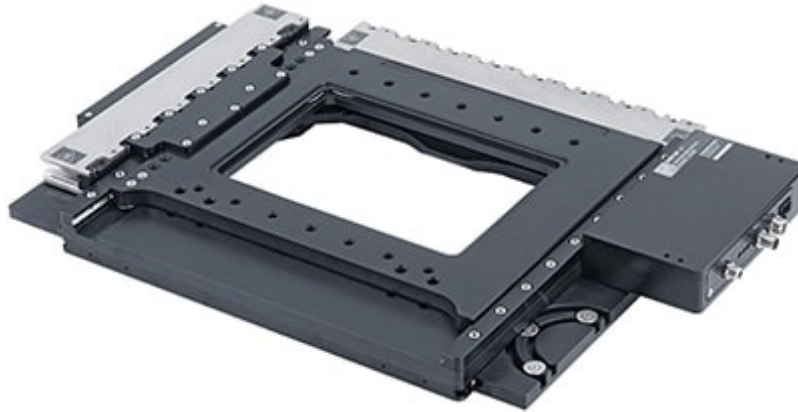


X-ADR130B100B-SAE53D12 Datasheet



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

X-ADR-AE Series Overview

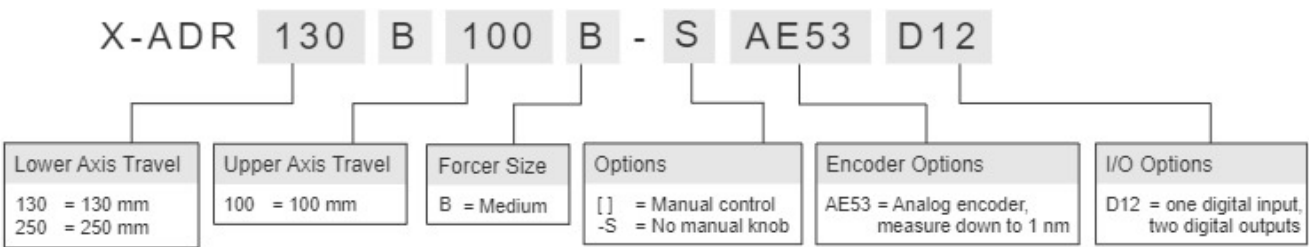
Zaber's X-ADR-AE series microscope stages are designed as replacements for manual stages on inverted microscopes or for stand-alone operation as scanning stages. Featuring non-contact linear motors and optical linear encoders, these stages offer a leap in performance over conventional screw-driven stages, 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.

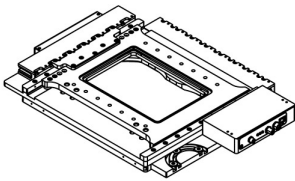
For more information visit: <https://www.zaber.com/products/scanning-microscope-stages/X-ADR-AE>

