



Repair Instructions

Installation of 54mm port hole

To suit: TRH/TEC/TPR/TLR/TRI/TBW/TUF/TI-Premium

Approvals		
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Safety Reminder

These instructions do not purport to address all potential safety issues, if any, associated with the product's use. It is the responsibility of the user of these instructions to establish appropriate safety and health practices and determine the applicability of regulatory limitations before use.

Before attempting any of the following, perform the actions listed below:

- Turn OFF power to the equipment.
- Unplug the equipment.

Summary

These instructions are for installing a 54mm port hole in a suitable Thermoline product.

Please note port holes can not be added to spark proof cabinets.

Port holes can only be added the TI-benchtop incubators at the time of manufacture due to heater pads being located on the outside of the internal liner.

Thermoline recommends this work is carried out by a trained and competent person.

Estimated time to complete: Approximately 60 minutes

Tools Required	
Drill	To suit supplied 63mm hole saw and 1/8" drill bit.
Marker	Suitable to mark the location of the pilot hole.
Box Knife	Caution - Sharp
Tape Measure	
Safety Glasses	
Safety Gloves	
Vacuum Cleaner	

Kit Contents		
Item	Description	Quantity
N/A	End Bushes	2
	End Cap	2
	Flexible Tube 60mm x 65mm long	1
	63mm hole saw	1
	1/8" drill bit (100mm long)	1
	Silicone Sealant	1

Section 1: Preparation

Remove samples/stock from the cabinet preserving the cold chain if applicable.

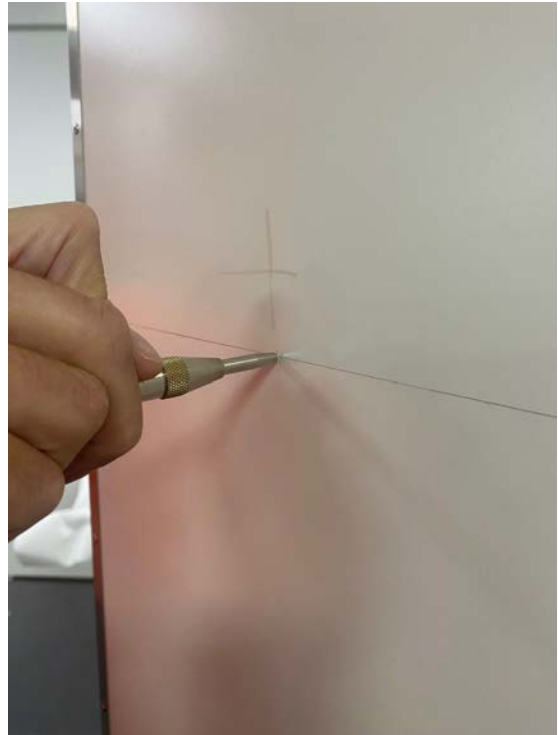
Turn off the power and remove the plug from the outlet.

Before beginning installation remove the shelves from inside the cabinet to allow access.



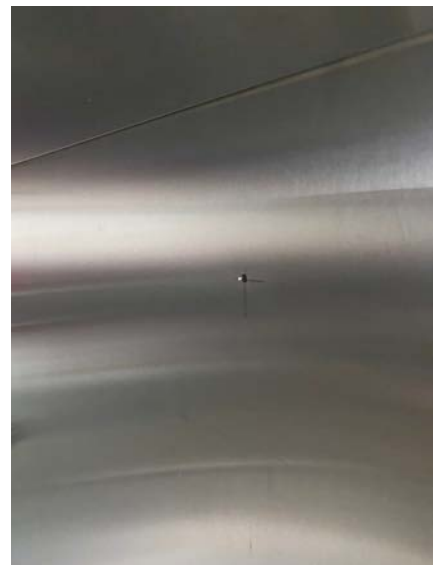
When installing port holes into a TRH, TEC, or Climatron cabinet, there are two options to prevent swarf generated by the installation. You can either mask the inlet and outlet in the water trough (or central drain), or completely cover the area. Also you should cover under the area you will be drilling through the wall of the cabinet.

Section 2: Installation



Mark the location where the port hole is to be installed on the outside of the cabinet using a marker. Please ensure the location is away from the internal shelvex strips and other internal faces of the cabinet.

It is recommended to use a centre punch to create small indent where the hole centre for the port hole is planned. This will stop the drill wandering over the panel and marking it.

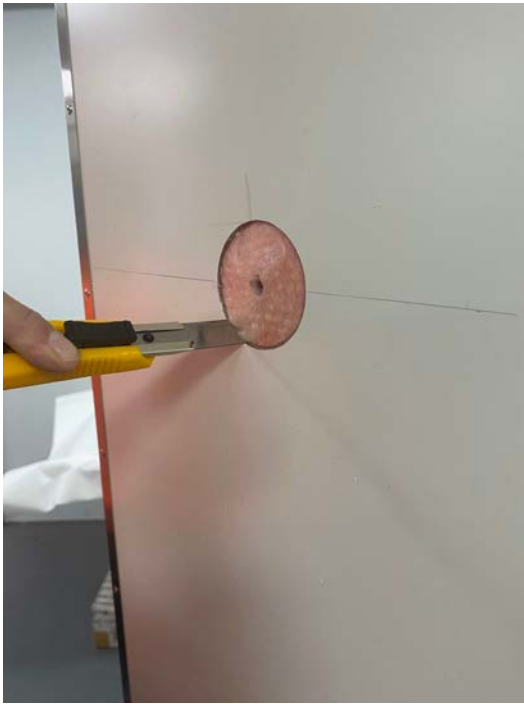


Use the 100mm long 1/8" drill bit to create a pilot hole from the outside of the cabinet making sure that the drill is held level. This will ensure that the holes are straight and aligned. Drill all the way through and into the cabinet to provide a pilot hole for drilling from the inside later on.



