

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 3 meters
- ◆ Resolution is 0.375 mm/step in half-step mode and 0.0375 mm/pulse with standard servo motor.
- ◆ Available with either a 600 N·cm stepper motor, 300W servo motor or no motor
- ◆ Maximum speed: 5 m/s
- ◆ Belt is 5 mm HTD, 25 mm wide. The HTD belt profile helps reduce backlash
- ◆ Home and end reference switch repeatable to < 0.1 mm



CATALOG NUMBER

HL3106MP

Motor Mounting

- 0 Right-hand side
- 1 Left-hand side

Motor Type

- X No motor
- V Servo motor
- S Stepper motor

Carriage Type

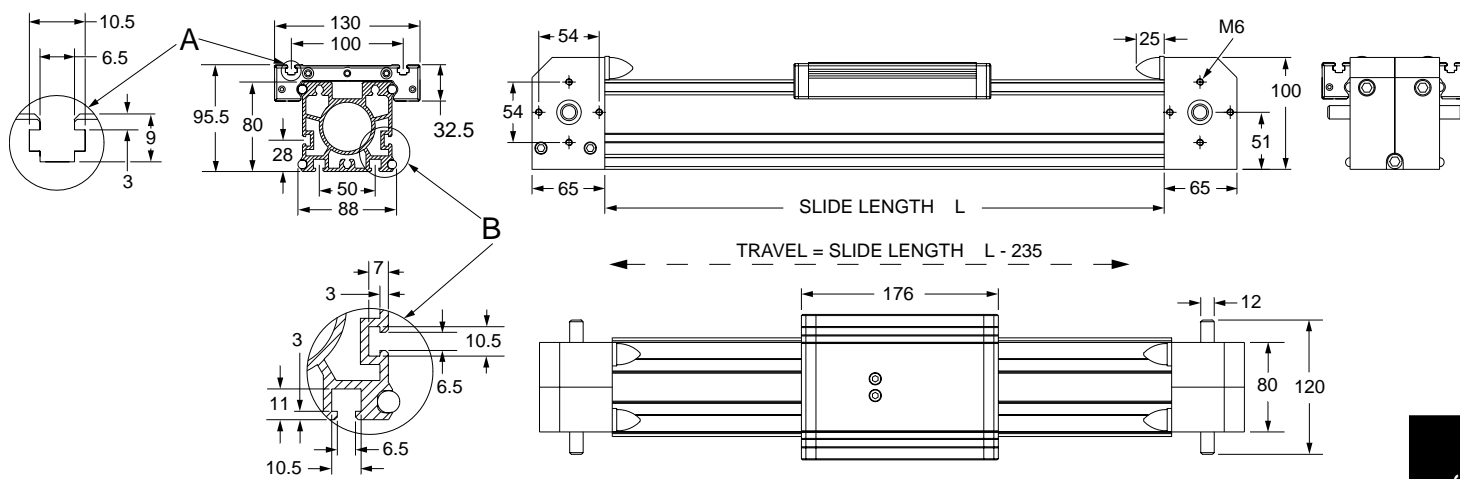
- 0 Bearing Carriage
- 1 Roller Carriage

ZF3 BELT DRIVE SELECTION

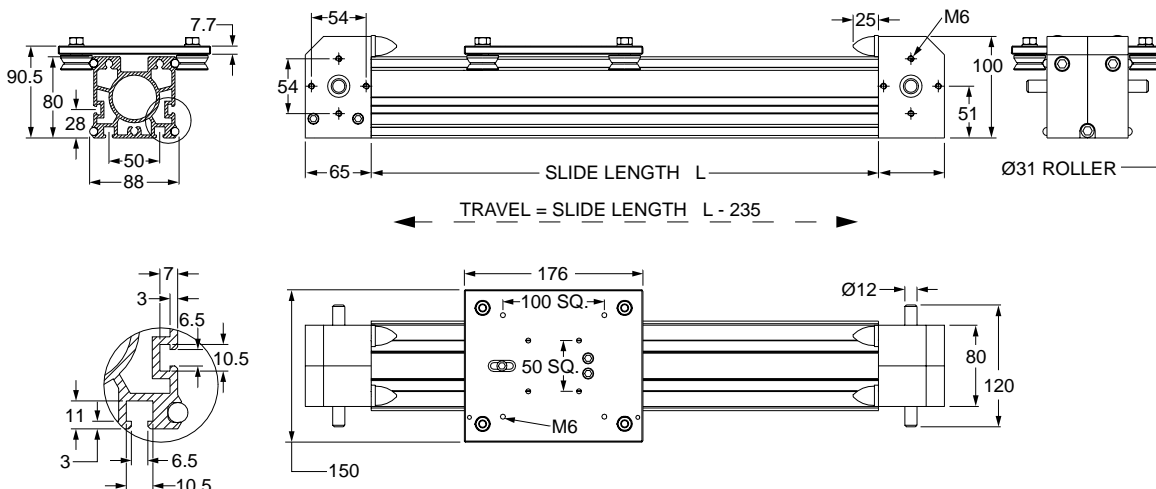
Code	Length (mm)	Travel (mm)
070	698	458
100	998	758
150	1498	1258
200	1998	1758
250	2498	2258
300	2998	2758

