N-510 High-Force NEXLINE® Z/Tip/Tilt Platform

Nanometer Precision for Semiconductor Industry, Wafer Alignment

Z, tip, tilt nanopositioning platform with 3 integrated drives (tripod design)

- **Self Locking at Rest, No Heat Generation**
- **Vacuum Compatible and Non-Magnetic Designs Feasible**
- **Parallel Kinematics for Enhanced Dynamics and Better Multi-Axis Accuracy**
- **NEXLINE® Piezo Walking Drive Free from Wear and Tear**
- **Load Capacity 200 N**
- **High Precision with Integrated 5 nm Incremental Sensors + Picometer Resolution Dithering Mode**

Model	Travel	Load capacity	Linear velocity	Dimensions
N-510 NEXLINE® Z, tip, tilt platform	1,3 mm vertical range 10 mrad tilt angle	200 N	0.2 mm/s	Ø 300 mm (12˝) clear aperture Ø 250 mm

High-Stiffness Nanopositioning Z Stage with NEXLINE® Piezomotors

HIGH-PRECISION VERTICAL POSITIONING, WITH CAPACITIVE FEEDBACK

N-510K

- Closed-loop resolution to 2 nm
- Self-locking, no heat generation at rest
- Hybrid piezo drive combines high stiffness, long travel and very fast response
- Travel range 400 µm coarse, 40 µm fine
- Direct metrology: One single control loop with capacitive sensors
- Piezo stepping drive w/o wear and tear and outstanding lifetime due to PICMA® piezo actuators

The N-510KHFS Z-stage combines NEXLINE® piezo stepping drives with PICMA® piezo actuators, and meets the strict requirements of inspection tasks in the semiconductor industry. Both drive technologies are controlled by a single control loop based on capacitive position feedback sensors providing accuracy in the nanometer range

	Travel ranges	Max. velocity	Bidir. Repeatability	Max. load	Dimensions
N-510KHFS hybrid focusing system	Coarse: 400 µm Fine: 40 µm	1 mm/s	50 nm (full travel)	2.5 kg	Ø external: 300 mm Height 68.5 mm

Non-Magnetic Piezo Hexapod

6-AXIS PRECISION POSITIONING SYSTEM WITH NEXLINE® PIEZO STEPPING DRIVES

N-515K

- For high-energy physics and medical applications
- Travel ranges 10 mm, 6°
- Nonmagnetic
- Load capacity to 50 kg
- Nanometer resolution
- Low Profile: only 140 mm height
- Self-locking, no heat generation at rest

This 6-axis parallel kinematics positioning system with NEXLINE® high-load actuators was designed for use in strong magnetic fields such as are encountered in the vicinity of beam control systems on accelerator rings or in MRI scanners

	Travel ranges	Max. load	Dimensions	
N-515KNPH Non-Magnetic Piezo Hexapod	X, Y, Z: 10 mm θ_x, θ_y, θ_z: 6°	50 kg	Ø Base plate, external: Ø moving platform, top: Height: Clear aperture:	380 mm 300 mm 140 mm Ø 202 mm