attoDRY1100 closed-cycle cryostat

1007003

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, 4 pressure ranges, fully automated gas handling
sample space	Ø 49 mm for components with circular segments (e.g. cage plates), Ø 48 mm for cylindrical components
sample exchange	top loading system for quick access, automatic gas handling
usability	fully automated temp. and mag. field control via integrated touchscreen, web interface or LAN API
vibration & acoustic noise damping system	proprietary low vibration design
Performance Data	
temperature control	fully automated, including all pumps and valves, touchscreen & remote control via PC
temperature range	4 .. 300 K
base temperature	4 K (guaranteed), 3.2 (expected)
temperature stability	< ± 10 mK expected (4 .. 50 K), < ± 25 mK guaranteed (4 .. 50 K)
magnetic field control	via touchscreen, 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, 67% guaranteed, for temperature between 10 and 300
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)
cooling power at sample location	> 75 mW @ 10 K
Compressor	
power consumption	max. 9.0 kW, 7.2 kW steady state
cooling of compressor	water cooling (requires local infrastructure)
Size and Dimensions	
cryostat (width x depth x height)	1120 x 640 x 1050 mm^3
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 and Upgrades	
superconducting magnet	9 T (other magnets on request)
bipolar magnet power supply	included (with optional magnet)
temperature controller	included
pumping kit	included
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
transport measurements	atto3DR

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