

## PZB25



### Features

- 25mm vertical travel
- 10kg payload capacity
- Sub-micron resolution
- Smooth, precise motion
- Low profile compact design
- Precision ballscrew drivetrain
- NEMA17 motor mount
- PLG160, PDR160 and PCL65 mounting compatible

### Overview

The Primatics PZB25 elevator stage offers an ideal solution for applications requiring precise vertical motion. The design and components ensure sub-micron resolution in a compact profile. An elevator stage is used when all motion must be delivered below the payload often found in semiconductor wafer inspection, consumer product inspection and assembly, and fiber optic alignment and assembly.

### Smart Design

The PZB25 accomplishes its vertical motion with a moving wedge design. The wedge converts horizontal movement of a precision ballscrew into pure vertical elevation. The high quality linear bearing system minimizes off-axis motion and assures high reliability and long life. The NEMA 17 motor mount enables the use of stepper or servo motors including smart motors.

### Superior Vertical Motion

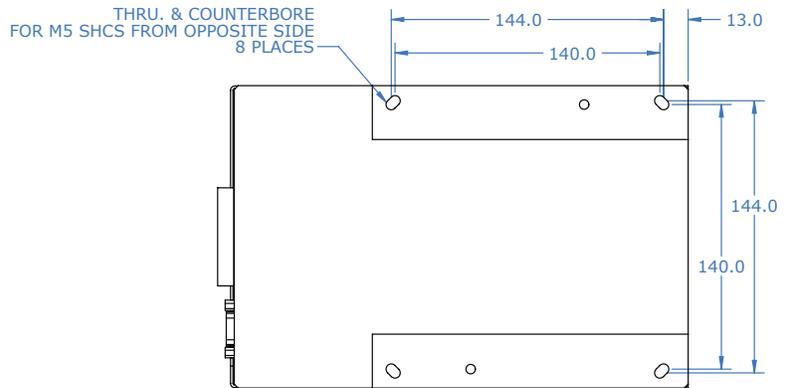
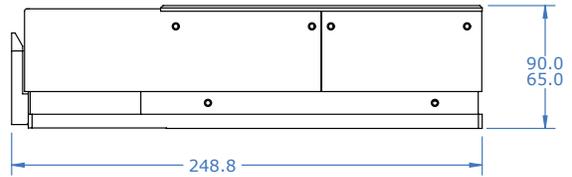
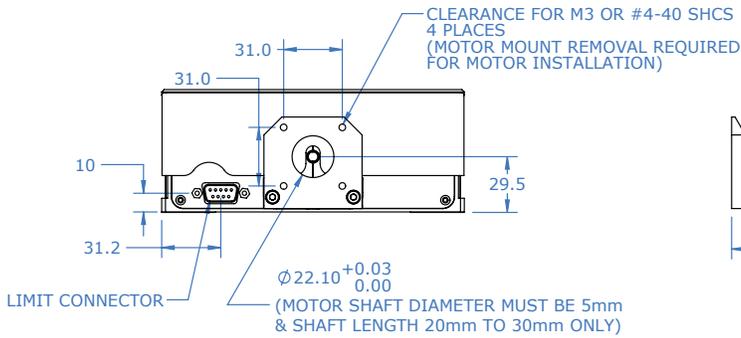
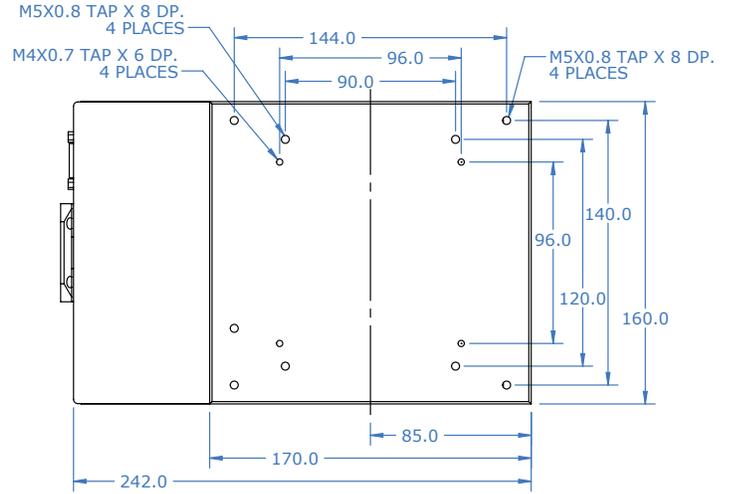
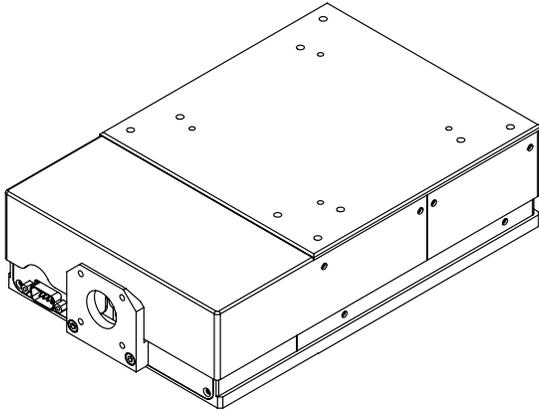
The PZB25 offers a higher performance, space-saving alternative to traditional Z-axis stages: The inclined plane approach offers superior performance through use of our reliable ballscrew drivetrain while minimizing the overall height. Since the center of the carriage is centered over the bearings, deflections from a cantilevered load are minimized.

