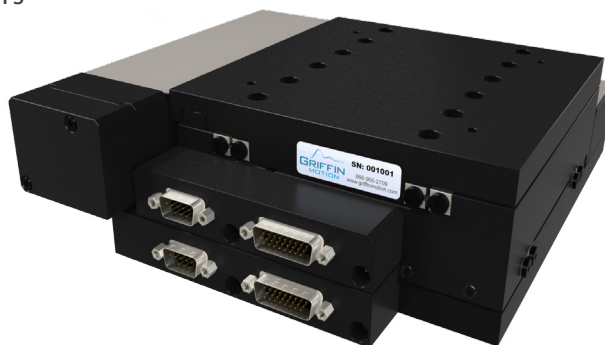


CXY-C-050 Datasheet

50mm Screw Driven XY Stage

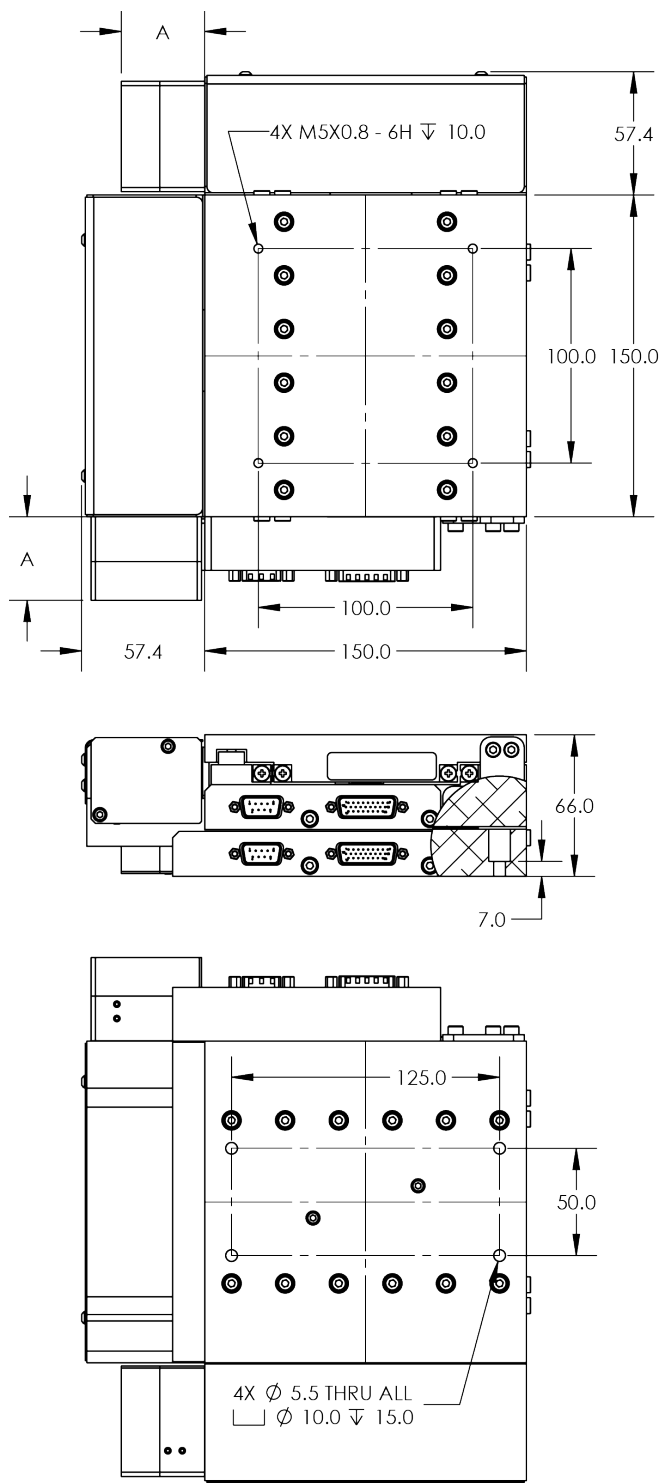
FEATURES

- 50mm XY Travel
- Zero-Backlash Precision-Ground Ballscrew Drives
- Optical Limit Switches and Home Markers
- Variety of Encoder Options
- Low Profile Design
- Crossed Roller Bearings
- Integrated frameless servo motors



