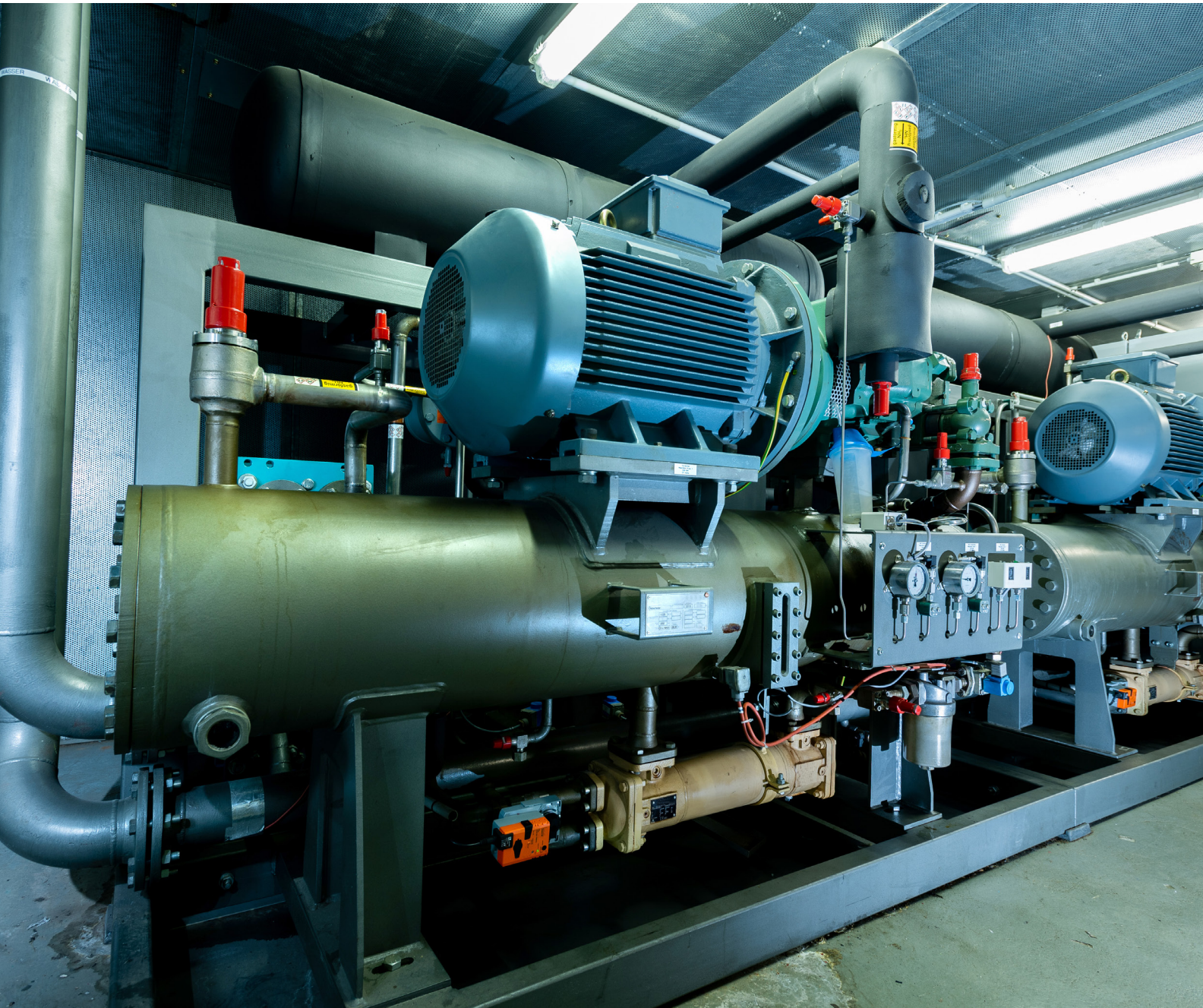


Mechanical Equipment Rooms

Application Guide | Gas Detection for Safety Compliance



Mechanical Room Gas Detector Selection Guide

	MGS-400	MGS-250	MGS-550	Multi-Zone
SAMPLING TYPE	Diffusion			Aspirated
TEMPERATURE RANGE	-40 °C to +50 °C	-30 °C to +40 °C	-40 °C to +50 °C	System: 0 °C to 50 °C Sample Points: -40 °C to +50 °C
COMBUSTIBLE GASES	●	—	●	—
STABILITY & ACCURACY	Standard	High	Standard	High
SENSOR CHANNELS	1	1	2	16
MINIMUM DETECTION LEVEL	50 or 200 ppm typical	10 ppm	50 or 200 ppm typical	1 ppm
USER INTERFACE	Mobile App	Local Display		
PARASENSE CLOUD PORTAL		—		Optional

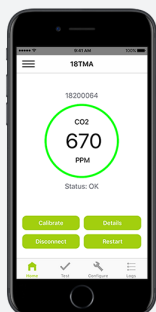
Bacharach® MGS-400 Series

Gas Detection Controller & Multi-Device Platform for a Wide Range of Applications

	MGS-410	MGS-450	MGS-460
ENCLOSURE RATING	IP66	IP41 / IP66	IP66
CONFIGURABLE RELAYS	—	3	
DIGITAL COMMUNICATIONS	Modbus RTU		
ANALOG OUTPUT	—	Analog	
SENSOR	Integrated		Remote

MGS-400 Series Gas Detectors

- Mobile user app interface
- Plug-and-play pre-calibrated sensor modules
- Temperature-compensated measurements down to -40° F/C
- Digital and analog communications
- Onboard A/V alarms
- IP41 and IP66 versions
- Remote sensor capability



MGS-400 Series App

The MSA Bacharach MGS-400 App allows users to configure, maintain and interface with compatible MGS-400 gas detectors:

- **Configuration** (Rename device, define alarm thresholds, adjust Modbus settings, configure relay behavior and manage analog output settings).
- **Maintenance** (Test LED/buzzer function, relays, and analog output level).
- **Calibration** (View sensor type, serial number and “Calibration Due” timer and initiate zero / span calibrations with customizable field calibration certificate).
