

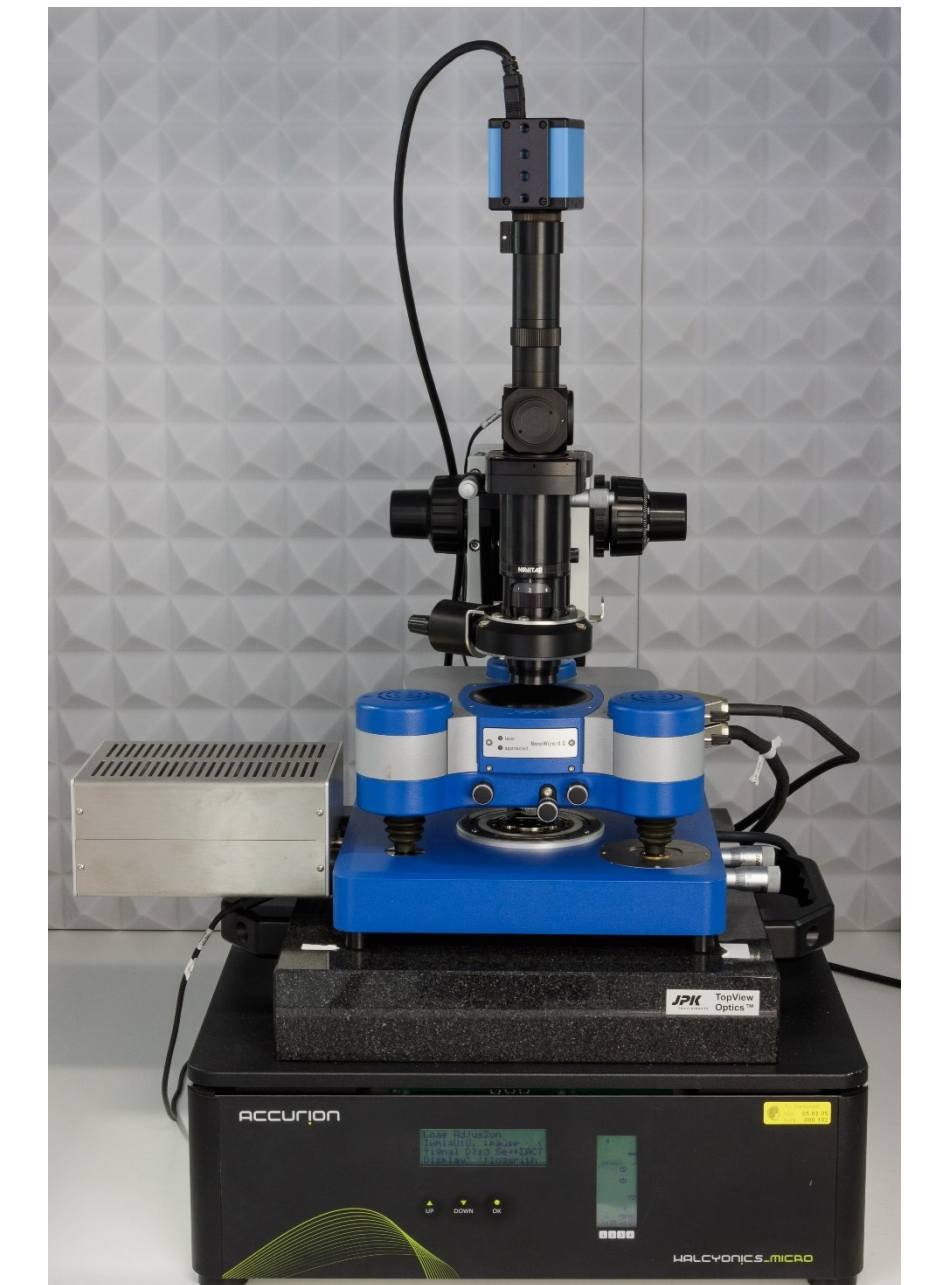
Atomic force microscopes (AFM)

Instrument Specification and Application



TECHNISCHE
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DARMSTADT

Soft Matter at Interfaces, AG von Klitzing, Institut für Festkörperphysik



	Cypher	MFP 3D	JPK
scan size (xy)	30x30 μm^2	90x90 μm^2	100x100 μm^2
piezo range (z)	5 μm	12 μm	15 μm
noise (z)	< 50 pm	< 60 pm	< 150 pm
max. sample height	7 mm	50 mm	15 mm
max. sample size	12x12 mm ² (ES) 30x30 mm ² (S)	80x80 mm ²	22x22 mm ²
optics	top view	top and bottom view	top view
cantilever excitation	acoustic photothermal (blueDrive)	acoustic magnetic (iDrive)	acoustic
scanning (air)	++	+	+
scanning (liquid)	++	0	+
force spectroscopy	+	++ (sphere-sphere geometry)	+
limitation	sample size	performance in liquid	accessories
temperature control	0 – 120 °C (cooler heater, ES)	-30 – 120 °C (cooler heater)	10 – 80 °C (included stage)
further accessories	Electrochemistry cell (ES) Gas/liquid perfusion (ES) Humidity sensing (ES) Droplet holder (S)	Fluoresc. microscope (Bio) VFM, magnetic field (SA) Humidity sensing Bioheater, Polymer Heater	