This 50 mm XY planar stage features high-stiffness crossed roller bearings for smooth, precise motion. Each axis is side-driven by a precision-ground ballscrew coupled directly to the brushless motor. This provides a low-profile along with excellent accuracy, repeatability, stiffness and bandwidth. Multiple encoder options are available—including rotary, linear, and absolute linear—to suit a wide range of accuracy, resolution, and interface requirements. Stepper motor variants are also available for more cost-sensitive applications.

CXY-C-050 Dimensions





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CXY-C Ordering Options

CXY-C Ordering Options	
Product Series	CXY-C: Closed Aperture XY Stage
Stage Travel (mm) ¹	50 100 150 200
Drive Type	BS: 2 mm/rev Precision-Ground Ballscrew BF: 5 mm/rev Precision-Ground Ballscrew HS: 3.175 mm/rev Leadscrew
Motor Code	A: NEMA17 BLDC, 24V Winding (BS/BF Only) B: Bipolar Stepper, 400 steps/rev (BS/BF Only) C: Bipolar Stepper, 200 steps/rev (HS Only) T: NEMA17 BLDC, 170V Winding (BS/BF Only)
Feedback Code	H: Rotary Encoder, RS422, 16,000 cts/rev, Limits, Index, and Home ² L: Linear Encoder, 1Vpp, 25 periods/mm, Limits and Index M: Linear Encoder, RS422, 10,000 cts/mm, Limits and Index N: Limit and Home Only MM: Absolute Linear Encoder, BiSS C, 10,000 cts/mm
Precision Grade	S: Standard Precision P: High Precision ³
Additional Options	0: No Additional Options
Customizations	00: Standard Product 01-99: Custom Stage, Customer Specific ⁴
Example Part Number	CXY-C-150-BF-T-MM-P-0-07
Notes	1: Custom travels may be available, maximum 210mm 2: H may be paired with L, M or MM for dual-loop feedback 3: Contact Griffin Motion for high precision specification options 4: Common customizations include: custom hole patterns, dual-loop feedback, and cleanroom preparation

CXY-C-050 Performance Specifications

CXY-C-050 Specifications				
Feedback Code	H	L/M/MM	N (HS)	N(BS/BF)
Mechanical Accuracy ($\pm\mu\text{m}$) ^{1,4}	10.0 ²	8.0	20.0 ²	15.0 ²
Calibrated Accuracy ($\pm\mu\text{m}$) ^{3,4}	4.0	2.0	10.0	6.0
Bi-Directional Repeatability (μm) ^{1,4}	2.0	1.0	5.0	3.0
Straightness (μm) ⁵	5.0			
Flatness (μm) ⁵				
Pitch ($\pm\text{arc-sec}$) ^{1,4}	8.0			
Yaw ($\pm\text{arc-sec}$) ^{1,4}				
Orthogonality (arc-sec) ⁵	10			
Maximum Velocity (mm/s)	120	25		
Maximum Motor Force (N)	120	75	120	
Load Capacity (kg)	40			
X Moving Mass (kg)	4.25			
Y Moving Mass (kg)	1.25			
Stage Mass (kg)	6.25			
Notes:				
1. Specification is verified via laser interferometer on every stage				
2. Slope correction may be required to compensate for linear scaling errors in the screws. Correction factor will be provided to the customer				
3. In order to have a stage calibrated and verified, Griffin Motion must perform the controls configuration				
4. Improved specifications are available by ordering the "P" precision grade				
5. Specification may be verified by laser interferometer upon request				

