MSA
The Safety Company

Gas Detection Solutions for the HVAC-R Industry



A Passion for Safety

The HVAC-R industry presents a wide variety of gas detection needs. From boiler rooms, battery rooms, engineering and research labs, and transportation maintenance facilities to many other industrial building and facility applications, each environment has its own monitoring needs. To enable personnel to work safely within these environments, monitoring of toxic gases, oxygen enrichment and deficiency and combustible gases is necessary. Versatile gas monitors can be an essential tool to answering this challenge.

Providing the best products, service, and support in the industry. That's the MSA passion.

SAFEGUARDING PEOPLE, PLACES & THE PLANET.

Gas Detection Selection Chart

Click to advance to each section.

Location	Aspirated Monitors	Refrigerant Management and Compliance	Protocol Gateway	Point Gas Detection	VRF Refrigerant Detection	Portable Leak Detection	Combustion Analysis	Portable Refrigerant Identification	Ventilation Control
Mechanical Equipment Rooms	■	■	■	■		■	■		
Food and Beverage	■	■	■	■		■		■	
Boiler Rooms			■	■		■	■		
Parking and Bus Garages			■	■			■		
Occupied Buildings	■	■	■		■	■	■		
Research Labs	■	■	■	■		■			
Automotive			■	■		■		■	
Ventilation			■		■				■
Cold Storage	■	■	■	■		■		■	
Food Retail	■	■	■	■		■	■	■	■

Aspirated Monitors

GAS DETECTION SELECTION CHART



Multi-Zone Gas Monitor

MSA Bacharach® Multi-Zone Gas Monitor is a market leader in the Refrigeration market. It delivers refrigerant leak detection with industry-leading Minimum Detection Level (MDL) of 1 ppm for halogenated gases, the fastest sampling frequency and the widest range of refrigerants accurately detected. The large graphic LCD display and LED status indicators provide a system-wide overview at a glance.

The Multi-Zone enhances effective refrigerant management and helps to ensure compliance with refrigeration safety standards which reduces refrigerant recharge, enhances energy efficiency, and lowers risk of refrigeration system failure leading to perishable loss. A variety of communication interfaces are available including Modbus and BACnet, allowing easy integration into BMS/BAS systems and remote monitoring solutions.

- Proprietary infrared (NDIR) sensor accurately detects the presence of a target gas down to an industry-leading 1 ppm Minimum Detection Level (MDL)
- Sensor enables resistance to false alarms caused by cross-interference from other gases or sudden changes in temperature or humidity
- Gas library contains 60+ refrigerants, including CFCs, HFCs, HCFCs, HFOs and natural refrigerants
- Backlit display shows real-time concentration readings and makes configuration and self-diagnostics intuitive
- Capable of monitoring up-to 16 zones (expandable up to 48 sample points) and detecting multiple gases with a single monitor
- Two optional analog outputs and Modbus communications for integration with third-party BMS / BAS control systems
- Accessory products for Multi-Zone include the MZ-RD Remote Display and Multi-Zone Relay Module



Chillgard® 5000 Refrigerant Leak Monitor

The Chillgard 5000 Refrigerant Leak Monitor is a leader in low-level leak detection for the Air Conditioning market. Its design is specifically optimized to detect a wide range of refrigerants commonly used in HVAC systems.

- Provides early low level detection of costly refrigerant leaks
- Patented photoacoustic infrared (PAIR) technology detects leaks as low as 1 ppm for refrigerant gases
- Intuitive, multi-lingual touchscreen user interface makes it easy to operate
- Predictive maintenance and diagnostics help keep you operational
- Modular design makes it easy to maintain and expand sample points
- Digital communications—BACnet (BTL listed) and Modbus
- A variety of communication interfaces are available including Modbus, BACnet and LonWorks, allowing easy integration into BMS/BAS systems and remote monitoring solutions
- Accessory products for Chillgard 5000 include Chillgard 5000 Remote Display which provides gas monitor information before room entry, mimicking the Chillgard 5000 gas monitor readings

Aspirated Monitors

GAS DETECTION SELECTION CHART



Single-Zone Refrigerant Monitor

Precision monitoring for low-level refrigerant leak detection for small to medium size facilities: the MSA Single-Zone Refrigerant Monitor enhances effective refrigerant management and helps to ensure compliance with refrigeration safety standards and emissions regulations. It detects leaks early to enable cost savings by reducing refrigerant recharge, enhancing energy efficiency, and reducing risk of refrigeration failure and perishable loss.

