

## Precision XY Motion Platform

### FEATURES

- 320mm XY Travel
- Zero backlash, precision ground ball screws
- High resolution rotary encoder
- Brushless high torque servo motor drive
- Crossed Roller Bearings



The GXY-BS series stages are designed for a variety of applications. This 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 GXY series offers extraordinary levels of orthogonality and parallelism resulting in high accuracy for combined axis motion. Crossed roller bearings 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.

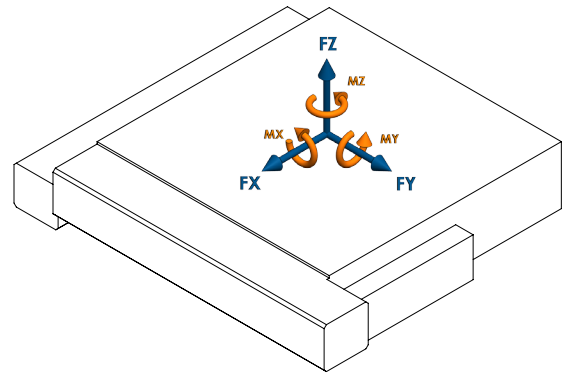


**GXY-C-320-BF-D-H-S-0-00**

**Motion Specifications**

**Product Specifications**

Encoder Output	A quad B, index
Force X (N)	200
Force Y (N)	200
Force Z (N)	800
Flatness (µm)	10
Height (mm)	99
Length (mm)	611.4
Limit Switches	Yes
Linear Accuracy (µm)	30
Encoder Resolution (µm)	0.3125
Linear Repeatability (µm)	2
Linear Velocity (mm/s)	200
Moment X (N-m)	300
Moment Y (N-m)	300
Moment Z (N-m)	100
Moving Mass X (kg)	38.80
Moving Mass Y (kg)	13.50
Orthogonality (arc-sec)	10
Pitch +/- (arc-sec)	15
Screw Lead (mm)	5
Stage Mass (kg)	59.17
Straightness (µm)	10
Width (mm)	536
Yaw +/- (arc-sec)	10



