

# Ci3 Belt Drive Slide

## FEATURES

- ◆ Available with a 50 N·cm, 160 N·cm stepper motor, 120W servo motor or no motor
- ◆ Resolution for 50 N·cm motor is 0.15 mm/step in half-step mode; for 160 N·cm motor is 0.075 mm/step and 0.0075 mm/pulse with standard servo motor
- ◆ Maximum speed: 1.5 m/s
- ◆ Carriage rides on two Ø8 mm precision ground steel shafts that are supported along the entire length of travel to minimize deflection
- ◆ Belt is 3 mm HTD, 9 mm wide. HTD belt profile helps reduce backlash
- ◆ Home and end reference switch repeatable to < 0.1 mm
- ◆ Lengths up to 3 meters



### CATALOG NUMBER

KO5327PS



#### Carriage Type

2 Bearing Carriage

#### Motor Type

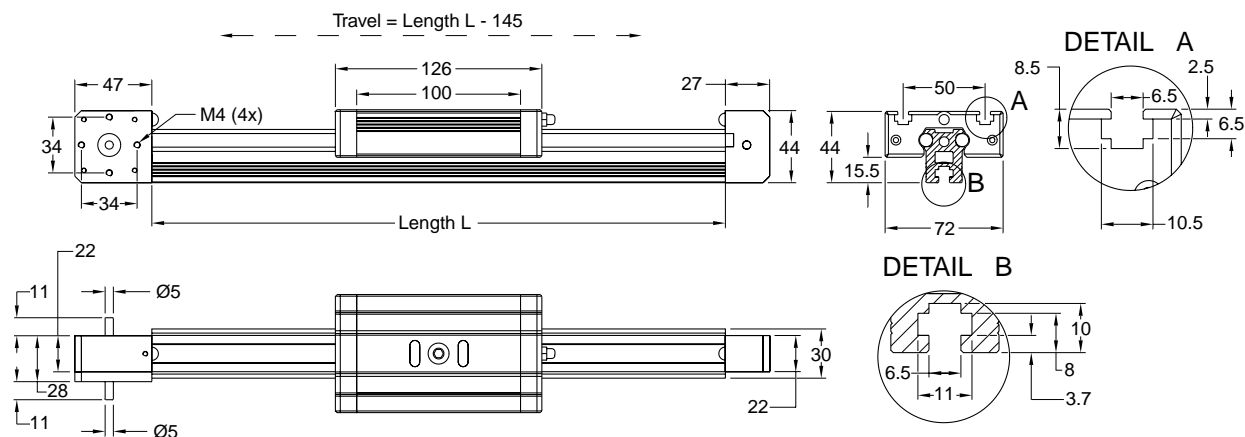
- 2 50 N·cm Stepper motor
- 3 160 N·cm Stepper motor, 2:1 Ratio
- 4 120W Servo motor, 2:1 Ratio
- 5 No motor
- 6 2:1 Ratio Assembly, No Motor (Includes Pulley for Motor)

### CI3 BELT DRIVE SELECTION

Code	Length (mm)	Travel (mm)
252	298	153
262	398	253
272	498	353
282	598	453
280	675	530
292	698	553
202	798	653
322	998	853
372	1498	1353
302	1798	1653
422	1998	1853
472	2498	2353
522	2998	2853

