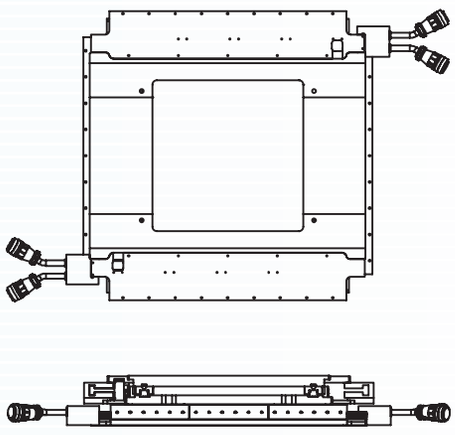
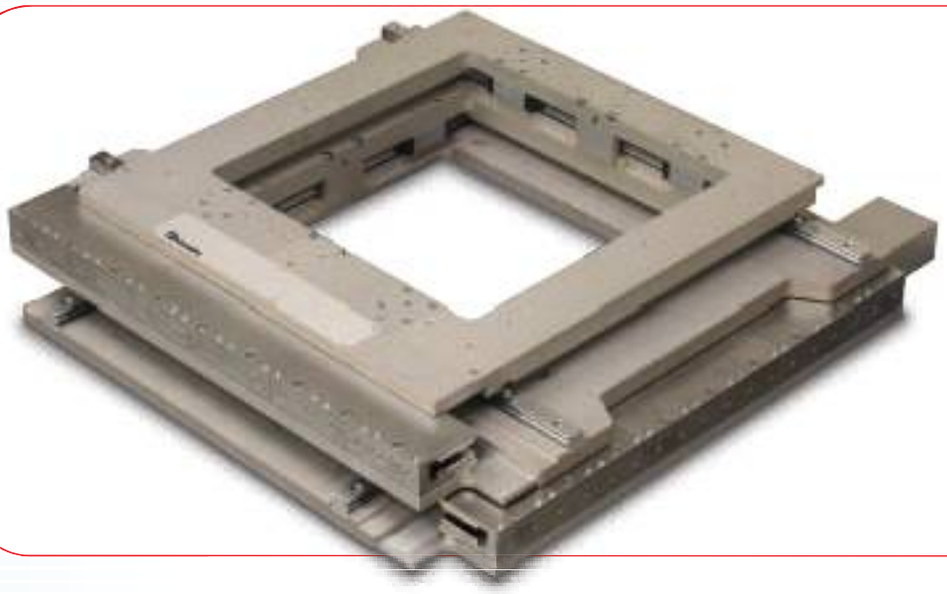
Phone: 877-478-3241
Phone: 877-IP-Tech1
Fax: 877-IP-Tech2
www.iptech1.com

POF115 Linear Positioning Stages

POF115 SERIES





Feature Summary

- 300mm of X & Y motion
- Loads up to 75 kg
- Encoder resolution to 0.1 microns
- Single or dual linear motors per axis
- Straight, flat motion ideal for inspection
- Open frame configuration allows access to top and bottom of pay-load
- Clean, compact design; the POF-115 utilizes an advanced cable management system that combines all signals into two cables extending from the bottom axis.
- Double or triple stack linear motor coils
- Error mapped accuracy option
- Class 10 cleanroom option

Overview

Primatics POF115 Series open frame stages are designed to meet the demands of the toughest applications. Our unique, dual axis, large aperture open frame stages are ideal for applications such as: wafer inspection, scanning microscopy, lithography and precision assembly.

Linear Motor Side Drive

The POF115 is available with linear motors for high performance applications. It features a brushless linear motor and non-contact linear encoder, providing superior smoothness and accuracy. A second linear motor and encoder is available for each axis, enhancing system throughput, orthogonality and accuracy. All cabling for both axes are self contained, thanks to the unique Prima-Flex™ cable management system. Linear encoder resolutions to 0.1 micron are standard.

Higher Performance

Open frame stages are most often used in applications requiring very accurate, flat motion. To achieve these requirements, the POF115 eliminates all empty space between the top and bottom of the positioner, minimizing the overall height & tolerance stack without sacrificing stiffness & load capacity. It utilizes precision linear guide bearings ideal for fast, repetitive motion, and a dual linear encoder option ensures reduced abbe errors.

Cleaner Design

Our unique Prima-Flex™ cable management system eliminates the necessity of external cable carriers on the POF115. All signals for both axes are terminated into two high flex cables that exit the motor end of the bottom stage.

