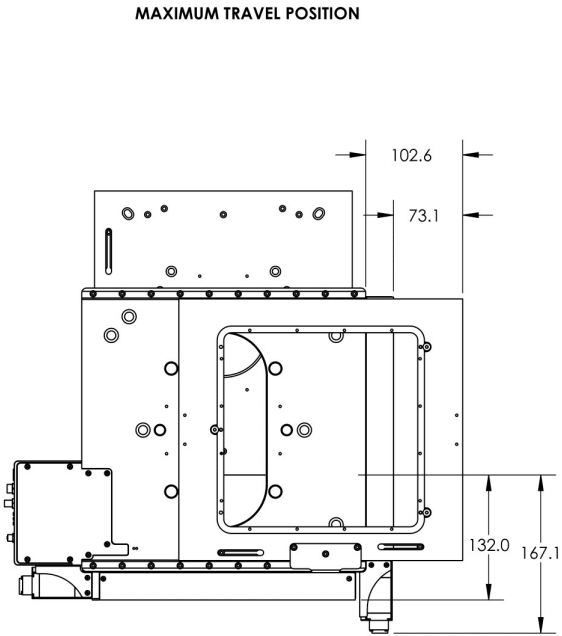
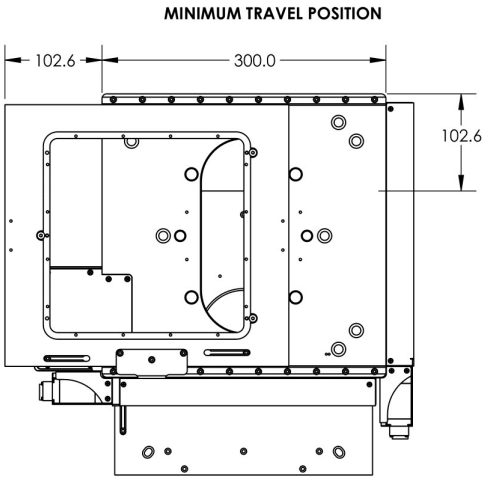
Adaptor plates required for breadboard mounting.
See accessories page for details at www.zaber.com



