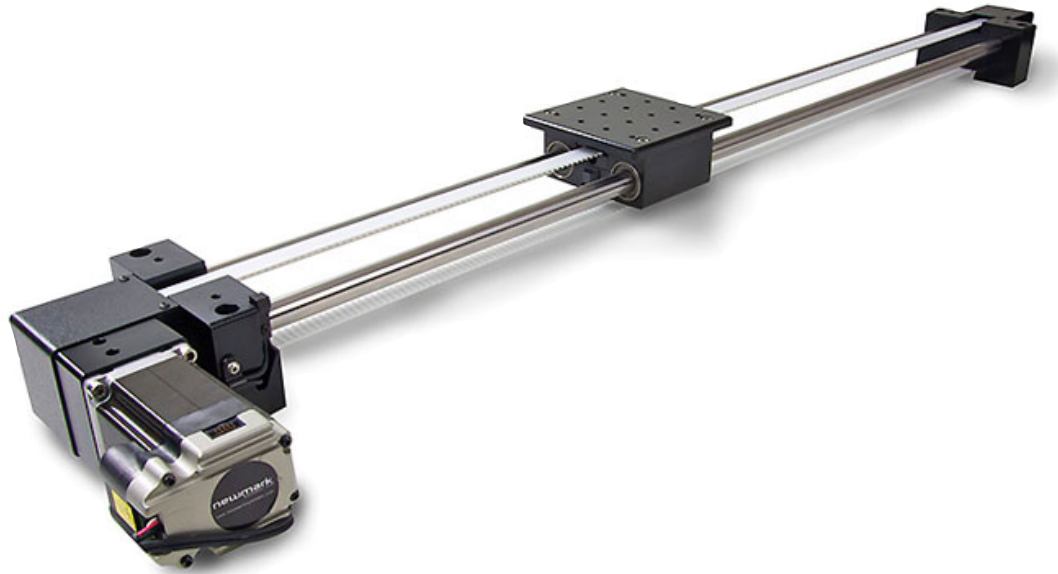


eBELT SERIES LINEAR STAGE



The eBelt Long Travel Linear Slides are designed for a variety of applications in research & development, automation, and other industrial areas requiring quick positioning of light payloads.

The eBelt Linear Slide is offered in travel lengths from 700mm to 1500mm. The eBelt comes standard with a high torque size 23 stepper motor or optionally, a MDrive intelligent stepper motor. Both motor options are also available with rotary encoders. End of travel limit switches come standard on the eBelt linear stage.

The drive system utilizes a 10mm wide timing belt to move the carriage. The carriage uses four recirculating ball bushings which rides on two ground case hardened shafts supported at the ends of the stage.

All eBelt linear slides are machined from 6061 aluminum alloy and black anodized.

Specifications

Travel Range	700 mm, 800 mm, 1000 mm, 1200 mm, 1500 mm
Resolution	1.28 μm
Encoder	Optical rotary encoder mounted to read of motor, 4000 CPR with index
Linear Travel per Pulley Revolution	159.907 mm/rev
Gear Head	Size 23, 5:1 gear ratio
Accuracy	± 0.5 mm
Max. Speed	200 mm/sec
Maximum Load	6.8 kg (15 lbs)
Limit Switches	Inductive end of travel limit switches
Stage Weight	EB-700: 7.5 kg (16.5 lbs), EB-1000: 8.5 kg (18.8 lbs) EB-1500: 11.9 kg (26.3 lbs)
Material	Aluminum Alloy Construction
Finish	Black Anodize

Stiffness

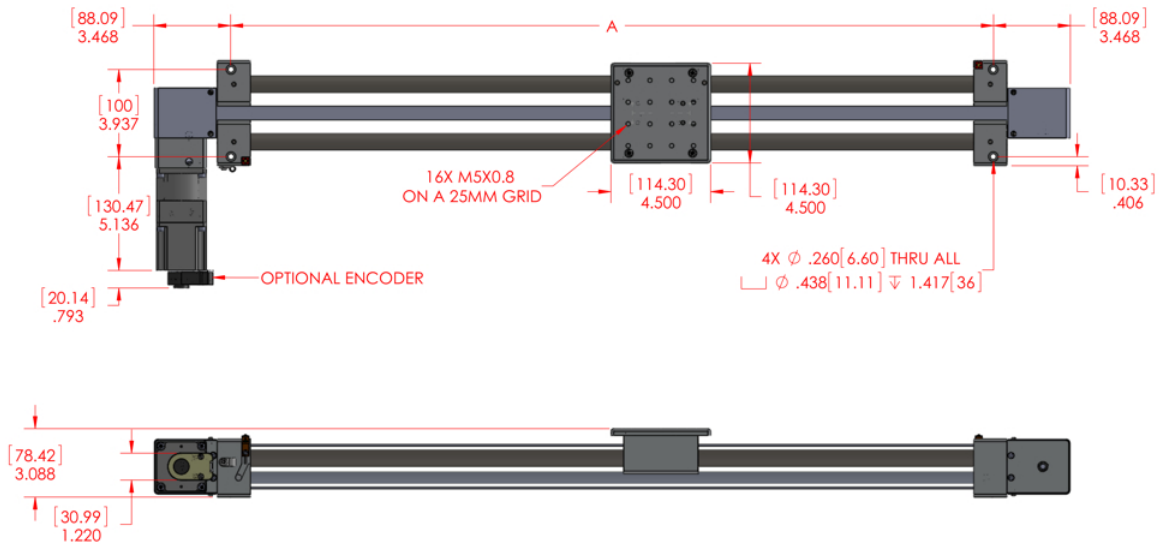
Travel Range	700 mm	800 mm	1000 mm	1200 mm	1500 mm
Torsional Stiffness (Degrees/Nm)	0.645	0.323	0.184	0.0922	0.0645

