

Precision XY Motion Platform

FEATURES

- 320mm XY Travel
- Zero backlash, precision ground ball screws
- High resolution linear 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.



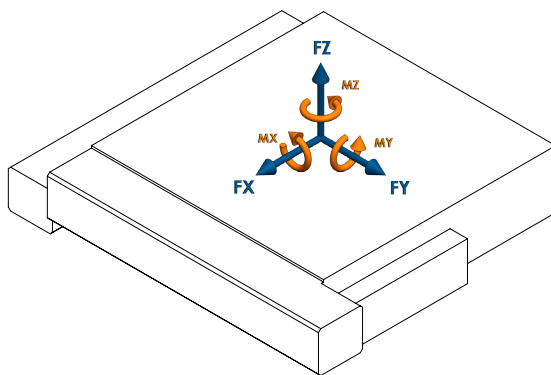
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GXY-C-320-BF-D-M-S-0-00

Motion Specifications

Product Specifications

Encoder Output	A quad B, index
Force X (N)	200
Force Y (N)	200
Force Z (N)	800
Flatness (μm)	10
Height (mm)	99
Length (mm)	590
Limit Switches	Yes
Linear Accuracy (μm)	15
Linear Encoder Resolution (μm)	0.1
Linear Repeatability (μm)	1
Linear Velocity (mm/s)	200
Moment X (N-m)	300
Moment Y (N-m)	300
Moment Z (N-m)	100
Moving Mass X (kg)	38.71
Moving Mass Y (kg)	14.51
Orthogonality (arc-sec)	10
Pitch +/- (arc-sec)	15
Screw Lead (mm)	5
Stage Mass (kg)	58.51
Straightness (μm)	10
Width (mm)	518
Yaw +/- (arc-sec)	10



LOAD DIRECTIONS

Part Number Description

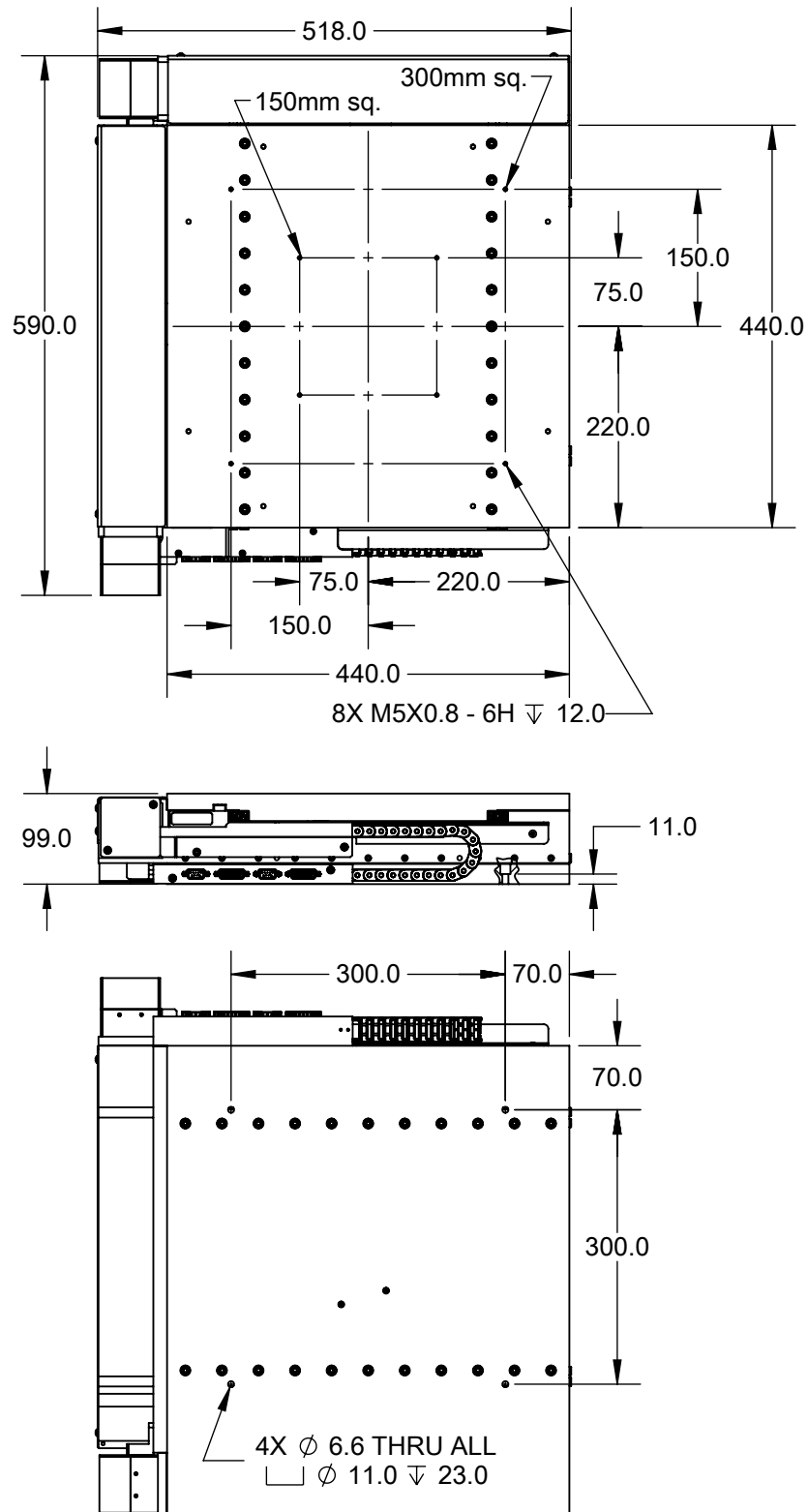
GXY	GXY Series
C	No Aperture
320	320mm Travel
BF	5mm Lead Ball Screw Drive
D	High Torque Brushless Servo Motor
M	0.1 μm Linear SS Scale
S	Standard Precision
0	No Additional Options
00	Standard Product (Call for custom)

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

Rev 2

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

Mechanical Specifications



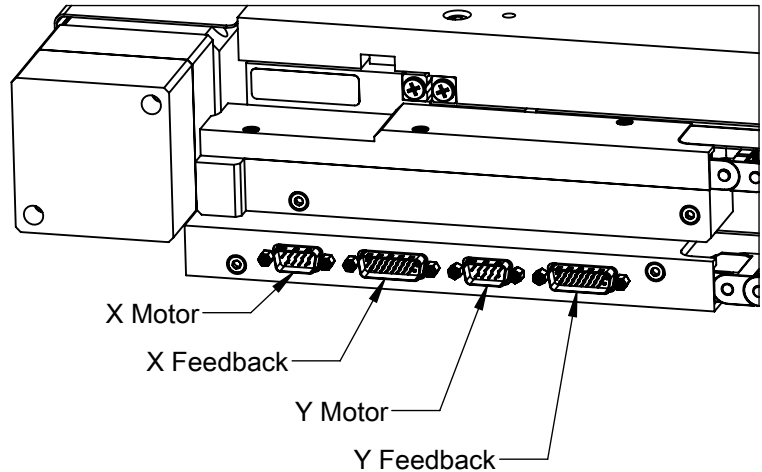
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Electrical Pinout

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	



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Electrical Specifications

Motor Specifications	
Motor Type	3 Φ 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	10000 cts/mm
Hall Switch Output	Open-Collector, No Pullup Resistor
Hall Switch max current (mA)	-20
Limit Switches	Yes
Limit Switch Output Type	Open-Collector, No Pullup Resistor
Limit Switch Output current (mA)	-20.0
Home Switch	No

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.