attoDRY1000

1006163

Technical Specifications

Size and Dimensions	
optional electronics rack (width x depth x height)	640 x 640 x 1050 mm³
cryostat (width x depth x height)	1120 x 640 x 1050 mm³ (depending on magnet choice)
required min. ceiling height	approx. 2.60 m (depending on magnet)
General Specifications	
technology	ultra-low vibration, pulse-tube based closed-cycle cryostat, designed for scanning probe microscopy applications
sample environment	He exchange gas, 4-5 different pressure ranges depending on desired sample temperature, requires manual control
sample space	49.7 mm diameter probe bore fitting all attocube inserts
sample exchange	top loading system for quick access, Manual gas handling
vibration & acoustic noise damping system	proprietary low vibration design
Options and Upgrades	
superconducting magnet	solenoids: 7, 9, 12 T, vector magnets: e.g.: 8/2 T, 9/3 T, 9/1/1 T, ...
bipolar magnet power supply	included (with optional magnet)
temperature controller	2 channel (magnet + sample temperature)
pumping kit	turbomolecular pump with suitable backing pump for sample space preparation
Compatibility	
confocal microscopes	attoCFM I, attoCFM II, attoCFM III, attoCFM IV
confocal Raman microscopes	attoRAMAN
atomic force microscopes	attoAFM I , AFM upgrade options (MFM, KPFM, PFM, conductive-tip AFM), attoAFM III (on request)
scanning Hall probe microscopes	attoSHPM
Performance Data	
temperature control	Manual, requires optional temperature controller
temperature range	4 .. 300 K (optional temp. controller required)
base temperature	4 K (guaranteed), 3.2 (expected)
magnetic field control	manual control via magnet power supply, via remote control
Max. magnetic field	100 % (e.g. 9 T) @ 4 K sample temperature, 67% (e.g. 6 T out of 9 T) @300 K sample temperature, 100 % guaranteed for temperature between 4 and 10 K
cool down time of sample	approx. 2 h (depending on insert)
cool down time of system (system incl. 9 T magnet)	approx. 10 .. 15 h (unattended)
cool down time of system (system without magnet)	approx. 5 .. 10 h (unattended)
temperature stability	< ± 10 mK expected (4 .. 50 K), < ± 25 mK guaranteed (4 .. 50 K)
cooling power at sample location	> 5 mW @ 5 K
Closed-Cycle Cooler	
field cooling possible	no
nominal cooling power	> 900 mW @ 4.2 K
power consumption	max. 9.0 kW, 7.2 kW steady state
cooling of compressor	water cooling (requires local infrastructure)