1040 CLASSIC ROAD | APEX, NC 27539
P: 866.906.2709 | F: 919.882.1430
www.griffinmotion.com

Precision XY Motion Platform

FEATURES

- 320mm XY Travel
- Vacuum Rated 10-7 Torr
- Zero backlash, precision ground ball screws
- High resolution linear encoder
- Brushless servo motor drive
- Crossed Roller Bearings

The VXY series stages are designed for high precision positioning applications. This ball screw driven stage is built for high duty cycles and long life and can attain high velocities for factory automation and semiconductor processing equipment. The VXY 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 VXY stage can operate in any orientation and has optional brakes for added safety. This configuration offers preparation for high vacuum.

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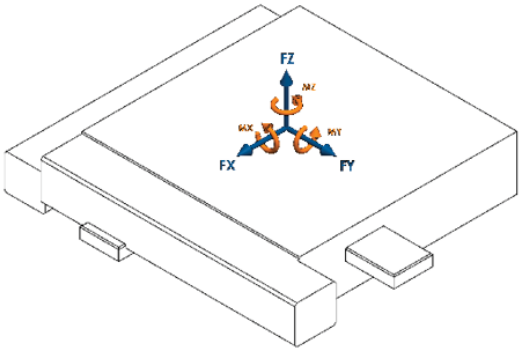
Product Specifications

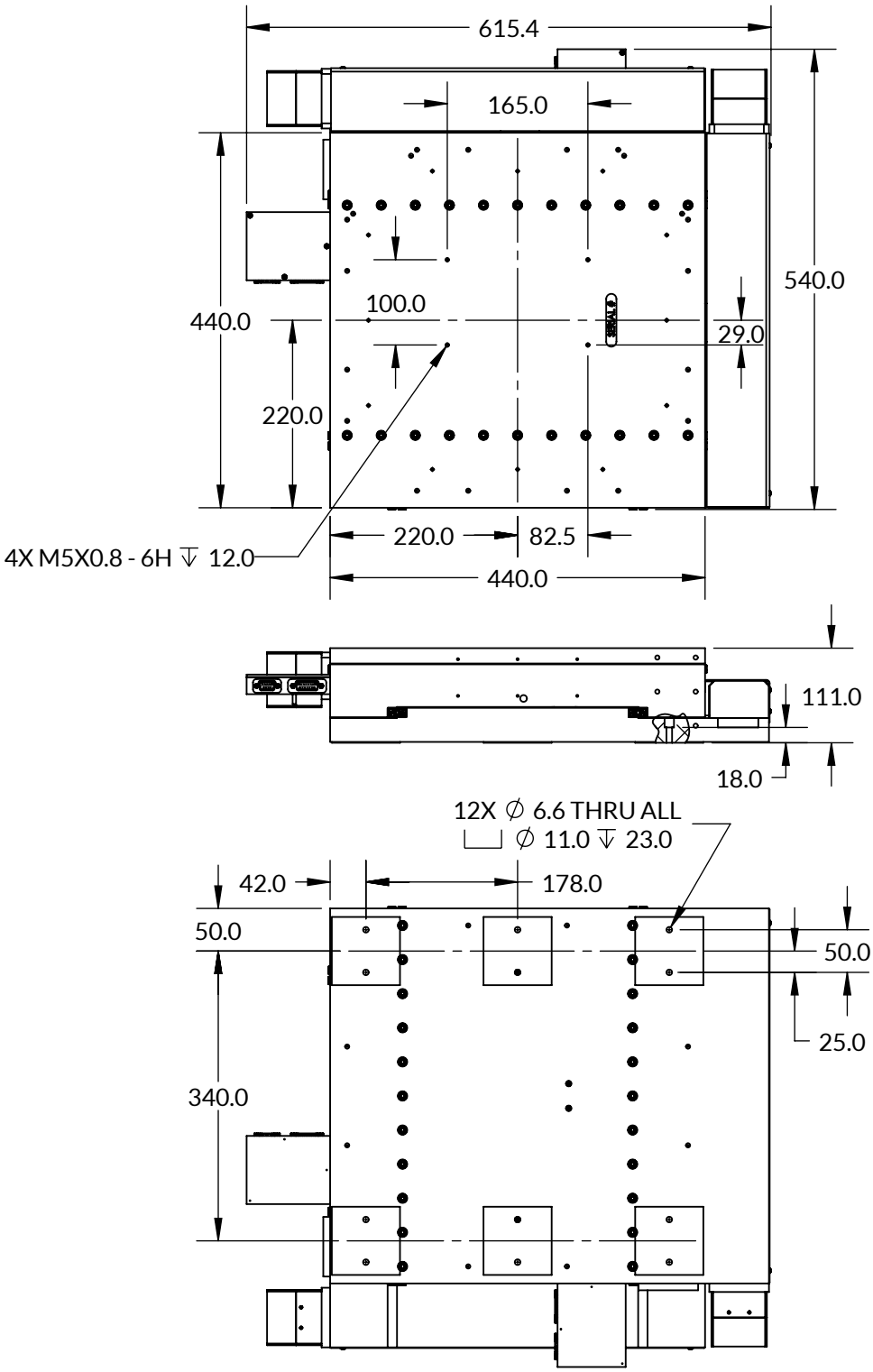
Encoder Output	1Vp-p
Force X (N)	200
Force Y (N)	200
Force Z (N)	200
Height (mm)	111
Length (mm)	538
Limit Switches	Yes
Linear Accuracy (µm)	10
Linear Encoder Resolution (µm)	4 um signal period
Linear Repeatability (µm)	.5
Linear Velocity (mm/s)	50
Moment X (N·m)	50
Moment Y (N·m)	50
Moment Z (N·m)	25
Moving Mass X (kg)	46
Moving Mass Y (kg)	13
Orthogonality (arc-sec)	10
Pitch +/- (arc-sec)	5
Screw Lead (mm)	2
Stage Mass (kg)	74
Straigtness (µm)	5
Width (mm)	614
Yaw +/- (arc-sec)	5



