

**Direct Duct Mount Assembly
for PointWatch™
006575-XXX**

DESCRIPTION

The Detector Electronics Direct Duct Mount Assembly (p/n 006575-XXX Series) enables the model PIR9400 Pointwatch IR Combustible Gas Detector to be installed directly within air handling ductwork. The assembly is mounted on the duct wall, with the PIR9400 sensing chamber exposed directly to ductwork airflow, ensuring fast response to flammable hydrocarbon gases and vapors. A built-in calibration gas nozzle with an external, self-sealing fitting enables testing and calibration without removal of the detector from the duct. The assembly is not recommended for applications where high levels of airborne contaminants are present within the duct or where duct air temperatures can exceed +167°F (+75°C). The assembly is suitable for hazardous industrial and commercial applications. Typical applications include HVAC system monitoring, dryer/oven duct monitoring and vaporizer stack monitoring.

The direct duct mount detection system, when combined with properly installed open area gas detectors, will provide optimum facility protection.



For detailed design, operating, and performance specifications of the PIR9400 PointWatch IR gas detector, please refer to Instruction Manual number 95-8440.

SPECIFICATIONS**MATERIAL—**

Aluminum or optional stainless steel. Calibration gas fitting is polypropylene, quick-disconnect type.

DIMENSIONS—

See Figures 1 and 2.

GAS RESPONSE TIME—

Detector response time to a gas leak is determined by airflow velocity through the ductwork and airflow conditions such as turbulence and stratification. Homogenous airflow conditions are recommended to ensure early warning. When airflow conditions are optimum, detector response time will be as fast as that of the standard PointWatch detector. See PointWatch instruction manual (form 95-8440) for details.

OPERATING TEMPERATURE—

–40°F to +167°F (–40°C to +75°C).

ENGINEERING SPECIFICATIONS

The duct-mounted IR gas detector shall be provided for detection of flammable hydrocarbon vapors within air handling, heating/cooling, ventilating and exhaust ductwork. The assembly shall be provided complete with preinstalled PIR9400 Pointwatch gas detector, and shall be available in copper-free aluminum or 316 stainless steel. The assembly shall include sealing gaskets on the mounting plate and all fittings to ensure that an air-tight duct installation is provided. The assembly shall include a self-sealing calibration gas fitting to enable calibration without device removal at no extra cost. The assembly shall be compatible with either a close-coupled or separately installed electrical junction box for wiring connection. The enclosure shall be compatible with an approved transmitter with digital LED display such as the model U9500H Infiniti transmitter for local indication and control.

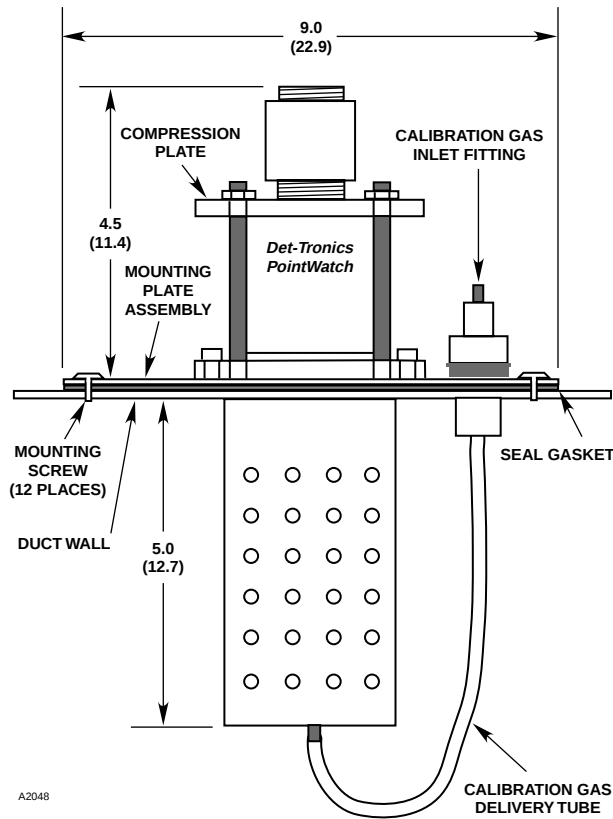


Figure 1—Duct Mount with PointWatch Gas Detector, Dimensions in Inches (Centimeters)

INSTALLATION

The assembly mounts directly to a flat duct wall surface. See Figure 1. Seal gaskets are provided to ensure that leakage does not occur.

