



HYPOXYLAB™

An incubator and workstation for cell culture under physiological oxygen, in a considered bench-top form-factor

- Maintains physiological oxygen, CO₂, humidity, and temperature
- Regulated by oxygen partial pressure (pO₂) for true 'physoxia'
- Compact form-factor / Rapid equilibration / Economical gas consumption
- Ergonomic design / Simple to operate and maintain
- OxyLite™ ready / Digital microscope ready
- Intuitive touch-screen operation

Rationale

Standard incubators expose cells to oxygen that is between 2 and 40-fold above that encountered physiologically, with potentially unwanted biochemical and metabolic side-effects. To reproduce the in vivo state, cells and tissues in culture must be maintained at below atmospheric oxygen, i.e. under controlled conditions of hypoxia ('physoxia').



Authentic physoxia

HypoxyLab regulates its oxygen environment using the partial pressure of oxygen (in mmHg or kPa), a scientifically rigorous approach which eliminates variability due to atmospheric pressure fluctuations and laboratory altitude. HypoxyLab thereby sets the benchmark for the most faithfully accurate hypoxia workstation available.

OxyLite ready

A dedicated through-gland in the chamber cover supports our gold standard OxyLite oxygen sensors. These provide highly accurate oxygen measurements directly from within cell cultures or culture media (OxyLite monitor required).



Live cell imaging

We have teamed with CytoSMART™ to offer the Lux 2, a highly compact USB microscope that can be deployed within the HypoxyLab to provide live and time-lapse cell imaging.



Performance

A considered design and digital gas flow controllers come together to allow HypoxyLab to respond rapidly to set-point changes, while minimizing gas consumption. A fully humidified, temperature and CO₂ controlled hypoxia environment is achieved in less than 30 minutes from switch-on.

Contamination control

A replaceable, built-in HEPA filter continually scrubs the internal chamber volume, minimizing the risk of contamination.

Simplicity

A simple letter box hatch permits quick and convenient transfer of plates, media and accessories without the need for a dedicated air lock. Sensors automatically detect operation of the hatch, responding to maintain steady-state conditions, even under extreme hypoxia.



Touchscreen control

A touchscreen provides convenient control over all environmental parameters, as well as an 8-step programmable oxygen profile, whilst displaying real-time values for oxygen, CO₂, temperature and humidity in digital and graphical trace formats.

Data logging

All environmental parameters are continuously recorded to internal memory and can be exported to a USB flash drive at any time. Data files can be analyzed and played back using the free LabChart® Reader by ADInstruments.

Other design features

Relaxed operation via a simple cuff and sleeve system. Angled vision panel and adjustable LED illumination for excellent visibility. Adjustable internal shelf units for sample storage, including Falcon® tubes. Removable, lightweight cover for pre-loading of large consumables and routine cleaning or disinfection.