Primatics


Linear Positioning


Rotary Positioning

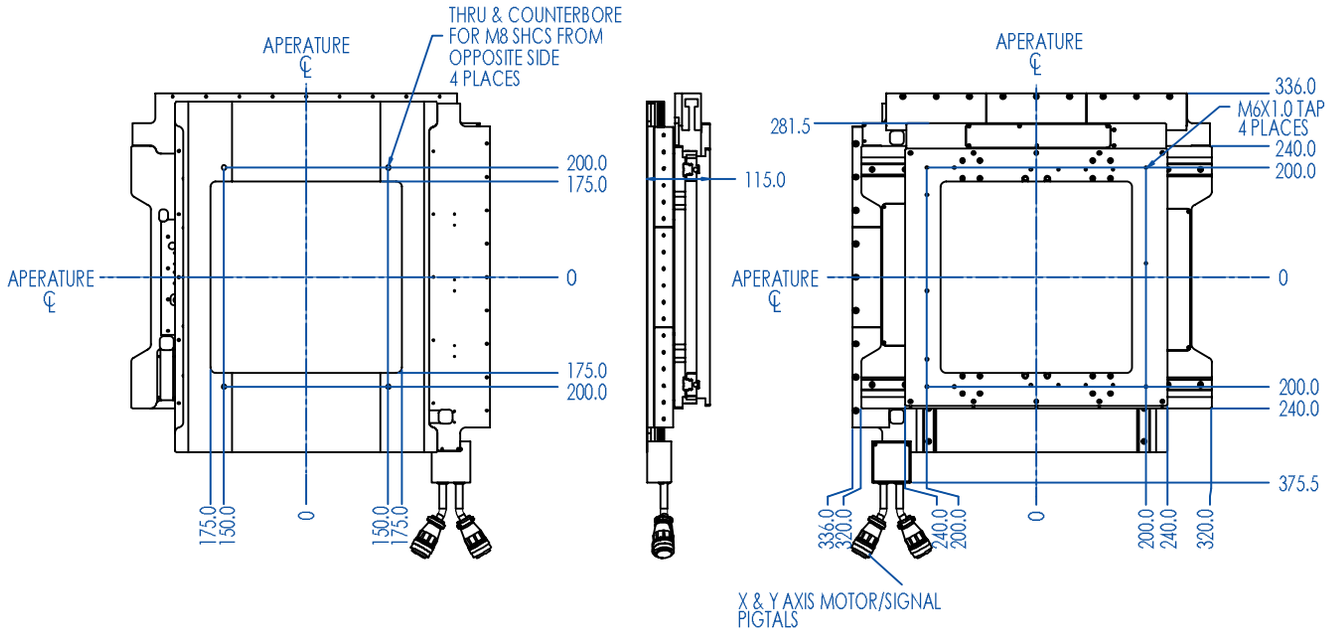

Motion Controls


Engineered Solutions

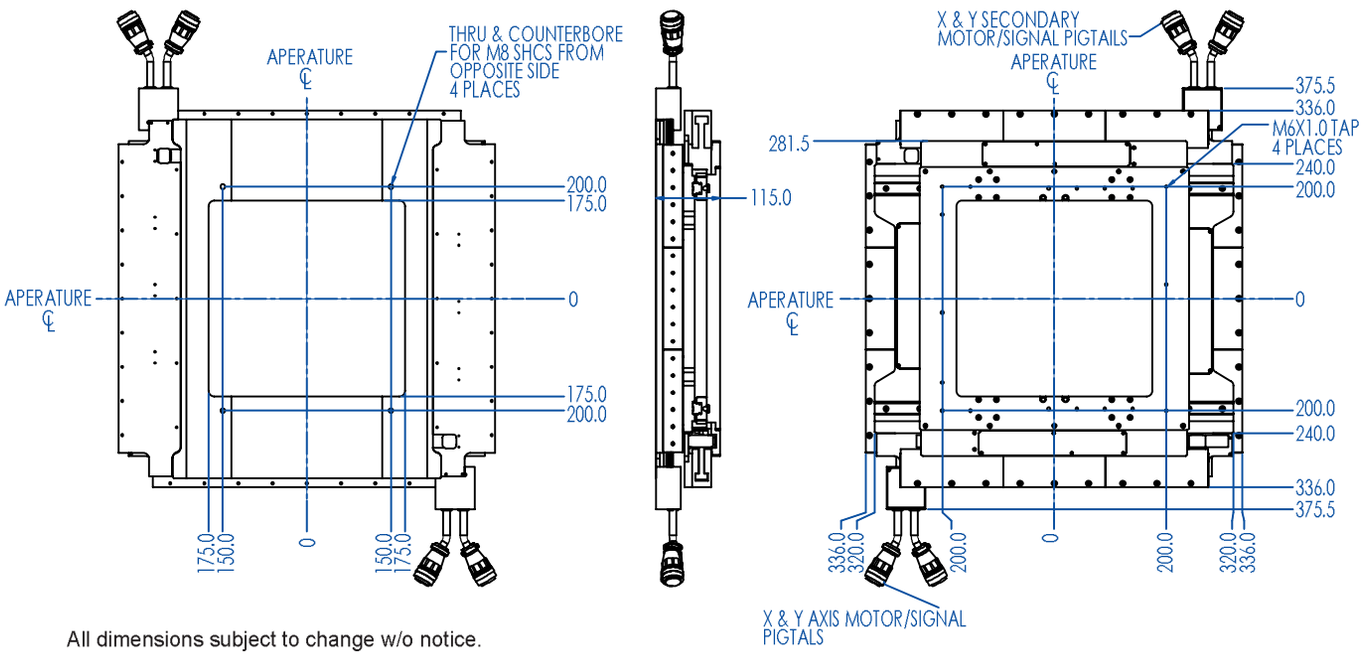
Phone: 877-478-3241
Phone: 877-IP-Tech1
Fax: 877-IP-Tech2
www.iptech1.com

