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Safety Equipment

NFPA
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AEE
Association of Energy Engineers

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Installation, Operation, Maintenance Manual
UniMax Ventilated Hood Enclosure for "Tops LLC"



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General System Description

UniMax Floor Mount Hood is constructed and equipped with:

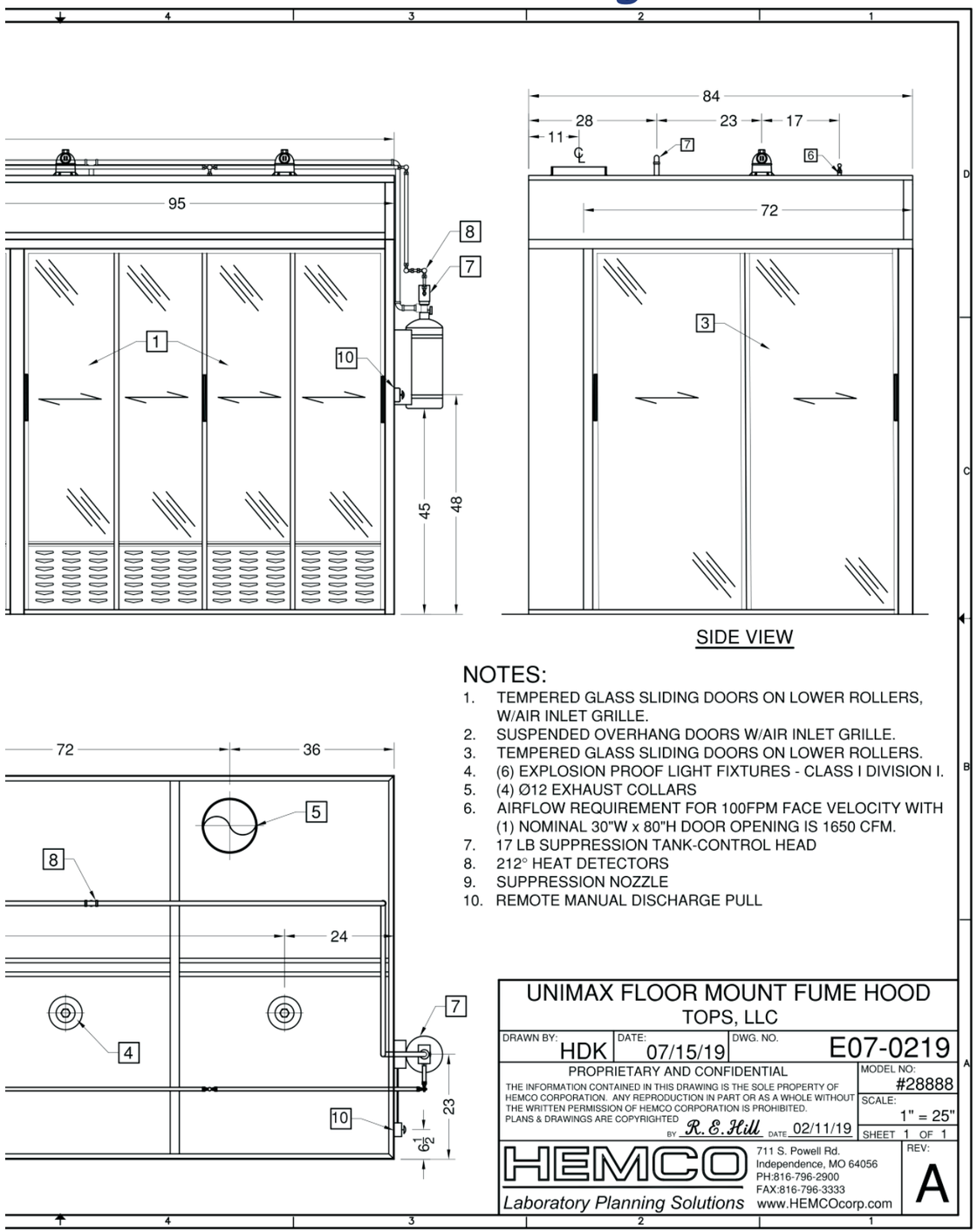
- Modular Construction featuring wall panels that are 2” thick with chemical resistant composite resin surface skin panels.
- Structural framework to be clear of anodized aluminum extrusions.
- A rear varaflow baffle is mounted on the rear wall of hood.
- Top mounted exhaust collar(s).

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Drawings:

