Specialists for your safety.
Portable gas detection instruments from Dräger
Your safety is paramount

Many hazards cannot be detected by human senses: toxic gases, oxygen deficiency, combustible gases and vapours. These hazards pose a serious threat to human life and plant safety in many branches of industry. When it comes to the reliable detection of unknown and known gas hazards, you can rely on portable and stationary gas detection technology from Dräger.

Gas detection technology from Dräger, renowned for its high reliability, robust design and straightforward operation, has been proven in thousands of applications worldwide. Our extensive product range offers you perfect solutions for every application.

With services ranging from consulting via the web based, virtual hazardous substances Dräger VOICE database to training and professional instrument management, we can fully support you in your work.

Profit from our experience.
The development of our Dräger tubes more than seventy years ago laid the cornerstone for accurate gas detection. Today, thanks to continuous research and development, we are now featuring more than 250 Dräger-Tubes able to detect over 500 substances. Combined with the Dräger chip measuring system, an electronic form of the tube, Dräger provides you with one of the most accurate and reliable means available for spot concentration measurement.

We take your protection personally.
Personal gas detection instruments are essential to providing workers with a reliable form of protection. Our sophisticated single-gas detectors are recommended for ensuring workplace safety when you need to be alerted to the presence of harmful gas concentrations.

Dräger multi-gas detectors are designed with a wide range of options, making them flexible companions in a variety of situations such as personal protection, area monitoring or leak detection. Special accessories make working easier on sites that are difficult to access such as tanks or shafts, ensuring safe clearance measurements are possible.

We are continuously investing in sensor technology to ensure greater safety at work. Our sensor systems, including catalytic, infrared, electrochemical and photoionization detectors (PID), are setting standards in terms of sensitivity and longevity. Providing the world’s largest number of electrochemical sensors to measure the widest variety of gases means that a perfect solution is available for each measurement task. Testing and calibration stations, portable printers and complete workshop solutions ensure that your Dräger gas detection instruments are well maintained and ready for use at a moment’s notice.

The origins of portable gas detection technology are found in the mining industry. Before the availability of sensors, canaries acted as a warning system for miners. They were used to check for hazardous substances in the mine.
Dräger multi-gas detection instruments – the measured response to different hazards

Personal protection, area monitoring, confined space entry permits as well as safety measurements of shafts, channels or tanks all are no problem with the new generation of X-am devices. These portable gas detection instruments deliver reliable measurements, while durable sensors designed in-house ensure maximum safety coupled with extremely low operating costs.

The Dräger X-am® 2500 was developed specifically for personal safety use. The 1 to 4 gas detection device for personalised measurement of combustible gases and vapours such as O₂, CO, NO₂, SO₂ and H₂S. Reliable and mature measurement technology, durable sensor technology and easy handling ensure a high degree of safety at extremely low operating costs.

This compact personal gas detector, is not only capable of detecting O₂, CO, H₂S and Ex hazards, but also CO₂, Cl₂, HCN, NH₃, NO, NO₂, PH₃, SO₂ and organic vapors, it can be equipped to meet individual requirements. The catalytic Ex sensor detects 0-100% LEL and 0-100 vol.% methane. Maximum sensitivity provides advanced means of detecting unknown gas hazards far more reliably.

Infrared technology is now integrated into personal detectors such as Dräger X-am 5600. Equipped with a dual sensor (Dual IR Ex/CO₂), the device provides warnings related to concentrations of hydrocarbons and carbon dioxide. If used in combination with different electrochemical sensors for monitoring toxic gas concentrations or oxygen deficiency, the instrument offers measurement of up to 6 different gases simultaneously. And the durable sensors provide minimal cost of ownership for many years.
Dräger X-am® 7000: Multi-functional 1 to 5 gas detector ideal for clearance measurements, area monitoring and leak detection

Dräger X-am 7000 is the professional solution for the simultaneous and continuous detection of up to five gases. It can be equipped with three electrochemical, two infrared, PID or catalytic sensors from our XS format sensor portfolio. Dräger X-am 7000 features a high degree of robustness and stability (e.g. IP 67 protection), and is suitable for use under extremely harsh operating conditions. The instrument can be equipped with an internal, high-performance pump and a datalogger.

