

NLE SERIES LINEAR STAGE



NLE Design

Newmark's NLE series linear slides offer high resolution and repeatability in a small footprint.

NLE linear slides are designed for a variety of applications in research and other industrial areas requiring precision positioning such as in semiconductor processing, fiber optics manufacturing and biotech automation.



Mounted as XY configuration

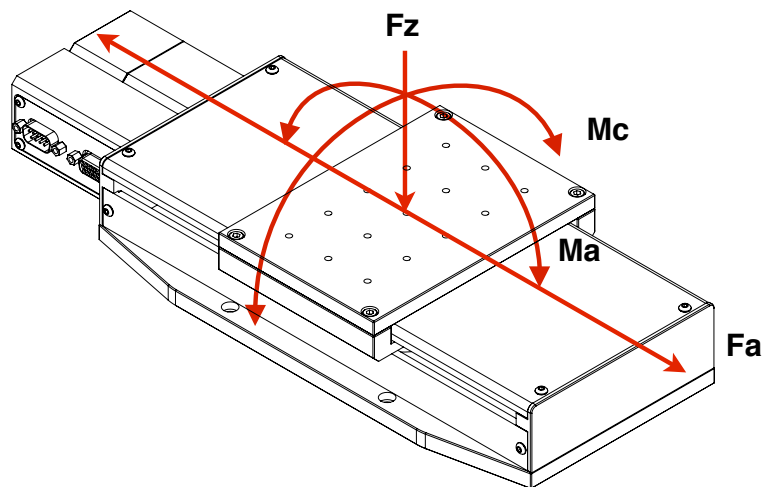
All NLE series stages are machined from 6061 aluminum alloy to provide a light yet stiff and stable linear slide. The drive system utilizes a 303 stainless steel leadscrew with internally lubricated acetal drive nut. The drive nut offers zero backlash operation that automatically adjusts for wear to insure zero backlash for the life of the stage. The use linear guide bearings provide a smooth motion with high load capacity and stiffness. Since the carriage is supported over the entire travel of the stage, a good cantilevered load capacity can be achieved. Separate connectors for motor power and limit/encoder signals are provided for ease of operation. Integrated limit switches, optical linear encoder and a high torque size 17 stepper motor are supplied as standard items.

