

FEATURES

- ◆ Carriage rides on two Ø8 mm precision ground steel shafts that are supported along the entire length of travel to minimize deflection
- ◆ Lengths up to 2 meters
- ◆ Resolution is 0.12 mm/step in half-step mode and 0.012 mm/pulse with standard servo motor
- ◆ Available with either a 160 N·cm stepper motor, 120W servo motor or no motor
- ◆ Maximum speed: 2.4 m/s
- ◆ Belt is 3 mm HTD, 15 mm wide. HTD belt profile helps reduce backlash
- ◆ Home and end reference switch repeatable to < 0.1 mm



CATALOG NUMBER
HL3101MP

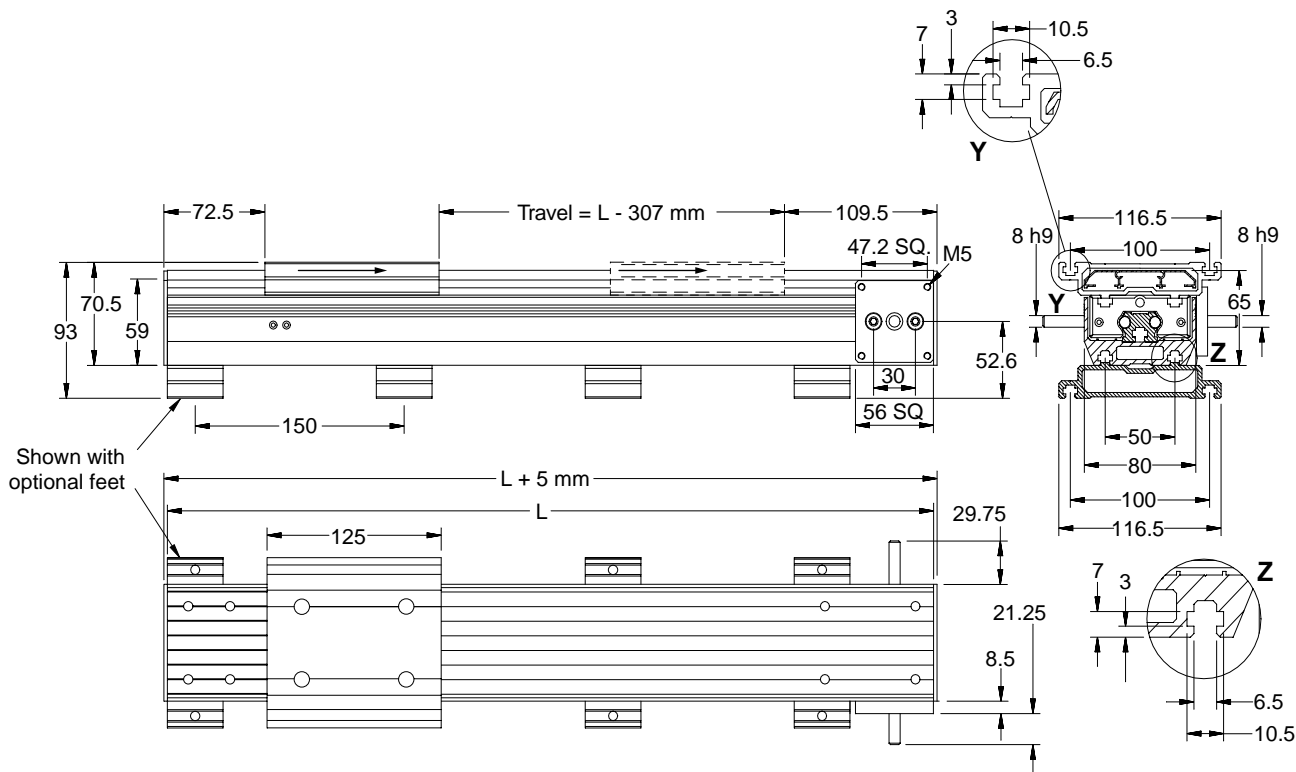
Motor Type
 X No motor
 V Servo motor
 S Stepper motor

Motor Mounting
 0 Right-hand side
 1 Left-hand side

BLUELINE 1 BELT DRIVE SELECTION

Code	Length (mm)	Travel (mm)
045	450	143
055	550	243
065	650	343
075	750	443
085	850	543
095	950	643
105	1050	743
115	1150	843
125	1250	943
135	1350	1043
145	1450	1143
155	1550	1243
165	1650	1343
175	1750	1443
185	1850	1543
195	1950	1643
205	2050	1743

For mating connectors and cables, see page 166. For motor standoffs and couplings, see page 132.



