

Direct Duct Mount Assembly for PIRECL PointWatch™ Eclipse®

007525-XXX

DESCRIPTION

The Detector Electronics Direct Duct Mount Assembly (p/n 007525-XXX Series) enables the model PIRECL PointWatch™ Eclipse® IR Combustible Gas Detector to be installed directly within air handling ductwork. The assembly is mounted on the duct wall, with the PIRECL 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.

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 PIRECL detector. See PointWatch Eclipse instruction manual (form 95-8526) for details.

OPERATING TEMPERATURE—

−67°F to +167°F (−55°C to +75°C).

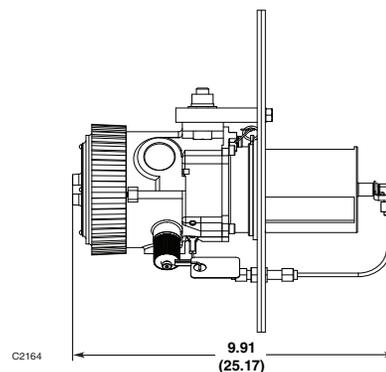
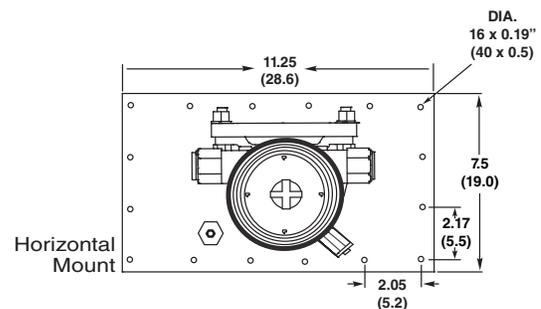
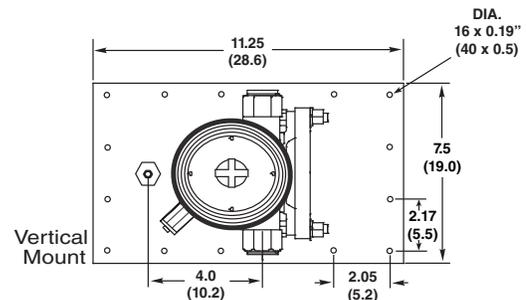


Figure 1—Dimensions of Duct Mount in Inches (Centimeters)

