

medemTM
Ventilation Interlock Systems



COMMERCIAL KITCHEN

Ventilation Interlocking Systems

We design it, build it, back it up.

Maximizing Safety. Minimizing Risk.

Committed to being the best.

British Designed
and manufactured
by Medem™



Committed to
improvement



Medem™ is a well established electronic design and manufacturing company supplying the very best control solutions for gas safety and air quality management. Within our company, we have all the skills and expertise to design, build and support our products. We have an in-depth knowledge of the technical and mandatory requirements regarding the application of our products.

If you would like to visit us to discuss a project - or if you require some advice on the latest standards - please give us a call.

This catalogue gives a brief outline of our products and services. More comprehensive information on the latest legislation, applications, etc. is available on our website at medem.co.uk.

Our production lines include the very latest technology including a Europlacer Ineo Surface mount unit to ensure our products are manufactured to last years and are extremely reliable, enabling our industry-leading warranties.



Confidence is built-in.

10 year warranty | Confidence built-in

10-Year warranty

When our systems are commissioned by our own engineers, we offer a ten-year warranty on our main panels and sender units. At the time of commissioning, we photograph the installation and record the gas pressures as well as any fan details. The panel is marked with a ten-year warranty pass and our 24-hour helpline number is placed with it. We also upload all relevant details and pictures of the site onto our 'in-Feld systems' database. This allows us to access all information immediately in the event of you needing to contact us.

- » All our design skills are within the company – we manufacture in our own factory using the latest production methods.
- » Non-assumptive, true differential gas pressure proving through measuring using micro-transducers (patented by Medem™ UK) across both sides of a solenoid valve simultaneously.
- » Gas proving models monitor the operation of connected gas valves and relays ensuring full fail-safe operation (patent applied).
- » The Medem™ brand is the benchmark in our sector for reliability and longevity as demonstrated by a ten-year warranty and our solid financial base.
- » We hold ISO 9001 certification for the design and manufacture of electronic control systems for use within commercial and public buildings.
- » As part of our commitment to provide the very best service, we operate a 24-hour helpline for end users, installers and maintenance engineers.
- » All proving systems have an LCD readout to make them very easy to use. The LCD displays step-by-step instructions as well as current status and suggestions to resolve any situations concerning inadequate ventilation or gas issues.
- » As an informed manufacturer, we can deliver CPD seminars – complete with points towards mandatory training. We are specialists in mandatory requirements advice, as well as guidance, best practice and interpretation of such.
- » As part of our design and prototyping process, our systems are tested independently by a government-approved testing house.
- » We are members of the British Standards Institute, the Chartered Institute of Building Services Engineers, the Institute of Gas Engineers & Managers and Gas Safe.
- » On commissioning of our products, we add each site to our database for use to ensure information is instantly to hand whenever a call is received. This includes not just our system type but also details on any fans, power usage, gas installation and pressures - as well as site images for easier communication.

Professional and on-going training and support.

Helping you to expand your knowledge with Continuing Professional Development (CPD).

As registered members of the Chartered Institute of Building Services Engineers, we conduct CPD seminars including the popular module, 'The Safe Use of Gas in Education Buildings', we hold these seminars at regular intervals across the country and details of upcoming events will be posted on the news page of our website. If you are unable to attend any of our scheduled presentations, please contact us and we'll endeavour to present to you and your colleagues at your office or another suitable location - **'We'll even provide the sandwiches'**.



Book a course

To register on a course please visit:
medem.co.uk/training

Information Standards

medem.co.uk/downloads

Join our webinars

medem.co.uk/webinar

Get our support 24/7

24hr helpline (Supplied on commissioning)
medem.co.uk/support

24-hour helpline

Experts on Medem™ products are on hand, should you need to call us for any reason. Using our database combined with the advanced diagnostics of our control panels, we will guide the caller through a quick series of checks. Whenever possible, we'll resolve the issue there and then. If the problem is external to our system, we'll inform you of the relevant persons/trades required to take care of it.

With Medem™, it's not just confidence built in - it's reassurance too.

We design it, build it, back it up.

Maximizing Safety. Minimizing Risk.



- » Available with Gas pressure proving option
- » Ventilation Interlock
- » Carbon dioxide level monitoring
- » 24 hr carbon monoxide and fan activation monitoring
- » Demand-controlled ventilation
- » Built-in fire test isolation control

SEC-K v5 features

SEC-K v5

Gas pressure proving

Available with or without gas pressure proving.

When gas proving is required we use our patented differential pressure proving method, the system checks the gas pipework and appliances in a kitchen for gas leaks. It also monitors for low pressure and over-pressure without opening the solenoid valve - making it the only truly safe method of proving available.

Ventilation interlock

It is a requirement (see BS 6173/2009 & UP19) that any mechanical ventilation within a kitchen environment (supply and extract) is switched on and running before the use of any gas appliances can take place. If the ventilation is not switched on, the OLED display informs the operator of the fans that are off. It then advises to switch them on and reset the panel.

Interlocking can be by current monitoring, air-flow or a combination of both.