Base-plate mounting features



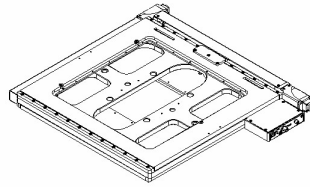
DWG 3327 R01



ZABER

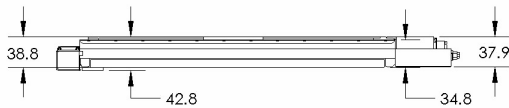
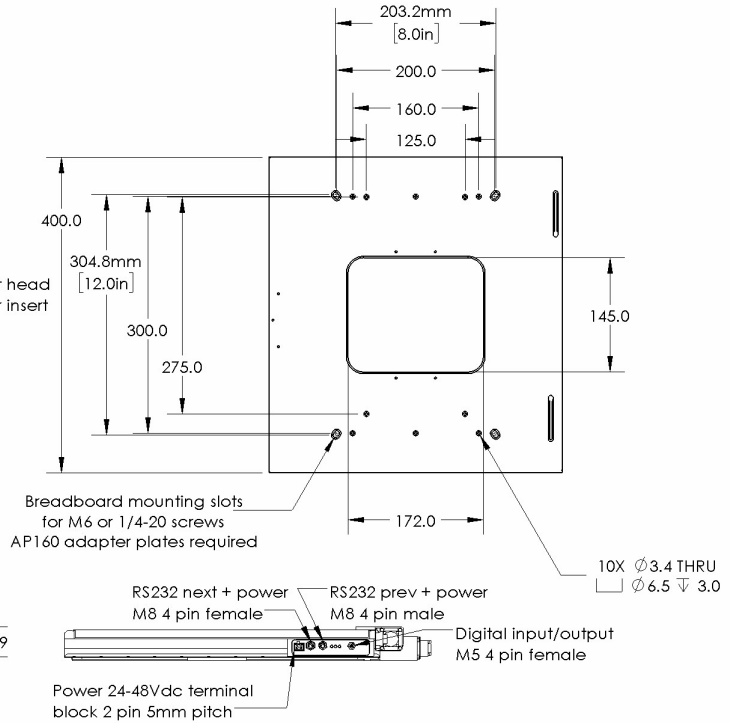
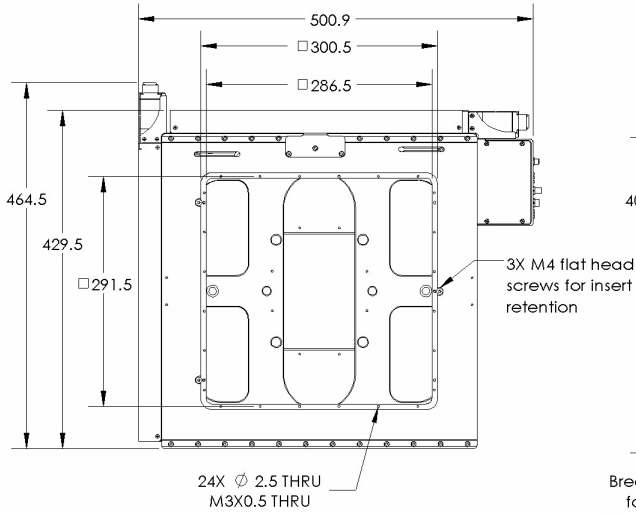
X-ASR305B305B-SE03D12

Motorized XY Microscope Stage
dimensions in mm

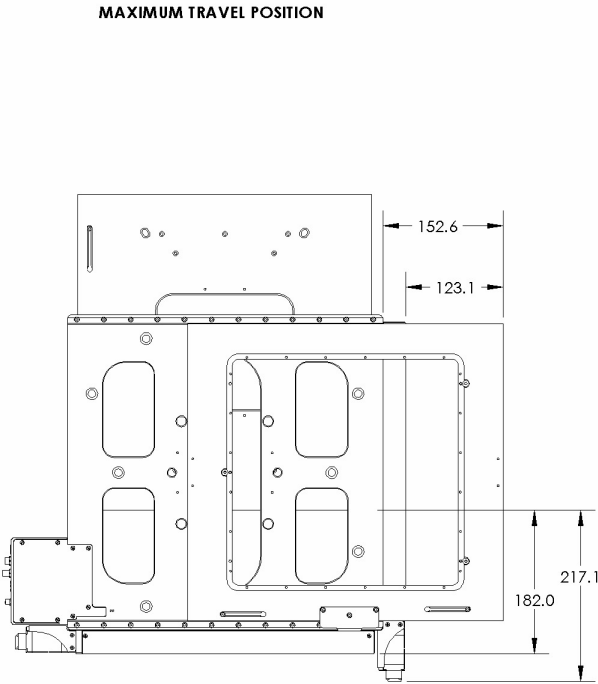
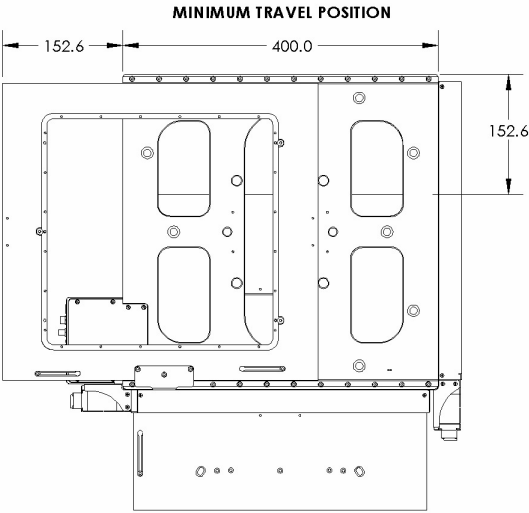


