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Safety Equipment



UniFlow LE FM



# Installation, Operation, Maintenance Manual UniFlow LE FM Floor Mounted Fume Hood Designed and Built for



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## RECEIVING AND INSPECTING SHIPMENTS

Transportation companies are responsible for shipment from the time that it is received by them until it is delivered. All shipments leaving our plant have been carefully inspected and loaded on the carrier's vehicle.

If a shipment arrives with the crating or packaging damaged, have the driver note the condition on the bill of lading and inspect the contents immediately for concealed damage. Due to the crate sizes and number of components HEMCO recommends that with any crate damage, even minor, that the bill of lading be signed for noting "crate damage...pending further inspection for concealed product damage"

If the equipment has been damaged in transit, immediately notify and file a claim with the carrier. Do not return to HEMCO. If this procedure is not followed, the carrier will reject the claim and the consignee will suffer the loss. Please notify HEMCO so that we may help you in anyway possible with evaluation, repair, replacement, and valuation of the damage that has occurred.

# Trouble Shooting

PROBLEM	CAUSE	CORRECTIVE ACTION
Insufficient air flow	1) Improperly sized blower 2) Motor (impeller wheel) is running backwards 3) Obstruction in duct system 4) Leaks in duct system 5) Overloaded filters	1) Resize blower, change drive package 2) Correct wiring for reverse rotation of motor. 3) Locate and Remove obstruction 4) Trace and repair 5) Clean or replace filters
Fume Hood or Blower not operating	1) Blown fuse or open circuit breaker 2) Defective motor 3) Thermal protector on 4) Motor improperly wired	1) Replace fuse or reset circuit breaker 2) Consult factory 3) Check for high or low voltage input or ambient temperatures over 40 degree C ( 104 degree F) 4) Correct wiring for reverse rotation of motor
Contaminates outside fume hood face	1) Improper use or procedures 2) External factors 3) Improper face velocity	1) Follow safety guidelines and procedures 2) Check external air flow patterns around fume hood 3) Recertify fume hood face velocity and/or duct system
Sash binding	4) Cable off of pulley Cable Broke	5) Replace Sash / Cable
Air Flow Monitor	6)	7)
Electrical Services not working	8) Circuit Breaker 10)Corroded Contacts	9) Check Main Load Center 11) Clean or replace

## Safety Recommendations

- DO** - AVOID UNNECESSARY EXPOSURE OF PERSONNEL TO FUMES INSIDE HOOD BY KEEPING SASH CLOSED EXCEPT WHEN LOADING OR UNLOADING HOOD.
- DO** - KEEP MATERIALS 6" OR MORE FROM FRONT EDGE OF SASH PLANE.
- DO** - KEEP THE SASH AT DESIGN OPENING WHILE UTILIZING THE FUME HOOD.
- DO** - CLEAN UP IMMEDIATELY ANY MAJOR SPILLS OCCURRING INSIDE HOOD.
- DO** - USE ONLY GROUNDED ELECTRIC EQUIPMENT.
- DO** - REPORT ANY MALFUNCTION OF THE EXHAUST SYSTEM.
- DO** - ELEVATE CONTAMINATES AND EQUIPMENT ABOVE WORKSURFACE OF HOOD ENABLING AIR FLOW BE NEATH AND AROUND.
- DO** - KEEP MOVEMENTS IN THE HOOD AND IN FRONT OF THE HOOD TO A MINIMUM.
- DO** - CHECK FUME HOOD FACE VELOCITY ON A REGULAR SCHEDULE.
- DO NOT** - USE HOOD UNLESS EXHAUST SYSTEM IS IN OPERATION.
- DO NOT** - CHANGE DAMPER OR BAFFLE SETTINGS AFTER INITIALLY SET.
- DO NOT** - USE FUME HOOD FOR STORAGE OF CORROSIVE OR VOLATILE MATERIALS.
- DO NOT** - BLOCK BAFFLE OR GRILL OPENINGS.
- DO NOT** - GENERATE LARGE QUANTITIES OF INFLAMMABLES WITHIN THE FUME HOOD.
- DO NOT** - PERMIT TEMPERATURES OF SASH GLASS TO EXCEED 160 DEGREES FAHRENHEIT.
- DO NOT** - PLACE UPPER BODY OR HEAD INSIDE THE FRONT PLANE OF THE HOOD OPENING.
- DO NOT** - OPEN OR CLOSE SASH SWIFTLY AS THIS MAY CAUSE ADVERSE AIR FLOW CURRENTS.
- DO NOT** - APPROACH OR LEAVE HOOD FACE SWIFTLY AS THIS MAY CAUSE ADVERSE AIR FLOW CURRENTS.