Gas Detection and monitoring

Detectors for CO₂, CO and natural gas can be monitored.

CO₂ detection is used to confirm adequate levels of ventilation are maintained. Should the CO₂ rise to a level where there is a risk from carbon monoxide (CO) or from by-products of the cooking process, then the gas will be isolated.

24-hour CO monitoring with alarm and fan activation for out of hours protection of solid fuel appliances.

Demand-controlled ventilation

When installed with carbon dioxide or temperature detectors ventilation can be controlled above the interlocked set minimum. This enables energy and cost savings because the ventilation rate is adjusted in relation to the true demand and environmental requirements of the kitchen.

Electrical Isolation

The SEC-K can also provide electric isolation, this makes it a single point of control for both gas and electrical appliances. Meaning only a single emergency circuit is required, although both services can be selected individually.



- » Multi-gas line gas pressure proving
- » CO₂ based ventilation control
- » Engineer functions
- » Fan interlocking
- » Fire test isolation mode
- » Over-pressure alert
- » 10-Year Warranty
- » Multi-service isolation

SEC-elite features

Multi-Gas proving

Using the patented differential pressure proving method, the SEC-elite can pressure prove up to four individual gas lines in a room from a single panel.

It can pressure prove a variety of gas delivery lines including natural/LPG and oxygen up to 10bar when supplied with the appropriate presser sender unit.

Low and high incoming pressure issues are monitored and reported on the LCD display.

Gas detection

Multiple gas detectors up to a maximum of eight can be monitored, including CO₂ natural and LPG gases, carbon monoxide as well as oxygen depletion. Isolation of gas will occur upon detection of the target gases at prescribed levels.

Demand-controlled ventilation

The SEC-Elite can monitor the carbon dioxide level and temperature to control area ventilation in the laboratory. Where the CO₂ level rises above prescribed limits, the system can isolate a gas supply.

The limit is variable to accommodate current legislation and guidance.

SEC-elite

Have a question or need some help?

0161 233 0600 medem.co.uk
enquiries@medem.co.uk



SafeAir CM - Extra Features

- » Inbuilt two-channel current monitoring
- » Simple button press current monitoring setup

SafeAir CM
& SafeAir CM (GP)



SafeAir
& SafeAir (GP)

SafeAir Product Overview

The SafeAir range of kitchen interlock systems are designed and manufactured to offer a cost-effective solution for commercial kitchens.

They can be supplied with or without gas pressure proving, inbuilt two-channel current monitoring, carbon dioxide and carbon monoxide detectors, air flow switches and remote EM stop buttons to ensure all parts of the current standards would be covered.

The SafeAir range of ventilation interlock systems are designed to offer the best features and warranty at low prices.

5 year warranty

Confidence built-in



- » Ventilation interlock
- » Available with gas proving (GP models)
- » Carbon dioxide level monitoring
- » Gas detection/carbon monoxide monitoring
- » Quick and easy to install
- » Compact design

SafeAir features

Ventilation interlock

It is a requirement under BS6173:2009 and IGEN UP19 that any mechanical ventilation within a commercial kitchen environment (both supply and extract) is switched on and running before the use of any gas appliances can take place. With the SafeAir range of interlock systems, if the ventilation is not switched on, the OLED display informs the operator that the fans are off and to switch on the fans and restart the panel.

Inbuilt Current Monitoring (CM models)

Using a simple button press the inbuilt two-channel current monitor can monitor between 28mA and 20 Amps, the operating current is then displayed. This information helps with setup during installation and can be used to identify potential fan faults during operation.

Gas pressure proving

When supplied with gas pressure proving (GP Models) we use the Medem™ patented differential pressure proving method, the system checks the gas pipework and appliances in a kitchen for gas leaks. It also monitors for low pressure and over-pressure without opening the solenoid valve - making it the only truly safe method of proving available.

Carbon dioxide monitoring

When fitted with a Medem™ carbon dioxide detector (CO₂) it monitors the CO₂ level to ensure that HSE set levels are not exceeded with the PPM levels clearly displayed.

Should the carbon dioxide level rise above the set low alarm level the panel OLED will advise staff to 'increase the ventilation.' If the maximum allowed level of CO₂ is reached the system will isolate the gas and advise the staff to ventilate the kitchen.

The carbon dioxide levels are set out by the HSE and supported in IGENUP19.

Carbon monoxide and natural gas detectors can also be supplied and monitored.



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- » Compact design
- » Ventilation Interlock
- » Fan activation

Vent Tester features

Ventilation interlock

It is a requirement (see BS 6173/2009 & UP19) that any mechanical ventilation within a kitchen environment (supply and extract) is switched on and running before the use of any gas appliances can take place. If the ventilation is not switched on, the fan LED will flash and the gas supply will remain isolated.

Interlocking can be by current monitoring, air-flow or a combination of both.

Operation

In single-switch mode, turning the key-switch will energise the fan relay.

The voltage will be supplied to the fans for them to start.