Dräger X-am® 125 pump: From personal gas detector to clearance measurement instrument in a second

The pump for the Dräger X-am 2500, 5000 and 5600 devices enables both clearance measurements and the subsequent monitoring of confined spaces and is designed for a hose length of up to 30 m/100 ft. Operation is easy and fast: simply insert the gas detector in the pump and lock in place. The pump starts automatically. A flow test is carried out on each start-up to ensure safe operation.

Dräger X-zone® 5500 and X-zone® Com: Modern area monitoring

Dräger X-zone 5500 turns the Dräger X-am 5000, 5100 and 5600 into ideal area monitors with 360° visual and audible evacuation alarm. Up to 25 X-zone devices can be interconnected, fast and simply, to form an innovative fence line. Both wireless and wired operation are possible. An optional integrated pump allows remote monitoring in many areas of application. With the alarm contact, the device can be connected to operate external equipment such as alarm horns, lamps or traffic lights in the event of an alarm. With the GSM-Module X-zone Com, the Dräger X-zone 5500 sends measurement data, location and warning messages to wherever you are – by Email, text messaging and in the Cloud. External displays can be connected using the open Modbus-interface. In addition, attractive accessories such as the inductive charger or a function test adapter provide simplified maintenance of the system.
Dräger single-gas instruments – we have the solution for your task

Our wide range of single-gas detection instruments enable you to carry out your own safety checks for your measuring tasks. A huge selection of over 30 different Dräger sensors is available to detect a variety of gases and vapors in different concentrations.

Our range of single-gas detectors have been designed with a wide variety of functions for intuitive operation, making them reliable companions in your daily work. The large display ensures the operator has a feeling of safety at all times. It indicates whether the unit is operating properly and can be used to continuously monitor specific gas concentrations.

Our instruments are ready when you are. Fresh-air calibration and automatic calibration options in the event of a bump test failure provide an uncomplicated and fast means of ensuring the operational readiness of your monitor. You can also be sure that you are getting the very best in terms of cost effectiveness: the instrument can be used without maintenance during the lifetime, for as long as 2 years. An extensive range of accessories including the Dräger X-dock automatic test and calibration station and the Dräger Bump Test Station provide the efficient way to check of the device functions.

The Dräger Pac Family: as flexible as your requirements.
Whether for short-term shutdown projects or unlimited operating times, the different instrument versions are suitable for use in all industrial environments. The entire Dräger Pac family offers the same basic features and functions.

Tough on the job
With their compact, pocket-sized design, all Pac family versions are tailor-made for personal monitoring. It takes a rugged instrument to accompany you during missions without “ifs and buts”. The impact-resistant housing is coated with rubber for protection and resistance to corrosive chemicals. The instruments meet the requirements of IP 68. In addition, its protection against electromagnetic effects such as RFI has been optimized.
The Dräger Pac family: You decide which one is best suited to you – after all, you will be working together as a team every day.

**Dräger Pac® 3500:**
Maintenance-free detector for CO, H₂S and O₂ for two years of operation with concentration display

Well prepared for every tough working day – with the Dräger Pac 3500. The instrument is the ideal solution for personnel-related measurements in the workplace and meets the requirements of IP 68. This disposable device is maintenance-free - therefore a sensor exchange and battery exchange is not necessary. The sensor port allows gas to enter from the top and front, thus ensuring reliable measurement results even if the gas inlet is partially blocked or covered. The acoustic alarm is accompanied by bright flashing 360° LEDs and a vibrating alarm. The event logger stores up to 60 events, including date and time. Colored foils allow easy recognition of the instruments even from a distance. Using the Bump Mode to perform function tests on site ensures the proper operation of the instrument.

**Dräger Pac® 5500:**
Detector with unlimited lifetime, concentration display and event logger

Reliable CO, H₂S or O₂ measurement results with an unlimited lifetime. Its small and robust design makes the Dräger Pac 5500 the ideal companion for personal monitoring purposes. The device is protected by an impact-resistant rubber housing and is resistant to corrosive chemicals. It also meets the requirements of IP 68. Easily replaced batteries, sensors and dust and water filters significantly simplify servicing on site.