Using the 60mm hole saw, carefully drill through the pilot from the outside. This will need to be done with your drill setting on a low torque setting. Stop once through the outside of the cabinet.





Once the metal hole is cut, it will expose the insulation. Using a **sharp** box knife (or similar) cut the insulation out. It is important that gloves are used when handling the fibreglass insulation. It is also recommended that you use a mask to prevent you from breathing the insulation fibres.



Once the insulation has been removed, use the hole saw on the inside skin of the cabinet. Please ensure that you use your drill on a low torque setting. Please note that drilling through the stainless steel will generate heat so be mindful of handling the cut metal once the hole is drilled to avoid injury.



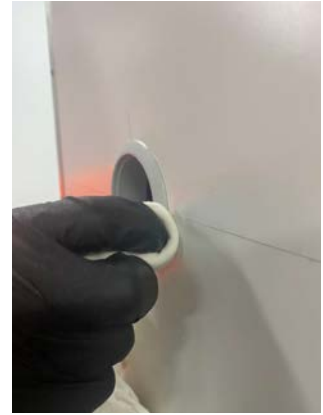
To insert the rubber hose fold it over as shown and then insert into the hole. Take caution as the metal edges will be sharp.



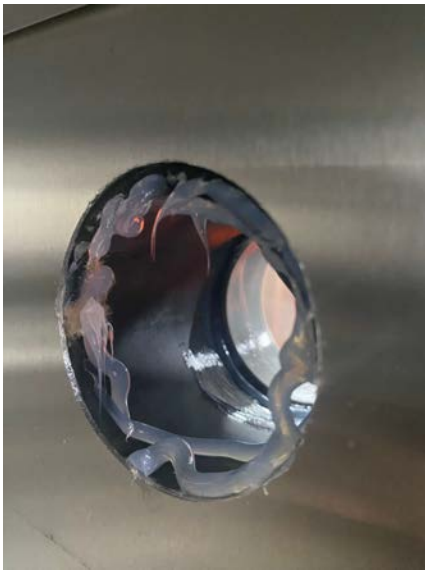
Place a bead of silicone on the on the edge of the rubber tube facing the outside of the cabinet



Also place a bead of silicone on the end bush as shown.

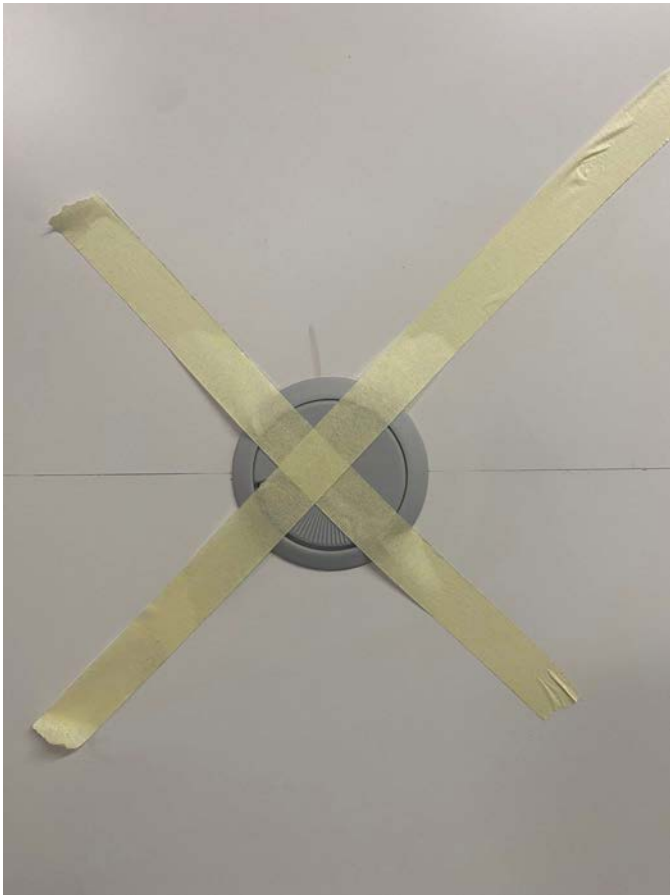


Insert the end bush into the rubber tube and clean the excess silicone off. You can use your finger for the silicone internally, but a cloth with some kerosene or mineral turpentine to clean off the extra silicone externally. Repeat the process to install the end bush on the inside of the cabinet.





When completed, the port hole should like the above pictures.



Place the end caps into the port hole and use masking tape to stop the port hole from moving and allow 24 hours for the silicone to cure.



To clean the swarf from the chamber, use a vacuum, being careful not to touch the nozzle on the cabinet's lining. This will avoid scratching the metal and creating points where corrosion can begin and propagate.

Section 3: Power ON

Allow the silicone to cure for 24 hours prior to using the cabinet again.

Replace the shelves in the cabinet.

Plug the cabinet back in the outlet and turn on the power.

Section 4: Support and Contact

Repair and Support is available over the telephone Monday through Thursday from 8:30am to 4pm and Friday 8:30am to 2pm. Please contact service@thermoline.com.au for email technical support.

You can also visit our website at www.thermoline.com.au for access to additional useful troubleshooting guides, operating manuals, and technical information.

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