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

Bearing Carriage



Roller Carriage



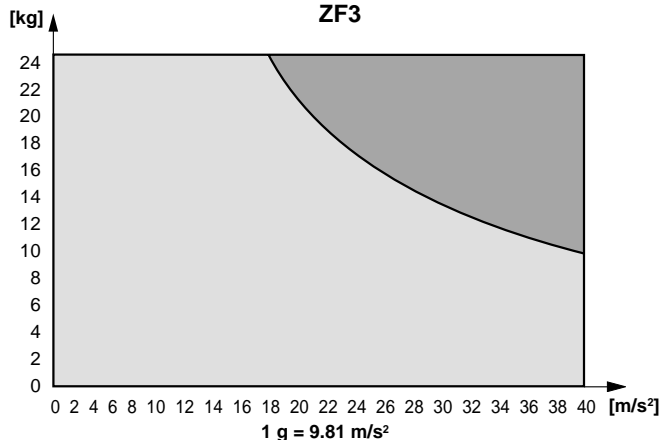
Technical Data

- Belt type: 5 mm HTD, 25 mm wide
- Mass of Bearing Carriage = 0.940 kg
- Mass of Roller carriage = 2.03 kg
- Weight without motor module: ≈ 10.5 kg/1000 mm
- Specific mass of belt: 0.09 kg/m
- Diameter of pulley: 47.75 mm
- Pulley mass moment of inertia: $1.796 \times 10^{-4} \text{ kg} \cdot \text{m}^2$
- Effective circumference: 150 mm

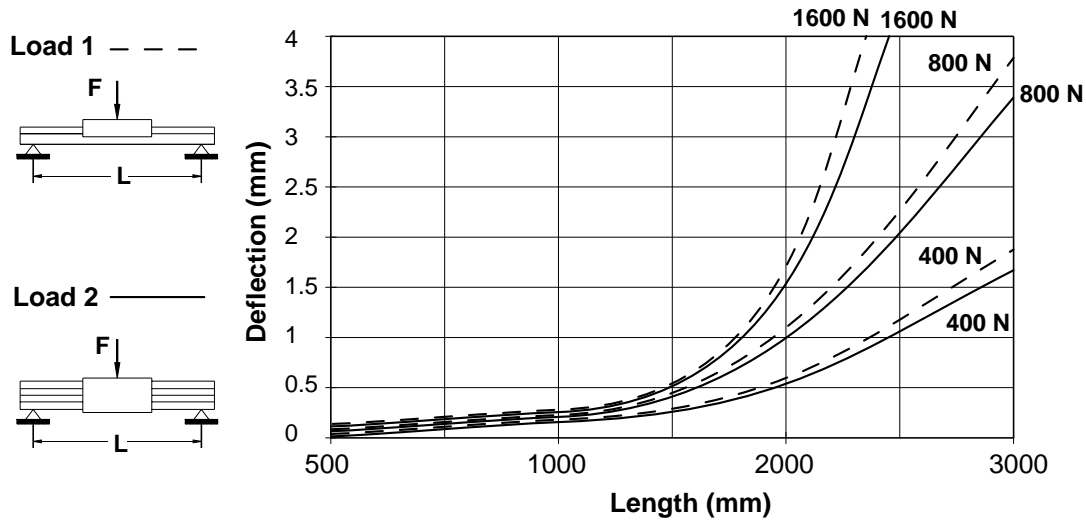
NOTE: One revolution of motor shaft produces 150 mm of linear travel. This determines travel resolution.

