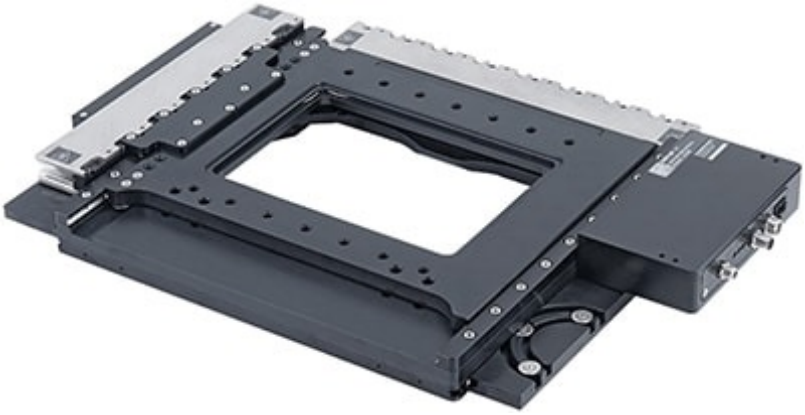
X-ADR250B100B-SAE53D12 Datasheet



- 130 x 100 mm or 250 x 100 mm travel options
- 1 nm resolution linear encoders provide 5 µm accuracy, 500 nm repeatability, and 50 nm minimum incremental move
- Ultra quiet linear motors provide 750 mm/s top speed and are maintenance free
- Built-in controller saves space and simplifies cable management. Easily connect via USB and daisy chain to other Zaber products
- Simple standalone control with X-JOY joysticks
- A Nucleus microscopy platform module
- Digital IO for triggering external systems

X-ADR-AE Series Overview

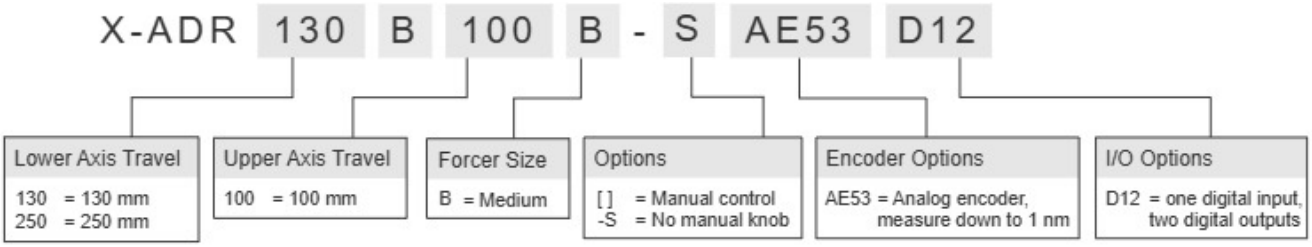
Zaber's X-ADR-AE series microscope stages are designed as replacements for manual stages on inverted microscopes or for stand-alone operation as scanning stages. Featuring non-contact linear motors and optical linear encoders, these stages offer a leap in performance over conventional screw-driven stages, making them suitable for demanding applications where speed, accuracy and reliability are of utmost importance.

Compact controllers are built directly into the stage, saving bench space and allowing the stages to be powered and controlled through a single flex rated cable. X-ADR-AE 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-ADR-AE