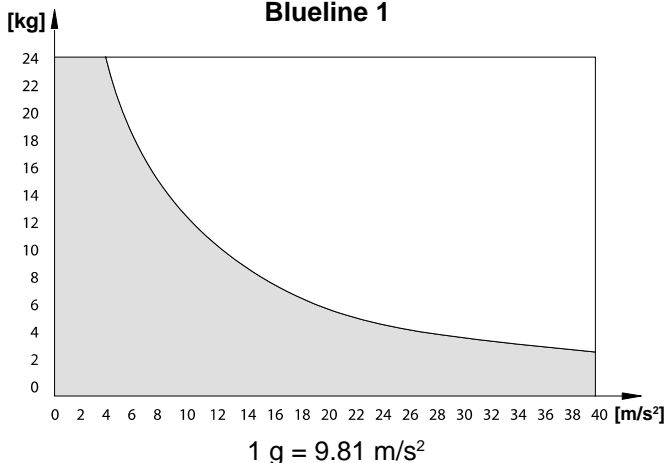
Technical Data

- Belt type: 3 mm HTD, 15 mm wide
- Mass of carriage: 0.730 kg
- Weight without motor module: \approx 6.25 kg/1000 mm
- Specific mass of belt: 0.0375 kg/1000 mm
- Diameter of pulley: 15.28 mm
- Pulley mass moment of inertia: 1.461×10^{-6} kg·m²
- Effective circumference: 48 mm

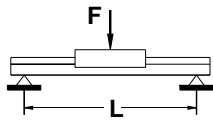
NOTE: One revolution of motor shaft produces 48 mm of linear travel. This determines travel resolution.

No load speed (rpm)	No load torque (N·m)
500	0.06
1500	0.09
3000	0.13

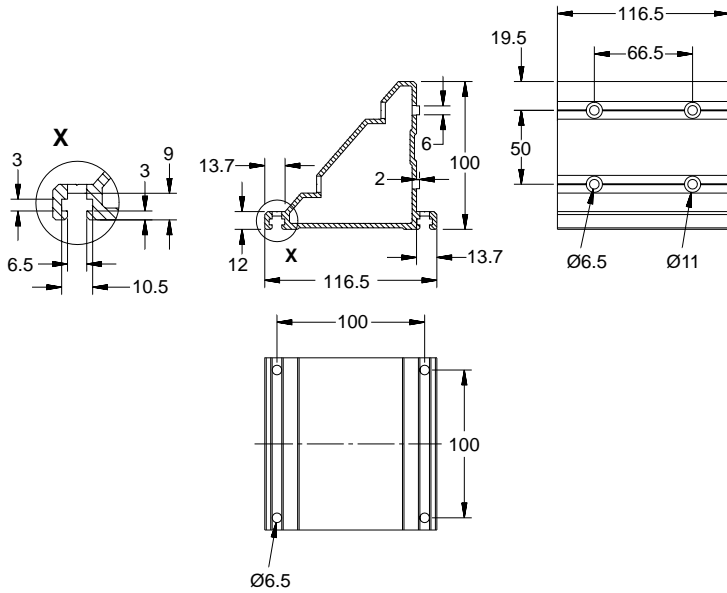
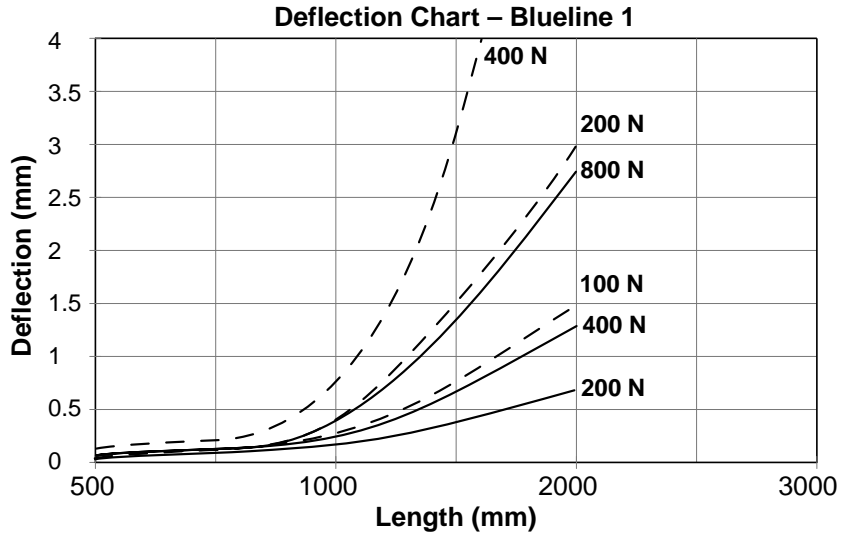
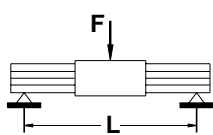
Maximum acceleration based on belt specifications: Blueline 1



