

A close-up photograph of a person wearing a blue work uniform and safety glasses. They are holding a handheld radiation detector with a red and black casing. The detector's screen shows the number '3.4'. The person is also wearing a black glove on the hand holding the device. A coiled cable is visible on the right side of the frame.

***shawcity***

# Life-saving Solutions

Health & Safety, Occupational Hygiene  
and Environmental Monitoring



# Our Manufacturing Partners

Working closely with our manufacturing partners to bring the latest monitoring technology to our customers.



## Our Credentials



Affiliate Member of the British Occupational Hygiene Society (BOHS)

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**SPECIALISTS IN**

# Life-saving Monitoring Instrumentation

As the leading independent supplier, Shawcity has supported the Health & Safety, Occupational Hygiene and Environmental Monitoring industries for over 45 years.

Our customers rely on achieving the highest levels of monitoring performance to keep their workforces safe by protecting short- and long-term health.

With instruments available to hire or buy, we work with each individual customer to find the best solution for every project. Thanks to our close links with manufacturers, our technical team provide free and unlimited support, advice and training for the lifetime of the instrument or duration of hire.

For complete peace of mind, we also have a manufacturer-approved in-house calibration, service and repair centre as well as fleet management support.

We offer an extensive range of monitoring detection for:

- > VOCs
- > Benzene
- > Ground Gas
- > Single Gas
- > Confined Space
- > Multigas
- > Mercury
- > SF<sub>6</sub>
- > Sound
- > Noise
- > Vibration
- > Air Quality & Dust
- > Heat Stress
- > Water Testing
- > Fit Testing.



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01367 899554





## SERVICE AT A GLANCE

- ✓ In-house maintenance, calibration, servicing and repairs
- ✓ Manufacturer-trained and approved technicians, protecting your warranty
- ✓ ATEX and UKAS service and calibration available
- ✓ Free software and firmware updates included as standard
- ✓ Technical support and advice for the lifetime of your instrument
- ✓ We even clean your instrument for you - all part of the care and attention to detail we provide.

# Service Centre

Specialists in the provision of monitoring and detection for over forty years, Shawcity offers expert technical and maintenance services for a wide range of instruments.

## ✓ Annual Servicing & Calibration

Most manufacturers recommend an annual service for instruments, depending on usage. We'll send you reminders when your service and calibration are due, to ensure your instrument is always performing at its best. To discuss your requirements, including fleet management or hire cover to ensure no down time, please contact our Service Team on Tel: 01367 899554 or email: [serviceadmin@shawcity.co.uk](mailto:serviceadmin@shawcity.co.uk)

## ✓ Maintenance & Repairs

We are approved to work on your instrument and we hold a large stock of spares and consumables. We will fully inspect and test your equipment before sending you a report, detailing exactly what work is required and what costs will be involved in getting it back to full working order. You then authorise any work undertaken and parts ordered on your behalf, so you're always in control. You can choose to send your instrument to us or we can arrange collection from you via our courier service at an additional cost.



## ✓ Turnaround

We aim to return your instruments to you as quickly as possible and work to a five day turnaround period. If you require a speedier service, please contact us to discuss your requirements.

## ✓ On-Site Servicing

We offer on-site visits from our Field Engineers to service, calibrate or repair your fixed gas detection system or instrument fleet. Please contact our Service Department on Tel: 01367 899554 or email: [serviceadmin@shawcity.co.uk](mailto:serviceadmin@shawcity.co.uk) to discuss your requirements.

For more information & FAQs visit:

[shawcity.co.uk/  
service-and-calibration](http://shawcity.co.uk/service-and-calibration)



[serviceadmin@shawcity.co.uk](mailto:serviceadmin@shawcity.co.uk)



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Email  
[hire@shawcity.co.uk](mailto:hire@shawcity.co.uk)  
for a full quote



# Hire Department

There are several reasons why customers choose to hire from us. Sometimes the instrument may only be required for a short period or occasional use, meaning it would not be economical to invest in buying one outright.

Often they already own an instrument which needs an annual service, and may need to hire a replacement to use while it is with our Service Centre.

Other customers often like to use an instrument on a hire basis so they can try it, and possibly others, before committing to making a purchase. In this 'try before you buy' situation, we deduct the hire cost from the purchase price should you decide to buy an instrument.

## HIRE AT A GLANCE

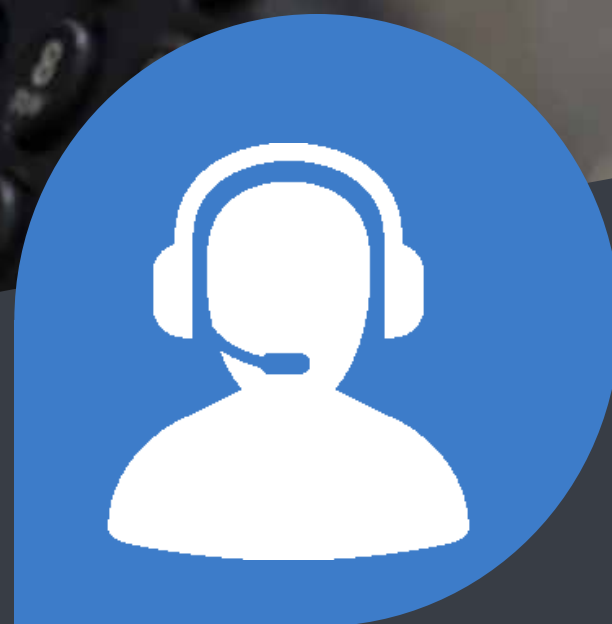
- ✓ Our friendly team can advise you on what instrument you need for any specific task
- ✓ Hire costs vary depending on the complexity and value of the instrument
- ✓ Minimum three-day hire period, no maximum
- ✓ Next day DHL delivery for orders processed by noon (for instruments in stock, excluding dangerous goods)
- ✓ Easy hire extensions
- ✓ In a hurry? You can arrange to pick up your instrument from our hire centre in Oxfordshire
- ✓ Discounts for longer-term hires or multiple instrument hires
- ✓ Courtesy reminders when your hire agreement is coming to an end
- ✓ Free technical support for the duration of your hire
- ✓ Data download service available on request
- ✓ For more information and FAQs visit [shawcity.co.uk/hires](http://shawcity.co.uk/hires)



[hire@shawcity.co.uk](mailto:hire@shawcity.co.uk)



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# Technical Support

We offer free, unlimited and impartial support through the entire process of instrument selection and ownership or hire. From advice on selecting the correct instrument for the job to after sales care, we are always here when you need us.

Before you contact us for technical support, please try to ensure you have your instrument and/or the serial number to hand.

Simply call or email us and a member of our team will get back to you.

## USEFUL INFORMATION

- ✓ For instrument datasheets, manuals and downloads, use the search bar on our website to locate your product. All related documents can be found on each product page.
- ✓ FAQs for service, repair, calibration and hire can be found on our website under each service.
- ✓ Our Technical Support Team have direct links to manufacturers to help with any complex technical enquiries.



[info@shawcity.co.uk](mailto:info@shawcity.co.uk)



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# Training & Demonstrations

Training on the operation of our instruments is available – at a location of your choice or at our offices in Oxfordshire. Different levels are available from basic operation to the more advanced user.

## CPD CERTIFIED TRAINING

Shawcity also offers competitively-priced industry courses to show you how to take measurements in the workplace. On completion of these one-day courses, you will receive 5 CPD points (1 learning day) and a certificate of attendance.

## COMPETENCE

Shawcity offer ‘Certificate of Competence’ training in the use of all the instruments we offer, which can include both Operator Level (basic use of the instrument) and Supervisor Level (Operator Level plus basic fault finding and data downloading).

## DEMONSTRATIONS

Shawcity have a team of product specialists who are based across the UK and will happily come to you and provide a complimentary demonstration of any of our products. We can arrange to visit you at a time, date and place to suit your business requirements or you can visit our offices.

To enquire about our latest courses visit: [shawcity.co.uk/support/training](http://shawcity.co.uk/support/training)



[info@shawcity.co.uk](mailto:info@shawcity.co.uk)



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# Calibration Gas

Shawcity offers a full range of bump test and calibration gas for testing portable and fixed gas detection monitors.

Available in 34, 57 and 103 litre cylinders, we stock a wide variety of ready-to-use gases, along with regulators, accessories and adaptors, to help make bump testing your instrumentation as straightforward as possible.

We also stock calibration gas mixtures for instruments that require bump testing with more than one gas in a single cylinder.

Please note there can be a 2-3 week lead time, depending on which gas you require. We only hold stock of certain high turnover products, to ensure you always receive the highest quality gas with the longest possible shelf life.

Visit  
[shawcity.co.uk/  
collections/  
calibration-gas](http://shawcity.co.uk/collections/calibration-gas)  
for gas options



## REGULATORS

Shawcity sell a range of calibration gas regulators which regulate the flow of gas to the recommended manufacturer value.

Our trusted calibration gas supplier Calgaz recommends using a specific regulator for individual gas applications to avoid cross-contamination and also changing regulators every two years, to ensure optimum performance.



[info@shawcity.co.uk](mailto:info@shawcity.co.uk)



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A person wearing a white protective suit, a respirator mask, and gloves is holding a handheld detection device. The device has a long, thin probe extending from the handle. The background is a blurred industrial or laboratory setting. The entire image has a blue tint.

# VOCs

Volatile Organic Compounds

We offer a comprehensive range of detection solutions using various PID technologies for a wide range of applications.

[shawcity.co.uk](http://shawcity.co.uk)



# HSE EH40 Workplace Exposure Limits:

The following information relates to the most common gases our customers encounter and has been extracted from Table 1 of the HSE’s EH40/2005 Workplace exposure limits, published 2020.



The full document can be found at: [www.hse.gov.uk](http://www.hse.gov.uk).  
The Control of Substances Hazardous to Health (COSHH) Regulations 2002 impose requirements by reference to Table 1 and the Notices of Approval, which are therefore legally binding. If Table 1 or the Notices of Approval apply to your work activities, health and safety inspectors will expect you to be complying with these requirements and will, if necessary, take appropriate enforcement action.

E&OE. This information is published as a guide and was correct at the time of going to press, Jan 2020.

## HSE EH40/2005 Workplace Exposure Limits (WELs) - 2020

SUBSTANCE	CHEMICAL FORMULA	LTEL	STEL
		(8hr TWA) PPM	(15 minute TWA) PPM
Ammonia	NH <sub>3</sub>	25	35
Arsine	AsH <sub>3</sub>	0.05	-
Bromine	Br <sub>2</sub>	0.1	0.2
Carbon Dioxide	CO <sub>2</sub>	5,000	15,000
Carbon Monoxide*	CO	20	100
Chlorine	Cl <sub>2</sub>	-	0.5
Chlorine Dioxide	ClO <sub>2</sub>	0.1	0.3
Ethylene Oxide ETO	C <sub>2</sub> H <sub>4</sub> O	1	-
Fluorine	F <sub>2</sub>	1	1
Germane	GeH <sub>4</sub>	0.2	0.6
Hydrogen Chloride**	HCl	1	5
Hydrogen Cyanide	HCN	0.9	4.5
Hydrogen Fluoride (as F)	HF	1.8	3
Hydrogen Sulphide	H <sub>2</sub> S	5	10
Nitrobenzene	C <sub>6</sub> H <sub>5</sub> NO <sub>2</sub>	0.2	-
Nitrous Oxide	N <sub>2</sub> O	100	-
Ozone	O <sub>3</sub>	-	0.2
Phosgene	COCl <sub>2</sub>	0.02	0.06
Phosphine	PH <sub>3</sub>	0.1	0.2
Silane	SiH <sub>4</sub>	0.5	1

\*Excluding mining 30/200  
\*\*As gas and aerosol mists



# Tiger<sup>LT</sup>

## VOC Monitor



Available to hire or buy



Tiger<sup>LT</sup> is the most advanced low-cost handheld PID VOC monitor on the market. Designed to operate in the harshest environments, this entry level model has all the essential functions needed for VOC detection. It has the lowest running costs in its class with inexpensive disposable parts, lamps and filters.

- Detection range: 0.1-5,000ppm
- Readings unaffected up to 99% relative humidity
- Response time: 2 seconds
- Stores up to 80,000 data points in 128 user-selectable zones
- Simple, one-handed operation, even with thick gloves
- Battery life: 24 hours.

# MiniRAE Lite+

## VOC Monitor



Available to hire or buy



Providing affordable and superior reliability for leak detection, environmental clean-up and remediation in a handheld VOC monitor.

This rugged device draws samples from up to 100 feet away and can detect leaks before they cause harm.

- Detection range: 0.1-5,000ppm
- Response time: 3 seconds
- Humidity compensation algorithm
- 10.6 eV lamps
- Battery life: 24 hours.



