attoCFM III

1009051

Technical Specifications

General Specifications	
type of instrument	fiber optics based confocal microscope for transmission measurements
sensor head specifics	2 independent fiber-coupled low temperature compatible aspheric objectives for ultimate stability
Confocal Unit	
configuration	one fiber-coupled LT objective for excitation, one fiber-coupled LT objective for detection
key benefits	ultra-stable longterm transmission measurements & independent wavelengths for excitation & detection
pinhole configuration	pinhole provided by single mode fiber core
pinhole size	dependent on fibers, typically 3 .. 9 µm mode field diameter
compatible LT-objective	LT-IWDO, LT-LWDO (see accessory section for more information)
Illumination	
excitation wavelength range	limited to wavelength range of single mode fiber, default 650 nm (others on request)
illumination port specification	FC/ APC-connector for single mode fiber
Detection	
detection mode	e.g. transmission, reflection, luminescence, fluorescence
detection wavelength range	limited to wavelength range of single mode fiber, default: 650 nm (others on request)
detection port specification	FC/ APC-connector for single mode fiber
Sample Positioning	
total travel range	independent degrees of freedom for both LT-objectives 5 x 5 x 5 mm^3 (open loop) with fixed sample
step size	0.05..3 µm @ 300 K, 10..500 nm @ 4 K
fine scan range	50 x 50 $µm^2$ @ 300 K, 30 x 30 $µm^2$ @ 4 K (open loop)
sample holder	Ti plate with aperture of 8 mm in diameter with integrated heater and calibrated temperature sensor
Suitable Operating Conditions	
temperature range	1.5 K..300 K (dependent on cryostat); mK compatible setup available on request
magnetic field range	0..15 T+ (dependent on magnet)
operating pressure	designed for He exchange gas (vacuum compatible version down to 1E-6 mbar on request)
Suitable Cooling Systems	
titanium housing diameter	47 mm
bore size requirement	designed for a 2" (50.8 mm) cryostat/magnet bore
compatible cryostats	attoDRY1000/1100/2100, attoLIQUID1000/2000 (attoLIQUID3000/5000 on request)
Compatibility with Electronics	
scan controller and software	ASC500 basic (for detailed specifications please see attoCONTROL section)
laser	LDM600 laser/detector module (for detailed specifications please see attoCONTROL section)
Options and Upgrades	
closed loop upgrade for coarse positioners	incl. for both objectives