

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).
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
^3He regeneration time	typ. 30 min
temperature stability	± 3 mK for $T < 1.2$ K
additional heat load when scanning	approx. 10-15 μW per $\mu\text{m/s}$ scan speed
thermometry	control thermometer on charcoal sorption pump, thermometer on 1 K pot with standard calibration, RuO ₂ thermometer on ^3He 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