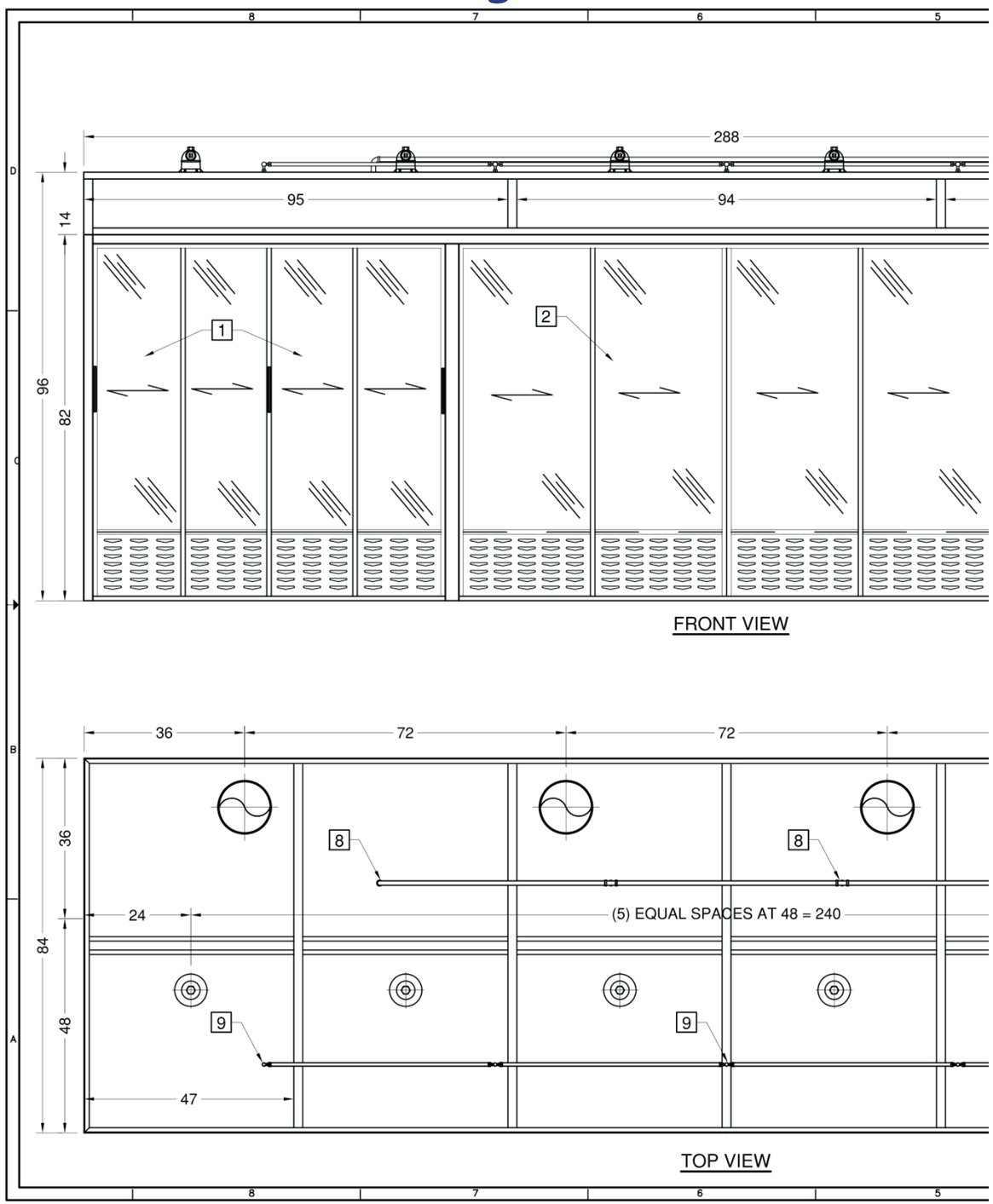


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Drawings:



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.

Preparation For Installation

•Read the Complete Manual

•Gather Required Tools/Equipment

Suggested Tool List

•Cordless screw driver/gun

•Forklift

•Gloves

• Thin flexible putty knife

Required Tool List

•2 screwdriver

• 3/8 Open-end wrench

•Stepladders, 2 or more

2 or more people may be needed to safely construct the hood. Handle all contents with care, some parts may be sharp.

• Deliver components to erection site and segregate. Note identification markings on each panel and inside aluminum extrusions.

Note: Insertion of the wall panels into the base may be aided by utilizing a thin flexible putty or spackling knife to guide the panel into the track.

Note: Be very careful as sub-assemblies and wall sections can be very heavy, particularly the rear wall section. Use dollies or mechanical means to carry items over any distance.

Note: left and right would be determined by facing front of enclosure and the drawing set.

• Be sure wall panels are seated fully into the structural channels and plumb and square. Secure with provided #10 sheet metal screws. ***NOTE: Some pictures shown are from different but similar style projects.***

NOTE: Quick ratchet bar clamps to stepladder may be used to partially support the initial panel until other panels can be permanently secured.

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Maintenance of the hood:

• For all composite surfaces use a general purpose non-abrasive cleaner, For glass surfaces use a formula glass cleaner. (Windex, etc.). For painted or powder coated metal surfaces use a general-purpose nonabrasive cleaner. For anodized surfaces use a general-purpose non-abrasive cleaner. For acrylic surfaces use a mild detergent and soft damp cloth

• Keep the horizontal door track clean and clear of obstructions to ensure movable door operation.

• Explosion proof light fixtures can accommodate 100 - 300 watt bulbs.

• Check to make sure that the duct and baffle slots are free of obstructions.

• Check exhaust for correct airflow on a yearly basis.

1 Year Warranty

HEMCO Corporation warrants this custom project to be free from defects in material and workmanship for a period of one year from the date of shipment.

Product manufactured and built to customer design and approved engineering drawing. Installation and use of product is by others and not covered by this warranty.

This guarantee is made expressly in place of all other guarantees or warranties, expressed or implied, with respect to quality, merchantability, or fitness for a particular purpose.

