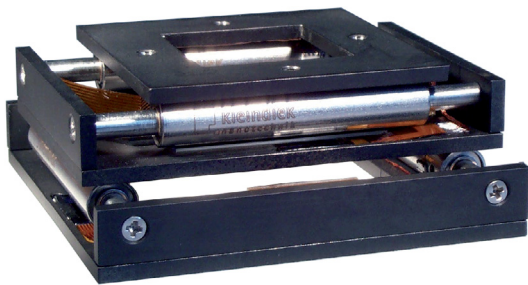


## LT6820 Substage

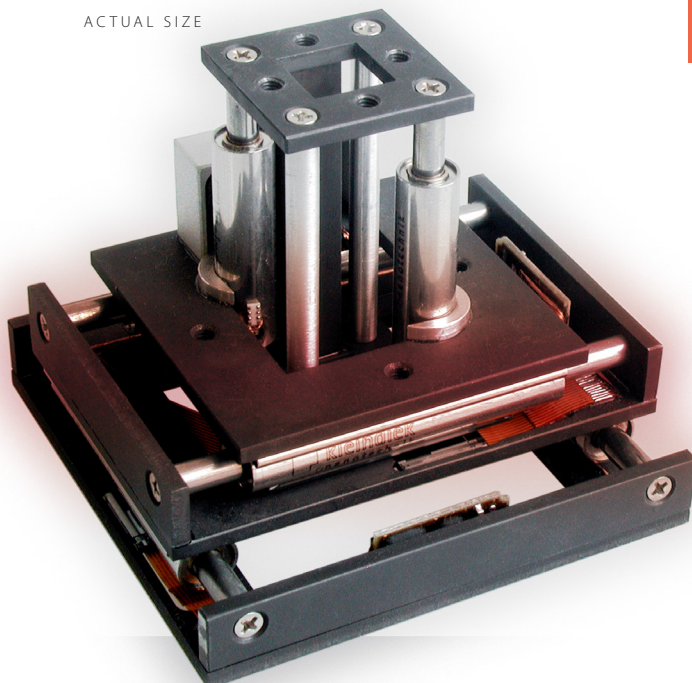
Our range of stages are suited for orthogonal positioning solutions in atmosphere, SEM/FIB, UHV and at low temperatures.

The LT6820 is primarily used in SEM/FIB to enhance the accuracy and functionality of the standard microscope stage. It is an economical and technically superior alternative to laser interferometer stages.

It is designed specifically for lithography, cell counting and failure analysis applications and is fitted with positional encoders allowing 100 nm repeatability on the X and Y axes.



ACTUAL SIZE



### APPLICATIONS

Substage for SEM & FIB

Cell counting

eBeam lithography

Tensile measurement

Particle counting

Metrology

Forensic analysis

### CUSTOMIZATION

Two or three linear axes

Positional encoder on Z axis

Ultra high vacuum compatible

Non-magnetic material

# LT6820 Substage

## More compact and more flexible

- Small and practical
- Plug-and-play system with modular design
- Interfacing solutions for most SEM/FIB instruments (including load lock)
- Fast setup and removal

## Clearer and simpler

- Result-oriented operation which leads to increased throughput
- Intuitive control interfaces, user-friendly software and API support
- User-friendly and easy to learn
- Compact, stand-alone electronics
- Pioneering cabling technology with compact vacuum feedthrough

## More robust and more stable

- Compact construction delivers higher resonance frequencies
- Excellent stability
- Virtually unsusceptible to vibrations
- Reliable operation (one year endurance test)
- Fast pre-positioning by hand
- Functions in extreme working environments

## Faster and more precise

- No backlash or reversal play
- Sub-nanometer resolution (< 0.5 nm)
- Coarse and fine displacement in one drive
- High operating velocity (up to 2 mm/sec)
- Low drift (1 nm/min)
- Smooth motion

## Technical specifications

- Length 68 mm
- Width 68 mm
- Height XY 26 mm  
Height XYZ 50 mm + 15 mm travel
- Weight XY 200 g  
Weight XYZ 270 g
- Travel XY 20 mm  
Travel Z 15 mm
- Speed up to 2 mm/s
- Resolution < 0.02 nm
- Encoder repeatability 100 nm \*
- Angular deviation (unidirectional) < 10  $\mu$ rad
- Load 500 g
- Lift 200 g
- Temperature range 273 K to 353 K  
UHV version 273 K to 393 K
- Lowest pressure  $10^{-7}$  mbar  
UHV version  $2 \times 10^{-10}$  mbar
- Substage mounting 4  $\times$  3.2 mm holes
- Sample mounting 4  $\times$  M3 holes
- Material Stainless steel

X,Y = HORIZONTAL  
Z = VERTICAL

\* Repeatability depends on the working distance from the encoder due to the angular deviation of the substage

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