

## ASR-E Series Datasheet



- 50 mm up to 305 mm travel per axis
- Easily adjustable non-contact hall sensor limit switches
- Up to 12  $\mu\text{m}$  accuracy; 2  $\mu\text{m}$  repeatability; 85 mm/s speed
- Supported by  $\mu$ Manager and MetaMorph® Microscopy Automation & Image Analysis Software
- Custom versions available

Zaber's ASR series microscope stages combined with our X-MCB2 series two-axis controllers are designed as replacements for manual stages on upright and inverted microscopes or for stand-alone operation as scanning stages.

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

## Drawings

## Specifications

Specification	Value	Alternate Unit
Microstep Size (Default Resolution)	0.15625 $\mu\text{m}$	
Built-in Controller	No	
Recommended Controller	X-MCB2 (48 V) Recommended	
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
Guide Type	Crossed roller bearing	
Linear Motion Per Motor Rev	2.00 mm	0.079 "
Motor Steps Per Rev	200	
Motor Type	Stepper (2 phase)	
Motor Rated Current	670 mA/phase	
Motor Winding Resistance	9.2 ohms/phase	
Inductance	5.6 mH/phase	
Motor Rated Power	4.2 Watts	
Motor Connection	D-sub 15	
Mechanical Drive System	Precision lead screw	
Limit or Home Sensing	Magnetic, adjustable home and away sensors	
Axes of Motion	2	
Mounting Interface	Separate mounting adaptors available	
Vacuum Compatible	No	
Operating Temperature Range	0 to 50 °C	
RoHS Compliant	Yes	
CE Compliant	Yes	

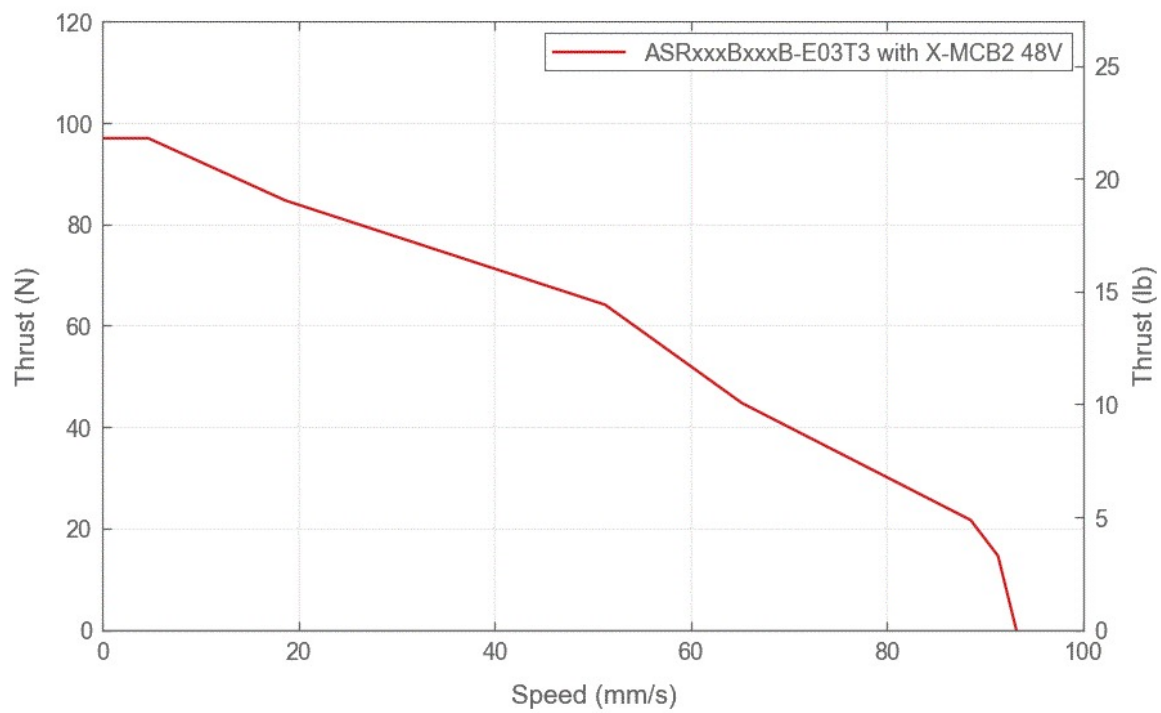
Part Number	Y Travel Range	X Travel Range	Accuracy (unidirectional)	Backlash
ASR050B050B-E03T3	50 mm (1.969 ")	50 mm (1.969 ")	12 $\mu$ m (0.000472 ")	< 4 $\mu$ m (< 0.000157 ")
ASR100B120B-E03T3	100 mm (3.937 ")	120 mm (4.724 ")	40 $\mu$ m (0.001575 ")	< 4 $\mu$ m (< 0.000157 ")
ASR205B205B-E03T3	205 mm (8.071 ")	205 mm (8.071 ")	50 $\mu$ m (0.001968 ")	< 10 $\mu$ m (< 0.000394 ")
ASR305B305B-E03T3	305 mm (12.008 ")	305 mm (12.008 ")	80 $\mu$ m (0.003150 ")	< 10 $\mu$ m (< 0.000394 ")

