

Combustion Airflow (CA) Stations

INSPECTION & HANDLING

- The CA Station should be carefully inspected for damage prior to installation. Report damage to your Freight Department, or contact delivery carrier.
- Almost any means of handling can be utilized depending on the size and weight of the station, however, it is important not to drop or mishandle such that damage is done to the air straightener, sensing arms, signal connection fittings, or flanges.

LOCATION OF CA Station

- When installing the CA Station, select a location that meets or exceeds the Minimum Installation Requirements. See Figure 1.
- The CA Station should not be used to strengthen or support connecting piping or ductwork.

MINIMUM INSTALLATION REQUIREMENTS

- Considerations when installing the CA Station are as follows:
- **Turbulent Airflow.** The unique use of honeycomb airflow straightener permits accurate flow measurement in the presence of moderate air turbulence. The distances from air turbulence producing fittings, transitions, etc., shown in Figure 1 are the minimum requirements for installation to assure accurate airflow measurement. Wherever possible, the CA Station should be installed with longer runs of straight duct (or clearances) than shown.
- **Airborne Contaminants.** Applications containing airborne contaminants may require periodic manual or automatic cleaning using compressed air applied via the signal fittings, and/or physical cleaning.
- **Direction of Airflow.** The CA Station will function only with the airflow passing through the air straightener section prior to entering the total and static pressure sensing section. To prevent improper installation, each CA Station is marked with an arrow indicating the required direction of airflow.

MINIMUM INSTALLATION REQUIREMENTS, cont'd.

- **Field Accuracy Verification As Installed.** For applications where less than ideal locations must be selected, or where accuracy verification is critical, Air Monitor recommends a multipoint pitot traverse, using a 5 hole pitot tube that measures the true velocity vector at each test point. This is achieved by means of installing test ports, either as optional construction integral to the CA Station, or by duct mounted ports in a suitable location. Traverse testing is an available service provided by Air Monitor, contact amcsales@airmonitor.com for more information.

