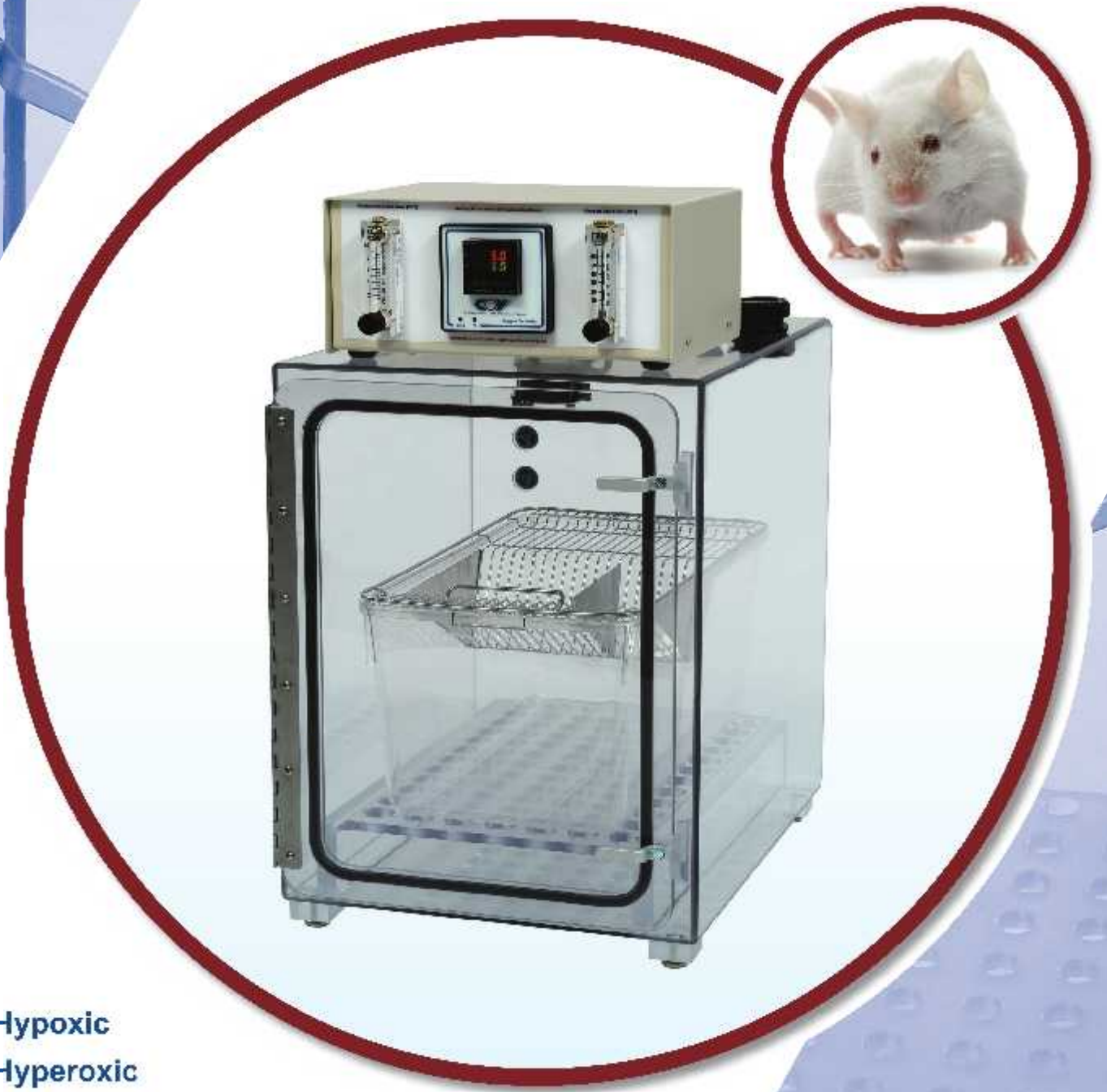


# Hypoxic Chambers:

O<sub>2</sub> Control Cabinets for **InVivo** Studies



- ➔ Hypoxic
- ➔ Hyperoxic
- ➔ Pathologic
- ➔ Intermittent Hypoxia

# O<sub>2</sub> Control Cabinets for InVivo Studies



Perform short-term experiments, dynamic oxygen cycling experiments and more.