X-ADR-AE Series Part Numbering & Options

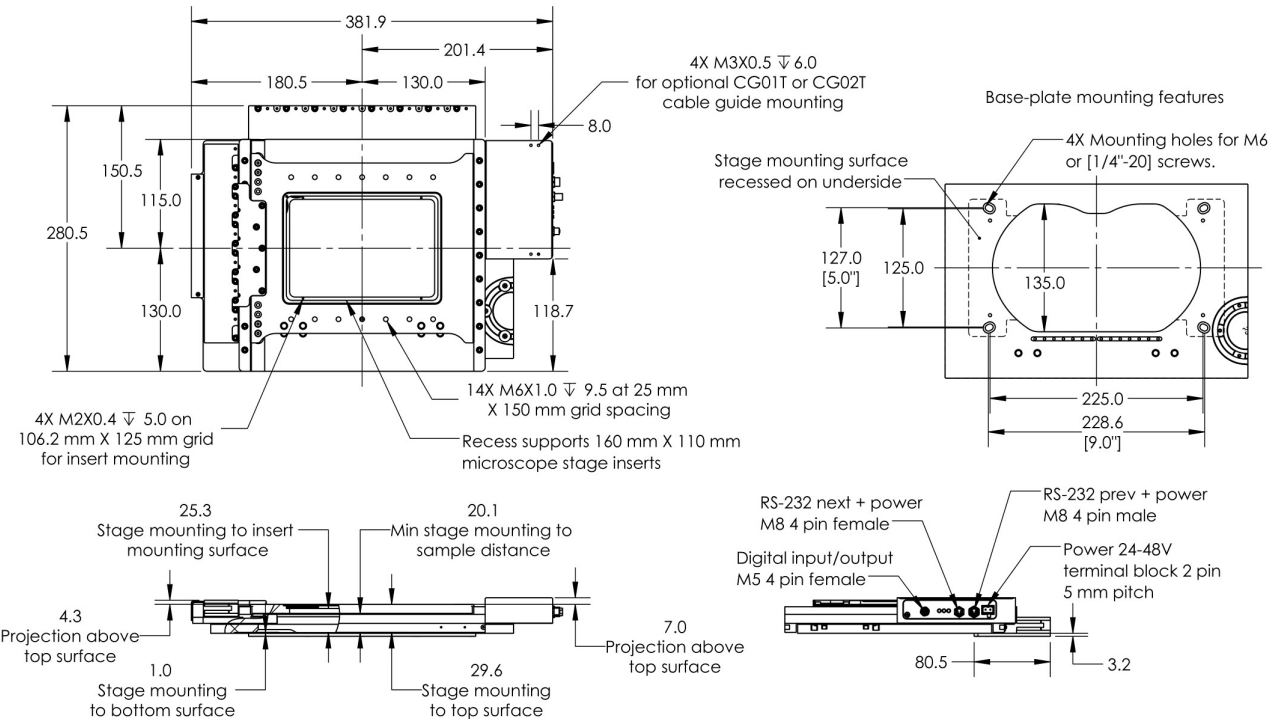


X-ADR130B100B-SAE53D12 Drawings

ZABER
X-ADR130B100B-SAE53D12
Direct Drive XY Microscope Stage
dimensions in mm



Adaptor plates required for most applications.
See accessories page for details at www.zaber.com



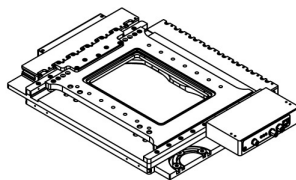
DWG 3538 R01B

ZABER

X-ADR130B100B-SAE53D12

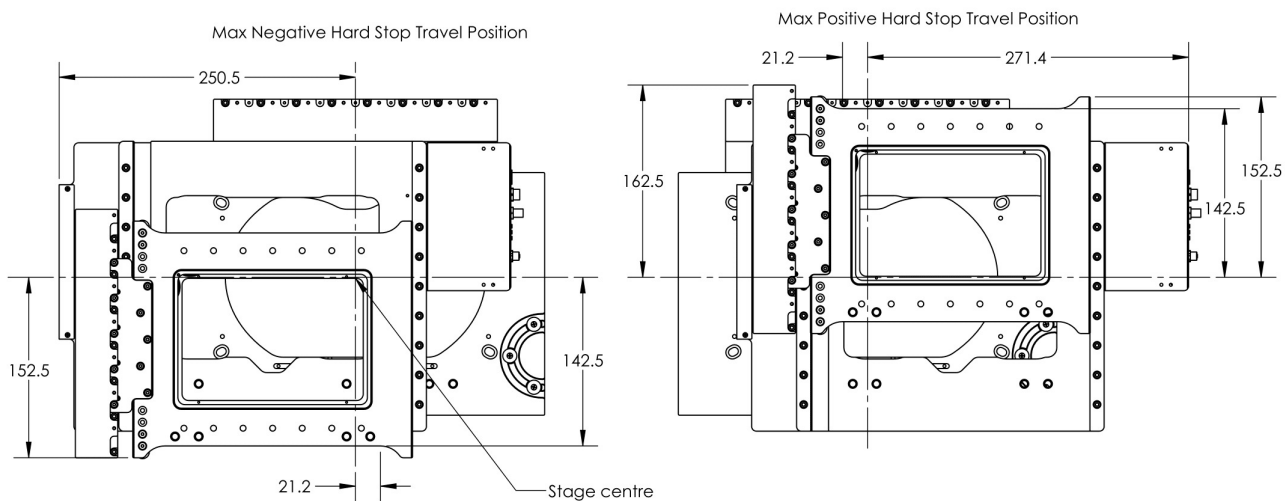
Direct Drive XY Microscope Stage

dimensions in mm



Axis	Nominal Travel	Max Hard Stop Travel	Min Hard Stop Travel
Upper	100.0	105.0	55.0
Lower	130.0	140.0	40.0

Hard stop travel limits can be reduced in 5 mm increments (upper axis) and 10 mm increments (lower axis) for space constrained applications.