X-ADR-AE Series Part Numbering & Options



X-ADR250B100B-SAE53D12 Drawings

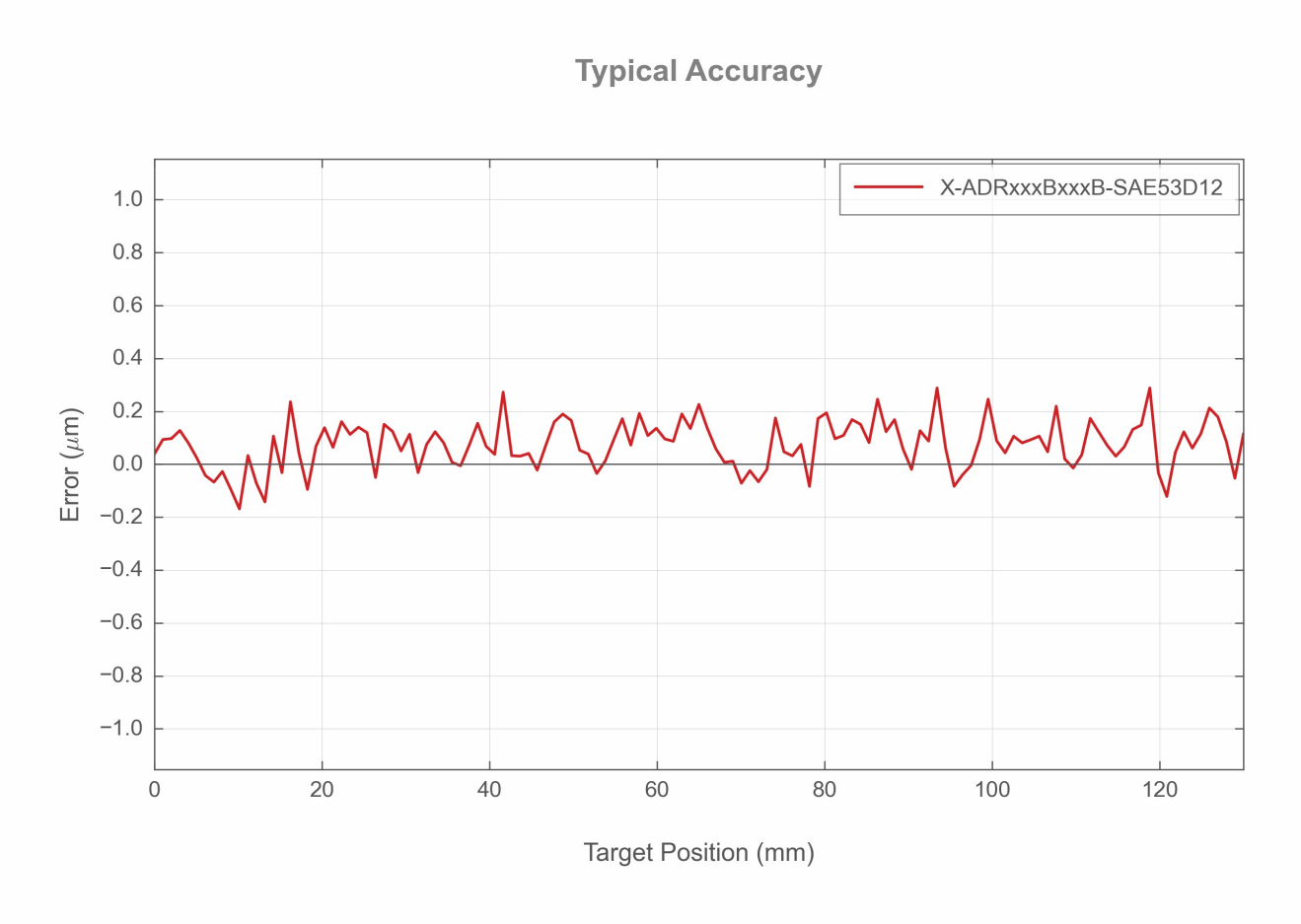
- X-ADR250B100B-SAE53D12.pdf (Drawing for X-ADR250B100B-SAE53D12 DWG 3272 R02D)