DETECTOR LOCATION

Selecting the proper mounting location is crucial for proper gas detection response. The assembly may be mounted in the supply system or in the return system at the point of entry into a common return duct. A few basic installation rules are provided:

1. If possible, it is recommended to locate detectors on the upstream side of filters. If a filter becomes blocked, insufficient air flow may cause improper operation of the detector.
2. When detectors are located downstream from “obstructions” such as filters, bends, duct openings, or deflection plates, they should be installed approximately six duct widths away from the obstruction. See Figure 3. These locations provide fairly uniform, non-turbulent air-flow, and are homogenous with respect to air/gas mixing.
3. Locate detectors so that dampers do not restrict air flow at the detector location.

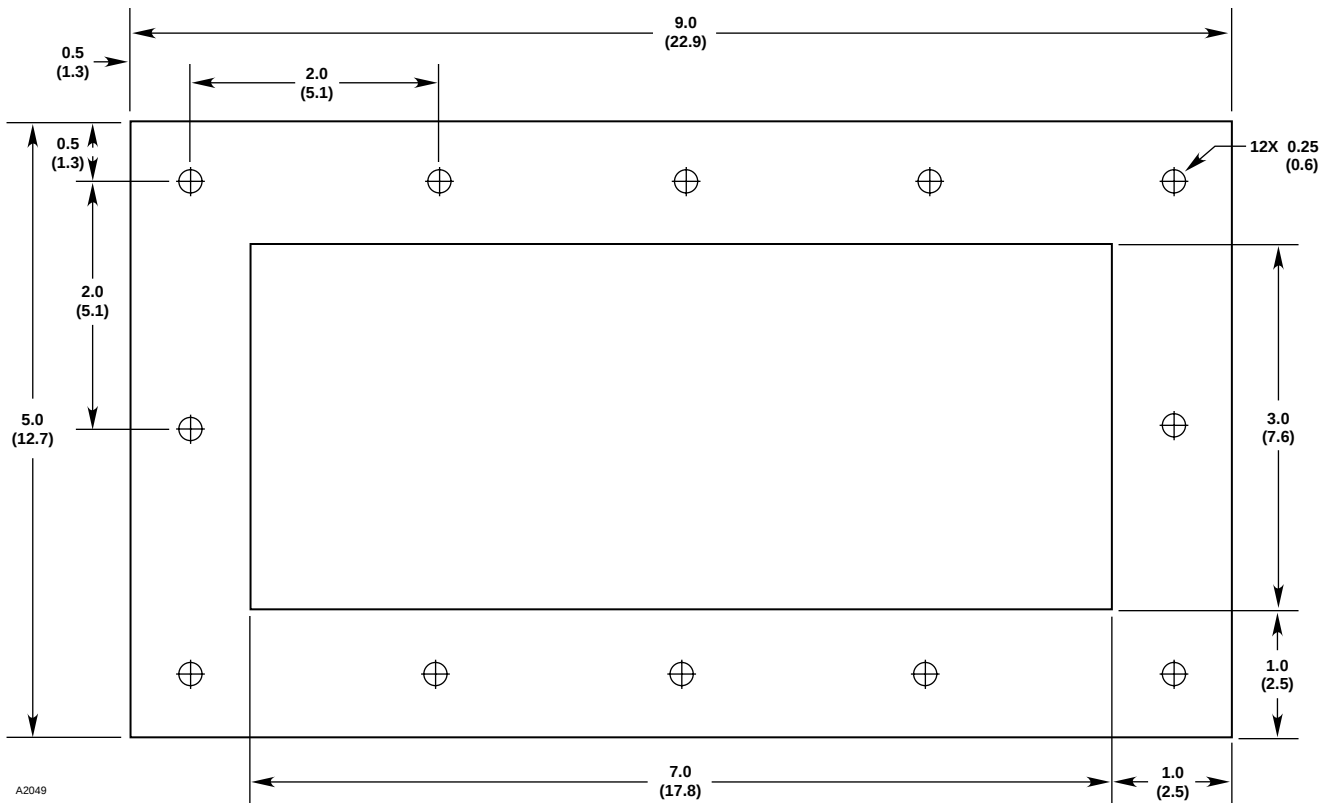


Figure 2—Dimensions of Duct Mounting Gasket in Inches (Centimeters)

