attoLIQUID3000

1008512

Technical Specifications

General Specifications	
technology	liquid helium bath cryostat with 3He insert, vacuum isolation, vapor shielded, LN2 shielded optional
liquid helium dewar	50 l capacity, liquid nitrogen shield (capacity 45l)
sample environment	cryogenic vacuum, sample cooled via braids
sample space	2" diameter probe bore fitting all attocube inserts
vibration & acoustic noise damping system	dewar isolated and suspended in attoDAMP cabinet
Performance Data	
base temperature	approx. 270 mK (1 K pot ON, no load), approx. 350 mK (1 K pot OFF, incl. microscope).
temperature stability	± 3 mK for T < 1.2 K
estimated liquid helium static loss rate	< 0.35 l/h (incl. microscope and wiring)
cool down time of sample	approx. 3 h
cool down time of system (system incl. 9 T magnet)	approx. 6 .. 24 h
cool down time of system (system without magnet)	approx. 6 .. 24 h
cooling power at sample location	approx. 150 µW @ 350 mK for 12.5 hours(1 K pot ON, no load)
^{3}He regeneration time	typ. 30 min
additional heat load when scanning	approx. 10-15 µW per µm/s scan speed
thermometry	control thermometer on charcoal sorption pump, thermometer on 1 K pot with standard calibration, RuO2 thermometer on ^{3}He pot
Size and Dimensions	
cryostat (width x depth x height)	800 x 800 x 1800 mm^3 (including attoDAMP; depending on magnet choice)
required min. ceiling height	approx. 3.40 m plus crane (depending on magnet)
optional electronics rack (width x depth x height)	640 x 640 x 1350 mm^3
Options and Upgrades	
superconducting magnet	solenoids: 7 T, 9 T, 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	1 K pot pumping kit included
helium transfer line	included
helium lever meter	included
Compatibility	
confocal microscopes	attoCFM II, attoCFM III
atomic force microscopes	attoAFM I , AFM upgrade options (MFM, KPFM, PFM, conductive-tip AFM), attoAFM III, attoAFM/STM
scanning Hall probe microscopes	attoSHPM
combined atomic and confocal microscope	attoAFM/CFM (on request)
transport measurements	atto3DR/mK

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