- **Intuitive Interface** (View current gas measurement and acknowledge alarm / fault status).

Optional External Strobe



Bacharach® MGS-408 Gas Detection Controller

8-Channel Controller

- Centralized power and alarming for up to 8 gas sensors, including the MGS-410, MGS-450, MGS-460, MGS-250 and MGS-550
- LEDs and display screen provide a real-time at-a-glance visualization of entire gas detection system alarm status
- Modbus master and slave capabilities allow device to gather full set of data from connected gas detectors and relay to facility's BMS / BAS
- 3 Relays (fault, low alarm, high alarm) and integrated horn / strobe allow controller to activate ventilation or other counter measures.

Integrated Perimeter Strobe



Bacharach® MGS-402 Gas Detection Controller

2-Channel Controller

- Centralized power and alarming for up to 2 MGS-410 gas detectors
- Modbus RTU Master / Slave provides seamless integration from connected gas detectors to many third-party BMS / BAS
- Audible and visual alarms enable compliance with AHSRAE 15 / EN 378 - no additional hardware required.

Bacharach® MGS-250

Infrared Gas Detector



- Long-life, infrared (NDIR) sensor
- Detects CFCs, HFCs, HCFCs and HFOs
- No cross interference to other gases, humidity or temperature
- Modbus RTU interface, analog output
- Set all parameters and outputs without opening the unit
- Works with MGS-408

Bacharach® MGS-550

Dual-Gas Detector with Remote Sensors



- Flexible two-sensor capability, local and / or remote
- Two analog outputs and Modbus RTU interface
- Three fully configurable, user-assignable relays
- Magnetic wand enables easy, non-intrusive configuration / calibration
- IP66-rated ABS enclosure provides protection from dust and water
- Works with MGS-408