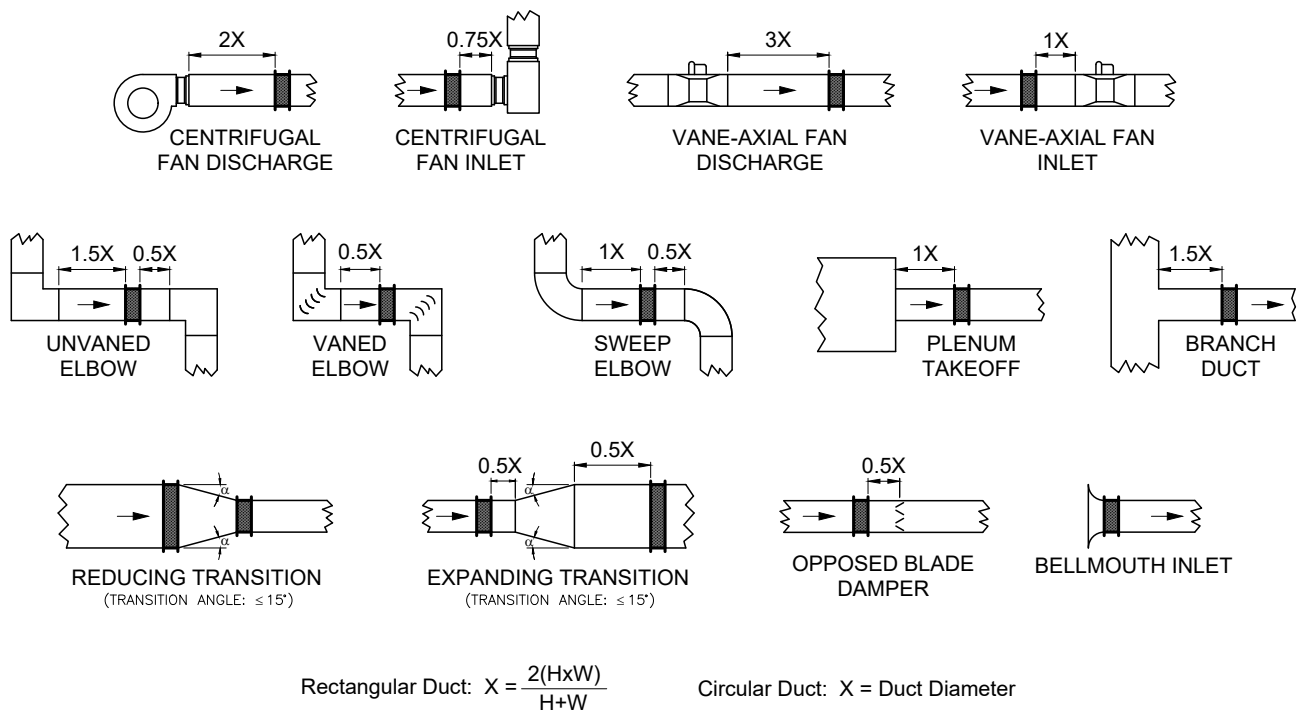
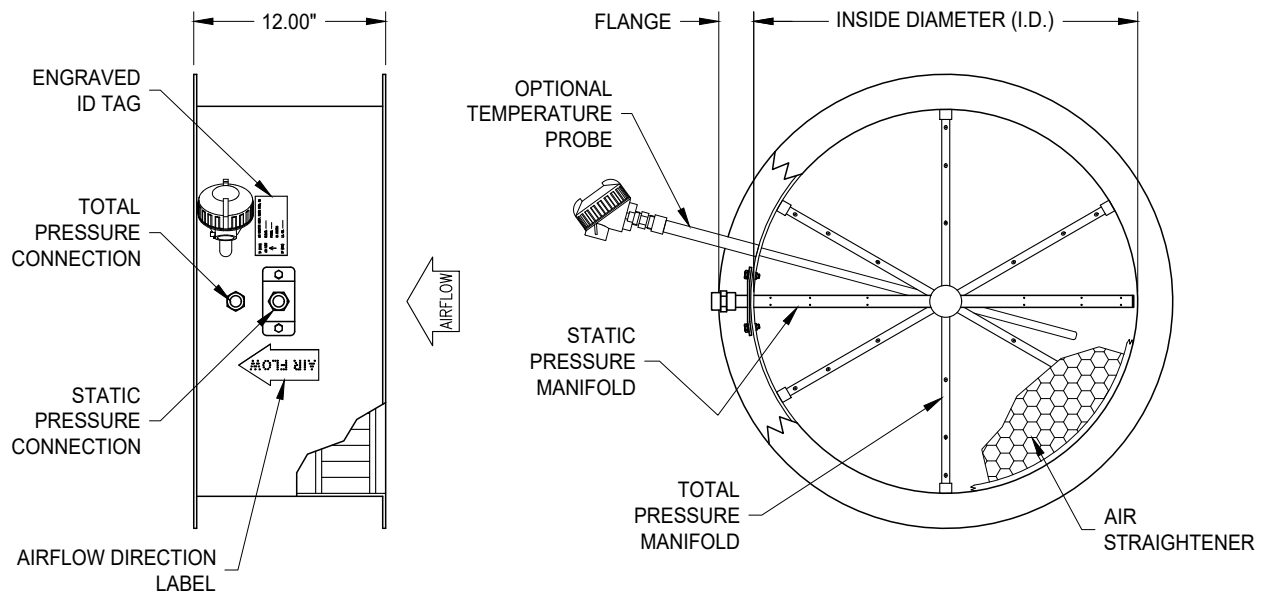