**Dräger Pac® 7000:**
Measurement and warning instrument with gas sensors for further gases/vapours and integrated data logger

The unit is flexible with a long operating lifetime. At the end of their lifetime, the sensors in Dräger Pac 7000 can simply be replaced. In addition to CO, H₂S and O₂, this instrument can also detect Cl₂, CO₂, NO₂, NH₃, PH₃, SO₂, HCN, and organic vapors. Dräger Pac 7000 is equipped with a four-digit concentration display, e.g. for measuring CO up to 2000 ppm, and offers adjustable TWA and STEL alarms as well as peak concentration readouts. To perform an automatic function test, simply insert the instrument into the Dräger Bump Test Station. Detailed documentation can be retrieved from the data logger, which stores concentrations, events and peak concentrations in an adjustable interval.
Several volatile organic compounds jeopardize health in the lower concentration range. For this reason it is recommended not only to detect in the range of the explosion limit, but also to measure in the ppm range using the PID technology. Dräger offers the innovative gas detection instrument with PID sensor, which, besides the reliability and robust design, performs a wide variety of applications.

For many applications, optimal protection is only ensured by the simultaneous monitoring of explosive hazards and toxic gases. The well-established Dräger X-am 7000 ideally combines the required measuring technologies. Depending on the application, it is possible to use a PID sensor with a catalytic or infrared-optical sensor. Three other channels are available for measuring oxygen and toxic gases. Designed for harsh ambient conditions, the instrument is the perfect solution for monitoring areas and pre-entry measurements in chemical and petrochemical industries as well as for wastewater systems.
DrägerSensors® – extremely sensitive at work

Whether electrochemical, catalytical or infrared – sensors from Dräger have always been leading-edge technology worldwide. All our sensors are produced under clean room conditions and individually tested prior to shipping. DrägerSensors have been proven worldwide under hostile ambient conditions such as in mining, on offshore drilling rigs, in refineries and in chemical plants.

DrägerSensor® XS:
More than 30 Dräger XS sensors measure more than 100 gases and vapors

Whatever is in the air – more than 80 different DrägerSensors from our continually growing sensor family are available for the detection of over 100 gases and vapors. Three different principles of measurement are used. Electrochemical sensors warn against toxic gases and oxygen deficiency or enrichment. Catalytic and infrared-optical sensors monitor explosive mixtures. Infrared technology is also used to measure carbon dioxide. The fact that all our sensors are developed and produced in-house provides an optimal interaction between instrument and sensor – the essential prerequisite for ensuring perfect user-friendliness and measuring performance.

XXS in size, XXL in performance.
Portable gas detection instruments for daily use need to be as small as possible, lightweight and unobtrusive – yet also offer maximum performance. Reason enough for us to drastically reduce the volume and weight of the sensors and to develop a miniaturized XXS generation of DrägerSensors. This innovative sensor generation is setting new standards in the field of gas detection technology worldwide. High sensitivity and improved gas selectivity, combined with excellent long-term stability and rapid response times, ensure that the operator is alerted quickly and reliably to the presence of hazardous gases, providing more safety at work.

Plug & Play
The well established XS Series smart sensors are characterized by their intelligence. Sensor-specific data such as temperature compensation, calibration values, gas type and measuring range are stored in the sensor.
Function tests –
the next mission is just around the corner

This simple philosophy best describes the necessity of function tests. Regular inspections, correct maintenance and adjustments are the only way of ensuring the proper functioning and reliability of the instruments.

Sometimes trust is not enough, tests are also essential, particularly when it comes to the safety of your colleagues. Your protection is dependent on the reliable performance of your measurement and warning instruments. Generally, you are required to regularly test that the instrument is functioning properly with a known gas concentration in order to ensure reliable and correct warning against gas hazards. Yet time-consuming tests can disrupt your work.

The Dräger Bump Test Station enables you to perform function tests using a test gas cylinder in a matter of seconds, in a way that is reliable and uncomplicated. Since the Dräger Bump Test Station does not need power for operation, it is ideal for taking out in the field. A function test is used to ensure that the sensor responds correctly and the alarms function as intended.