- Proprietary infrared (NDIR) sensor accurately detects the presence of a target gas down to an industry-leading 1 ppm Minimum Detection Level (MDL)
- Sensor enables resistance to false alarms to false alarms caused by cross-interference from other gases or sudden changes in temperature or humidity
- Gas library contains 60+ refrigerants, with Halogen, CO_2 and NH_3 versions available
- Backlit display shows real-time concentration readings and makes configuration and self-diagnostics intuitive
- High performance sampling pump for fast response times, including extending sample lines

Refrigerant Management and Compliance



Parasense Refrigerant Tracking and Compliance Software

Whether you are an equipment owner or refrigeration contractor, responsible for single-site analysis or full enterprise deployment and reporting, the award-winning MSA Parasense Refrigerant Tracking & Compliance Software gives you advanced refrigerant management and tracking tools to help you reduce operating costs; gain regulatory compliance and become a leader in sustainability and efficiency.

- Robust, effective, easy to use refrigerant compliance software
- Helps to achieve regulatory compliance for EPA 608, CARB and F-Gas reporting requirements
- Reduce refrigerant emissions through greater visibility of refrigerant usage
- Effective enterprise management across your entire organization

Refrigerant Management and Compliance

GAS DETECTION SELECTION CHART



Parasense Enterprise Leak Detection (ELD) and Energy Management

MSA Parasense Enterprise Leak Detection (ELD) software gives you direct visibility of any refrigerant leaks in your connected solutions facility. Covering all your equipment — including display cases, cold rooms, compressor racks, and more, across all the locations in your enterprise. This gives you advanced refrigerant management and notification tools to help you reduce operating costs; gain regulatory compliance, and become a leader in sustainability and efficiency.

- Support carbon neutral goals through effective rapid response to refrigerant leaks
- Greater visibility across your enterprise
- Robust, effective, easy to use refrigerant compliance software
- Helps to achieve regulatory compliance for EPA 608, CARB and F-Gas reporting when combined with Parasense RTC
- Energy management is important because it helps businesses reduce waste and carbon footprints, which can lead to improved sustainability. By analyzing energy usage patterns, identifying areas of inefficiency, and taking action, businesses can optimize resource allocation and improve operational performance.
  - Trend reports
  - Circuit comparison
  - Demand profiles
  - This year vs. last year
  - Main feed analysis
  - Savings analysis
  - Refrigeration energy efficiency
  - Power quality

Protocol Gateway



FieldServer® Gateway

The FieldServer Gateway is an external, high-performance, low-cost IIoT gateway that provides connectivity into the Parasense cloud.

- The FieldServer is pre-configured with MSA Safety's HVAC-R products to seamlessly enable Cloud connectivity
- The FieldServer can be expanded to include an interface to SCADA or BMS systems.
- Easily connects to the MSA Grid FieldServer Manager for OTA updates and product monitoring

Point Gas Detection

GAS DETECTION SELECTION CHART



X30 Refrigerant Monitor

The MSA Bacharach® X30 Refrigerant Monitor simplifies compliance with refrigeration safety codes, helping you save time and reduce installation costs. With intuitive app-based setup and maintenance, users can easily commission and manage their gas detection system— no specialized training or tools required. Pre-calibrated sensor modules make upkeep fast and hassle-free, eliminating the need for calibration gas. Installers benefit from a streamlined housing engineered for fast, intuitive installation and effortless operation. Including daisy-chained power and Modbus communication, enabling seamless integration into building management systems (BMS/BAS).

- XGD Mobile App streamlines setup, configuration, and maintenance with an intuitive interface—no specialized tools or training required to define alarm parameters or thresholds.
- Pre-calibrated sensors deliver measurable savings in time and operational costs by simplifying maintenance workflows.
- Semi-automated calibration eliminates the need for manual calibration—no potentiometers or voltmeters required.
- Supports ASHRAE 15 and EN378 indication requirements—no extra hardware or accessories needed
- Fast and straightforward wiring installation with daisychained power and digital communication
- Designed for all refrigeration environments—including machinery rooms, cold storage, and walk-in freezers—while maintaining reliable performance down to -40°F (-40°C).



