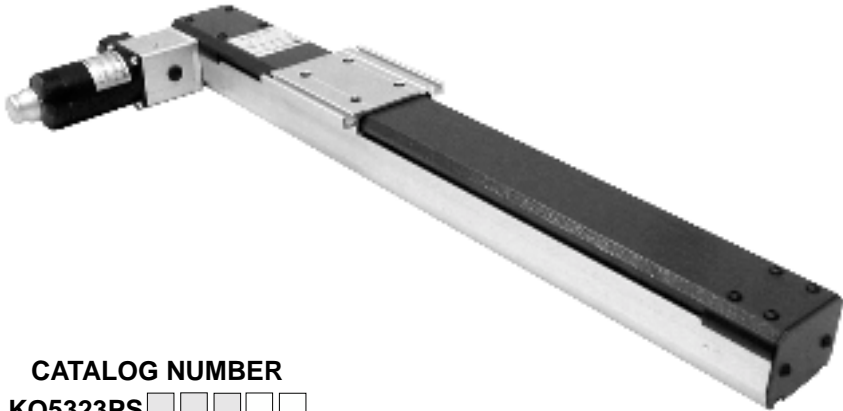


## FEATURES

- ◆ 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**  
KO5323PS



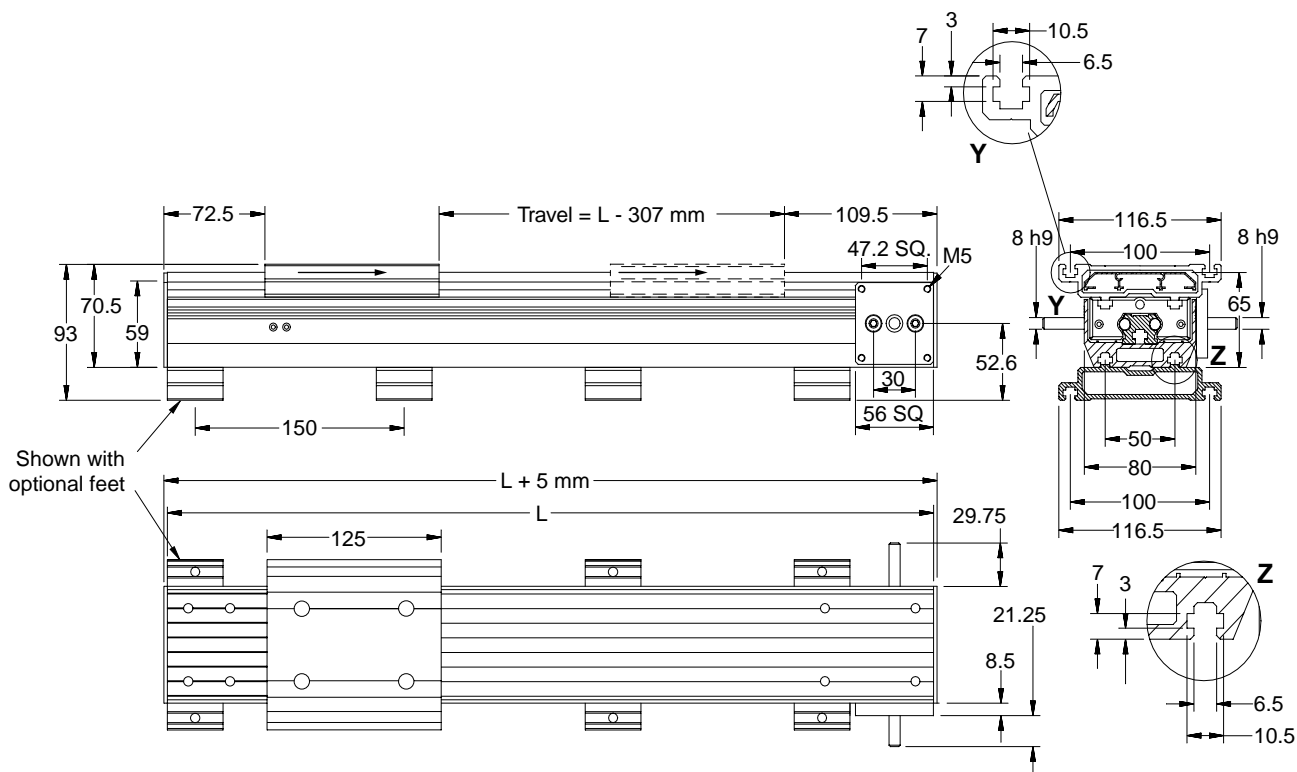
**Motor Type**  
**A** No motor  
**Y** Servo motor  
**V** Stepper motor

