Precision vertical elevator stage from Optimal Engineering Systems (OES)

The AZ60-A Motorized Vertical Elevator Stage from Optimal Engineering Systems, Inc. (OES) is a low-profile and compact 193.7 mm x 95 mm x 30 to 42-mm (raised) stage.

It works for low cost, high resolution, wedge type, vertical elevator applications requiring precise vertical positioning.

The 60 mm x 95 mm (2.362 in. x 3.740 in.) drilled and tapped stage has a vertical travel of 4 mm (0.157 in.). Six crossed roller guides and a precision ground 8-mm diameter 250 μm/turn lead ball screw provides smooth, straight (straightness to better than 5 μm). More after the jump.

![Vertical Elevator Stage](image)

The stage delivers good parallelism (<20 μm to the mounting surface), and high resolutions to 1.25 μm (full step), 0.625 μm (1/2 step), and 0.125 μm (1/10 micro step), and repeatability to ±0.5 μm. Travel speeds are up to 2.5 mm/sec.

Applications for the AZ60-A elevator stage include:

- Photonic alignment, water inspection, precision vertical alignment, laser marking
- Optical positioning, testing, inspection, assembly, sampling
- Laser drilling and machining in a broad range of industrial, medical, semiconductor, and research facilities