X-ADR250B100B-SAE53D12 Specifications

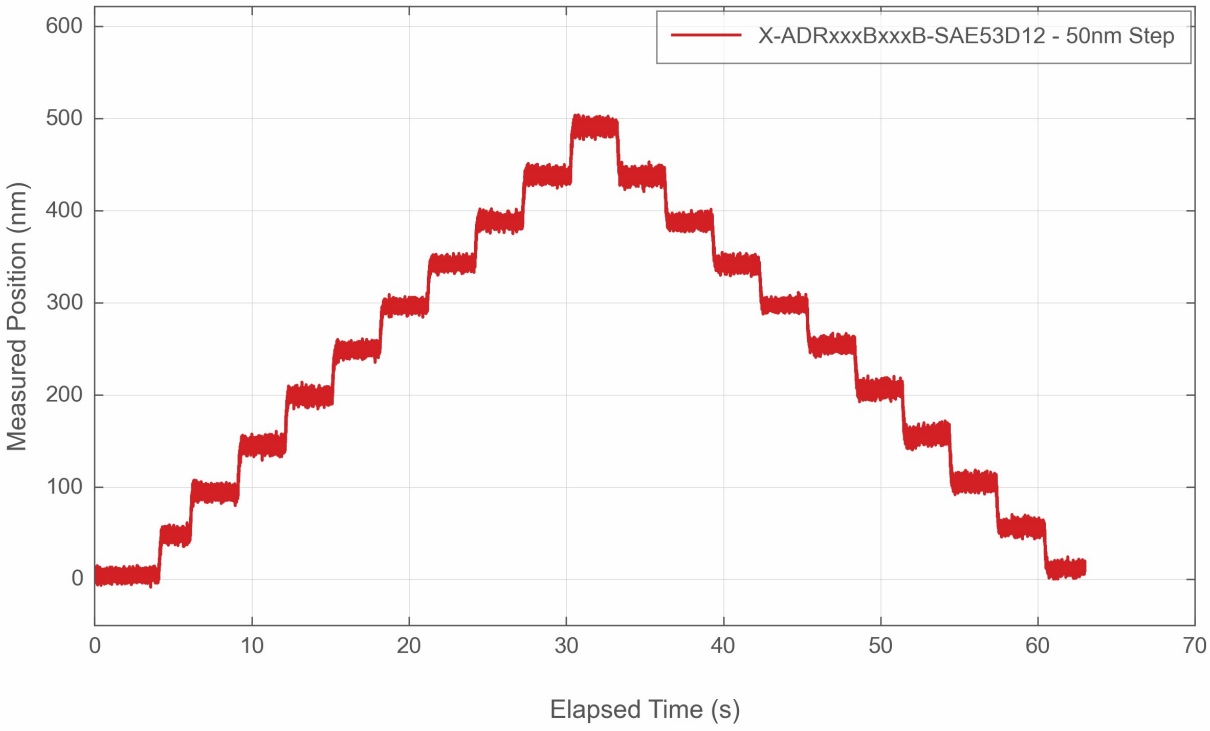
Built-in Controller	
Lower Travel Range	250 mm (9.843")
Upper Travel Range	100 mm (3.937")
Accuracy (unidirectional)	5 µm (0.000197")
Repeatability	< 0.5 µm (< 0.000020")
Minimum Incremental Move	50 nm
Maximum Speed	750 mm/s (29.528"/s)
Minimum Speed	0.61 nm/s
Speed Resolution	0.61 nm/s
Encoder Type	Linear analog encoder
Encoder Count Size	1 nm
Peak Thrust	35 N (7.8 lb)
Maximum Continuous Thrust	13 N (2.9 lb)
Communication Interface	RS-232
Communication Protocol	Zaber ASCII (Default)
Data Cable Connection	Locking 4-pin M8
Maximum Centered Load	30 N (6.7 lb)
Maximum Moment (Pitch)	500 N-cm (708.1 oz-in)
Maximum Moment (Roll)	500 N-cm (708.1 oz-in)
Maximum Moment (Yaw)	500 N-cm (708.1 oz-in)
Typical Velocity Stability	± 0.12% at 100 mm/s with a 0.55 kg payload
Pitch	0.025° (0.436 mrad)
Roll	0.01° (0.174 mrad)
Yaw	0.01° (0.174 mrad)
Power Supply	24-48 VDC
Maximum Current Draw	2300 mA
Motor Type	Moving Magnet Track Linear Motor
Force Constant	5.5 N/A (1.2 lbs/A)
Guide Type	Crossed-Roller Bearing
Limit or Home Sensing	Optical Index Mark
Axes of Motion	2