X50 Refrigerant Monitor

The MSA Bacharach® X50 Refrigerant Monitor delivers enhanced performance and intelligent features to meet the most demanding refrigeration safety standards. Designed for efficiency, the X50 reduces installation time and cost while offering powerful app-based control for commissioning and maintenance—no specialized tools or training needed. Its pre-calibrated sensor modules are quick to replace and require no calibration gas, streamlining service and minimizing downtime. Advanced dual-sensor capability for multi-gas detection or built-in redundancy. With advanced connectivity options including daisy-chained power and Modbus communication, the X50 integrates effortlessly into BMS/BAS platforms or pairs with the MSA Bacharach® X10 Remote Gas Sensor for isolated monitoring.

- XGD Mobile App streamlines setup, configuration, and maintenance with an intuitive interface—no specialized tools or training required to define alarm parameters or thresholds.
- Pre-calibrated sensors deliver measurable savings in time and operational costs by simplifying maintenance workflows.
- Semi-automated calibration eliminates the need for manual calibration—no potentiometers or voltmeters required.
- Supports ASHRAE 15 and EN378 indication requirements, including a perimeter strobe—no extra hardware or accessories needed
- Effortlessly connects to Building Management and Automation Systems via Modbus for seamless integration.
- Accelerate installation with plug-and-play wiring and daisy-chained power and communication lines. Customizable entry options to accommodate your wiring, conduit, and cable gland needs.

Point Gas Detection

GAS DETECTION SELECTION CHART



MGS-250 Infrared Gas Detector

MSA Bacharach® MGS-250 Infrared Refrigerant Gas Detector is a leader in performance and flexibility. It can be configured as either a broadband sensor used for gross leak detection, or as a gas-specific version that's pre-calibrated and characterized for precision response to individual refrigerants.

- Long-life, proprietary infrared (NDIR) sensor provides 5-7 years of maintenance-free service while detecting the presence of a target gas down to 75 ppm Minimum Detection Level (MDL)
- IR technology enables resistance to false alarms, cross-interference, or effects from temperature and humidity changes
- 4-digit LED display shows real-time concentration readings and makes configuration and self-diagnostics intuitive
- Configurable analog output (4-20mA, 0-5V, 0-10V, 1-5V or 2-10V) and Modbus communications for integration with Bacharach's MGS-408 controller or third-party BMS/BAS control systems



MGS-400 Series Point Detectors

MSA Bacharach® MGS-400 Series Gas Detectors makes compliance with refrigeration safety codes simple and effective, saving time and money on equipment and installation. With an extensive gas list spanning halogenated refrigerants, carbon dioxide, ammonia, and more, the MSA Bacharach® MGS-410, MGS-450, and MGS-460 also include unique features to maximize flexibility for suiting each application.

- Plug-and-play pre-calibrated sensor modules allow for quick, simple sensor replacement
- Temperature-compensated measurements mitigate false alarms and optimize accuracy in refrigeration applications (suitable for use in cold rooms and freezers down to -40°C)
- Configurable analog output and Modbus communications for integration with the MGS-Series controllers or third-party BMS/BAS control systems
- Three user-configurable relays may be used to activate external beacons, ventilation, or other countermeasures
- Integrated audible/visual alarms for refrigeration safety compliance — no additional hardware required
- MGS-400 mobile app (available for Android and iOS) allows users to interface via Bluetooth® with gas detector for easy commissioning and maintenance without specialty tools or training

Point Gas Detection

GAS DETECTION SELECTION CHART



MSA Bacharach® MGS-550 Dual Gas Detector

MSA Bacharach® MGS-550 Dual Gas Detector can utilize a combination of sensor technologies, including electrochemical, semiconductor (MOS), catalytic bead or infrared, in a single platform for flexible detection capability.

The MGS-550 can easily be connected to a central control system using the current and voltage analog output or the Modbus RTU interface. With three user assignable relays, it can also function as a stand-alone unit without the need to wire alarm devices back to a central system. At any point in time, the instrument can be upgraded from a one sensor to a two sensor system by simply registering another sensor.

- IP66-rated enclosure protects from dust and water ingress
- Two-sensor capability allows for unparalleled flexibility and enables detection of multiple target gases in a variety of ranges or locations (local and remote sensors available)
- 5-digit LED display shows real-time concentration readings and makes configuration and self-diagnostics intuitive
- Configurable analog output and Modbus communications for integration with Bacharach's MGS-408 controller or third-party BMS / BAS control systems
- Integrated audible/visual alarms for refrigeration safety compliance — no additional hardware required



MGS-402 Controller

MSA Bacharach* MGS-402 Gas Detection Controller centralizes the status of up to two gas detectors, provides a complete package for your safety compliance application. On the front panel of the MGS-402 a bank of LEDs corresponds to each connected gas detector; showing power, alarm status and fault indicators. The MGS-402 can provide the power requirements for to up to two gas detectors, which can be daisy-chained with Modbus communication to each gas detector; simplifying and reducing the cost of installation.

