1040 CLASSIC ROAD | APEX, NC 27539
P: 866.906.2709 | F: 919.882.1430
www.griffinmotion.com

LNS-150 Datasheet

150mm Screw Driven Linear Stage

FEATURES

- 150mm Travel
- Zero-Backlash Precision-Ground Ballscrew Drive
- Optical Limit Switches and Home Markers
- Variety of Feedback Options
- Low Profile Design
- Crossed Roller Bearings
- Integrated frameless servo motors
- Power-Off Brake Available for Vertical Operation

This 150mm linear stage features high-stiffness crossed roller bearings for smooth, precise motion. The stage 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.

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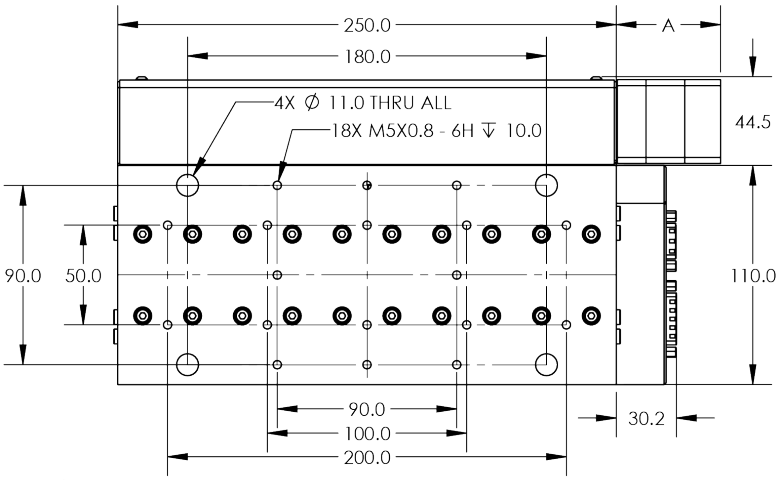
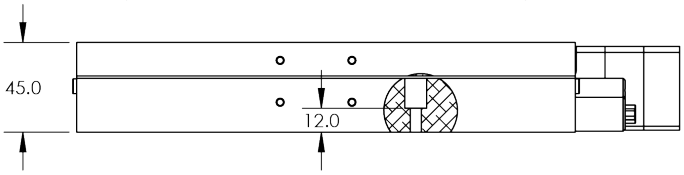
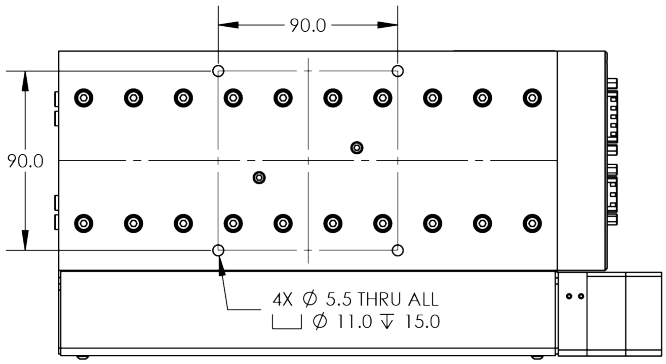
LNS-150 Dimensions







Configuration Dependent Dimensions	
Motor/Feedback/Brake Configuration	A (mm)
BLDC, Linear Encoder, No Brake	33.0
BLDC, Linear Encoder, Brake	66.25
BLDC, Rotary Encoder, No Brake	52.4
BLDC, Rotary Encoder, Brake	85.65
High Torque BLDC, Linear Encoder, Brake	106.25
High Torque BLDC, Rotary Encoder, Brake	125.65
"B" Stepper, Limit and Home Only, No Brake	59.25
"C" Stepper, Limit and Home Only, No Brake	37.8

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LNS Ordering Options

LNS Ordering Options	
Product Series	LNS: Ballscrew Side-Drive Linear Stage
Stage Travel (mm)[1]	50 100 150
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) M: NEMA17 BLDC, 24V Winding, High Torque (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 D: Power-Off Safety Brake
Customizations	00: Standard Product 01-99: Custom Stage, Customer Specific[4]
Example Part Number	LNS-100-BF-M-L-P-D-02
Notes	1: Custom travels may be available, maximum 160mm 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

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LNS-150 Performance Specifications

LNS-150 Specifications				
Feedback Code	H	L/M/MM	N (HS)	N(BS/BF)
Mechanical Accuracy (±µm)[1,4]	15.0[2]	10.0	30.0[2]	20.0[2]
Calibrated Accuracy (±µm)[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]	6.0			
Flatness (µm)[5]				
Pitch (±arc-sec)[1,4]	12.0			
Yaw (±arc-sec)[1,4]				
Maximum Velocity (mm/s)	120 (250 for "BF" Screw)		25	
Continuous Motor Force (Fx) (N)	120 (250 for "M" Motor)		75	
Y Load Capacity (Fy) (N)	250			
Z Load Capacity (Fz) (N)	400			
Moment Load Capacity (Mx) (Nm)	60			
Moment Load Capacity (My) (Nm)	275			
Moment Load Capacity (Mz) (Nm)	110			
Moving Mass (kg)	2.25			
Stage Mass (kg)	4.5			

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