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Laboratory Safety for Chemical Fume Hoods

The Fume Hood is often the primary control device for protecting laboratory workers when working with toxic and/or flammable chemicals. OSHA's Laboratory Standard (29 CF 1910.1450) requires that fume hoods be maintained and function properly when used.

Before using the Fume Hood:

- Make sure that you understand the operation of the hood enclosure.
- You should be trained to use it properly.
- Know the hazards of the chemical you are working with; refer to the chemical (MSDS) Material Data Safety Sheet if you are unsure.
- Ensure that the exhaust system is turned on for operation.
- Make sure that the doors are closed for operation. The hinged doors are open only when equipment is being set up or when samples are being loaded.

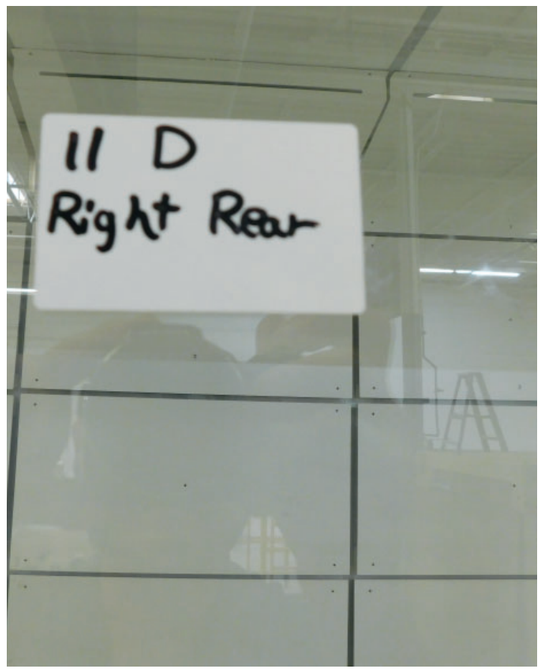
When using the Fume Hood:

- Do not walk in or put your head inside the vertical plane of the hood door opening when fumes are present.
- Use appropriate safety protection.
- Be sure that nothing blocks the airflow through the baffles or through the air inlet grills.
- Elevate large equipment above the floor to allow air to flow underneath.
- Keep all materials inside the hood at least (8) inches from the door opening. When not working in the hood, or when a process is in operation, keep the doors closed.
- Do not permanently store chemicals inside the hood.
- Promptly report any hood that is not functioning properly to your supervisor. The doors should be closed and the hood "tagged" and taken out of service until repairs can be completed.
- When using extremely hazardous chemicals, understand your laboratory's action plan in case an emergency.
- Wipe up spills immediately.
- Minimize drafts and turbulence in front of the hood.
- Routinely validate airflow.

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Note: Panels Are marked with Location Labels



Note: Bottom of Walls sit in an aluminum channel.



Attach Panel (Left Wall 7) to (Left Front Steel door frame).



Attach Panel (Left Wall 7) to (Left Back Wall 1) .Secure From back with #10 sheet metal screws.

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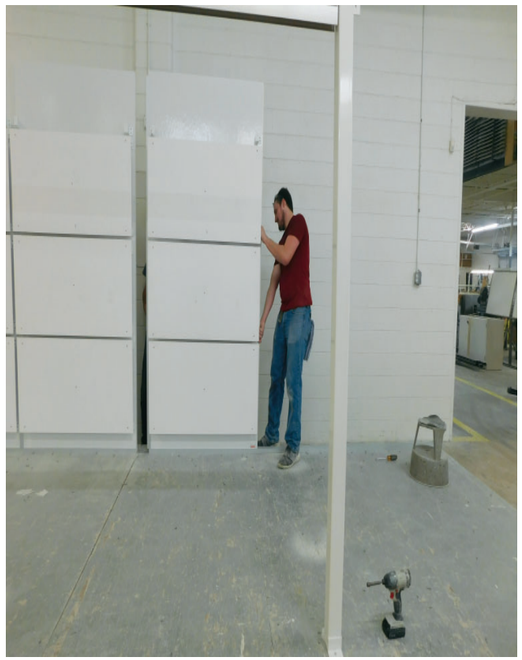
Attach (Center Steel Door Frame) to (Left Steel door frame). Secure with provided bolts.



Attach Panel (Back Wall 2) to (Back Wall 1). Secure from back with provided #10 sheet metal screws.



Attach Panel (Back Wall 3) to (Back Wall 2). Secure from back with provided #10 sheet metal screws.



Attach Panel (Back Wall 4) to (Back Wall 3). Secure from back with provided #10 sheet metal screws.

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Seal the wall to ceiling joint completely around the perimeter of the hood with 100% silicon sealant.

NOTE: Ceiling panel can be set on the tines of a fork truck and lifted to the proper height and (hand over head) into final position utilizing stepladders inside and outside the enclosure or can be passed (hand over head) from (2) persons on the floor to (2) persons on separate stepladders.

CAUTION: Roof Structure is not designed to support more than 50-60 pounds of Load

Secure upper (ceiling) connections with #10 machine bolt (interior) and nylon nuts (exterior) Cover screw heads with #10 PVC cover caps.



Completed Unit

- Seal any air gaps and joints of the enclosure not previously sealed with silicone sealant. Typical air gaps would be walls to ceiling, floor perimeter, etc.
- General clean up of site, installation of any other equipment, etc
- Note: All explosion proof electrical components are required to be wired by local certified electrician to comply with local codes.