Figure 1

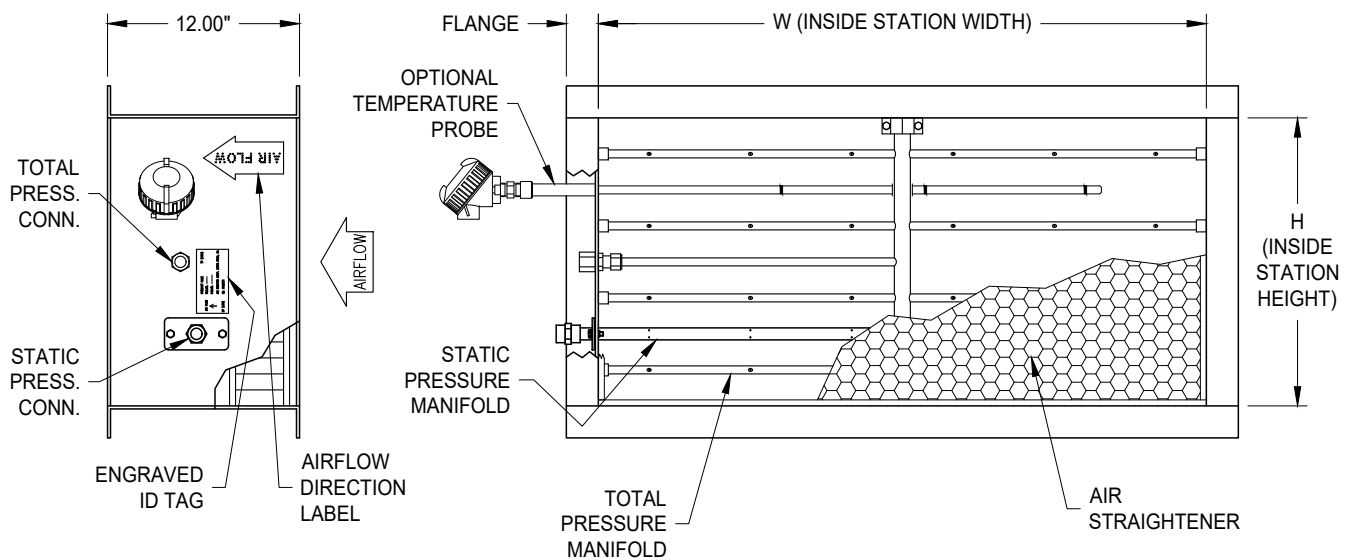
GENERAL INSTALLATION

- Typical CA Station configurations are shown in Figure 2. Note that CA Stations have multiple construction options and may be supplied in custom configurations not described in this procedure. Please refer to the Work Order specific submittal drawings provided for more details.
- Each CA Station has an airflow arrow on the exterior to assist in correct orientation relative to the direction of airflow entering the CA Station.
- **Bolted or Welded Installation.** The CA Station's flanges are normally not pre-drilled, allowing the installer a choice of fastener size and spacing, consistent with the structural design of the ductwork and related equipment. Gasket material selection should be per the Customer's plant standard. Whether bolted or welded in place, ensure an airtight seal with the connecting ductwork.

GENERAL INSTALLATION, cont'd.



CIRCULAR CONFIGURATION



RECTANGULAR CONFIGURATION

Figure 2

SIGNAL TUBING

- Two signal tubing conditions are possible, connecting to a purge panel (AUTO-purge or CAMS), or connecting directly to a flow transmitter.
- If a purge panel is not furnished, signal tubing for both total (high) pressure and static (low) pressure connections may be 1/4" O.D., if the distance between the CA Station and the transmitter is 200 feet or less.
- If a purge panel is being utilized, signal tubing for both total (high) pressure and static (low) pressure connections should be sized depending on the distance between the CA Station and the purge panel. For distances up to 25 feet, use 1/2" O.D. tubing. For distances from 25 to 50 feet, use 3/4" O.D. tubing. It is not recommended to place the purge panel more than 50 feet away from the CA Station.
- The CA Station is equipped with either 1/2" or 3/4" (F)NPT signal fittings (depending on the size of the station). An appropriate thread sealant for signal connections should be selected. Use of a high temperature pipe sealant at the CA Station's signal fittings is recommended. Teflon tape or equivalent products are not recommended for high temperature applications.
- After tubing is completed, all signal lines should be inspected and leak tested prior to operation.

OPTIONAL CLEANOUTS

- For applications with a high concentration of airborne particulate matter (flyash, dust, etc.), the CA Station may be equipped with optional cleanouts. These consist of an extension of each sensing manifold through the casing wall, terminated in a female pipe fitting and removable plug, to permit internal manual cleanout of individual manifolds, without the need to turn off the fan system served, or to enter the duct. See Figure 3.