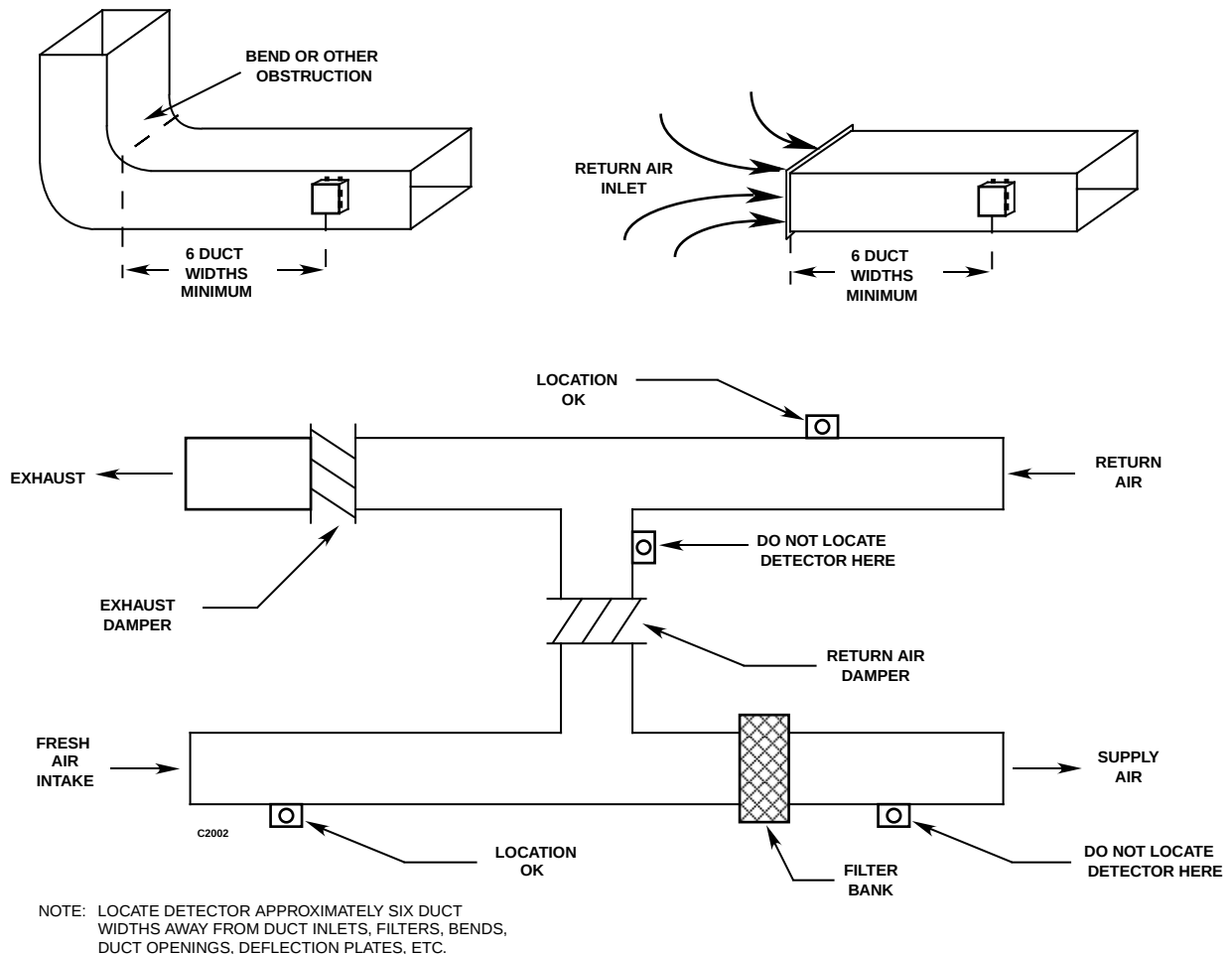


Figure 3—Detector Location Options within the Duct

4. Locate detectors where they can be conveniently observed and readily serviced.

For additional information regarding the location and spacing of duct gas detectors, contact the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269 and request a copy of **NFPA Standard 90A**, Installation of Air Conditioning and Ventilation Systems.