No load speed (rpm)	No load torque (N·m)
500	0.60
1500	0.70
3000	0.80

Maximum Acceleration Based On Belt Specification
ZF3

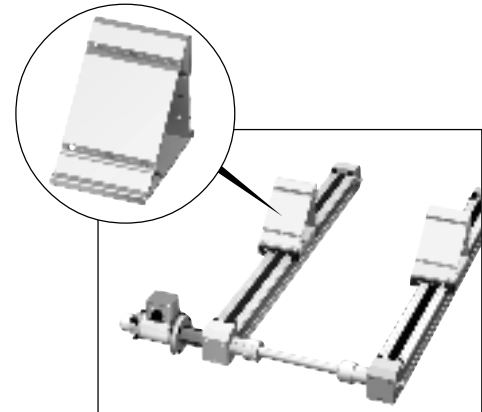
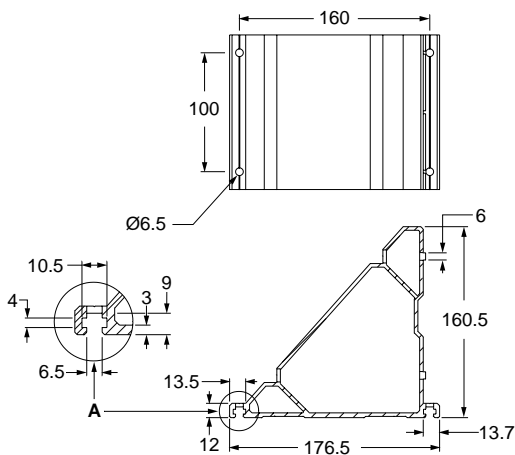


Deflection Chart – ZF3



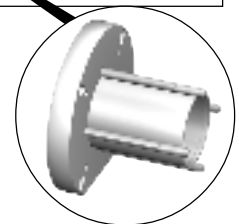
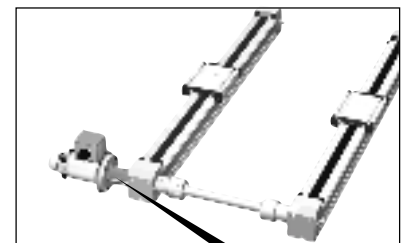
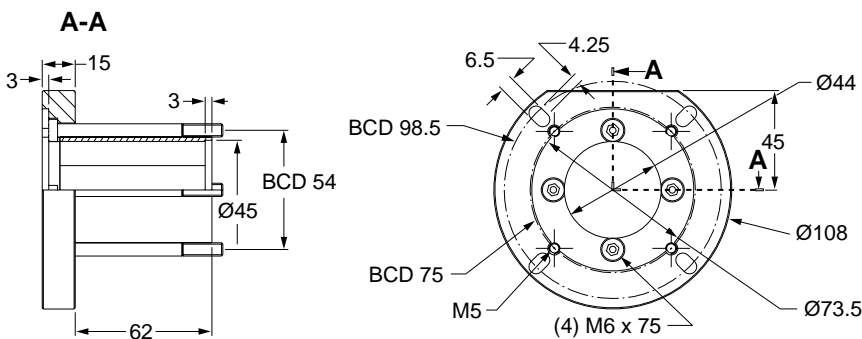
90° Carriage Mount

CATALOG NUMBER: HL4700M232600



Motor Stand-Off

CATALOG NUMBER: HL5500M218100

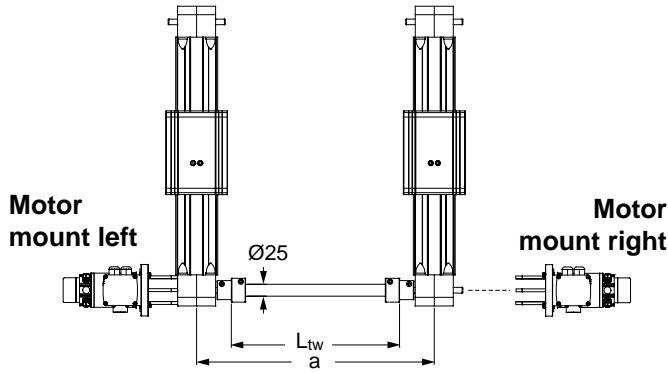


BCD: Bolt Circle Diameter

(Does not include coupling)

Transmission Bar

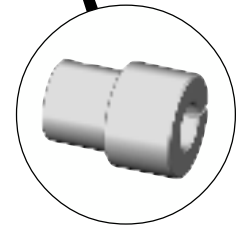
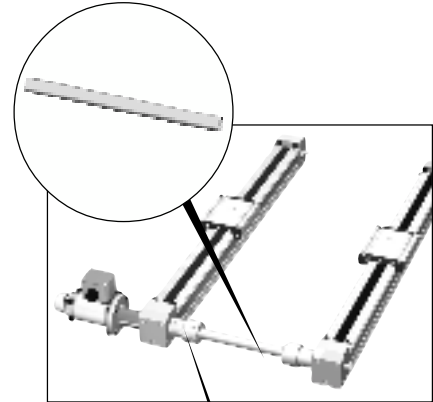
CATALOG NUMBER: HL5500M219001-1 – 1 meter long
HL5500M219001-2 – 2 meters long