*The Coy InVivo Cabinet System is the only system of its type that is a hermetically sealed chamber and allows continuous control of oxygen.*

## How the Cabinet System Works

The Coy InVivo Cabinet System allows animals to live at reduced or elevated O<sub>2</sub> levels. The system offers the ability to change the O<sub>2</sub> levels between multiple setpoints in increments of 0.1%. Users need to supply N<sub>2</sub> and O<sub>2</sub> for proper operation of the cabinet.

## How the Oxygen Control System Works

With oxygen and nitrogen gas sources connected to the O<sub>2</sub> controller, the microprocessor controls gas purges based on sensor readings and the user-adjustable setpoint. Unlike other systems, there is no continuous purge of gas into the cabinet. The controller creates an environment for indefinite exposure to experimental conditions, if needed.

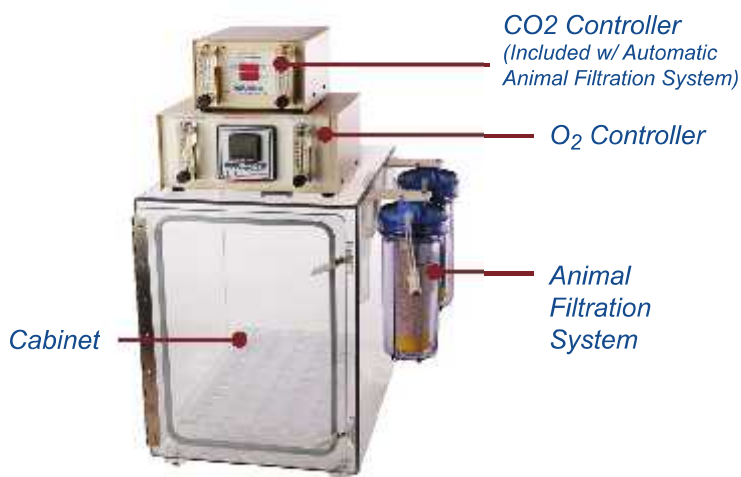
The cabinet's hermetic seal ensures that even with the controller detached, you can maintain preset O<sub>2</sub> levels for periods of time depending on experimental conditions. This translates into less gas consumption compared to a semisealed cabinet.

These units are designed around standard cage sizes, with custom sizing available. Waste removal can be handled by placing soda lime and/or activated carbon in a user-supplied containment tray. For a large number of animals or extended studies, the Coy Animal Filtration System is recommended. This system circulates the cabinet atmosphere through capsules of CarbO<sub>2</sub>Lime<sup>®</sup> carbon dioxide absorbent and activated carbon to remove CO<sub>2</sub>, ammonia and other gases.

## Humidity Consideration in InVivo Studies

Humidity from respiration should be controlled at least to noncondensing levels to provide an atmosphere that protects equipment and the sensors from condensation and is comfortable for the animals and users. Coy recommends that users sprinkle either a silica or indicating desiccant in a user-supplied tray in the bottom of the cabinet. Optionally, a compact solid state dehumidifier can be purchased.

The number of animals and the duration of hypoxic exposure will determine the appropriate humidity control solution for your study. Contact an expert at Coy Lab to discuss your options.



## Standard Features and Equipment

- Pressure relief valve
- Two sensor ports
- Circulation fan
- Gas inlet
- Optional pullout shelf for Model 15 & 30 Units
- Factory Calibrated for 0-20.9% O<sub>2</sub> operation. Hyperoxic studies are possible; consult COY for details.
- Adjustable leveling pads

## Custom Sizing Options

Though this cabinet comes in three standard-size units, we can economically custom size or configure a cabinet to your lab needs. With modular designs and accessories, and 40 years of in-house customization experience, Coy is flexible in its problem-solving approach.



## Adaptable to your specific needs

### Animal Filtration System

Long-term studies or high numbers of animals will require the Coy Animal Filtration System to remove gaseous waste. These units can be automatic or manual. Lab personnel turn the manual filtration system off and on, based on lab protocols, while the automatic unit with digital display is governed by a user-defined CO<sub>2</sub> setting. The Animal Filtration System is a closed loop circuit with a pump that draws the glove box atmosphere out through the filters (CarbO<sub>2</sub>Lime<sup>®</sup> and activated carbon) and returns it to the glove box. For shorter-term studies, the user may find that placing a tray of soda lime and activated carbon below the pullout shelf is an economical option.



