



OPERATION & MAINTINENCE INSTRUCTIONS FOR

CAP18

Pass Thru Air Lock Cleanroom Entry System

Engineering Solutions with Value and Integrity

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Read and Save These Instructions

Please observe the following information related to your product

- Read this guide before installing and/or operating the unit.
- Keep this guide as a reference to the safety and operating instructions.
- Observe warnings associated with handling, installing, using, and maintaining the CAP18.
- Follow all instructions for set-up, operation, and use.
- Operate **ONLY** from the type of power source indicated. If you are unsure of the type of power available to you, contact your dealer or power company.
- This unit may be equipped with a polarized alternating current (AC) plug with one blade wider than the other. This plug will only fit into the power outlet one way for safety reasons. If the plug does not fit, call an electrician to replace the outlet. **DO NOT REMOVE THE ROUND GROUNDING TERMINAL. THIS UNIT MUST BE GROUNDED FOR SAFETY REASONS AND FOR PROPER OPERATION.**
- Do not place any power cords where they will have things placed on or against them, be walked on, or be pinched, especially near the outlet, the plug, or where the power cord exits the unit.
- Overloading outlets and/or extension cords can result in fire and/or electrical shock.
- **ONLY** use parts supplied by the manufacturer. Substitutions may result in fire, electrical shock, or other safety hazards.

Safety Warnings

- Never expose the assembly to moisture or rain.
- If the unit gets wet, disconnect the power at the source and have an authorized service inspection before using it again.
- Do not pull on power cords to unplug the unit, and never handle the cord with wet hands.
- Do not clean the unit with flammable chemicals.
- Do not expose to explosive or hazardous vapors or materials.
- Make sure the unit is well supported to prevent falling.
- Do not block airflow to the unit.
- Disconnect the power before servicing.
- Do not operate below 0 degrees Fahrenheit or above 110 degrees Fahrenheit.
- This unit is designed to operate in a non-hazardous (non-explosive) environment with non-condensing air.
- NEVER put objects into the blower.
- Do not operate blower without metal blower guard.
- Review application with your safety commissioner for proper use

