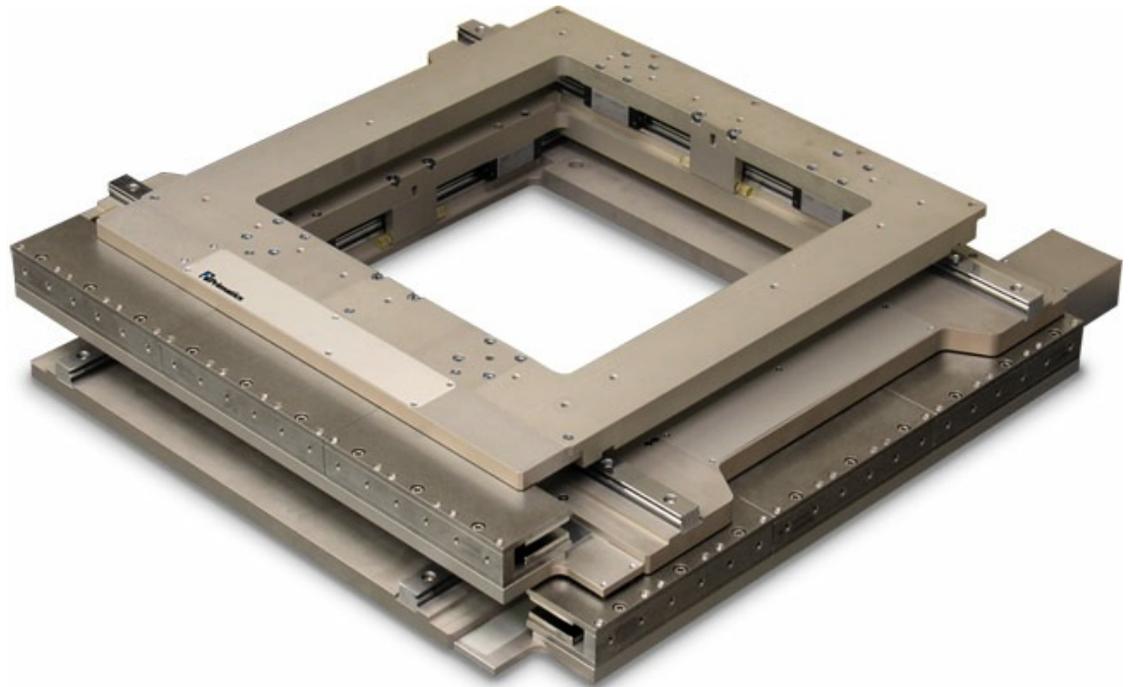


POF115



Features

- 300mm of X, Y motion
- Loads up to 75kg
- Encoder resolution to 0.1µm
- Single or dual linear motors per axis
- Straight, flat motion ideal for inspection
- Center clearance allows access to top and bottom of payload
- Clean, compact design with advanced cable management
- Error mapped accuracy option
- Class 10 clean room 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.

High 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.