Dräger Pac 3500 to 7000, Dräger X-am 2500, 5000, 5600 and 7000 – all of them can be tested by means of an integrated instrument-specific adaptor.
Dräger X-dock® – Professional instrument management

The Dräger X-dock® series gives you full control of your Dräger mobile gas detection devices. Automatic bump tests and calibrations with low test gas consumption and a shorter test duration save time and money. Thanks to extensive documentation and evaluations, you keep control.

The Dräger X-dock automatic test and calibration station is the modular solution for the daily bump test as well as a workshop and fleet management solution. The X-dock can be operated independently as an individual station – a PC is not required. This gives you the benefit of a range of options at every location: the X-dock can perform quick or extended bump tests; perform calibrations; read out the data logger; and check the gas detector’s alarm elements or the sensors’ response times. These individual test steps can be configured – and the three most important objectives are always ensured:

1. Ease of use:
The simplest test: insert and close the lid – the rest takes place automatically.

2. Short test time:
An advanced pneumatics system provides extremely short test times.

3. Low gas consumption:
The short test time as well as the gas flow, which has been reduced to 300ml/min, reduces the gas consumption significantly, which also helps to reduce costs. In addition, the X-dock immediately switches off valves once a test gas is no longer required for a certain test step and the device has completed the test.

This system combines ease of use with low operating costs – but with full documentation. Everything that the X-dock performs is stored in the internal database. If the station is used as an individual station, the results can be exported as a PDF or printed on any conventional or PCL printer. However, the highlight is a possible expansion: X-dock stations can be connected to a network. The data is synchronised and stored on a server.

The X-dock Manager PC software makes data evaluation easy: Which calibrations are coming up or are even overdue? Has a device not been checked? Has an alarm been triggered in operation and when are the X-dock stations engaged? These are all questions that the X-dock Manager conveniently answers.
Dräger-Tubes® – measuring accuracy has a long-standing tradition at Dräger

As the market leader for more than seventy years, Dräger has perfected the “laboratory behind glass”. Dräger-Tubes provide a quick and inexpensive method of detecting gases, vapors and aerosols in the air, water and soil. Dräger is also constantly at the forefront of the development of new tubes.

Dräger-Tubes are characterized in particular by their ease of use and high degree of measuring accuracy – at comparably low costs. The Dräger-Tube system is the result of more than 75 years of experience and is still at the cutting edge of technology. Continuous development and adaptation to new legal requirements, such as limit values, as well as research into new detection techniques make Dräger-Tubes an indispensable measuring tool.

Whether you want to detect a spot contaminant concentration or the average value over a longer period, our short term or diffusion tubes deliver reliable results to meet your needs. The diffusion tubes are worn on your person for personal exposure monitoring and do not require the use of a pump. No pump is required either with the use of the ORSA diffusion sampler, which is used when the contaminant to be measured contains similar components. The ambient air is simply drawn into the attached tube. Detailed information is provided by laboratory analysis afterwards. The implementation of special requirements ensures that there is a suitable response to each situation. For example, simultaneous test sets are used to detect unknown gas hazards which can occur at the same time. Special measuring strategies systematically isolate potential contaminants in accidents involving dangerous goods.

Dräger measuring point and analysis service – certified safety
With this complete service we offer consulting, on-site service analytics as well as the preparation of expert reports and studies for the samples taken – always oriented to your requirements. There is no measuring task which cannot be solved.
Dräger CMS – measurement of spot concentrations made easy

The Dräger Chip Measurement System is one of the most accurate and reliable detection systems currently available for measuring spot concentrations. Dräger CMS enables current measurements in three easy steps: insert chip, start measurement and read measurement result.

To obtain reliable measurement readings, you need a system which is fast and easy to operate in everyday use. For measurement results that are highly accurate and quick, Dräger CMS combines the advantages offered by Dräger-Tubes with those offered by an optoelectronic evaluation system.