Adaptor plates required for breadboard mounting.
See accessories page for details at www.zaber.com

Base-plate mounting features



DWG 3529 R02



X-ASR-E Series Specifications

Microstep Size (Default Resolution)	0.15625 μm
Built-in Controller	Yes
Repeatability	< 2 μm (< 0.000079")
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
Data Cable Connection	Locking 4-pin M8
Guide Type	Crossed roller bearing
Power Supply	24-48 VDC
Maximum Current Draw	2600 mA
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
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
Digital Input	1
Digital Output	2
Operating Temperature Range	0 to 50 °C

Microstep Size (Default Resolution)	0.15625 μm
RoHS Compliant	Yes
CE Compliant	Yes
Vacuum Compatible	No

Part Number	Lower Travel Range	Upper 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	100 mm (3.937")	120 mm (4.724")	40 μm (0.001575")	20 μm (0.0008")
X-ASR205B205B-SE03D12	205 mm (8.071")	205 mm (8.071")	50 μm (0.001968")	25 μm (0.0010")

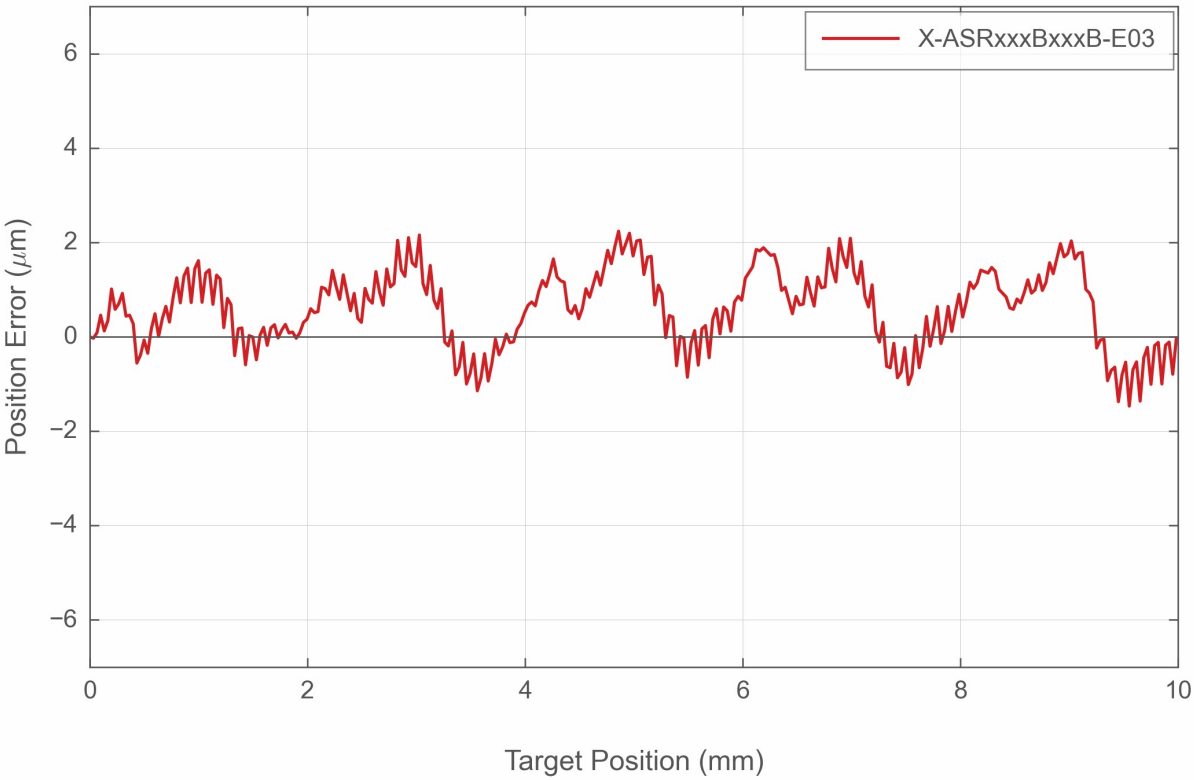
X-ASR305B305B-SE03D12	305 mm (12.008")	305 mm (12.008")	80 μm (0.003150")	50 μm (0.0020")
-----------------------	------------------	------------------	------------------------------	----------------------------

