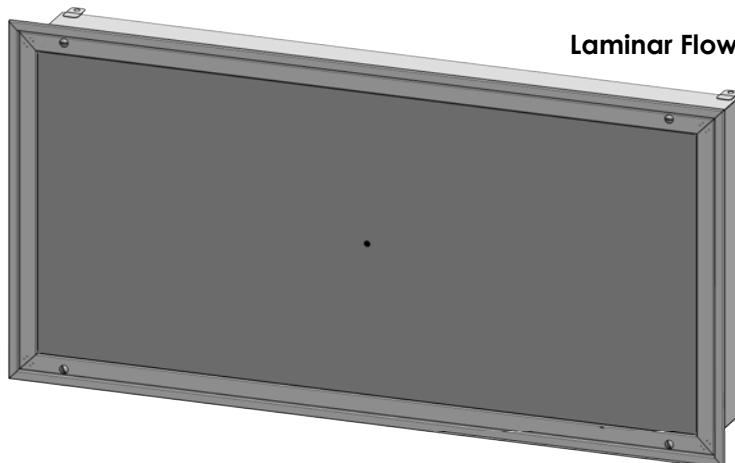


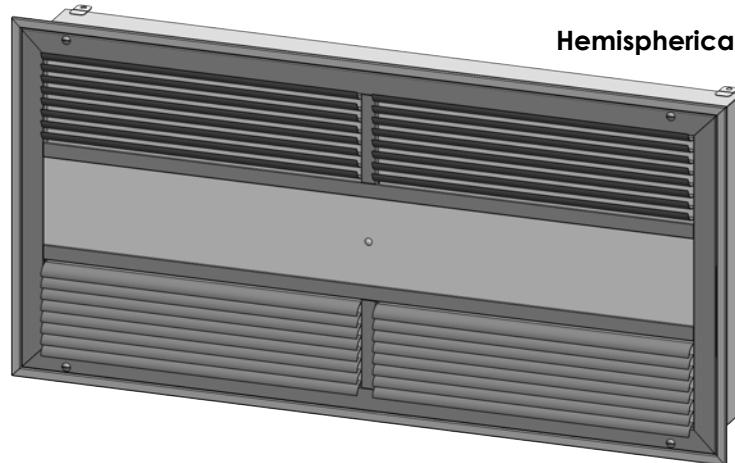
READ COMPLETELY AND SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE

