



Monitoring Instrumentation Brochure 2019-20

Our Manufacturing Partners



Our Credentials



Affiliate Member of the
British Occupational Hygiene Society

Our Awards >

**BSiF Customer Service Excellence
2019 Finalist**



**BSiF Customer Service Excellence
Highly Commended 2019**



**Tomorrow's Health and Safety
Awards Finalist 2018 & 2019**



**Contamination Expo
Innovation Award Finalist
2017, 2018 & 2019**



**OHD International Distributor
of the Year 2018**



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HSE EH40 Workplace Exposure Limits: Notes >

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 2018. The full document can be found at: 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, Mar 2019.

HSE EH40/2005 Workplace Exposure Limits (WELs) - Third Edition 2018

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

* Excluding mining 30/200

** As gas and aerosol mists

No Excuses, Bump It >

Today's gas detection technology offers better protection than ever before but one often-overlooked issue in the industry is the regular bump testing of instruments and, crucially, how many users are unaware of the importance of this simple procedure or unsure how to do it.

In simple terms, the usual recommendation is that gas detection instruments are serviced and calibrated at least once a year, depending on the technology and the manufacturer. However, it is less well known that ATEX, IEC and British HSE standards all call for the bump test and calibration of any portable instrument used for worker health and safety protection in a potentially hazardous environment. That means before every use. The bump test is a quick check to ensure the instrument's sensors and alarms are all functioning correctly before it is deployed. Just because a sensor is giving a zero reading, it doesn't necessarily mean it is working properly. Shawcity stocks a full range of bump test and calibration gas - see page 7.



No Excuses, Bump It

Calibration Gas >

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

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

Gases include:

- 3 Mix + LEL
- 4 Mix
- Butadiene
- Carbon Dioxide
- Helium
- Hydrogen Chloride
- Hydrogen Cyanide
- Isobutylene
- Methane
- Nitric Oxide
- Nitrogen
- Oxygen
- Propane
- Sulphur Dioxide.



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 life expectancy.

For more information visit www.shawcity.co.uk/
Calibration-gas, call **01367 899554** or email info@shawcity.co.uk.

VOCS >

Volatile Organic Compounds

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



Tiger^{LT} VOC Monitor



BUY

HIRE



Tiger^{LT} 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.

Calibration Gas and Regulators



We supply a full range of calibration gases and regulators to NIST standards at very competitive prices, see page 7.

Tiger VOC Monitor



BUY

HIRE



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^{LT}, 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.

Cub VOC Monitor



***Cub Docking Station**

BUY

HIRE



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.

***Cub Docking Station**

Available with USB charging, communication and calibration, depending on your requirements.

ToxiRAE Pro PID VOC Monitor



BUY

HIRE



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).

MiniRAE Lite VOC Monitor

Honeywell
RAE
SYSTEMS



BUY

HIRE



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.

MiniRAE 3000 VOC Monitor

Honeywell
RAE
SYSTEMS

BUY

HIRE



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.

ppbRAE 3000 PID VOC Monitor

Honeywell
RAE
SYSTEMS

BUY

HIRE



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: 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
- Battery Life: Rechargeable lithium-Ion battery pack.

AreaRAE Steel VOC and Gas Monitor

Honeywell
RAE
SYSTEMS



Provides real-time wireless measurement and includes a PID sensor for VOCs, an LEL sensor for combustible gases, an O₂ sensor and two user-selectable sensors for toxic gases such as CL₂ or H₂S. Other sensor options available on request. Five threats can be monitored simultaneously and sensors can be replaced as circumstances change.

- PID Detection range: 0-2,000ppm
- Response time: Instantaneous
- Up to two mile range, extendable with repeaters
- Rugged and portable with mains, battery and solar power options
- Battery life: Up to 18 hours.

Fully integrates with Guardian software

The ProRAE Guardian System wirelessly delivers real-time personal and point threat-detection data on toxic gases, worker/responder locations and physiological condition. Ideal for perimeter or incident monitoring, the system works on RAE's mesh network.

Benzene >

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



Tiger Select TAC and Benzene Monitor



BUY

HIRE



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-200ppm. 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).

Replacement Benzene Tubes



Part No. 5/FD-01

Call **01367 899554** to order.

Cub^{TAC} Total Aromatic Compound Monitor



BUY

HIRE



Cub^{TAC} 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.

UltraRAE 3000 Monitor

Honeywell
RAE
SYSTEMS



BUY

HIRE



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.

Replacement RAE Benzene Detection Tubes



Pack of 10

Part No. 012-3022-010

Call **01367 899554** to order.

Titan Benzene Monitor



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.



BUY



Falco^{TAC} 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^{TAC} 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.

MultiRAE Benzene 6 Gas Monitor

Honeywell
RAE
SYSTEMS



BUY

HIRE



The only monitor on the market that includes up to 6-gas detection and real-time wireless capability, plus benzene-specific measurement. A versatile gas monitor which supports 20 intelligent, interchangeable sensor options. Optional wireless capability provides real-time readings from any location.

- 9.8eV PID sensor
- Detection range: 0-2,000ppm (VOCs).
0ppm-200ppm (benzene)
- Datalogging: Six months for five sensors at one-minute intervals
- Intelligent sensors store calibration data and can be swapped in the field
- Man Down Alarm with real-time remote wireless notification
- Battery life: 18 hours.

Replacement Benzene Detection Cartridges

Part No. M01-0312-000

Call **01367 899554** to order.