Part Number	Backlash	Maximum Speed	Maximum Centered Load	Pitch
X-ASR050B050B-SE03D12	< 4 μm (< 0.000157")	85 mm/s (3.346"/s)	200 N (44.9 lb)	0.02° (0.349 mrad)
X-ASR100B120B-SE03D12	< 4 μm (< 0.000157")	85 mm/s (3.346"/s)	100 N (22.4 lb)	0.02° (0.349 mrad)
X-ASR205B205B-SE03D12	< 10 μm (< 0.000394")	85 mm/s (3.346"/s)	100 N (22.4 lb)	0.02° (0.349 mrad)
X-ASR305B305B-SE03D12	< 10 μm (< 0.000394")	65 mm/s (2.559"/s)	100 N (22.4 lb)	0.04° (0.698 mrad)

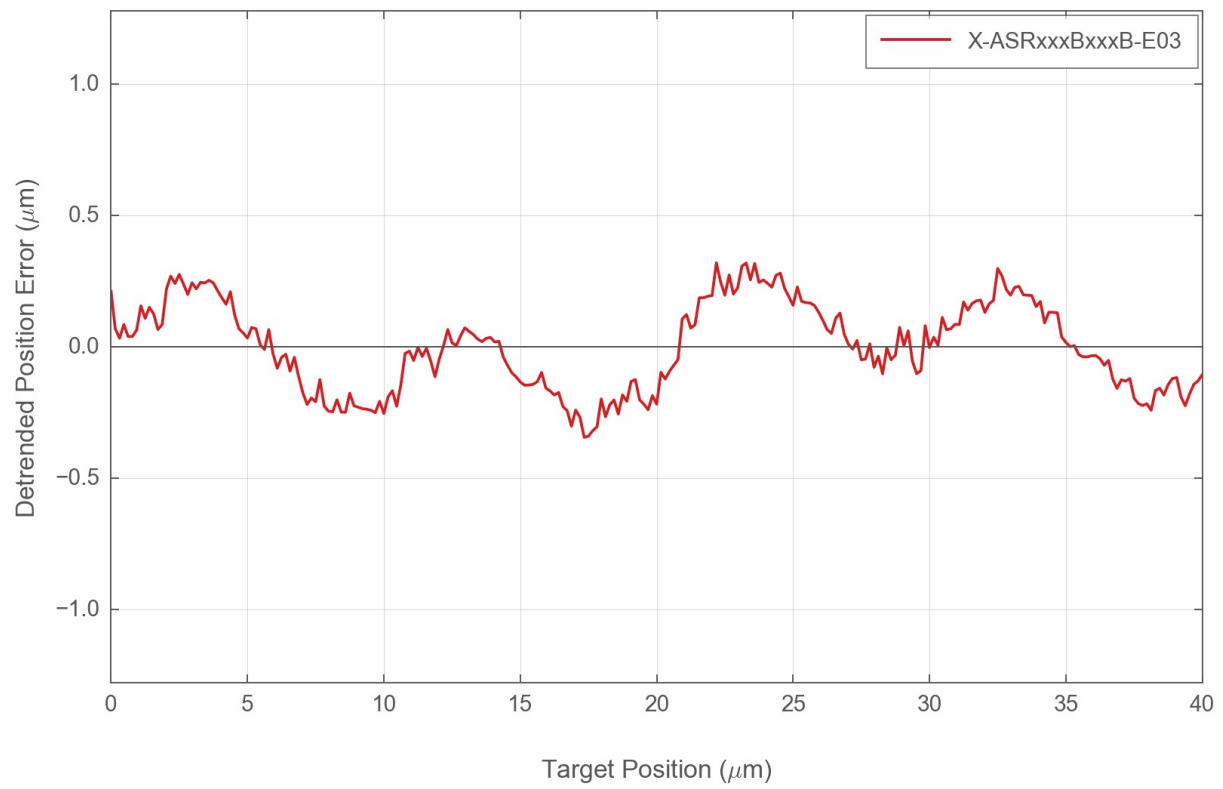
Part Number	Roll	Yaw	Weight
X-ASR050B050B-SE03D12	0.02° (0.349 mrad)	0.005° (0.087 mrad)	2.10 kg (4.630 lb)
X-ASR100B120B-SE03D12	0.02° (0.349 mrad)	0.005° (0.087 mrad)	3.30 kg (7.275 lb)
X-ASR205B205B-SE03D12	0.01° (0.174 mrad)	0.01° (0.174 mrad)	6.90 kg (15.212 lb)
X-ASR305B305B-SE03D12	0.015° (0.262 mrad)	0.015° (0.262 mrad)	10.60 kg (23.369 lb)