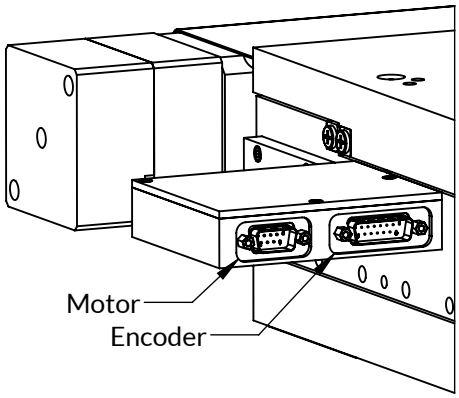
LOAD DIRECTIONS

Part Number Description

VXY	VXY Series
C	No Aperture
300	320mm Travel
BS	Ball Screw Drive
D	High Torque Brushless Servo Motor
T	Sinusoidal Linear Glass Scale
P	High Precision
B	Vacuum Preparation
00	Standar Product (Call for custom)


615.4
165.0
540.0
440.0
100.0
29.0
220.0
4X M5X0.8 - 6H ↧ 12.0
220.0
82.5
440.0
111.0
18.0
12X ∅ 6.6 THRU ALL
⌴ ∅ 11.0 ↧ 23.0
42.0
178.0
50.0
50.0
25.0
340.0

Encoder Connector (DSUB15 MALE)	
PIN	NAME
1	Calibration **
2	GND Sense
3	*
4	Index -
5	Cos -
6	Sin -
7	+5V Sense
8	+5V Supply
9	GND Supply
10	Limit -
11	Limit +
12	Index +
13	Cos +
14	Sin +
15	Sheild
* Reserved	
** Used for internal calibration (DO NOT USE)	



Motor Connector (DSUB9 MALE)	
PIN	NAME
1	+5V Hall Supply
2	Hall C
3	Hall B
4	Hall A
5	GND Hall Supply
6	Phase A
7	Phase B
8	Phase C
9	*
* Reserved	

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 Force Constant (N/A)	135.7
Peak Current (A)	10.0
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±10%
Supply Current (mA)	250
Encoder Feedback	Yes
Encoder Type	Sinusoidal
Encoder Ouput	Sin, Cos, Index; Differential Pairs, 1Vpp
Encoder Resolution	8µm Signal Period
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
Index Pulse	Yes, Center Travel

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.