

D-SLIDE SERIES

LINEAR STAGE



The D-Slide is available in XY and XYZ configurations with optional adapter plate.

The D-Slide is offered in travel lengths of 400 mm, 600 mm, 800 mm, and 1000 mm. It comes standard with a high torque size 23 stepper motor. Motor options include an MDrive intelligent stepper motor and a brushless servo motor with 1000 line encoder. The stepper motor options are available with rotary encoders. End of travel limit switches come standard on the D-Slide linear stage.

The base of the D-Slide is made from a light yet stiff aluminum extrusion, on top of which are mounted two 15 mm linear guide bearings. These bearings offer high load capacities and smooth motion over the entire travel range. The drive system utilizes a stainless steel lead screw with a self-adjusting anti-backlash drive nut to move the carriage.

The extruded base of the D-Slide has t-slots on the sides and bottom for almost endless mounting options.

Every D-Slide has its connectors integrated into the side of the motor mount for a clean and reliable connection.

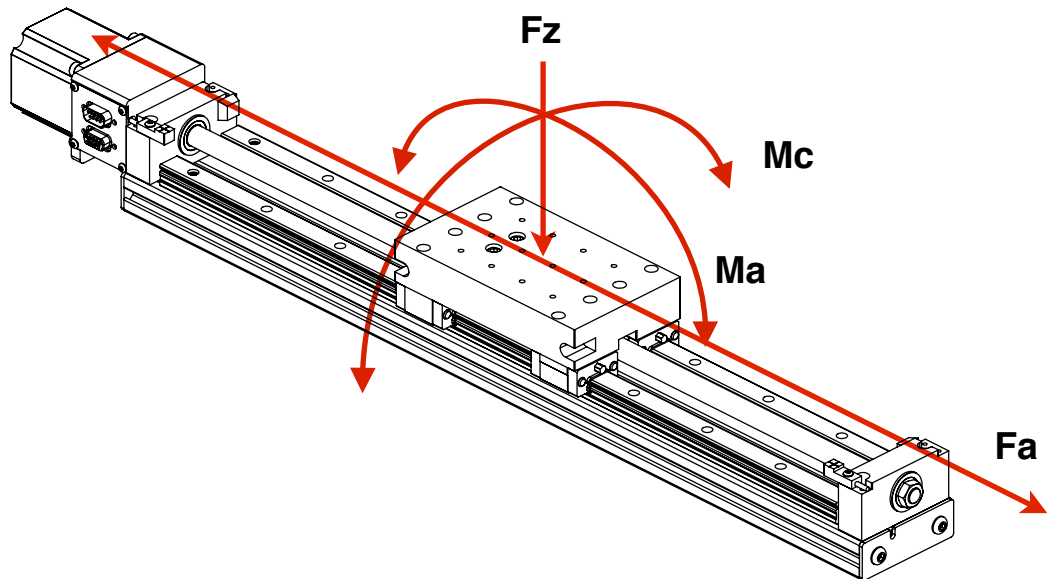
[Vacuum compatible versions of the D-Slide are available.](#)

Specifications

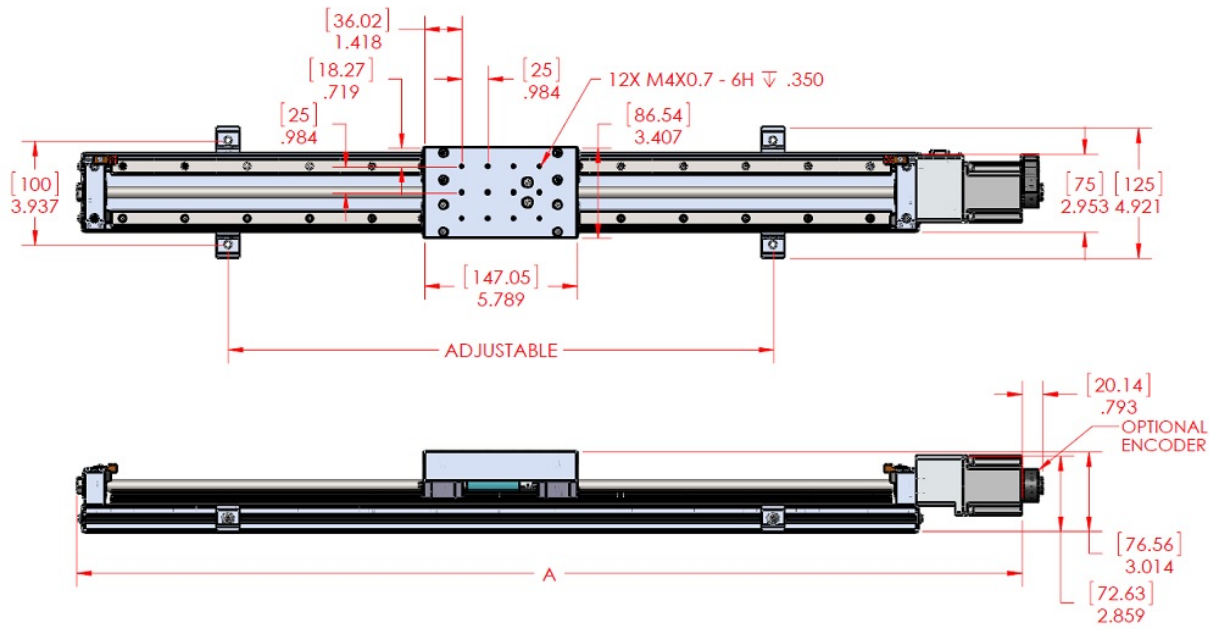
Travel Range	400 mm, 600 mm, 800 mm, 1000 mm
Resolution	0.4 μm (Stepper Motor), 2.5 μm (Servo Motor)
Encoder	Optical rotary encoder mounted to read of motor, 4000 CPR with index
Accuracy	0.0006 mm/mm of travel
Max. Speed	100 mm/sec (Stepper Motor), 100 mm/sec (Servo Motor), 100 mm/sec (MDrive Motor)
Unidirectional Repeatability	3 μm
Bidirectional Repeatability	20 μm
Maximum Load	68 kg (150 lbs)
Limit Switches	Inductive end of travel limit switches
Lead Screw Pitch	10 mm
Stage Weight	DS-400: 6 kg (13 lbs), DS-600: 7 kg (15.5 lbs), DS-800: 8.5 kg (18 lbs), DS-1000: 9.5 kg (21 lbs)
Material	Aluminum Alloy Construction
Finish	Black Anodize
Operating Temperature	0°C to 50°C