### Standard Features

The PZB25 includes integrated limit sensors. Stepper or Servo motor options are available. The PZB25 can be directly stacked with the Primatics PLG160 and PCL65 linear stages as well as the PDR160 rotary stage. The stage tabletop is protected with a clear anodize finish.



Dimensions



ALL DIMENSIONS SUBJECT TO CHANGE W/O NOTICE

### Specifications

| Specifications                                 | Notes | PZB25  |
|--|-------|--|
| Travel (mm)                                    |       | 25   |
| Mechanical Drive System                        |       | 2mm lead ballscrew with 2.5:1 wedge                  |
| Nominal Drive Ratio                            |       | 1 ballscrew revolution = 0.8mm vertical displacement |
| Resolution ( $\mu\text{m}$ )                   |       | 0.1 (minimum 8000 steps/rev motor)                   |
| Accuracy Over Total Travel ( $\mu\text{m}$ )   | 1,2,3 | +/- 3  |
| Bi-directional Repeatability ( $\mu\text{m}$ ) | 2,3   | +/- 1  |
| Max Speed (mm/sec)                             | 3     | 20   |
| Maximum Load (kg)                              | 2     | 10   |
| Pitch (arc-sec)                                | 2     | 45   |
| Roll (arc-sec)                                 | 2     | 30   |
| Yaw (arc-sec)                                  | 2     | 30   |
| Stage Weight (kg)                              |       | 5.3  |

Notes: 1 - Using measured slope correction data; 2 - Specifications based on COG within 25mm of centerline of stage; 3 - Tested with 1250 line servo motor. All specifications subject to change without notice.

### Limit Data

| Limit Sensors              | PZB25                      |
|----------------------------|----------------------------|
| Limit Power                | 5 to 24VDC, 50mA           |
| Output - L1 and L2 options | Current sinking, 100mA max |

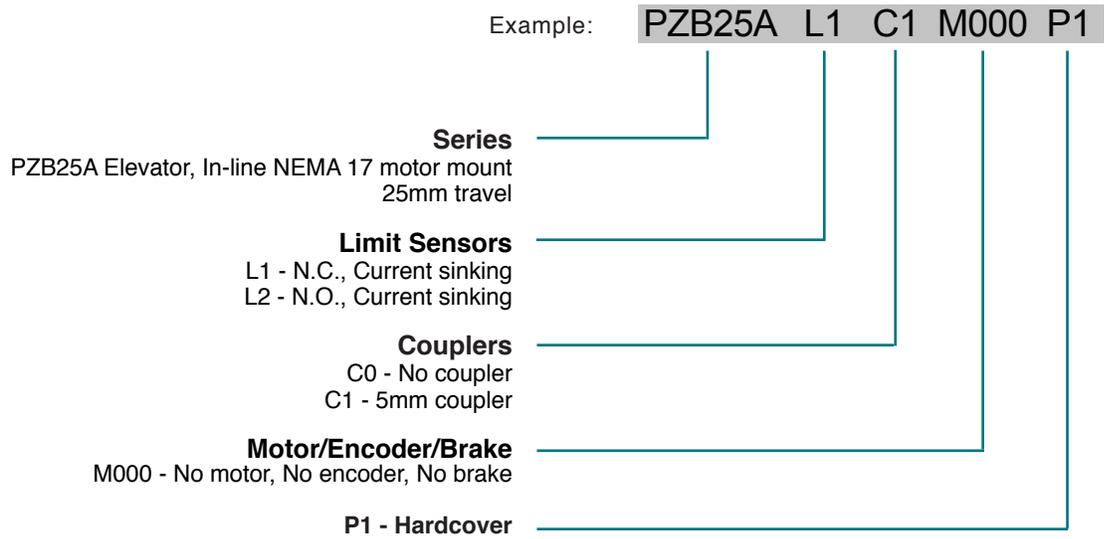
### Connector

| Limits             |              |
|--------------------|--------------|
| Connector: Dsub 9P |              |
| PIN                | Function     |
| 1                  | Limit Power  |
| 2                  | Limit Return |
| 3                  | Upper Limit  |
| 4                  | Lower Limit  |
| 5                  | Unused       |
| 6                  | Unused       |
| 7                  | Unused       |
| 8                  | Unused       |
| 9                  | Unused       |



PZB25 with step motor

## Model Configuration



Not all configurations are valid - consult factory for assistance