Fire Investigation >

Fast, accurate detection of VOCs with exceptional resistance to contamination and humidity.



Fire Investigation Kit



BUY

HIRE



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^{LT} (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 samples for further lab analysis
- Quick start guide for ease of use and no specialised training required
- Spare PTFE filters provided for quick and simple Tiger maintenance
- Rugged carry case for easy and secure transportation.

Contaminated Land and Ground Gas >

A range of options for on-site multigas
detection from the world's leading
specialist manufacturers



GasClam & GasClam 2 Borehole Gas Monitor



BUY

HIRE



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: CH₄ - 0-100% or 0-5%, CO₂ - 0-100% or 0-5%, O₂ - 0-25%, CO - 0-500ppm, H₂S - 0-200ppm
VOC - 0-4000ppm
- Weight: 7kg
- Dimensions: overall length - 85cm, borehole tube length - 78cm, head diameter - 10.9cm, borehole tube diameter - 4.3cm
- Monitor temperature, borehole and atmospheric pressure
- Intrinsically safe for use in explosive atmospheres
- Programmable borehole venting
- Telemetry option available for real-time monitoring
- Battery: 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, with discounts available for multiple hires or duration of hire.

GFM436 Gas Analyser



BUY

HIRE



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 CH₄, CO₂, O₂, H₂S, 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



BUY

HIRE



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 CH₄, O₂, CO₂, CO and H₂S and is connected to a wellhead using a flexible sample tube.

Single Gas >

Multiple solutions for individual worker protection against specific gas hazards in the workplace



Single Gas Clip (SGC) Gas Detector



BUY

HIRE



Designed for continuous use over two years and tested to work in the harshest of environments, both hot and cold. Monitoring for H₂S, CO₂ or O₂, it also offers adjustable alarm set points and real-time gas reading capability. Calibration is optional.

- Detection range: CO – 0-300ppm, H₂S – 0-100ppm, O₂ – 0-30%
- Two-way infrared communication for event downloads, bump tests and updates
- Programmable unique unit identification
- Bump check reminder
- Operational life: Two years.

Gas Clip (SGC) 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. See page 31.

Single Gas Clip (SGC) Plus Gas Detector



BUY



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.

Gas Clip (SGC) Docking Station



BUY

HIRE



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.

BW Solo Gas Detector



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, H₂S and O₂
- User-friendly operation
- Connected Bluetooth Low Energy (BLE) capabilities
- Battery life: 12 months (normal operation).

IntelliDoX



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 Solo, Ultra, MaxXTII, Clip Series, Clip4 and MicroClip Series gas detectors.

BW Clip Gas Detector



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 O₂ and SO₂ and a two- or three-year option for H₂S 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: H₂S, CO, O₂ or SO₂
- Designed for harsh environments and extreme temperatures
- Low cost of ownership
- Event logging: 35 most recent events
- Detection range: H₂S – 0-100ppm, CO – 0-300ppm, O₂ – 0-25% by vol, SO₂ – 0-100ppm
- Battery life: Two years (H₂S, CO, O₂ or SO₂) or three years (H₂S or CO) from activation.



IntelliDoX Docking Station

Gas Alert Extreme Gas Detector



BUY



This single-gas detector offers extended longevity with a field-replaceable battery and sensors. Internal vibrating alarm for high noise areas. Secure and accurate history with datalogging. Water resistant and built-in concussion-proof boot. Sensors available: H_2S , CO, O_2 , SO_2 , NH_3 , PH_3 , Cl_2 , ClO_2 , NO, NC_2 , HCN, ETO and O_3 .

- Detection range: H_2S – 0-100ppm, CO – 0-1,000ppm, O_2 – 0-30%
- Response time: Real time
- Operates through consecutive shifts
- Passcode protection with secure datalogging
- Battery life: 1.5 years with replaceable 3V battery.

Fleet Manager II Software



Lets you download information directly from gas detectors and monitors to your PC for storage and analysis.

Micro Dock II

For calibration and bump testing. Used with Fleet Manager II Software.



Confined Space >

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



Multi Gas Clip (MGC) Simple 4 Gas Detector

gasclip
technologies

2-year
operation

BUY

HIRE



Save time and cost by never having to charge or service your portable multi-gas detector. A reliable test for H₂S, CO, O₂ 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 H₂S 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: H₂S – 0-100ppm, CO – 0-500ppm, Combustible - 0-100% LEL, O₂ – 0-30% vol
- Battery life: 730 days continuous use.

Multi Gas Clip (MGC) Simple Plus 4 Gas Detector

gasclip
technologies

3-year
operation



BUY

HIRE



Reliably test for H₂S, CO, O₂ 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 H₂S 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: H₂S – 0-100ppm, CO – 0-500ppm, Combustible - 0-100% LEL, O₂ – 0-30% vol
- Battery life: 1,095 days continuous use.

BW Clip4 4 Gas Monitor

Honeywell



2-year
operation

BUY

HIRE



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 H₂S, CO, LEL and O₂. No hassle. No charging. No sensor/battery replacements.

Benefits and features include:

- IntelliDox system compatible (see page 33)
- Low cost of ownership
- Adjust STEL period (5-15 mins in 1 min intervals)
- Datalogging: 70 most recent events
- Detection range: H₂S – 1-100ppm, CO – 1-1,000ppm, Combustible – 0-100% LEL, O₂ – 0-25% vol
- Battery life: Two years continuous use.

