

## Precision XY Motion Platform

### FEATURES

- Compact Low-Profile Design
- 150mm XY Travel
- Zero backlash, precision ground ball screws
- Optical limit switches with home
- Stepper Motor
- 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.



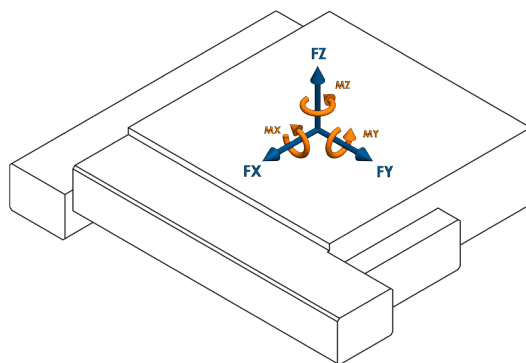
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CXY-O-150-BS-B-N-S-0-00

## Motion Specifications

## Product Specifications

|                                            |       |
|--------------------------------------------|-------|
| Force X (N)                                | 150   |
| Force Y (N)                                | 150   |
| Force Z (N)                                | 250   |
| Flatness ( $\mu\text{m}$ )                 | 7     |
| Height (mm)                                | 66    |
| Length (mm)                                | 365   |
| Limit Switches                             | Yes   |
| Linear Accuracy ( $\mu\text{m}$ )          | 25    |
| Linear Repeatability ( $\mu\text{m}$ )     | 3     |
| Linear Velocity (mm/s)                     | 25    |
| Moment X (N-m)                             | 110   |
| Moment Y (N-m)                             | 110   |
| Moment Z (N-m)                             | 75    |
| Moving Mass X (kg)                         | 9.08  |
| Moving Mass Y (kg)                         | 3.59  |
| Orthogonality (arc-sec)                    | 10    |
| Pitch +/- (arc-sec)                        | 15    |
| Screw Lead (mm)                            | 2     |
| Stage Mass (kg)                            | 13.57 |
| Stepper Motor Resolution (Whole Steps/rev) | 400   |
| Straightness ( $\mu\text{m}$ )             | 7     |
| Width (mm)                                 | 308   |
| Yaw +/- (arc-sec)                          | 7     |



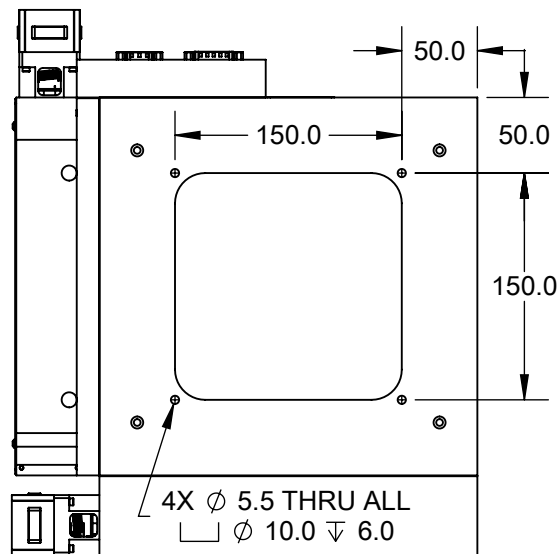
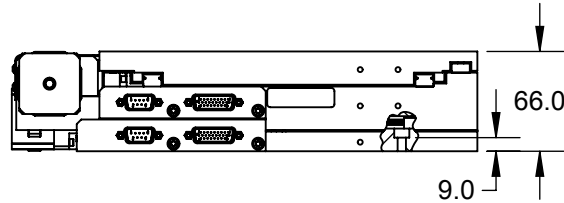
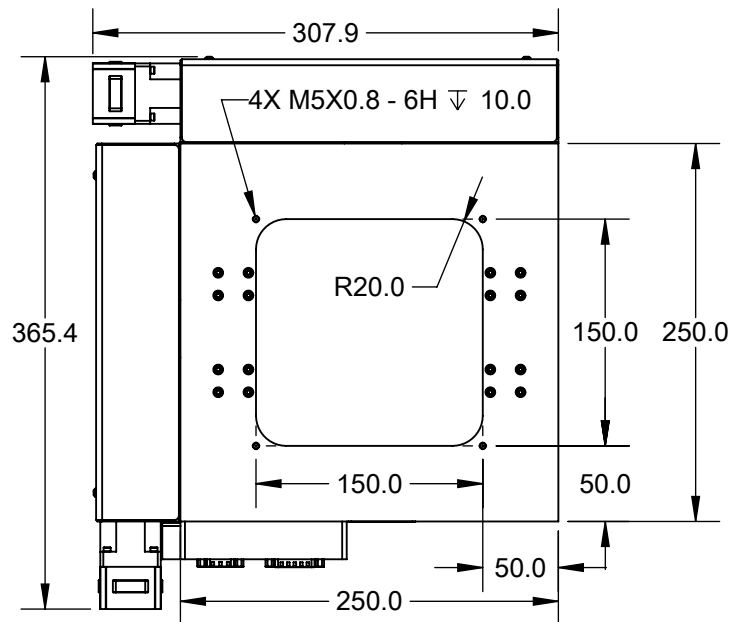
LOAD DIRECTIONS

## Part Number Description

|     |                                       |
|-----|---------------------------------------|
| CXY | CXY Series                            |
| O   | Open Aperture                         |
| 150 | 150mm Travel                          |
| BS  | Ball Screw Drive                      |
| B   | Stepper Motor                         |
| N   | Limit and Home Switch Only            |
| S   | Standard Precision                    |
| 0   | No Additional Options                 |
| 00  | Standard Product<br>(Call for custom) |

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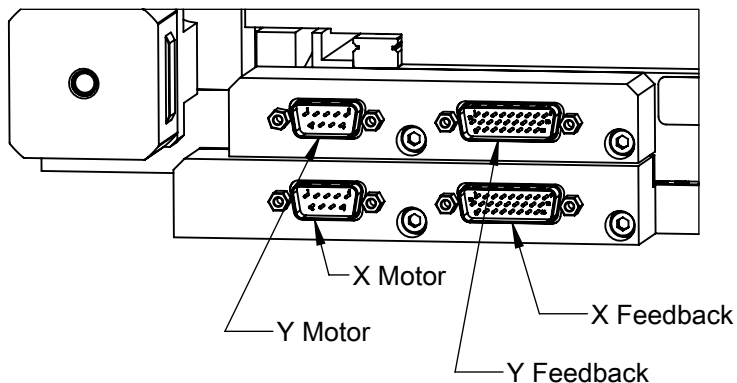
## Mechanical Specifications



CXY-O-150-BS-B-N-S-0-00

Rev 9

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



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



CXY-O-150-BS-B-N-S-0-00

## Electrical Specifications

| Motor Specifications          |                 |
|-------------------------------|-----------------|
| Motor Type                    | Bipolar Stepper |
| Current/phase (A)             | 0.8             |
| Resistance/phase ( $\Omega$ ) | 10.0            |
| Induction/phase(mH)           | 6.9             |

| Feedback Specifications          |               |
|----------------------------------|---------------|
| Supply Voltage (V)               | 5.0 $\pm$ 10% |
| Supply Current (mA)              | 250           |
| Encoder Feedback                 | No            |
| 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 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.