# STAINLESS STEEL CRITICAL ENVIRONMENT

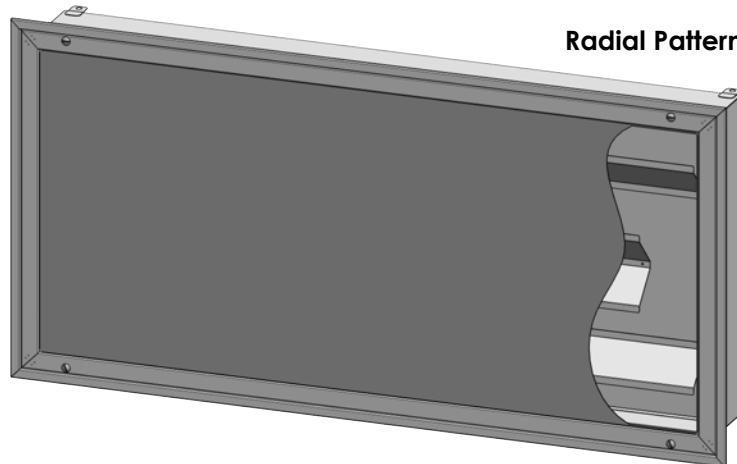
LAMINAR FLOW DIFFUSERS  
RADIAL PATTERN DIFFUSERS  
HEMISPERICAL DIFFUSERS



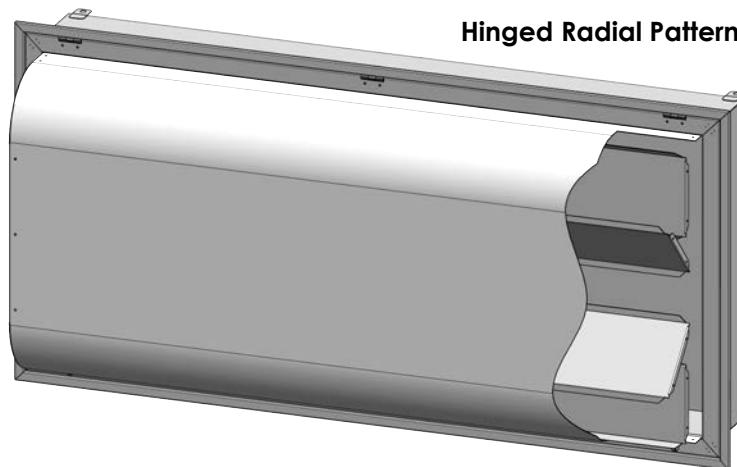
Laminar Flow



Hemispherical



Radial Pattern



Hinged Radial Pattern

-These instructions cover critical environment unit models:

- SSLF (Laminar Flow)
- HRDP (Hinged Radial Flow)
- SSLFHFD (Laminar Flow w/HEPA)
- HRDP-HEPA (Hinged Radial Flow w/HEPA)
- FRD (Radial Flow)
- SSHEMI (Hemispherical Diffuser)
- FRD-HEPA (Radial Flow w/HEPA)
- SSHEMI-HEPA (Hemispherical Diffuser)



**AJ Manufacturing**  
8701 Elmwood Avenue #400  
Kansas City, MO 64132  
Phone: (816) 231-5522  
Fax: (816) 231-8437  
[www.AJmfg.com](http://www.AJmfg.com)

DRAWN	CATEGORY	TAG	QTY	REV #
SLG	CRITICAL ENVIRONMENT INSTALLATION MANUAL			
CHKD	PRODUCT			SHT 1/7
	SSLF, SSLFHFD, FRD, FRD-HEPA, HRDP, HRDP-HEPA, SSHEMI, SSHEMI-HEPA			SCL 1:12
APRVD	SIZE			DO NOT SCALE
06/06/22				

# STAINLESS STEEL CRITICAL ENVIRONMENT

LAMINAR FLOW DIFFUSERS  
RADIAL PATTERN DIFFUSERS  
HEMISPERICAL DIFFUSERS

## Critical operation conditions of any Laminar Flow, Radial Pattern or Hemispherical Diffuser with a HEPA Filter

- **DO NOT TOUCH** the HEPA Filter media. Damage to filter media may void the filter warranty. The screen is to protect against accidental touching of the filter. Never place objects on the filter. Always transport or lift the filter by its frame.

### WARNING!

- Installation work must be completed by qualified persons in accordance with all applicable codes and standards, to include fire-rated constructions.
- When cutting or drilling into walls and ceilings, be careful not to damage electrical wiring and other hidden utilities.
- If this unit is to be installed within close proximity to water, mark the unit as according to applicable codes and standards.
- This unit is to be used only as intended by the manufacturer. If you have any questions regarding the use, installation or operations of this unit, contact the manufacturer.



**AJ Manufacturing**  
8701 Elmwood Avenue #400  
Kansas City, MO 64132  
Phone: (816) 231-5522  
Fax: (816) 231-8437  
[www.AJmfg.com](http://www.AJmfg.com)

DRAWN	CATEGORY	TAG	QTY	REV #
SLG	CRITICAL ENVIRONMENT INSTALLATION MANUAL			SHT 2/7
CHKD	PRODUCT SSLF, SSLFHFD, FRD, FRD-HEPA, HRDP, HRDP-HEPA, SSHEMI, SSHEMI-HEPA			SCL 1:1
APRVD 06/06/22	SIZE			DO NOT SCALE

## SURFACE MOUNT INSTALLATION INSTRUCTIONS

Standard Unit Sizes		
Nominal Unit	Cutout Width	Cutout Height
24 x 24	22.6	22.6
36 x 24	34.6	22.6
48 x 24	46.6	22.6
60 x 24	58.6	22.6
72 x 24	70.6	22.6