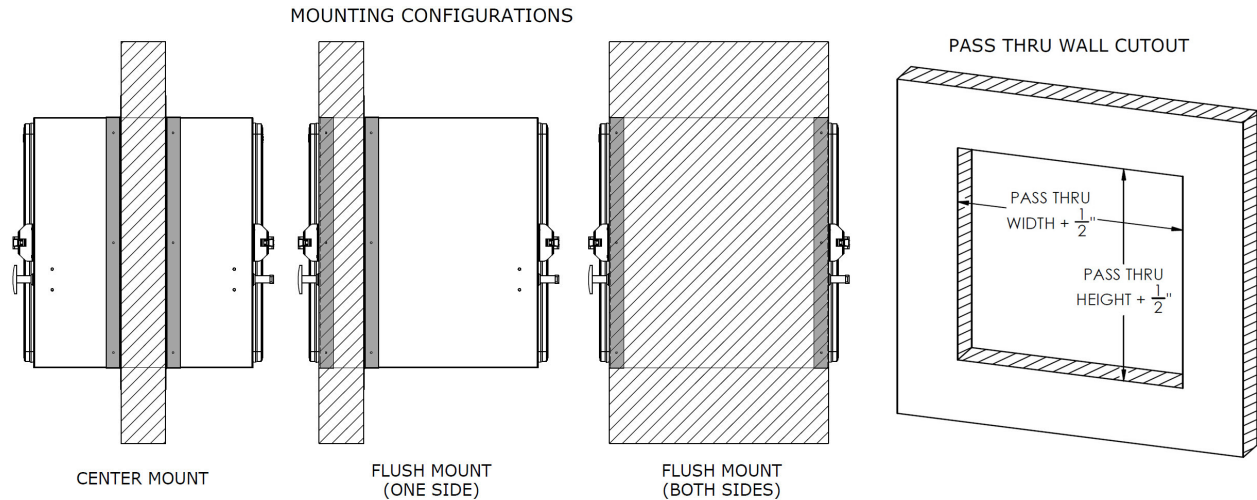
Installation

Notes

- Pass thrus must be installed in a flat and level wall capable of supporting the weight of the pass thru. Weight depends on size, model, and options package.
- The pass thru should be well supported on all sides and securely mounted so that it will not shift when weight is inserted. If the pass thru is not securely mounted it may loosen over time.
- Pass thrus need to be installed so that they are square and level. This is critical to ensure proper alignment of the latch and interlock components.
- The recommended wall cutout is ½" larger than the exterior of the pass thru in each direction.
- Sloped top mounting frames should be attached to the pass thru before installing in wall. If there is a sloped top on both sides, one side is screwed into the pass thru and the wall, the opposite side is only screwed into the wall.
- After installation sealant may be needed to fill any gaps between the pass thru and mounting frames. Silicone or polyurethane caulk is recommended for this.

Standard Wall Mounted Pass Thru Installation

Before installation locate all mounting frames and mounting frame hardware. The “notched” frame pieces attach to the vertical sides of the pass thru. Wall mounted pass thrus featuring universal mounting frames can be installed in a variety of configurations as outlined below.



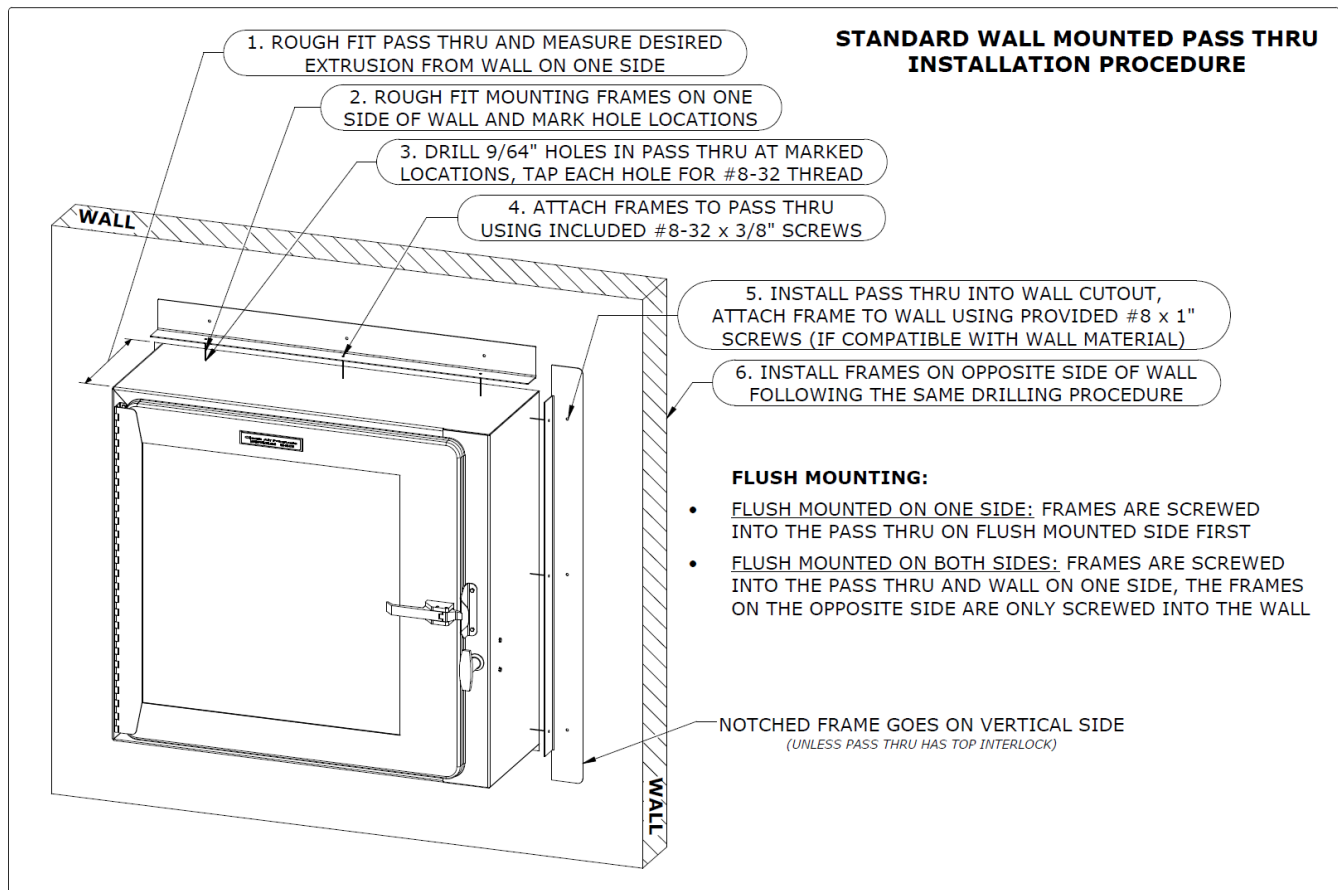
STANDARD WALL MOUNTED PASS THRU INSTALLATION PROCEDURE

