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 refrigeration systems or chillers.

Many chillers still use the older ozone-depleting refrigerants which are being phased out by the Montreal Protocol, an international agreement. These refrigerants are in short supply, as their manufacture terminated at the end of 1995. This has driven up replacement costs, making it essential to detect low ppm-level leaks. Without the ability to monitor down to low levels, leaking refrigerant gases can go undetected for long periods of time.

Replacement cost of refrigerants is expensive. The Chillgard LE Monitor saves operating costs by detecting leaks early enough to prevent a major loss of refrigerant gas. In addition, some replacement refrigerants have a threshold-limit value (TLV) lower than their predecessors. The TLV determines the amount of refrigerant gas a worker can be exposed to while in the mechanical equipment room. Because of these factors, monitoring for refrigerant gases is now a necessity. Also, ANSI/ASHRAE 15-1994 now requires mechanical equipment room leak detectors. The Chillgard LE Monitor is perfectly suited for installation in these rooms.

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.

Features

- Three modes of operation: single-point diffusion, single-point pumped, and four-point pumped
- Complies with ANSI/ASHRAE 15-1994
- Features photoacoustic IR technology
- Easy to install, operate and maintain
- Plug-in PIR sensor

MSA

- Detectability down to 20 ppm
- 4-20 mA output
- 80 Db horn
- Operates over a wide temperature range
- Patent pending
- 2-line x 20-character LCD display which shows alarm indications and actual gas concentration
- Three alarm levels
- Relay outputs for each alarm level
- Password protection

Applications

Common refrigerant gases used in industries can also be monitored. These applications include:

- Mechanical equipment rooms
- Propellant-filling operations
- Solvent cleaning stations
- Cold storage and transport facilities
- Meat packing plants
- Supermarkets and refrigerant storage locations
- Water- and corrosion-resistant plastic enclosure.

Expandability

Simply by selecting the multipoint option, the Chillgard LE Refrigerant Monitor can be expanded to monitor up to 4 locations. The multipoint sequencer is mounted internally in the monitor. The results are:

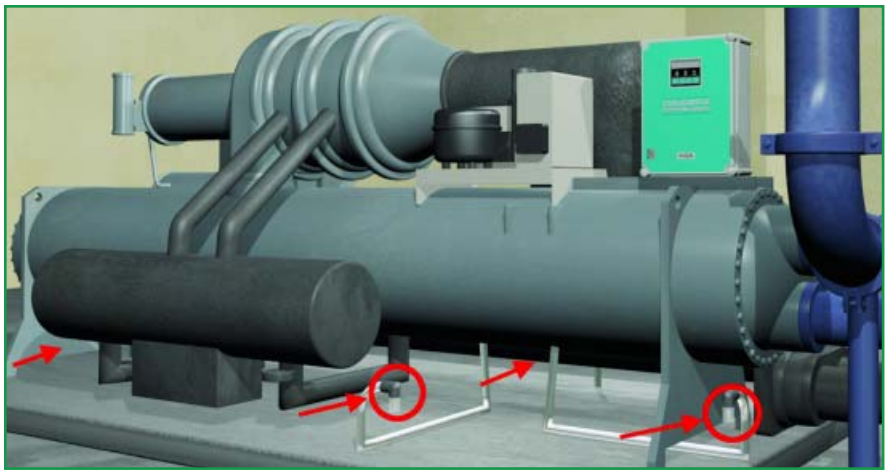
- Refrigerant gas monitoring is now more cost effective, especially when monitoring large areas or multiple locations or chillers
- The fastest possible response to any leak or spill is obtained
- Fresh sample is pumped from locations up to 300 feet for each sample
- Point location can be monitored on the display or the 0-10V output

Simplicity

The Chillgard LE Monitor is easy to install and operate. Four (4) front-panel keys configure the entire system.

The front panel displays all alarm and trouble messages. If a fault condition occurs, the message is clearly shown on the display and it indicates the type of fault.

The display also indicates the monitored location and the corresponding gas concentration.



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

Upgradeability

When your chiller is converted to one of the newer refrigerants, your MSA Chillgard LE Monitor can also be converted. A simple replacement of the internal photoacoustic infrared sensor is needed to detect the new refrigerant.

Other Available Accessories:

Remote Display Module, Top-Mounted Alarm Strobe, 100 DB Horn

Specifications:

Single-point Diffusion Model	
Operating Range:	0-1000 ppm
Minimum Detectability:	20 ppm
Linearity:	0-100 ppm linear, 100-1000 ppm ±5% of reading
Warm-up time:	10 minutes
Response time:	50% of a step change in less than 90 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, 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

See the Chillgard LE Assemble-To-Order (ATO) form for ordering information.

Offices and representatives worldwide

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Data Sheet 07-0008
Jun 2002 (L)