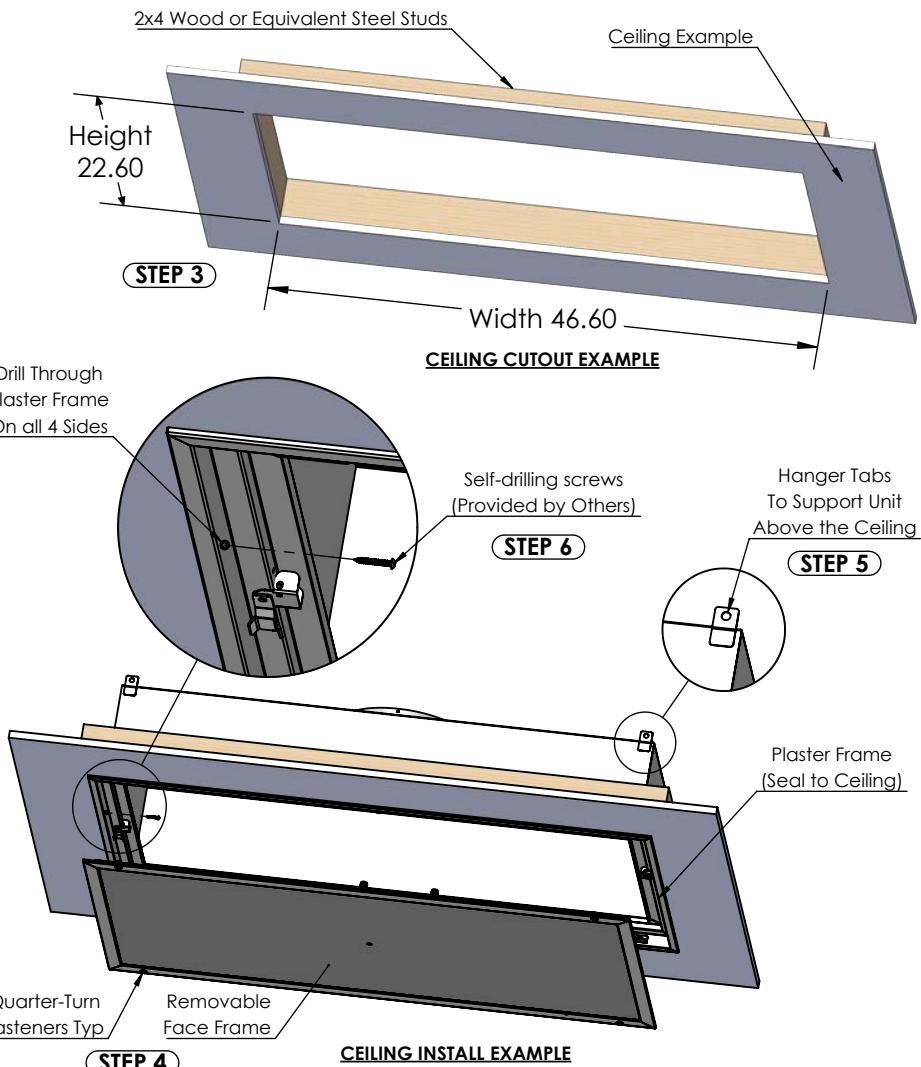
The diffuser is fully assembled from the factory, with the exception of the HEPA filter option. The HEPA filter is shipped separately.

**NOTE:** These instructions are for surface mounting to a sealed ceiling. Some installations require custom mounting and/or custom diffusers. In those cases be sure to seal the unit to the ceiling and seal all penetrations through the plenum walls.

1. Carefully remove the unit from the shipping carton and inspect for damage that may have occurred during shipping. If shipping damage is found, do not install. Call the rep, salesman, or manufacturer to report damage.
2. Wipe down unit to remove shipping dust and debris.
3. **Prepare the ceiling:** Cut a rectangular hole in the desired location 1.4" smaller than the nominal size of the diffuser. Frame the hole with 2x4 wood or equivalent steel studs. Always measure the units to verify dimensions before making cuts.
4. Using a flat screw driver, release the face frame by rotating the quarter-turn fasteners counter clock-wise. Unhook the safety cables from the unit. Set the frame aside.
5. Raise the unit into the framed opening until the unit is tight against the ceiling. It is recommended to further support the unit from above using the tabs welded to the plenum.
6. Secure the unit in the ceiling by installing self-drilling screws through the plaster frame into the opening frame. Alternately, pre-drill holes and install wood or sheet metal screws.
7. Install duct work as required. Clean installation debris from the unit and surrounding ceiling.
8. Using approved caulk, seal the outer perimeter of the diffuser to the ceiling. Also seal around the mounting screws and any other holes made in the diffuser.
9. If applicable, install the HEPA filter per the "Removal and Replacement of the HEPA Filter with Gel Seal" section on page 5 of the Critical Environment IOM.
10. Wait at least 30 minutes after filter install and ensure there is a positive pressure in the room before performing any challenge leak testing.
11. Raise the face frame back in to place, re-attach the safety chains, and secure the quarter-turn fasteners.