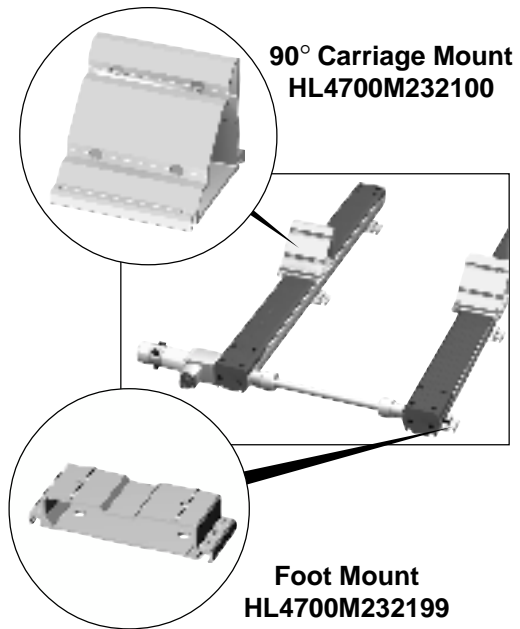
Load 1 - - -



Load 2 - - -

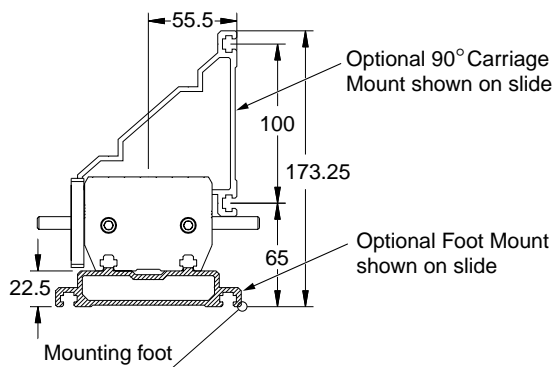


90° Carriage Mount

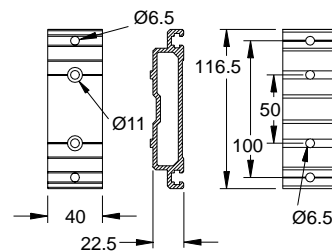


**90° Carriage Mount
HL4700M232100**

**Foot Mount
HL4700M232199**

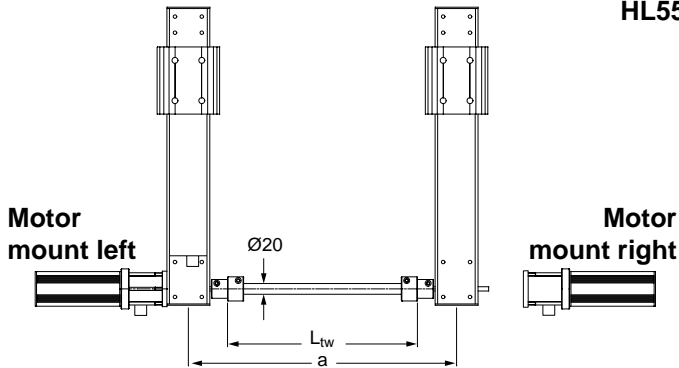


Assembly End View



Foot Mount

Transmission Bar

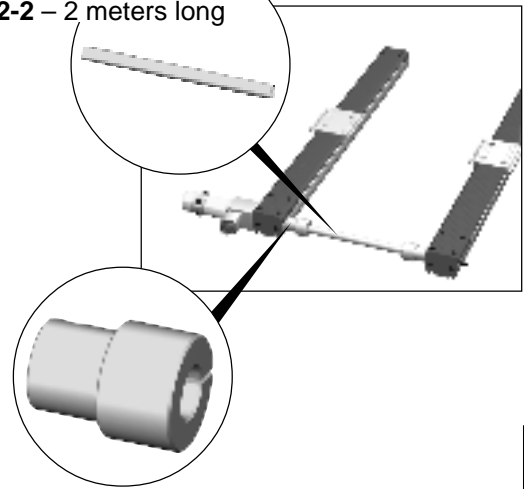


$L_{tw} = a - 145 \text{ mm}$

where:

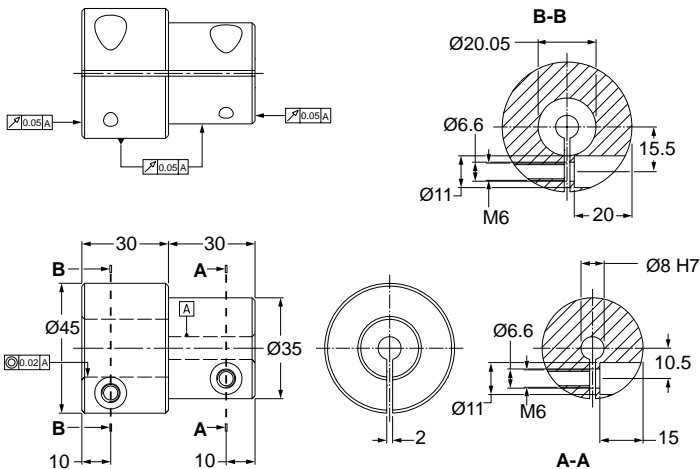
a = Distance between axes
L_{tw} = Transmission bar length

