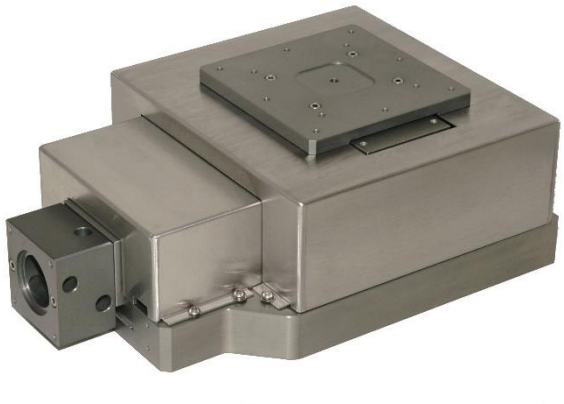
ES-200

Elevator Stage



- Aperture Z-Axis stage with nanometer performance.
- Very low hysteresis drive mechanism.
- High payload capacity to 15 kg.
- Non-back driving single plane wedge drive.
- Optional integrated rotary axis.

Elevator Stage ES-200 is designed for vertical Z-axis applications requiring extremely fine incremental up-down motions. The ES-200 offers high resolution, high repeatability and high mechanical stability. The dual column guide and the patented single plane wedge drive achieve exceptional narrow bandwidth trajectory.

Precision Positioning

ES-200 Stages designed with high density cross-roller guides for both the vertical guide and the wedge drive to assure maximum stability within the smallest footprint. Dual-column vertical X-roller guides offer high stiffness with appropriate levels of preload create a unit with very low hysteresis and considerable loading capacity. The design is fully metric and modular in style. The wedge drive mechanism is separate from the elevator mechanism permitting various combinations of wedge angle, rotary or linear motor drives, and linear/rotary encoder options. This modular adaptable design allows the elevator stage to be configured to match the application exactly.

Applications

Primary applications of the elevator stage include: vertical positioning in optical systems to achieve perfect focal plane alignment, video systems, video metrology, laser work, inspection, semiconductor testing and manufacturing processes, and similar applications where precise and repeatable vertical motion is essential. The modularity of the design permits the ES-200 Stage to be easily integrated into existing stage systems, including open frame metrology stages, or to be used as a standalone stage. The stability of the Z-axis design also permits this stage to be a carrier stage for X/Y and Theta translation and positioning systems. The stage is easily interfaced, both mechanically and electrically, with BSM60 motor face connection or other motor interfaces.

ES-200 Specifications

	ES-200-SP
Travel	10 mm or 16 mm
Drive System	Precision Ground Ball Screw
Maximum Acceleration	Payload Dependent
Ballscrew Lead	1 mm Lead
Maximum Speed	Unladen 10 mm/s
Recommended Payload Limit	15 kg
Motor	BSM 40 Motor
Resolution	50 nm
Construction	Aluminum Alloy Body, Hard Coat Anodize
Repeatability	< 1 µm

Model	ES-200-10	ES-200-16
Travel Length (Z-Axis)	10 mm	16 mm
Trajectory Control		
Accuracy		
Standard (SP)	± 1 µm F.T.	± 1 µm F.T.
High Precision (HP)	± 0.5 µm F.T.	± 0.5 µm F.T.
Straightness/Flatness		
Standard (SP)	± 1 µm F.T.	± 1 µm F.T.
High Precision (HP)	± 0.5 µm F.T.	± 0.5 µm F.T.
Integrated Rotary Stage Options	T-Max 2	
Resolution	9.0 arc sec (SP)	0.9 arc sec (HP)

- All trajectory data based on axis uniformly supported over full length on precision mounting surface with vibration isolation.
- Payload capacities are recommended values to achieve maximum lifetime in the worst-case scenario featuring maximum dynamic operation and off-center loading.
- Force, acceleration and speed performance are based on operations with NUTEC ELECTRONIC controls.
- F.T. is described by Full Travel

ES-200 Dimensions