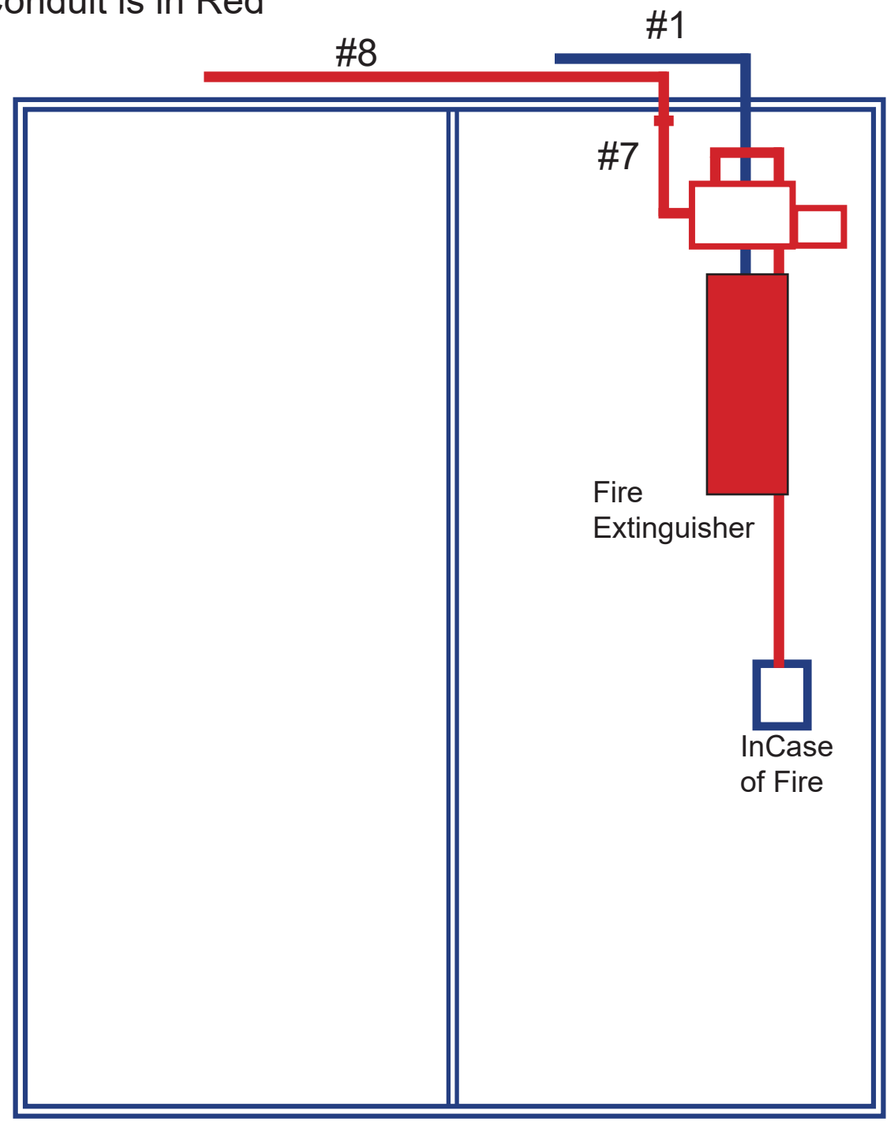
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Side View

Lay out of Piping on side of Hood.
Pipe is in Blue,
Conduit is in Red



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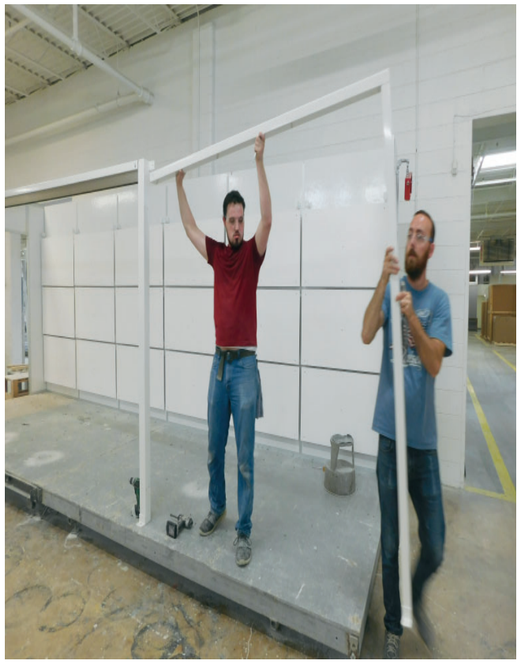
Attach Panel (Back Wall 5) to (Back Wall 4). Secure from back with provided #10 sheet metal screws.



Attach Panel (Back Wall 6) to (Back Wall 5). Secure from back with provided #10 sheet metal screws.



Attach Panel (Right Wall 8 back section) to (Right back wall 6)). Secure from back with provided #10 sheet metal screws.



Attach (Right Steel Door Frame) to (Center Steel door frame). Secure with provided bolts.

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Attach (Right Steel Door Frame) to (Center Steel door frame). Secure with provided bolts.



Install (Right front wall 8) to (Right Back wall 8)



Install aluminum channels (2) to top of door frame. Secure with provided #10 sheet metal screws.