Multi Gas Clip (MGC) Diffusive Multi Gas Detector



BUY

HIRE



The longest battery life of any rechargeable portable gas detector, with a two-month battery life on a single charge. Detects H_2S , CO, LEL and O_2 . Infrared sensor is immune to pellistor sensor poisons and works in inert environments.

- Detection range: H_2S – 0-100ppm, CO – 0-500ppm, Combustible – 0-100% LEL, O_2 – 0-30%
- Response time: Real time
- Low power, photo-metric technology
- Six month calibration cycle
- Battery life: Infrared – 60 days. Pellistor – 25 hours.

Gas Clip (MGC) Docking Station

BUY

HIRE



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

Multi Gas Clip (MGC) Pumped Multi Gas Detector



BUY

HIRE



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_2S , CO, LEL and O_2 . Infrared LEL sensor is immune to pellistor sensor poisons and will work in inert environments.

- Detection range: H_2S – 0-100ppm, CO – 0-500ppm, Combustible – 0-100% LEL, O_2 – 0-30%.
- Response time: Real time
- Low power, photo-metric technology
- Six month calibration cycle
- Battery life: Infrared 5 days. Pellistor – 30 hours.

QRAE 3 Gas Monitor

Honeywell
RAE
SYSTEMS



BUY

HIRE



A versatile, rugged, one- to four-sensor pumped or diffusive gas monitor to provide continuous exposure monitoring of O₂, LEL and toxic gases including H₂S, CO, SO₂ and HCN. Wireless communications optional.

- Detection range: H₂S – 0-100ppm, CO – 0-500ppm, Combustible – 0-100% LEL, O₂ – 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.

Compatibility

Real-time hazard readings can 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 (see page 47).

Micro Clip XL Gas Detector

BW
Technologies
by Honeywell



BUY

HIRE



Slim, compact and lightweight while providing affordable protection from atmospheric gas hazards. The XL model offers extended battery life, especially in cold weather. Easy one-button operation allows workers to focus on the job at hand. Visual compliance at a glance with IntelliFlash. Water resistant.

- Detection range: H₂S – 0-100ppm, CO – 0-500ppm, Combustible – 0-100% LEL, O₂ – 0-30%
- Response time: Real time
- 2 year warranty
- Simple, automatic calibration procedure
- IP68 Rating - first for four gas
- Tamper-proof
- Battery life: 8 hours.

Micro Clip X3



BUY

HIRE



One of the latest additions to the GasAlert Micro Clip Series is the GasAlert Micro Clip X3. This model offers a three-year warranty and an all-new O₂ sensor — 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 O₂, H₂S, CO and LEL combustibles
- New IP68 rating for unmatched 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



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, O₂, CO, H₂S
- 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 (see page 34)
- Battery life: 20 hours rechargeable.

Multi Gas >

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



MultiRAE Lite Gas Monitors



BUY

HIRE



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, CO₂, NH₃, CO, H₂S, Cl₂, ClO₂, EtO, HCHO, HCN, H₂S, CH₃SH, NO, NO₂, O₂, PH₃, SO₂
- 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 & MultiRAE Pro Gas Monitors

Honeywell
RAE
SYSTEMS

BUY

HIRE



Building on the performance of the Multi RAE Lite, the MultiRAE and MultiRAE Pro monitors also offer the best high range PID detection in their class with 0-5,000ppm (0.1ppm resolution). The MultiRAE Pro can simultaneously detect gamma radiation and toxic industrial chemicals (TICs/TIMs).

AutoRAE 2 Docking Station

Honeywell
RAE
SYSTEMS

BUY



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.

BW Ultra



BUY

HIRE



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 O₂, CO, H₂S and LEL required 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
- Remote monitoring for an additional layer of protection
- Expected life time for sensors: Up to five years
- Battery life: 18 hours (14 hours with PID or IR sensor).

Gas Alert Micro 5 Series



BUY

HIRE



Providing protection from up to five potential atmospheric hazards including O₂, combustible and toxic gases, CO₂ (IR) or PID the Gas Alert Micro 5 is unparalleled in its versatility, capability and overall value. Sensor options for: H₂S, CO, SO₂, PH₃, CL₂, NH₃, NO₂, HCN, CLO₂ and O₃ plus combustibles. Continuously monitoring and displaying concentrations of up to five gases, the compact and lightweight Gas Alert Micro 5 was designed with an extensive host of applications in mind.

- Integral concussion-proof boot
- Optional integral motorized pump option for remote sampling
- Powered by three AA alkaline batteries or a hot-swappable rechargeable battery pack
- Triple alarms (audible, visual and vibrating)
- Large, user-selectable backlit LCD
- Four alarm levels: Low, High, TWA and STEL
- Available in three models: Toxic/electrochemical, PID or IR CO₂
- Battery life: 20 hours (15 hours with PID or IR sensor).

G460

7 Gas Detector



The G460 is the world's smallest 7-gas detector with five sensor positions and it offers more than previously possible in an instrument of comparable size. The main innovation of the G460 is the continuous and selective measurement of seven gases simultaneously. It warns of toxic, combustible gases and vapours, but also oxygen deficiency and surplus. A wide range of additional sensors including SO₂, HCN, Cl₂, NH₃, PH₃, H₂, NO, NO₂, ClO₂, O₃, EtO and more. The G460 satisfies all applications and requirements related to gas detection.