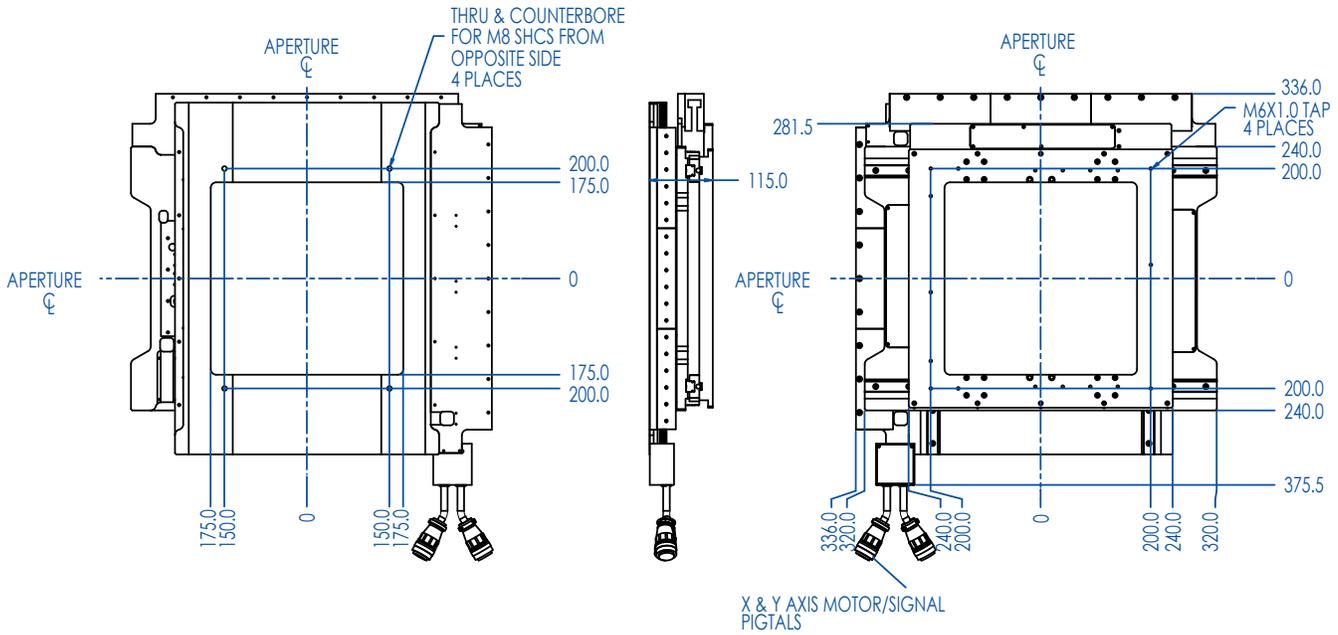
Clean Design

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

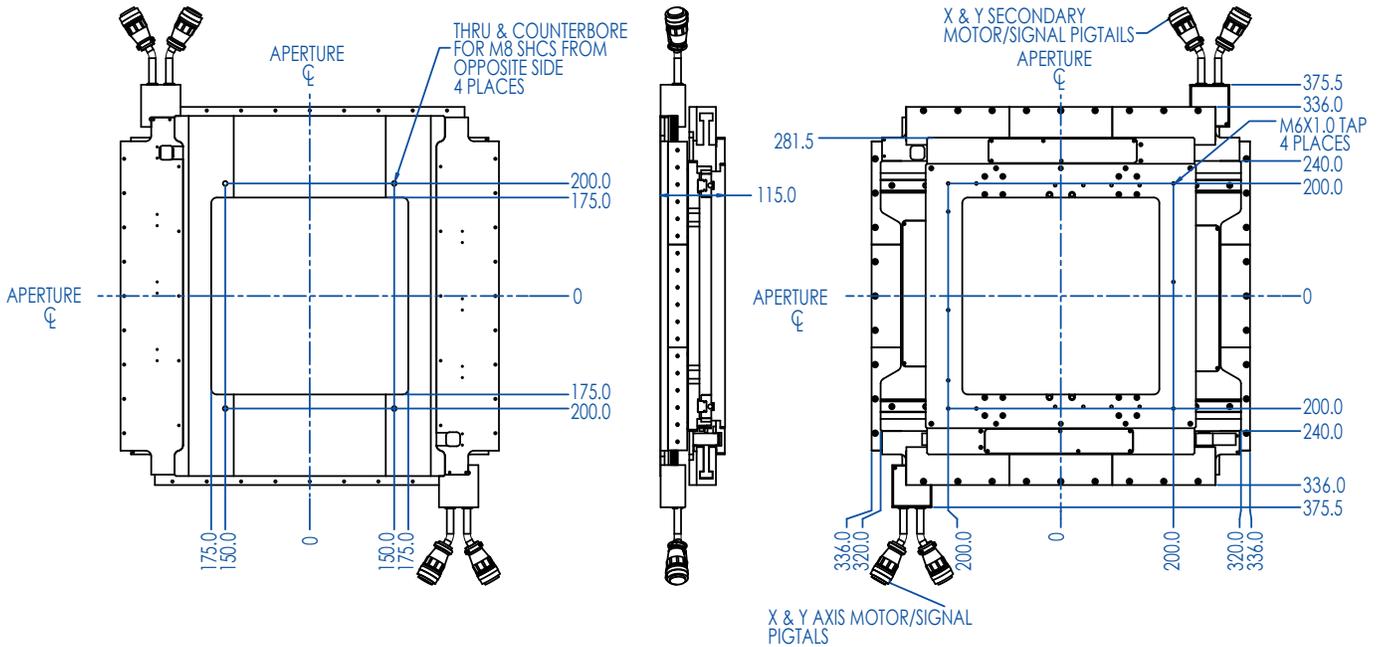


Dimensions

Single Side Drive (D5 option)



Dual Side Drive (D8 option)



All dimensions subject to change w/o notice.