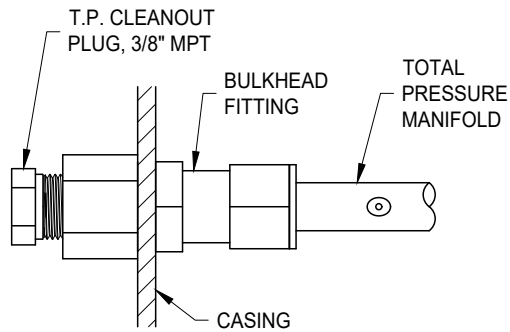
OPTIONAL SIGNAL EXTENSIONS

- Extensions are available as an option on the CA Station, for both signal connections, and cleanout fittings, in order to simplify the installation on insulated ducts. See Figure 4.

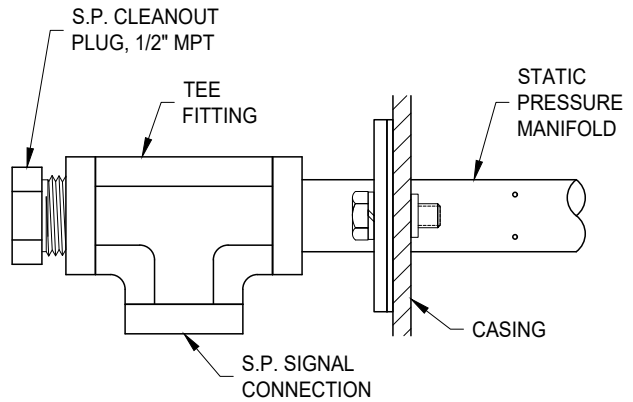
OPTIONAL TRAVERSE PORTS

- For applications with less than ideal installation locations, the CA Station may be equipped with optional traverse ports, to enable field verification of flow conditions via a manual traverse. See Figure 5.
- When traverse ports are installed on a CA Station, the standard casing depth of 12" is increased to 18", to accommodate the traverse plane of measurement.

OPTIONAL CLEANOUTS, EXTENSIONS & TRAVERSE PORTS

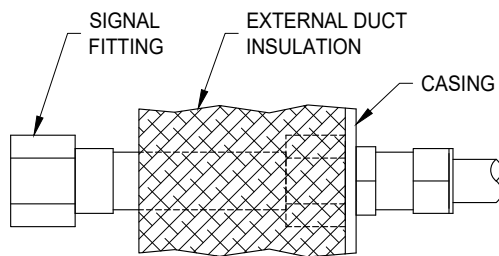


TYPICAL TOTAL PRESSURE CLEANOUT

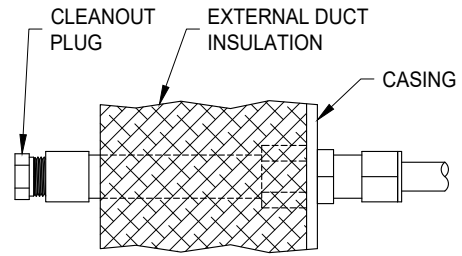


TYPICAL STATIC PRESSURE CLEANOUT

Figure 3

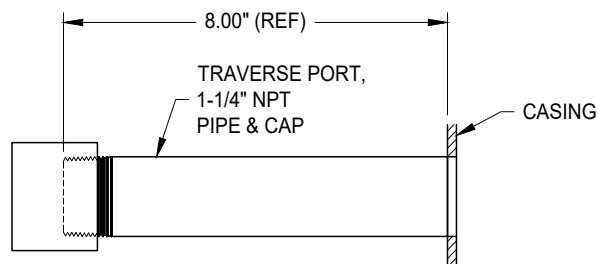


TYPICAL SIGNAL EXTENSION



TYPICAL CLEANOUT EXTENSION

Figure 4



TYPICAL TRAVERSE PORT

Figure 5

OPTIONAL TEMPERATURE SENSOR

- Optional temperature sensors are available for the CA Station in several types:

1/4" OD, single point 100 ohm platinum RTD

1/2" OD, single point thermocouple

1/2" OD, multiple point thermocouple (includes averaging circuit)

This option includes a 4-20mADC, 2-wire temperature transmitter, located in a NEMA 4 industrial head, attached to the CA Station. See Figure 6. Alternatively, the temperature transmitter may be located remotely, either in a separate junction box, or in the AUTO-purge, CAMS, or flow transmitter enclosure.

