

## *Anaerobic Chamber requirements for Singer Products*

### **Singer Products can be used in an anaerobic chamber!**

However, customers who plan to put their product in an anaerobic chamber should consider the following before deciding if this will work for them.

**Note:** When our products were designed we did not consider them being placed inside an anaerobic chamber. Therefore it may be found more difficult to use them inside than outside of a chamber.

A common anaerobic chamber used by customers is the Coy Tent : [Link to Coy website](#). The answers below are based on the experience we have of installing in a Coy Tent. There are some companies that will build bespoke chambers to suit the customer's needs. Coy themselves will modify a standard tent to suit the customer's requirements. The following information will be helpful when designing a bespoke chamber.

Products we know have been used in an anaerobic chamber are :

- Phenobooth
- ROTOR
- PIXL

### **Considerations for each product**

#### PhenoBooth(+)

The PhenoBooth will work without any major problems.

#### **Considerations**

- **Power cable** - a powered extension inside the chamber may be required with a sealed outlet from the chamber. If a direct connection is required to an external power socket a longer power lead may be required.
- **Connection for the computer** - it is better to place the computer, keyboard, and mouse outside of the chamber. The cable to the computer will also need a sealed outlet from the chamber. Depending on the placement of the computer and PhenoBooth(+) longer cables may be required.
- **Location** - A small gap at the front of the PhenoBooth for loading/ unloading plates and filters
  - Consider how plates will be loaded and removed from the chamber. An extra 1 or two ports nearer the airlock may be useful.



## ROTOR (+)

The ROTOR and ROTOR+ will fit into an appropriately sized chamber.

### Considerations

- **Size** - Please see this article for ROTOR dimensions : [What are the dimensions of the ROTOR?](#) As well as being big enough to accept the ROTOR the installation should also be considered. The loading port is usually at one end only. Make sure that the opening is big enough to accept the ROTOR.
- **Installation** - consider how the ROTOR will be put inside the chamber. If the opening is only at one end it may be quite challenging to get it safely through the loading port and placed in the correct position. The ROTOR weighs approximately 110Kg and is back heavy.
  - Glove ports at the back and front of the chamber would be helpful for this so when loading it may be necessary to move the bench it is sat on away from any walls.
- **Location in the chamber**
  - Apart from servicing it is unlikely that access will be required to the rear of the ROTOR
  - Glove ports
    - One in line with the Dump Drawer to dispose of used RePads / Stinger Pins.
    - One in line with the Pad Hopper to allow the user to load pads.
    - 2 or 3 ports level with the top of the operating area of the ROTOR. These allow access to loading the turntable, loading Station Black, and loading pin cartridges for the Stinger.
    - Consider how plates will be loaded and removed from the chamber. An extra one or two ports nearer the airlock may be useful.
    - 2 or 3 ports in the rear of the chamber - mainly to be used for the installation and removal of the ROTOR in the chamber
- **Computer location** - we recommend that the computer is placed on the outside of the chamber. It is supplied on an arm attached to the ROTOR so some other method of fitting it outside will need to be considered. Although it is normally powered directly from the ROTOR this is not a requirement so the computer power supply can be connected directly to an external socket.
- **Cables and Airline** - the ROTOR will require sealed outlets for
  - One or two power cables
    - Main power supply lead - a powered extension inside the chamber may be required with a sealed outlet from the chamber. It is also possible to plug the power supply directly into an external socket but this may require a longer power lead.
    - Computer power lead (optional) - the second socket on the ROTOR allows the touchscreen computer to be powered from the ROTOR and will turn on when the ROTOR is turned on.

- The computer can be left inside the chamber but the touchscreen may be difficult to operate with gloves.
  - USB connection from the ROTOR to the computer assuming it is being placed outside
  - Airline - a connection from the compressor placed outside the chamber to the ROTOR.
- Servicing - if an engineer is required to service the ROTOR some things can be done via the glove ports but this is likely to extend the usual time for a normal service.
  - In the event of a breakdown, it may be necessary to remove the ROTOR from the chamber.