DWG 3338 R01B

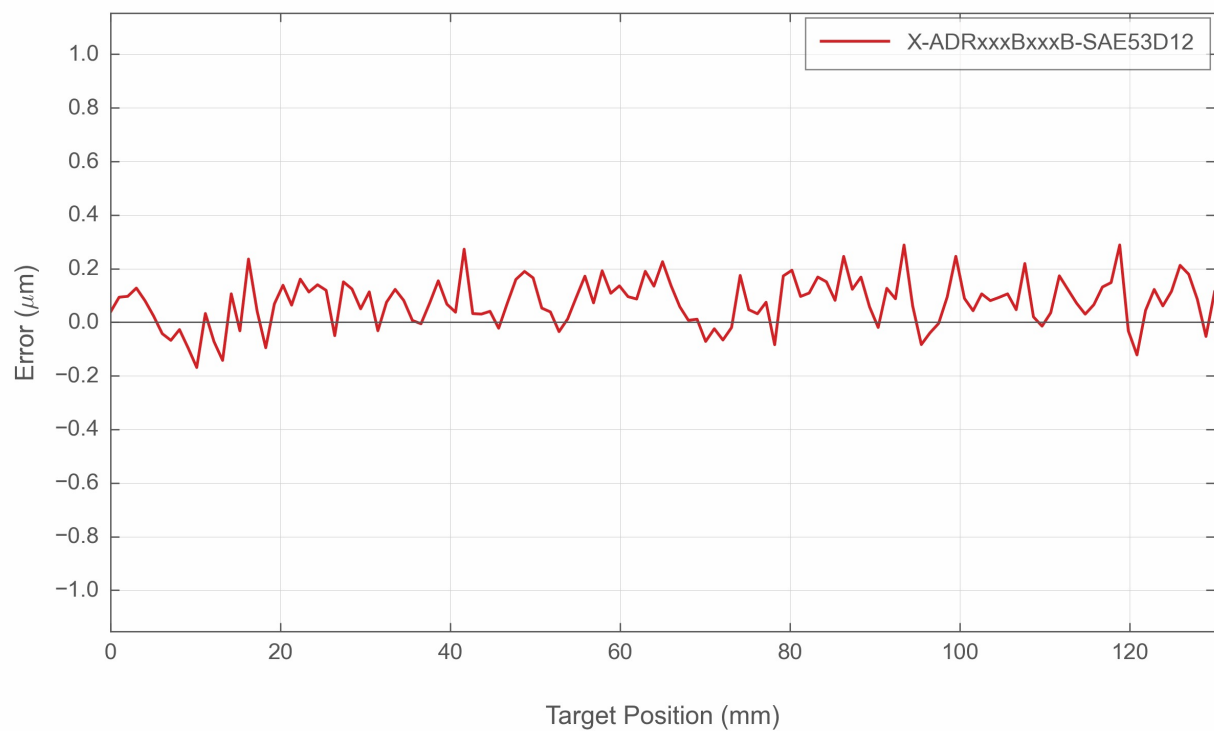
X-ADR130B100B-SAE53D12 Specifications

Built-in Controller	
Lower Travel Range	130 mm (5.118")
Upper Travel Range	100 mm (3.937")
Accuracy (unidirectional)	5 μ m (0.000197")
Repeatability	< 0.5 μ m (< 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	50 N (11.2 lb)
Maximum Cantilever Load	500 N-cm (708.1 oz-in)
Guide Type	Crossed-Roller Bearing
Typical Velocity Stability	\pm 0.12% at 100 mm/s with a 0.55 kg payload
Pitch	0.025° (0.436 mrad)
Roll	0.006° (0.105 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)
Limit or Home Sensing	Optical Index Mark
Axes of Motion	2
LED Indicators	Yes
Mounting Interface	Separate mounting adaptors available

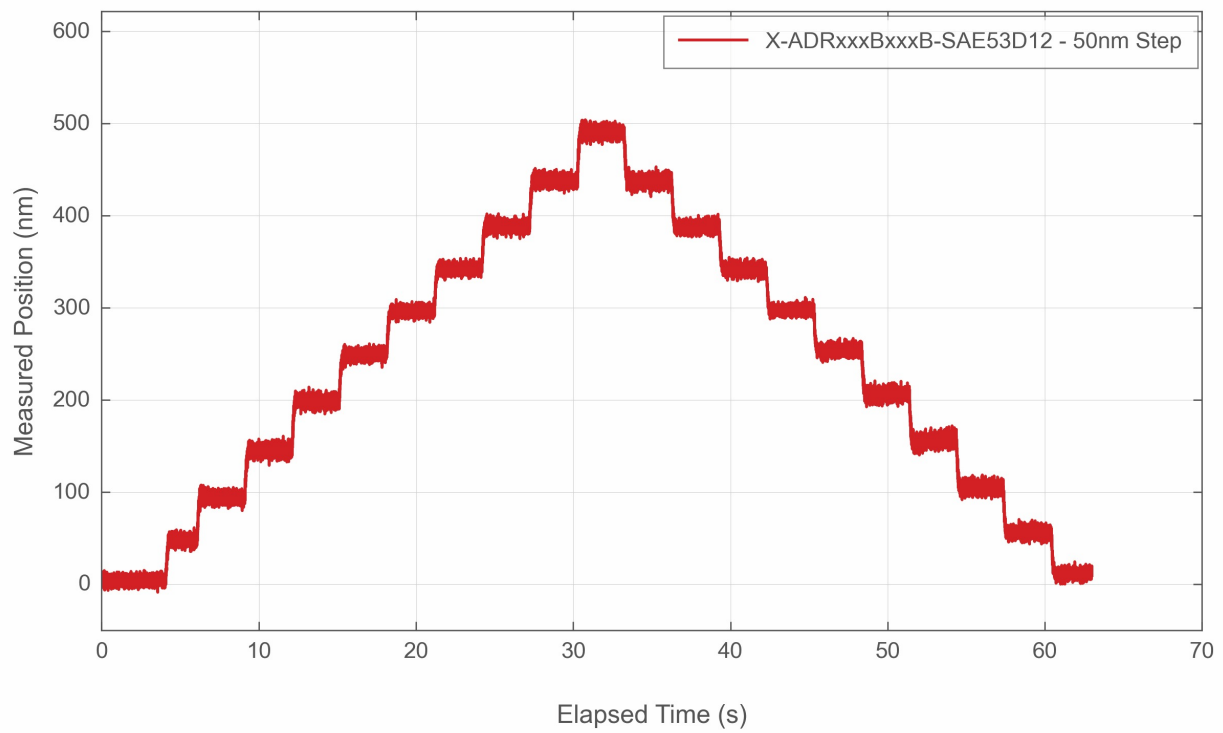
Built-in Controller	
Lower Moving Mass	3.3 kg (7.260 lbs)
Upper Moving Mass	1.3 kg (2.860 lbs)
Digital Input	1
Digital Output	2
Operating Temperature Range	0 to 50 °C
RoHS Compliant	Yes
CE Compliant	Yes
Vacuum Compatible	No
Weight	4.9 kg (10.803 lb)