- Smart plug-in sensors
- Patented CO₂ and CH₄ detection
- PID and Infrared options
- Pumped and Diffusive options
- Large display with zoom function
- Performance tested for maximum safety
- Award-winning design
- Battery life: Up to 130 hours depending on sensor configurations.

Mercury >

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



MVI Mercury Vapour Indicator



BUY

HIRE

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.

Fixed Gas Systems >

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



Custom Fixed Gas Detection Systems >



Shawcity provides a flexible range of fixed-point detectors. We can install, commission and service standard and bespoke systems to suit every need.

Systems are available in flameproof, intrinsically safe or safe area formats as required. Various housing options are available, including weather caps for extreme environments such as wet weather or direct sunlight.

Thermal conductivity sensors are available to monitor volume concentrations of gases. Poison-resistant pellistors available for all flammable detection needs including hydrocarbons, hydrogen, ammonia, jet fuel, leaded petrol and vapours containing halogens.

For more information and to discuss your requirements call **01367 899554** or email **info@shawcity.co.uk**.

GDS 101

Simple Channel Controller



BUY

GDS Defender

Multi Channel Controller



BUY

GDS 404

One-to-Four-Channel Controller



BUY

Combi Controller 1-64 Addressable & 1-16 Direct Channels



BUY

Gas Vac Single Long Line Sample System



BUY

SENSORS >

GDS 10+ Detector Unit with LED Display



BUY

XDI Sensor

BUY



XDI Win Sensor

BUY



15J/30J Gas Sensors

BUY



15J/30J Gas Sensors

BUY



TVOC VOC Monitor



BUY



Continuous detection of total Volatile Organic Compounds (VOCs) with multiple ranges. A fixed monitor that incorporates the patented Ion Science fence electrode technology with in-built humidity resistance and anticontamination design. A versatile system which can be easily integrated into existing gas monitoring control systems. Easy access to the PID sensor for fast, simple servicing and a simple calibration procedure. Three wire system can be used in Zone 2 hazardous areas without safety barriers or Zone 1 with safety barriers.

- Detection range: 0-10ppm, 0-100ppm or 0-1,000ppm
- Variable duty cycle from 5 seconds to 5 minutes
- Draws samples from up to 30m away
- Response time: <5 seconds
- Works in temperatures -20°C to +50°C.

FALCO



BUY



Falco is the only fixed VOC detector specifically designed for extreme weather. Unique, revolutionary ‘typhoon technology’ protects the PID sensor from condensing moisture for added reliability. The PID sensor also incorporates patented Fence Electrode Technology, which virtually removes the effects of airborne humidity and protects from contamination. The sensor performance minimises drift and downtime and eliminates false readings found in other PID technology. Falco offers a selectable response factor for varying VOC selection and offers four detection ranges.

- Detection ranges: 10ppm, 50ppm, 1,000ppm, 3,000ppm.
- Detection time (T90): <30 seconds (diffused)
- Quick, easy servicing and calibration without the need for a hot permit in a hazardous environment
- Long-life lamp for two years’ continuous use
- Diffused model reduces servicing costs
- Pumped model ideal for locations which are difficult to access.

Meshguard RDK Gas Monitoring Network

Honeywell
RAE
SYSTEMS



BUY



A rapidly deployable, portable MeshGuard wireless gas-monitoring network in a complete, turnkey solution.

The RDK includes a controller and your choice of a combination of toxic and combustibles gas monitors and intelligently finds the best available path, providing a complete self-forming, self-healing gas detection network system.

Monitors run for up to six months on a single battery providing continuous detection and measurement of potential threats even in hazardous work environments such as oil and gas rigs, refineries and industrial sites.

Intrinsically safe, IP-65 rated weather resistant and certified for the most hazardous Class 1, Division 1 or Zone environments. Supplied in a rugged, water-tight case with wheels.

Gas Leak Detection >

High accuracy gas leak detection by
volume or concentration



GasCheck G Series Gas Leak Detector



BUY

HIRE

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 NH_3 , AR, C_4H_{10} , HE, H_2 and SF_6 . Available in three versions G1, G2 and G3 with various capabilities. Upgrades can be applied remotely.

- Sensitivity: He 1×10^{-5} cc/sec, CH_4 5×10^{-5} cc/sec, R12 5×10^{-5} cc/sec, Ar 1×10^{-4} cc/sec
- Response time: 1 second rise and clear down
- Datalogging: 10 data points (G3 only)
- Operates in temperatures -20°C to $+60^\circ\text{C}$
- Choice of readings in cc/sec, g/yr, mg/m^3
- Battery life: 40 hours.

GasCheck Tesla Helium Leak Detector



BUY

HIRE

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 1×10^{-5} mg/m³
- Response time: 1 second rise and clear down
- Operates in temperatures -20°C to +60°C
- Probe designed to get into the smallest of places
- Battery life: 40 hours.

SF₆ GasCheck 6000 Leak Detector



BUY

The SF₆ GasCheck 6000 leak detector is a great device for portable SF₆ leak detection. In practical use, it has a detection threshold of 1×10^{-6} mbar l/s, which makes it perfectly suitable for simple leak detection applications on SF₆ switchgear.

This easy to use processor controlled instrument features both an audible alarm and LED bar graph display, letting you know if a small, medium or big leak has been detected.

SF₆ GasCheck 6000 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 SF₆ switchgear leaks
- Automatic compensation to ambient conditions
- Audible alarm and LED bar graph display
- Battery life: Up to 75 hours with auto off feature.

Sound, Noise and 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.