# Tiger

## VOC Monitor



Tiger VOC is the revolutionary handheld PID for VOCs. Designed to operate in the harshest environments it utilises the latest MiniPID technology, providing the best resistance to contamination and humidity whilst accurately monitoring at both ppm and ppb levels. The next level up from the Tiger<sup>LT</sup>, the Tiger detects down to 1ppb.

- Detection range: 1ppb-20,000ppm
- Readings unaffected up to 99% relative humidity
- Response time: 2 seconds
- Ready to use straight out of the box
- Fully upgradeable with multiple functions:
  - Datalogging
  - PPB
  - Health and Safety Mode (STEL + TWA)
- Battery life: 24 hours.

# MiniRAE 3000+

## VOC Monitor



An advanced VOC monitor for use in industrial hygiene, leak detection or hazmat applications. With built-in correction factors for more than 200 compounds and a pump which also draws up to 100 feet of tubing horizontally or vertically.

- Detection range: 0-15,000ppm
- Response time: 3 seconds
- Auto-cleaning sensor technology
- Real-time wireless data transmission via built-in modem or optional Bluetooth
- Battery life: Up to 16 hours.

# Cub

## VOC Monitor



- The smallest, lightest personal PID gas monitor available with the widest dynamic range on the market and measuring 480 selectable compounds. It offers market-leading ppb sensitivity and gives an early warning of exposure to hazardous gases.
- Detection range: 1ppb-5,000ppm
  - Reading unaffected up to 99% relative humidity
  - Response time: <5 seconds
  - Three variants available: ppm or ppb with 10.6 eV lamp or 10.0 eV lamp for TACs (Total Aromatic Compounds), including benzene
  - Audible, vibrating and flashing LED alarm alerts for exceeding pre-set limit exposure
  - Battery life: 16 hours.

# ToxiRAE Pro

## VOC Monitor



- One of the world's smallest VOC monitors which can quickly detect and accurately monitor over 300 VOCs. With datalogging or non-datalogging options it also offers an on-board library of 190 correction factors. Non-wireless and wireless options are available.
- Detection range: 0.1-2,000ppm
  - Response time: <15 seconds
  - Wireless remote access to real-time instrument readings
  - Man Down Alarm with real-time remote wireless notification
  - Industrial Hygiene 1-1,000ppm configurations
  - Safety 0.1 - 2,000ppm configurations
  - Battery life: 12 hours (non-wireless).



# ppbRAE 3000+ VOC Monitor



Available to hire or buy



The compact ppbRAE 3000 is a comprehensive VOC gas monitor and datalogger for hazardous environments. Using a third-generation photoionization detector (PID) and built-in correction factors for more than 200 compounds, the ppbRAE 3000 is one of the most advanced VOC monitors for parts-per-billion (ppb) detection available.

- Detection range: 1ppb - 10,000ppb
- Response time: 3 seconds
- Humidity compensation
- Optional built-in wireless transmitter
- Transmits up to two miles with RAELink3 wireless router
- Sample pump draws from up to 100 feet
- Large display presents gas type, correction factor and concentration.

**UPGRADE**  
to Tiger PPB



# Tiger VOC Monitor



Available to hire or buy



Tiger VOC is the revolutionary handheld PID for VOCs. Designed to operate in the harshest environments it utilises the latest MiniPID technology, providing the best resistance to contamination and humidity whilst accurately monitoring at both ppm and ppb levels. The next level up from the Tiger<sup>LT</sup>, the Tiger detects down to 1ppb.

- Detection range: 1ppb-20,000ppm
- Readings unaffected up to 99% relative humidity
- Response time: 2 seconds
- Ready to use straight out of the box
- Fully upgradeable with multiple functions:
  - Datalogging
  - PPB
  - Health and Safety Mode (STEL + TWA)
- Battery life: 24 hours.

# FALCO Pumped Fixed Gas Monitor



Available to buy



FALCO is the latest generation of fixed photoionisation detectors (PIDs) that continuously detects a wide range of VOCs. Unique to FALCO is its revolutionary Typhoon Technology, safeguarding the sensor from condensing moisture for added reliability in severe weather conditions. In addition, FALCO incorporates patented Fence Electrode Technology, which negates the effects of airborne humidity.

- Long-life lamp for two years continuous use
- Specifically designed for extreme weather
- Pumped unit ideal for difficult to access locations
- Four detection ranges available:  
0-10 ppm, 0-50.0ppm, 0-1,000ppm and 0-3,000ppm

# FALCO Diffusive Fixed Gas Monitor





# TVOC 2

## Fixed Gas Monitor

Available to buy



TVOC 2 is a fixed photoionisation detector (PID) for the continuous measurement of total volatile organic compounds (VOCs).

TVOC utilises a diffusive sample technique resulting in less contamination issues compared to pumped systems, reducing lamp cleaning and servicing requirements.

TVOC 2 accurately measures over three different detection ranges from just one instrument and has a variable duty cycle set to 1 minute as standard. The user can adjust this between 5 seconds and 5 minutes.

- Range: 0-10, 0-100 or 0-1,000ppm from just one instrument
- In-built humidity resistance with no need to compensate.
- Anti-contamination design for extended field operation.
- Rugged and robust design withstands harsh environments.

See page 49  
for more information about  
our fixed gas products and services





A low-angle, blue-tinted photograph of an industrial facility. In the foreground, a worker wearing a white hard hat, safety glasses, and a high-visibility yellow vest is walking on a metal walkway. The background features large, white, cylindrical industrial tanks and a complex network of metal pipes and structural beams. The sky is a clear, solid blue.

# Area Monitoring

Easy to deploy area gas monitoring solutions designed for the harshest of environments.



# RigRat 6-Gas Area Monitor



VOC

H<sub>2</sub>S

CO

O<sub>2</sub>

LEL

IR

+  
MORE



Available to hire or buy



Complements your personal gas detectors, protecting workers wherever they're at risk. Unlike some transportable area monitors, Honeywell BW™ Rig Rat is fully self-contained - with no need to repurpose your personal gas detectors for an area monitoring application. Instead, continue using your personal detectors to monitor workers' breathing zone, while using Honeywell BW™ Rig Rat to monitor an area.

- Flexibility to use up to six gas sensors
- Approved for ATEX/IECEX Zone O and CSA C1D1.
- Up to six weeks of runtime on a single charge.
- Available as pumped and diffusive models
- Rugged, sturdy and weatherproof
- Wireless connectivity
- Weight: 8kg

# Blackline EXO Area Monitor



VOC



Available to hire or buy



G7 EXO solves the challenges of continuous toxic and combustible gas monitoring for sites, facilities and fence lines in a single, easy-to-use platform. Automating long-term area monitoring and connected safety for streamlined efficiency, G7 EXO allows teams to focus on their work at hand.

EXO's direct-to-cloud capability makes automatic upgrades and data collection

- Measuring H<sub>2</sub>S, CO, O<sub>2</sub> and LEL
- ATEX approved
- Long lasting battery: 100 days continuous run-time with four-gas cartridge
- Available as pumped and diffusive models
- Tough aluminium frame, rubber bumpers and designed for all weathers.
- Internal 3G/4G cellular connectivity
- Weight: 12.25kg

A blue-tinted photograph of an industrial facility, likely a refinery or chemical plant. Several tall, dark smokestacks rise from a complex network of pipes, walkways, and structural steel. The sky is a pale blue with some light clouds. The overall scene is industrial and somewhat desaturated due to the blue tint.

# Benzene

Leading single or multigas detection options from the world's foremost manufacturers for area, portable and fixed monitoring applications.



# Tiger Select

## Benzene Monitor



The Tiger Select has two modes of operation, one for the rapid detection of benzene and one for Total Aromatic Compounds (TACs). It can also provide 15 minute short-term exposure limits (STELs) and eight hour time-weighted averages (TWAs) for TACs.

- Detection range: Benzene – 10ppb-200ppb  
TACs – 1ppb-20,000ppm
- Response time: 120 seconds, with benzene breakthrough displayed in real time
- Upgrades for datalogging and health and safety mode (TWAs and STELs) ppb level detection
- Readings unaffected up to 99% relative humidity
- Easy online upgrades available remotely
- Battery life: 24 hours (Li-ion), 8.5 hours (AA).

# UltraRAE 3000+

## Benzene Monitor



Ideal for a range of applications from entry pre-screening during refinery and plant maintenance to hazmat response, marine spill and refinery downstream monitoring. It offers correction factors for more than 200 compounds and highly specific readings with a 9.8eV lamp and benzene tube.

- Detection range: Benzene - 50ppb-200ppm.VOCs - 0.05ppm-10,000ppm
- Response time: 3 seconds (VOCs) or 60 seconds (compound-specific)
- Options available for: VOCs, benzene or butadiene
- Real-time wireless with built-in Bluetooth and optional portable modem
- Battery life: 16 hours.

# Cub<sup>TAC</sup> Benzene Monitor



Available to hire or buy



Cub<sup>TAC</sup> is the smallest, lightest personal PID gas monitor available to monitor aromatic compounds using a 10.0eV lamp. It offers market-leading ppb sensitivity and gives an early warning of exposure to hazardous gases.

- Detection range: 1ppb-5,000ppm
- Response time: <5 seconds
- ppb with 10.0 eV lamp for TACs (including BTEX)
- Audible, vibrating and flashing LED alarm alerts for exceeding pre-set limit exposure
- Battery life: 16 hours.

# Charging, Data & Calibration Stations

Available to buy



## Cub & Cub<sup>TAC</sup> Docking Station



## Tiger, Tiger<sup>LT</sup> Tiger Select Charging Cradle



These docking stations are designed to easily charge instruments after each use.

They are also suitable for USB communication and calibrating your instrument.

For more information about instrument docking stations, contact [info@shawcity.co.uk](mailto:info@shawcity.co.uk)



# Falco<sup>TAC</sup>

## Fixed Benzene Monitor



Available to buy



Falco<sup>TAC</sup> is part of the latest generation of fixed VOC detectors that can continuously detect Total Aromatic Compounds (TACs) using patented photoionisation detection (PID) technology.

The Falco<sup>TAC</sup> eliminates false readings found in other PID technology. It has an intrinsically-safe sensor for quick and easy servicing without the need for a hot work permit.

- 10.0 eV electrode stack for Total Aromatic Compounds
- The only VOC detector specifically designed for extreme weather
- Typhoon technology stops condensation forming within the PID
- Pumped or diffused models available
- Fitted with long-life lamp for two years continuous use.

# Titan

## Fixed Benzene Monitor



Available to buy



The world's first continuous, benzene-specific monitor. A fixed system with real-time results for petrochemical environments.

Wall-mounted, Titan samples gas from the environment once every 60 seconds, giving accurate benzene measurements every minute. Titan provides an immediate warning alarm system with two operator-configurable levels, ensuring workers are protected to required site standards.

- Monitoring and communication: Via 4-20mA or RS485
- Datalogging: Internal storage which can be downloaded remotely
- Proven resistance to humidity and contamination
- Response time: 60 seconds
- Detection range: 0.1-20ppm.



# Fire Investigation

A convenient, easy-to-use solution for the detection of volatile organic compounds (VOCs) within Fire and Arson Investigation applications.



# Fire Investigation Kit

Available to hire or buy



VOC



The Fire Investigation Kit provides fast, accurate detection of VOCs with exceptional resistance to humidity and contamination. The kit supports the handheld Tiger or Tiger<sup>LT</sup> (sold separately).

The kit includes:

- 1m flexi-probe for versatile, practical detection of VOCs in hard-to-reach areas
- Bump test pen for simple, quick reassurance that your detector is responding to the presence of volatiles prior to use
- AA Tiger battery pack for emergency power source during long shifts or if access to a charging point is not available
- Exhaust barb which can be connected to a collection bag to allow users to collect sample for further lab analysis
- Quick start guide for ease of use and no specialised training required
- Spare PTFE filters for quick and simple Tiger maintenance
- Rugged carry case for easy and secure transportation.

## DOGS & TIGERS: The Perfect Combination for Fire Investigation

Lancashire Fire and Rescue Service approached Shawcity to ask for support for their Canine Team through sponsorship of a VOC-detecting PID to aid with their investigations. Lancashire Fire Investigation Dog Handler Lindsay Sielski, who started as a fire fighter in 2006 before becoming a dog handler in 2015, explains why they were looking for a partner supplier to help them achieve all-round results performance during investigations.

'I assist the LFRS team with site investigations alongside our four dogs, three of which I am directly responsible for. Each dog's skills are tailored to support the service in different ways,

depending on the nature of the emergency. For example, Springer Spaniel Davey is an Urban Search and Rescue Dog who is deployed internationally. Another Springer Spaniel, Louie, clears areas where there may be casualties and his job is to alert the rescue team if he locates anyone.