## UNPACKING INSTRUCTIONS FOR FM FLOOR MOUNTED FUME HOOD

The HEMCO Fume Hoods are shipped palletized fully crated, padded and wrapped for maximum protection and ease of handling. If damaged call the adjuster for the delivering carrier promptly and notify HEMCO at 1-800-779-4362.

1. Upon receiving, inspect for crate damage and possible concealed damage that may have occurred in transit. Save all delivery receipts and crating materials. If damaged call the adjuster for the delivering carrier promptly and notify HEMCO at 1-800-779-4362.
2. When uncrating the hood remove the top section of the crate, which is stapled to the top of the side. Then carefully remove the front, two sides and the rear of the crate.
3. When ready to install Fume Hood, carefully lift from pallet and set on work surface in proper location (see Fume Hood Installation).
4. Remove accessory/sash weight box, which may be attached inside the Hood, on the skid or on the top of the hood.

**CAUTION: DO NOT lift the hood by the airfoil.**

### PREPARATION FOR INSTALLATION

#### Preparation For Installation

Read the Complete Manual  
Gather Required Tools/Equipment

#### Suggested Tool List

Floor anchor bolts or materials  
Cordless screw driver/gun  
Quick ratchet bar clamps

#### Required Tool and Material List

Caulking Gun  
100% pure silicone caulk  
#2 screwdriver  
Assortment of open-end wrenches  
Stepladders

Note: All images shown are for demonstration purposes only.  
However all images are similar in design.



# Installation

1. Deliver components to erection site and segregate. Note identification markings on each component.



2. Set the Left Side Shell component as close as possible to the desired final position of the hood. **NOTE: Leave clearance for ladder access completely around the perimeter of the hood.**

3. Set the Rear Panel and Secure to Left Side Shell with provided #8 or #10 sheet metal screws. Utilized #8 screws first, however, due to pre-assembly the #8 screw may “strip” or may not “bite” then utilize the #10 screw. **NOTE: Quick ratchet bar clamps to a stepladder may be used to partially support the components until other panels can be permanently secured.**



4. Set the Right Side Shell component and fasten to the Rear Panel. Secure with provided #8 or #10 sheet metal screws.



5. Set the rear of the Ceiling Panel on the flange at the top of the Rear Panel. Secure rear edge with provided 1/4” – 20 carriage bolts.



Front should be supported by bracing or personnel until Ceiling Panel is secured along the left and right sides to both the Side Shells.

# Fume Hood Operation

## ELECTRICAL

Electrical services supplied with your Hood are factory mounted but not wired. Wiring must be completed by a licensed electrician to comply with local codes. It is also suggested that the main junction box be grounded and that a quick disconnect in the power source be provided.

## PLUMBING

All service fixtures requiring plumbing are normally installed on the Fume Hood ready for connection to the service outlets. Piping should be copper, however, stainless steel, black PVC or galvanized pipe may be used if required. A certified plumber should be used for all installation.

**CAUTION: Be sure that plumbing lines do not interfere with movement of the sash weight(s).**

## BLOWERS

If your Fume Hood was ordered with an integral blower, it will be mounted on the hood. It will be necessary to wire it per local codes. Depending on the types of fumes being exhausted and the length of the ductwork, rigid PVC, flexible neoprene, sheet metal or stainless ducting must be attached for fume removal.

**CAUTION: The maximum length of run of ducting with integral blowers should be 15' or less to minimize static pressure loss.**

## GENERAL

Remote mounted blowers and ducting requirements other than as specified are site specific and require a qualified engineer or installer

## CLEAN UP

Upon completion of the installation of your Hood it is a good idea to clean thoroughly to eliminate any miscellaneous debris and/or surface soil.

1. For all composite surfaces use a general-purpose nonabrasive household cleaner.
2. For glass surfaces use a formula glass cleaner. (Windex).
3. For the work surface it is recommended that you use soap and water.
4. For metal cabinet painted surfaces use a general purpose nonabrasive cleaner,

## FM Fume Hood & Floor Mounted Special Instructions

The design intention for the FM floor mounted fume hoods are that only (1) sash is opened to any point while the other sash remains in the full closed position. If this design intention is not maintained the results can cause a failure of the hood to contain contaminants and an unsafe condition for personnel.