**Motor Mounting**  
**2** Right-hand side  
**3** Left-hand side

### BLUELINE 1 BELT DRIVE SELECTION

Code	Length (mm)	Travel (mm)
267	450	143
277	550	243
287	650	343
297	750	443
207	850	543
217	950	643
327	1050	743
337	1150	843
347	1250	943
357	1350	1043
367	1450	1143
377	1550	1243
387	1650	1343
397	1750	1443
307	1850	1543
317	1950	1643
427	2050	1743

# EO3 Belt Drive Slide



## Technical Data

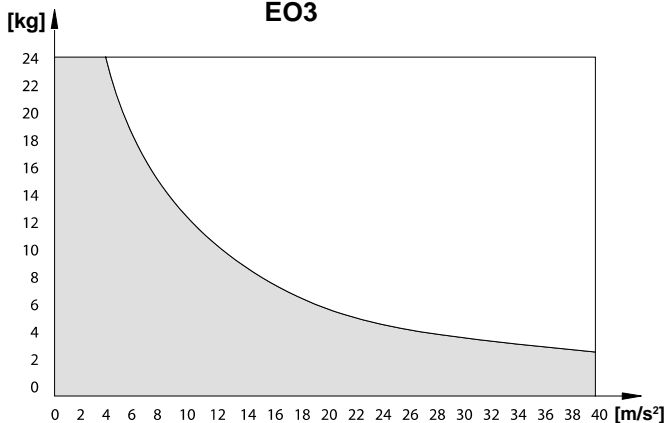
- Belt type: 3 mm HTD, 15 mm wide
- Mass of carriage: 0.730 kg
- Weight without motor module:  $\approx 6.25$  kg/1000 mm
- Specific mass of belt: 0.0375 kg/1000 mm
- Diameter of pulley: 15.28 mm
- Pulley mass moment of inertia:  $1.461 \times 10^{-6}$  kg·m<sup>2</sup>
- Effective circumference: 48 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