# Ci3 Belt Drive Slide

## Bearing Carriage

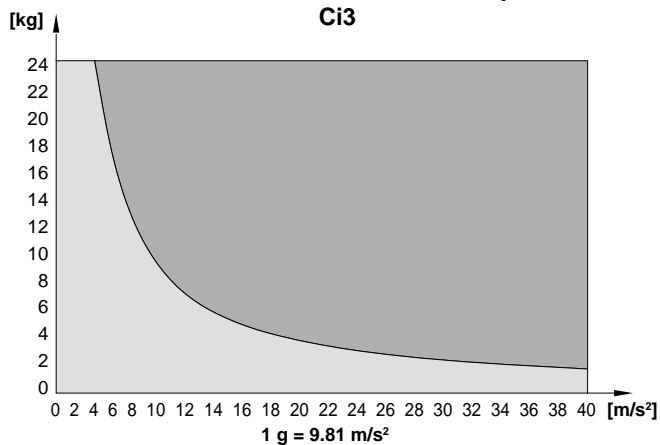


## Technical Data

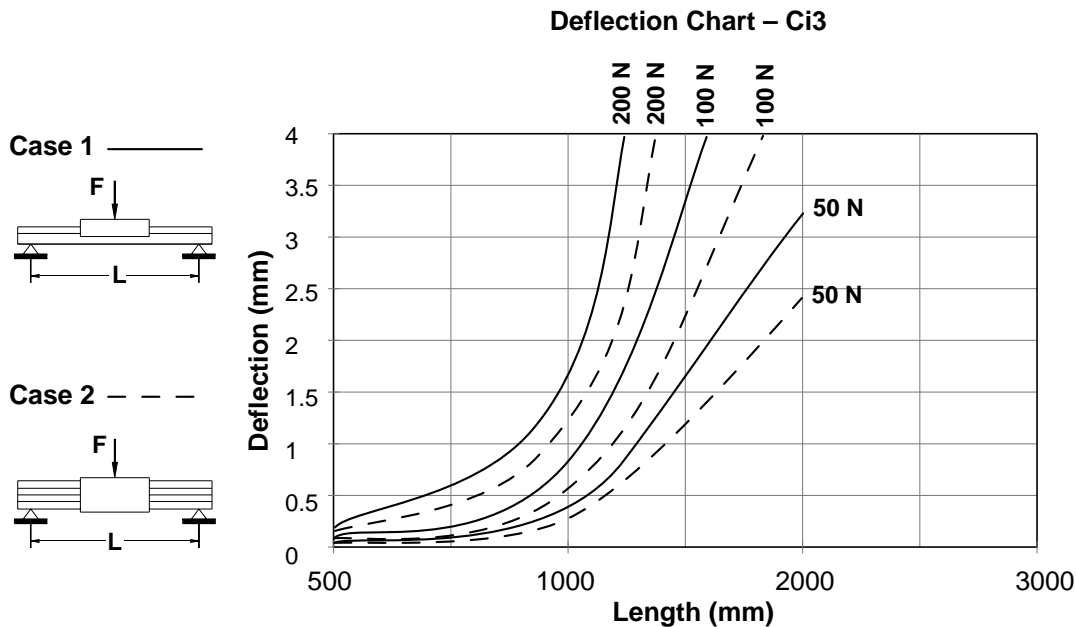
- Belt type: 3 mm HTD, 9 mm wide
- Mass of bearing carriage = 0.43 kg
- Mass of roller carriage = 1.03 kg
- Weight without motor module:  $\approx$  3.00 kg/1000 mm
- Specific mass of belt: 0.0225 kg/m
- Diameter of pulley: 19.10 mm
- Pulley mass moment of inertia:  $5.585 \times 10^{-7} \text{ kg} \cdot \text{m}^2$
- Effective circumference: 60 mm

**NOTE:** One revolution of motor shaft produces 60 mm of linear travel. This determines travel resolution. When NEMA 23 frame stepper or servo motor is used, two revolutions of motor shaft produces 60 mm of linear travel.

Maximum Acceleration Based On Belt Specification  
Ci3



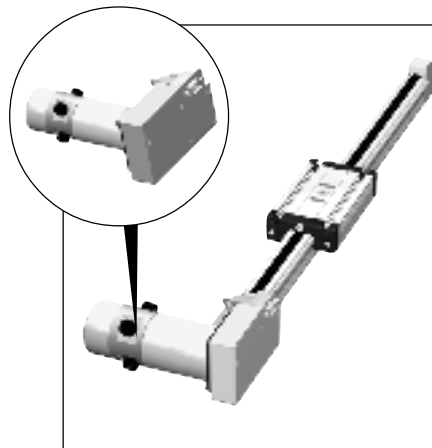
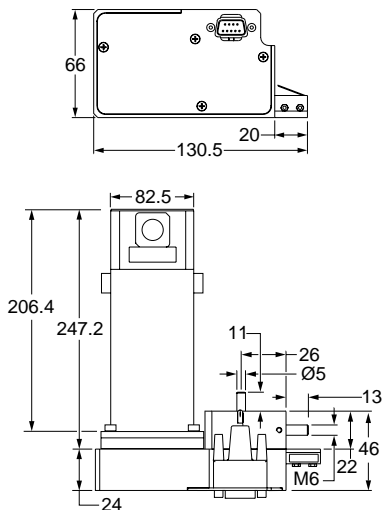
# Ci3 Deflection Data & Motor Options