'Our busiest dog is Labrador Rue, who works closely alongside me on fire investigations sniffing out chemicals or ignitable liquids to identify the cause of a fire. Together we attend all fire-related scenes of a suspicious nature, where fatalities may have occurred or large commercial premises are affected, for investigation purposes'.





The background image shows a landscape of a former landfill or brownfield site. The ground is dark, muddy, and covered with debris such as sticks, leaves, and small pieces of trash. In the middle ground, there is a shallow, muddy pond or area of standing water. Beyond the water, there is a dense line of tall, green reeds or grasses. The sky is a clear, solid blue. A semi-transparent blue overlay covers the entire image, making the white text stand out.

# Contaminated Land & Ground Gas

In-situ monitoring of former landfill and brownfield sites allows for effective data collection on site gas release activity.



# GasClam 1&2

## Borehole Gas Monitor

Available to hire or buy



VOC

CH<sub>4</sub>

H<sub>2</sub>S

CO

O<sub>2</sub>

IR



The original continuous borehole gas monitor giving unattended collection of long-term, real-trend, ground gas data. GasClam reduces site visits from field engineers and length of monitoring programmes while providing robust data.

The latest GasClam model is GasClam 2, with an extended battery life of three months (based on hourly sampling).

- Easy installation in a secure 50mm borehole
- Sensors: CH<sub>4</sub> - 0-100% or 0-5%, CO<sub>2</sub> - 0-100% or 0-5%, O<sub>2</sub> - 0-25%, CO - 0-500ppm, H<sub>2</sub>S - 0-200ppm VOC - 0-4000ppm
- Weight: 7kg
- Dimensions: overall length - 85cm, borehole tube length - 78cm, head diameter - 10.9cm, borehole tube diameter - 4.3cm
- Options to monitor temperature, atmospheric pressure and water depth
- Intrinsically safe for use in explosive atmospheres
- Programmable borehole venting
- Battery: GasClam 1 up to two weeks (based on 1hr intervals)  
GasClam 2: Typical battery life:  
Lithium - 3 months,  
Alkaline - 1 month, Rechargeable 3 weeks.

## Shawcity has the UK's largest hire fleet of GasClams

In response to growing customer demand, we have stock available as and when you need it.

Discounts are available for multiple instruments or duration of hire, making it ideal for long-term environmental projects.

Our team can rapidly deploy multiple units to one or more sites at a cost-effective rate, allowing you to collate readings from more than one site or borehole if required.

Contact us today to discuss your requirements.



[hire@shawcity.co.uk](mailto:hire@shawcity.co.uk)

# GFM436

## Gas Analyser



- VOC
- CH<sub>4</sub>
- H<sub>2</sub>S
- CO
- O<sub>2</sub>
- IR



Available to hire or buy



The GFM436 offers the latest technology in handheld, simple spot monitoring for site investigations, landfill gas control and environmental regulation compliance monitoring. Sensors determine the relative proportions of components in the sample gas. Offers gas analysis, vapour measurement, PID factor, flow pressure temperature and data logging.

- Provides measurement of CH<sub>4</sub>, CO<sub>2</sub>, O<sub>2</sub>, H<sub>2</sub>S, CO, LEL
- Infrared sensor calibrated to hexane to avoid vapour analysis distortion
- Measures atmospheric, dynamic differential, static pressure and peak borehole flow
- Supplied with 'ready to go to site' kit
- USB data transfer and programmable timer for unattended readings
- Battery life: 8 hours.

# GFM426

## Gas Analyser



- VOC
- CH<sub>4</sub>
- H<sub>2</sub>S
- CO
- O<sub>2</sub>
- IR



Available to hire or buy



The GFM426 is a variant of the 436 with different functionality, specifically designed as a wellhead gas analyser, pressure and flow monitor with built-in datalogger for landfill extraction systems. It monitors CH<sub>4</sub>, O<sub>2</sub>, CO<sub>2</sub>, CO and H<sub>2</sub>S and is connected to a wellhead using a flexible sample tube.



# Single Gas

Simple solutions for individual worker protection against gas hazards in the workplace.

[shawcity.co.uk](http://shawcity.co.uk)



# ARA

## Gas Detector



H<sub>2</sub>S

CO

O<sub>2</sub>

SO<sub>2</sub>



Available to hire or buy



ARA is a personal, disposable single gas detector for H<sub>2</sub>S, CO, SO<sub>2</sub>, O<sub>2</sub> that provides instantaneous alarms for life-critical safety scenarios.

- 24 or 36 month battery life options
- Easy to use with single button operation
- Live readings & instantaneous alarms to protect a workforce in hazardous environments
- User-configurable calibration and bump test reminders
- Adjustable low & high alarms
- Detection range: H<sub>2</sub>S: 0-100 ppm, CO: 0-300 ppm, SO<sub>2</sub>: 0-50 ppm, O<sub>2</sub>: 0-25 %.

# Single Gas Clip

## Gas Detector



H<sub>2</sub>S

CO

O<sub>2</sub>



Available to hire or buy



Designed for continuous use over two years and tested to work in the harshest of environments, both hot and cold. Monitoring for H<sub>2</sub>S, CO<sub>2</sub> or O<sub>2</sub>, it also offers adjustable alarm set points and real-time gas reading capability. Calibration is optional.

- Detection range: CO - 0-300ppm, H<sub>2</sub>S - 0-100ppm, O<sub>2</sub> - 0-30%
- Two-way infrared communication for event downloads, bump tests and updates
- Programmable unique unit identification
- Bump check reminder
- Operational life: Two years.

**Single Gas Clip Plus**  
All the features of the Single Gas Clip but with hibernate mode to extend battery life. Ideal for where use is sporadic. Only authorised personnel can place in hibernation mode via infrared communication with dock or infrared link.



# BW Clip

## Gas Detector



H<sub>2</sub>S

CO

O<sub>2</sub>

SO<sub>2</sub>



Available to hire or buy



The BW Clip series of single-gas detectors is the replacement for the Gas Alert Clip Extreme and offers great reliability with no downtime. The BW Clip provides up to three years maintenance-free operation: just turn on the device and it runs continuously – no need for sensor and battery replacement or battery charging.

Available in a two-year version for O<sub>2</sub> and SO<sub>2</sub> and a two- or three-year option for H<sub>2</sub>S or CO. Both are compatible with the IntelliDoX instrument management system for extremely quick bump tests, bump test tracking, adjustable set points and more.

- Sensor options: H<sub>2</sub>S, CO, O<sub>2</sub> or SO<sub>2</sub>
- Designed for harsh environments and extreme temperatures
- Low cost of ownership
- Event logging: 35 most recent events
- Detection range: H<sub>2</sub>S – 0-100ppm, CO – 0-300ppm, O<sub>2</sub> – 20.9% by vol, SO<sub>2</sub> – 0-100ppm
- Battery life: Two years (H<sub>2</sub>S, CO, O<sub>2</sub> or SO<sub>2</sub>) or three years (H<sub>2</sub>S or CO) from activation.

# BW Solo

## Gas Detector



H<sub>2</sub>S

CO

O<sub>2</sub>



Available to hire or buy



Solo is an easy to service single-gas detector with BLE connectivity that provides real-time monitoring for hazardous-area workers. Optional wireless capability enables dock-less data and event log transfer.

- The first single-gas detector with the 1 Series sensor for CO, H<sub>2</sub>S and O<sub>2</sub>
- User-friendly operation
- Connected Bluetooth Low Energy (BLE) capabilities
- Battery life: 12 months (normal operation).

# ToxiRAE Pro

## Gas Detector



Available to hire or buy



Compact, reliable and easy-to-use, the ToxiRAE Pro doesn't get in the way of workers doing their job and provides unmistakable five-way local and remote alarms if a threat is detected or a man is down. Plus, it offers the flexibility of easily swappable sensors to monitor for different gases in different situations.

- Personal wireless monitor for toxic gases and oxygen
- Swap out sensors for different gases, including H<sub>2</sub>S, CO, NH<sub>3</sub>, CL<sub>2</sub>, HC<sub>N</sub>, NO, PH<sub>3</sub>, SO<sub>2</sub> and more.
- Compatible with AutoRAE 2 (Fully automatic bump testing and calibration)
- Built-in man-down alarm.





# Charging, Data & Calibration Stations

## IntelliDoX Docking Station



This system combines smart docking modules with Fleet Manager II Software for automated instrument management. It performs the quickest bump test in the industry for increased uptime and no wasted calibration gas.

Suitable for the following gas detectors:

- Solo
- Ultra
- MaxXTII
- Clip Series
- Clip4
- MicroClip Series

## Single Gas Clip Docking Station



An all-in-one, stand-alone portable docking station. Takes up to four units simultaneously for bump tests, calibrations and deactivation. Logs are stored to USB flash drive for easy data transfer.

Suitable for Single Gas Clip detectors.

A worker wearing a blue hard hat and a high-visibility yellow vest is standing inside a large, circular, metallic confined space, possibly a tunnel or a large pipe. The worker is holding a clipboard and looking down at it. The background shows the curved, metallic walls of the space, with some structural elements visible. The overall image has a blue tint.

# Confined Space

Leading-edge technology for multi-hazard protection in confined spaces, including gas monitoring and Man Down Alarms



# Multi Gas Clip Simple 4 Gas Detector



2 Year Disposable Diffusive Only

Available to hire or buy



Save time and cost by never having to charge or service your portable multi-gas detector. A reliable test for H<sub>2</sub>S, CO, O<sub>2</sub> and LEL (combustible gases) with this simple-to-use & simple-to-maintain detector. Turn it on & have worry-free assurance of protection against toxic gases 24/7 for two full years. Advanced low-power photometric IR technology means gas detection is simpler than ever. No charging ever. No maintenance. No calibration needed (can be calibrated if required).

- LEL sensor immune to H<sub>2</sub>S and silicone poisoning
- Low cost of ownership
- Data logging: 25 bump tests, 25 events, 25 calibrations, continuous 1 second data logging (typical > 2 months)
- Detection range: H<sub>2</sub>S – 0-100ppm, CO – 0-500ppm, Combustible - 0-100% LEL, O<sub>2</sub> – 0-30% vol
- Battery life: 730 days continuous use.

# Multi Gas Clip Simple+ 4 Gas Detector



3 Year Disposable Diffusive Only

Available to hire or buy



Reliably test for H<sub>2</sub>S, CO, O<sub>2</sub> and combustible gases (LEL) with this simple-to-use and simple-to-maintain detector. Just turn it on and have worry-free assurance of protection against toxic gases 24/7 for three full years. Advanced low-power photometric IR technology means gas detection is simpler than ever. No charging ever. No maintenance. No calibration (can be calibrated if required).

- LEL sensor immune to H<sub>2</sub>S and silicone poisoning
- Low cost of ownership
- Data logging: 25 bump tests, 25 events, 25 calibrations, continuous 1 second data logging (typical > 2 months)
- Detection range: H<sub>2</sub>S – 0-100ppm, CO – 0-500ppm, Combustible - 0-100% LEL, O<sub>2</sub> – 0-30% vol
- Battery life: 1,095 days continuous use.

# Multi Gas Clip

## Diffusive

### Multi Gas Detector



H<sub>2</sub>S

CO

O<sub>2</sub>

LEL



Available to hire or buy



The longest battery life of any rechargeable portable gas detector, with a two-month battery life on a single charge. Detects H<sub>2</sub>S, CO, LEL and O<sub>2</sub>. Infrared sensor is immune to pellistor sensor poisons and works in inert environments.

- Detection range: H<sub>2</sub>S – 0-100ppm, CO – 0-500ppm, Combustible – 0-100% LEL, O<sub>2</sub> – 0-30%
- Response time: Real time
- Low power, photo-metric technology
- Six month calibration cycle
- Battery life: Infrared – 60 days. Pellistor – 25 hours.



**Serviceable**  
**Diffusive Only**

# Multi Gas Clip

## Pumped

### Multi Gas Detector



H<sub>2</sub>S

CO

O<sub>2</sub>

LEL



Available to hire or buy



The only portable multi gas detector with an internal sampling pump that can last an entire working week without charging. Not just water-resistant but fully submersible. Detects H<sub>2</sub>S, CO, LEL and O<sub>2</sub>. Infrared LEL sensor is immune to pellistor sensor poisons and will work in inert environments.

- Detection range: H<sub>2</sub>S – 0-100ppm, CO – 0-500ppm, Combustible – 0-100% LEL, O<sub>2</sub> – 0-30%.
- Response time: Real time
- Low power, photo-metric technology
- Six month calibration cycle
- Battery life: Infrared 5 days. Pellistor – 30 hours.