X-ASR-E Series Charts

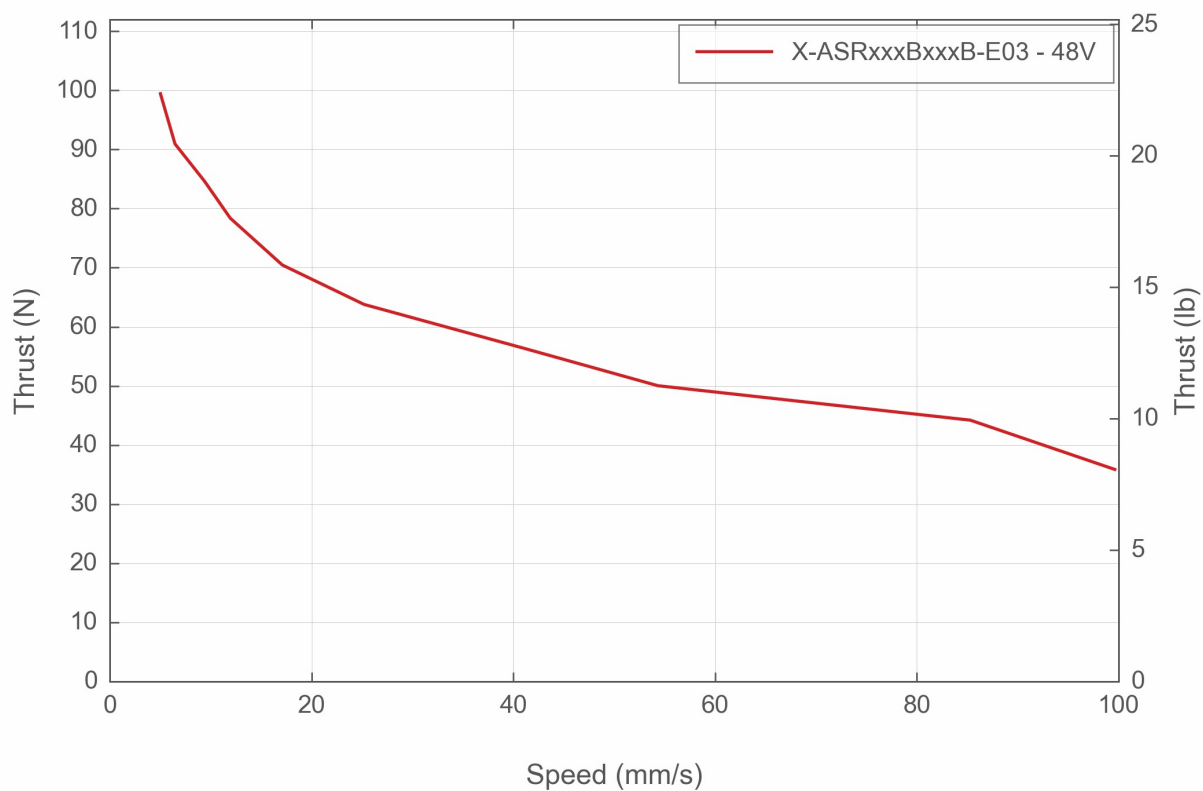
Typical Accuracy



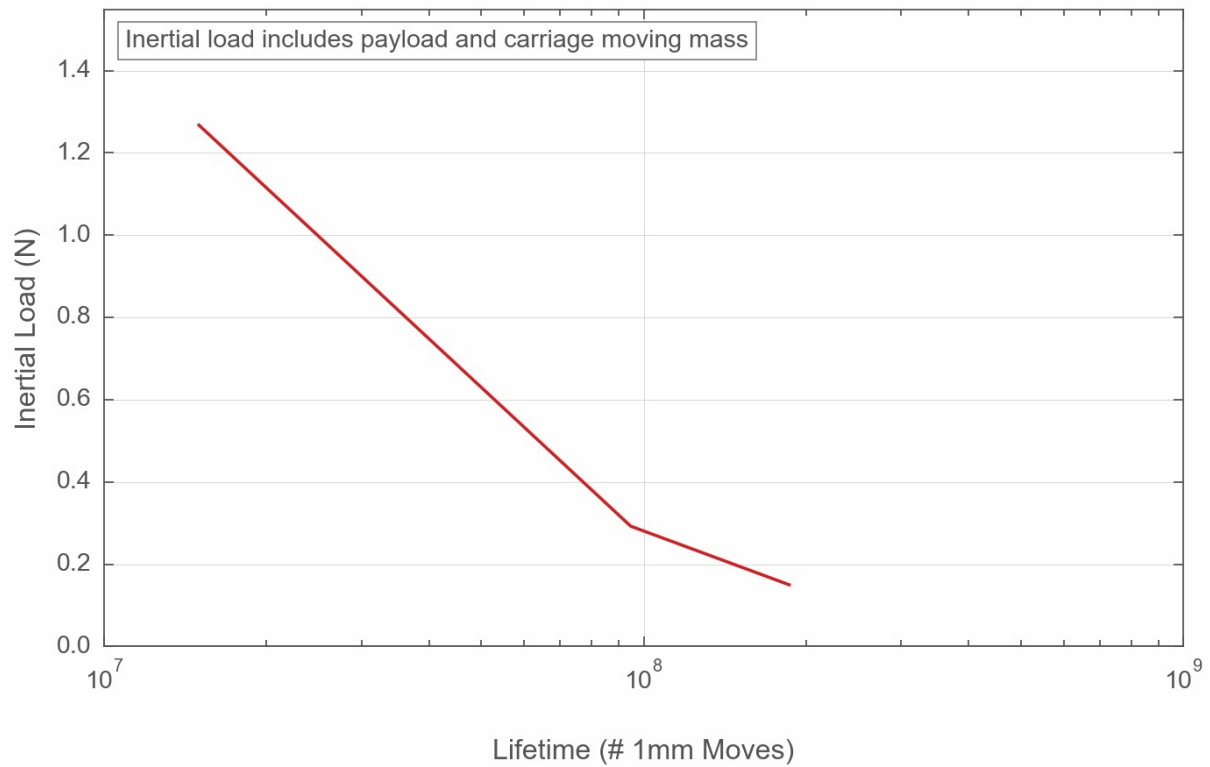
Typical Microstepping Accuracy



Thrust Speed Performance



Typical ASR Bearing Lifetime



Contact

Email: 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>