# STAINLESS STEEL CRITICAL ENVIRONMENT

## LAMINAR FLOW DIFFUSERS RADIAL PATTERN DIFFUSERS HEMISPERICAL DIFFUSERS



**AJ Manufacturing**  
8701 Elmwood Avenue #400  
Kansas City, MO 64132  
Phone: (816) 231-5522  
Fax: (816) 231-8437  
[www.AJmfg.com](http://www.AJmfg.com)

DRAWN	CATEGORY	TAG	QTY	REV #
SLG	CRITICAL ENVIRONMENT INSTALLATION MANUAL			
CHKD	PRODUCT			SHT 3/7
	SSLF, SSLFHFD, FRD, FRD-HEPA, HRDP, HRDP-HEPA, SSHEMI, SSHEMI-HEPA			SCL 1:16
APRVD	SIZE			DO NOT SCALE
06/06/22				

## LAYIN CEILING INSTALLATION INSTRUCTIONS

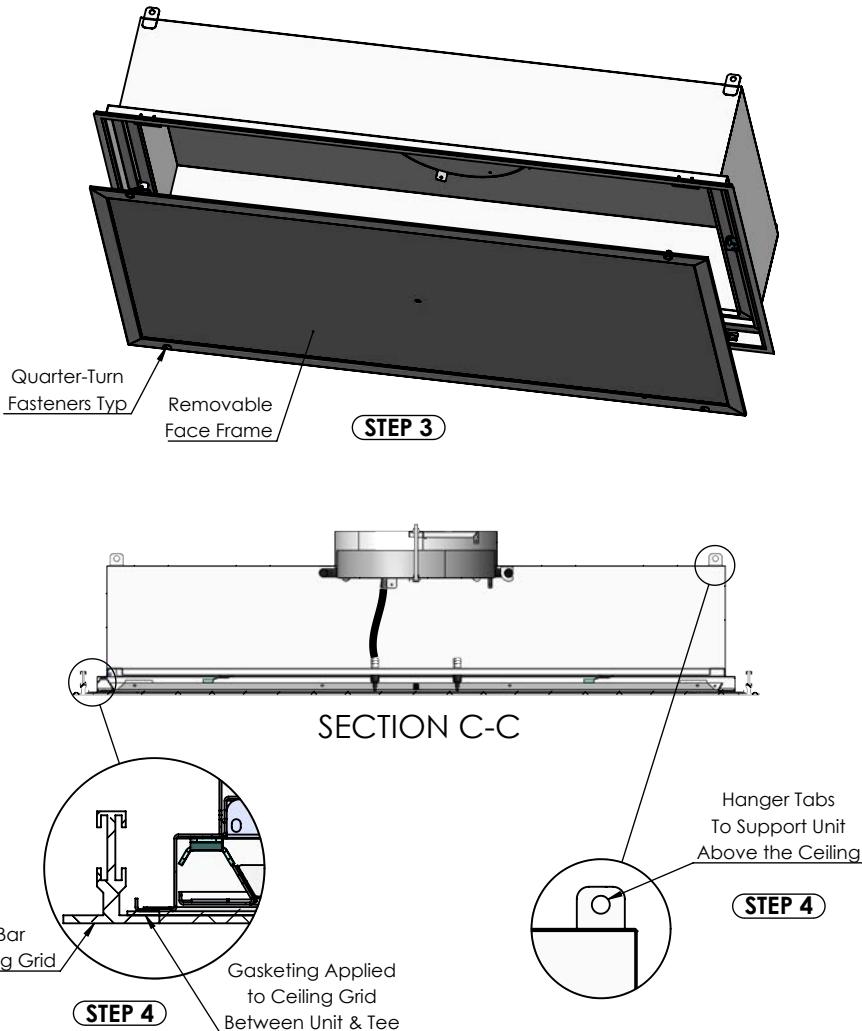
The diffuser is fully assembled from the factory, with the exception of the HEPA filter option. The HEPA filter is shipped separately.

**NOTE:** These instructions are for a T-bar lay-in ceiling. Some installations require custom mounting and/or custom diffusers. In those cases be sure to seal the unit to the ceiling and seal all penetrations through the plenum walls.