E&OE. This information is published as a guide and was correct at the time of going to press, March 2019.

Please check the Health and Safety Executive web site www.hse.gov.uk for the latest information.

SV 102A+ Dual Channel Noise Dosimeter



BUY



This dosimeter can be also used as a dual-channel Class 1 sound level meter and real-time 1/1 octave & 1/3 octave analyser.

Three acoustic profiles per channel allow parallel measurements with independently defined filters and RMS detector time constants. The small, compact SV 15 preamplifier with dedicated headband enables easy attachment of the microphone close to the ear. SV 102A+ also performs measurement inside the ear with the SV 25S, a smart microphone with an automatic calibration function (TEDS).

- Measurement range: 45 dBA RMS ÷ 141 dBA Peak
- Weighting: A, C, Z
- Time constants: Fast, slow or impulse
- Typical noise floor: <35 dBA
- Datalogging: Time-history logging of Leq/Lmax/Lmin/Peak/Lav results to internal memory with time step down to 100 millisecond to micro SD card.
- Battery life: AA: >16 hours, rechargeable: >20 hours.

SV 104 Noise Dosimeters



SV 104

SV 104 IS

SV 104A



BUY

HIRE



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.

Svantek Supervisor Software and SvanPC++



The dedicated PC software package for health and safety specialists that supports all Svantek noise and vibration products.

SV 973 Sound Level & Sound Exposure Meter



BUY

HIRE



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



BUY

HIRE



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.

SV33A, SV34A & SV35A Calibrators



SV33A	SV34A	SV35A
Class 1	Class 2	Class 1
114 dB	114 dB	94 or 114 dB

SVAN 977A

Sound and Vibration Analyser



BUY



The SVAN 977A Class 1 Sound & Vibration level meter and analyser is designed to meet the needs of both environmental monitoring and occupational health and safety monitoring specialists. Its exceptional hardware design also enables the measurement of ultra sound frequencies in the 40 kHz band. The powerful DSP (Digital Signal Processor) used in the SVAN 977A can simultaneously operate in meter mode and perform real-time 1/1 or 1/3 octave analysis, including statistical calculations. Additional functions like real-time FFT analysis and Rotation Speed Measurement are also available.

- Class 1 IEC 61672:2013 sound level measurements
- Ultra sound measurements in 40 kHz band
- General vibration measurements (acceleration, velocity and displacement)
- Three parallel independent profiles
- 1/1 octave real-time analysis
- 1/3 octave real-time analysis (optional)
- FFT analysis (optional)
- Battery life: Rechargeable AA batteries: >16 hours.

SV 200 Outdoor Noise Monitoring Station



BUY

The SV 200 outdoor station is a fully integrated all-in-one solution for unattended noise monitoring applications. It features an internal web server for system configuration, live data streaming, data management and battery powered operation providing true flexibility for both short- and long-term measurements. Rugged housing protects the system against harsh environmental conditions (IP66).

- Portable design for mobile and permanent noise monitoring installations
- Total dynamic range: 15 dBA RMS ÷ 133 dBA Peak (IEC 61672)
- Weighting: A, C, Z
- Time constants: Fast, Slow, Impulse
- Datalogging: Logging of summary results, spectra and weather data with logging step down to 1 second and time history of selected parameters with short logging step down to 2 millisecond
- Battery life: Li-ion rechargeable batteries: >48 hours or AC supply. Solar panel and DC options available.

SV 307 Outdoor Noise Monitoring Station



BUY

HIRE



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.

SV 279 PRO Noise Monitoring Station



BUY

HIRE



SV 279 PRO is an outdoor monitoring system based around the SVAN 979 Class 1 sound level meter. The IP 65-rated case contains a lead-acid battery; operating time can be easily extended by connecting an external battery or solar panel.

The lightweight outdoor microphone kit can easily be installed on a mast with standard mounting threads. All accessories fit conveniently into a second carrying case. The monitoring station uses a 3G modem for remote internet communication.

- Dynamic range: 12 dBA RMS ÷ 140 dBA Peak
- Linearity: 22 dBA RMS ÷ 140 dBA Peak
- Meter modes: SPL, LEQ, Peak, Max, Min, Over load %, SEL, LEQ Stats, Lden, LEPd, Ltm3, Ltm5
- Detector Constants: Slow, Fast, Impulse
- Datalogging: Time history logging with two adjustable logging steps down to 2 milliseconds
- Weighting: A, C, Z, B, G
- Battery life: 4 days (continuous modem)
8 days (modem off).

MOLES Minature Outdoor Logging of Environmental Sound



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



BUY

HIRE



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.

Features include:

- 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).

SVAN 958A

Sound and Vibration Analyser



BUY

HIRE



A unique Class 1, four channel sound level meter plus human vibration monitor in one. Perfect for applications requiring simultaneous Class 1 noise measurements and tri-axial vibration assessment. Each of four input channels can be independently configured for sound or vibration with different filters and RMS detector time constants, giving enormous measurement flexibility.

- Dynamic range: 100 dB, 4 x 20 bits A/D converters
- Weighting: A, C, Z, G
- Time response: Fast, Slow or Impulse
- Vibration meter mode: RMS, VDV, MTVV or Max, Peak, Peak-Peak
- Datalogging: Time-history logging to internal memory
- Battery life: >24 hours (optional external battery pack).

