



# Chillgard® LE Photoacoustic Infrared Refrigerant Monitor

[ The new wave of photoacoustic IR refrigerant leak detection monitors ]

The Chillgard LE Photoacoustic Infrared Refrigerant Monitor provides economical, low-level monitoring of refrigerant gases used in most refrigerant systems or chillers, including R123, R134A, R11, R12 and R22. For maximum application flexibility, the UL approved Chillgard LE Monitor is available in either a single-point diffusion, single-point pumped or a 4-point pumped model.

## Applications

The Chillgard LE Monitor is part of the MSA family of Chillgard products designed to monitor for the loss of refrigerant gases in a variety of applications:

- Mechanical equipment rooms
- Propellant-filling operations
- Solvent cleaning stations
- Cold storage and transport facilities
- Meat packing plants
- Supermarkets and refrigerant storage locations
- Other specialty applications using halocarbons.

The full scale range of the unit is 0-1000 ppm with the capability of measuring a refrigerant leak as low as 20 ppm. The Chillgard LE Monitor provides fast, reliable detection for low-level leaks of refrigerants, thus preventing a major loss of costly refrigerant gas. The Chillgard LE Monitor is capable of detecting well below the established threshold limit values for the refrigerants. The unit's standard 4-20mA output can be connected directly to any existing Building Automation System (BAS) or other controller. The 4-20mA output can be used to provide indication of a leak prior to a worker entering the room containing the refrigerant gas.

Additionally, with the integral display and status LEDs and optional strobe, workers have a visual indication of the refrigerant level in their work area. Sample draw units can be mounted inside or outside of the room. Thus, the sample draw units provide important, detailed information such as gas level and alarm status before a worker enters the room.

## Features

- Single point diffusion or 4-point pumped models
- Complies with ANSI/ASHRAE 15-2001
- UL approval
- Photoacoustic Infrared (PIR) sensing technology
- No moving parts in diffusion model
- Water- and corrosion-resistant plastic enclosure
- 24 VAC/DC or 110/220 VAC power
- Five LEDs indicating power, fault and 3 levels of alarm
- Digital Signal Processing
- Standard outputs: 4-20mA & RS-485



## Sensor Technology

The Chillgard LE Monitor utilizes very stable and highly selective photoacoustic infrared (PIR) technology to sense refrigerant gases at levels as low as 20 parts-per-million.

The Chillgard LE Monitor can operate for months with virtually no zero drift. Its inherent stability eliminates the requirement of various auto-zeroing techniques which take the monitor "off-line" at regular intervals, leaving the area unprotected. Installation of a "fresh air" sampling line or "on-line" scrubber is not required with the Chillgard LE Monitor.

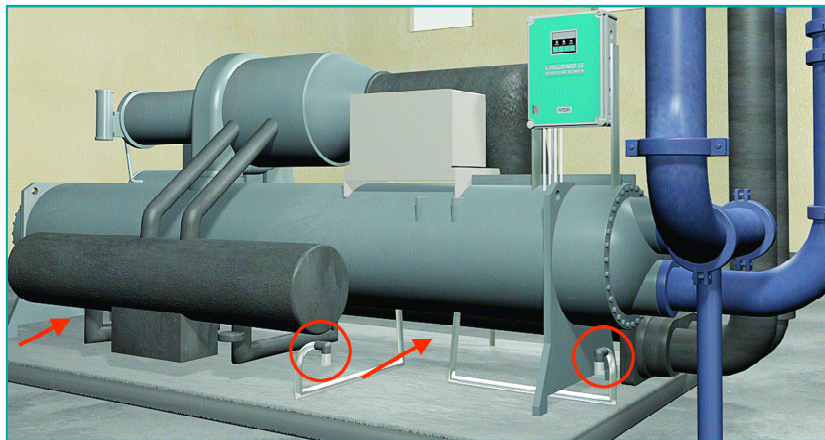
The Chillgard LE Monitor has a high immunity to interferants commonly found in mechanical equipment rooms such as cleaning agents and solvents. There is also little effect due to changes in humidity, a common problem with all other sensor technologies. Both are typical sources of false alarms when other sensing technologies are in use.

## Simplicity and Upgradeability

The Chillgard LE Monitor is designed for easy installation, operation and maintenance. There are no moving parts in the diffusion version simplifying maintenance and repair. A replacement Chillgard LE optical bench is shipped pre-calibrated for the gas of interest. Therefore, converting the Chillgard LE Monitor to detection of a different refrigerant gas requires only a simple change of optical benches.

## Additional Options

Unit-mounted strobe - 634674  
Remote light towers



Typical multipoint installation.  
Four sampling points surround the chiller for maximum protection.

## Specifications:

### Single-point Diffusion Model

Operating Range:	0-1000 ppm
Minimum Detectability:	20 ppm
Linearity:	0-100 ppm linear, 100-1000 ppm $\pm 5\%$ of reading
Warm-up time:	10 minutes
Response time:	50% of a step change in less than 60 seconds
Operating temperatures:	0 to 40° C (32 to 104° F)
Non-operating temperatures:	-40 to 60° C (-40 to 140° F)
Temperature effect:	<4%/10° C
Relative humidity:	0 to 99%
Operating Power Options:	24 VAC/DC standard, 110/220 VAC optional
Analog output:	4 to 20 mA
Physical:	14.7" high x 11.2" wide x 5" deep
Weight:	9.5 lbs.

## Ordering Information

A Chillgard LE Monitor ATO order form is available in the MSA preferred products catalog. Call 1-800-MSA-INST (1-800-672-4678) to obtain a copy of the preferred products CD.

**Note:** This Data Sheet contains only a general description of the product shown. While uses and performance capabilities are described, under no circumstances should the product be used except by qualified, trained personnel, and not until the instructions, labels or other literature accompanying the product have been carefully read and understood and the precautions therein set forth followed. Only they contain the complete and detailed information concerning this product.

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