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

where:

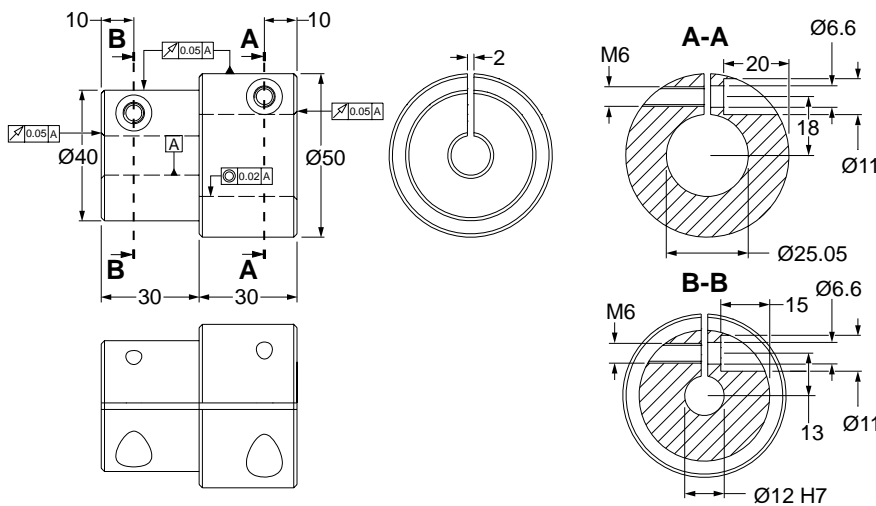
- a = Distance between axes
- L_{tw} = Transmission bar length



Coupling for Transmission Bar

CATALOG NUMBER: HL5500M218050

Coupling for $\varnothing 25$ mm Transmission Bar
(two are included per set)



Moment of Inertia

For Coupling:

$$J_K = 6.643 \cdot 10^{-5} \text{ kg} \cdot \text{m}^2$$

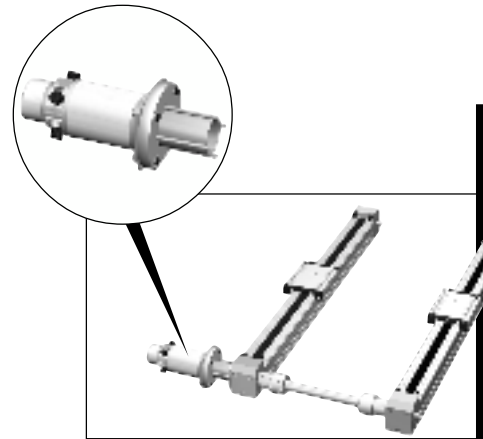
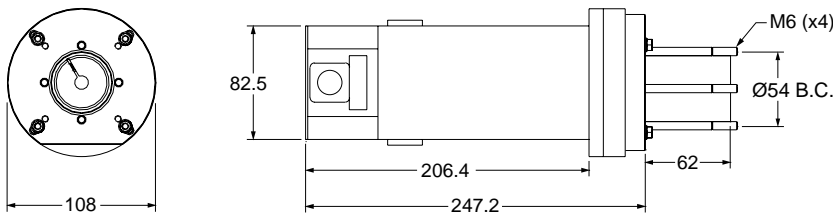
For Transmission Bar:

$$J_{TRS} = 5.218 \cdot 10^{-6} \text{ kg} \cdot \text{m}^2 / 100 \text{ mm}$$

DC Servo Motor

CATALOG NUMBER: HZ2600M396085293

Specifications			
Power	300W	Maximum Terminal Voltage	90V
Maximum Operating Speed	5000 rpm	Peak Stall Torque	825 oz · in
Continuous Stall Torque	165 oz · in	Maximum Pulse Current	38A
Maximum Continuous Current	6.4A	Operating Temperature	0°C to 40°C



2 MACHINES & SLIDES

Stepper Motor

CATALOG NUMBER: HL2600M396085193 (Right Mount)
HL2600M396085020 (Left Mount)

Specifications			
Holding Torque (bipolar)	600 N · cm	Resistance	0.66 Ω
Steps Full	1.8°	Inductance	2.5 mH
Half	0.9°	Current (bipolar)	5.9A
Voltage (bipolar)	2.8V		