**Serviceable**  
**Pumped Only**



# BW Icon

## Gas Detector



Available to hire or buy



Honeywell BW™ Icon is a fixed-life, two-year, four-gas detector for the gas hazards that workers face most often. It offers two years of protection, with no need for sensor or battery replacement – and no hidden costs. It is the first multi-gas detector to offer an icon display, for fast decisions.

- Two months of battery runtime on a 4.5 hour charge
- No daily charging, no unexpected downtime.
- Low-power infrared LEL sensor is immune to silicone poisoning, which means accurate monitoring of combustibles.
- 2 year fixed life disposable
- Compatible with the IntelliDox instrument management system, Honeywell Safety Suite and TouchConnect™ using Bluetooth for wireless configuration.

**2 Year Disposable Serviceable**

# BW Icon +

## Gas Detector



Available to hire or buy



The Icon+ model offers i-Series intelligent sensors that report issues such as sensor life remaining and calibration due. This additional functionality answers these questions instantly to allow for action to be taken and prevent unexpected downtime.

- Two months of battery runtime on a 4.5 hour charge
- No daily charging, no unexpected downtime.
- Low-power infrared LEL sensor is immune to silicone poisoning, which means accurate monitoring of combustibles.
- 2 year fixed life disposable
- Compatible with the IntelliDox instrument management system, Honeywell Safety Suite and TouchConnect™ using Bluetooth for wireless configuration.

# BW Flex/i

## Gas Detector

- ATEX
- H<sub>2</sub>S
- CO
- O<sub>2</sub>
- LEL
- + MORE



Available to hire or buy



  
by Honeywell

Honeywell BW™ Flex delivers complete flexibility. Choose from more than 15 sensors to simultaneously detect up to 4 gas hazards. BW™ Flexi incorporates i-Series intelligent sensors which monitor and provide advanced predictive calibration, maintenance and end-of-life information in real-time.

- Two months of battery runtime on a 4.5 hour charge
- No daily charging, no unexpected downtime
- Compatible with the IntelliDox instrument management system, Honeywell Safety Suite and TouchConnect™ using Bluetooth for wireless configuration.

**Interchangeable Sensors Serviceable**

# BW Clip4

## Gas Detector

- ATEX
- H<sub>2</sub>S
- CO
- O<sub>2</sub>
- LEL



Available to hire or buy



  
by Honeywell

One of the latest breakthrough personal monitors, the BW Clip4 provides two years continuous battery life – with no charging required. Simply turn on and in two years replace the unit; with a six-monthly calibration and a regular bump test you can be assured your instrument is always ready when you are. Detects H<sub>2</sub>S, CO, LEL and O<sub>2</sub>. No hassle. No charging. No sensor/battery replacements.

- IntelliDox system compatible
- Low cost of ownership
- Adjust STEL period (5-15 mins in 1 min intervals)
- Datalogging: 70 most recent events
- Detection range: H<sub>2</sub>S – 1-100ppm, CO – 1-1,000ppm, Combustible – 0-100% LEL, O<sub>2</sub> – 0-25% vol
- Battery life: Two years continuous use

**2 Year Disposable Diffusive Only**



# QRAE 3

## Gas Detector



H<sub>2</sub>S

CO

O<sub>2</sub>

LEL



**Serviceable**  
Diffusive or Pumped

Available to hire or buy



A versatile, rugged, one- to four-sensor pumped or diffusive gas monitor to provide continuous exposure monitoring of O<sub>2</sub>, LEL and toxic gases including H<sub>2</sub>S, CO, SO<sub>2</sub> and HCN. Wireless communications optional.

- Detection range: H<sub>2</sub>S – 0-100ppm, CO – 0-500ppm, Combustible – 0-100% LEL, O<sub>2</sub> – 0-30%.
- Response time: Real time
- Diffusive and pumped versions available
- Easy maintenance with field-replaceable sensors and pump
- Battery life: 14 hours - Diffusive. 11 hours - Pumped.

### Compatability

Real-time hazard readings can also be communicated to the ProRAE Guardian Safety System and the EchoView Host Mini-Controller Closed-Loop Wireless System for safety-enhancing wireless monitoring. Simplify bump testing and calibration of your RAE systems gas monitors with the AutoRAE 2 docking station.

# Blackline G7c

## Gas Detector



H<sub>2</sub>S

CO

O<sub>2</sub>

LEL



**Serviceable**  
Diffusive or Pumped

Available to hire or buy



G7c is a direct-to-cloud connected gas detector with 4G connectivity. Integrated cellular communications enables G7c to stream bump test, calibration and usage data to the Blackline Cloud, automating your regulatory compliance reporting.

In addition, G7c gives businesses the option of real-time alerting and emergency response management. Should an incident occur – a gas leak, fall, injury or health event, G7c can wirelessly connects an employee with a live monitoring team.

- Diffusive or pumped models available
- Choose from one to five sensor configurations
- Includes man-down alarm and alerts
- 18 hours continuous operation.

# Micro Clip X3

## Gas Detector



H<sub>2</sub>S

CO

O<sub>2</sub>

LEL



Diffusive

Available to hire or buy



The GasAlert Micro Clip Series is the GasAlert Micro Clip X3. This model offers a three-year warranty – along with all the other benefits of a four-gas detector to deliver the best combination of reliability, cost of ownership and ease of use.

- Simultaneously monitor for up to four gases including O<sub>2</sub>, H<sub>2</sub>S, CO and LEL combustibles
- New IP68 rating for water protection, giving workers confidence it will stand up to challenging conditions
- Battery runtime of 18 hours in normal temperatures; cold weather guarantee of at least 12 hour runtime for full warranty period.

# Gas Alert Quattro

## Gas Detector



H<sub>2</sub>S

CO

O<sub>2</sub>

LEL



Diffusive or Pumped

Available to hire or buy



An MED (Marine Equipment Directive) and European performance tested 4-gas confined space monitor with simple one-button operation. The instrument features a large graphical display with easy-to-read detail, as well as an optional additional rubber boot and screen protector for extreme environments.

- Sensor options: LEL, O<sub>2</sub>, CO, H<sub>2</sub>S
- Comprehensive event and data logging
- SureCell sensors offer top performance in the harshest of environments
- Rechargeable or alkaline battery options
- Manual or Auto Calibration with Microdock II
- Battery life: 20 hours rechargeable.



# Charging, Data & Calibration Stations

## Multi Gas Clip Docking Station



An all-in-one, stand-alone portable docking station. Takes up to four units simultaneously for bump tests, calibrations and deactivation. Logs are stored to USB flash drive for easy data transfer.

Suitable for Multi Gas Clip detectors.

## IntelliDox Docking Station



This system combines smart docking modules with Fleet Manager II Software for automated instrument management. Performs the quickest bump test in the industry for increased uptime and no wasted calibration gas.

Suitable for the following gas detectors:

- Solo
- Ultra
- MaxXTII
- Clip Series
- Clip4
- MicroClip Series

## AutoRAE 2 Docking Station



Simplify bump testing and calibration of your RAE Systems gas monitors with the AutoRAE 2. Versatile and modular, it can be deployed as a single, stand-alone unit to calibrate one instrument at a time, or networked to support up to 10 units at once and calibrate for up to five distinct gases.



A blue-tinted photograph of an industrial facility, likely a refinery or chemical plant. The image shows a complex network of large, insulated pipes and structural steel beams. In the lower right foreground, a worker wearing a yellow hard hat and a dark blue uniform is seen from the side, interacting with a large, grey electrical control cabinet. The cabinet has several buttons and a warning symbol. Above the worker, a green emergency exit sign with a white arrow pointing left and a running figure is visible. The background shows more industrial structures and bright overhead lights.

# Multi Gas

The world's best technology in multi-hazard protection, including PID technology and exotic gas detection



# MultiRAE Lite

## Gas Monitor



VOC

IR

H<sub>2</sub>S

CO

O<sub>2</sub>

+  
MORE



Configurable  
Diffusive or Pumped

Available to hire or buy



A one-to-six-gas monitor, available as a pumped or diffusive instrument. Offering the broadest range of sensors in its class with over 25 interchangeable sensor options, including PID for VOCs (pumped only).

Highly versatile and customisable with optional wireless capability. Continuous datalogging, six months for up to six gases at one minute intervals.

- Sensors available: PID, LEL, CO<sub>2</sub>, NH<sub>3</sub>, CO, H<sub>2</sub>S, Cl<sub>2</sub>, ClO<sub>2</sub>, EtO, HCHO, HCN, H<sub>2</sub>S, CH<sub>3</sub>SH, NO, NO<sub>2</sub>, O<sub>2</sub>, PH<sub>3</sub>, SO<sub>2</sub>
- Response time: Real time
- Diffusive and pumped versions available
- Easy maintenance with field-replaceable sensors and pump
- Battery life: Extended Li-ion: 28 hours - Diffusive. 18 hours - Pumped.

# MultiRAE

## Gas Monitor



VOC

IR

H<sub>2</sub>S

CO

O<sub>2</sub>

+  
MORE



Available to hire or buy



MultiRAE is the most advanced portable chemical detector on the market. With the flexibility of five gas sensors with a combination sensor offering six gases in total and the convenience of wireless portability, Choose from 25 sensor options including LEL, PID, NDIR and exotics that can be easily changed in the field. With five built-in alarms, including man down, and wireless connectivity to your command centre, MultiRAE delivers vital information for fast incident response.

- Highly versatile and customizable
- Best PID in its class (0 to 5,000 ppm range, 0.1 ppm resolution)
- Fully automatic bump testing and calibration with AutoRAE 2
- Battery life: 12 hour runtime of Li-ion charge.

# MultiRAE Pro

## Gas Monitor



VOC

IR

H<sub>2</sub>S

CO

O<sub>2</sub>

+  
MORE



Available to hire or buy



MultiRAE Pro offers improved visibility and awareness. It also gives you the flexibility to swap out 25 different sensors for a range of threats, including VOCs, toxic gases, combustibles, oxygen levels, as well as gamma radiation detection. The large display and replaceable sensors, pump, and battery make it easy to use and maintain, while five different alarms, including man down, provide the versatility you need to respond appropriately and quickly to incidents..

- All-in-one monitoring capabilities for radiation, VOCs, oxygen, toxic and combustible gases, up to 6 threat types at once.
- Over 25 interchangeable sensor options, including ppb PID and gamma radiation
- Intelligent sensors store calibration data, so they can be swapped in the field
- Fully automatic bump testing and calibration with AutoRAE 2
- Battery life: 12 hour runtime of Li-ion charge.

# BW Ultra

## Gas Monitor



VOC

H<sub>2</sub>S

CO

O<sub>2</sub>

CO<sub>2</sub>

LEL



Available to hire or buy



The BW™ Ultra is a five-gas detector designed specifically for sampling and monitoring confined spaces, before and after entry. It benefits from unmatched sensor technology, visibility on gas readings, comfort, and connectivity – even in most extreme working conditions. It can simultaneously detect O<sub>2</sub>, CO, H<sub>2</sub>S and LEL to monitor in confined spaces. Plus there is a fifth sensor for a gas of your choice.

- Honeywell TouchConnect™ Technology for quick instrument management
- Honeycomb-designed housing for extra ruggedness
- Bluetooth™ Low Energy (BLE) – Ability to connect to Honeywell's Safety Communicator App
- Expected life time for sensors: Up to five years
- Battery life: 18 hours (14 hours with PID or IR sensor).

Compatible with IntelliDox charging station



# Charging, Data & Calibration Stations



## AutoRAE 2 Docking Station

Simplify bump testing and calibration of your RAE Systems gas monitors with the AutoRAE 2. Versatile and modular, it can be deployed as a single, stand-alone unit to calibrate one instrument at a time, or networked to support up to 10 units at once and calibrate for up to five distinct gases.



## IntelliDox Docking Station



This system combines smart docking modules with Fleet Manager II Software for automated instrument management. Performs the quickest bump test in the industry for increased uptime and no wasted calibration gas.

Suitable for the following gas detectors:

- Solo
- Ultra
- MaxXTII
- Clip Series
- Clip4
- MicroClip Series







# Mercury

Continuous mercury vapour detection and monitoring, without the need for regeneration



# MVI

## Mercury Vapour Indicator



Available to hire or buy



This revolutionary mercury detector has dual-beam UV absorption technology preventing saturation, so no need to regenerate between readings like traditional gold film detection methods, eliminating instrument down-time. With simple one-handed operation the MVI is the ideal survey unit for rapid and accurate mercury detection.

- Detection range: 0.1-200 & 1.0-1999 microgram/cubic metre
- Response time: 3 seconds
- Built to withstand harsh environments
- Operates in temperatures 10-50°C
- Battery life: NiMH 6 hours continuous.

