# attoCFM II

1008167

## Technical Specifications

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| General Specifications | |
| type of instrument | fiber optics based confocal microscope for maximum stability |
| sensor head specifics | fiber-coupled low temperature compatible aspheric objectives for ultimate stability |
| Confocal Unit | |
| configuration | 50/50 fiber coupler integrated into laser/detector module LDM600 (see SPM and electronics section) |
| key benefits | ultimate longterm stability & ease-of-use |
| pinhole configuration | pinhole provided by single mode fiber core |
| pinhole size | dependent on fibers, typically 3 .. 9 µm mode field diameter |
| compatible LT-objective | LT-IWDO, LT-LWDO (see accessory section for more information) |
| Illumination | |
| excitation wavelength range | limited to wavelength range of single mode fiber, default 650 nm (others on request) |
| Detection | |
| detection mode | e.g. reflection, luminescence, fluorescence |
| detection wavelength range | limited to wavelength range of single mode fiber, default: 650 nm (others on request) |
| Sample Positioning | |
| total travel range | 5 x 5 x 4.8 $mm^3$ (open loop) |
| step size | 0.05 .. 3 µm @ 300 K, 10 .. 500 nm @ 4 K |
| fine scan range | 50 x 50 $µm^2$ @ 300 K, 30 x 30 $µm^2$ @ 4 K (optional, open loop) |
| sample holder | ASH/QE/0 quick exchange sample holder and integrated heater with calibrated temperature sensor |
| Suitable Operating Conditions | |
| temperature range | 1.5 K..300 K (dependent on cryostat); mK compatible setup available on request |
| magnetic field range | 0..15 T+ (dependent on magnet) |
| operating pressure | designed for He exchange gas (vacuum compatible version down to 1E-6 mbar on request) |
| Suitable Cooling Systems | |
| titanium housing diameter | 48 mm |
| bore size requirement | designed for a 2" (50.8 mm) cryostat/magnet bore |
| compatible cryostats | attoDRY1000/2100 |
| Compatibility with Electronics | |
| scan controller and software | ASC500 basic (optional; for detailed specifications please see attoCONTROL section) |
| laser | LDM600 laser/detector module |
| Options and Upgrades | |
| closed loop scanning & global sample coordinates | interferometric encoders for scan linearization and closed loop sample navigation |
| ultra-large scan range upgrade | 80 x 80 $µm^2$ @ 300 K, 125 x 125 $µm^2$ @ 4 K |
| sample holder upgrade | ASH/QE/4CX quick-exchange sample holder (8 electrical contacts, integrated heater & T-sensor) |
| closed loop upgrade for coarse positioners | resistive encoder, range 5 mm, sensor resolution approx. 200 nm, repeatability 1-2 µm |

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