Specifications

Specifications	Notes	POF115 Single Side Drive	POF115 Dual Side Drive
Travel (mm)		300x300	
Positional Accuracy Over Total Travel (μm)	1	+/-15	+/-10
Error Mapped Accuracy Over Total Travel (μm)		+/-1.5	+/-1.0
Bi-directional Repeatability (μm)	1	+/-2.0 +/-1.5 +/-0.75	+/-1.0 +/-0.75 +/-0.5
Straightness Accuracy Over Total Travel (μm)	1	+/-5	
Flatness Accuracy Over Total Travel (μm)	1	+/-5	
Max Speed (mm/s)	2	300	
Direct Load Capacity (kg)		50	75
Continuous Thrust (w/o air cooling) (N)			
Peak Thrust (N)			
Life at Listed specifications (km)		5000	
Stage Weight (kg)		30	40

Notes: 1 - Measured 50mm above center of carriage; 2 - Maximum obtainable speed is load, resolution, and move profile dependent. All specifications subject to change without notice.

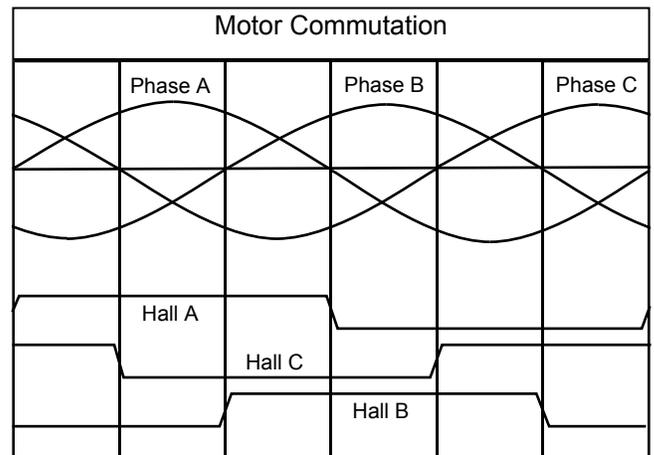
Motor / Encoder, Sensor Data

Parameter	Notes	Value
Motor		
Motor Type		Brushless Servo Linear Motor
Continuous Force (N)	1	72.7
Continuous Current (Arms)	1	1.0
Peak Force (N)	2	330
Peak Current (Arms)	2	4.4
Force Constant (N/Arms)		74.4
Back EMF Constant (V/m/s)		74.4
Winding Resistance (ohms)		27.3
Winding Inductance (mH)		36.2
Thermal Resistance ($^{\circ}\text{C}/\text{W}$)		1
Magnetic Pitch (mm)		60.96
Hall Sensor Power		5 to 24VDC, 50mA
Hall Outputs		Open collector, current sinking, 20mA max
Encoder		
Encoder power		5VDC +/- 5%, 150mA
Output		Square wave differential line driver. Default maximum output frequency is 12.5M cts/sec. Contact factory for faster or slower rates.
Index		Synchronized pulse, duration equal to one resolution bit
Limit and Home Sensors		
Power		12 to 24VDC, 50mA
Output		Current sinking, 100mA max

Notes: 1 - At 25 $^{\circ}\text{C}$ maximum temperature rise; 2 - At 10% duty cycle and 1 second maximum; All specifications subject to change without notice.