1. ROUGH FIT PASS THRU AND MEASURE DESIRED EXTRUSION FROM WALL ON ONE SIDE
2. ROUGH FIT MOUNTING FRAMES ON ONE SIDE OF WALL AND MARK HOLE LOCATIONS
3. DRILL $\frac{9}{64}$ " HOLES IN PASS THRU AT MARKED LOCATIONS, TAP EACH HOLE FOR #8-32 THREAD
4. ATTACH FRAMES TO PASS THRU USING INCLUDED #8-32 x $\frac{3}{8}$ " SCREWS
5. INSTALL PASS THRU INTO WALL CUTOUT, ATTACH FRAME TO WALL USING PROVIDED #8 x 1" SCREWS (IF COMPATIBLE WITH WALL MATERIAL)
6. INSTALL FRAMES ON OPPOSITE SIDE OF WALL FOLLOWING THE SAME DRILLING PROCEDURE

FLUSH MOUNTING:

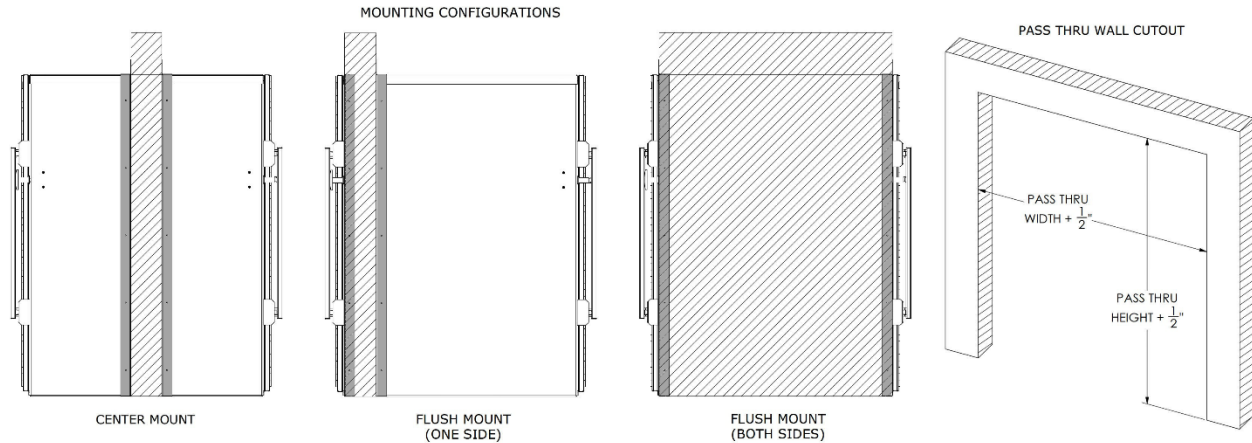
- **FLUSH MOUNTED ON ONE SIDE:** FRAMES ARE SCREWED INTO THE PASS THRU ON FLUSH MOUNTED SIDE FIRST
- **FLUSH MOUNTED ON BOTH SIDES:** FRAMES ARE SCREWED INTO THE PASS THRU AND WALL ON ONE SIDE, THE FRAMES ON THE OPPOSITE SIDE ARE ONLY SCREWED INTO THE WALL