### Added Capacity for Animal Filtration

Tell us the numbers of animals you will be housing so we may discuss your need for added capacity for animal filtration. This is simply additional filters to enhance the filtration system and adjust for the number of animals while easing maintenance time for lab personnel. Sealed quick disconnects enable filter changes without compromising the environment.

### Heaters

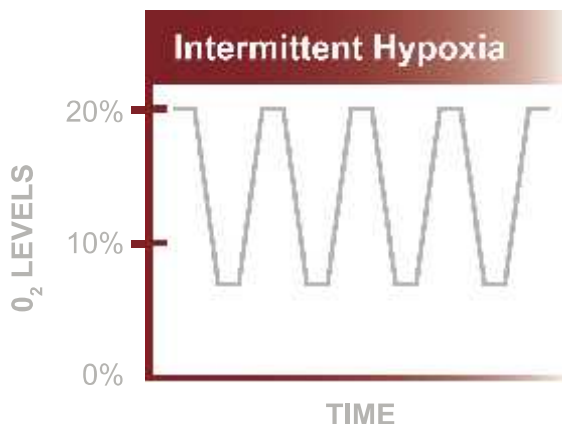
Internal heaters may be added if they are needed for your work. These are available on Models 30 and 60.

### Compact Dehumidifier

This easy-to-maintain unit provides a way to remove moisture without using a desiccant. The dehumidifier operates as a simple "cold wall" to condense moisture from the air; a drain removes excess moisture from the chamber. Controls allow the user to adjust the amount of humidity for various environmental factors.

### Dynamic O<sub>2</sub> Cycling

For studies requiring cycling O<sub>2</sub> levels for intermittent hypoxia, Coy offers a factory-installed option to ramp and cycle oxygen levels based on preset protocols in the O<sub>2</sub> control system. In addition, voltage outputs that allow readings of O<sub>2</sub> measurements to transfer to a data logger, chart recorder or computer program are especially helpful when 24-hour documentation is required. The size of the cabinet determines how fast ramping is achieved due to the volume of the cabinet and the maximum flow rates of the controller. Coy recommends the smallest cabinet for maximum flexibility in ramp and cycle.



### Recirculating Atmosphere Filtration System (HEPA)

This system filters the box atmosphere and controls contamination through a standard HEPA filter. The external pump-activated system has the filter mounted outside the cabinet. The system draws the internal atmosphere out of the cabinet, through the external filter and back into the box. Equipped with sealed quick-disconnect fittings, the filter is fast and easy to change without compromising filter and glove cabinet integrity. Other types of filters can be added to meet other filtration needs.



CarbO<sub>2</sub>Lime<sup>®</sup> is a registered trademark of Allied Healthcare Products, Inc., St. Louis, MO.



## Product Details

### Standard Sizes

InVivo Cabinet - Model 15: 15" W x 20" D x 20" H  
381 x 508 x 508 mm

InVivo Cabinet - Model 30: 30" W x 20" D x 20" H  
762 x 508 x 508 mm

InVivo Cabinet - Model 60: 60" W x 20" D x 20" H  
1524 x 508 x 508 mm

*Note: For operational height, add 3". 1 cage support shelf per unit.  
Model 15 & 30 Units have an optional 2nd shelf for smaller cages and  
more capacity*

**Custom sizing available. Contact us to discuss your needs.**



Shown with optional  
2nd shelf

### QUESTIONS?

Our experts can help you configure a solution that meets your needs. Call (734) 475-2200 or visit [www.coylab.com](http://www.coylab.com).

## Related Products

*For more information on these products or any of our Hypoxic Chambers, please visit [www.coylab.com](http://www.coylab.com).*

### Coy O<sub>2</sub> Control Glove Box for InVivo Studies

For long-term studies or research that requires manipulation during protocols, you may want to consider a Coy O<sub>2</sub> Control Glove Box for InVivo Studies.



### Coy O<sub>2</sub> Control Cabinet for InVivo Studies

Coy offers O<sub>2</sub> Control Cabinets for InVivo Studies that enable short term experiments, initial feasibility tests, multi-level O<sub>2</sub> studies and dynamic O<sub>2</sub> cycling experiments.