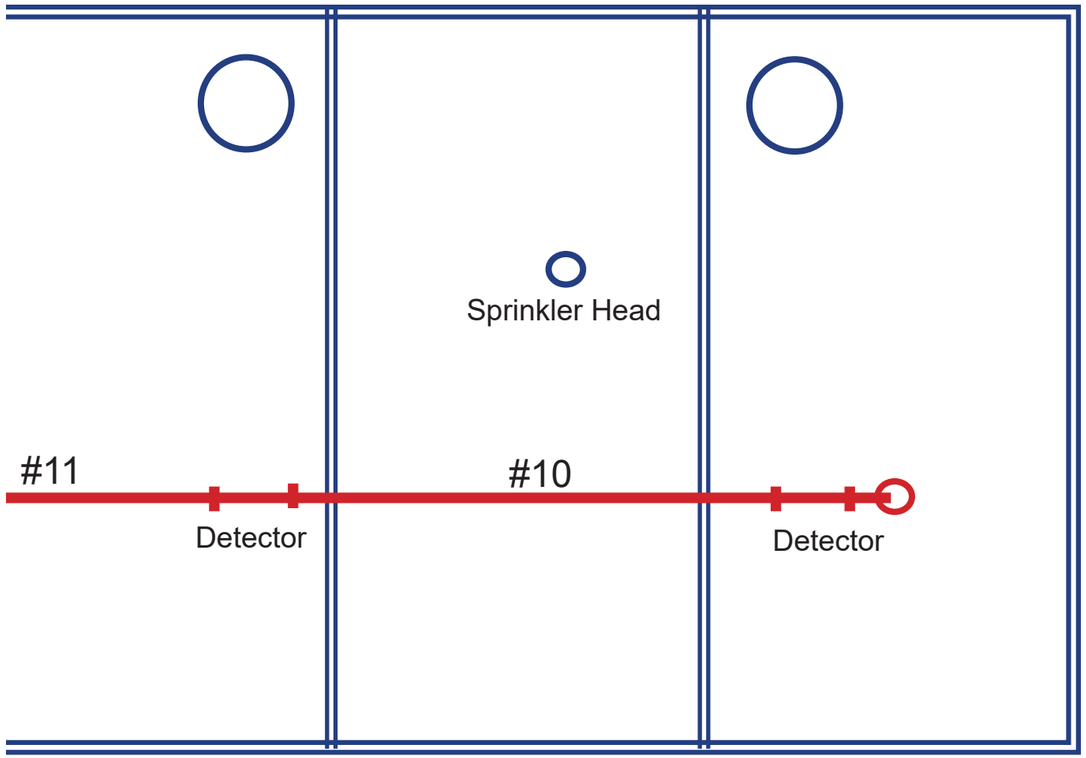
Attach (Right Header 9R) into track above (Steel door frame) insert aluminum channel between headers.

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Inside Top View



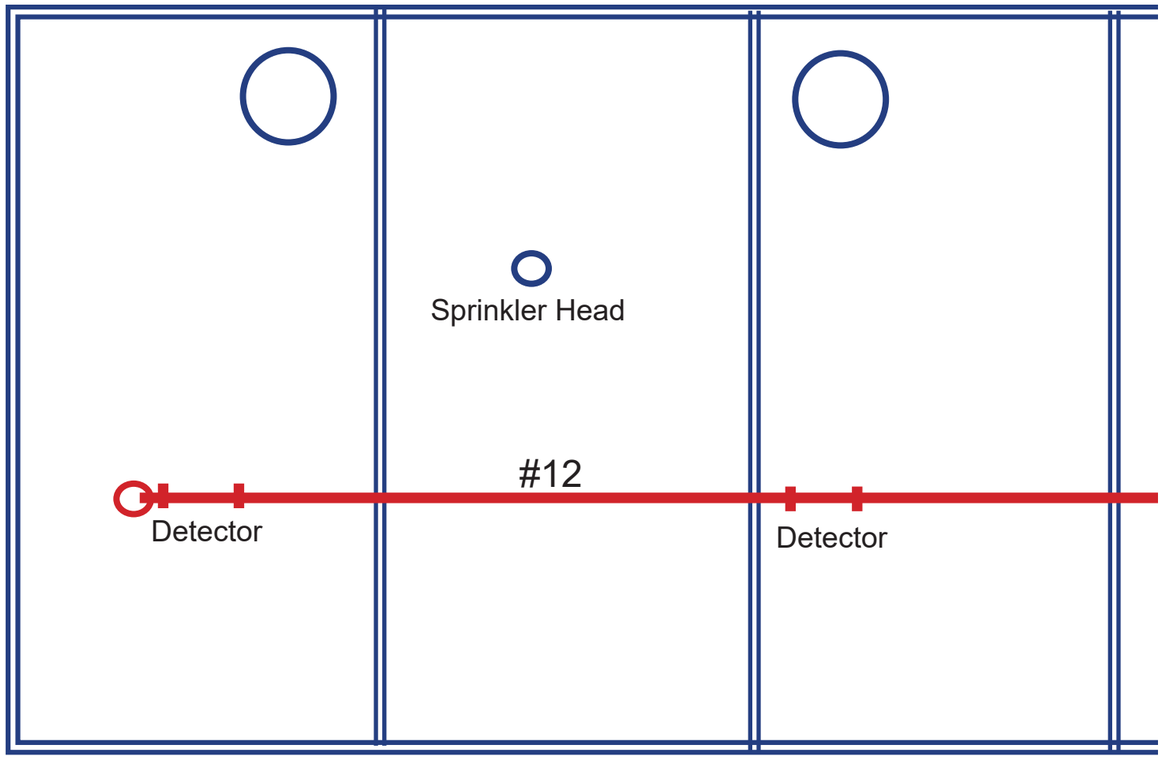
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Inside Top View

Lay out of Piping on inside top of Hood.
Conduit is in Red



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Attach (Center Header 9M) into track above (Steel door frame) insert aluminum channel between headers.