NOTCHED FRAME GOES ON VERTICAL SIDE
(UNLESS PASS THRU HAS TOP INTERLOCK)



Floor Mounted Pass Thru Installation

Before installation locate all mounting frames, mounting frame hardware, and shipping braces. The “notched” frame pieces attach to the top of the pass thru. Floor mounted pass thrus featuring universal mounting frames can be installed in a variety of configurations as outlined below.



Unpackaging

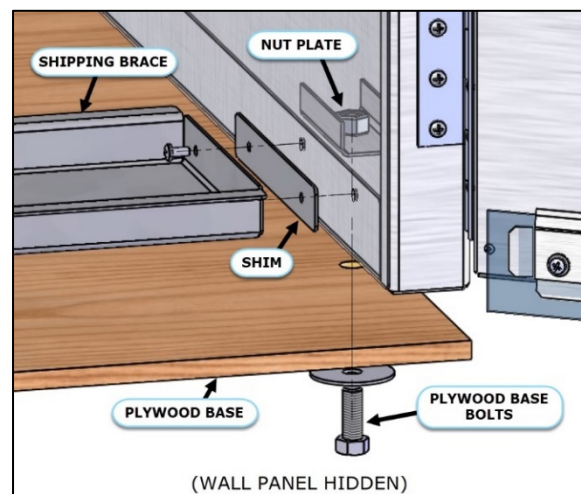
If the pass thru is fully welded, skip to mounting frame installation. Non-fully welded floor mounted pass thrus are attached to a plywood base for shipping. To remove the plywood base, remove any screws attaching it to the pallet. Then slide the pass thru off the edge of the pallet and remove the (4) bolts attaching the plywood base located near each corner. These bolts thread into a nut plate within the pass through walls.

