

attoRAMAN xs

Art.Nr.: 1008037

Technical Specifications

Confocal Unit	
pinhole configuration	two pinholes (fiber apertures), different illumination and collection wavelength possible
pinhole size	dependent on fibers, typically 3 .. 9 μm mode field diameter
compatible LT-objective	LT-AP0/VIS, LT-AP0/VISIR, LT-AP0/NIR(see accessory section for more information)
inspection unit	sample imaging with large field of view: $\sim 54 \mu\text{m}$ (attoDRY), $\sim 40 \mu\text{m}$ (attoLIQUID)
Illumination	
excitation wavelength range	400 .. 1000 nm, default 532 nm (others on request)
illumination port specification	FC/ APC-connector for single mode fibers or free-beam configuration
light source	dedicated Raman laser, single mode fiber coupled
light power on the sample	typically 1 pW..10mW
optical filter	laser line filter
Detection	
detection mode	2D Raman images, time and single point Raman spectra
spectrometer	ultra-high transmission spectrometer, $f=300 \text{ mm}$
total optical transmission	greater 60% at 532 nm
filters	dichroic mirror & edge filter for signal detection as close as 90 cm-1 to the laser line
gratings	typ. 600/mm and 1800/mm grating
spectral resolution	2 cm-1 at 1800/mm grating
CCD camera	back-illuminated CCD, peltier-cooled to $-60 \text{ }^\circ\text{C}$ at $20 \text{ }^\circ\text{C}$ room temperature, 1024x127 pixels, 90% quant
Sample Positioning	
total travel range	$3 \times 3 \times 2.5 \text{ mm}^3$ (open loop)
step size	$0.05..3 \mu\text{m}$ @ 300 K, $10..500 \text{ nm}$ @ 4 K
sample holder	Ti plate 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..14 T (dependent on magnet)(16 T compatible version available on request)
operating pressure	designed for He exchange gas
Suitable Cooling Systems	
titanium housing diameter	23.9 mm
bore size requirement	designed for 1" (25.4 mm) cryostat/magnet bore size (e.g. PPMS)
compatible cryostats	see PPMS compatibility chart