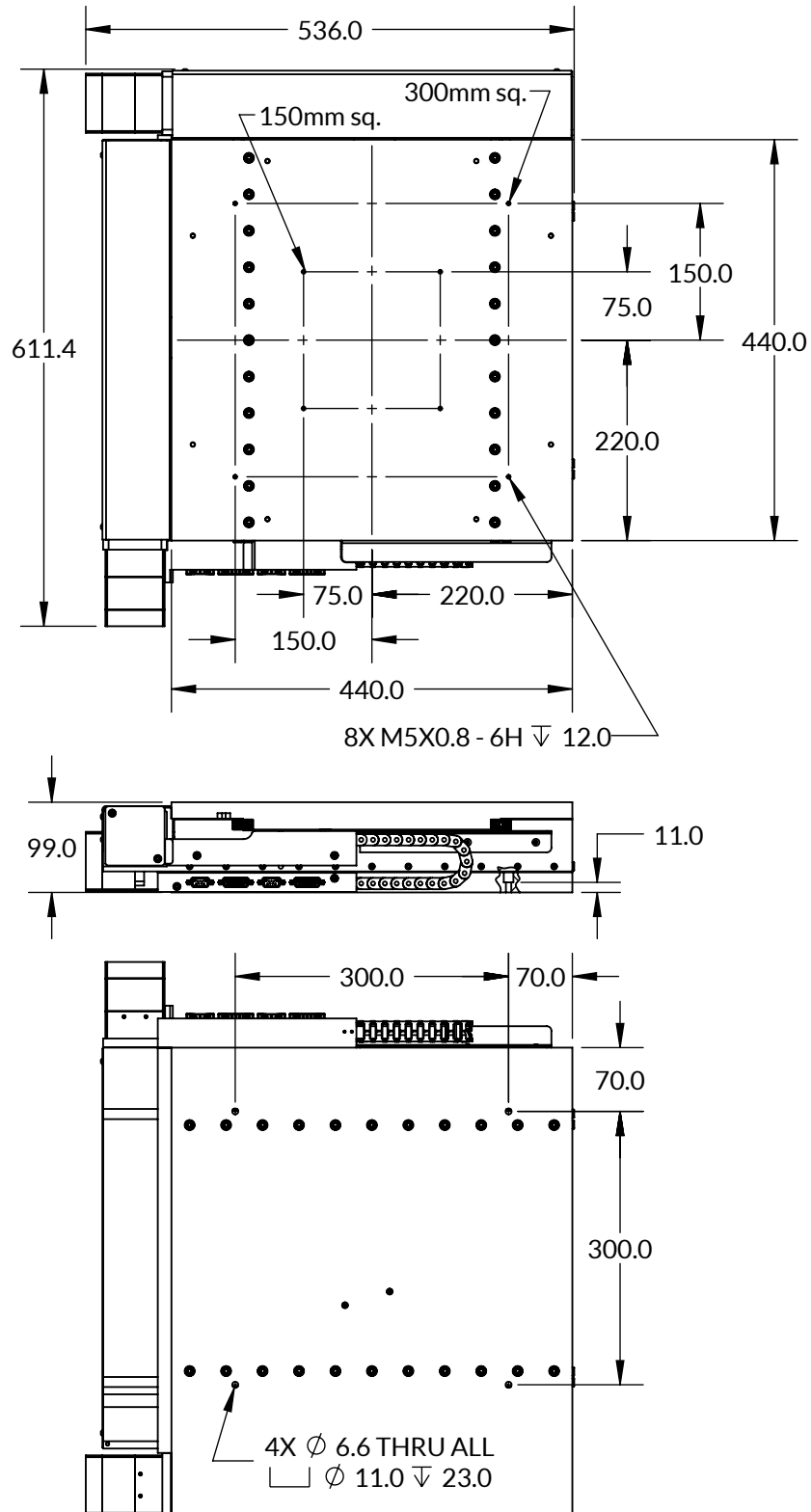
**LOAD DIRECTIONS**

**Part Number Description**

GXY	GXY Series
C	No Aperture
320	320mm Travel
BF	5mm Lead Ball Screw Drive
D	High Torque Brushless Servo Motor
H	0.125 µm Rotary
S	Standard Precision
0	No Additional Options
00	Standard Product (Call for custom)

GXY-C-320-BF-D-H-S-0-00

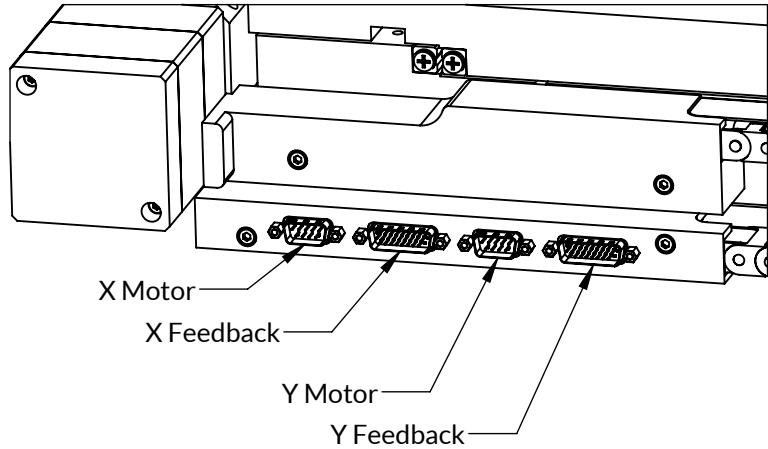
### Mechanical Specifications



GXY-C-320-BF-D-H-S-0-00

Rev 0

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	HOME
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	



GXY-C-320-BF-D-H-S-0-00

## Electrical Specifications

Motor Specifications	
Motor Type	3 $\Phi$ Brushless DC
BEMF Constant (V/KRPM)	5.0
Electrical Time Constant (ms)	0.94
Max Bus Voltage (VDC)	40
Max Continuous Current (A)	7.5
Motor Torque Constant (Nm/A)	0.048
Peak Current (A)	10
Pin to Pin Inductance (mH)	0.38
Pin to Pin Resistance (ohm)	0.40
Poles per Revolution	6

Feedback Specifications	
Supply Voltage (V)	5.0 $\pm$ 10%
Supply Current (mA)	250
Encoder Feedback	Yes
Encoder Type	Incremental
Encoder Output	Square Wave Quadrature, RS-422 compatible, A,B,Z, Differential Pairs
Encoder Resolution	3200 cts/mm
Hall Switch Output	Open-Collector, No Pullup Resistor
Hall Switch max current (mA)	-20
Limit Switches	Yes
Limit Switch Output Type	CMOS
Limit Switch Output current (mA)	$\pm$ 20.0
Home Switch	Yes
Home Switch Output Type	CMOS
Home Switch Output current (mA)	$\pm$ 20.0

A home switch is provided near center mechanical travel and a limit switch at each end of travel. The encoder will output one index pulse per revolution of the motor. This pulse is highly repeatable and can be used in coordination with the home switch to find an absolute position after power-up.

The limit switches will be pulled low throughout the travel range of the stage. The output will swing high at the end of travel and remain high until the mechanical limit is reached.