## Environmental Impacts of Mercury Exposure

Mercury (Hg) is a naturally-occurring chemical element that can be found in three forms; elemental (metallic) mercury, inorganic and organic mercury.

Mercury remains an important chemical in a host of manufacturing processes, including the production of chlorine, cement, caustic soda and sulphuric acid, and it is used or emitted in significant quantities in the likes of power generation and dental care.

Mercury is also commonly found in thermometers, barometers, mercury switches, electrical relays, fluorescent lighting and even lighthouses.

Mercury is introduced into the environment in many ways. It can be emitted into the air naturally

from volcanoes, the weathering of rocks, forest fires and soils. It is also released into the air from the burning of fossil fuels and medical or general waste. Natural processes such as evaporation of ocean water can also release mercury into the environment.

Human activity is the main cause of mercury releases, particularly the use of coal-fired power stations, residential coal burning for heating and cooking, industrial processes, waste incinerators and it can also enter the soil from fertilizers, fungicides and from solid waste i.e. thermometers, light bulbs or electrical switches.





# Fixed Gas Monitoring

Design, installation, commissioning and servicing of standard and bespoke fixed systems to suit any environment





# Fixed Gas Detection

Shawcity provides a flexible range of fixed-point gas detection systems. We can survey, design, install, commission and service standard and bespoke systems to suit every requirement.

We work closely with world-leading manufacturers to ensure we have the widest and most comprehensive independent range of options to offer our customers.

## THE BENEFITS OF USING SHAWCITY

- ✓ Free site visit - Shawcity will carry out a survey of your existing system (applying gas if necessary) to ensure it is fully operational and performing as required.
- ✓ Service plan options available including site visit reports, call-outs, parts discounts, maintenance visits, unlimited remote support, preferential labour rates and breakdown call-outs.
- ✓ Tailored to you. Fixed systems are bespoke to meet specific needs and requirements.
- ✓ Our engineers are all CSCS and SSSTS certified to carry out work on all sites.
- ✓ ISO 9001:2015 certified SafeContractor accredited.



[fixedgas@shawcity.co.uk](mailto:fixedgas@shawcity.co.uk)



01367 899554



# Fixed Gas System

The components of a Fixed Gas System vary depending on individual requirements. However, a typical system will include the following:

- Gas-specific Sensors
- Control Panels
- Sampling Systems
- Alarms

We can also provide sampling systems and addressable controllers, as well as integration into existing safety systems.



Visit:  
[shawcity.co.uk/  
fixedgas](http://shawcity.co.uk/fixedgas) for  
Service Contract  
options



## Service Plans

Ongoing servicing and maintenance of any fixed system is essential following installation.

It is usually recommended a fixed system should be serviced and calibrated every six months but service intervals will depend on the types of sensors installed.

Full Service Plans offer better value for money and include parts discounts, emergency call-outs and telephone support in case of emergencies.



### Free site visit

New clients are entitled to a free-of-charge site survey.



### 5 years

Lock-in a fixed price for up to five years when choosing a Service Plan.



A photograph of an industrial facility featuring a complex network of large, white-painted metal pipes and railings. The pipes are arranged in a dense, vertical cluster in the center-right, with horizontal pipes running across the lower portion of the frame. Yellow safety railings are visible on the left and top. The background is a clear, bright blue sky. The entire image has a semi-transparent blue overlay.

# Gas Leak Detection

High accuracy gas leak detection by volume or concentration

# GasCheck G Series

## Gas Leak Detector



Available to hire or buy



Designed for the search and location of gas leaks, this detector provides effective detection of almost any gas or gas mixture. It automatically zeros to the ambient air around it when switched on and is ready to detect immediately. Particularly sensitive to  $\text{NH}_3$ , AR,  $\text{C}_4\text{H}_{10}$ , HE,  $\text{H}_2$  and  $\text{SF}_6$ . Available in three versions G1, G2 and G3 with various capabilities. Upgrades can be applied remotely.

- Sensitivity: He  $1 \times 10^{-5}$  cc/sec,  $\text{CH}_4$   $5 \times 10^{-5}$  cc/sec, R12  $5 \times 10^{-5}$  cc/sec, Ar  $1 \times 10^{-4}$  cc/sec
- Response time: 1 second rise and clear down
- Datalogging: 10 data points (G3 only)
- Operates in temperatures  $-20^\circ\text{C}$  to  $+60^\circ\text{C}$
- Choice of readings in cc/sec, g/yr,  $\text{mg}/\text{m}^3$
- Battery life: 40 hours.

# GasCheck Tesla

## Helium Leak Detector



Available to hire or buy



A highly-sensitive, handheld portable helium leak detector for effective use within high magnetic fields found around the outside of Magnetic Resonance Imaging (MRI) scanners, even when in operation. The micro thermal conductivity sensor provides rapid, accurate measurement down to ultra-low levels. A highly effective, low-cost alternative to mass spectrometers.

- Sensitivity: He  $1 \times 10^{-5}$   $\text{mg}/\text{m}^3$
- Response time: 1 second rise and clear down
- Operates in temperatures  $-20^\circ\text{C}$  to  $+60^\circ\text{C}$
- Probe designed to get into the smallest of places
- Battery life: 40 hours.





# Water Testing

Taking water quality samples and plotting water level data over time allows for the monitoring of changes or trends.



# AP-2000

## Water Quality Monitor



Available to hire or buy



Packages come complete with Aquaprobe, GPS Aquameter, 3m cable, rugged case and accessories. Various cable lengths are available; 10, 20 and 30m as standard. Aquaprobes are made with the same marine grade aluminium, finished in black with hard anodising for excellent corrosion and biofouling resistance.

The AP-2000 comes with all of the common water quality testing sensors pre-fitted to the probe:

- pH
- ORP
- Conductivity
- TDS
- SSG
- Resistivity
- Salinity
- Dissolved Oxygen
- Temperature

# AP-700/800

## Water Quality Monitor



Available to hire or buy



Packages include an Aquaprobe, a GPS Aquameter, a 3 metre cable, accessories and some RapidCal calibration solution all housed in a neat carry case for easy storage and transport.

Both the AP-700 and AP-800 feature the ruggedised galvanic DO sensor. This solid zinc electrode tip can easily be cleaned and is designed to last for many years. The AP-700 comes with all of the common water quality testing sensors pre fitted to the probe including:

- pH
- ORP
- Conductivity
- TDS
- SSG
- Resistivity
- Salinity
- Dissolved Oxygen
- Temperature

The AP-800 comes with an optical sensor port pre-fitted with a Turbidity sensor.





# Sulphur Hexafluoride

SF<sub>6</sub> is a colourless, odourless, non-flammable gas that is used widely across the renewable energy industry to insulate high voltage switchboards.

# SF<sub>6</sub> LeakCheck Pl:p

## Gas Leak Detector

Available to hire or buy



SF<sub>6</sub> LeakCheck Pl:p is designed for the location, leak testing and measurement of SF<sub>6</sub> leaks in high voltage electrical switchgear. The SF<sub>6</sub> leak detector rapidly detects leaks down to 1 x 10<sup>-8</sup> ml/sec, with a response and clear down of less than 1 second.

The LeakCheck Pl:p is unaffected by large leaks. The detector will continue to remain uncontaminated even after exposure to 100% SF<sub>6</sub> gas.

- Ultra high sensitivity - detects leaks down to 1 x 10<sup>-8</sup> ml/sec using HighSense option
- Non radioactive detector allows for easy storage and transportation
- Display units cc/sec, gm/yr and ppm
- Lightweight 3 button handgun
- Large leaks present no contamination problems
- Robust Peli case for hardwearing use in the field

# SF<sub>6</sub> Leakmate

## Gas Leak Detector

Available to hire or buy



The SF<sub>6</sub> Leakmate detector is a great device for portable SF<sub>6</sub> leak detection. In practical use, it has a detection threshold of 1 x 10<sup>-6</sup> mbar l/s, which makes it perfectly suitable for simple leak detection applications on SF<sub>6</sub> switchgear.

SF<sub>6</sub> Leakmate automatically detects the highest present gas concentrations and selects the corresponding measuring range. It then uses the present gas concentration as its zero line and begins to look for even higher gas concentrations, which occur when a leak is approached.

- Fast, accurate leak detection
- Automatic range shifting
- Simple solution for SF<sub>6</sub> switchgear leaks
- Automatic compensation to ambient conditions
- Audible alarm and LED bar graph display
- Battery life: Up to 75 hours with auto off feature.



# SF<sub>6</sub> Area Check Gas Leak Detector

Available to buy



Designed for fixed continuous SF<sub>6</sub> area monitoring, the AreaCheck P2 with 12-point network controller rapidly detects low-level SF<sub>6</sub> leaks.

The fixed SF<sub>6</sub> leak detector utilises relay output for immediate awareness of detected leaks, and presents no cross sensitivity with any other gas or moisture in the air. The AreaCheck P2 has no filter problems due to its minimum air intake (compared to pump operated systems).

The SF<sub>6</sub> leak detector can be effectively used as a stand-alone instrument or with the P2 network controller and up to eleven other SF<sub>6</sub> AreaCheck P2s.

- Built in low flow alarm and full built in diagnostics test
- Exchangeable SmartSensor (12 month lifetime)
- No cross sensitivity with any other gases or moisture in the air
- Relay output for immediate awareness of any leaks detected
- Data logging
- Audio and visual alarms.

## Sulphur Hexafluoride: Does its long-term impact outweigh its benefits?

In a drive to combat climate change, coal-fired power stations are steadily being replaced with mixed sources of alternative power generation including wind, solar and gas. This has consequently increased the connections to the electricity grid and the use of switches and circuit breakers (also known as switchgears) containing Sulphur Hexafluoride (SF<sub>6</sub>).

SF<sub>6</sub> is a colourless, odourless, non-flammable gas that is used widely across the industry to insulate high voltage switchboards. From large power stations, wind turbines, electrical sub-stations in towns and cities and within the medical industry, SF<sub>6</sub> has been the go-to dielectric insulating material. This is due to high electrical insulating properties, non-flammability, non-toxicity, low maintenance and competitive cost.

However, the significant downside to using the gas is that it holds the highest global warming potential of any known substance. Just one kilogram of SF<sub>6</sub> warms the Earth's core to the same extent as 24 people flying return from London to New York.

According to the Intergovernmental Panel on Climate Change (IPCC), SF<sub>6</sub> has a global warming potential (GWP) of 23,900 times that of CO<sub>2</sub> based on a 100-year horizon and an atmospheric lifetime of 3,200 years. This makes SF<sub>6</sub> the most potent greenhouse gas.

A 2017 study from the University of Cardiff found that across all transmission and distribution networks, the amount used was increasing by 30-40 tonnes per year.

As a result, SF<sub>6</sub>-specific regulations have now been put in place and companies must operate and maintain SF<sub>6</sub> switchgears in a responsible manner. The HSE outline rigorous management of switchgears on a closed cycle to avoid deliberate gas release into the atmosphere and monitoring any emissions during operation.

Early detection of SF<sub>6</sub> is key and Shawcity has a range of products designed to monitor atmospheric changes and spot checks for SF<sub>6</sub> leaks.



A construction worker wearing a high-visibility yellow vest, a white hard hat, and safety glasses is kneeling on a gravel surface. They are wearing a blue long-sleeved shirt and blue work boots. A power tool, possibly a jackhammer, is visible in the foreground, and a black cable runs across the gravel. The entire image has a blue tint.

# Sound, Noise & Vibration

Effective long-term health protection from all three common hazards, utilising the latest advances in measurement technology



# Noise at Work

## Noise Action Levels

An action level is a noise exposure level at which employers are required to take steps to reduce the harmful effects of noise on hearing. The main action levels for continuous noise are:

### 80 dB

The lower exposure action value (EAV) is a daily or weekly average noise exposure level of 80 dB, at which the employer must assess the risk to workers health and has to provide information and training and make hearing protection available.

### 85 dB

The upper exposure action value (EAV) is set at a daily or weekly average noise exposure of 85 dB, above which the employer is required to take reasonably practicable measures to reduce noise exposure. The use of hearing protection is also mandatory if the noise cannot be controlled by these measures, or while these measures are being planned or carried out.

### 87 dB

Finally there is an exposure limit value (ELV) of 87 dB, above which no worker can be exposed (taking hearing protection into account).

## How do I calculate noise exposure for individuals?

Check the 'Do you have a noise problem at work?' guide from the HSE. If that suggests that you may have a noise problem, you will need to get a competent person to measure the noise and determine the representative daily or weekly personal noise exposure during a noise assessment. They will measure the sound pressure level at the different places the person works and for the different tasks carried out during the day. The average is calculated from these values and the time spent in each place or at each task.

