

# Hypoxia Chamber

The ECIS Environmental Control Cabinet allows researchers to monitor cell behavior and conduct ECIS experiments in a controlled gas environment.

The cabinet will accept either the 16 or 96 well ECIS Station and fits within a standard tissue culture incubator\* that is used to regulate the cabinet's temperature. Optional gas sensors within the cabinet are used to measure and regulate the concentration of oxygen and/or carbon dioxide within the cabinet. Pull-out shelves provide easy access to the array holder.

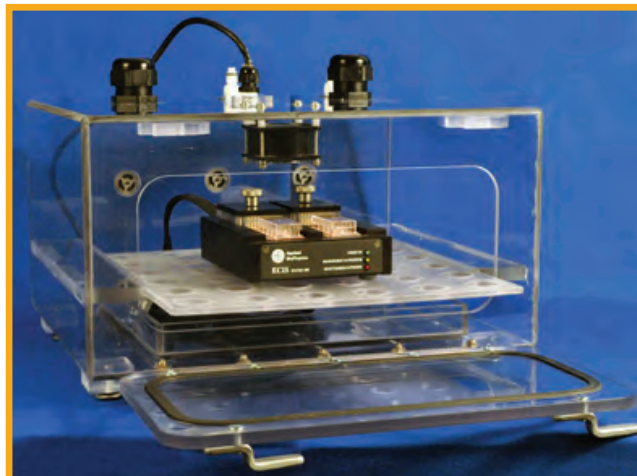
Cabinet size: 8.25" H x 16" W x 14" D

Overall footprint: 13" H x 16" W x 15" D

\* Please note: the cabinet will not fit in the subcompact incubators offered by Applied BioPhysics.

The ECIS Environmental Control Cabinet includes:

- fitting(s) to connect gas source(s) to cabinet
- pressure relief valves
- two sensor ports
- port for ECIS Station cable
- circulation fan
- gas inlet
- pull-out sliding shelf
- humidification tray



Shown with 16W Station (not included)

## ECIS ECC Oxygen Controller



The oxygen controller has two ports, one for oxygen and the other for nitrogen/air (or a mixture of carbon dioxide and nitrogen/air). The system is designed to automatically maintain hypoxic or hyperoxic conditions in the cabinet with oxygen concentration from 0% to 60% (monitors up to 100%).

**Details:** An oxygen sensor placed in the cabinet wall provides optimum control. As gases are required in the cabinet box, they are introduced through a unique gas tube shower system which, along with the internal fan, provides the circulation required for uniform gas distribution as well as rapid response of the controller. The sensor does not require changing solutions or membranes and in addition: is not poisoned by hydrogen sulfide, chlorine or sulfur dioxide; works well in the presence of carbon dioxide; is not compromised by high humidity.

**Oxygen controller specifications:** Measurement /control range = 0-100%/0-60% O<sub>2</sub> atmospheric • Resolution (precision) = 0.1% • Set point range selectable = (0-100%) • Control tolerance = +/- 0.2% of set point

## ECIS ECC Carbon Dioxide Controller



The carbon dioxide controller has two ports, one for CO<sub>2</sub> and one for nitrogen/air. The system regulates carbon dioxide concentration from 0% to 20% in single decimal increments using a gas purge method.

**Details:** A sensor placed in the cabinet wall provides constant feedback to the controller of changes in the cabinet atmosphere. The controller compares that read to a user-defined set-point and controls a solenoid to introduce gas from either a nitrogen/air or carbon dioxide source into the chamber. Excess pressure is vented via relief valves in the cabinet. The rate of change of the purge system is controlled by adjustable flow meters.

**Carbon dioxide controller specifications:** Range = 0-19.9% in 0.1% increments • Accuracy = <+/- [0.02% CO<sub>2</sub> +2% of reading] • Nonlinearity = +/- 0.05% of full scale • Repeatability = <+/- 1% full scale • Temperature dependence = -0.1% of full scale • Pressure dependence = +/-0.15% of reading hPa • Long term stability = <+/- 5% full scale/2 yr. • Response time = 90% at 1 minute • Operating Temp Range = -20 to 60 degrees C • Humidity Range = 0-100% Rh (non-condensing) • Expected sensor life = +2 yr. • Sensor diameter = 0.75 inches

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