# Continuously monitor for potential leaks in the vent lines of refrigeration systems

# Manning VL
# vent line leak detector

## Beneficial Features
- Improves personnel, product and equipment safety
- Extremely reliable sensor assembly
- Easy to calibrate and adjust
- Simple to install
- Continuous monitoring
- Can potentially lower insurance rates
- Input directly to central alarm systems
- Linear 4/20 mA output

## The Manning Vent Line sensor continuously monitors vent line headers for ammonia and fluorocarbons.

The Manning Vent Line (VL) is designed to continuously monitor for high concentrations of ammonia or fluorocarbons in vent lines of refrigeration systems.

High concentrations of refrigerant gases in vent lines are warnings of system overpressure or leaking relief valves. Either can pose danger to employees and equipment. Wasted refrigerants are costly and can mean overtime labor and plant downtime.

Designed to be installed in refrigeration vent lines, the VL sensor is supplied with a 2″ cast steel "T", plug and nipple.

The sensor is embedded in a 2″ forged steel bull plug and houses a four-point terminal strip for electrically connecting the sensor and pre-amp. The linear 4/20 mA output pre-amp is housed in a separate enclosure.

The Manning Vent Line leak detector is designed to be electrically connected to and monitored by all Honeywell Analytics readouts or can send a signal directly to a PLC.

### Applications
- Ammonia or Fluorocarbon Monitoring of Refrigeration System Vent Lines
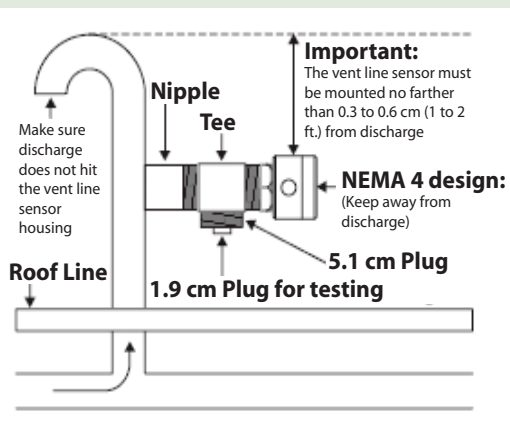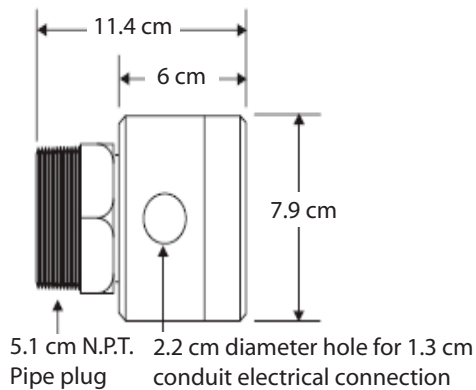- Equipment Rooms
- Refrigeration Systems

## General Specifications

| | |
|---|---|
| **Applications** | Ammonia or fluorocarbon monitoring of refrigeration system vent lines |
| **Method** | Solid state |
| **Range** | Ammonia 0 to 10,000 ppm (1%)<br>CFC/HCFC/HFC's 0 to 1,000 ppm (depending on refrigerant) |
| **Output** | Linear 4/20 mA, connects to all Honeywell Analytics readouts or other devices capable of accepting a 4/20 mA signal |
| **Power Requirements** | Powered directly from Honeywell Analytics readouts or, when used as 4/20 mA pre-amp and sensor only, requires 17/24 VDC at 200 mA |
| **Operating Temperature** | -29 º to 49º Celsius (20º to 120º Fahrenheit) |
| **Enclosures** | Sensor-Aluminum NEMA 4<br>Pre-amp-Stainless Steel NEMA 4 |
| **Weight** | 1.4 kg (3lbs.), sensor only<br>6.8 kg (15 lbs.), with mounting kit |
| **Dimensions** | Sensor, 11.4 cm x 9.8 cm x 9.8 cm (4 1/2 in. x 3 1/8 in. x 3 1/8 in.) |
| **Cable Requirements** | Pre-amp to readout--#18/3 shielded cable (Belden #8870),<br>maximum run length 457 m (1,500 ft.)<br>Sensor to pre-amp-#16 AWG, 4 conductors, non-sheilded for uns up to 7.6 m (25 ft.) |

## Dimensions and Best Mounting Locations for Vent Line Sensors Discharging to the Atmosphere

11.4 cm

6 cm

7.9 cm

5.1 cm N.P.T. Pipe plug

2.2 cm diameter hole for 1.3 cm conduit electrical connection

**Nipple**

**Tee**

**Important:**
The vent line sensor must be mounted no farther than 0.3 to 0.6 cm (1 to 2 ft.) from discharge

Make sure discharge does not hit the vent line sensor housing

**NEMA 4 design:**
(Keep away from discharge)

**Roof Line**

**5.1 cm Plug**

**1.9 cm Plug for testing**

Caution: Always assume that a relief valve has the potential to release at any moment. To ensure the safe installation of a Vent Line sensor, make certain that you are accompanied by another person and you are using protective eyewear. Be sure to use gloves and keep other safety devices including eye flushing equipment and a breathing apparatus nearby. Personnel should be well-trained and protected if a sudden refrigerant releases causes a fall. Make certain that you have an escape route in the event of a refrigeration release.

As world leaders in gas detection solutions, Honeywell Analytics'
Manning range of gas detection systems has been designed to
provide efficient, practical and cost-effective equipment to protect
people from a variety of forms of hazardous gas and to efficiently
monitor and control indoor air quality. The equipment is also simple
to install and easy to operate and maintain.

# The Manning range of fixed gas detection and accessories

| Manning EC-F9-NH3 | Manning AirScan iR | Manning GM-1 | Manning GM-10 | Manning GM-4000 |

## Manning Line of Sensors

Designed for both industrial and commercial environments, the Manning line of sensors are produced
to withstand the harshest of environments. The electrochemical and infrared sensors can be configured
with the optional ATMOS® equipped technology that allows them to meet all of their performance
specifications down to -50° F and in condensing humidity environments or during washdown.

## Find out more

For more information on Honeywell
Analytic's Manning line of products, visit
www.honeywellanalytics.com or contact
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## Manning Controllers

Regardless of the number of sensors that need to be monitored, there is a Honeywell Analytics Manning
controller system that will suit your needs. These multi-channel stand-alone monitoring/safety systems
support up to ten (10) Honeywell Analytics gas detection sensors each and can interface with the plant
central safety controls. Modular construction allows easy addition of up to forty (40) extra relay outputs
and individual 4/20 mA signal output from each channel.

**Manning AirAlert™ 96d**

### Multi-Channel Readouts

The Manning AirAlert 96d is designed for installation and operational simplicity for continuous monitoring
and control of toxic gases, combustible gases and oxygen hazards. With a total of 96 gas sensors and
relay modules linked to one controller, the Manning AirAlert 96d detection system represents the most
affordable protection for your gas monitoring requirements.

**Calibration Kit**

The do-it-yourself solution for recommended calibration of Manning fixed line of gas detection products
enables the product to be recertified for the required sensor recalibration. This easy to use kit contains
everything needed for simple calibration including gas cylinders containing applicable gas, a calibration
adaptor, flow meter, valve assembly, and tubing housed in a durable carrying case.

**Honeywell**