



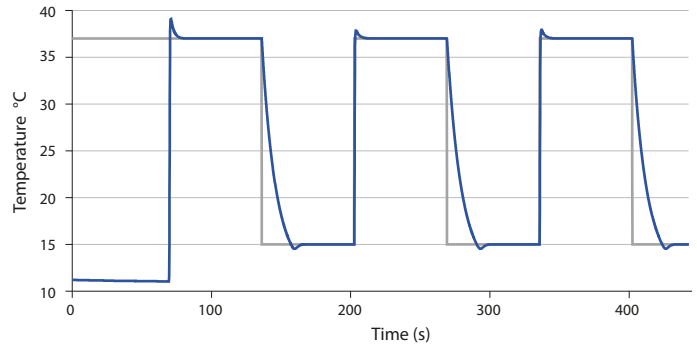
# AIROBOX

ATMOSPHERIC CONTROL BOX

Control your local sample environment with the highest precision. The AIROBOX covers temperatures between 10°C and 100°C while allowing precise monitoring of humidity, carbon dioxide and oxygen levels. Tailored for live cell imaging, single molecule studies and DNA science.

# AIROBOX

Controlling the atmosphere and temperature of your sample has never been this easy and precise. State of the art sensors and control electronics ensure the continuous monitoring of temperature, humidity, carbon dioxide and oxygen values. AIROBOX allows the researcher to work below (10°C) as well as above (45°C) room temperature and can be mounted on any inverted or upright microscope. The sample chamber is designed to host multi-well plates or microscope slides as well as a VAHEAT or QUSCITE system.



Sample temperature controlled in the AIROBOX via a VAHEAT system. The blue line represents the sample temperature while the grey line represents the setpoint. The AIROBOX can also stabilize the sample temperature independently of a VAHEAT system.

## Key Features



Temperature range 10°C – 100°C (with VAHEAT)



Compatible with all objectives



Well-defined and controlled atmospheric conditions (CO<sub>2</sub>, O<sub>2</sub>, H<sub>2</sub>O)



Full remote control and readout

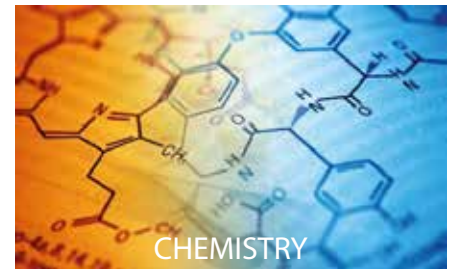
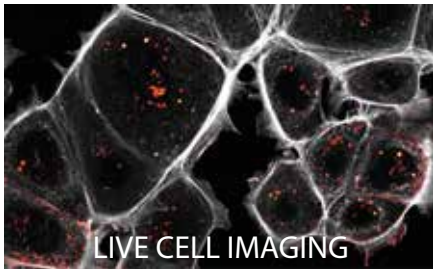


Upgradable with VAHEAT and QuScite



Fast to setup and compatible with most microscopes

## Applications



- ✓ Long term cell imaging experiments
- ✓ Temperature sensitive neurons (expressing TRP channels)
- ✓ Embryology and ART/IVF research
- ✓ Heat and cold shock experiments with cells or whole plants, animals
- ✓ Imaging organisms living at lower temp. (C.elegans, Arabidopsis, Nematostella, Platynereis...)

- ✓ Protein liquid-liquid phase separation
- ✓ Lipid biophysics, membrane phase separation, viscosity changes
- ✓ Protein activity assays
- ✓ Cytoskeleton experiments (depolymerization)
- ✓ Protein dynamics and aggregation experiments

- ✓ Viscosity measurements
- ✓ Colloids including DNA-coated colloids
- ✓ Origin of life research
- ✓ Calibration of temperature sensing nanoparticles
- ✓ Microswimmer and other active matter experiments

## Functions

The AIROBOX is a stage top incubator, which allows the control of sample temperature between 10°C and 45°C as a standalone unit and up to 100°C in combination with VAHEAT. Besides temperature, the carbon dioxide and humidity levels inside the sample chamber can be actively controlled. The system is optimized for live cell imaging experiments and single molecule studies by preventing drifts, vibrations or any other degradation in imaging quality, even in super resolution microscopy applications. Full remote control and readout of the sensors allow simple automation of your experimental workflows and precise tracking of the physical parameters. Its compact design and simple use renders the AIROBOX to be the ideal solution for studying temperature-sensitive dynamics.