HL5500M219002-1 – 1 meter long
HL5500M219002-2 – 2 meters long



HL5500M218051 – Coupling for Ø20 mm Transmission Bar (two are included per set)

Coupling for Transmission Bar



Moment of Inertia

For Coupling:

$J_K = 4.258 \cdot 10^{-5} \text{ Kg} \cdot \text{m}^2$

For Transmission Bar:

$J_{TRS} = 2.513 \cdot 10^{-6} \text{ Kg} \cdot \text{m}^2/100 \text{ mm}$

Carriage Plate

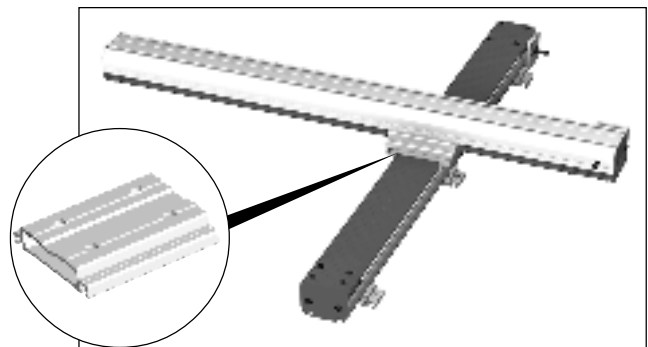
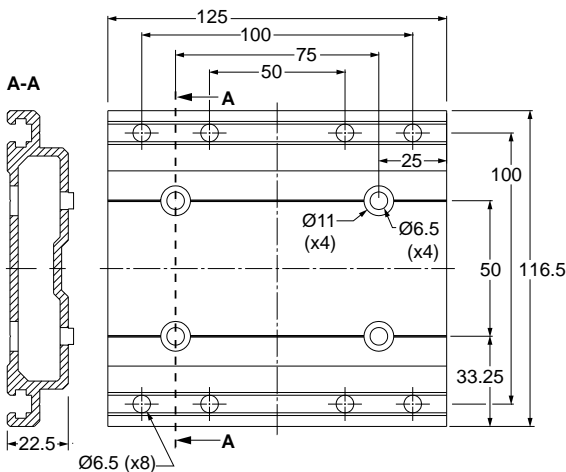
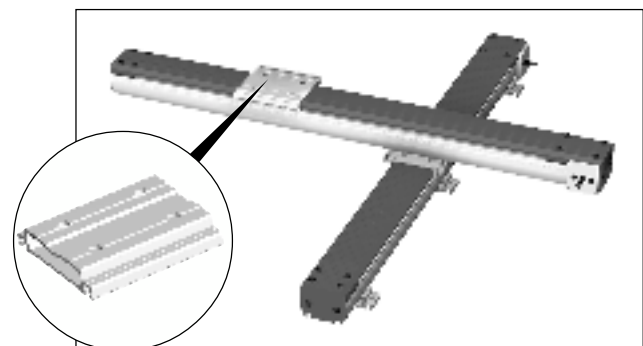