1. Carefully remove the unit from the shipping carton and inspect for damage that may have occurred during shipping. If shipping damage is found, do not install. Call the rep, salesman, or manufacturer to report damage.
2. Wipe down unit to remove shipping dust and debris.
3. Using a flat screw driver, release the face frame by rotating the quarter-turn fasteners counter clock-wise. Unhook the safety cables from the unit. Set the frame aside.
4. Raise unit into T-bar ceiling and lower onto gasketed opening. Gasket should be a closed-cell material approved for the environmental conditions. It is recommended to further support the unit from above using the hanger tabs welded to the plenum.
5. Install duct work as required. Clean installation debris from the unit and surrounding ceiling.
6. If needed, using approved caulk, seal the outer perimeter of the diffuser to the ceiling grid on the room side of the unit.
7. If applicable, install the HEPA filter per the "Removal and Replacement of the HEPA Filter with Gel Seal" section on page 5 of the Critical Environment IOM.
8. Wait at least 30 minutes after filter install and ensure there is a positive pressure in the room before performing any challenge leak testing.
9. Raise the face frame back in to place, re-attach the safety chains, and secure the quarter-turn fasteners.

# STAINLESS STEEL CRITICAL ENVIRONMENT

## LAMINAR FLOW DIFFUSERS RADIAL PATTERN DIFFUSERS HEMISPERICAL DIFFUSERS



**AJ Manufacturing**  
8701 Elmwood Avenue #400  
Kansas City, MO 64132  
Phone: (816) 231-5522  
Fax: (816) 231-8437  
[www.AJmfg.com](http://www.AJmfg.com)

DRAWN	CATEGORY	TAG	QTY	REV #
SLG	CRITICAL ENVIRONMENT INSTALLATION MANUAL			SHT 4/7
CHKD	PRODUCT			SCL 1:14
APRVD 06/06/22	SSLF, SSLFHFD, FRD, FRD-HEPA, HRDP, HRDP-HEPA, SSHEMI, SSHEMI-HEPA SIZE			DO NOT SCALE

## Removal and Replacement of the HEPA Filter with Gel Seal

Tools required: Flat Screw Driver

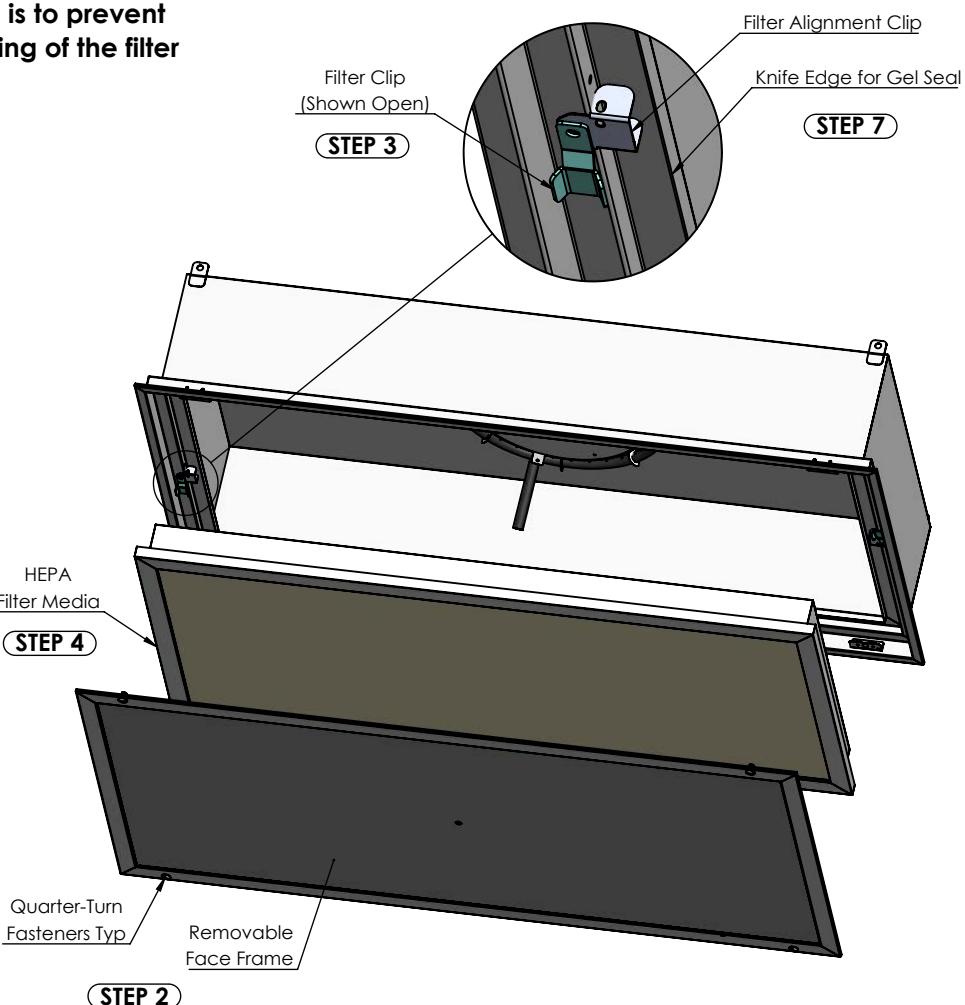
### WARNING!