## DC Servo Motor

CATALOG NUMBER: KC4822P27QHDP45Y

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

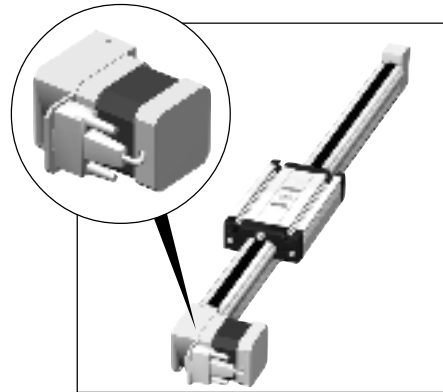
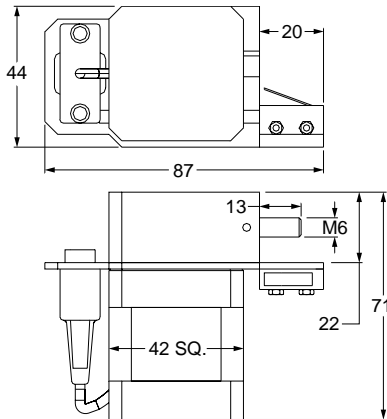


# Ci3 Stepper Motor Options

## 50 N · cm Stepper Motor

CATALOG NUMBER: KO4822P27QHDP39

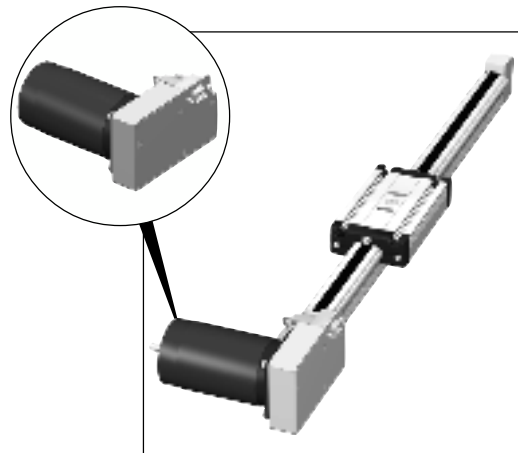
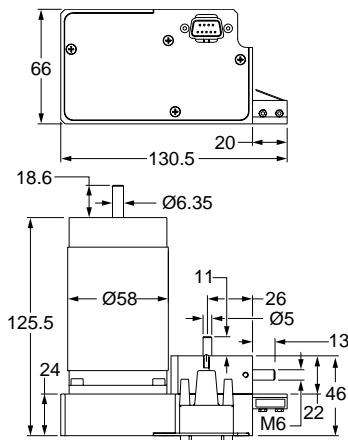
Specifications	
<b>Holding Torque</b> .....	50 N · cm
<b>Step Size: Full</b> .....	1.8°
<b>Half</b> .....	0.9°
<b>Voltage – bipolar</b> .....	3.2V
<b>Resistance</b> .....	1.1Ω
<b>Inductance</b> .....	1.85mH
<b>Current – bipolar</b> .....	1.8A



## 160 N · cm Stepper Motor

CATALOG NUMBER: KO4822P27QHDP45

Specifications	
<b>Holding Torque</b> .....	160 N · cm
<b>Step Size: Full</b> .....	1.8°
<b>Half</b> .....	0.9°
<b>Voltage – bipolar</b> .....	1.7V
<b>Resistance</b> .....	1.2Ω
<b>Inductance</b> .....	2.2mH
<b>Current – bipolar</b> .....	4.1A



## 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