Installation

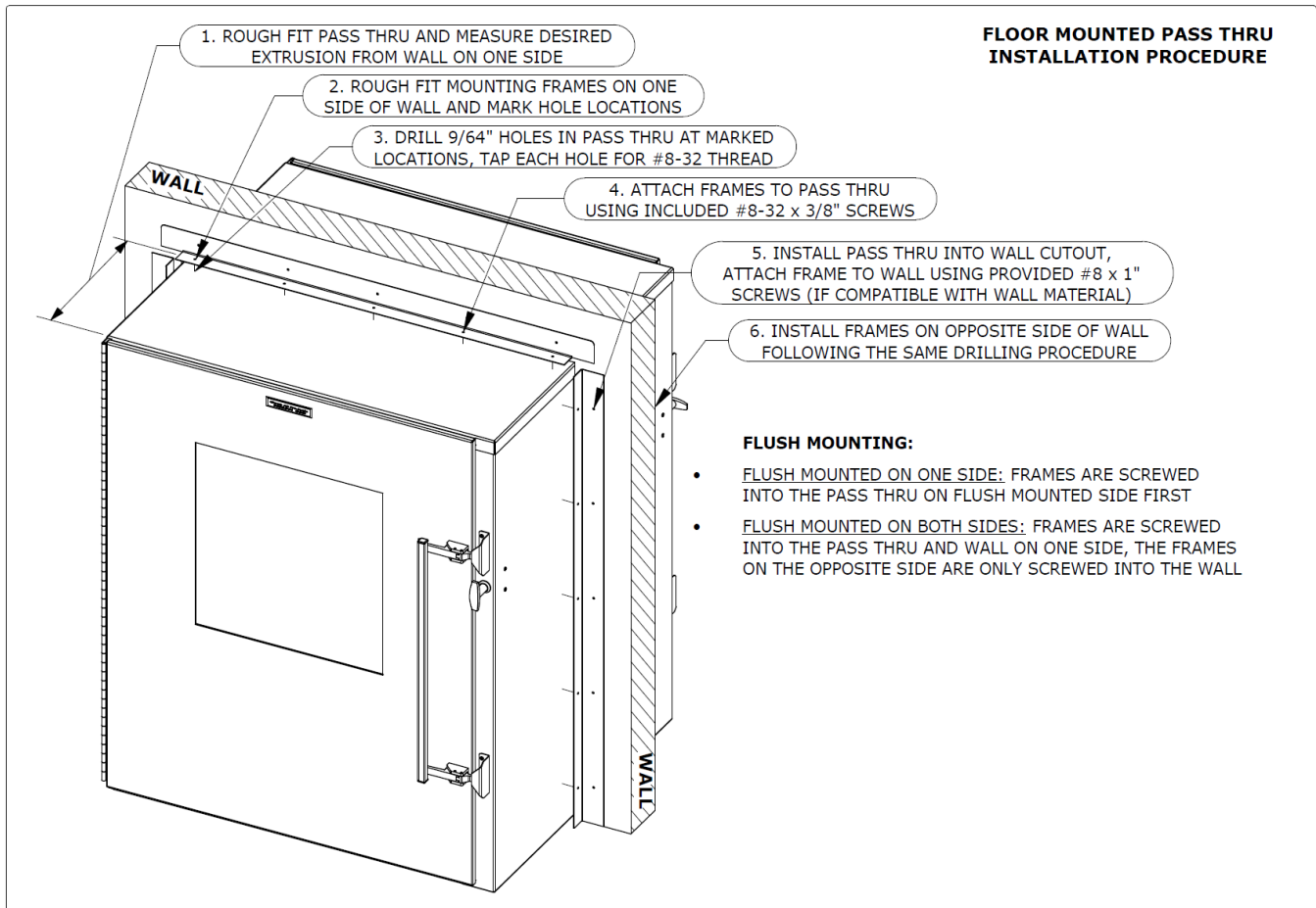
Remove both of the interior side panels and all shipping braces from within the cabinet. At this point the interior nut plate can also be removed.

Next reinstall the galvanized shipping braces along with one shim on each end. These braces will help retain the correct pass thru width. Some very large pass thrus also include diagonal shipping braces to maintain squareness, these should be installed as well if applicable. At this point the mounting frames can be installed.

It is critical that the pass thru is square when mounting frames are installed. If the pass thru is not square the latch and interlock components can become misaligned.



Floor Mounted Pass Thru Installation (Continued)



Anchoring to Floor (Optional)

To anchor a non-fully welded pass thru to the floor, drill though the 7/16" holes within the pass thru wall cavity into the floor for anchor bolts. *Clean Air Products does not provide anchoring hardware.* The shipping braces and shims should still be installed during this step.

Final Assembly

Once the pass thru is fully secured and functioning within the wall remove the shipping braces and reinstall the interior side panels. Adjust floor sweeps if needed by loosening all screws attaching the sweep and moving it along the slots. Replace any exposed zinc hardware with the provided stainless steel hardware.

Fire Rated Pass Thru Installation

Most fire rated pass thrus come with pre-installed universal anchoring brackets welded into the frame throat as shown. These can be anchored to a variety of wall types. Below are the most common installation methods.

The pass thru must be installed plumb and square to ensure proper door alignment. Shimming may be necessary to square the cabinet.