**The HEPA filter may be protected by an expanded metal screen. This is to prevent accidental touching of the filter media. It is not meant to allow handling of the filter in these areas. Handle the filter ONLY by the frame.**

1. Shut off airflow to the diffuser.
2. Using a flat screw driver, release the face frame by rotating the quarter-turn fasteners counter clock-wise. Unhook the safety cables from the unit. Set the frame aside.
3. USE TWO PEOPLE TO SUPPORT THE FILTER and rotate the filter clips until the clip is clear of the filter.
4. Allow gravity to pull the filter away from the unit. If installing a new filter discard the filter in an appropriate manner.
5. If the unit is equipped with the HEPA-Alert battery powered LED system, replace the battery at this time.
6. Unpack the new filter and inspect for shipping damage. If damage is found, do not install in unit; call the rep, salesman, or manufacturer for replacement arrangements.
7. Using two people, raise the filter into place assuring the seal edge is approximately in the center of the gel channel. The spacers beneath the filter clips will help align the filter.
8. While supporting the filter by its frame, rotate the filter clips so that the clips are supporting the filter frame. Wait at least 30 minutes before performing any challenge testing to allow the gel to fully adhere to the unit.
9. Raise the face frame back into place, re-attach the safety chains and secure quarter-turn fasteners.

# STAINLESS STEEL CRITICAL ENVIRONMENT

LAMINAR FLOW DIFFUSERS  
RADIAL PATTERN DIFFUSERS  
HEMISPERICAL DIFFUSERS



**AJ Manufacturing**  
8701 Elmwood Avenue #400  
Kansas City, MO 64132  
Phone: (816) 231-5522  
Fax: (816) 231-8437  
[www.AJmfg.com](http://www.AJmfg.com)

DRAWN	CATEGORY	TAG	QTY	REV #
SLG	CRITICAL ENVIRONMENT INSTALLATION MANUAL			SHT 5/7
CHKD	PRODUCT			SCL 1:12
APRVD 06/06/22	SSLF, SSLFHFD, FRD, FRD-HEPA, HRDP, HRDP-HEPA, SSHEMI, SSHEMI-HEPA SIZE			DO NOT SCALE