- Designed for operation in refrigeration applications with an IP66-rated enclosure to protect from dust and water ingress (suitable for use in cold rooms and freezers down to -40°C)
- MGS-400 Series Detectors may be installed in hard-to-reach/elevated locations (distances up to 305m from the controller)
- Centralized power and communications for up-to two connected MGS-400 Series Detectors
- Tri-color LED indicators provide "at-a-glance" system/alarm status
- Two configurable Analog outputs and Modbus communications
- Three user-configurable relays may be used to activate external beacons/ sounders, ventilation or other countermeasures
- Integrated audible/visual alarms with push button silence for refrigeration safety compliance — no additional hardware

Point Gas Detection

GAS DETECTION SELECTION CHART



MGS-408 Controller

The MSA Bacharach® MGS-408 Gas Detection Controller centralizes the status of up to 8 gas detection channels in a single location. The digital display provides a real-time view of the gas concentration and status at each gas detection point. It also allows for the controller to be configured in minutes via the intuitive menu system. A bank of LEDs corresponds to each connected gas detector; showing power, alarm status and fault indicators.

- Integrated SD card retains the alarm / status history of the gas detection system
- Modbus communications for integration with third-party BMS/BAS control systems
- Three user-configurable relays (fault, low and high alarm) may be used to activate external beacons/sounders, ventilation or other countermeasures
- Integrated audible / visual alarms with push button silence for refrigeration safety compliance — no additional hardware



MGS-401 Entrance Monitor

The MSA Bacharach® MGS-401 Entrance Monitor conveniently centralizes the status of up to four MSA diffusion gas detectors and provides and audible and visual alarm outside of a monitored space. TThe MGS-401 displays the gas concentration level from connected sensors in the space.

- Clear display with detailed sensor status and gas concentration information for up to 4 sensors
- Perimeter strobe for system and alarm status
- Seamless integration with all MSA diffusion gas detectors
- Modbus RTU Master/Slave provides seamless integration from connected gas detectors to many third-party BMS/BAS
- Integrated audible and visual alarms help enable compliance with safety codes with no additional hardware required

Point Gas Detection

GAS DETECTION SELECTION CHART



TG5000 Gas Monitor

The TG5000 Gas Monitor is an effective and economical solution to detecting combustible and toxic gases, as well as oxygen deficiency/enrichment, in commercial and light industrial applications.

- Organic LED (OLED) and bright status LEDs for extreme visibility
- Touch button interface for intuitive, tool-free user experience
- Breakthrough XCell® TruCal gas sensors for H2S and CO monitoring extends calibration periods up to two years
- Bluetooth wireless technology to check status, modify settings and more with the X/S Connect app
- Available as single or dual gas monitoring unit



SENTRY io® Controller

The SENTRY io Controller is an easily-configurable, wall-mount multi-channel controller suitable for a variety of industrial applications.

- Monitors up to 16 inputs and 56 outputs with an option for analog outputs
- Modern multi-lingual touchscreen HMI supports intuitive operation
- SmartStart walks users through setup process saving valuable time
- EZ-ID synchronizes and pre-populates details of HART-enabled MSA detectors
- Digital communications supported: Modbus TCP/IP, Modbus RTU (optional), EtherNet/IP/DLR

Z-Gard® Gas Monitoring Products

GAS DETECTION SELECTION CHART



Z-Gard S Sensor



Z-Gard DS Sensor

Z-Gard S and DS Sensors

Z-Gard S and DS Sensors are reliable gas sensors for commercial applications. The Z-Gard S Sensor detects carbon monoxide, nitrogen dioxide and combustible gases in air. Z-Gard DS Sensors detect carbon monoxide and nitrogen dioxide gases in parking garages and vehicle storage areas, among other locations. Z-Gard DS Sensors offer two detection points within one enclosure.

