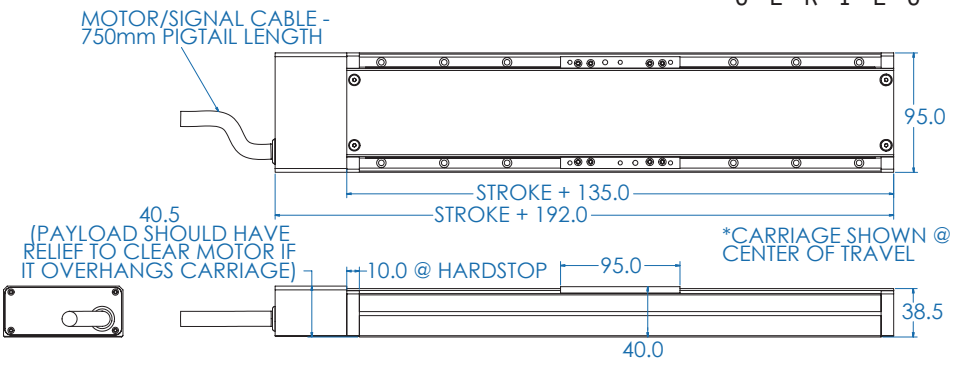

Feature Summary:

- Travels up to 400mm
- Loads up to 10 kg
- Optional rotary encoder resolution of 1.0 micron
- Two motor options
- Stackable for XY motion
- 40mm tall
- English & Metric optical bread-board compatible.
- All stages individually tested for accuracy, repeatability, straightness and flatness
- Adjustable limit switches

Overview

Primatics PCL40 Series linear positioning stages are our most compact linear guide bearing stages. Ideal for applications such as automated microscope inspection, medical assembly and semiconductor wafer testing and fabrication, the PCL40 offers unparalleled flexibility, allowing the user to fit a standard product into their most space constrained applications.

Frameless Motor

Perfect where stage length is a concern, the PCL40 frameless motor mounts directly onto the ballscrew eliminating the need for a motor coupler. This reduces the footprint of the positioner, while improving dynamic response.

XY Configurations

Two PCL40s can be directly stacked in an XY configuration without the need of an adaptor plate. The total stack heigh is just 80mm.

The PCL40 is also available in an in-line motor configuration. For more information and a complete datasheet, go to www.primatics.com

Precision Grade Performance Specs	PCL40-050	PCL40-100	PCL40-200	PCL40-300	PCL40-400
Travel (mm)	50	100	200	300	400
Frameless Positional Accuracy (µm) over Total Travel [2,3]	+/- 5	+/- 6	+/- 7	+/- 8	+/- 9
In-line Positional Accuracy (µm) over Total Travel [1,2,3,4]	+/- 8	+/- 9	+/- 10	+/- 11	+/- 12
Frameless Positional Repeatability (bi-directional) (µm) [2]	+/- 2.0				
In-line Positional Repeatabililty (bi-directional) (µm) [1,2,4]	+/- 5				
Straightness of Travel (µm) over Total Travel [2]	+/- 2.5	+/- 3	+/- 4	+/- 6	+/- 8
Flatness of Travel (µm) over Total Travel [2]	+/- 1.5	+/- 2	+/- 3	+/- 5	+/- 7
Max Speed - Frameless (mm/s)	300				
Max Speed - Stepper (mm/s)	75				
Direct Loading Capacity (kg)	10				
In-Line Rotational Inertia (kg-m^2)	9.25E-6	9.94E-6	1.13E-5	1.27E-5	1.41E-5
Frameless Rotational Inertia (kg-m^2)	5.09E-6	5.78E-6	7.15E-6	8.53E-6	9.91E-6
In-Line Stage Weight (kg) (Aluminum Base)	2.0	2.3	2.9	3.5	4.1
Frameless Stage Weight (kg) (Aluminum Base)	2.1	2.3	2.9	3.6	4.3

[1] Measured with NEMA17 step motor @ 50,000 steps/rev [2] Measured 50mm above center of carriage [3] Slope corrected
[4] Improved specification possible, consult factory All specifications subject to change w/o notice.

MODEL NUMBER CONFIGURATION

OPTIONS:

Model Series & Table Height
Linear Guide Bearings - 40 mm.....**PCL40**

Base Material
Aluminum.....**AL**

Table Travel, Precision Grade
50 mm .....**0050P** 300 mm **0300P**
100 mm .....**0100P** 400 mm **0400P**
200 mm **0200P**

Drivetrain [1]
5 mm Lead Ballscrew.....**D1**

Home Sensor
N.C. Current Sinking .....**H1** N.O. Current Sinking **H2**

Travel Limits
N.C. Current Sinking.....**L1** N.O. Current Sinking.....**L2**

Motor Coupling
No Coupling .....**C1** 5mm Flexible Disk **C3**
0.25" Flexible Disk.....**C2**

Motor Mount and MotorType
In-Line for NEMA 17 motor.....**M1-1**
In-Line with NEMA 17 step motor.....**M1-2**
Frameless servo motor.....**M2-3**

Encoder
No Encoder.....**E1** Rotary Encoder - 1250 lines.[2]..**E2**

Protection Level
Level 1 - Hardcover.....**P1**

SAMPLE MODEL NUMBER:

PCL40 AL 0200P D1 H1 L1 C1 M2-3 E2 P1

[1]Consult factory for alternate ballscrew leads. [2]On Ballscrew Shaft
***Not all configurations are valid. Consult factory for assistance.**

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