## PAO CHALLENGE MANIFOLD

### OPTIONAL ACCESSORY

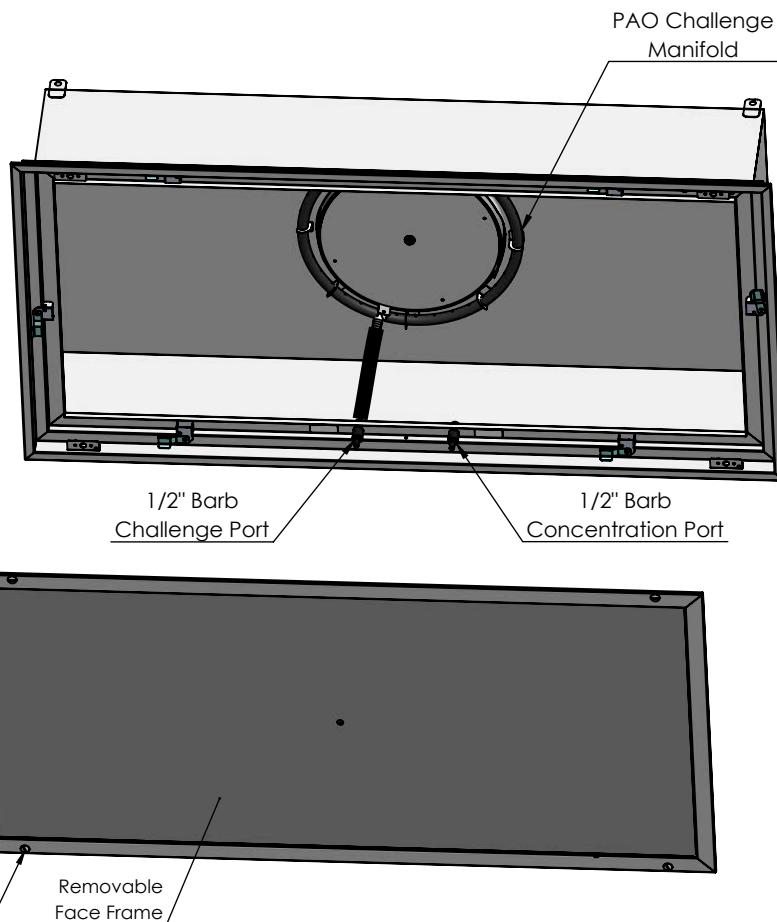
A PAO Challenge Manifold is an available option to provide a reliable, convenient method of performing a challenge test of the diffuser at the face.

**\*\*These instructions are to assist a qualified technician in testing the leakage of the diffuser. Filter should be installed for a minimum of 30 minutes before test is performed.**

1. Using a flat screw driver, release the face frame by rotating the quarter-turn fasteners counter clock-wise. Unhook the safety cables from the unit. Set the frame aside.
2. Remove the cap from the PAO concentration port (labeled "Concentration"). Attach UPSTREAM hose (1/2" ID; Thin Wall) from photometer to PAO concentration port.
3. Remove the cap from the PAO challenge supply port (labeled "Challenge"). Attach DOWNSTREAM hose (1/2" ID; Thin Wall) from PAO aerosol generator to PAO concentration supply port.
4. Conduct the challenge test per the site requirements. Equipment is designed to pass IEST-RP-CC034 current revision standards.
5. Disconnect hoses from ports and securely replace caps.
6. Raise the face frame back into place, re-attach the safety chains and secure quarter-turn fasteners.

# STAINLESS STEEL CRITICAL ENVIRONMENT

LAMINAR FLOW DIFFUSERS  
RADIAL PATTERN DIFFUSERS  
HEMISPERICAL DIFFUSERS



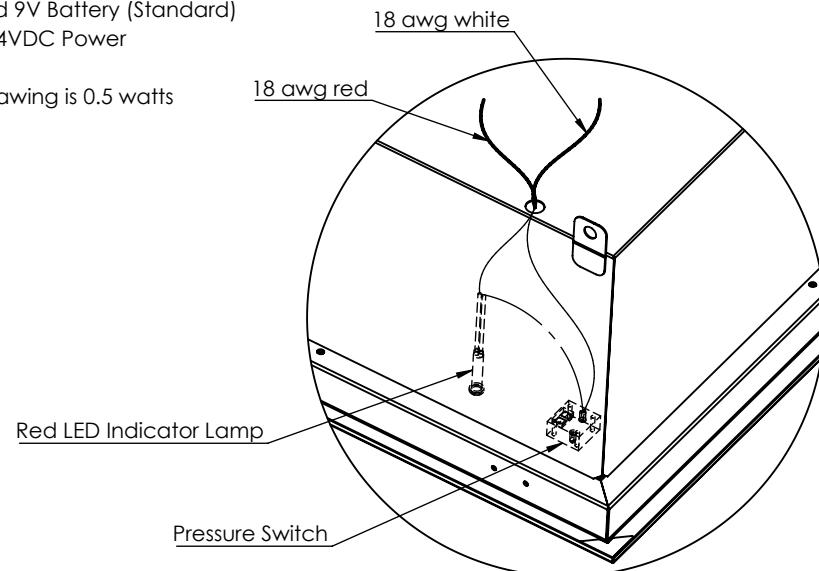
**AJ Manufacturing**  
8701 Elmwood Avenue #400  
Kansas City, MO 64132  
Phone: (816) 231-5522  
Fax: (816) 231-8437  
[www.AJmfg.com](http://www.AJmfg.com)