Built-in Controller	
LED Indicators	Yes
Mounting Interface	Separate mounting adaptors available
Lower Moving Mass	3.9 kg (8.580 lbs)
Upper Moving Mass	1.5 kg (3.300 lbs)
Digital Input	1
Digital Output	2
Operating Temperature Range	0 to 50 °C
CE Compliant	Yes
Vacuum Compatible	No
Weight	6.2 kg (13.669 lb)

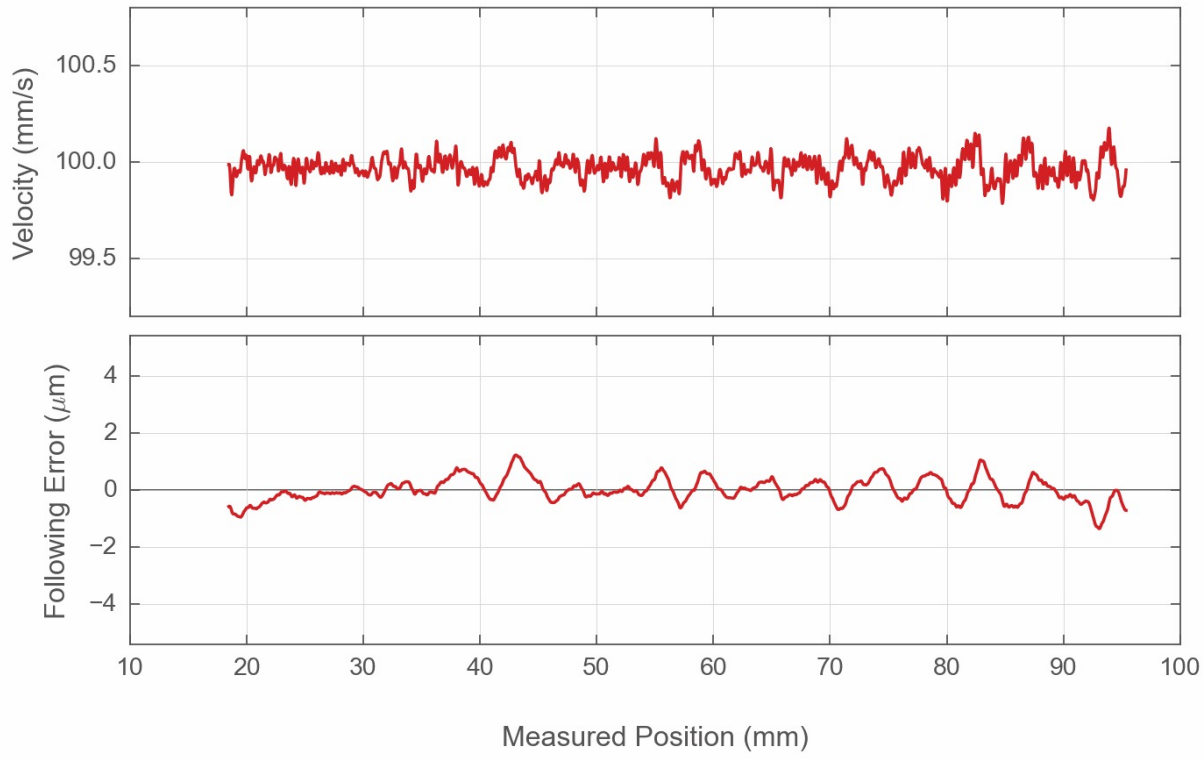
X-ADR-AE Series Charts



Typical Minimum Incremental Move



Typical Velocity Stability and Following Error



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