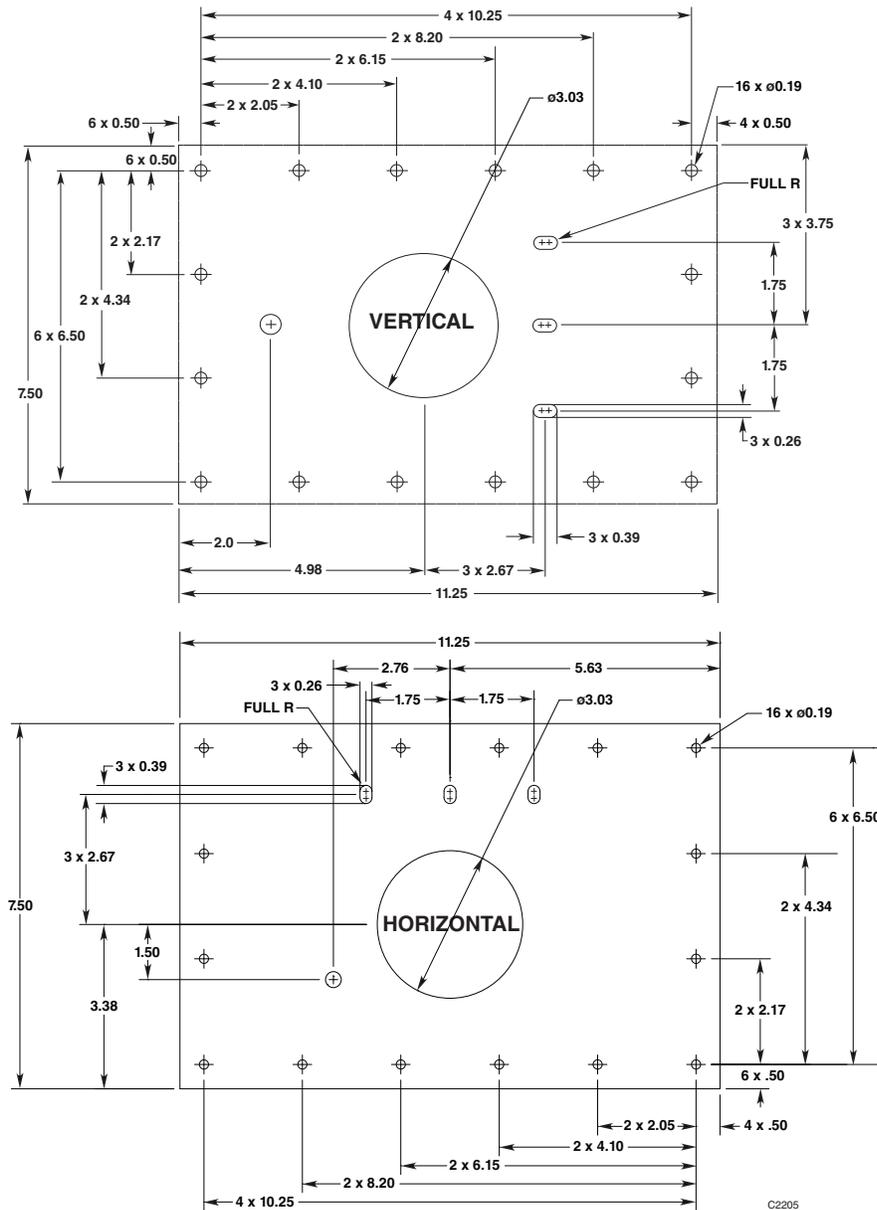


Figure 2—Hole Cut-Out Dimensions for Direct Duct Mount Assembly in Inches

INSTALLATION

The assembly mounts directly to a flat duct wall surface as shown in Figure 3. Seal gaskets are provided to ensure that leakage does not occur.

NOTE

Plate mounting holes (16 total) are 0.19 inch diameter. Use a mounting screw or bolt that securely fastens the assembly to the duct wall.

ATTACHING PIRECL TO DUCT MOUNT PLATE

Locate the two bags of hardware provided with the duct mount assembly. One contains the hardware for attaching the Eclipse detector to the duct mount plate, and the other contains the calibration gas port hardware.

1. Attach the PointWatch Eclipse detector to the mounting bracket using the hardware provided. See Figure 3.
2. Mount the calibration gas port to the outside of the duct mount plate.

NOTE

The calibration gas port is furnished with a removable nozzle. Removing the nozzle closes a valve inside the port assembly, which prevents air flow through the gas delivery tube. The removable nozzle should be installed only while calibration gas is actually being applied to the detector (remove during normal operation).

3. Install the gas delivery tube from the calibration gas port to the gas inlet on the Eclipse weather baffle.

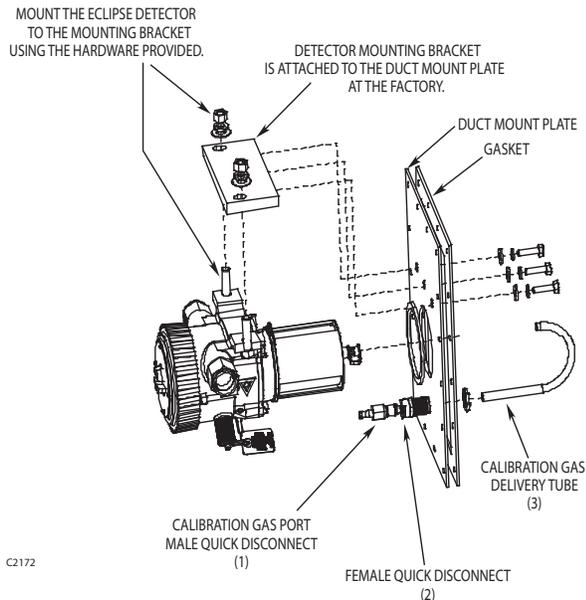


Figure 3—Duct Mount with PointWatch Eclipse Detector (Vertical Shown)

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

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 Figures 1 and 2 for mounting plate dimensions.

