



LiteScope™

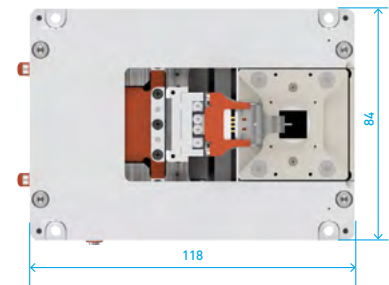
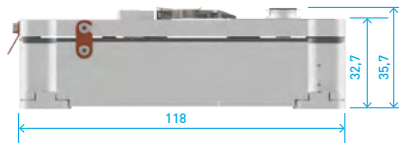
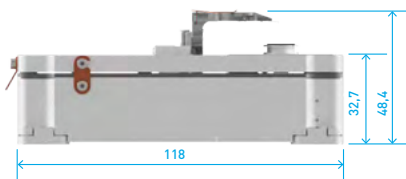
Technical Specification

Environmental

Operating temperature	+10 °C to +35 °C
Operating pressure	10 ⁻⁵ Pa to 10 ⁵ Pa
Dry environment only	

Mechanical

Overall dimensions	118 mm × 84 mm × 37,5 – 48,4 mm
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Weight	460 g
Maximal scanned sample area	21 mm × 11 mm × 8 mm
Coarse approach	True orthogonal positioning
	Calibrated, pre-stressed linear ball bearings
	Open Loop and Closed Loop option
	Self-locking
	Speed >2 mm/s
Scanning unit	X travel range 21 mm, Y travel range 12 mm
	Z travel range 12 mm
	Open Loop / Closed Loop
	X axis range 110 μm, Y axis range 110 μm, Z axis range 20 μm (Open Loop)
	X axis range 80 μm, Y axis range 80 μm, Z axis range 15 μm (Closed Loop)
Resolution	X axis 0.22 nm, Y axis 0.22 nm, Z axis 0.04 nm (Open Loop)
	X axis 2 nm, Y axis 2 nm, Z axis 0.4 nm (Closed Loop)
	Resonant frequency (XYZ) – 550 Hz x 550 Hz x 4000 Hz
	Based on multi-layer, low-voltage piezoelectric transducer
	Solid state flexure guide system

Fast and easy probe exchange

Universal acceptor for different probes

Five standard probe holders



Sample holder for standard SEM stubs
(Ø12.7 mm with Ø3.2 mm and up to 6 mm long pin)

Two additional positions for SEM/FIB imaging/machining
(not to be measured by AFM)

Operation and control system

Modes of operation

Topography and surface roughness, Energy dissipation (tapping mode), FMM (contact mode), F-z curves, nanoindentation, C-AFM, C-CPEM, KPFM, PFM, I-V spectroscopy, STM, MFM

Probes

Akiyama probe, Tuning-fork based probes, Piezoresistive probes, NenoProbes, etc.

Input channels could be used in feedback-loop

Probe signal output / monitor

External probe excitation

All necessary connections for using external PLL

Ethernet connection to the control PC

110 VAC / 230 VAC operation, 200 W

Software

Web based user interface

Easy for new users, flexible for experts

User accounts

Every user has an account

Accounts individually configurable – layout, parameters, complexity,...

Remote access to the user data, download of data from control PC to the local workstation

Remote experiment control via eg. tablet, smartphone

Integrated data post-processing, analysis, export, etc.



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