Attach (Left Header 9L) into track above (Steel door frame).



Attach Aluminum Channels (2) to top of Back wall.



Attach Aluminum Channels (2) to top of Front wall.

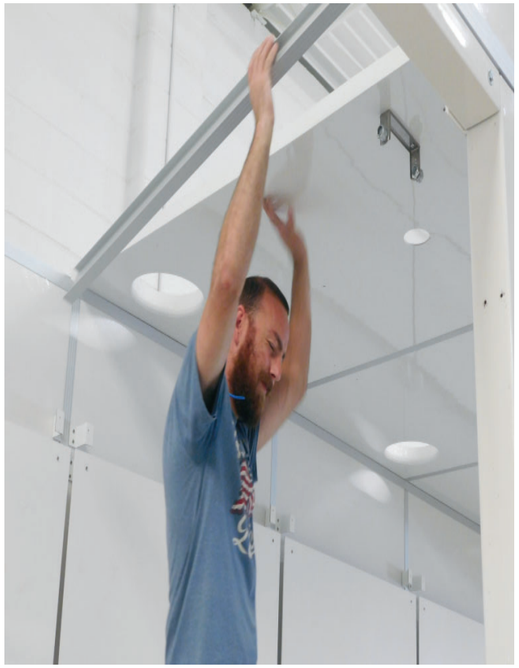
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Install (Ceiling Panel 6) into Aluminum channels.



Attach Aluminum Channel between each ceiling panel.



Install (Ceiling Panel 5) into Aluminum channels. Note: Holes for Duct work are located toward the back of the Hood, and Lighting is located toward the front of the hood.



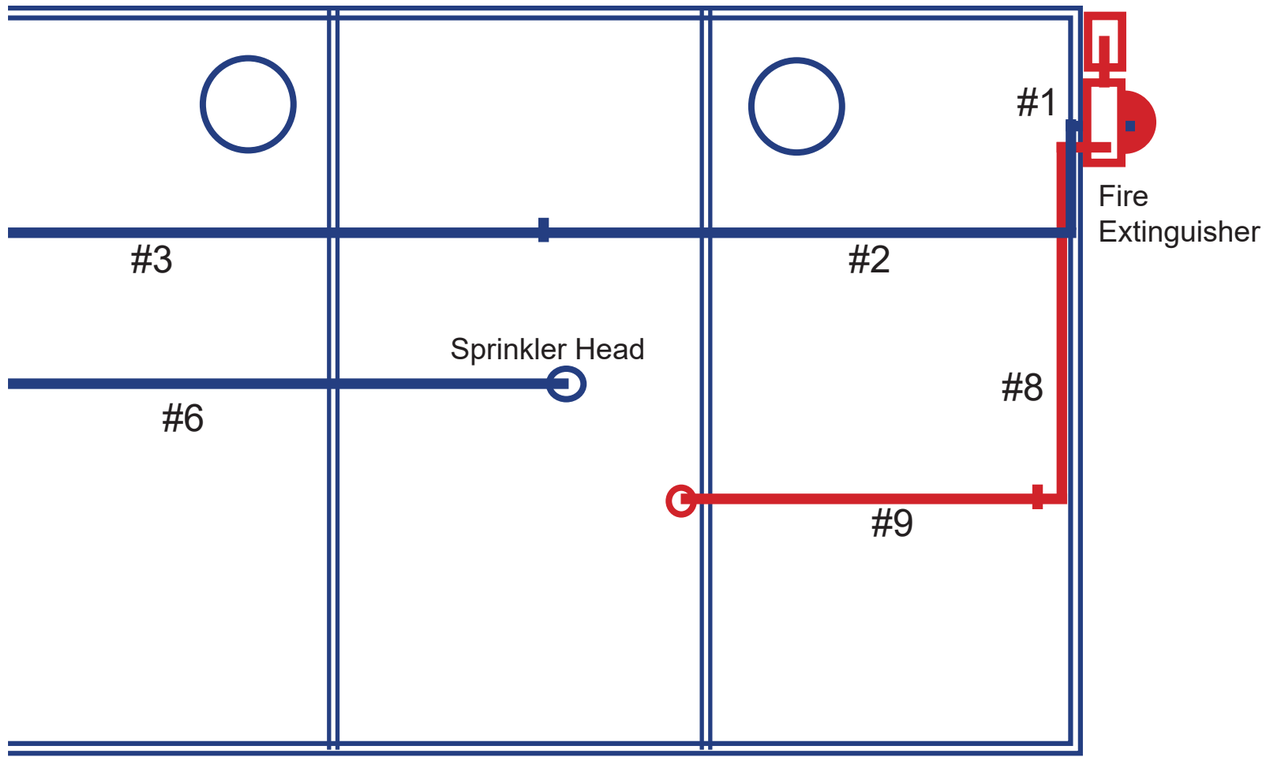
Install (Ceiling Panel 4) into Aluminum channels.