- Two sensor output options: 4-20 mA analog output or RS-485 digital signal
- Easy, non-intrusive one-person calibration of zero and span
- Sensor status is shown by green OK LED, indicating proper device operation
- Switch drive output to percentages of full-scale — useful for testing remote devices that may connect to sensor output
- Multiple Protocol Outputs (MPO) option available to directly connect with Building Automation Systems using BACNet MS/TP, Modbus RTU, Modbus ASC, Z-Gard, or APOGEE P1

Z-Gard Controllers are microprocessor-based monitoring systems designed for a variety of alarm and control applications. They interface with MSA Z-Gard Sensors, providing real-time target gas readings. All Z-Gard Controllers provide easy installation and configuration, audible and visual feedback and seamless integration with commercial and building automation systems. They accept either 4-20 mA or RS-485 serial input from remote sensors.



Z-Gard C 485 Controller

Z-Gard C 485 Controller

- Accepts up to eight, 16 or 24 Z-Gard Sensor inputs
- Digital RS-485 serial communication protocol



Z-Gard CX II Controller

Z-Gard CX II Controller

- Hosts series of Z-Gard S Gas Sensors with RS-485 digital output
- Communicates to building automation system through Modbus or BACnet
- Supports customized applications via programmable operating parameters organized by menu interface keyboard

VRF Refrigerant Detection

GAS DETECTION SELECTION CHART



MVR-300™ VRF Refrigerant Gas Detector

The MSA Bacharach® MVR-300™ VRF Refrigerant Gas Detector is specifically designed to provide continuous monitoring for refrigerants associated with high-efficiency, high volume refrigerant cooling and heating systems, such as VRF/VRV (Variable Refrigerant Flow/Variable Refrigerant Volume) systems. Typical applications include hotels, dormitories, hospitals, office buildings, and apartment buildings.

- Fits in standard 3-gang electrical boxes for easy installation (not suitable for electrical junction boxes)
- Low profile/flush mount for aesthetically non-intrusive appearance
- Two relays and Modbus Communications for notifying building management & initiate counter measures
- Alarm options (LED, buzzer, two levels, configurable delay and fail-safe) to alert occupants and remotely inform building management of alarm location for rapid response as required
- Refrigerant specific sensors for enhanced safety
- Self diagnostics and simple field calibration for easy maintenance
- Unique plug-in field replaceable pre-calibrated sensor for low cost of ownership

VRF Refrigerant Detection



MVR-SC Gas Detection Controller

The MSA Bacharach® MVR-SC Gas Detection Controller provides centralized monitoring and alarming for multi-occupant applications utilizing the MVR-300™ VRF Refrigerant Gas Detector. The MVR-SC Controller continuously monitors all connected gas detectors for alarm and fault conditions, and can provide alerts via the integrated color touchscreen display, integrated buzzer, and on-board relay outputs.

- Centralized monitoring for multi-occupant applications utilizing the MVR-300™ VRF Refrigerant Gas Detector
- At-a-glance visualization of whole system alarm, fault, or connectivity status
- Continuously monitors up to 100 connected devices for alarm and fault conditions
- Rolling event log of 100 most recent events (alarms, faults, connectivity, etc.) saved to SD card
- 1 Alarm Relay; 1 Fault Relay; automatic system action to be taken for fault or alarm condition via built-in relays
- Self diagnostics and simple fi eld calibration for easy maintenance
- Commissioning via dynamic device pairing and remote Modbus auto-assign save

Portable Leak Detection

GAS DETECTION SELECTION CHART



PGM-IR Portable Refrigerants Monitor

The MSA Bacharach® PGM-IR Portable Refrigerant Monitor offers superior performance and functionality for low ppm level leak detection of refrigerants, Carbon Dioxide, Nitrous Oxide or Sulfur Hexafluoride. A built-in library of 60+ refrigerants enable the PGM-IR to accurately detect small leaks at their source. The unit is resistant to sudden changes in temperature or humidity and to over-exposure. The PGM-IR requires no zeroing of positive readings with extended exposure to gas. It has a data logging capacity of up to 200 readings.

With its high flow rate, real-time ppm concentrations are displayed instantly with corresponding audible tick-rate indicator to precisely pinpoint leaks. Rapid clearing time enables accurate ambient-air leak detection using the probe along a chiller or display-case. A re-zeroing algorithm and filter/bladder system allows the unit to be used in contaminated areas without affecting target gas readings. The rechargeable Li-ion battery provides a minimum of 8 hours of runtime for all-day usage.