X-ADR-AE Series Charts

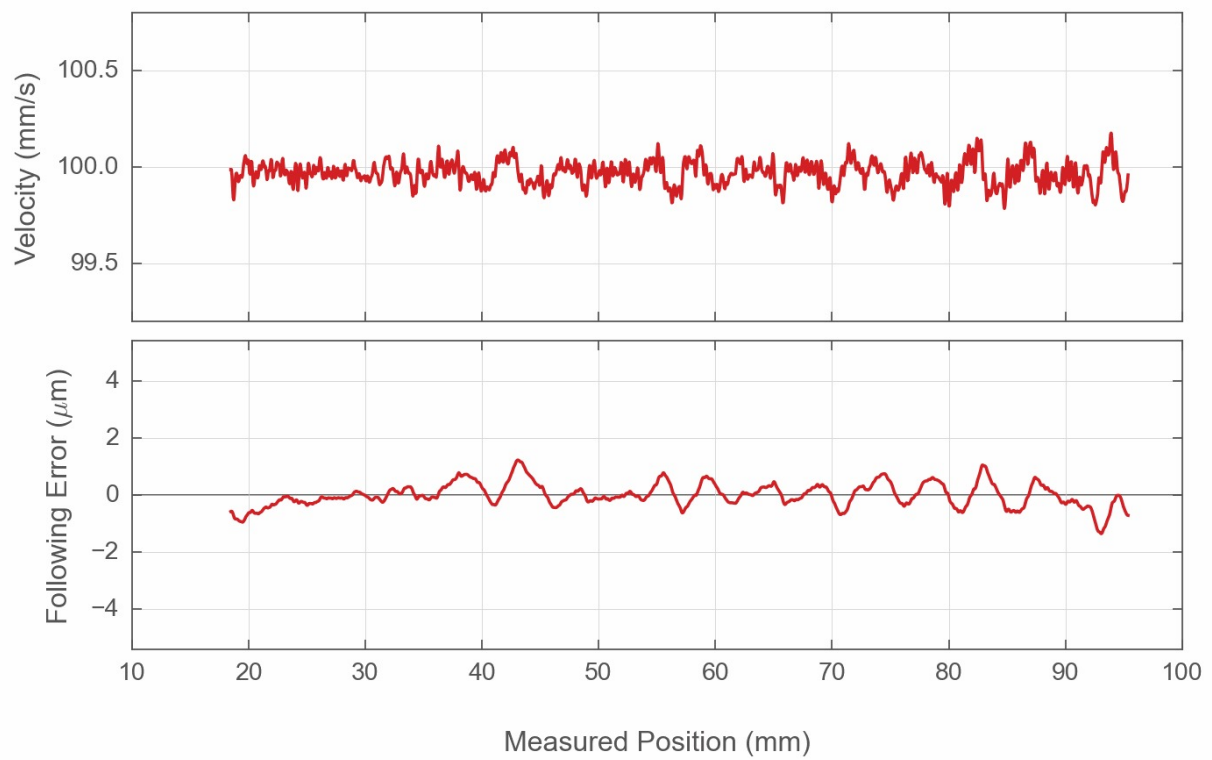
Typical Accuracy



Typical Minimum Incremental Move



Typical Velocity Stability and Following Error



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