

attoDRY2100

cryogen free 1.5 K cryostat with optional superconducting magnet

Technical Specifications

General Specifications	
technology	ultra-low vibration, pulse-tube based closed-cycle cryostat designed for scanning probe microscopy applications
sample environment	He exchange gas
sample space	49.7 mm diameter probe bore fitting all attocube inserts
sample exchange	top loading system for quick access
usability	fully automated temperature and magnetic field control via integrated touchscreen, USB interface for remote control
vibration & acoustic noise damping system	proprietary low vibration design
Performance Data	
temperature range	1.5 .. 300 K (automated control)
base temperature	1.5 K (expected) 1.8 K (guaranteed)
cool down time of sample	approx. 5-7 hours (depending on insert)
cool down time of system (without magnet)	approx. 5 .. 10 h (unattended)
cool down time of system (incl. 9 T magnet)	approx. 10 .. 15 h (unattended)
temperature stability	< ± 5 mK expected (1.5 .. 10 K) < ± 10 mK guaranteed (1.5 .. 10 K)
cooling power at sample location	> 2 mW @ 2 K
vibration level	RMS z-noise (measured with attoAFM I): < 0.10 nm (expected) < 0.15 nm (guaranteed) (contact mode @ 4 K, 5 ms pixel integration time)

Closed-cycle cooler	
nominal cooling power (4.2 K)	> 900 mW
power consumption	max. 9.0 kW, 7.2 kW steady state
cooling of compressor	water cooling (requires local infrastructure)
Dimensions	
cryostat (width x depth x height)	1120 x 640 x 1050 mm ³ (depending on magnet choice)
required min. ceiling height	approx. 2.60 m (depending on magnet)
optional electronics rack (width x depth x height)	640 x 640 x 1050 mm ³
Options	
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	included
pumping kit	turbomolecular pump with suitable backing pump for sample space preparation
Compatible Equipment	
confocal microscopes	attoCFM I, attoCFM II, attoCFM III
confocal Raman microscopes	attoRAMAN
atomic/magnetic force microscopes	attoAFM I, attoMFM I, attoAFM III (on request)
scanning Hall probe microscopes	attoSHPM
transport measurements	atto3DR