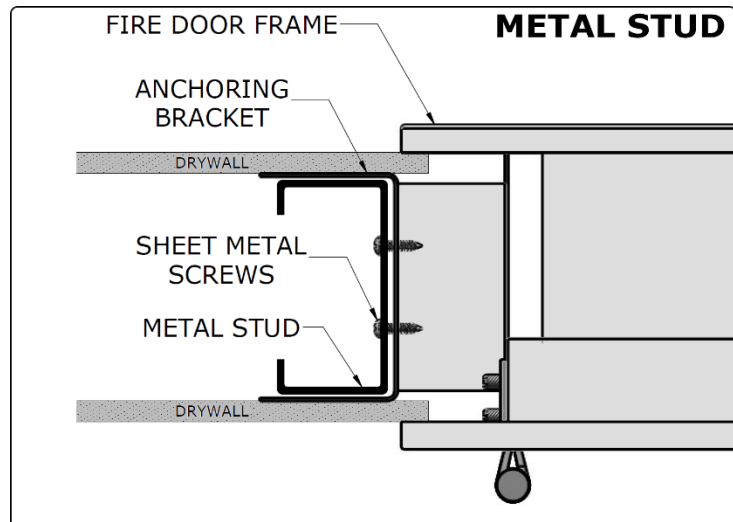
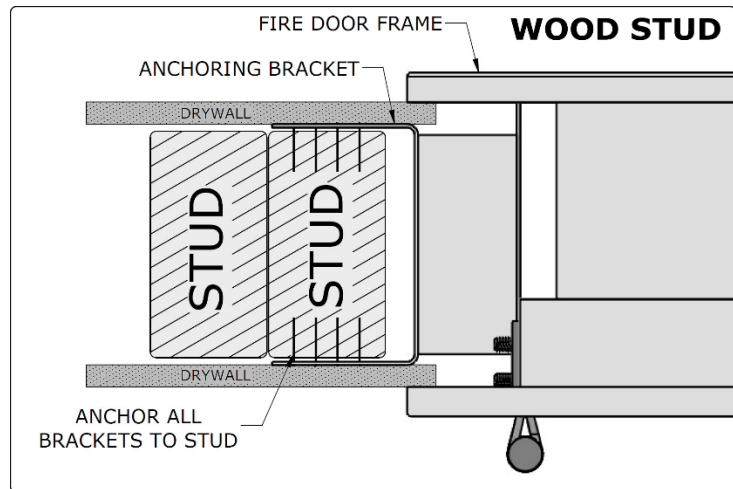
Installation Notes

It is recommended that floor mounted fire rated units be anchored to the floor in addition to the wall.

Maintain clearance between frame return flanges and stud for inserting drywall.

Do not install drywall until you are certain the frame and pass thru are plumb and square.

Drywall must extend at least ½" into the frame.



Operation & Maintenance

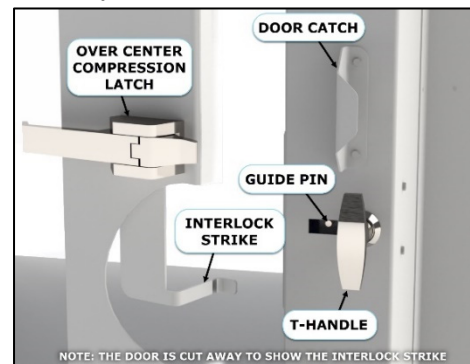
After installation the pass thru should be checked for proper function. Door latches and interlock components should be aligned and operate smoothly.

Interlock Operation

Pass thru interlocks prevent both doors from being open at the same time. When one door opens the opposite side is locked. The most common interlock styles are listed below.

90° Rotation T-Handles

The T-handles are connected so when one side is unlocked (T-handle vertical) the opposite side will be locked (T-handle horizontal). The T-handles can only be turned when both doors are closed; when one door is open the internal guide pin is decompressed and will prevent the T-handles from turning.