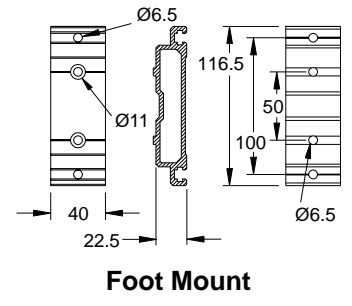
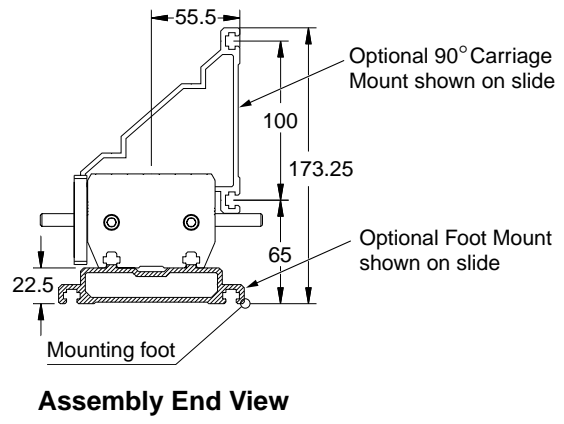
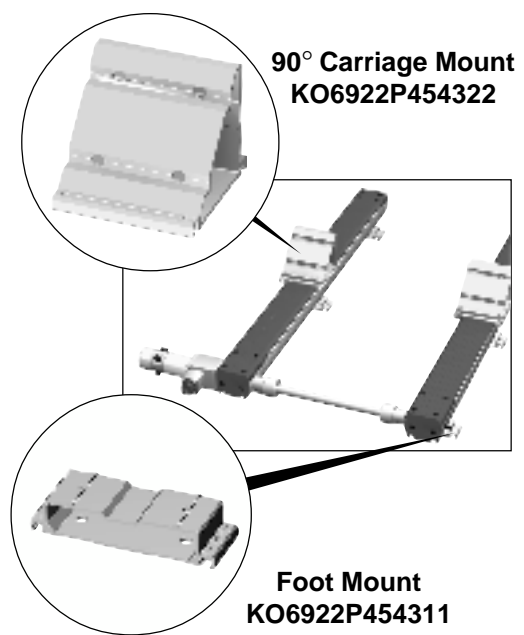
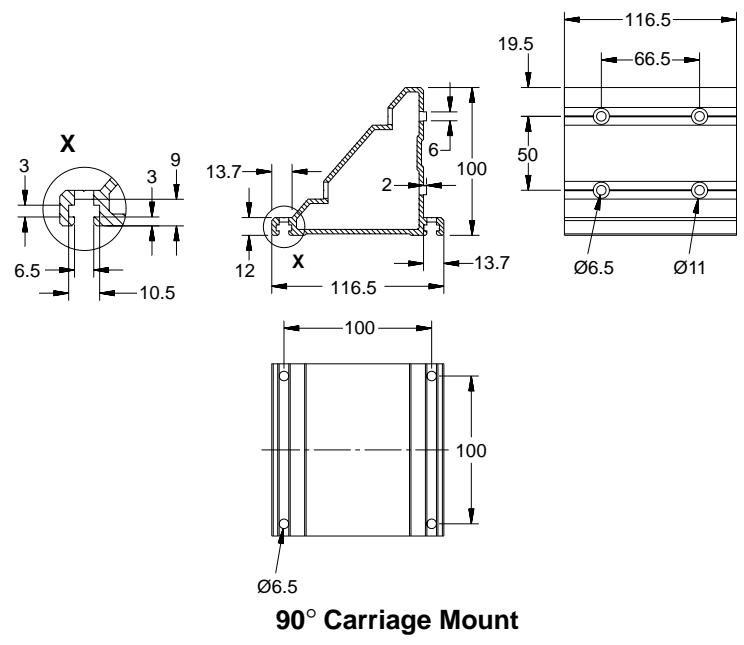
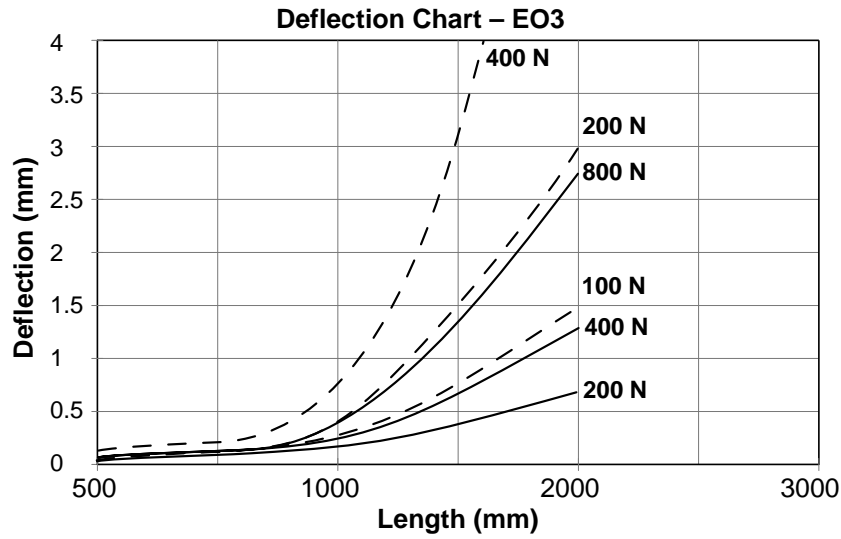
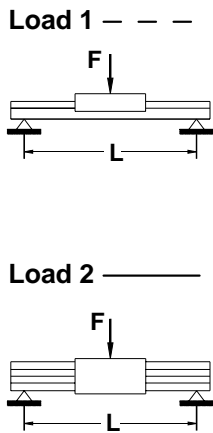
## Maximum acceleration based on belt specifications:

EO3



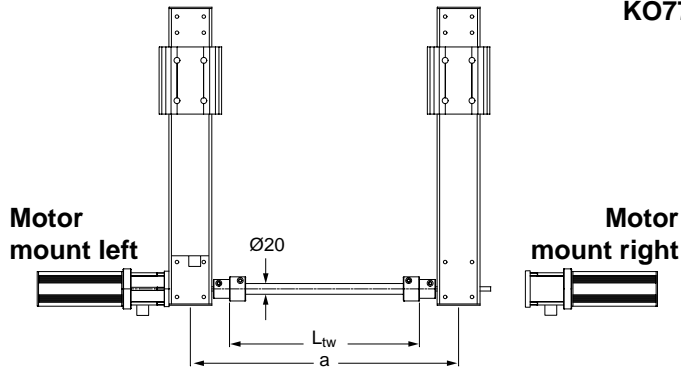
1 g = 9.81 m/s<sup>2</sup>

# EO3 Foot Mount & 90° Carriage Mount



# E03 Belt Drive Slide

## Transmission Bar

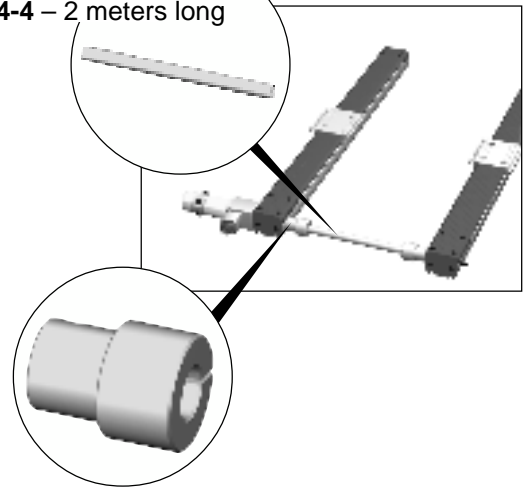


$L_{tw} = a - 145 \text{ mm}$

where:

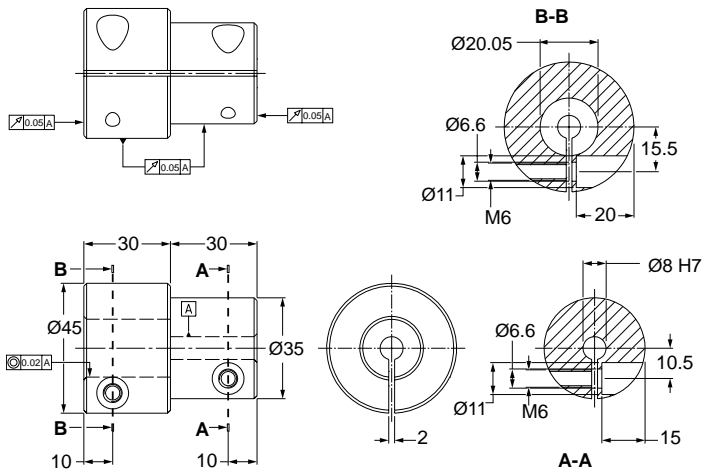
$a$  = Distance between axes  
 $L_{tw}$  = Transmission bar length

KO7722P431224-3 – 1 meter long  
 KO7722P431224-4 – 2 meters long



KO7722430273– 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

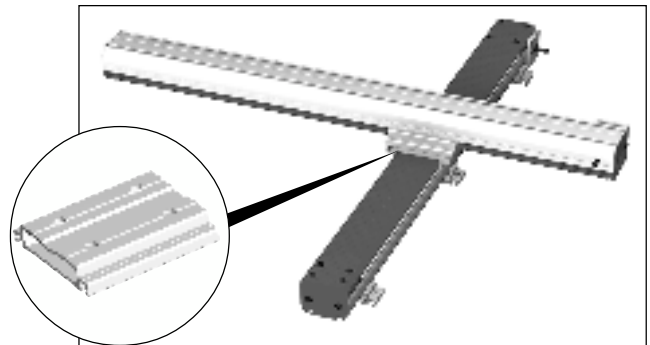
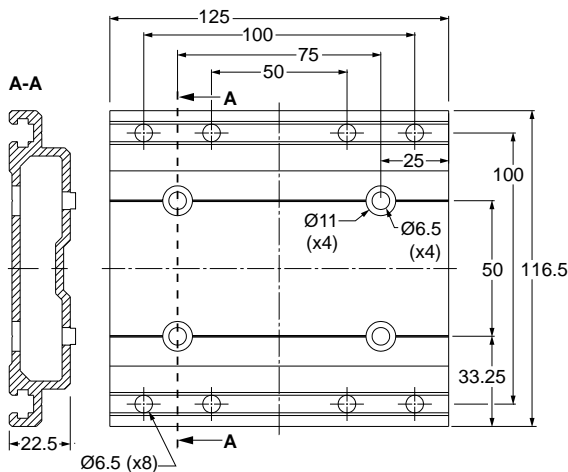
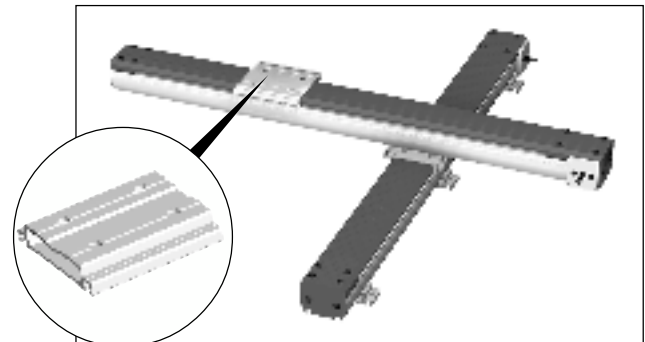