The measurement system consists of the analyzer, a combined sampling and evaluation unit and the substance-specific chips, each of which allows 10 measurements. More than 55 chips are available for the measurement of many different gases and vapors. After turning the unit on, you move the slide switch into the sequential positions to perform the measurement and then follow the instructions on the display. The results of the measurement are digitally displayed. It couldn’t be easier. The measurement results can be stored in the DataRecorder and retrieved again at any time. The data capacity holds the results of 50 measurements, together with relevant data, i.e. measured substance, concentration, date, time and site of measurement and the number.

Remote system: Making all tunnels and shafts accessible

Taking measurements in inaccessible locations is also not a problem using an extension hose and an additional pump connected to the analyzer.
Dräger VOICE® – ensuring no question remains unanswered

Dräger VOICE is a hazardous substances database, offering quick information on hazardous substances, personal protective clothing and also applicable measurement and warning instruments, 24/7/365.

Our extensive Dräger VOICE database provides you with up-to-date information on more than 1,700 hazardous substances and 11,500 synonyms.

Dräger VOICE is characterized by the clear links between hazardous substances, measurement options and protective equipment. Information on the proper handling of the recommended products provides additional safety on use.

A wide range of constantly updated information is available for every selected substance:

- Current international limit values
- Chemical/physical information (formulas, vapor pressure, melting and boiling points etc.)
- Fire protection information (LEL, UEL, flashpoint, ignition point etc.)
- Identifiers (CAS No., UN No., EC No.)

The service Dräger VOICE is available in the Internet under www.draeger.com/voice.
### SINGLE-GAS DETECTION INSTRUMENTS

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<th>Instrument</th>
<th>Description</th>
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<tr>
<td>Dräger Pac® 3500</td>
<td>Maintenance-free detector and warning instrument for CO, H₂S and O₂. The operating time can be individually set by an adjustable operating day counter between one day to two years.</td>
</tr>
<tr>
<td>Dräger Pac® 7000 5Y</td>
<td>All functions of the Dräger Pac 7000 with 5 year warranty.</td>
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<tr>
<td>Dräger Pac® 5500</td>
<td>Detector and warning instrument for CO, H₂S and O₂ and event logger with unlimited lifetime.</td>
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<tr>
<td>Dräger X-am® 5100</td>
<td>With the portable Dräger X-am® 5100 single gas detection device, you are on the safe side dealing with HF, HCl, H₂O₂ or hydrazine – thanks to proven DrägerSensor® technology.</td>
</tr>
<tr>
<td>Dräger X-zone® 5500</td>
<td>The innovative monitoring system is designed to meet individual requirements of many applications. In the field, it monitors gas hazards and offers the communication and alarm forwarding within a group of up to 25 devices.</td>
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### MULTI-GAS DETECTION INSTRUMENTS AND ACCESSORIES

<table>
<thead>
<tr>
<th>Instrument</th>
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<tr>
<td>Dräger X-am® 2500</td>
<td>The 1 to 4 gas detection device for personalised measurement of combustible gases and vapours and O₂, CO, NOₓ, SO₂ and H₂S</td>
</tr>
<tr>
<td>Dräger X-am® 5600</td>
<td>Equipped with two gas inlets, the 1 to 6 gas detection instrument is suitable for use in explosive environments and offers secure protection against combustible and toxic gases/vapors in the ambient air.</td>
</tr>
<tr>
<td>Dräger X-am® 7000</td>
<td>1 to 6 gas detector with optional internal high-performance pump. The unit can be optionally equipped with three electrochemical and two infrared, PID or catalytic sensors.</td>
</tr>
<tr>
<td>Dräger X-am® 5000</td>
<td>Handy 1 to 5 gas detector with replaceable sensors for personal monitoring of explosive hazards, O₂, CO, H₂S, CO₂, Cl₂, HCN, NH₃, NO, NO₂, PH₃, SO₂ and organic vapors.</td>
</tr>
<tr>
<td>Dräger X-am® 125 pump</td>
<td>With this pump, the Dräger X-am® 2500, 5000 and 5600 can be used for both clearance measurement and personal monitoring in confined spaces.</td>
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DRÄGER SENSORS

DrägerSensors® XXS
Top measuring performance in miniature design. Used in the new Dräger Pac Family and the Dräger X-am® 1/2/5/5600 units.

