

## CASE STUDY

### *Bacharach MGS400 Series: Solving Leak Detection early*

Ultra Refrigeration have been one of the first in the UK to use the new Bacharach MGS400 Series gas detection systems on a CO<sub>2</sub> system.

#### The Need

Lincoln Co-op is a new flagship concept store in Lincoln for the Lincolnshire Co-op Group, and they required a leak detection system to be fitted to their CO<sub>2</sub> compressor pack in order to indicate the presence of CO<sub>2</sub> levels which exceed the current safe levels, and to indicate a leak.



*New cabinets installed at Lincoln Co-op*

#### The Solution

Ultra Refrigeration, who work closely with the Lincolnshire Co-op Group, contacted Steve Gatenby, Sales Support Manager at Climalife UK, to see which leak detection product would be most suited to this installation. The Bacharach MGS400 series was chosen as it is the latest technological advance in leak detection, and utilises Bluetooth communications for the set-up process, making it quick and easy to be installed at site.

## The Product

The MGS400 series is the latest product range from Bacharach and is a complete leak detection solution designed specifically for safety and F-Gas compliance in refrigeration applications. It comprises of three gas detectors, MGS410, MGS450 and MGS460, an 8-channel controller, MGS408, and a smartphone app, connectable to the detectors & controller via Bluetooth.

The MGS410 detector requires connection to the MGS408 controller, or a BMS/BAS via Modbus. The MGS450 and 460 are standalone units, but can be connected to the MGS408 or a BMS/BAS.

All the gas detectors offer integrated audio and visual alarms which comply with safety regulations and maintain performance in temperatures as cold as -40°F (-40°C).

The MGS400 series refrigerant detectors can be connected to a smart phone (Android or iOS) via Bluetooth, using the Bacharach MGS400 app. The app makes commissioning and maintenance intuitive and requires no special tools or training in order to set up the alarm behaviour or thresholds. It also gives the user a real time reading of the PPM levels of the refrigerant being detected.

The MGS408 controller can have a maximum of 8 detectors connected to it, in any combination of MGS410, 450 and 460, allowing the centralised monitoring of several gas detection points.

## Installation

The detector was fitted to the CO<sub>2</sub> compressor pack, manufactured by Ultra Refrigeration. The detector was very easy to install and only required a few electrical connections including power and outputs. Set up was simple via Bluetooth and the MGS400 app.



*The leak detector fitted to the CO<sub>2</sub> compressor pack*

Anthony Lomas, Operations Director at Ultra Refrigeration had the following words to say about the MGS400 system;

*“We’ve just finished set-up and commissioning of our second device which has now become a standard on our CO<sub>2</sub> packs for Lincolnshire Co-op Group.*

*The integrated alarm provides a reliable warning for persons entering the plant room should CO<sub>2</sub> be present, and connection to the site’s RDM DM Touch means we can remotely monitor the system for pending failures due to leaks, even if very small and not posing a safety issue.*

*Set up using the Bluetooth Connection and iPhone app was a breeze and simplified the whole process. Aside from learning how to make the initial connection, there was no need to consult the installation manual or to navigate a complicated parameter list.”*



*Using the app to set up the detector*

## **The Importance of Leak Detection**

Whether it's for safety, to maintain optimal energy efficiency, minimise the cost of refrigerant loss, or to comply with legislation such as F-Gas, there has never been so many compelling reasons to find leaks and fix them early and quickly.

Modern refrigeration systems are designed to be efficient and leak free, but improper installation, inadvertent damage or mechanical wear can result in potentially hazardous refrigerant leaks, which in some cases, could also be flammable.



Climalife UK sell a range of fixed leak detectors from Bacharach to suit most refrigerants and systems. Bacharach are specialists in the manufacture of products that detect, measure and monitor gases with both portable and fixed instruments.

**For information regarding this case study please contact:**

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