Fire Rated / Bio-Design Interlocks

Fire rated and Bio-Design interlocks do not have stainless steel T-handles. They both have interlock mechanisms which will lock the opposite side automatically as soon as a door is opened.

Magnetic Interlocks

If your pass thru is equipped with magnetic style interlocks the doors are normally locked. The doors are unlocked by an illuminated capacitive touch button. When both of the doors are closed the buttons are green the doors can be unlocked. If a door is open the buttons are red and the opposite door cannot be unlocked.

HEPA filtered units equipped with the optional air shower style controls may also be locked while the filter is running. Wiring schematics are included with the manual inside unit.

HEPA Filtered Pass Thru Operation

HEPA filter blowers are set to a velocity of 90ft/min from the factory and feature a speed control for adjustment in the field. HEPA filters will remove 99.99% of airborne particles at 0.3 µm. Test sheets and a wiring schematic are included in each pass thru with the manual.

Do not touch the filter media; if the media becomes damaged the filter will need to be replaced.

Air Flow

Recirculating HEPA filtered pass thrus continuously recirculate the air through perforations in the walls. Single pass HEPA filtered pass thrus purge air through the perforated dirty side door. Air flow diagrams can be found on our website.

Maintenance

- At least once a day wipe down interior surfaces and knobs. Contaminate can get into the pass thru while the dirty side door is open. Particles can float into the pass thru and settle on the interior. If left uncleaned this contamination can then be transferred into the cleanroom.
- If the pass thru doors feature polycarbonate or acrylic windows wipe them down lightly with soft cleanroom wipes to avoid scratching. Verify that any cleaning chemicals used are compatible the with window material before cleaning.
- Once a year check that the pass thru is securely mounted. All hardware, including perimeter mounting screws should be securely fastened.
- Verify that any cleaning chemicals used are compatible with cabinet materials.

Troubleshooting

Mechanical Interlock T-handles will not turn

Check that the interlock strikes aren't bent; they should be at a 90° angle to the door.

Mechanical Interlock T-handles turn even when the door is open

Look inside the rectangular slot on the front of the cabinet to check that the guide pin is functioning properly.

Warranty Information

Clean Air Products Corporation warrants that it will repair FOB its factory or furnish without charge FOB its factory a similar part to replace any material in its equipment within one year after the date of sale if proved to the satisfaction of the company to have been defective at the time it was sold provided that all parts claimed defective shall be returned, properly identified to the company at its factory, freight charges prepaid. Factory installed equipment of accessories is warranted only to the extent guaranteed by the original equipment manufacturer, and this warranty shall not apply to any portion of the equipment modified by the user. Claims under this warranty should be directed to Clean Air Products, 8605 Wyoming Avenue North, Brooklyn Park, MN 55445, setting forth in detail the nature of the defect, the date of the initial installation, and the serial number and model number of the equipment.

HEPA filters are warranted to have their given efficiency at the time of shipping

Parts shipped to replace warranty items shall be invoiced out with 60 day terms. Credit shall be issued when defective parts are returned to Clean Air Products' factory. (Contaminated materials shall be credited after receipt of proper disposal is sent to Clean Air Products.)

When special shipping containers are used to ship out new product, defective parts are to be returned in the same container. This shall be so stated on the Bill of Lading sent with the replacement parts.

Contaminated Parts and Equipment

Clean Air Products must be notified if defective parts, or other materials supplied to the purchaser are contaminated with hazardous chemicals or carcinogenic materials that are considered hazardous or carcinogenic by the EPA or other regulatory agencies. These parts are not to be shipped back to Clean Air Products' factory. The purchaser shall be responsible for proper disposal and all costs associated with the disposal and/or storage of the defective contaminated equipment. Prior to their disposal, Clean Air Products may require inspection of said defective materials.

The user and purchaser shall each be responsible and be back charged for cleanup and disposal of all contaminated materials shipped back to Clean Air Products' factory.