- Proprietary infrared (NDIR) sensor can accurately detect the presence of a target gas down to an industry-leading 1 ppm Minimum Detection Level (MDL)
- Sensor is resistant to false alarms caused by cross-interference from other gases or sudden changes in temperature or humidity
- Gas library contains 60+ refrigerants, including CFCs, HFCs, HCFCs and HFOs
- Backlit display with real-time concentration readings and audible indicator help users track the smallest refrigerant leaks to their source
- Integrated charcoal purge filter allows users to perform inspections in contaminated spaces without leaving to re-zero the monitor in fresh air



H-10 Pro Refrigerant Leak Detector

The MSA Bacharach® H-10 PRO Refrigerant Leak Detector is a highly responsive universal refrigerant leak detector using tried-and-true heated diode sensor technology. It's ultra-sensitive to all halogen-based, non-flammable CFC, HCFC, HFC, and HFO refrigerants for reliable use in a wide range of refrigerant leak detection applications.

The H-10 PRO Detector has a long probe (4.5 ft.) for detecting leaks in hard-to-reach areas, visual and audible indicators to show relative leak sizes and an auto- zeroing feature (automatic mode only) for finding leaks in backgrounds where target gas is present. It has an internal sensor calibration reference to ensure optimum performance.

- Detects all CFC, HCFC, HFC, and HFO refrigerants as low as 0.006 oz/yr, including R-410a and R-507
- Dual power options allow battery operation for the best mobility or wall power for uninterrupted usage
- Visual and audible indicators include an incremental flashing LED in the probe tip, an internal speaker and a headphone jack

Portable Leak Detection

GAS DETECTION SELECTION CHART



The Informant® 2 Multi-Purpose Leak Detector

MSA Bacharach's Informant 2 Multi-Purpose Leak Detector is a uniquely flexible leak detector designed for residential and commercial heating and cooling contractors. It's one of the only dual-purpose leak detector that can be switched from refrigerants to combustible gases (and back again) in seconds. This one unit replaces two dedicated leak detectors, saving space in your truck and money in your wallet.

The Informant® 2 Leak Detector has a long, flexible neck for detecting leaks in hard-to-reach areas, dual LED scales to show relative leak sizes and an auto-zeroing feature for finding leaks in backgrounds where target gas is present. It is UL 913 certified (when using the combustible sensor only) for hazardous locations and comes with a 1 year warranty including sensors.

- Detects refrigerants and combustible gases (with respective sensor installed)
- Sensor located in the probe tip for ultimate sensitivity, fast response and easy changing
- Visual and audible indicators include dual LED scales, flashing LED in probe tip and a speaker (with mute option)



Leakator® Jr. Combustible Gas Leak Detector

The MSA Bacharach® Leakator® Jr Detector is an excellent budget instrument for pinpointing combustible gas leaks in a number of residential, commercial and industrial applications, including gas pipeline surveying and valve, regulator and gas meter inspection. It uses a long-life (5 years typical) sensor and is easy to operate with one hand, giving you a dependable, easy-to-use tool.

The Leakator® Jr. Detector has a long, flexible neck for detecting leaks in hard-to-reach areas, an LED and audible sound for confirming the presence of leaks, and an automatic balance feature for finding leaks in backgrounds where target gas is present. It is UL 913 certified for hazardous locations and comes with a 2 year warranty including sensor.

- Detects Detects most combustible gases with excellent sensitivity and no calibration required
- Sensor located in the probe tip for ultimate sensitivity, fast response and easy changing
- Simple visual and audible indicators for clear leak identification

Portable Leak Detection

GAS DETECTION SELECTION CHART



H25-IR Pro Gas Leak Analyzer

The MSA Bacharach® H25-IR PRO Analyzer is an industrial-grade gas leak analyzer capable of detecting 40+ refrigerant gases (standard model) in addition to R-290 (propane), R-600a (isobutane) and for special applications, CO_2 and SF6. It uses Advanced Leak Quantification (ALQ™) technology to quickly detect and quantify leaks, making this analyzer a truly powerful tool.

The H25-IR PRO Analyzer has many probe options, ranging from basic all the way to a "smart" probe that mirrors the instrument's user interface. Probes are available in 6 and 12 ft. lengths, enabling the H25-IR PRO to be customized to specific applications and user requirements.

It also includes four (4) relays and a 4-20mA output and comes with a 2 year warranty.