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.

External wiring is brought into the detector enclosure through the conduit entries on the device. Use care not to damage the wires by twisting them.

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

Refer to the PointWatch Eclipse instruction manual (form 95-8526) for complete instructions regarding wiring the detector. If an indicating/control device is used in conjunction with the Eclipse detector, refer to the instruction manual provided with that device for wiring information.

CALIBRATION AND TESTING

1. Before performing calibration, read the PointWatch Eclipse instruction manual (form 95-8526) 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 port on the duct mount assembly.
4. Perform the detector test or calibration procedure as specified in the Eclipse instruction manual.

NOTE

If difficulty is encountered while calibrating the Eclipse 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 Eclipse. 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, remove the calibration kit hose from the calibration gas port, and remove the nozzle from the gas port.
6. Place all alarm response equipment back into service when the detector calibration/testing is completed.

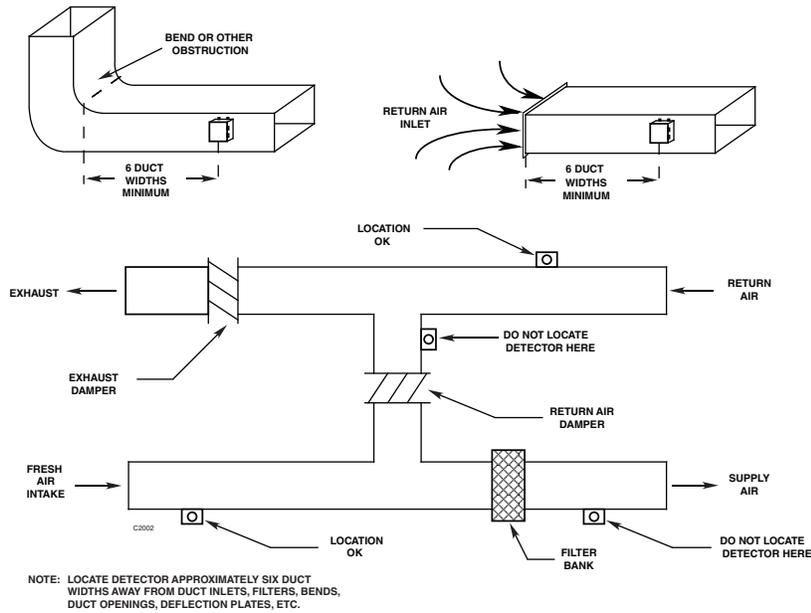


Figure 4—Detector Location Options within the Duct

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 detector weather baffle. A routine 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 weather baffle.

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

For complete information regarding the IR gas detector, refer to the PointWatch Eclipse instruction manual, form 95-8526.

ORDERING INFORMATION

REPLACEMENT PARTS

Item	Part Number	Description
1	103473-001	Male Quick Disconnect Fitting
2	103472-001	Female Quick Disconnect Fitting
3	101678-004	Tubing, Clear, 3/16 ID x 5/16 OD x 9" Length



FlexSonic® Acoustic Leak Detector



X3301 Multispectrum IR Flame Detector



PointWatch Eclipse® IR Combustible Gas Detector



FlexVu® Universal Display with GT3000 Toxic Gas Detector



Eagle Quantum Premier® Safety System

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Det-Tronics manufacturing system is certified to ISO 9001—the world's most recognized quality management standard.



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