POF115 SERIES

POF115 Single Side Drive Drawing



POF115 Dual Side Drive Drawing



All dimensions subject to change w/o notice.

Phone: 877-478-3241
Phone: 877-IP-Tech1
Fax: 877-IP-Tech2
www.iptech1.com

POF115 SERIES

Linear Motor Drivetrain Specifications

Performance Specification	POF115-300 Single Side Drive	POF115-300 Dual Side Drive
Travel (mm)	300 x 300	
Life at Listed Specifications x 50 km	100	
Positional Accuracy w/ Linear Encoder (µm)[1]	+/- 15	+/- 10
Error Mapped Accuracy w/ E4 Linear Encoder (µm)	+/- 1.5	+/- 1.0
Positional Repeatability w/ Linear Encoder [1, 0.5, 0.1 µm resolution][1]	+/- 2, +/- 1.5, +/- 0.75	+/- 1, +/- 0.75, +/- 0.5
Straightness of Travel (µm) over Total Table Travel[1]	+/- 5	
Flatness of Travel (µm) over Total Table Travel[1]	+/- 5	
Max Speed (mm/s)[2]	300	
Direct Loading Capacity (kg)	50	75
Minimum Resolution w/ Linear Encoder (µm)	0.1	
Orthogonality (arc-seconds)	15	
Weight (kg)	30	40

[1] Measured 50mm above center of carriage
[2] Max speed dependent on load and encoder resolution
All specifications subject to change w/o notice.

Connector Pinouts

Servo Axis connector for each axis
Mating Connector: FCI (Burndy) Male, circular connector, 28 contacts, size 20 shell Pin-out

Pin	Function
A	Motor A
B	Motor B
C	Motor C
D	Motor Shield
E	Encoder 5V - power for encoder
F	Encoder A+ output
G	Encoder A- output
H	Encoder B+ output
J	Encoder B- output
K	Encoder shield
L	12VDC - for limit, home, and temp sensor
M	DCCOM
N	Home - Switch to DCCOM when on forward side of home position
P	Brake release output (24VDC)
R	Brake return

Pin	Function
S	Chassis
T	Hall V+
U	Hall V
V	Encoder Common
W	Encoder Index +
X	Encoder Index -
Y	Forward Limit Switch - switch to DCCOM in normal operation
Z	Reverse Limit Switch - switch to DCCOM in normal operation
a	Signal shield
b	Hall A
c	Hall B
d	Temperature monitor - connect to DC Common for temperature OK
e	Hall C

Phone: 877-478-3241
Phone: 877-IP-Tech1
Fax: 877-IP-Tech2
www.iptech1.com

MODEL NUMBER CONFIGURATION

OPTIONS:

SAMPLE MODEL NUMBER:

POF 115 AL 0300 P D5 H1 L1 C1 5 E2 P1 -M

Model Series
Linear Guide Open Frame..... **POF**

Table Height
115 mm..... **115**

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

Table Travel
300 mm x 300 mm..... **0300**

Grade
Precision..... **P**

Drivetrain
Linear Motor..... **D5**
Dual Linear Motor..... **D8**

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**

Motor Type
Linear Motor..... **5**

Encoder
Linear Encoder - 1 micron..... **E2**
Linear Encoder - 0.5 micron..... **E3**
Linear Encoder - 0.1 micron..... **E4**
Linear Encoder - 0.2 mircon..... **E5**

Protection Level
Standard Protection..... **P1**

Options
Error Mapping ..... **M**
No Options ..... **(Leave Blank)**

[1] Allow Longer Delivery Trime [2] Includes Z bracket

***Not all configurations are valid. Consult factory for assistance.**