Any questions? Call HEMCO customer service at 1-816-796-2900.

# Fume Hood Operation / Maintenance

1. Fume Hood must be set on the work surface or a flat level surface.
2. Once the Hood is in place, service lines can be connected (See Electric and Plumbing).
3. Service panels are provided to allow access for service hookup. Service panels can be taken off by removing plastic caps and attachment screws. Panels may be set aside for later replacement after the installation is complete. The front access panel above the sash is removable to allow access to the top of the Fume Hood (pull out or lower edges and push up to remove). The electrical junction box, light fixture, outlet collar for duct connection, special plumbing connections, and sash weight can be accessed from this position.
4. Fume Hoods are equipped with a tempered glass sash. Remove shipping tape alongside edges of sash and sash track. The sash counter balance weight(s) are packaged separately as noted in (Uncrating the Hood]. The sash weight should be hung from the sash cable loops located on the left side within the double-wall construction. The sash cables should ride in the pulley grooves to ensure smooth operation.
5. The fluorescent or incandescent light fixture is factory mounted.

**NOTE: Fluorescent tubes are provided with the fixture.** To install fluorescent tubes liftoff front access panel. With a Phillips screwdriver remove the 2 screws. The fixture housing will hinge back and the tubes can be installed. For those hoods with explosion proof lights, the fixture positions in a flanged cutout. The top of the fixture threads off for wiring. For those hoods with vapor-proof incandescent light(s), unscrew the glass globe install bulb and replace globe. Once the fixture is wired, remove the screw caps and screws from the ceiling inside the Hood and the donut flange plate will release.

6. A bead of white silicone sealant should be applied between the work surface and the Hood.
7. Reinstall front access panel and service panels.
8. Finally clean up with Formula Glass Cleaner.

**NOTE: In those areas where seismic codes are a consideration, it is recommended that qualified engineers be consulted for necessary installation requirements for seismic codes.**

Additional installation details begin on page 3

# Installation

6. Secure Ceiling Panel to Side Shells with provided #8 or #10 sheet metal screws.



7. Move unit into desired location.

8. Uncoil the conduit in left Side Shell and make connections to junction box/light fixture mounted on the Ceiling Panel.

9. Remove baffles noting the location and orientation of each one.

10. Caulk both Side Shell to Rear Panel joints with provided 100% silicone caulk.



11. Caulk the interior perimeter of the Ceiling Panel joints with provided 100% silicone caulk.



12. Re-install baffles to previous locations. Re-secure with #10 x 3/4" sheet metal screws and PVC caps.



13. Mount Upper Baffle center section to the Ceiling Panel with provided #8 or #10 sheet metal screws.



## Installation

14. Confirm the final location of the fume hood.



15. Secure the right Side Shell to existing floor with a fastener suitable for floor material.

16. Install the vertical rising sashes into the sash tracks on the right Side Shell, noting the markings directly on the sashes for orientation and location. **NOTE: Finger pulls are located at the bottom of each sash.**

17. Pivot the sashes to align with the sash tracks of the left Side Shell. This can be accomplished by spreading the lower section of the hood slightly to allow sashes to pass by the sash track extrusions and drop into the sash track.



18. Re-position the left Side Wall to allow free travel of the sash without binding

19. Secure the left Side Shell to existing floor with a fastener suitable for floor material.



20. Remove upper sash stop blocks from sash tracks to allow the upper sash to pass to the upper position, raise upper sash and re-install sash stop blocks.

21. Route the sash cables as noted directly on the top of the Side Shells.



22. Attach numbered weights to cables with provided saddle clamps.



23. Check for binding and smooth operation of the sashes and adjust cable and clamps to obtain proper operation.



24. Install 8" glass panel such that the bottom edge is slightly overlapping the top of the upper sash in its closed position.

25. Install the front access panel by aligning the angled sides of the access panel with the white hard plastic pivot points of the side shells.



26. Pivot the panel toward the sash and slide lower notches into the rubber friction catches.

27. Final wiring, duct connections and plumbing to be done per local codes and standards.



28. Seal hood at the floor perimeter with silicone sealant



29. General clean up of site, installation of any other equipment, etc