Plate stationary, slide moves



Slide stationary, plate moves

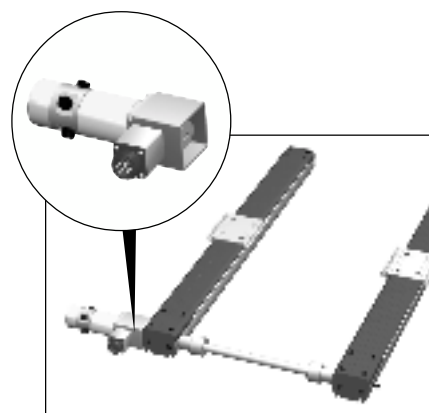
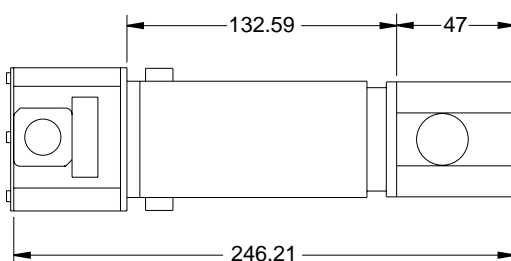
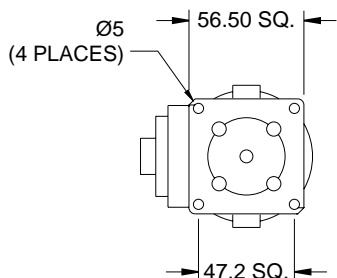


Blueline 1 Motor Assembly Information

DC Servo Motor

CATALOG NUMBER: HZ2600M0242601

Specifications			
Power	120W	Maximum Terminal Voltage	60V
Maximum Operating Speed	6000 rpm	Peak Stall Torque	350 oz·in
Continuous Stall Torque	50 oz·in	Maximum Pulse Current	31A
Maximum Continuous Current	4.2A	Operating Temperature	0°C to 40°C

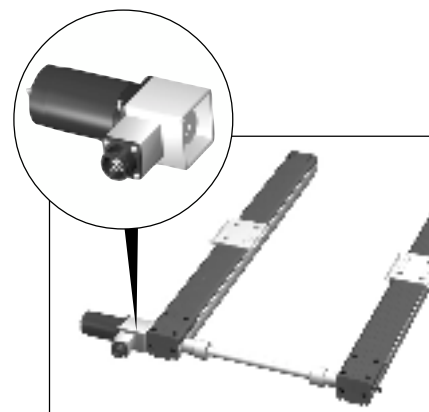
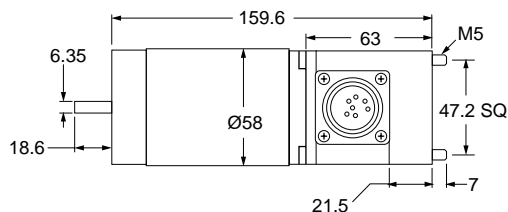
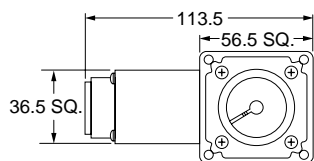