- Standard model detects all CFC, HFC and HCFC refrigerants as low as 0.03 oz/yr (0.85 g/yr)
- Models available for R-290 (propane), R-744 (CO2), R-600a (isobutane) and SF6
- ALQ™ technology eliminates the need for a calibrated reference leak source

Combustion Analysis



PCA® 400 Combustion and Emissions Analyzer

The MSA Bacharach® PCA® 400 Combustion & Emissions Analyzer helps enable you and your technicians to commission, tune, maintain, and certify most boilers. It is an excellent choice for spot-checking and tuning your engines with the high-range CO sensor and available sample conditioner. Whether it's boiler combustion or emissions testing of your natural gas, stationary genset or mobile fleet vehicles, monitoring your emissions is fast, easy and accurate.

Users have the option to save measured data in the unit as discreet tests, or stream it live via Bluetooth® communications to a PC or other smart hand-held device for compliance reporting. Reports are easily and quickly generated to help satisfy compliance requirements. Interchangeable power options (rechargeable Li-Ion, 'AA' alkaline or line power) help to ensure the unit is always ready for use. Probes and hoses come in a variety of lengths and materials to satisfy a wide range of applications, including NOx, SO_2 and other requirements. Automatic sensor protection not only guards the sensors from damage but doubles their measurement range under high load conditions for increased flexibility.

- Versatile analyzer for many commercial and industrial applications with up to 4 gas sensors (O_2, CO, NO, NO_2 and SO_2)
- Optional active sample conditioner provides superior accuracy for low NOx and SOx applications
- Real-time PC software allows technicians to view and save live data for easy compliance reporting
- Combustion App allows users to remotely operate the analyzer and create custom reports with comments which can be sent via email (available for Android & iOS)
- Long life O_2 sensor with 5 year warranty reduces maintenance costs and downtime
- Automatic dilution mode and sensor protection helps technicians protect the analyzer in harsh environments, extending sensor life
- Dual Bluetooth® and IrDA printer allows technicians to reproduce combustion and emissions reports in the field
- Quick and easy sensor replacement in the field reduces downtime and doesn't require calibration gas

Combustion Analysis

GAS DETECTION SELECTION CHART



Insight Plus Combustion Analyzer

The MSA Bacharach® Insight Plus Analyzer is the perfect tool for busy residential/light-commercial technicians who need to ensure safe operating conditions and determine combustion efficiency. Powered by MSA's patented Tune-Rite® software, the Insight Plus Analyzer helps both new and seasoned technicians save money and time by making more thorough and efficient service calls.

The Insight Plus Analyzer includes sensors for Oxygen (O_2) and Carbon Monoxide (CO), which includes a built-in NOx filter. The CO sensor can be replaced in the field without down time using pre- calibrated sensors. O_2 sensors carry a 2 or 3 year warranty depending on the sensor installed. O_2 sensors are field replaceable and do not require calibration. The Insight Plus Analyzer calculates values like efficiency, CO_2 and CO air-free to help monitor combustion processes effectively and accurately.

- All-in-one instrument makes combustion tuning fast and simple with readings for O_2, CO, CO_2, combustion efficiency, temperature and draft
- Industry-exclusive Tune-Rite HVACR software assistant analyzes combustion data and provides real- time troubleshooting suggestions
- Long life O_2 sensor with 3 year warranty reduces maintenance costs and downtime
- Automatic sensor protection helps technicians protect the analyzer in harsh environments, extending sensor life
- Quick and easy sensor replacement in the field reduces downtime and doesn't require calibration gas
- Combustion App allows users to quickly create custom reports with comments and send via email (available for Android & iOS)



InTech Combustion Analyzer

The MSA Bacharach® InTech Combustion Analyzer is the perfect tool for entry-level and residential technicians who need to ensure safe operating conditions and determine combustion efficiency. The InTech Analyzer features 6 fuels in the North American configuration and includes sensors for O_2 and CO, with an option for an external NOx filter. The CO sensor can be replaced in the field without down time using pre-calibrated sensors. The InTech Analyzer calculates values like efficiency, CO_2 and CO air-free to help monitor combustion processes effectively and accurately.

- All-in-one instrument makes combustion tuning fast and simple with readings for O_2, CO, CO_2, combustion efficiency, and temperature
- Ambient CO monitoring function allows technicians to check for dangerous CO levels
- Automatic sensor protection helps technicians protect the analyzer in harsh environments, extending sensor life
- Quick and easy sensor replacement in the field reduces downtime and doesn't require calibration gas
- Combustion App allows users to quickly create custom reports with comments and send via email (available for Android & iOS)

Portable Refrigerant Identification

GAS DETECTION SELECTION CHART



Legend Series™ HFC Refrigerant Analyzer

Clean air calibration is all you need to analyze your refrigerant in less than 2 minutes. The MSA Legend Series™ HFC Refrigerant Analyzer, powered by Neutronics technology, is capable of measuring vapor or liquid refrigerant to confirm purity while detecting the presence of other harmful refrigerants or air.