Information on getting started with a noise risk assessment is in INDG362 and more detail can be found in the HSE publication L108 Controlling Noise at Work.



Please check the Health and Safety Executive web site [www.hse.gov.uk](http://www.hse.gov.uk) for the latest information.

# SV 973

## Sound Level Meter



Available to hire or buy



The SV 973 combines a Class 2 sound level meter and a sound exposure meter in one device. The meter has been designed in accordance with IEC 61672 and offers a wide frequency range up to 20kHz (in the sound level meter mode). The unique feature of the SV 973 is the MEMS technology microphone with a lifetime warranty. The meter's measurement range from 25 to 126dB enables use in industrial and environmental noise measurements. The dedicated sound exposure meter function shifts the dynamic measuring range of sound level meter to 141dB Peak.

- Performs real-time frequency analysis in 1/1 octave and 1/3 octave bands (optional)
- MEMS technology microphone
- Time history logging of results such as Leq, Max, Min and Peak is saved on built-in 8GB memory.
- OLED display suitable for day and night
- Voice comments before or after the measurements allow easy identification of data files
- Battery life: Up to 12 hours.

# SVAN 971

## Sound Level Meter



Available to hire or buy



A pocket-sized Class 1 meter with options for 1/1 and 1/3 octave analysis. Options include ultra simple start/stop mode, ideal for industrial hygiene noise, short-term environmental noise and general noise exposure calculations. Many unique features including triggered audio recording also available for complete logging functionality. Easily calibrated in the field with an acoustic calibrator.

- Dynamic range: >100 dB
- Weighting: A, B, C, Z
- Time response: Fast, slow or impulse
- Exchange rate: 2, 3, 4, 5 or 6 dB
- Datalogging: Time-history logging of summary results spectra with adjustable double logging steps down to 100ms.
- Integral 4GB micro SD card
- Battery life: 24 hours.



# SV 104 Series

## Noise Dosimeter

Available to hire or buy



SV 104

SV 104 IS

SV 104A

The SV 104 family is available in three different models. The SV 104 standard noise dosimeter, SV 104 B IS intrinsically safe and SV 104A Bluetooth assistant.

- Measurement range: 60 to 140 dB
- Weighting: A, C, Z
- Time response: Fast, slow or impulse
- Exchange rate: 2, 3, 4, 5 or 6 dB
- Datalogging: Summary for measurement time.
- Time-history logging of Leq/Max/Min/Peak with 1 second logger step
- Battery life: >50 hours.

# SV 106A

## Human Vibration Meter

Available to hire or buy



The latest six-channel human vibration meter and analyser. A revolutionary, pocket-sized instrument simultaneously measures with two tri-axial accelerometers (e.g. wholebody). All required weighting filters, including band-limiting filters, are available. It offers six channels for acceleration and two inputs for static force measurements.

- Vibration meter mode: RMS, VDV, MTVV or Max, Peak, Peak-Peak, Vector, A(8), Dose, ELV, EAV.
- Simultaneous measurement in six channels
- Datalogging: Time-history data including meter mode results and spectra
- Analyser: 1/1 and 1/3 octave real-time analysis
- Memory: 16 Mb
- Battery life: >16 hours.

# SV 103

## Personal Daily Vibration Exposure Meter



Available to hire or buy



The world's first personal hand-arm vibration exposure meter and the ideal solution for making measurements according to ISO 5349. Attached to the user's arm, the meter is small enough to take daily vibration exposure measurements without interfering with normal working activities. Also includes a contact force sensor for the palm in addition to the standard accelerometer to measure how firmly the user is holding the tool.

- Vibration meter mode: RMS, Max, Peak, Peak-Peak, Vector, A(8) Daily Dose, ELV, EAV. Simultaneous measurement in three channels
- Datalogging: Time-history data including meter mode results and spectra
- Analyser: 1/1 and 1/3 octave real-time analysis
- Memory: 8GB
- Battery life: >24 hours.

# SV 100A

## Whole-body Vibration Dosimeter



Available to hire or buy



The SV 100A is a wireless whole-body vibration exposure meter suitable for whole-body measurements in accordance with ISO 2631-1. Suitable for taking measurements both on the seat-pad and seat-back, the device is easy to use. The instrument is equipped with four push buttons and a small OLED display that allows basic configuration in the field. The wireless communication interface enables current results to be previewed on a smartphone or tablet using the Assistant Android app.

- Whole-body vibration exposure meter complying to ISO 8041:2005, ISO 2631-1:1997, ISO 2631-2: 2003, ISO 2631-5:2004
- Wireless with rechargeable battery
- Unattended measurement of seat-pad or seat-back vibration
- Auto-detection of the operator
- Weighting filters complying to ISO 2631-1
- Calculation of A(8) Daily Exposure
- Results both in  $m/s^2$  and exposure points
- Battery life: Ni-MH rechargeable cells >24h.



# SV 307 Outdoor

## Noise Monitoring Station



Available to hire or buy



The SV 307 is the latest Noise Monitoring Station from Svantek dedicated to permanent noise monitoring. The SV 307 integrates Class 1 sound level meter with a modem in the removable waterproof housing and is equipped with a new MEMS microphone with a lifetime warranty. The measurement data is stored on the microSD card.

- 'All in one' design for portable, mobile and permanent noise monitoring installations
- Weighting: A, B, C, Z, LF
- Class 1 according to IEC 61672
- Real-time 1/1 or 1/3 octave analysis (option)
- Automatic time synchronization with GPS (option)
- Integrated high-speed 3G modem
- Battery life: Up to 5 days with modem on.

# MOLES

## Sound Monitoring Station



Available to hire or buy



At less than 7kg, an easily portable and cost-effective outdoor noise monitoring solution offering weeks of operational life. Utilising all the benefits of the Class 1 SV971 sound level meter, MOLES is a fully autonomous, easily deployed monitoring solution. Comes with IP65 weatherproof case and microphone.

- Dynamic range: >100 dB
- Linearity: Down to 25 dBA
- Meter modes: Leq, Ln, Lmax, Lmin and more
- Datalogging: Time-history summary of logging results spectra with adjustable double-logging steps down to 100ms.
- Integral 4GB micro SD card
- Weighting: A, B, C, Z
- Battery life: Up to 4 weeks.

# SV 258 PRO

## Building Vibration & Noise Monitoring Station



Available to hire or buy



SV 258 PRO is an outdoor monitoring system based around the SVAN 958A Class 1 sound level meter. The IP 65-rated case contains a lead-acid battery and operating time can be easily extended by connecting an external battery or solar panel. The system uses a low-noise, hermetically sealed tri-axial piezoelectric accelerometer. It provides broad-band vibration results such as RMS and Peak or Peak-Peak.

- Linearity range: 26 dBA RMS ÷ 140 dBA Peak
- (IEC 61672)
- Meter modes: RMS, VDV, MTVV or Max, Peak, Peak-Peak, Vector, A(8), Dose, ELV, EAV
- Detector constants: Fast, Slow, Impulse
- Weighting: A, C, Z, G
- Detectors: Digital true RMS and RMQ
- detectors with Peak detection, resolution 0.1 dB
- Battery life: 3 days (continuous modem) or 7 days (modem off).



Also available as separate instruments



# SVAN 958A

## Sound & Vibration Analyser

Available to hire or buy



# SV 200 Outdoor

## Noise Monitoring Station

Available to hire or buy





# SV 110

## Vibration Calibrator



Available to hire or buy



The SV110 is a hand-held vibration calibrator designed for verification of machine sensors and on-site checks of human vibration accelerometers in accordance with ISO 8041.

The small size of SV110 enables easy sensor checks. Depending on the selected frequency the user may select level of calibration from 1 m/s<sup>2</sup> to 10 m/s<sup>2</sup>. Accelerometers are conveniently attached using a mounting stud, mounting disc or a dedicated adapter.

# SV 111

## Vibration Calibrator



Available to hire or buy



The SV111 Vibration Calibrator is a state-of-the-art instrument designed for in-situ checks according to ISO 8041. Intended for application in the field prior to and following a measurement or series of measurements. This enables checks of the instrument's basic calibration and functionality.

# HAVi Tool Timer

## Vibration Exposure Timer

Available to hire or buy



A hand arm vibration monitor designed to help with compliance of The Control of Vibration at Work Regulations 2005.



- Accurately captures amount of trigger time that a tool is used for and automatically calculates and displays the corresponding HSE points accumulated
- Easily transferred between tools
- Programmed on site by operators
- No additional software required
- Optional heavy duty case for protection
- Intrinsically safe version available
- Syncs to the HAVi watch
- Battery powered: Estimated life 1,000 trigger hours

**ATEX models  
available**

# HAVi Watch

## Vibration Exposure Meter

Available to hire or buy



Smart watch technology with Bluetooth connectivity. The HAVi Watch can be paired to a HAVi Tool Timer to receive and record all data being measured. Simple to synchronise to multiple Tool Timers throughout the day.

- Set up for individual users
- Multi screen display offers a broad spectrum of information
- Continuous monitoring without interruption
- Data storage for downloading/reporting
- Vibration and flashing warning signals with the option of personalised exposure levels
- Battery life: 2 years operating life.





# HAVi Assessment Pack

## Vibration Exposure

Available to hire



HAVi Assessment Pack is Includes:

- 4 HAVi Watch
- 6 Tool Timers
- 1 Charging Dock

The assessment pack is ideal for monitoring vibration exposure of a workforce. Options available to hire or buy.



Can include additional tool timers and watches if required

# HAVi Accessories

Available to hire or buy



## HAVi Charging Dock

The robust aluminium dock holds four HAVi watches and is wall or desk mounted. Slide the watches into the dock for immediate charging.



## Basic HAVi Software

Producing reports is made easy, as is data analysis for tools, individuals or general project trends.







# Air Quality & Dust

Flexible solutions to allow continuous live sampling for indoor and outdoor applications, ranging from nanoparticles to total dust concentrations



# GilAir Plus

## Air Sampling Pump



### SmartCal Cable

This feature enables a communication link between appropriate calibration devices and the GilAir Plus. This automates calibration and records pre- and post-sample calibrations in the pump's data log.

### Gilian Connect

Pump and sampling data management software is available to download.

Available to hire or buy



With an integrated belt clip to eliminate task interference or worker discomfort, this pump samples particulates, vapours, gases and metal fumes.

Can perform both high-flow constant pressure and constant flow (450-5,000cc/min) and low-flow constant pressure and constant flow (20-499cc/min) with a single pump without external adaptors. The pump has high back pressure capability of up to 40" H<sub>2</sub>O in high flow and up to 25" H<sub>2</sub>O in low flow.

- Outlet port for bag sampling if required
- Flow range (without adaptors): Constant flow 20-5,000 cc/min. Constant pressure 1-5,000cc/min
- Selectable automatic fault recovery
- Datalogging: Option of up to 16 sampling events.
- Battery life: 8 hours

# Gilian LFS

## Low Flow Air Sampling Pump



Available to hire or buy



Unique, lightweight and compact, this pocket-sized pump is designed for flow rates between 1 and 350 cc/min. It's perfect for very low flow applications sampling with sorbent tubes. The multi-flow mode allows multiple samples to be taken simultaneously. With two sampling modes selectable by the user, no other pump of this size matches the wide flow range and high back-pressure capability.

- Two selectable sampling modes
- Flow range: 1-350 cc/min
- Low Flow Range: Constant flow: 20-200 cc/min, to 25" H<sub>2</sub>O. Constant pressure (multi-flow): 1-350 cc/min, to 18±3" H<sub>2</sub>O
- Run time: >8 hours.

# Gilibrator 3

## Calibrator

Available to hire or buy



The Gilibrator 3 delivers maximum convenience, accuracy and data integrity.

The calibrator is designed for mobility with an advanced rechargeable Lithium Iron Phosphate (LiFePO<sub>4</sub>) battery. It has a modular design for quick changes of liquid-free, dry flow cells.

Quick disconnect fittings allow for easy flow cell exchange:

- Low: 5 to 450 cc/min
- Standard: 50 to 5,000 cc/min
- High: 1LPM to 30LPM
- Fast and easy-to-use dry calibrator
- StablFlow provides constant low back pressure
- Patent pending pulse-free valve technology maintains calibration integrity
- Multiple flow cells with a common base adds convenience and saves costs
- Internal record storage for data continuity and reporting
- SmartCal capable with GilAir Plus pumps
- Battery life: 8 hours continuous use.

# Gilibrator 2

## Calibrator

Available to hire or buy



The Gilibrator 2 is a primary standard calibrator which provides a convenient way to check almost any air sampling pump for correct air flow function before deployment. The system consists of an electronic base which is used with any of three sizes of wet bubble cells.