Bacharach® Multi-Zone Refrigerant Monitor

High-Performance, Multi-channel System for Early Warning and Low-Level Leak Detection



- Active sampling for 4-16 zones
- 1 ppm Minimum Detection Level (MDL)
- Proprietary infrared sensor accurately detects 60+ different refrigerants, including CFCs, HFCs, HCFCs, HFOs and natural refrigerants
- No calibration required
- Sample distance up to 1200 feet (365 m)
- Optional connectivity to Parasense cloud platform



Parasense Platform

Supported Gas Detection by Product

● MGS-400 (410 / 450 / 460)

● MGS-550

● MGS-250

● Multi-Zone

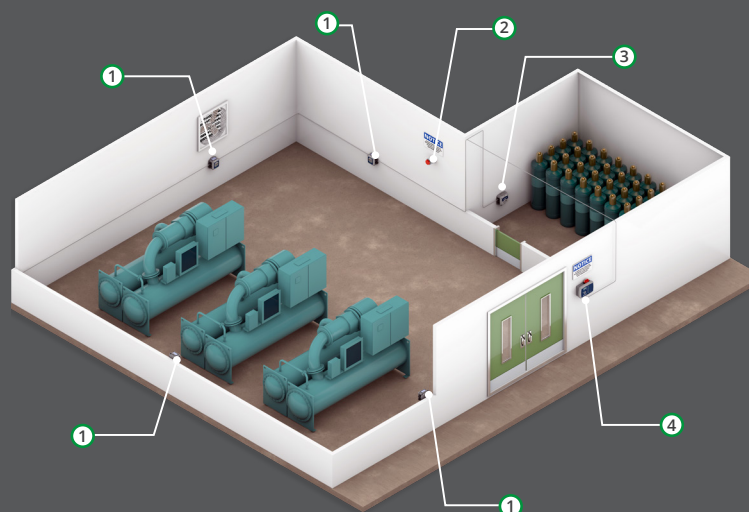
CO	●	●	
CO ₂	●	●	●
Ethylene (C ₂ H ₄)		●	●
FA188			●
FC72			●
H1211			●
H1301			●
H2402			●
HFO1336E			●
HFO1336Z			●
HFP			●
LPG		●	
R-50 (Methane)	●	●	
N1230			●
N4710			●
N5110			●
N7100			●
N7200			●
N7300			●
N7600			●
R-717 (Ammonia)	●	●	●
NO ₂	●	●	
O ₂		●	
O ₂ (Low Alarm)	●		
R-11			●
R-113			●

R-114			●
R-12			●
R-123			●
R-1233zd(E)		●	●
R-1234yf	●	●	●
R-1234ze(E)	●	●	●
R-124			●
R-125			●
R-134a	●	●	●
R-21			●
R-22	●	●	●
R-227			●
R-23			●
R-236fa			●
R-245fa			●
R-290 (Propane)	●	●	
R-32	●	●	●
R-401A			●
R-402A			●
R-402B			●
R-404A	●	●	●
R-407A	●	●	●
R-407C	●	●	●
R-407F	●	●	●
R-408A			●
R-409A			●

R-410A	●	●	●	●
R-422A	●	●	●	●
R-422D	●	●	●	●
R-424A				●
R-426A				●
R-427A	●	●	●	●
R-434A	●			
R-438A				●
R-448A	●	●	●	●
R-449A	●	●	●	●
R-450A	●			
R-452A	●	●	●	●
R-452B	●		●	●
R-454A	●			●
R-454B	●			●
R-454C	●			●
R-455A	●			
R-500				●
R-502				●
R-503				●
R-507A	●	●	●	●
R-508B				●
R-513A	●	●	●	●
R-514A			●	●
R-600 (Butane)	●	●		

MGS-400 Series Example: Mechanical Room Configuration

- ① MGS-410
- ② Horn / Strobe
- ③ MGS-450
- ④ MGS-408 Controller with Horn / Strobe



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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