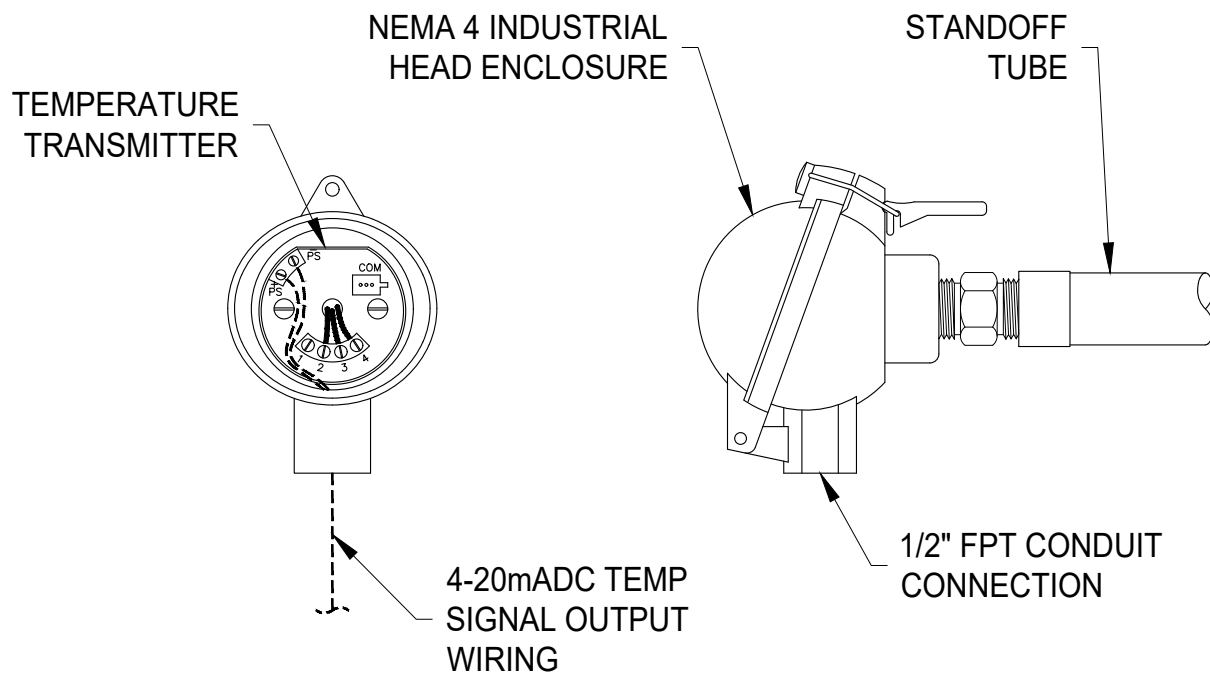


Figure 6

- Depending on the style and type of temperature sensor, different wiring configurations are possible. See Figure 7.

OPTIONAL TEMPERATURE SENSOR, cont'd.