NLE Series Specifications

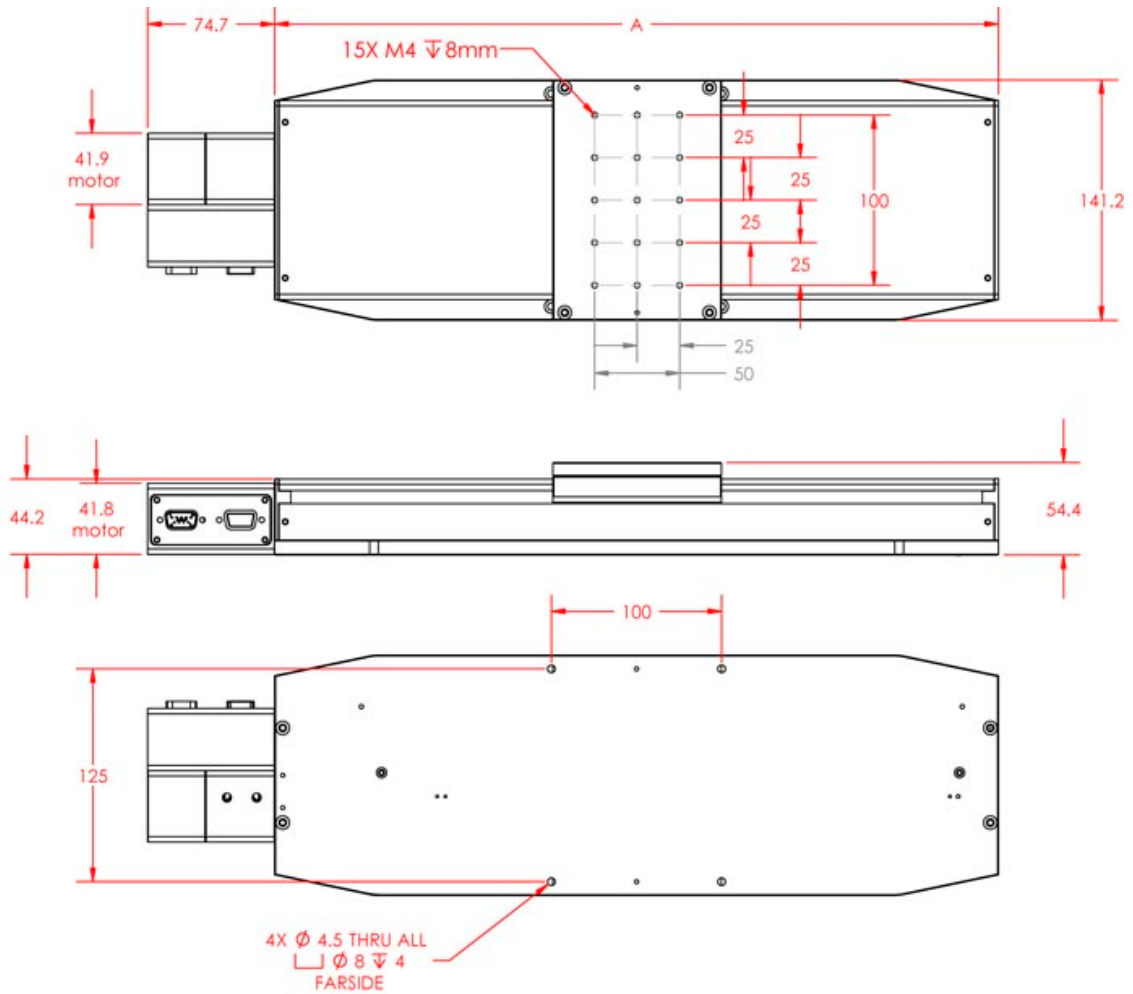
Travel	50 mm, 100 mm, 150 mm, 200 mm, 250 mm, 300 mm
Motor Resolution	0.1 μm (5 mm pitch lead screw @ 50000 steps/rev)
Encoder Resolution	0.1 μm Optical Linear Encoder
Accuracy	$\pm 4.5 \mu\text{m}$
Repeatability	$\pm 0.5 \mu\text{m}$
Maximum Speed	50 mm/sec
Maximum Load	22.6 kg (50 lb.)
Operation Temperature	0 °C to +50 °C
Stage Weight	NLE-50: 2.7 kg (6 lbs), NLE-100: 2.9 kg (6.4 lbs), NLE-150: 3.2 kg (7 lbs), NLE-200: 3.6 kg (8 lbs), NLE-250: 3.9 kg (8.6 lbs), NLE-300: 4.2 kg (9.3 lbs)
Material	Black Anodized Aluminum, 303 S.S. Lead Screw

NLE Series Load Characteristics

Axial Load F_a	44 N (10 lbs)
Normal Load F_z	222 N (50 lbs)
Moment Load M_a	43 Nm (31 lb-ft)
Moment Load M_c	34 Nm (25 lb-ft)