Part Number	Flatness	Maximum Centered Load	Pitch	Roll
ASR050B050B-E03T3	8 $\mu$ m (0.0003 ")	200 N (44.9 lb)	0.02 ° (0.349 mrad)	0.02 ° (0.349 mrad)
ASR100B120B-E03T3	15 $\mu$ m (0.0006 ")	100 N (22.4 lb)	0.02 ° (0.349 mrad)	0.02 ° (0.349 mrad)
ASR205B205B-E03T3	25 $\mu$ m (0.0010 ")	100 N (22.4 lb)	0.02 ° (0.349 mrad)	0.01 ° (0.174 mrad)
ASR305B305B-E03T3	50 $\mu$ m (0.0020 ")	100 N (22.4 lb)	0.04 ° (0.698 mrad)	0.015 ° (0.262 mrad)

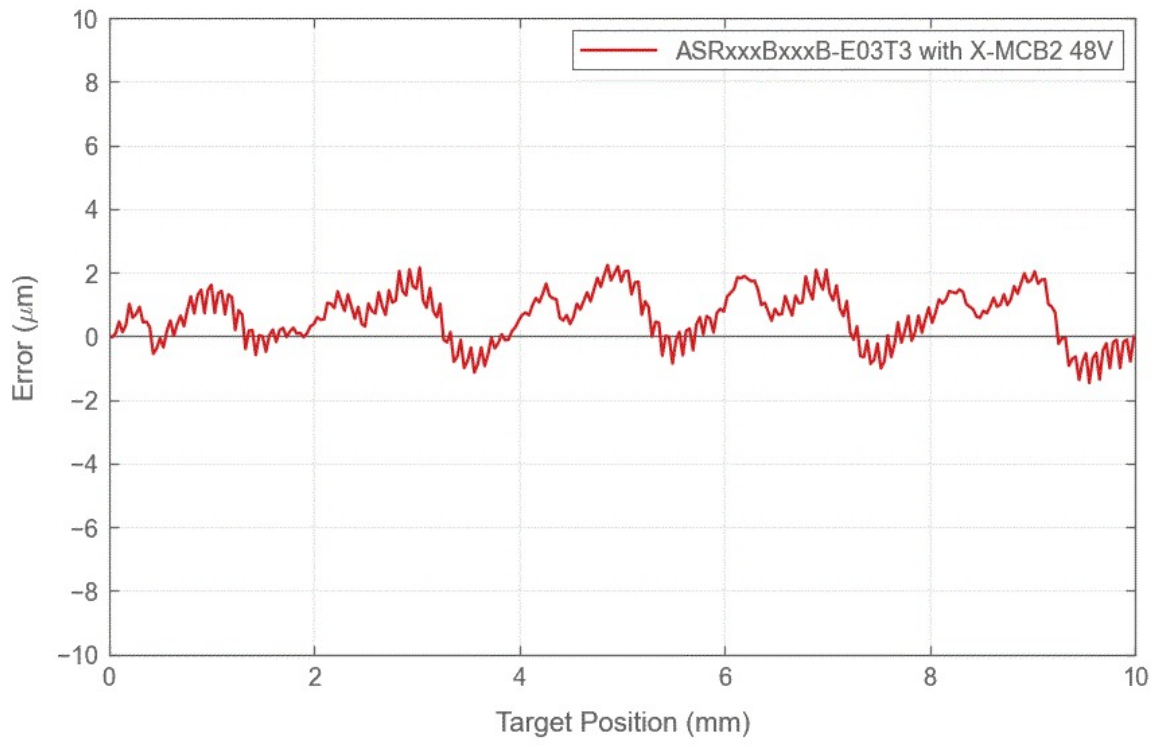
Part Number	Yaw	Weight
ASR050B050B-E03T3	0.005 ° (0.087 mrad)	1.82 kg (4.012 lb)
ASR100B120B-E03T3	0.005 ° (0.087 mrad)	3.0 kg (6.614 lb)
ASR205B205B-E03T3	0.01 ° (0.174 mrad)	6.65 kg (14.661 lb)
ASR305B305B-E03T3	0.015 ° (0.262 mrad)	10.35 kg (22.818 lb)

# Charts

## Thrust Speed Performance



## Typical Accuracy



## Typical Microstepping Accuracy