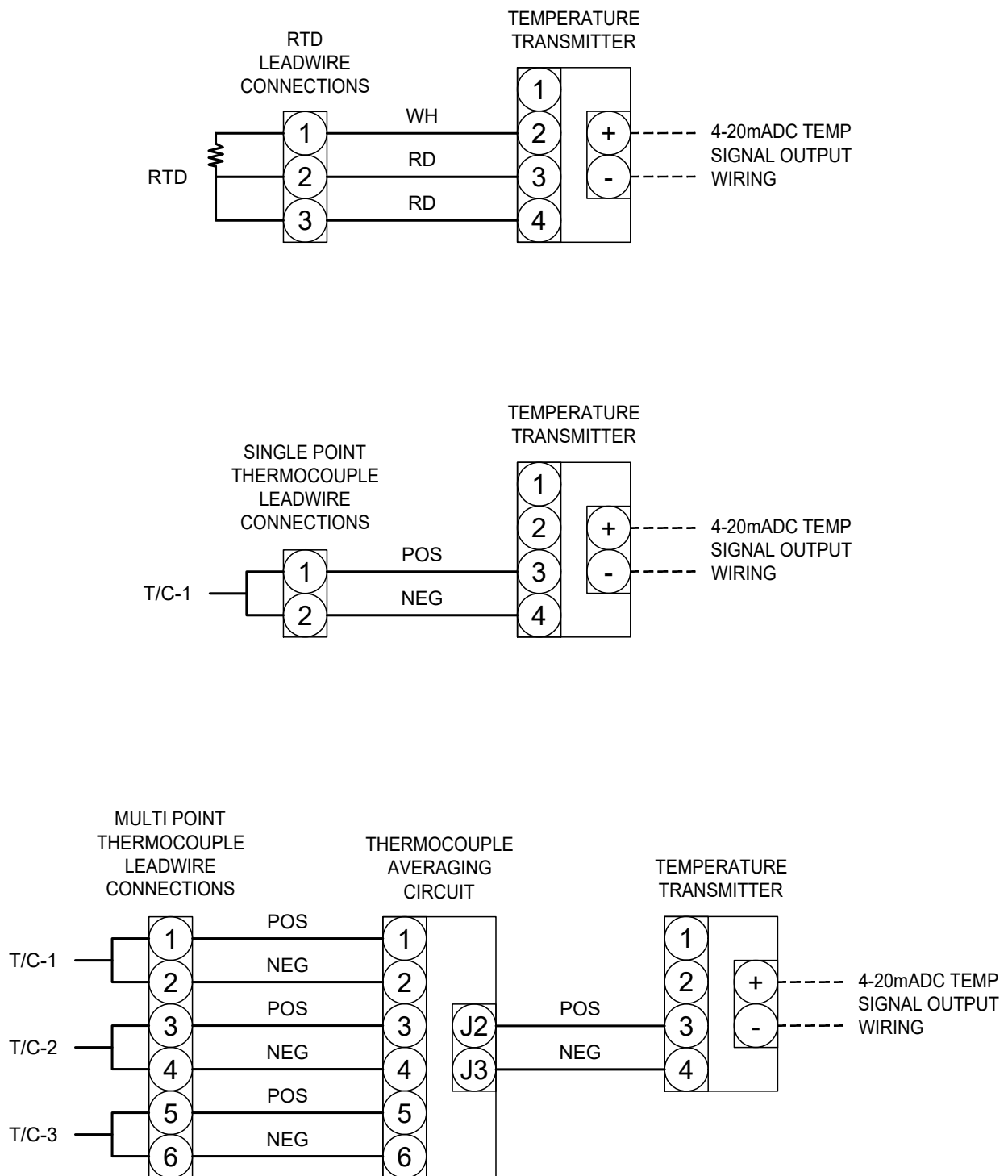


Figure 7

CUSTOMER SERVICE Air Monitor Corporation provides in-house technical support for all our products:

Monday through Friday, 7 am to 5 pm (PST)

Phone: 707-544-2706 or 1-800-AIRFLOW / Fax: 707-526-2825

service@airmonitor.com

www.airmonitor.com

If after contacting the Customer Service Department it is determined that equipment will require return to Air Monitor Corporation for further repair, a Return Authorization number will be issued. A Confirmation of Return Authorization with shipping instructions will be sent via facsimile or email. Equipment to be returned to Air Monitor should be returned in its original shipping container if possible. If this is not possible, ensure equipment is packaged sufficiently to protect it during shipment.

Caution: All damage occurring during transit is the Customer's responsibility.

List the Return Authorization (RA) number on the packing list and clearly mark this number on the outside of each shipping container. Costs associated with the return of equipment to Air Monitor Corporation are the customer's responsibility regardless whether the repair/return is under warranty. Once the Customer Service Department determines that the equipment repair is under warranty, the item will be repaired and returned to the customer at no charge. If the equipment is not under warranty, customer will need to approve a repair quote which will be invoiced along with return shipping charges.

Thank you for choosing Air Monitor Corporation!