

# Glove Boxes

## Application

Tyne designs and custom builds laboratory gloveboxes to client needs and to the requirements of the system to be contained. Most of Tyne's glove boxes have been designed and built to meet the requirements of tritium handling systems where leak tightness is important and the need for good access and easily cleaned parts is essential.

## Features

- 11 gauge Stainless Steel (heavier gauges can be supplied)
- Smooth rounded corners are easy to clean
- Leak tight to  $1 \times 10^{-5}$  cc/sec
- Custom made laboratory gloveboxes
- 12 mm windows in reinforced polycarbonate or Mygard
- High leak integrity feed throughs
- Antechambers, etc.



## Description

Windows can be made to suit (max 1220 mm x 2438 mm), though they are designed for a standard bolt spacing of 60 mm to ensure good leak tightness. Window sealing utilizes a Tyne custom designed soft rubber extrusion made to fit 12.7 mm windows.

Aluminum is frequently used for supports and other devices where light weight is beneficial.

Stiffeners can be built into the box to support heavier equipment. Some typical specifications of laboratory gloveboxes are outlined below:

Dimensions up to 3m high x 2m wide x 6m long.

Materials of construction are stainless steel for the box

Architectural stainless steel extrusions with rounded corner.

10-5 sml/sec as measured using a helium sniffer probe when box is filled with helium.

Stud welded bolts for windows and other attachments minimize contamination traps.

Laboratory gloveboxes can be made to any shape. The following example comprises a controlled atmosphere box for tritium, a LN controls box to exclude moisture to prevent icing, and an air compartment for equipment attached to the box.



gloveboxes can be made a variety of shapes

Additions: Numerous additions to the glove boxes are possible, including transfer ports, lights, electrical and pneumatic feed-throughs, sliding tables, internal lifting equipment etc.

The following shows a large laboratory glovebox with upper and lower compartments. The windows are removed for easy access during maintenance.



glovebox with upper and lower compartments

The following is a large laboratory glovebox with an external access chamber. Visible also is the 10 cm x 10 cm architectural shape used as a box support.



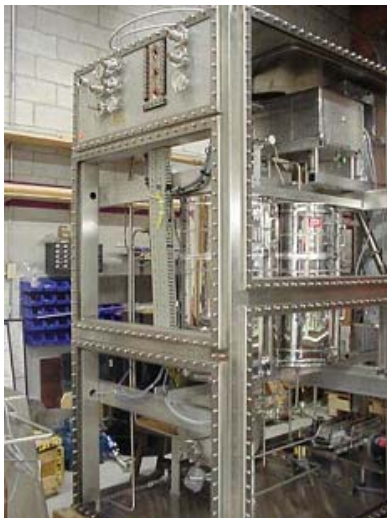
glovebox with external access chamber

Attachments for front and back access, connections for instrumentation and processes, of all types are common.



glovebox attachments

The following shows an example of end panels with electrical feed-throughs, showing some of the internal support structures used in the manufacture of the box.



glovebox with external feedthrough

## Specifications

Material	Stainless steel
Sizes	Sizes up to 2m x 10m x 3 m high
Windows	½" Mygard or Polycarbonate windows
Guage	11 gauge or higher
Leaktight	Leak tight with helium to 1 x 10 <sup>-5</sup>
Other	Custom made laboratory gloveboxes to client's specifications