**ROTOR & PhenoBooth inside a Coy Anaerobic Chamber**

## PIXL

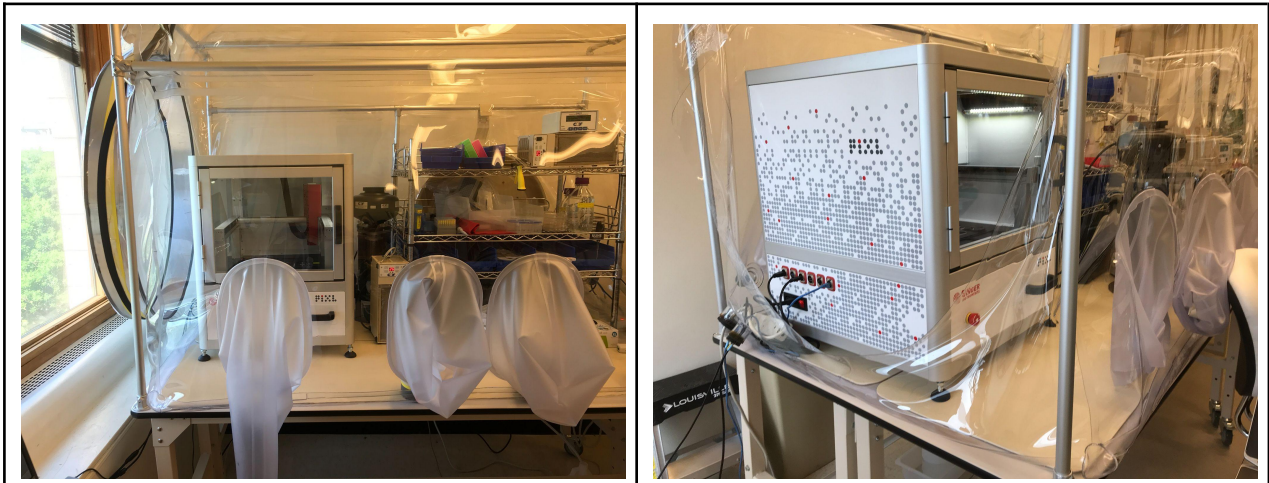
This is the most popular product that customers like to fit into an anaerobic chamber. It does bring more challenges when installing it into an anaerobic chamber.

### Considerations

- **Size** - the size of the PIXL can be found here : [What are the dimensions of the PIXL?](#)
- **Installation** - The access door for loading the PIXL needs to be big enough to load the PIXL into the chamber. The PIXL will probably need to be tilted to get it through the door and into the tent. This makes installation tricky but not impossible.
- **Location in the chamber** - Unless using a light curtain the PIXL needs to have space in front to open the door far enough to load plates. The door width is approximately 60cm. This may restrict how far into the PIXL the customer can reach to load plates.
  - A light curtain is advised for use in an anaerobic chamber but this needs to be specified when ordering the PIXL. Retrofit of a light curtain is not possible on-site.
    - We do not recommend the removal of the door as this will affect the warranty and introduce Health and Safety issues. Singer Instruments will not be able to assist in modifying or using the PIXL with the door removed.
  - The dump drawer needs to be able to be removed for emptying and cleaning so again the PIXL has to have a gap at the front.
  - The PickUpLine cabinet is at the back right of the PIXL. This will be an extreme reach from the front. A glove port in the right location at the back of the chamber may help but it will still be a difficult operation to change it.
  - The operating area where the plates are loaded is quite high up on the PIXL so the glove ports should be placed in a suitable location and the bench height may need to be adjusted.
- **Computer location**. The computer for the PIXL is fitted inside the PIXL itself but the monitor, keyboard, and mouse should be located outside of the chamber
- **Cables** Allow for cables to exit the PIXL. The computer and mouse are wireless so will not need external cables. Extension cables may be required. The main ones are.
  - Power
  - HDMI - to the external monitor
  - Ethernet cable for remote access and/or for local network storage
- **Glove ports**
  - One in line with the Dump Drawer to dispose of used PickUpLine.
  - 2 or 3 ports level with the top of the operating area of the PIXL. These allow access to loading the plates. As mentioned previously with the door in place access to the inside of the PIXL is limited and reaching in far enough to place the plates in the rear target plate bays may not be possible.
  - 2 or 3 ports in the rear of the chamber - these may be used for loading and unloading the PickUpLine



- Consider how plates will be loaded and removed from the chamber. An extra 1 or two ports nearer the loading bay may be useful.
- **Servicing** - if an engineer is required to service the PIXL some things can be done by reaching in from the main access port.
  - In the event of a breakdown, it may be necessary to remove the PIXL from the chamber.
  - The electrical cabinet, for access to the inner workings and computer for the PIXL, is a drawer that slides out to the left of the PIXL and it is almost the full width of the PIXL. If we are required to service or fault find we will need access to this drawer.



PIXL inside a specially adapted Coy Anaerobic Chamber



**PIXL inside a specially adapted Coy Anaerobic Chamber.**

This Coy Chamber was modified to suit the PIXL in conjunction with a Robot arm for loading and removal of the plates. The PIXL was fitted to a turntable to allow the customer to use the PIXL without the Robot arm. This PIXL has been fitted with a light curtain in place of the door.