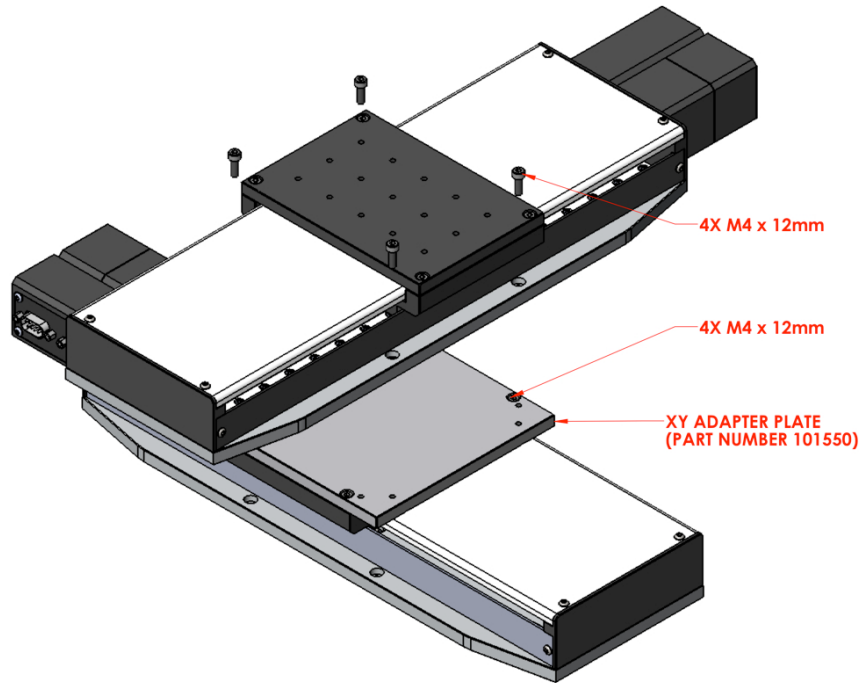


NLE Series Dimensions

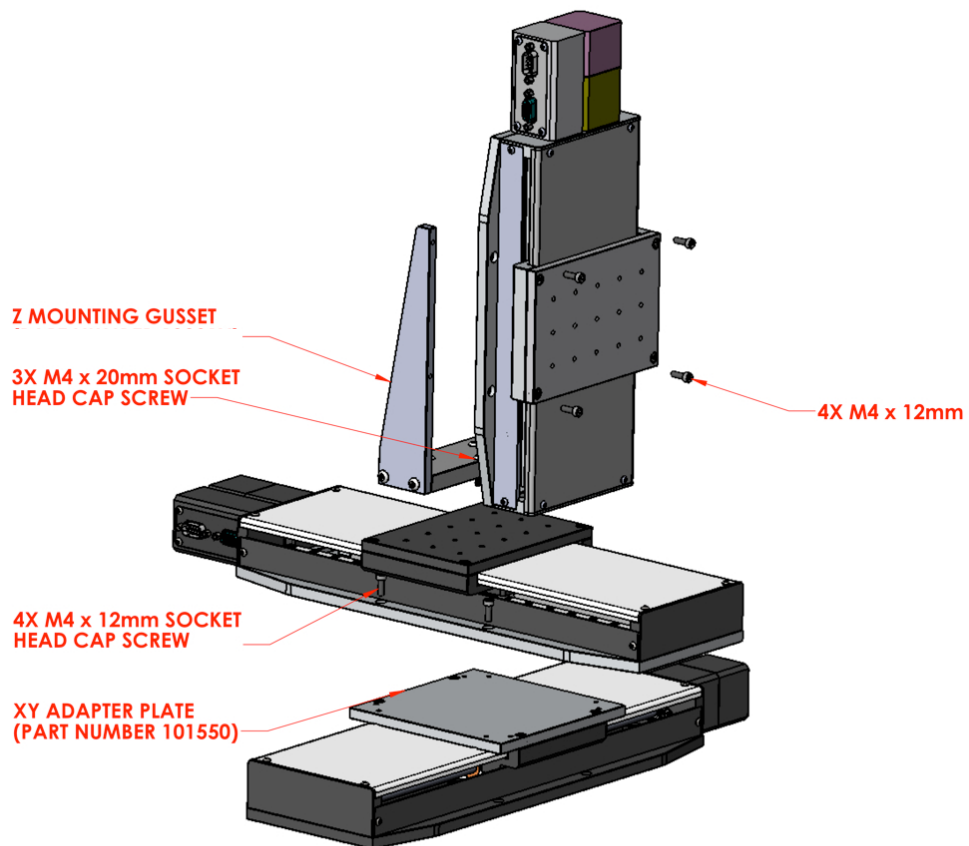


TRAVEL	"A"	millimeters
300	425.4	
250	375.4	
200	325.4	
150	275.4	
100	225.4	
50	174.6	

NLE XY Assembly



NLE XYZ Assembly



NLE Series Pin Assignment

Motor Connector

DB-9 Male	Description
1.	Phase A
2.	Phase A'
3.	Phase B
4.	Phase B'

Motor Specifications

Step Size: 1.8°/step

Amps/Phase: 0.95

Resistance: 4.0 Ohm/Phase

Inductance: 3.2 mH/Phase

Signals Connector

HD-15 Female	Description
1.	Forward Limit
2.	Reverse Limit
3.	Limit Ground
4.	Encoder Ground
5.	+5V Encoder Power
6.	Ch. A
7.	Ch. A-
8.	Ch. B
9.	Ch. B-
10.	Index +
11.	Index -
12.	Home Switch

Limit switches are wired normally closed.

Ordering Information

Part Number	Description
NLE-50-A	NLE linear stage with 50mm of travel
NLE-100-A	NLE linear stage with 100mm of travel
NLE-150-A	NLE linear stage with 150mm of travel
NLE-200-A	NLE linear stage with 200mm of travel
NLE-250-A	NLE linear stage with 250mm of travel
NLE-300-A	NLE linear stage with 300mm of travel

Motion Controllers

The following Newmark Systems, Inc. controllers are compatible with the NLE Linear Stage.

[NCS-A1 Series](#) - [NSC-G Series](#)