- Only mobile device to provide a high level of accuracy for measured refrigerants
- Blend analysis for measured R-400 series refrigerants
- Vapor or liquid sampling
- Store test data on external USB drive and remote software updates for new refrigerants
- Supports 10 languages for global operations
- Analyzed Refrigerants (displays % purity): R-22, R-32, R-134a, R-404A, R-407C, R-410A, Hydrocarbons (HC) and Air
- Identified Refrigerants (NO % purity): R-12, R-1234yf, R-408A, R-409A, R-417A,R-421A, R-421B, R-422A, R-422B, R-422C, R-427A



Legend Series™ R-1234yf/R-134a Refrigerant Analyzer

The Legend Series™ R-1234yf/R-134a Refrigerant Analyzer is a refrigerant identifier and analyzer for the past, present, and future. Service R-12, R-134a, and R-1234yf vehicles with one tool.

The Legend ID™ is a worldwide ready tool to meet the service needs of HFO-1234yf equipped vehicles. It is certified to the SAE J2912 standard and connects directly to SAE J2843 and J3030 AC Service machines that have an external analyzer USB port.

- Quickly and accurately determines refrigerant purity
- Displays percentage purity of R-1234yf, R-134a, R-12, R-22 and Hydrocarbons and % air in pure R-1234yf & R-134a
- Capable of testing R-12 with optional R-12 hose accessory
- Easily prints test results with optional printer
- Improved oil resistance with the user replaceable oil restrictor



Mini ID™ R-134a Refrigerant Identifier

The MSA Mini ID R-134a Refrigerant Identifier is a low-cost R-134a identification option. It helps you verify the presence and quality of R-134a refrigerant in a vehicle's air conditioning system to avoid recovering contaminated refrigerant that could damage your air conditioning service equipment.

- Easy to use with 'PASS' or 'FAIL' LED indication
- 'FAULT' and 'EXCESS AIR' LEDs
- Step by step LED indications of the gas sampling process
- Compact and lightweight design
- Rugged construction and housing
- Hand-held and extremely portable

Portable Refrigerant Identification

GAS DETECTION SELECTION CHART



Mini ID™ R-1234yf Refrigerant Identifier

The MSA Mini ID R-1234yf Refrigerant Identifier helps you verify the presence and quality of R-1234yf refrigerant in vehicle air conditioning systems. This helps you avoid potential damage to your air conditioning service equipment and business from refrigerant contamination.

- Easy to use with 'PASS' or 'FAIL' LED indication
- 'FAULT' and 'EXCESS AIR' LEDs
- Step by step LED indications of the gas sampling process
- Compact and lightweight design
- Rugged construction and housing
- Hand-held and extremely portable

Ventilation Control



BVC-650 Ventilation Controller

The MSA Bacharach® BVC-650 Control System provides solutions for reducing carbon and HVAC load in both new and retrofit store applications. With its advanced technology, this system provides automated control of your kitchen ventilation by adjusting exhaust and HVAC inlet air based on the level of cooking activity. Experience increased energy efficiency and reduced waste while enhancing the comfort of your kitchens. The BVC-650 Control System maximizes kitchen ventilation energy efficiency by monitoring the temperature inside the exhaust hoods, giving you ultimate control over your kitchen's climate, and maintaining the facility's conditioned air. Upgrade your store today and start reaping the benefits of the BVC-650 Control System.

- Quick and simple installation
- Works with gas or electric kitchen appliances
- One controller monitors up to three exhaust hoods
- Average installed ROI is 1-2 years based on climate
- Real-time connectivity for visibility, alarming, & optimization

Note: This Bulletin contains only a general description of the products shown. While product uses and performance capabilities are generally described, the products shall not, under any circumstances, be used by untrained or unqualified individuals. The products shall not be used until the product instructions/user manual, which contains detailed information concerning the proper use and care of the products, including any warnings or cautions, have been thoroughly read and understood. Specifications are subject to change without prior notice. MSA is a registered trademark of MSA Technology, LLC in the US, Europe, and other Countries. For all other trademarks visit https://us.msasafety.com/Trademarks.

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