Plate stationary, slide moves

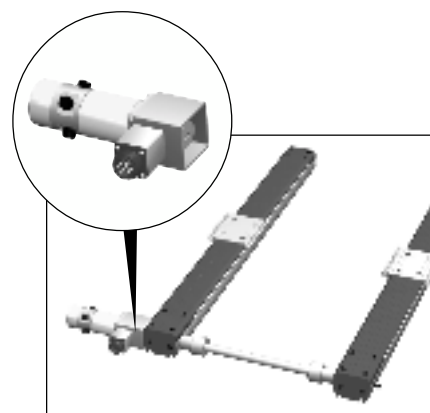
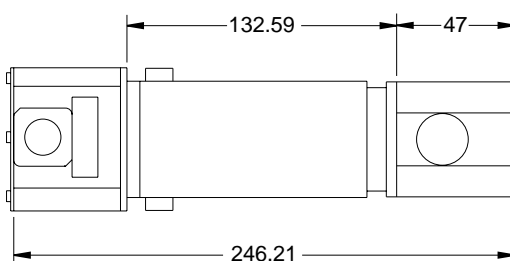
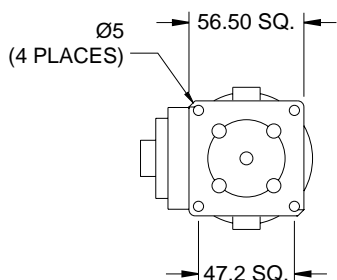


Slide stationary, plate moves

## DC Servo Motor

CATALOG NUMBER: KC4822P2464823

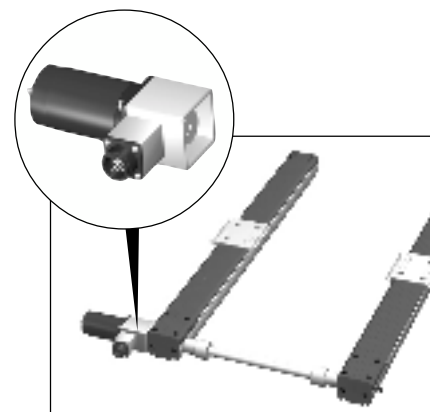
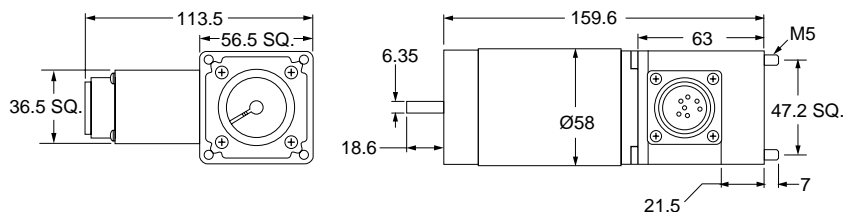
Specifications			
Power .....	120W	Maximum Terminal Voltage .....	60V
Maximum Operating Speed .....	6000 rpm	Peak Stall Torque .....	350 oz·in
Continuous Stall Torque .....	50 oz·in	Maximum Pulse Current .....	31A
Maximum Continuous Current .....	4.2A	Operating Temperature .....	0°C to 40°C



## Stepper Motor

CATALOG NUMBER: KO4822P432244

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



## Belt Slide Actuator Specifications

### Load and Moment Data (reference diagram below)

Model	EO3	EO5	Ci3 bearing carriage	Ci4 bearing carriage	Ci5 bearing carriage	QS4 slide
<b>Co</b> [N]	3061.5	4701.7	3061.5	4701.7	4701.7	1270.0
<b>C</b> [N]	1598.1	2127.7	1598.1	2127.7	2127.7	750.0
<b>F1</b> stat [N]	2648.0	4060.0	2648.0	4060.0	4060.0	1270.0
<b>F1</b> dyn [N]	1382.7	1840.3	1382.7	1840.3	1840.3	750.0
<b>F2</b> stat [N]	3061.5	4701.7	3061.5	4701.7	4701.7	1270.0
<b>F2</b> dyn [N]	1598.1	2127.7	1598.1	2127.7	2127.7	750.0
<b>Mx</b> stat [Nm]	37.2	175.0	37.2	175.0	175.0	22.0
<b>My</b> stat [Nm]	98.8	151.8	98.8	151.8	151.8	12.6
<b>Mz</b> stat [Nm]	114.3	175.5	114.3	175.5	175.5	12.6
<b>Mx</b> dyn [Nm]	19.4	79.2	19.4	79.2	79.2	13.5
<b>My</b> dyn [Nm]	51.6	68.7	51.6	68.7	68.7	7.5
<b>Mz</b> dyn [Nm]	59.7	79.4	59.7	79.4	79.4	7.5