SVAN 974 Vibration Meter



BUY



The SVAN 974 vibration level meter and analyser is intended for general vibration measurements and machinery condition monitoring. It can be used by consultants, maintenance services, industry R&D departments etc and offers parallel acceleration, velocity and displacement measurements.

Three vibration profiles allow parallel measurements with independently defined filters and RMS detector time constants. Each profile provides a significant number of results (such as RMS, Peak or Max).

- Low-cost vibration analyser
- IEPE and charge type accelerometers supported
- Three parallel independent profiles-acceleration, velocity and displacement measurements
- Built-in machine filter (10 Hz ÷ 1 kHz) meeting ISO 20816 requirements
- FFT real time analysis - up to 1,600 lines
- Optional 1/1 and 1/3 octave
- Data logging: Time history logging including spectra with two adjustable logger steps down to 2 milliseconds
- Battery life: AA batteries: >12h, rechargeable AA batteries: >16h.

SV 106A Human Vibration Meter



BUY

HIRE



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



BUY

HIRE



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 111 and SV 110 Calibrators

For more information see page 83.



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 111 Calibrator



BUY

The SV 111 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.

SV 110 Calibrator



BUY

The SV 110 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 SV 110 enables easy sensor checks. Depending on the selected frequency the user may select level of calibration from 1 m/s^2 to 10 m/s^2 . Accelerometers are conveniently attached using a mounting stud, mounting disc or a dedicated adapter.

HAVi Tool Vibration Exposure Timer



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

- Accurately captures the trigger time that a tool is used 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 (see page 85)
- Battery powered: Estimated life 1,000 trigger hours

Basic HAVi Software



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

HAVi Watch Vibration Exposure Meter



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 Watch 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.

SD-200 Sound Level Meter



BUY

HIRE

A compact, lightweight meter designed to accurately measure workplace noise levels by providing the average sound pressure level. Ideal for manufacturing facilities or machine shops where noise levels are often highly variable. Green, yellow and red LEDs flash making it easy to select the appropriate level of hearing protection using the Optime alert system.

- Dynamic range: 45 to 130 dB
- Type 2 microphone
- Weighting: A, C
- Time response: Fast or slow
- Exchange rate: 3 dB or 5 dB
- Display: 0.1 dB resolution and 0.5 sec update rate
- Battery life: >50 hours.

SE-400 Series



BUY

HIRE



The averaging functionality on this meter allows for easy, out-of-the-box measurement in variable environments. Enables confident collection of accurate data as part of a Hearing Conservation Program. Class 1 or 2 microphone options, depending on the required application.

- Dynamic range: 30 to 110 dB (30-140 dB single range)
- Intrinsically Safe option available
- Weighting: A, C, Z
- Time response: Fast or slow
- Exchange rate: 3, 4 or 5 dB
- Internal memory: 2MB (34 days at 1-minute logging)
- Battery life: 18 hours.

SoundPro Real Time Sound Level Meters



BUY

HIRE



The SoundPro's two built-in virtual sound level meters can take full or third octave band real-time measurements while simultaneously measuring broadband sound to easily document and analyse noise exposures. Enables confident collection of accurate data for industrial and task noise sampling or as part of a Hearing Conservation Program. Class 1 or 2 options available.

- Dynamic range: 10 to 140 dB
- Weighting: A, C, Z, F (Flat)
- Time response: Fast, slow and IEC
- Exchange rate: 3, 4, 5 or 6 dB
- Datalogging: Time history datalogging with 1 second-60 minute intervals
- SE or DL models available
- 1/1 or 1/3 Octave Band variants available
- Battery life: 10 hours.

AC300 Dual Level Digital Calibrator

A fixed 94 or 114 dB calibrator at 1 KHz for use with 3M sound level meters and noise dosimeters.



The Edge Personal Noise Dosimeters



BUY

HIRE



Available in three models, The Edge offers advanced technology in a cable-free, compact device to monitor noise levels. Eg3 model features summary data reports. Eg4 model has dual dosimeters and datalogging/time history. Eg5 stands apart as an intrinsically safe dosimeter offering simultaneous C- and A-weighted measurement.

- Measuring range: 70 to 140 dB
- Weighting: A and/or C
- Time response: Fast or slow
- Exchange rate: 3, 4 or 5 dB
- Datalogging: L_{AVG} or L_{EQ} (1&2), Max, Peak and Overload indication at 1 minute intervals (Eg4 & Eg5 models). Memory capacity: 180 hours
- Battery life: >60 hours, Eg5 >40 hours.

TSI's Detection Management Software (DMS)

Allows users to retrieve, download, export share and save data, generate charts and reports. Instruments can be set up and controlled from the software.



