

## Precision XY Motion Platform

### FEATURES

- Compact Low-Profile Design
- 300mm XY Travel
- Zero backlash, precision ground ball screws
- Optical limit switches with home
- High resolution linear encoder
- Brushless servo motor drive
- Recirculating ball linear ways
- Open Aperture



The CXY-BS series stages are designed for a variety of applications. This compact low profile ball screw stage is built for high duty cycles and long life and can attain high velocities for factory automation and semiconductor processing equipment. The CXY series offers extraordinary levels of orthogonality and parallelism resulting in high accuracy for combined axis motion. The open aperture allows for part access from both the top and bottom of the stage. Recirculating ball linear ways and precision ground ball screws offer extremely smooth operation and velocity control. The XY stage can operate in any orientation and has optional brakes for added safety.

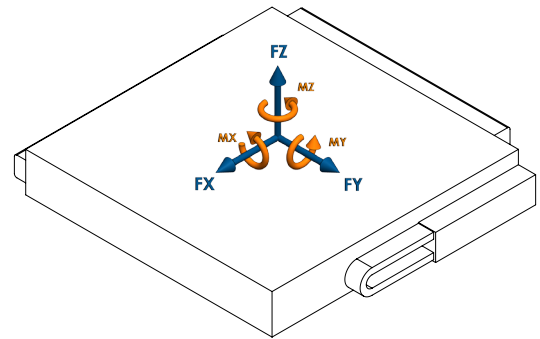


CXY-O-300-BS-A-M-S-0-00

**Motion Specifications**

**Product Specifications**

Encoder Output	A quad B, index
Force X (N)	200
Force Y (N)	200
Force Z (N)	400
Flatness (µm)	10
Height (mm)	80
Length (mm)	585
Limit Switches	Yes
Linear Accuracy (µm)	20
Linear Encoder Resolution (µm)	0.1
Linear Repeatability (µm)	1
Linear Velocity (mm/s)	150
Moment X (N-m)	300
Moment Y (N-m)	300
Moment Z (N-m)	100
Moving Mass X (kg)	22.12
Moving Mass Y (kg)	10.38
Orthogonality (arc-sec)	10
Pitch +/- (arc-sec)	20
Screw Lead (mm)	2
Stage Mass (kg)	34.62
Straightness (µm)	10
Width (mm)	545
Yaw +/- (arc-sec)	15



