



Refrigerant Leak Detection

*for Leak Rate Reduction and Safety Compliance
in Machinery Rooms and Occupied Spaces*

**Core Product
Guide**

Refrigerant Leak Detection Product Guide

Bacharach offers innovative solutions designed for extreme temperature refrigeration environments, for early leak detection with minimum detectable levels from 1 ppm and a range of instruments for use in compliance and safety applications.

Hotel Rooms, Apartments & Occupied Spaces (VRF / VRV)

Modern refrigerant systems are designed to be efficient and leak free, but improper installations, inadvertent damage, or mechanical wear can result in leaks over time. The MVR-300 refrigerant detector helps to keep occupants comfortable in conditioned spaces by providing early warning of refrigerant leaks over the service life of the HVAC system.

Machinery Rooms

Refrigerant leak detection in machinery rooms is typically required for regulatory compliance with codes including EN378, F-Gas and ASHRAE 15. Cost-effective refrigerant leak detection can help businesses to comply with legislation and identify when refrigerant leaks must be repaired.

Data Centers

Refrigeration in data centers is important to prevent overheating of electrical equipment. Effective refrigerant leak detection can help to ensure efficient cooling by minimizing leaks, protecting valuable equipment and data. Sensors are available which are not affected by cleaning agents typically used in these environments.

Chiller Rooms

Multi-sensor refrigerant detectors can provide an effective standalone leak detection system for small and large chiller installations, delivering compliance with regulation, enhanced safety and improved refrigeration efficiency.



Food Retail / Grocery Stores

Our refrigerant monitoring offerings include products that detect for levels as low as 1ppm in machinery rooms, from display cases and in storage areas, helping to minimize produce loss, deliver efficient refrigeration, and enhance environmental protection by reducing refrigerant emissions.



Military

Durable refrigerant detectors designed for extreme environments deliver accuracy, precision and reliability through military specifications, keeping personnel safe, critical assets working efficiently and meeting regulatory requirements.



Walk-in Freezers & Cold Rooms

As refrigerant leaks can pose health risks to personnel working in enclosed spaces, safety is a common reason monitoring cold rooms and walk-in freezers. Bacharach has a number of solutions for refrigeration systems using HFC refrigerants and those using natural refrigerants such as CO₂, assisting in compliance with regulations including ASHRAE 15 and EN378.



Industrial Cold Storage

Ammonia (NH₃) is commonly used as a refrigerant in large industrial cold storage facilities. It presents risks of toxicity and explosion if gas leaks are undetected. Ammonia leak detection systems can be installed to help mitigate these risks and ensure safety.



Rely on Our Refrigerant Leak Detection Expertise

to manage all of your refrigerant application needs.

Multi-Zone Refrigerant Monitor

for Low-level Detection, Leak Rate Reduction



- Monitors up to 16 zones, expandable to 48 sample points
- Proprietary infrared (NDIR) sensor technology detects leaks as low as 1 ppm
- Integrates with the Parasense enterprise refrigerant management platform
- Gas library includes 60+ profiles, including: CFCs, HFCs, HCFCs, HFOs & natural refrigerants
- Long sampling distances (up to 1,200' / 356 m)
- No calibration required, minimal maintenance
- Modbus RTU interface, BMS / BAS connectivity

Single-Zone Refrigerant Monitor

for Low-level Detection, Refrigerant Leak Rate Reduction



- Monitors up to 3 sample points
- Proprietary infrared (NDIR) sensor technology detects leaks as low as 1 ppm
- Gas library includes 60+ profiles, including: CFCs, HFCs, HCFCs, HFOs & natural refrigerants
- Long sampling distances (up to 1,200' / 356 m)
- No calibration required, minimal maintenance
- Modbus RTU interface, BMS / BAS connectivity

PGM-IR Portable Refrigerant Monitor

for Low-level Detection, Refrigerant Leak Rate Reduction



- Real time gas measurement quantifies leak
- Proprietary infrared (NDIR) sensor technology detects leaks as low as 1 ppm
- Gas library includes 60+ profiles, including: CFCs, HFCs, HCFCs, HFOs & natural refrigerants
- Measurements are unaffected by sudden changes in temperature or humidity
- Li-ion battery pack offers 8-hours of runtime on a single charge

MGS-250 Infrared Gas Detector

for Safety Compliance in Refrigeration Applications



- Proprietary infrared (NDIR) sensor technology detects CFCs, HFCs, HCFCs and HFO refrigerants
- Long-life sensor offers 5-7 years of virtually maintenance-free operation
- Measurements are unaffected by cross sensitivity to other gases and sudden changes in temperature or humidity
- Modbus RTU interface, analog, BMS / BAS connectivity (Compatible with MGS-408)