# GoCal

## Air Flow Calibrator

Available to hire or buy



A portable, battery-operated calibrator that is lightweight, easy to use and accurate within 2% of reading. It displays volumetric flow rate continuously, allowing adjustments to pump flow-rate in real time. The displayed flow rate is compensated for temperature, making it easier to produce consistent results at various calibration locations. Ideal for use in the field.

# AM520

## Personal Aerosol Monitor

Available to hire or buy



This rugged, belt-mountable laser photometer displays and logs aerosol concentration in real time. With an integrated pump, it offers a choice of size-selective aerosol inlet conditioners for breathing zone or respirable cyclone for area measurements. Ideal for short-term or extended datalogging. Compact and quiet to minimise interference and worker discomfort.

- Built-in impactors for: 1.0, 2.5, 10-micron cut-off
- Flow rate: User-adjustable 0.7 to 1.8 litres/min
- Real-time concentrations (mg/m<sup>3</sup>) and TWA during sampling
- Time range: User-adjustable, 1 to 60 seconds
- Statistics: Max, Min and average readings, elapsed time and 8-hour TWA
- Battery life: >22 hours (6-cell AA Alkaline).

Also available as AM520i intrinsically safe model.

# DustTrak DRX

## Desktop Aerosol Monitor

Available to hire or buy



The only monitor capable of simultaneously measuring both mass and size fraction. A battery-operated, data-logging, light-scattering laser photometer that gives real-time aerosol mass readings for aerosol contaminants such as dust, smoke, fumes and mists. Suitable for long-term continuous, unattended 24/7 indoor and outdoor monitoring applications including offices, harsh industrial workplaces, construction and environmental sites using the 8535 Environmental Enclosure.

- Aerosol concentration range: 0.001 to 150 mg/m<sup>3</sup>
- Aerosol concentrations: PM1, PM2.5, Respirable, PM10 and PMTotal
- STEL alarm set point for 15-minute average mass concentrations
- Gravimetric sampling available
- Optional automatic zeroing minimises the effect of zero drift
- Cloud data management system for remote monitoring
- Battery life: 6 hours (Li-ion).

# DustTrak DRX

## Handheld Aerosol Monitor

Available to hire or buy



A lightweight and portable handheld version of the DustTrak DRX, simultaneously measuring both mass and size fraction. Perfect for walk-through industrial hygiene surveys and single-point data collection applications. It is suitable for clean office settings as well as harsh industrial workplaces, construction and environmental sites, and other outdoor applications. Real-time measurement of aerosol contaminants such as dust, smoke, fumes and mists.

- Aerosol concentration range: 0.001 to 150 mg/m<sup>3</sup>
- Aerosol concentrations: PM1, PM2.5, Respirable, PM10 and PMTotal
- Manual, programmable and single-point data logging
- Battery life: 12 hours (Li-ion).



# EVM

## Environmental Monitors

Available to hire or buy



The EVM series contains three models: EVM-7, EVM-4 and EVM-3. Each monitor is designed to meet specific requirements covering up to seven key indicators of the environment.

### EVM-3 Environmental Monitor (no Indoor Air Quality)

Monitors: Temperature, relative humidity, air velocity\* and particulates.

### EVM-4 Indoor Air Quality Monitor (no Particulates)

Monitors: Temperature, relative humidity, air velocity\*, toxic gas and carbon dioxide.

### EVM-7 Indoor Air Quality / Particulate Monitor

Monitors: Temperature, relative humidity, air velocity\*, particulates, toxic gas, carbon dioxide and volatile organic compounds.

\*Additional airprobe required.

- Battery life: Minimum 8 hours under continuous operation.

# EDT Environmental

## DustTrak Aerosol Monitor

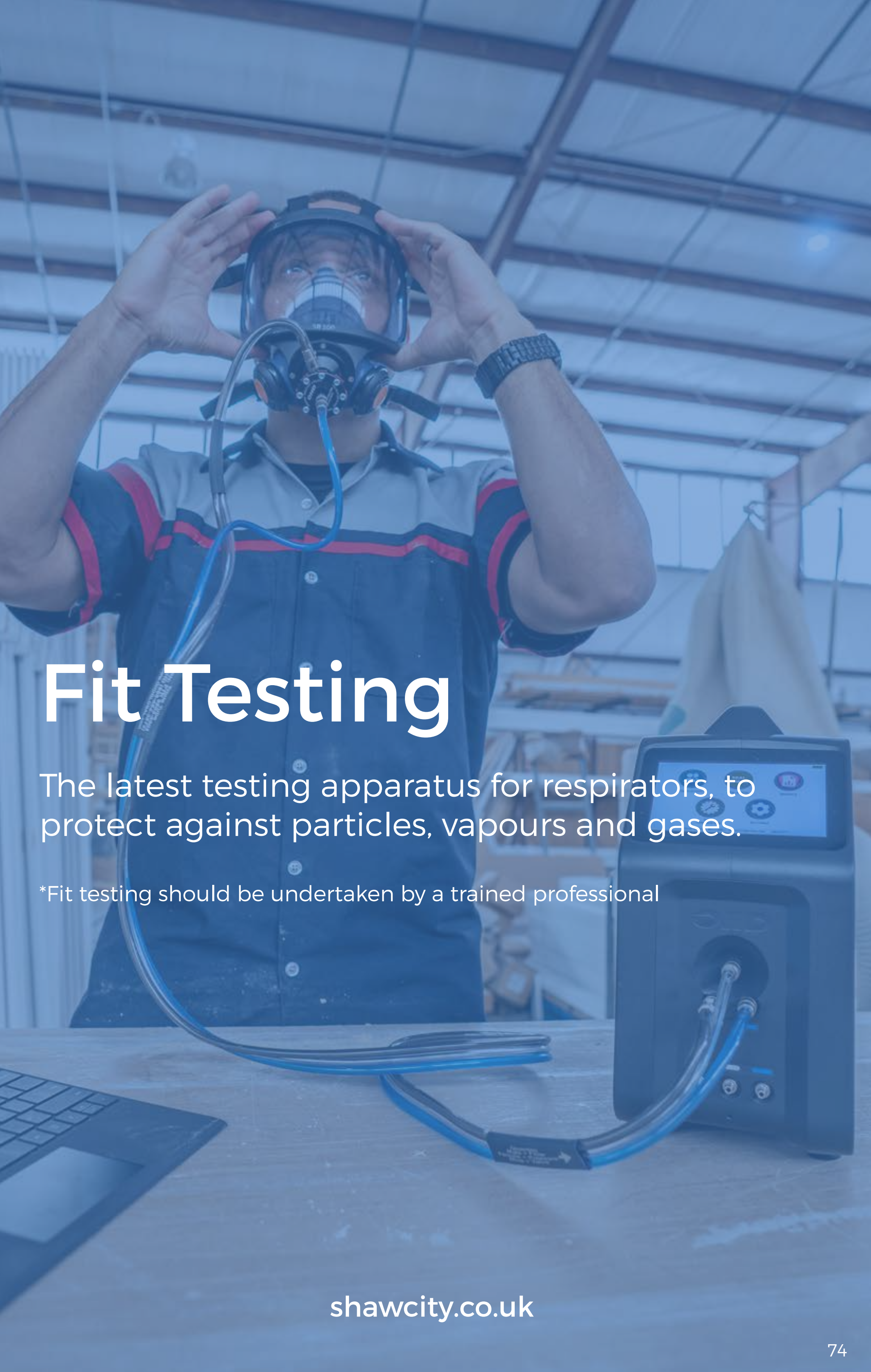
Available to hire or buy



Designed to easily and accurately facilitate long-term outdoor environmental monitoring. Three system configurations available, dependant on desired mass fraction (EDT PM2.5/EDT PM10/EDT DRX). Ideal for monitoring: Fugitive emissions, site perimeter & fence-line, remediation, construction & mining sites, hazardous waste sites and dust control operations.

- Aerosol concentration range: 0.001 to 150 mg/m<sup>3</sup>
- Aerosol concentrations: PM1, PM2.5, Respirable, PM10 and PMTotal
- Built-in auto zero module minimises drift over time and temperature changes
- Cloud data management system for remote monitoring of multiple sites
- Battery life: Dependent on selected AC mains, rechargeable batteries or solar source selected.





# Fit Testing

The latest testing apparatus for respirators, to protect against particles, vapours and gases.

\*Fit testing should be undertaken by a trained professional



# QuantiFit2

## Respirator Fit Tester

Available to hire or buy



A Shawcity exclusive and a real game-changer in the UK and Ireland fit test market, with no alcohol, candles, salt fog required.

QuantiFit2 measures air leak rate instead of counting particles; if air can get in the respirator then gases and vapours could too.

Easy-to-use, simple operation means users can self-test once trained. Fit is measured under simulated movements approximating real life.

An HSE protocol-compliant fit test method referenced in HSE INDG479 and the BSIF Fit-2-Fit Scheme companion guides.

Fit testing for: Quantitative respirator (QNFT), half-masks, full-face, gas mask, PAPR and SCBA.

- Truly portable
- Rechargeable battery, up to 4 hours battery life
- Virtually maintenance-free
- No contamination or consumables
- Low cost of ownership
- Test indoors, outdoors, even offshore
- Stores up to 500 fit tests
- Standalone unit, no external computer required
- Transfer data via USB connections
- Use with standard computer and printer to generate reports and print fit test cards.



See page 76  
for fit testing adaptors

# QuantiCheck

## Respirator Seal Check

Available to hire or buy



The QuantiCheck is the first quantitative user seal check device. The user engages the QuantiCheck, takes a comfortable breath and holds. At the lowest point of the negative pull, the system starts a calculation which is a proprietary algorithm that measures pressure loss from the respirator. The system simply indicates that the weakest point will be the required air entry point into the mask.

A quantitative check of respirator fit that can be performed by the user each time the mask is donned.



# Fit Testing Adaptors

OHD fit testing adaptors to suit different manufacturer respiratory masks.  
For a comprehensive list of adaptors visit [shawcity.co.uk](http://shawcity.co.uk)

Available to buy



## 3M

Dual twist-lock connection  
40mm threaded connection

9513-0129      Kit #15  
9513-0130      Kit #1

## 3M International

3000

9513-0440      Kit #44

## Avon Protection

40mm threaded connection  
Large single twist-lock connection

9513-0130      Kit #1  
9513-0370      Kit #37

## Clean Space

CleanSpace (for HALO, use CleanSpace 2)

9513-0450      Kit #45

## Draeger

40mm threaded connection  
Single snap-in connection (with Draeger #4055505)  
Explorer dual twist-lock

9513-0130      Kit #1  
9513-0130      Kit #1  
9513-0370      Kit #30

## GVS

Low Profile Mask

9513-0430      Kit #43

## ISI

40mm threaded connection  
All other SCBAs (with ISI part #08925500 or #171138)

9513-0130      Kit #1  
9513-0130      Kit #1

## JSP

Force 10 Typhoon  
Force 8

9513-0480      Kit #48  
9513-0480      Kit #48



Fit testing adaptors  
continued on the next page



# Fit Testing Adaptors

## Continued...

Available to buy



### MSA

- Single 40mm connection
- Firehawk quarter-turn or slide-to-connect
- Large screw-in filters
- Dual quarter-turn connection

- |           |         |
|-----------|---------|
| 9513-0130 | Kit #1  |
| 9513-0380 | Kit #38 |
| 9513-0109 | Kit #5  |
| 9513-0210 | Kit #27 |

### Moldex

- Dual push-in filters
- Dual twist-lock connection

- |           |         |
|-----------|---------|
| 9513-0188 | Kit #22 |
| 9513-0400 | Kit #40 |

### North

- Dual threaded connection
- 40mm threaded connection

- |           |        |
|-----------|--------|
| 9513-0110 | Kit #6 |
| 9513-0130 | Kit #1 |

### Scott

- 40mm threaded connection
- Dual male threaded connection
- Dual twist-lock
- ProMask Vision 3

- |           |         |
|-----------|---------|
| 9513-0130 | Kit #1  |
| 9513-0112 | Kit #8  |
| SC-805816 | Kit #28 |
| 9513-0520 | Kit #52 |



### Sundström

- Large single piece connection
- Single screw-in connection

- |           |         |
|-----------|---------|
| 9513-0186 | Kit #20 |
| 9513-0130 | Kit #1  |



### Survivair/Sperian/Honeywell

- 40mm threaded connection
- Dual threaded connection
- Dual twist-lock connection

- |           |         |
|-----------|---------|
| 9513-0130 | Kit #1  |
| 9513-0113 | Kit #9  |
| 9513-0115 | Kit #11 |





A close-up photograph of a person's face, showing their eye, nose, and mouth. The person appears to be exerting effort, with sweat visible on their skin. The entire image is overlaid with a semi-transparent blue filter.