Air Quality and Dust >

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



> Respirable Particulate

Upper Respiratory Tract

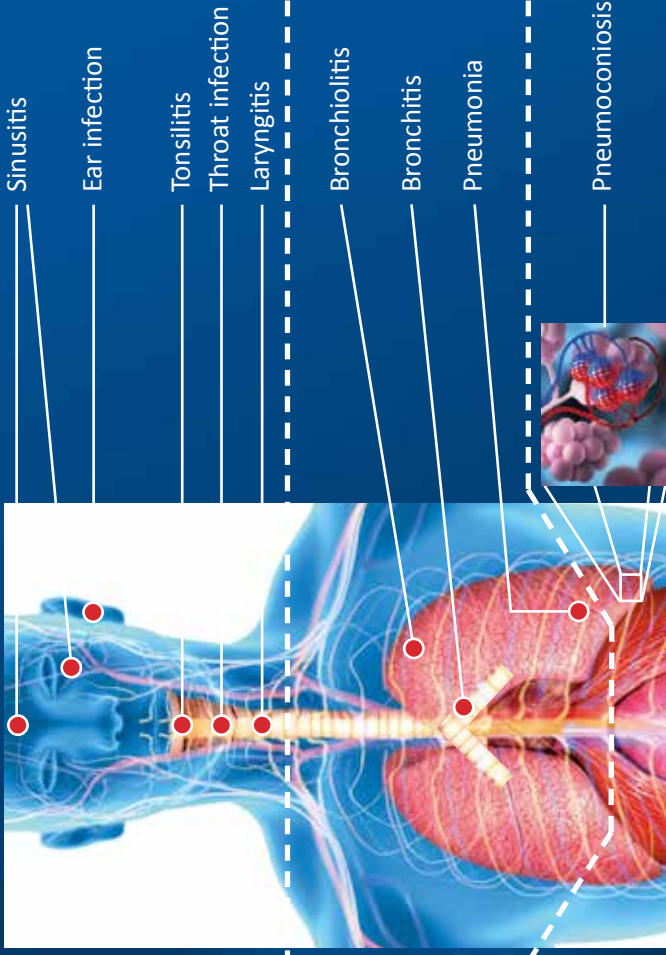
10 - 2.5 μ m
Coarse Inhalable

Lower Respiratory Tract

2.5 - 0.1 μ m
Fine Inhalable

Distal Respiratory Tract

< 0.1 μ m
Nanoparticle Respirable



DustTrak II Desktop Aerosol Monitor



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 400 mg/m³
- Aerosol concentrations: PM1, PM2.5, Respirable, PM10
- 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 II Handheld Aerosol Monitor



BUY

HIRE

A lightweight and portable handheld version of the DustTrak II. 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. The DustTrak II Aerosol Monitor measures aerosol contaminants such as dust, smoke, fumes and mists.

- Aerosol concentration range: 0.001 to 150 mg/m³
- Aerosol concentrations: PM1, PM2.5, Respirable, PM10
- Manual, programmable and single-point data logging
- Battery life: 12 hours (Li-ion).

DustTrak DRX Desktop Aerosol Monitor



BUY

HIRE

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/m³
- Aerosol concentrations: PM1, PM2.5, Respirable, PM10 and Total
- 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



BUY

HIRE

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/m³
- Aerosol concentrations: PM1, PM2.5, Respirable, PM10 and Total
- Manual, programmable and single-point data logging
- Battery life: 12 hours (Li-ion).

EDT Environmental DustTrak Aerosol Monitor



BUY

HIRE



Designed to easily and accurately facilitate long-term outdoor environmental monitoring. New units can be supplied with MCERTS. 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/m³
- Aerosol concentrations: PM1, PM2.5, Respirable, PM10 and Total
- 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.

Environmental DustTrack (EDT)

Optional Accessories



Heated Inlet Sample Conditioner

Minimises the effects of humidity when environments are consistently >50% RH.



Rechargeable Battery System

Provides continuous power when AC power is not available. Two batteries plus charger.



Solar Power System

Two 90W solar panels with stand and accessories, for when AC power is not available.



Pole Mounting Kit

Includes necessary accessories to attach EDT enclosure to a fixed pole (pole not supplied).



Solar Shield

Metal cover to shield the enclosure from sunlight in environments >104°F (40°C).



Cloud Data Management System

Created in partnership with Netronix, this system is the most comprehensive turnkey remote dust monitoring solution on the market. Using purpose-built telemetry, data from the EDT can be accessed on demand – anytime, anywhere – with the choice to auto-send alert notifications via email or SMS text message.

AM520 SidePak Personal Aerosol Monitor



BUY

HIRE



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^3) 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 personal aerosol monitor.

EVM Environmental Monitors



BUY

HIRE

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.

GilAir Plus

Air Sampling Pump

SENSIDYNE
Industrial Health & Safety Instrumentation



BUY

HIRE



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" H₂O in high flow and up to 25" H₂O 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

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.

Gilian LFS Low Flow Air Sampling Pump

SENSIDYNE
Industrial Health & Safety Instrumentation



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" H₂O. Constant pressure (multi-flow): 1-350 cc/min, to 18±3" H₂O
- Run time: >8 hours.

Gilibrator 3 Calibrator

SENSITIVE
Industrial Health & Safety Instrumentation



BUY

HIRE

The Gilibrator 3 delivers maximum convenience, accuracy and data integrity. The calibrator is designed for mobility with an advanced rechargeable Lithium Iron Phosphate (LiFePO₄) 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

SENSIDYNE
Industrial Health & Safety Instrumentation



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

SENSIDYNE
Industrial Health & Safety Instrumentation



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.

Fit-testing >

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

*Fit-testing should be undertaken by a trained professional



Quantifit Respirator Fit Tester



BUY

HIRE



A Shawcity exclusive and a real game-changer in the UK and Ireland fit test market, with no alcohol, candles, salt fog required. Quantifit 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 OC 282/28.

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

- 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.