DrägerSensors® IR
Dräger infrared sensors stand out due to the fact that they are extremely accurate and long lasting. They do not have any cross sensitivities to other gases and are independent of the ambient air.

DrägerSensors® CatEx
The DrägerSensor CatEx for measuring combustible gases and vapors in the atmosphere.

DrägerSensors® XS
XS sensors are intelligent sensors with warranty periods of up to five years, which are used with the Dräger Pac III, Dräger X-am 3000 and 7000.

DrägerSensor® Smart PID
For simultaneous measurement of toxic and explosive atmospheres using catalytic and infrared sensors.

ACCESSORIES FOR FUNCTION TESTING AND CALIBRATION

Dräger X-dock®
This automatic testing and calibration station offers a reliable means of testing and calibrating for portable gas detection instruments from Dräger, for optimum equipment management.

Dräger Bump Test Station
For carrying out a function test with test gas for Dräger units. The Dräger Bump Test Station is used with a Dräger calibration gas cylinder.

Calibration Gases
Supplied in small, light-weight non-refillable cylinders, the gases allow calibration or a function test to be performed in the workshop or on-site.

Dräger CC-Vision Basic
PC software for the professional configuration and calibration of the Dräger Pac® family, as well as the Dräger X-am® series.

DETECTOR ACCESSORIES

Dräger GasVision 7
Data analysis software for data loggers within the Dräger Pac® and Dräger X-am® series of measuring devices.

Dräger Hoses and Probes
Practical accessories make detecting leaks easier and simplify clearance measurements.
DRÄGER TUBE MEASUREMENT SYSTEMS:

- **Dräger Short-Term Tubes**
  For short-term measurements more than 250 Dräger-Tubes are available to measure spot concentrations of specific gases.

- **Dräger Diffusion Tubes**
  No pump required, the diffusion process transports the contaminant molecules to be measured into the tube.

- **Dräger Sampling Tubes and Systems**
  Hazardous substances in the air are collected using a suitable medium such as activated charcoal or silica gel. The sample is then analyzed in a laboratory.

- **Dräger accuro**
  The accuro is a manual one-hand gas detection pump for short-term measurements using Dräger-Tubes.

- **Dräger X-act® 5000**
  The X-act® 5000 is an automatic pump for the measurement or sample taking of gases, vapours and aerosols with Dräger-Tubes licensed for explosive areas.

ACCESSORIES FOR MEASUREMENT WITH DRÄGER TUBES

- **Dräger TO 7000**
  Using the tube opener, Dräger tubes can be opened with a simple hand movement.

- **Hot Pack Holder for Dräger-Tubes®**
  The Hot Pack Holder allows Dräger-Tubes to be used at temperatures below the limits stated in the Instructions for Use.

- **Dräger Flow Check**
  Flow Check air flow indicator for detecting leaks in plant facilities and for localizing air flows.

DRÄGER TUBES TEST

- **Dräger Fumigation Test Set**
  This set of tubes allows containers to be checked for the presence of fumigation agents such as formaldehyde, methyl bromide, hydrogen phosphorous and sulphuryl fluoride.

- **Dräger DLE-Set**
  The Dräger Air Extraction Method is designed for the rapid analysis of water, waste water, oil sludge, soil and multi-phase samples using Dräger-Tubes.

- **Dräger Simultaneous Test Set**
  The parallel measurement of five gases saves time and money. Dräger has several different simultaneous test sets in its product range.

- **Dräger Aerotest**
  Using the Aerotest Systems, it is possible to measure the quality of breathing air delivered by low pressure areas.

- **Dräger Oil impactor**
  Using the specially developed Dräger oil impactor and the Dräger Aerotest measuring system, it is possible to test and check compressed air for oil aerosols. In addition, synthetic oils can also be determined, independent of their type and viscosity.

DRÄGER CHIP MEASUREMENT SYSTEM

- **Dräger CMS Analyzer System**
  The chip measurement system is used for measuring spot concentrations, e.g. for checking limit values in the workplace.

- **CMS Chip**
  While the analyzer carries out the analysis and measurement functions, a wide variety of chips are available as chemical sensors for measuring all kinds of gases and vapors.