MVR-300™ Refrigerant Leak Detector

for Safety Compliance in VRF/VRV Conditioned Spaces



- Fits most standard 2 and 3-gang electrical boxes for easy installation
- Low profile / flush mount for an aesthetically non-intrusive appearance
- Integrated audio / visual alarms alert occupants to refrigerant leak
- Magnetic wand enables easy, non-intrusive configuration / calibration
- Two relays, fully configurable, correspond to alarm thresholds (High / Low)
- Modbus RTU interface, BMS / BAS connectivity

3300RM2 Refrigerant Monitor

for Low-level Detection in Military Applications



- Monitors up to 8 zones with 1 sample pump per zone for enhanced reliability
- Proprietary infrared (NDIR) sensor technology detects leaks as low as 1 ppm
- Integrates with the Parasense enterprise refrigerant management platform
- IP54 / NEMA 12 rated enclosure
- Complies with military specifications and standards

PDRM2 Portable Refrigerant Monitor

for Low-level Detection in Military Applications



- Real time gas measurement quantifies leak
- Single and dual gas detection configurations available (NDIR and Galvanic Cell sensors)
- Hand carry or mount for use when permanent gas detection is not available
- Modbus RTU interface, BMS / BAS connectivity
- Complies with NAVSEA standards

MGS-550 Industrial Gas Detector

for Safety Compliance in Refrigeration Applications



- Dual-sensor capability allows measurement of multiple gas types / ranges
- Three relays, fully configurable, correspond to alarm thresholds (High / Low) and fault status
- Magnetic wand enables easy, non-intrusive configuration / calibration
- IP66 ABS and rugged aluminum enclosures available
- Modbus RTU interface, analog, BMS / BAS connectivity (Compatible with MGS-408)



MGS-450 Gas Detector with IP66 Rated Enclosure

Refrigeration safety compliance has never been more intuitive.

The MGS-400 Series is a complete leak detection solution, designed specifically for safety compliance in refrigeration applications.

ASHRAE 15 Compliant | Protect Personnel & Produce

Modern refrigeration systems are designed to be efficient and leak free, but improper installation, inadvertent damage or mechanical wear can result in potentially hazardous leaks. With their rapid response time, low-temperature performance (-40° C) and integrated audio & visual alarms, MGS-400 Series gas detectors make compliance with safety regulations simple and easy.

Save Time & Money | No Voltmeters or Potentiometers

MGS-400 Series gas detectors features best-in-class cable entry and terminal options making installation straightforward. Using MGS-400 App, users can intuitively use, commission and maintain the instruments without the need for specialist training or tools.

MGS-410 Gas Detector

for Safety Compliance in Refrigeration Applications



- Integrated audio & visual alarms comply with safety regulations — no additional hardware
- Maintains performance in temperatures as cold as -40° F (-40° C)
- Modbus RTU interface, BMS / BAS connectivity

MGS-460 Gas Detector

for Safety Compliance in Refrigeration Applications



- Integrated audio & visual alarms comply with safety regulations — no additional hardware
- Maintains performance in temperatures as cold as -40° F (-40° C)
- Remote sensor for monitoring for leaks in inaccessible areas
- Three relays, fully configurable, correspond to alarm thresholds (*High / Low*) and fault status
- Modbus RTU interface, analog, BMS / BAS connectivity

MGS-450 Gas Detector

for Safety Compliance in Refrigeration Applications



- Integrated audio & visual alarms comply with safety regulations — no additional hardware
- Maintains performance in temperatures as cold as -40° F (-40° C)
- IP41 and IP66 rated ABS enclosures available
- Three relays, fully configurable, correspond to alarm thresholds (*High / Low*) and fault status
- Modbus RTU interface, analog, BMS / BAS connectivity

MGS-408 Gas Detector Controller

for Safety Compliance in Refrigeration Applications



- Capable of powering up-to 8 gas detectors
- Displays real time data (*status / gas measurement*) from connected instruments
- Retains alarm & status history of connected gas detectors
- Modbus RTU interface, analog, BMS / BAS connectivity



THE MEASURABLE DIFFERENCE

Bacharach, Inc.
621 Hunt Valley Circle,
New Kensington, PA 15068 USA

Pittsburgh, PA USA | Dublin, IRE | Gloucester, UK | Stanardsville, VA USA | Toronto, CAN
www.mybacharach.com | help@mybacharach.com