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Top View



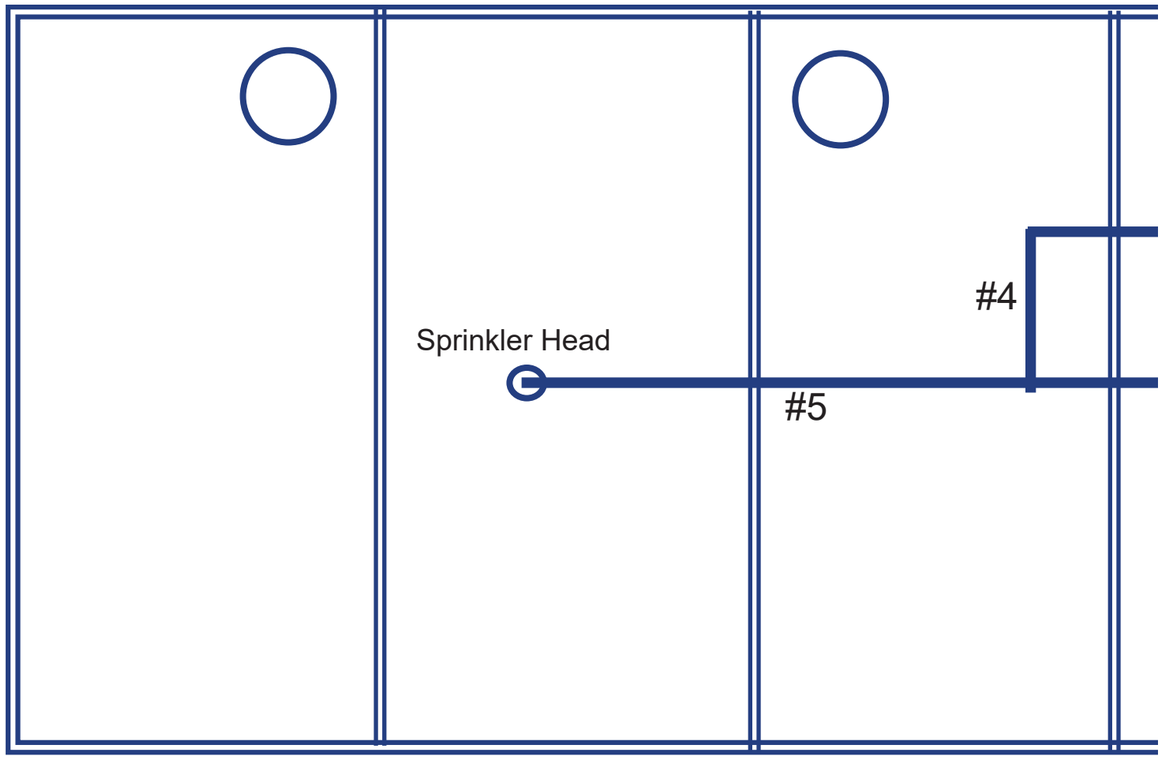
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Top View

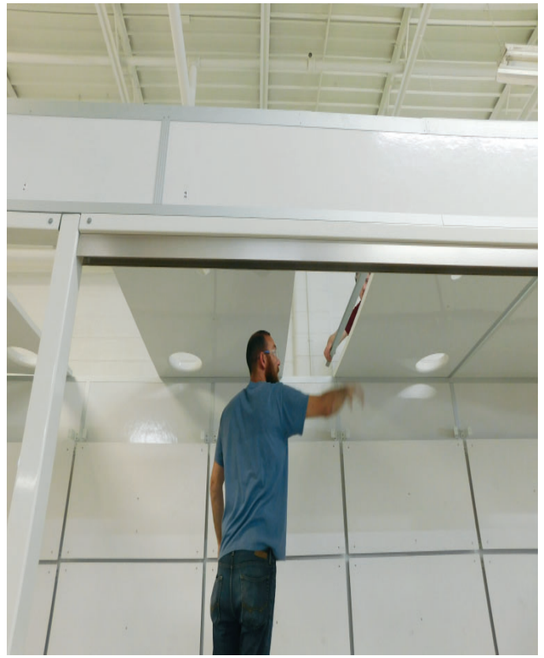
Lay out of Piping on top of Hood.
Pipe is in Blue,
Conduit is in Red



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Install (Ceiling Panel 3) into Aluminum channels.



Install (Ceiling Panel 2) into Aluminum channels.



Install (Ceiling Panel 1) into Aluminum channels.



Secure Ceiling panels together using nuts and bolts provided.(from the top of hood)

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Aluminum channel shown in position between ceiling panels.



Install: Machine screws and locknuts to hold the ceiling panels together.



Install (Left Front Aluminum Door Frame 11).
Secure with provided #10 sheet metal screws.