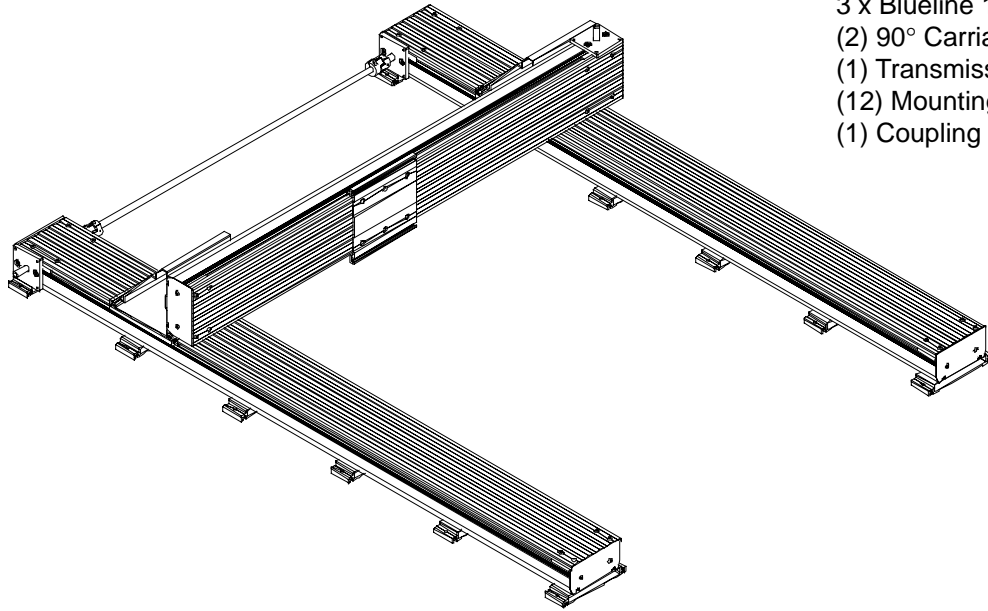
2 MACHINES & SLIDES

Stepper Motor

CATALOG NUMBER: HL2600M210022

Specifications			
Holding Torque (bipolar)	160 N·cm	Resistance	1.2 Ω
Steps Full	1.8°	Inductance	2.2mH
Steps Half	0.9°	Current (bipolar)	4.1A
Voltage (bipolar)	1.7V		



**2-Axis H-Design****Format #6**

3 x Blueline 1

(2) 90° Carriage Mounts

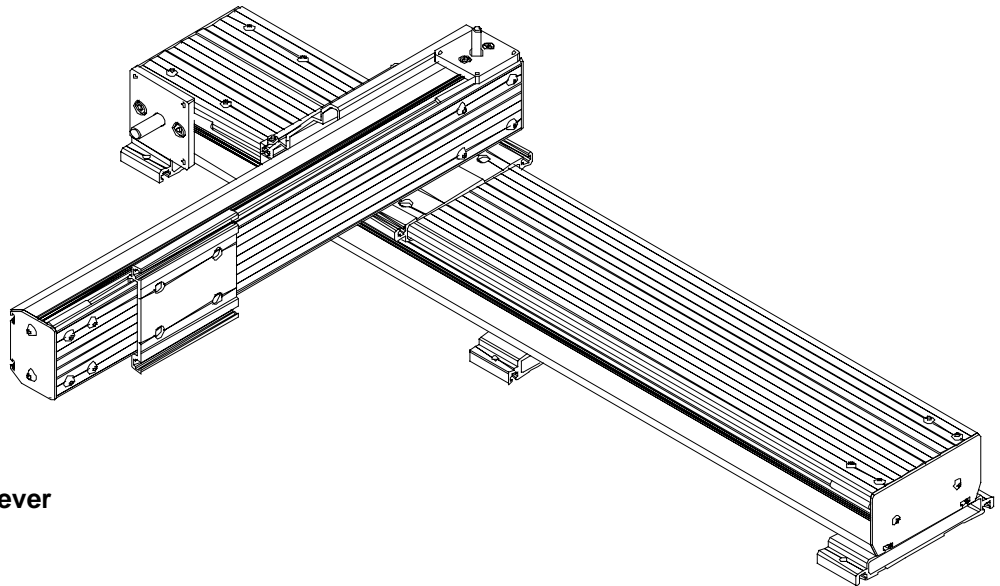
(1) Transmission-shaft Bar

(12) Mounting feet

(1) Coupling set

Suggested Applications:

- Transfer Systems
- In-House Automation
- Pick & Place

**2-Axis Cantilever****Format #7**

1 x Blueline 1

1 x Blueline 3

(1) 90° Carriage Mount

(3) Mounting feet