# Heat Stress

Area heat stress monitoring suitable for many applications within hot and challenging environments



# QuestTemp 32/33/34

## (WBGT) Area Heat Stress Monitors

Available to hire or buy



Heat stress prevention demands accurate measurement and analysis of risk factors. The QT range is extremely rugged with IP54 rated protection for water and dust and offers various models depending on application. Wet Bulb Globe Temperature (WBGT) is a weighted average which combines the effect of humidity, air velocity, ambient air temperature and radiant energy into one single index. Models in the QUESTemp area monitor range offer WBGT (outdoor) Index, Wet Bulb Temperature, Dry Bulb Temperature, Temperature Reading, Relative Humidity and Globe Temperature.

Battery life: 140 hours - 9V. 300 hours - NiMH.

	QUESTemp 32	QUESTemp 34	QUESTemp 36
Air Velocity	NO	NO	YES
Datalogging	NO	YES	YES
Dry Bulb Temperature	YES	YES	YES

# QuestTemp 44/46/48

## Waterless Area Heat Stress Monitors

Available to hire or buy



The QUESTemp 44/46/48 utilizes a Waterless Wet Bulb sensor designed for working environments where daily instrument upkeep is difficult. A high-quality humidity sensor and a proprietary algorithm perform the calculation of the WBGT values eliminating the hassle of daily wet bulb maintenance.

All models in the QUESTemp area monitor range are suitable for the following applications and environments: Military or athletic training; warehousing & distribution; manufacturing, nuclear & fossil fuel plants; shipbuilding operations; occupational heat stress management; indoor air quality investigations; risk analysis of job function or activity.

Battery life: 80 hours - 9V. 160 hours - NiMH.

	QUESTemp 44	QUESTemp 46	QUESTemp 48
Air Velocity	NO	YES	NO



# City Technology Sensors

Our EMEA-wide partnership with City Technology enables us to offer the widest range of sensors on the market, with more than 300 products detecting 30 different gases.





# City Technology

## OEM Gas Sensors



As EMEA strategic channel partners to City Technology, our sensors are used in personal and fixed safety applications by leading instrument manufacturers across industries including: Oil & gas, semiconductor manufacturing, chemical plants, power stations, waste water treatment plants, boiler rooms, hospitals, tunnels/car parks, R&D and many more.

Whether you monitor common hazardous gases or more exotic gases, we have a solution to suit the precise requirements of your specific application or instrument. Our sensors can be grouped into the following three categories:

### Electrochemical Oxygen:

Two types available - capillary or membrane. Capillary technology offers concentration values (ppm) while membrane measures the partial pressure (% vol).



### Electrochemical Toxic:

Covering the majority of toxic gases, the electrochemical sensor is available in;

- **1 series** - Analogue (slimline)
- **i series** - Digital (slimline)
- **3 series** - Original design
- **4 series** - Industry standard for use in portable instruments
- **5 series** - Premium range
- **7 series** - General gas detection
- **Micro** - Smallest, most compact
- **EcoSure** - High quality CO detection
- **Sensoric** - 4-20mA pre-calibrated (for selected gases).



### Catalytic:

Used for detection of combustible gases at concentrations below the Lower Explosive Limit (LEL).



# Our sensor range offers detection of the following:

We have an extensive range of sensors available; if the particular sensor you require is not listed, please contact our team to check if we can supply it.

Arsine	AsH <sub>3</sub>
Carbon Monoxide	CO
Chlorine	Cl <sub>2</sub>
Chlorine Dioxide	ClO <sub>2</sub>
Diborane	B <sub>2</sub> H <sub>6</sub>
Ethylene Oxide	C <sub>2</sub> H <sub>4</sub> O
Fluorine	F <sub>2</sub>
Hydrazine	N <sub>2</sub> H <sub>4</sub>
Hydrogen	H <sub>2</sub>
Hydrogen Bromide	HBr
Hydrogen Chloride	HCl
Hydrogen Cyanide	HCN
Hydrogen Fluoride	HF
Hydrogen Selenide	SeH <sub>2</sub>
Hydrogen Sulfide	H <sub>2</sub> S
Mercaptan	CH <sub>4</sub> S
Nitric Oxide	NO
Nitrogen Dioxide	NO <sub>2</sub>
Oxygen	O <sub>2</sub>
Ozone	O <sub>3</sub>
Phosgene	COCl <sub>2</sub>
Phosphine	PH <sub>3</sub>
Silane	SiH <sub>4</sub>
Sulfur Dioxide	SO <sub>2</sub>
Tetrahydrothiophene	C <sub>4</sub> H <sub>8</sub> S
Combustibles	
Exhaust Gases	
General Air Quality	

Discounts available on multiple orders, contact the team today to discuss your requirements.



[sensororders@shawcity.co.uk](mailto:sensororders@shawcity.co.uk)



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# Glossary of Terms

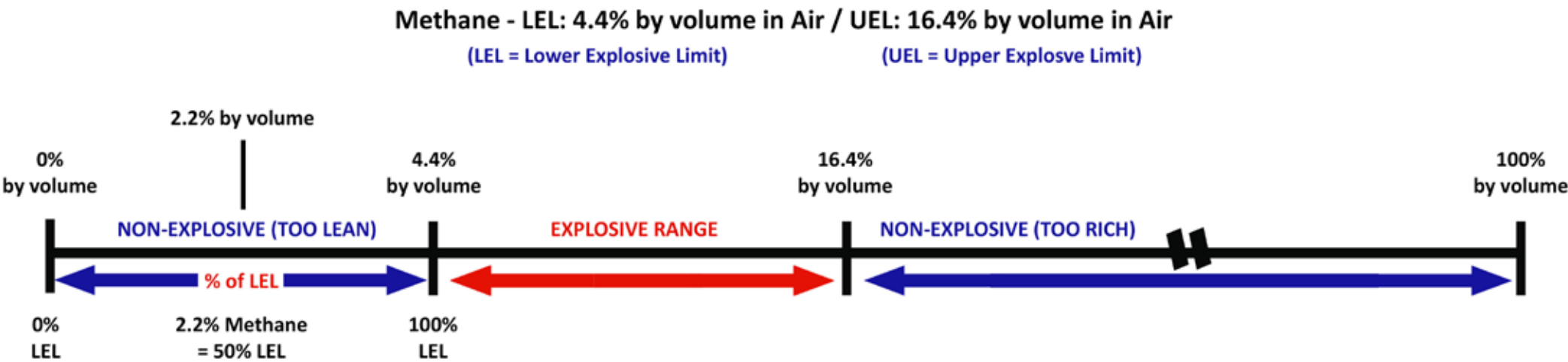
Definitions of commonly-used industry terms

# Glossary of Terms

## Definitions of commonly-used industry terms

### %LEL

Combustible gases form flammable mixtures with air. For each gas there is an explosive range within which the fuel-to-air mixture will support combustion. LEL is an abbreviation for Lower Explosive Limit, which is the minimum concentration for each gas in air that must be present for combustion or explosion to occur. % LEL refers to a method of measuring the concentration of a combustible gas where the range of the sensor is set to correspond with the concentration of gas that is below the explosive range.



Explosive atmospheres in the workplace can be caused by flammable gases, mists or vapours or combustible dusts. ATEX is the name commonly given to the two European Directives for controlling explosive atmospheres. Of the two, Directive 94/9/EC (known as ‘ATEX 95’ or ‘the ATEX Equipment Directive’) concerns equipment and protective systems intended for use in potentially explosive atmospheres. If an instrument is ‘ATEX-approved’ and displays the ‘EX’ logo, it has been tested and certified by a third-party certification body to ensure the equipment is fit for purpose in an explosive environment and that adequate information is supplied to the user.

### Bump Test

A bump test involves passing a small quantity of test gas over an instrument to allow it to run a quick self-test and verify it is responding to the gas it is designed to detect. For example, a single gas sensor is exposed to enough of the specific gas to exceed the alarm-set points and trigger the audible and visual alarms. Mixed gas blends are also available for multi-gas instruments.

All manufacturers offer an easy solution to allow you to bump test your instrument, including portable canisters of test gas or docks, which sometimes also act as the charging station for the instrument. The BSIF Measurement & Instrumentation Special Interest Group, which represents manufacturers and distributors in the UK, recommends that users should bump test their gas detection instrument before every use. If an instrument fails a bump test it should not be used, but instead sent to an approved service centre, such as Shawcity, for calibration.



# Glossary of Terms

## Continued...

### Calibration

Calibration is when an instrument is returned to a manufacturer-approved centre for an annual check and test to ensure it is giving correct and accurate readings. This is as per manufacturer instructions and is usually recommended on an annual basis or is necessary when an instrument fails a bump test.

### Class 1 and Class 2 Sound Monitors

In very simplistic terms, a Class 1 sound level meter has to measure over a wider frequency range than a Class 2 instrument and meet tighter tolerances for all of its performance criteria. Therefore it has better performance specification.

Selecting the correct meter depends on the application it will be used for and the relevant applicable standards. A Class 1 microphone is accurate to +/- 1dB, a Class 2 microphone is accurate to +/- 2dB.

### PID

PID is the abbreviation for “Photoionization Detector”. A PID instrument is a hand-held, personal, or fixed wall-mounted detector that measures a broad range of volatile organic compounds (VOCs) and some inorganic compounds in the parts-per-million (ppm) to parts-per-billion (ppb) range. It gives a continuous read-out and can alarm when concentrations exceed user-defined set-points.

It can also log data, calculate Time-Weighted Average (TWA) and Short-Term Exposure Limit (STEL), and will alarm above these specified values. PIDs are most commonly used for industrial hygiene measurements to ensure that workers are not overexposed to toxic compounds, along with numerous secondary uses such as confined space entry, leak detection, indoor air quality, fence line monitoring, LEL measurements, arson investigation, chemical spills and more.

### ppm and ppb

The term ppm stands for parts per million, while ppb stands for parts per billion. Gas concentrations are measured in these units as limit values and gas detection monitors will offer either reading level. The type of monitor needed – either ppm or ppb – will depend on the application and the gas type(s) being monitored.

### STEL

Short-Term Exposure Limit (STEL) is the acceptable average exposure limit to a toxic or irritant substance over a short period, usually 15 minutes as long as the time-weighted average is not exceeded.

STEL is the maximum concentration to which workers may be exposed continuously for a short period of time without any danger to health, safety or work efficiency.

# Glossary of Terms

## Continued...

### TACs

Aromatic compounds are substances that consist of one or more rings that contain alternating single and double bonds in their chemical structures. Typical aromatic compounds are often referred to as BTEX (Benzene, Toluene, Ethylbenzene and Xylene). Some gas detection instruments are designed to specifically measure Total Aromatic Compounds (TACS).

### TWA

Time-weighted Average (TWA) is the average exposure within a workplace to any hazardous contaminant or agent using the baseline of an eight hour per day or 40 hours per week work schedule. The TWA reflects the maximum average exposure to which workers may be exposed without experiencing significant adverse health effects over the standardized work period. It is also applicable to short-term samples such as a 15-minute TWA.

### VOCs

VOC is an acronym for Volatile Organic Compound. These are carbon-containing molecules that are gaseous at ambient temperatures. They are potentially dangerous to health as well as the environment and are found in a broad range of industries and locations. Common derivatives include:

- **Aromatics**
- **BTEX Compounds** (Benzene, Toluene, Ethylbenzene and Xylene). Most commonly found in petrochemical, oil and gas.
- **Ketones and Aldehydes** (compounds with a C=O bond). For example: Acetone, Methyl Ethyl Ketone (MEK) and Acetaldehyde, most commonly found in industrial cleaning applications.
- **Amines and Amides**. For example: Diethyl Amine, most frequently found in dyes and pharmaceuticals.
- **Chlorinated Hydrocarbons**. For example: Trichloroethylene (TCE), again commonly found in industrial cleaning applications.
- **Sulphur Compounds**. For example: Mercaptans, most commonly found in paints.
- **Unsaturated Hydrocarbons**. For example: Butadiene, most commonly used in the production of automobile tyres
- **Alcohols**. For example: Ethanol, an extremely broad range of industries will use alcohols beyond the obvious applications
- **Saturated Hydrocarbons**. For example: Butane and Octane, most commonly found as an LPG source e.g for example lighters.



# Glossary of Terms

## Continued...

### Zones (Hazardous Areas)

Hazardous areas are classified into zones based on an assessment of the frequency of the occurrence and duration of an explosive gas atmosphere, as follows:

- **Zone 0:** An area in which an explosive gas atmosphere is present continuously or for long periods;
- **Zone 1:** An area in which an explosive gas atmosphere is likely to occur in normal operation;
- **Zone 2:** An area in which an explosive gas atmosphere is not likely to occur in normal operation and, if it occurs, will only exist for a short time.



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