Load Characteristics

Axial Load F_a	22.7 kg (50 lbs) @50mm/sec
Normal Load F_z	68 kg (150 lbs)
Moment Load M_a	237 Nm (175 lb-ft)
Moment Load M_c	163 Nm (120 lb-ft)

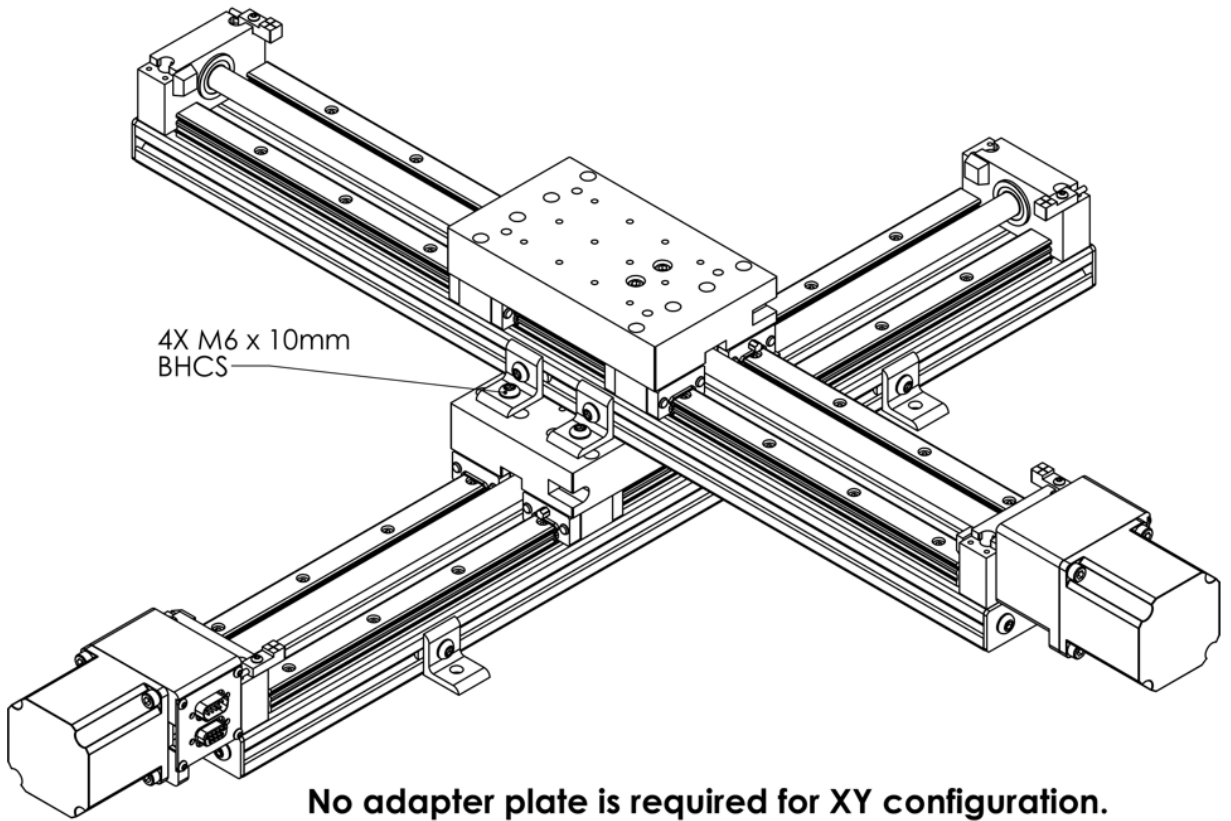


Dimensions



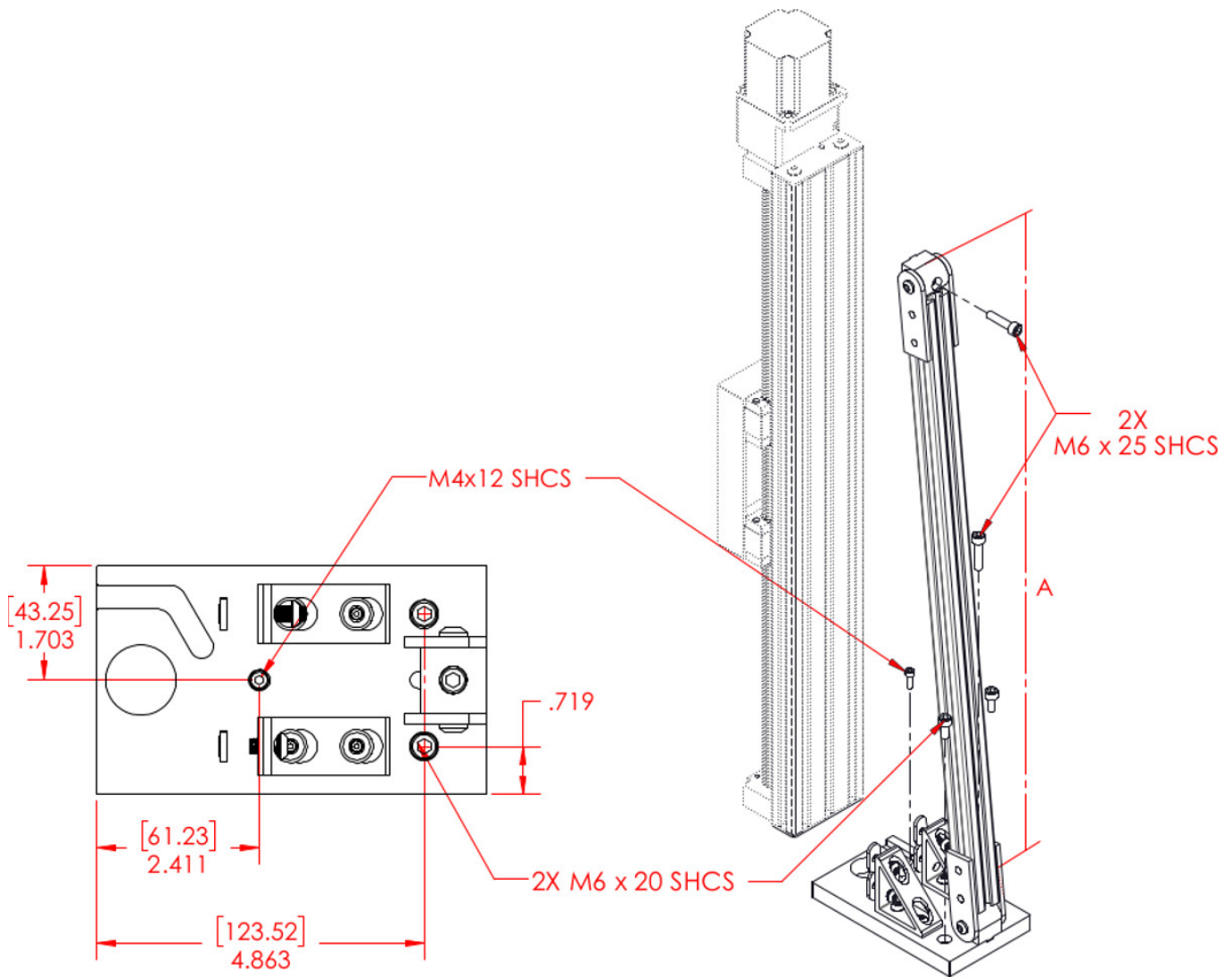
[mm] IN	Travel Length	Dimension "A"
	1000mm	[1309.36] 51.550
	800mm	[1109.61] 43.685
	600mm	[909.87] 35.821
	400mm	[709.99] 27.952

XY Assembly



Z Assembly

Part Number	Description	Height (A)
DS-Z-1	Z assembly for the DS-400 and DS-600	603 mm, 23.75"
DS-Z-2	Z assembly for the DS-800 and DS-1000	965 mm, 38"



Pin Assignment

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
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

Motor Connector

DB-9 Male	Description
1.	+24 VDC
2.	Power Ground

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

Signals Connector

DB-9 Female	Description
1	I/O 3
2	I/O 4
3	GND
4	Analog Input

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.

Pin Assignment

Brushless Servo Motor Version

Motor

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

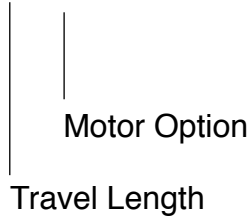
Signals

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

Ordering Information

Part Number Configuration

DS-XXXX-X



Travel Length

400 mm
600 mm
800 mm
1000 mm

Motor Options

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

Motion Controllers

The following Newmark Systems, Inc. controllers are compatible with the D-Slide Stage.

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