The panel will then monitor the running operation of the fans via the interlock terminals, either by current monitoring or airflow. There is a 10-second delay to allow the fans to reach the correct speed, after the 10 seconds the connected gas solenoid valve is energised.

Should the ventilation not be operating or stop running for 10 continual seconds in operation the gas will isolate.

Vent Tester



- » LCD Display
- » 24 mAmps to 24 Amps range
- » Fan Run Time displayed
- » Learn feature - sets minimum current load
- » Compatible with any Medem interlock

CM2L-K features

A two-channel current monitor with a simple button press learning feature with clear LCD to help identify intermittent fan faults.

Wide current monitoring range of 24 mAmps to 24 Amps continuous.

CM2M-K current monitor without an LCD is also available.

Both current monitors can be used with any Medem interlock panel.

Differential air flow pressure switches

We supply high-quality air pressure differential switches with range options 20-200Pa or 50-500Pa. Both are supplied with a ducting kit consisting of a PVC hose plus 2 plastic duct adaptors.

Gas Solenoid valves

All gas valves we supply are Class A EN 161 approved and available in a range of sizes.

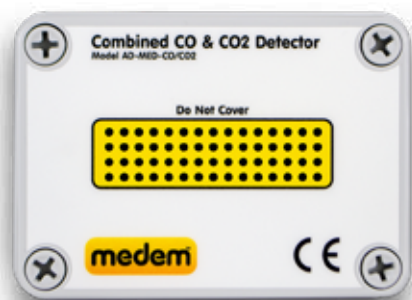
CM2L-K current monitor

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Combined CO & CO₂ Detector

Model - AD-MED-CO/CO₂



Carbon Monoxide Detector

Model - AD-MED-CO₂

- » Utilising Industrial and commercial Sensor heads
- » Ten-year life

Detector features

Gas detectors

Gas detectors are available for Carbon Monoxide, Carbon Dioxide including a combined detector and for Natural gas and LPG.

Carbon Dioxide (CO₂)

A colourless, odourless gas that occurs in the atmosphere (380-400ppm) and is, but not exclusively, a by-product from the combustion of fossil fuels and respiration in animals.

Its measurement can be used as an early indicator of deteriorating air quality within the commercial kitchen.

This is because a by-product of burning gas is CO₂ so if the extract ventilation and/or make up air is inadequate the CO₂ level will rise above the background level before and faster than the CO level will rise.

Though as incomplete combustion takes place the CO₂ level being produced will eventually so drop being replaced by a rising CO level.

Carbon Monoxide (CO)

An odourless, colourless gas that is toxic to humans and other red-blooded animals above 35 parts per million (ppm). Long term exposure at even low levels can cause long term cognitive decline according to recent studies.

It can become present in a commercial kitchen as a result of incomplete combustion through inadequate ventilation or inadequate maintenance of the gas appliance burners. Kitchens with solid fuel cookers are, particularly at risk. CO detectors as part of an interlocking package are being fitted more often which is why we offer a combined CO and CO₂ detector as well as the stand-alone models.

A menu of systems for commercial kitchens

Ensuring kitchen air quality.

Any kitchen not within a home or a dwelling such as a B&B is considered to be a commercial kitchen. It is a requirement of all new and refurbished commercial kitchens to have their ventilation system interlocked to the gas supply to ensure the air quality in the working environment. This has been a requirement since the publication of BS6173, which was updated in 2009.

Additional HSE catering sheets and IGEN publications have been released, providing guidance and support for the installation of carbon dioxide detectors to ensure adequate levels of ventilation are maintained.

Why fit gas pressure proving in a commercial kitchen?

Occasionally, we are asked to supply a system that performs ventilation interlock alone with no gas pressure proving. Although we do have such a system (it was one of our first in fact), we don't consider it to be best practice and we would always recommend a combined gas pressure proving and ventilation interlock system.

Experience shows that most leaks identified in a kitchen occur on the flexible hose connections or appliances themselves. Using a gas proving system can quickly identify the location of the leak so, it can be isolated and the kitchen can continue to operate with an out-of-hours repair minimising site downtime.

Read more on our website: medem.co.uk/gpp

IGEM/UP/19 Edition 1

'Design and application of interlock devices and associated systems used in association with gas appliance installations in commercial catering establishments'. This snappily titled document offers guidance to engineers involved in the design and maintenance of commercial kitchens. It also provides further support for the monitoring of CO₂ levels to determine adequate ventilation and the control of ventilation and gas supplies accordingly.

You can find out more on our website: medem.co.uk/kitchens

Solid fuel cooking.

With the growing popularity of solid fuel cooking, ranging from wood burning pizza ovens, charcoal grills, specialist ovens and BBQ's consideration to ventilation safety and air quality is more critical than ever.

These appliances can continue to burn and produce carbon monoxide (CO) even after a restaurant has closed, meaning the ventilation and atmosphere will need to be monitored and controlled out-of-hours.

We provide environmental gas monitoring systems which can be used to detect a rise in CO and operate a fan or raise an alarm accordingly.

Please see the AGDS-M in the gas detection section or contact us to discuss your needs further.





Commercial Kitchens

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