Stage Deflection Calculation

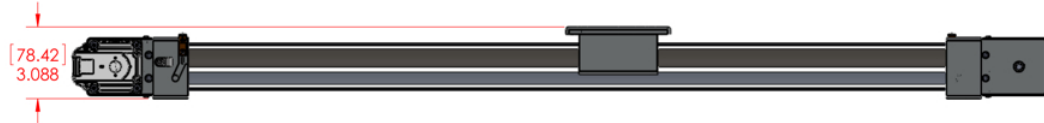
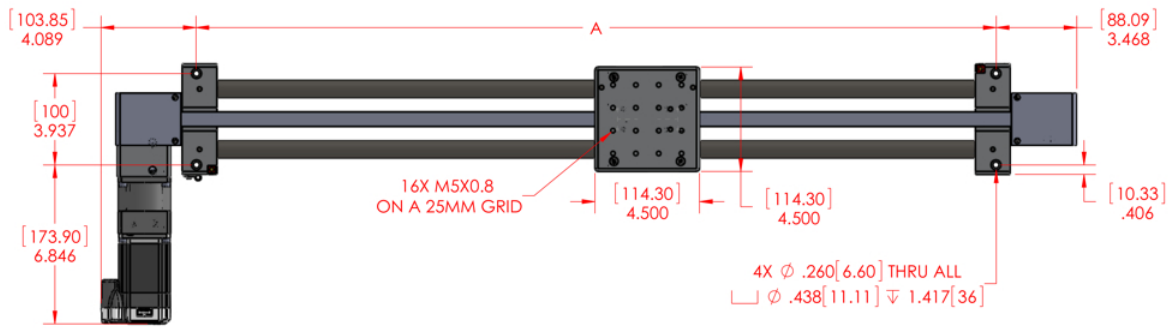
$$y = 0.218 \times 10^{-9} * P * L^3$$

y = Deflection (mm); P = Mass (kg); L = Length of Travel (mm)

Dimensions



	TRAVEL	DIM "A"
700 mm		$[875]$ 34.449
800 mm		$[975]$ 38.386
1000 mm		$[1175]$ 46.260
1200 mm		$[1375]$ 54.134
1500 mm		$[1675]$ 65.945



[mm] inch	TRAVEL	DIM "A"
	700 mm	[875] 34.449
	800 mm	[975] 38.386
	1000 mm	[1175] 46.260
	1200 mm	[1375] 54.134
	1500 mm	[1675] 65.945

Standard Stepper Motor Version

Motor

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: 2.8

Resistance: 0.9 Ohm/Phase

Inductance: 2.5 mH/Phase

Signals (Encoder Option)

DB-9 Female	Description
1.	+ Limit Switch
2.	- Limit Switch (motor side)
3.	Ground
4.	N.C.
5.	+5V

Limit switch wired normally closed

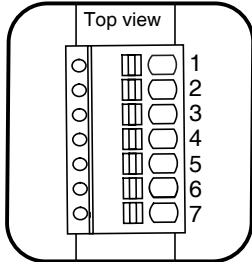
Signals (Encoder Option)

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

Limit switch wired normally closed

Pin Assignment

MDrive Stepper Motor Version



7-Pin Pluggable Terminal

Power and I/O

7-Pin Terminal	Description
1	I/O 1
2	I/O 2
3	I/O 3
4	I/O 4
5	Analog Input
6	Power GND
7	+24V Motor Power

The forward limit switch is connected to I/O 1.
The reverse limit switch is connected to I/O 2.
Limit switches are wired normally closed.

RS-422 Communications

10-Pin IDC	Description
1	TX+
2	TX-
3	RX+
4	RX-
5	Aux-Logic
6	RX+
7	RX-
8	TX-
9	TX+
10	COMM GND

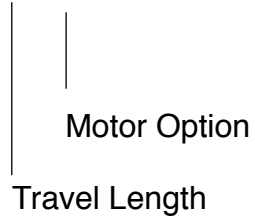
Connected to 7-Pin Terminal

DC Jack, 2.1 mm	Description
Center	+24 VDC
Outside	Power Ground

Ordering Information

Part Number Configuration

EB-XXXX-X



Travel Length

700 mm
800 mm
1000 mm
1200 mm
1500 mm

Motor Options

- 1 Stepper Motor
- 2 Stepper Motor with Encoder
- 4 MDrive Motor with Encoder

Motion Controllers

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

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