MOUNTING PROCEDURE

1. Select the location for mounting the assembly.
2. Mark and drill the appropriate plate mounting holes on the duct wall. Refer to Figure 2 to determine the size and location of the holes.

WIRING

WARNING

To prevent ignition of a hazardous atmosphere, either de-classify the area or remove power from

the unit before opening the detector enclosure or wiring the junction box.

An electrical connection junction box, such as the Det-Tronics U9500H Infiniti Transmitter, should be connected to the Pointwatch PIR9400 threads.

Detector wiring is brought into the wiring enclosure or junction box through the conduit entry on the junction box. Use care not to damage the wires by twisting them.

A conduit seal may be required within 18 inches of the junction box and also at any point where the conduit enters a non-hazardous area. Refer to the detector manual for details.

Refer to the PointWatch instruction manual (form number 95-8440) for complete instructions regarding wiring the PointWatch detector. If an indicating/control device is used in conjunction with the PointWatch detector, refer to the instruction manual provided with that device for wiring information.

CALIBRATION AND TESTING

1. Before performing calibration, read the PointWatch instruction manual (form number 95-8440) and become familiar with the calibration procedure.
2. Disable alarm response devices prior to performing detector tests.
3. To apply gas to the detector, connect the hose on the calibration kit to the calibration gas inlet fitting on the duct mount assembly.
4. Perform the detector test or calibration procedure as specified in the PointWatch detector instruction manual.

NOTE

If difficulty is encountered while calibrating the PointWatch with airflow present within the duct, it is possible that calibration gas dilution may be occurring. This dilution may prevent successful span calibration of the PointWatch. In this case it is recommended to temporarily stop airflow through the duct until the calibration is complete.

5. When test/calibration is complete, shut off the gas flow to the detector and remove the calibration gas hose from the duct mount assembly.
6. Place all alarm response equipment back into service when the detector calibration/testing is completed.

MAINTENANCE

IMPORTANT

It is possible that the detector will calibrate properly, yet not detect combustible gases properly under conditions where high levels of contaminants or debris have blocked the outer baffles and/or hydrophobic filter. A routine optics inspection program is recommended under these conditions.

Regularly scheduled gas detector maintenance should consist of the following:

1. Periodic testing of the detector to ensure proper operation.
2. Periodic inspection of the detector to ensure that its performance is not impaired by fouled optics or by clogging of the filter or hydrophobic screen.

3. Calibration (if needed) as specified in the PointWatch instruction manual.

For complete information regarding maintenance, testing and calibration of the IR gas detector, refer to the PointWatch instruction manual, form number 95-8440.

DEVICE REPAIR AND RETURN

Prior to returning devices or components, contact the nearest local Detector Electronics office so that a Service Order number can be assigned. A written statement describing the malfunction must accompany the returned device or component to expedite finding the cause of the failure.

Pack the unit or component properly. Use sufficient packing material in addition to an anti-static bag or aluminum-backed cardboard as protection from electrostatic discharge.

Return all equipment transportation prepaid to the factory in Minneapolis.

ORDERING INFORMATION

The Direct Duct Mount Assembly is shipped with the PIR9400 PointWatch IR Gas Detector factory-installed and ready for mounting on the duct wall.

When ordering, please specify:

Direct Duct Mount Assembly for PointWatch, p/n 006575-XXX.

Also specify:

- Aluminum or Stainless Steel
- 3/4 inch NPT or M20 threads.

For additional information or for assistance in ordering a system to meet the needs of a specific application, please contact:

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