



# Semi-Rigid and Flexible Film Isolators

## Isolators

Isolators have been used for over 100 years to provide a defined environment for maintaining animals, biological materials and microorganisms. Years of experimentation coupled with the use of flexible film isolators led a Charles River team of technicians, veterinarians and engineers to develop a truly new concept in isolator design—the semi-rigid isolator. While both isolator systems provide the same level of security, semi-rigid isolators are a more durable, user-friendly and cost-effective option for biocontainment and bioexclusion animal housing.

## Construction

The semi-rigid isolator is made of 3/8" impact-resistant polypropylene on all but one side. All seams are welded to ensure maximum strength while eliminating crevices in which dirt and debris could accumulate. The flexible front is constructed of a sheet of segmented polyurethane with integrated glove sleeves. The front is held in place using a compression fitting comprised of a compression plate, a channel and a gasket. This design allows easy replacement of the polyurethane panel, should it be required. Gloves are attached by means of glove rings that allow aseptic replacement of gloves during operation. An 18" port with clamp-locked, gasketed doors allows for the easy transfer of materials into and out of the isolator while maintaining microbiological integrity. An integrated lighting system provides internal illumination of the isolator.

The 6' flexible film isolator is designed to accommodate plastic rat or mouse cages on a three-tier plastic seismic rack that free stands on the floor of the isolator. The isolator comes with a segmented polyurethane flexible bag with two sets of access gloves integrated into the bag wall. This flexible unit also includes a hermetically sealed double door transfer port assembly. The isolators are designed to be stackable to conserve space. Additionally, ergonomically adjustable stands are available to hold multiple isolators.

## Uses

Isolators can be used in a variety of biomedical research applications. They are most commonly used to maintain animals either of a prescribed microbiological status (bioexclusion) or for biocontainment purposes.

They provide a secure environment for housing immunodeficient animals as well as foundation colonies of transgenic and knockout founder animals.

## Typical Uses for Isolators

- Quarantine animal housing
- Containment of animals exposed to infectious agents, toxins, carcinogens or other biohazardous materials
- Maintenance of foundation colonies of transgenic or knockout animals
- Housing of immunodeficient animals
- Housing of specific pathogen-free, gnotobiotic or defined flora animals
- Providing alternative environments for animals, biological materials, and microorganisms (e.g., temperature, humidity, light, specialized atmospheres, etc.)
- Satellite facility animal housing

## Optional Accessories

- Portable blower with adapter
- Magnehelic gauge for sensing static pressure across the isolator
- Adjustable isolator stand (holds two 6' or 8' semi-rigid isolators or four 3' semi-rigid isolators)
- Optional stand available for 6' flexible film unit
- Syringe introduction port
- On-site set up and training schedule
- SOPs available upon request



Unlike other housing systems, animals held in an isolator are not exposed to an uncontrolled environment unless they are purposefully removed from the isolator. Animals with different health qualities can be housed in adjacent isolators with no risk of cross-contamination. The operation of isolators requires minimal training but does not require specialized clothing or equipment. Isolators are very portable; they can support their own microenvironment and be placed in any conditioned space. The type of space required does not need to be very sophisticated, unlike traditional animal facility or laboratory space.



## Standard Features

Isolators are equipped with plastic shelving or adjustable pipe racking designed to accommodate various cage types. Cages and related equipment are not supplied with the isolator but can be ordered through Charles River. Supply and exhaust air to the isolator is passed through disposable HEPA filters (included). Each isolator has an integrated lighting system that utilizes fluorescent bulbs which can be changed from outside the isolator. A series of small sealed ports are strategically placed on the outside of the isolator to allow insertion of electrical connections, monitoring lines, sampling tubing and other research-related connections without breaching the microbiological or environmental integrity of the isolator.



Isolators are designed to be stacked two units high. The 3' semi-rigid isolators are available in right- and left-handed versions to facilitate the stacking process. Isolators can be provided either fully or partially assembled.

The semi-rigid isolators can be operated in either a positive or negative pressure mode using a central HVAC system or an optional portable blower. Optional exhaust shrouds and other coupling devices are available to allow exhaust air to be directed into a central building exhaust.

## Available Sizes

### 3' Semi-Rigid Isolators

- Overall Dimensions:
- 55" L x 36.5" W x 37" H (left-handed)
- 57" L x 36.5" W x 37" H (right-handed)
- Capacity: 18 mouse cages or 9 rat cages

### 6' Semi-Rigid Isolators

- Overall Dimensions: 91" L x 36.5" W x 47" H
- Capacity: 48 mouse cages or 18 rat cages

### 6' Flexible Film Isolators

- Overall Dimensions: 78" L x 34.75" W x 41" H
- Capacity: 30 mouse cages or 12 rat cages

### 8' Semi-Rigid Isolators

- Overall Dimensions: 121" L x 40" W x 47" H
- Capacity: 64 mouse cages or 27 rat cages