DRAWN	CATEGORY	TAG	QTY	REV #
SLG	CRITICAL ENVIRONMENT INSTALLATION MANUAL			SHT 6/7
CHKD	PRODUCT			SCL 1:12
APRVD 06/06/22	SSLF, SSLFHFD, FRD, FRD-HEPA, HRDP, HRDP-HEPA, SSHEMI, SSHEMI-HEPA SIZE			DO NOT SCALE

## HEPA-Lert OPTIONAL ACCESSORY

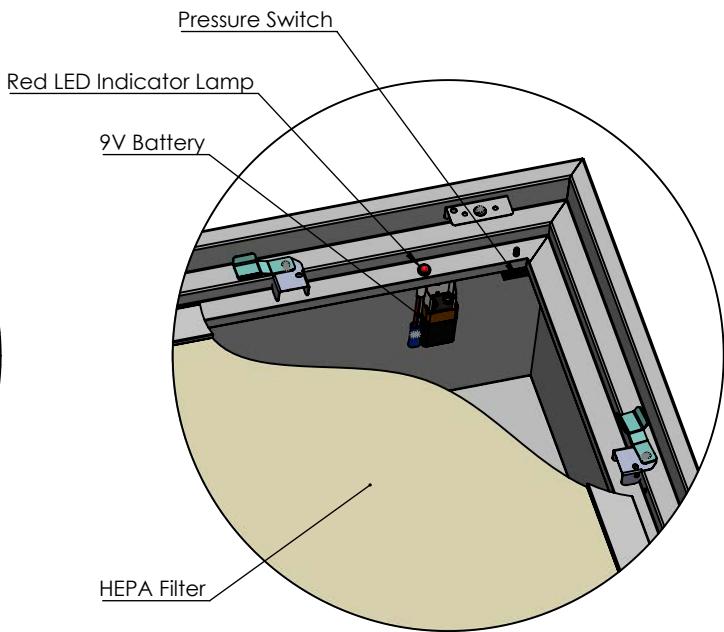
A HEPA-Lert is an available option to provide a reliable, convenient method of indicating the diffuser has a dirty filter.

- The pressure switch closes when a dirty filter causes the pressure inside the unit to rise above a pre-determined setpoint. (Standard set point is 1.00" W.C.)
- Powered By:
  - Factory Supplied 9V Battery (Standard)
  - Field Supplied 24VDC Power
- HEPA-Lert LED power drawing is 0.5 watts

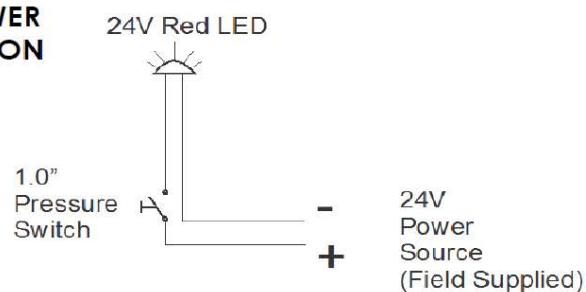


# STAINLESS STEEL CRITICAL ENVIRONMENT

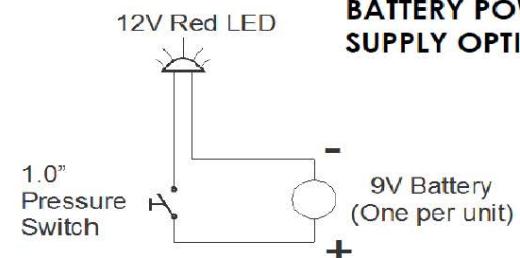
LAMINAR FLOW DIFFUSERS  
RADIAL PATTERN DIFFUSERS  
HEMISPERICAL DIFFUSERS



### SYSTEM POWER SUPPLY OPTION



### BATTERY POWER SUPPLY OPTION



**AJ Manufacturing**  
8701 Elmwood Avenue #400  
Kansas City, MO 64132  
Phone: (816) 231-5522  
Fax: (816) 231-8437  
[www.AJmfg.com](http://www.AJmfg.com)

DRAWN SLG	CATEGORY CRITICAL ENVIRONMENT INSTALLATION MANUAL	TAG	QTY	REV #
CHKD	PRODUCT SSLF, SSLFHFD, FRD, FRD-HEPA, HRDP, HRDP-HEPA, SSHEMI, SSHEMI-HEPA			SHT 7/7
APRVD 06/06/22	SIZE			SCL 1:12 DO NOT SCALE