Heat Stress >

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



Area Heat Stress
(WBGT) Monitors
QUESTemp Models 32/34/36



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. All six models in the QUESTemp area monitor range have 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

Area Heat Stress
(WBGT)



Waterless Monitors QUESTemp
Models 44/46/48

BUY

HIRE



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 six 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 28 different gases





Our sensors are used in personal and fixed safety applications by leading instrument manufacturers across industries such as: Oil & gas, semiconductor manufacturing, chemical plants, power stations, waste water treatment plants, boiler rooms, hospitals, tunnels/car parks and R&D. 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 four distinct categories:

Electrochemical Oxygen: Two types available – capillary or membrane. Capillary offers concentration values while membrane measures the partial pressure.

Electrochemical Toxic: Covering the majority of toxic gases, the electrochemical sensor is available in a 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) and Sensoric (4-20mA pre-calibrated).

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

Infrared: The City Technology range of infrared sensors is known as IRceL and operates using the Non-Dispersive Infrared (NDIR) absorption method. This technology is available for CO₂ and combustible gases.

Our sensor range offers detection of the following >

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

For more information call **01367 899554** or email **sensororders@shawcity.co.uk**.

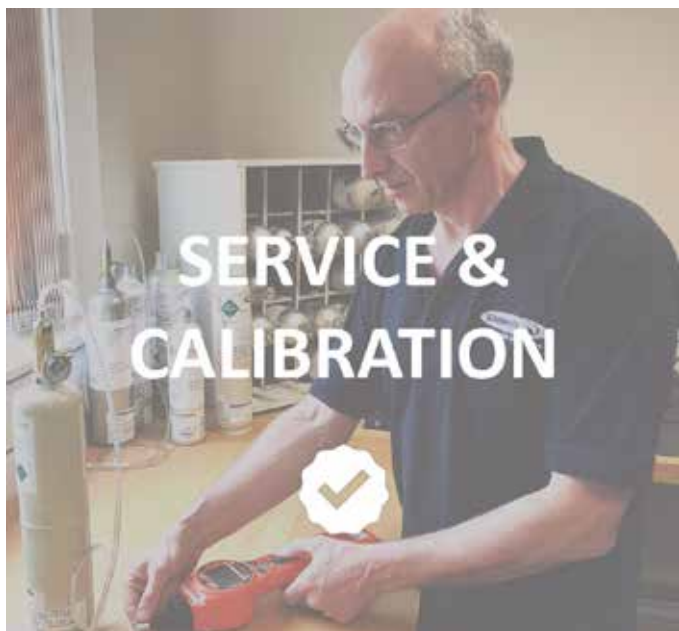


There are several reasons why customers choose to hire from us. Sometimes the instrument may only be required for a short period or occasional use, meaning it would not be economical to invest in buying one outright.

Often they may 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.

Whatever your requirements, contact our friendly hire team on: **01367 899554** or email: **hire@shawcity.co.uk** and we will help you find the best, flexible solution to suit your business needs.



At Shawcity we pride ourselves in being able to fully support the products we sell through our manufacturer-approved Oxfordshire service and calibration centre. We are authorised to calibrate, service and repair instruments by the following manufacturers: Ion Science, Sensidyne, Gas Clip, Honeywell (including RAE and BW), OHD, Svantek and TSI.

The benefits of using Shawcity:

- Manufacturer-approved servicing protects your warranty
- We offer hire instruments while yours are with us, so no down time
- No delays waiting for shipping to the manufacturer in the US or Europe
- Calibration and service due reminders sent to you
- Full, unlimited technical support from our friendly team
- Software and firmware upgrades included as standard
- Authorised to repair instruments to ATEX standards.



Shawcity have been finalists for the BSIF Customer Service Excellence Award in 2018 and 2019, in recognition of the high standard of our customer service and technical support. We offer free, unlimited and impartial advice and 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.

We don't just ship boxes, we offer solutions. We also offer unlimited technical support for the lifetime of your instrument or duration of hire, so if you ever need help or even just advice simply contact us on **01367 899554** or send us an email **info@shawcity.co.uk**.

Training and Demonstrations

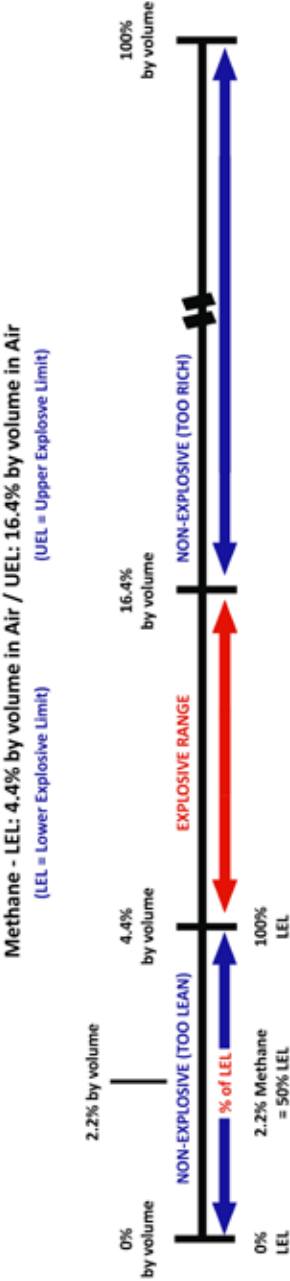
Training on the operation of our instruments is available – at a location of your choice or at our offices in Oxfordshire. Different levels are available from basic operation to the more advanced user. Contact us on **01367 899554** or email **info@shawcity.co.uk** to discuss your requirements.

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.





ATEX ATEX

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.

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 ± 1 dB, a Class 2 microphone is accurate to ± 2 dB.

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 & 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.

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.

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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E&OE. All information correct at time of publication.
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