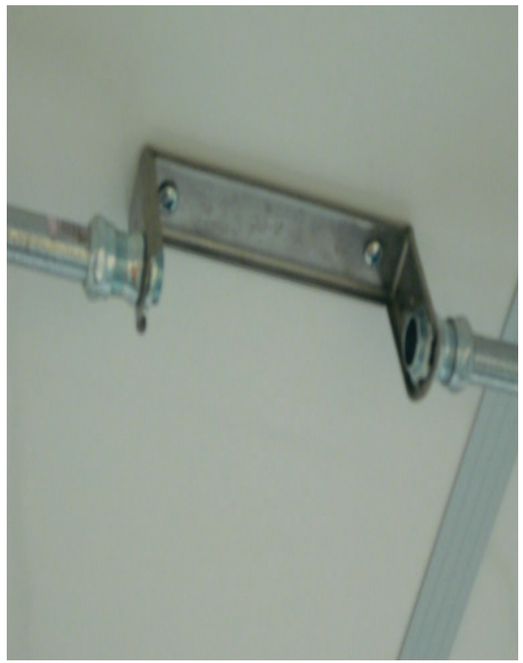


Install (Left Side Aluminum Door Frame 10).
Secure with provided #10 sheet metal screws.

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Attach (conduit #11) to first and second (Detectors).



Attach (conduit #10) to second and third (Detectors), and then to elbow through the hole in the ceiling panel.



Top view of Conduit (#8) and (#9).



View of Electrical box and Fire Alarm.

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Secure (Black pipe #3) to (Black pipe #4) with elbow,
Secure (Black pipe #2) to (Black pipe #3) with elbow,
and secure to top of hood with clamps provided.



Attach Sprinkler Heads to end of pipe through the top of the hood.



View of (Detector) inside top of hood.



Attach (conduit #12) to first (Detector).

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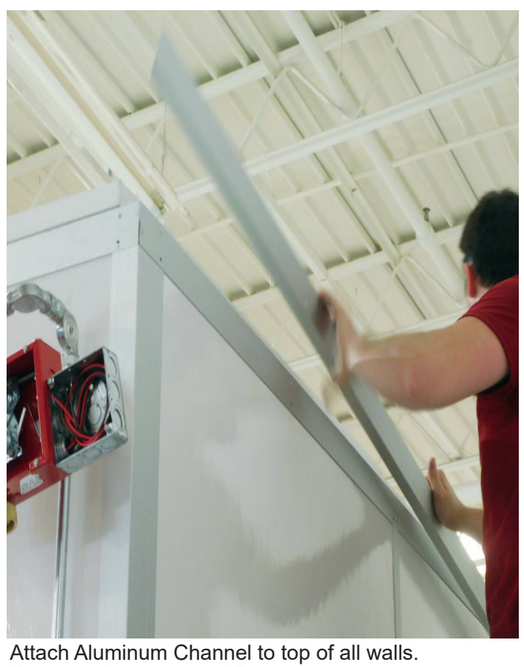
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Install (Right Front Aluminum Door Frame 13).
Secure with provided #10 sheet metal screws.



Install (Right Side Aluminum Door Frame 14).
Secure with provided #10 sheet metal screws.



Attach Aluminum Channel to top of all walls.
Secure with provided #10 sheet metal screws.



Secure with provided #10 sheet metal screws.

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Install (Top Baffle 6) to (Back Wall 6) and (Ceiling Panel 6).



Install (Top Baffle 5) to (Back Wall 5) and (Ceiling Panel 5).



Install (Top Baffle 4) to (Back Wall 4) and (Ceiling Panel 4).



Install (Top Baffle 3) to (Back Wall 3) and (Ceiling Panel 3).

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Fire Suppression System



Attach (Conduit) into top of (Junction Box) and run it down to (In Case of Fire) box.



View of Top of the Hood.



Secure (Black pipe #6) to (Black pipe #5) with tee, and secure to top of hood with clamps provided.



Secure (Black pipe #4) to (Black pipe #5) with Tee, and secure to top of hood with clamps provided.

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Fire Suppression System



Fume Hood Fire Extinguisher.



Attach (Fire Extinguisher) to (Fire Extinguisher Bracket). Secure with Stainless steel clamp.



Attach (Black pipe #1) to (Pipe coming out of Fire Extinguisher) with union, and (Side Wall) Secure from side with provided clamps.



Attach (Conduit #7) into side of (Junction Box) and Secure from side with provided clamps.

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Install (Top Baffle 2) to (Back Wall 2) and (Ceiling Panel 2).



Install (Top Baffle 1) to (Back Wall 1) and (Ceiling Panel 1).



Install the (2) (Sliding Doors 10D) into the (Left Wall Door Frame 10). Note that doors are marked as inner and outer door.



Install the (4) (Sliding Doors 11D) into the (Left Wall Door Frame 11). Note that doors are marked as inner and outer doors.

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Install the (4) (Sliding Doors 12D) into the (Center Door Frame 12). Note that doors are marked as inner and outer doors.



Install the (4) (Sliding Doors 13D) into the (Right Wall Door Frame 13). Note that doors are marked as inner and outer doors.



Install the (2) (Sliding Doors 14D) into the (Right Wall Door Frame 14). Note that doors are marked as inner and outer door.



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Install Top Section of Light fixture trough roof of ceiling panel



Thread bottom section of Light fixture into the top section from inside the Hood



Plumbing for the Fire Suppression System.