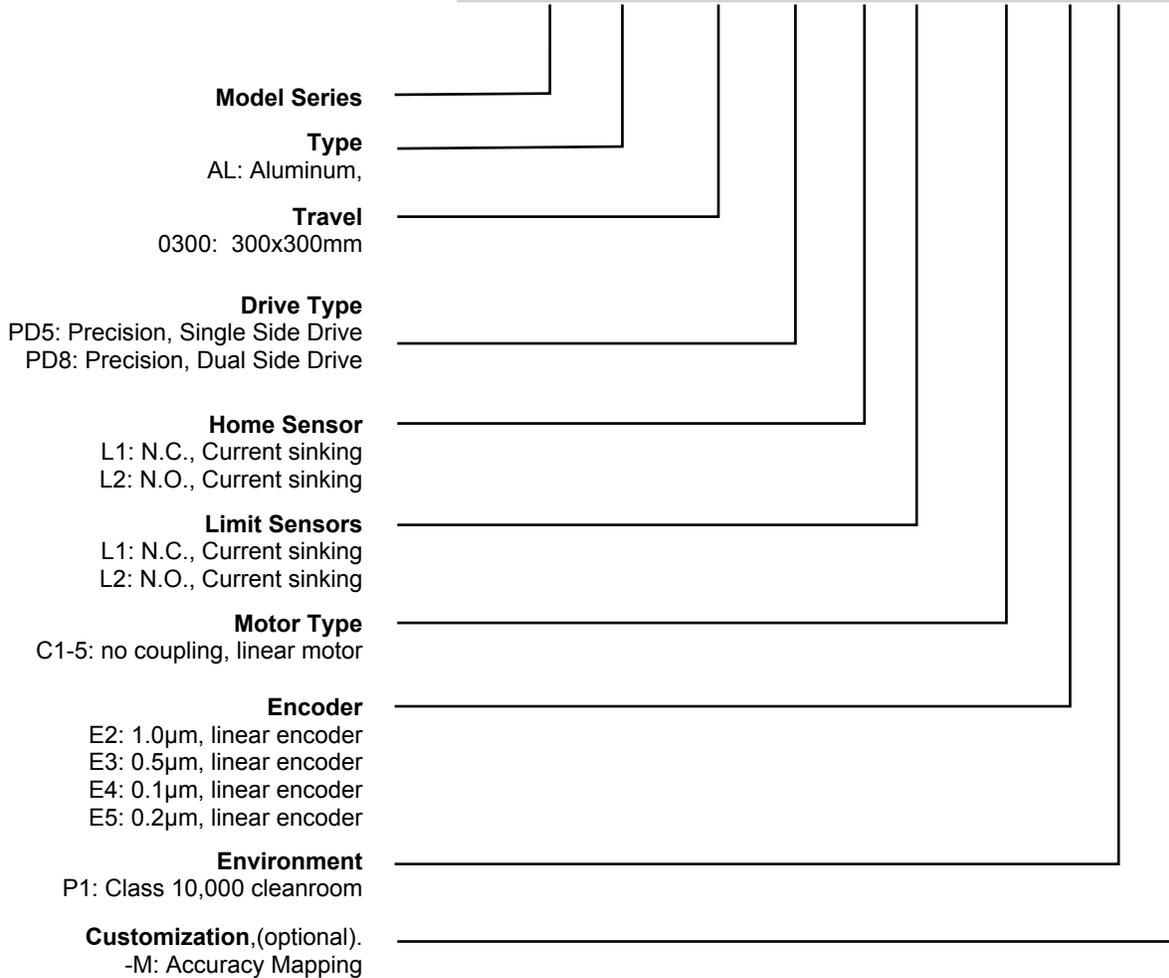
Connector

POF115	
Connector: Cannon 192926-0480 Size 20, 28 pins	
Pin	Function
A	Motor Phase A
B	Motor Phase B
C	Motor Phase C
D	Motor Shield
E	Encoder 5V
F	Encoder Ch A+
G	Encoder Ch A-
H	Encoder Ch B+
J	Encoder Ch B-
K	Encoder Shield
L	Limit Power (12 to 24VDC)
M	Limit Return and Signal Common
N	Home
P	Not Used
R	Not Used
S	Signal Shield
T	Hall V+
U	Hall V-
V	Encoder Power Return
W	Encoder Ch I+
X	Encoder Ch I-
Y	Forward Limit - Activates at Full Forward Travel
Z	Reverse Limit - Activates at Full Reverse Travel
a	KEY
b	Hall A
c	Hall B
d	Motor Temperature Sensor
e	Hall C



PCR43 Model Configuration

Example: POF115 AL 0300 PD5 H1 L1 C1-5 E2 P1 -M



Not all configurations are valid - consult factory for assistance

Accessories

Model	Description
CABLE-SERVO-STAGE-PIGTAIL	Un-terminated at user end. 12 ft standard
CABLE-SERVO-STAGE-DMC40X0-I200	Cable assembly for use with Galil DMC-40x0-I200 with trap servo drives. 12 ft standard.
CABLE SERVO STAGE MC4U W/ HALLS	Cable assembly for use with ACS MC4U. 12 ft standard.
CABLE-SERVO-ACS-CMNT-DIG	Cable assembly for use with ACS CMNT 12 ft standard.