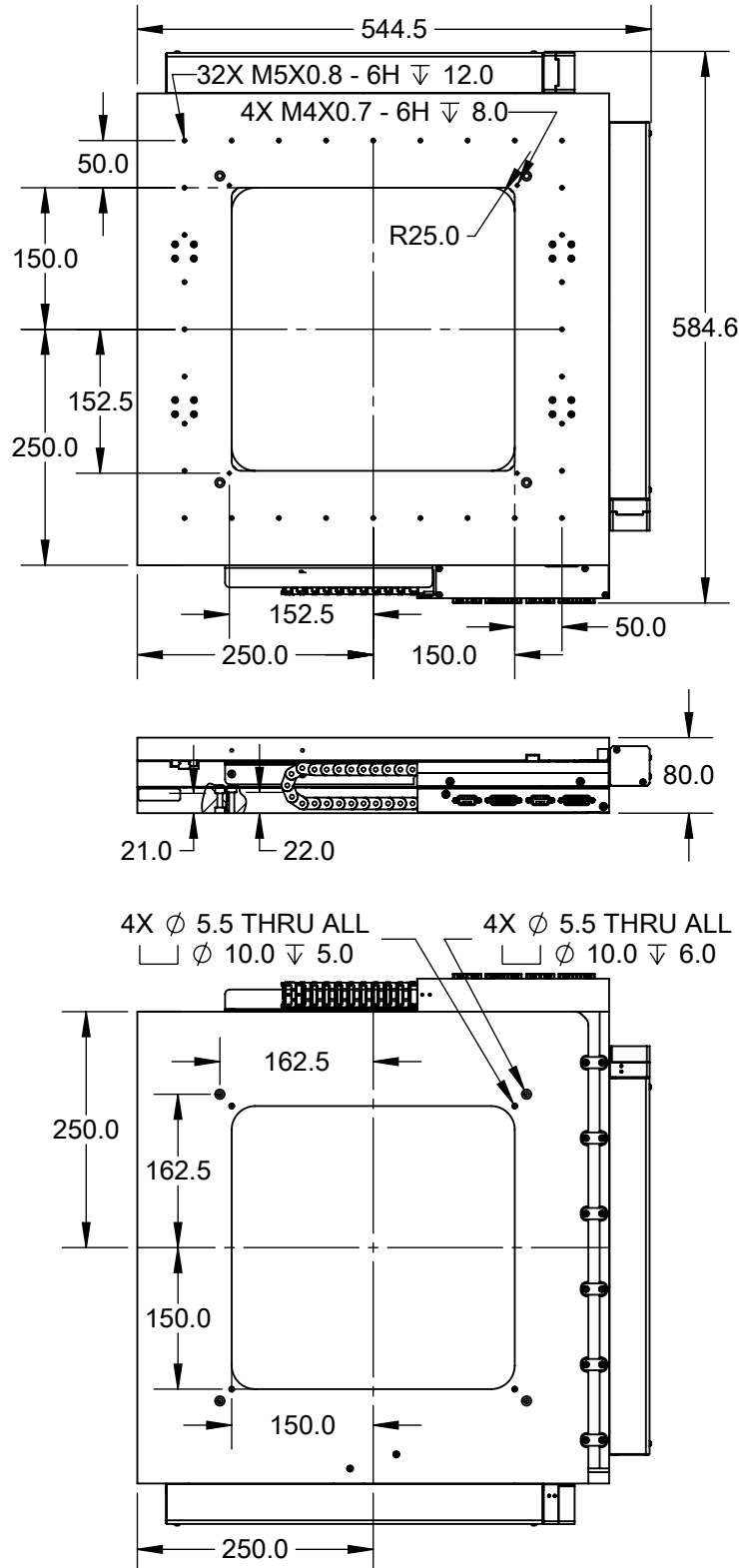
**LOAD DIRECTIONS**

**Part Number Description**

CXY	CXY Series
O	Open Aperture
300	300mm Travel
BS	Ball Screw Drive
A	Brushless Servo Motor
M	0.1µm Linear SS Scale
S	Standard Precision
0	No Additional Options
00	Standard Product (Call for custom)

CXY-O-300-BS-A-M-S-0-00

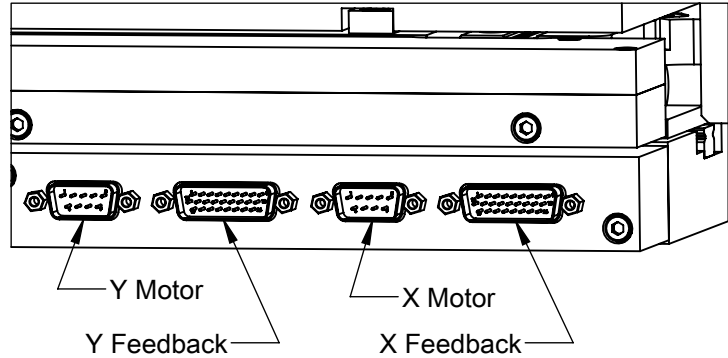
**Mechanical Specifications**



CXY-O-300-BS-A-M-S-0-00

Rev 10

Feedback Connector (DSUB26HD MALE)	
PIN	NAME
1	+5V
2	A+
3	B+
4	RI+
5	LIM+
6	*
7	*
8	*
9	*
10	*
11	A-
12	B-
13	RI-
14	LIM-
15	*
16	*
17	*
18	*
19	GND
20	HALL A
21	HALL B
22	HALL C
23	*
24	*
25	*
26	*
* Reserved	



Motor Connector (DSUB9 MALE)	
PIN	NAME
1	*
2	*
3	*
4	*
5	*
6	PHASE A
7	PHASE B
8	PHASE C
9	*
* Reserved	



CXY-0-300-BS-A-M-S-0-00

## Electrical Specifications

Motor Specifications	
Motor Type	3 $\Phi$ Brushless DC
BEMF Constant (V/KRPM)	1.88
Electrical Time Constant (ms)	0.38
Max Bus Voltage (VDC)	40
Max Continuous Current (A)	3.0
Motor Force Constant (N/A)	50.8
Peak Current (A)	10.0
Pin to Pin Inductance (mH)	0.55
Pin to Pin Resistance (ohm)	1.51
Poles per Revolution	6

Feedback Specifications	
Supply Voltage (V)	5.0 $\pm$ 10%
Supply Current (mA)	200
Encoder Feedback	Yes
Encoder Type	Incremental
Encoder Output	Square Wave Quadrature, RS-422 compatible, A,B,Z, Differential Pairs
Encoder Resolution	10000 cts/mm
Hall Switch Output	Open-collector, no internal pullup resistor
Hall Switch max current (mA)	-20
Limit Switches	Yes
Limit Switch Output Type	Open-collector, no internal pullup resistor
Limit Switch Output current (mA)	-20.0
Limit Switch Output Low (V)	0.8

The encoder will output one index pulse near center travel. This pulse is highly repeatable and can be used upon power-up to find an absolute position to use for further measurements.

Two limit switches are provided at the ends of travel. The limit switches will be pulled low throughout the travel range of the stage. The output will swing to high-impedance at the end of travel and remain high-impedance until the mechanical limit of the stage is reached.