



MSA Safety Solutions for the Oil, Gas and Petrochemical Industry






The Changing Face of the OGP Industry

As a global leader in safety, MSA understands that the safety considerations of the Oil, Gas & Petrochemical (OGP) Industry are continually changing as technology advances to feed an energy-hungry world. The increase in the number of sour gas development projects, H₂S hazards and deep water drilling ventures underscore the growing need for reliable respiratory and associated safety solutions.

As a response to these particular challenges and risks, MSA designs and manufactures a complete line of world-class safety products, well adapted to the oil, gas & petrochemical applications to protect industrial workers and fire-fighters dedicated to these areas of industry. The company's expertise is showcased in its wide range of globally approved products from respiratory protection, above-the-neck protection, fall protection, and flame and gas-detection permanent instruments, to a complete series of reliable, easy-to-use and robust single- and multi-gas portable instruments. All the products listed in this brochure are CE certified. For other approvals please contact your local MSA affiliate.

ATEX

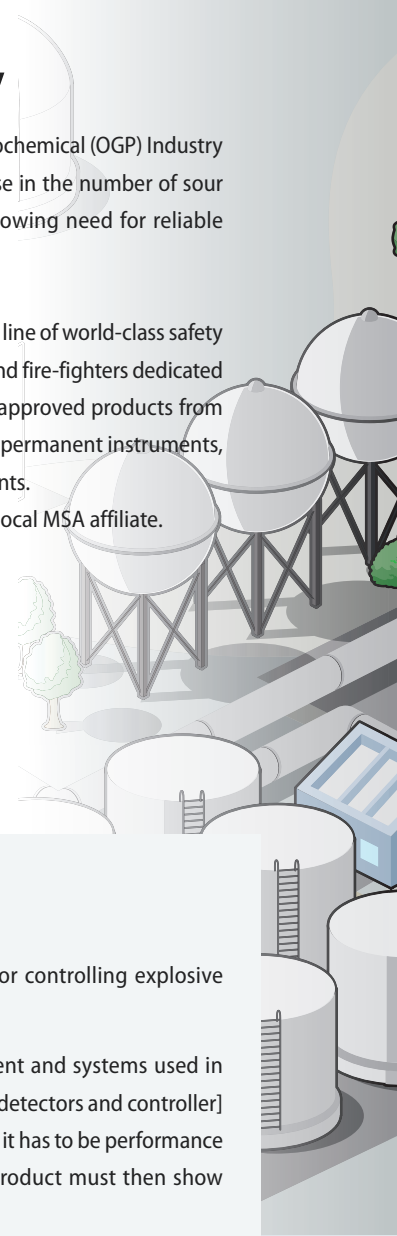
ATEX (derived from French Atmosphères Explosibles) is the name given to the framework for controlling explosive atmospheres and the standards of equipment and protective systems used in them.

According to ATEX directive 94/9/EC and the user directive 99/92/EC, all protection equipment and systems used in potentially explosive atmospheres must be marked  and "ATEX". If the gas detection system [detectors and controller] or personal monitor for flammable gases is used as a safety device to reduce the risk of explosion, it has to be performance approved in addition to receiving the "ATEX" marking. The ATEX EC type certificate for the product must then show compliance to at least EN61779.

MSA portable and permanent instruments conform to the ATEX Directive and meet applicable standards for electrical equipment used in hazardous areas. Special test procedures ensure that MSA equipment cannot cause an explosion under any conditions.

According to the ATEX Guideline [94/9/EC Article 1, paragraph 4], non-electronic personal protective equipment is excluded from the application range of the ATEX Guideline [in compliance with PPE Guideline 89/686/EEC Article 1, paragraphs 2 and 3].

Although there are no reports of accidents concerning the use of PPE, MSA, as a company that takes its responsibilities to its customers seriously, has undertaken to test and certify its PPE in accordance with the ATEX Guideline. MSA is determined to take every measure to offer its customers the highest possible level of preventative safety. Such measures will continue to ensure that the likelihood of suffering serious accident is kept to an absolute minimum.

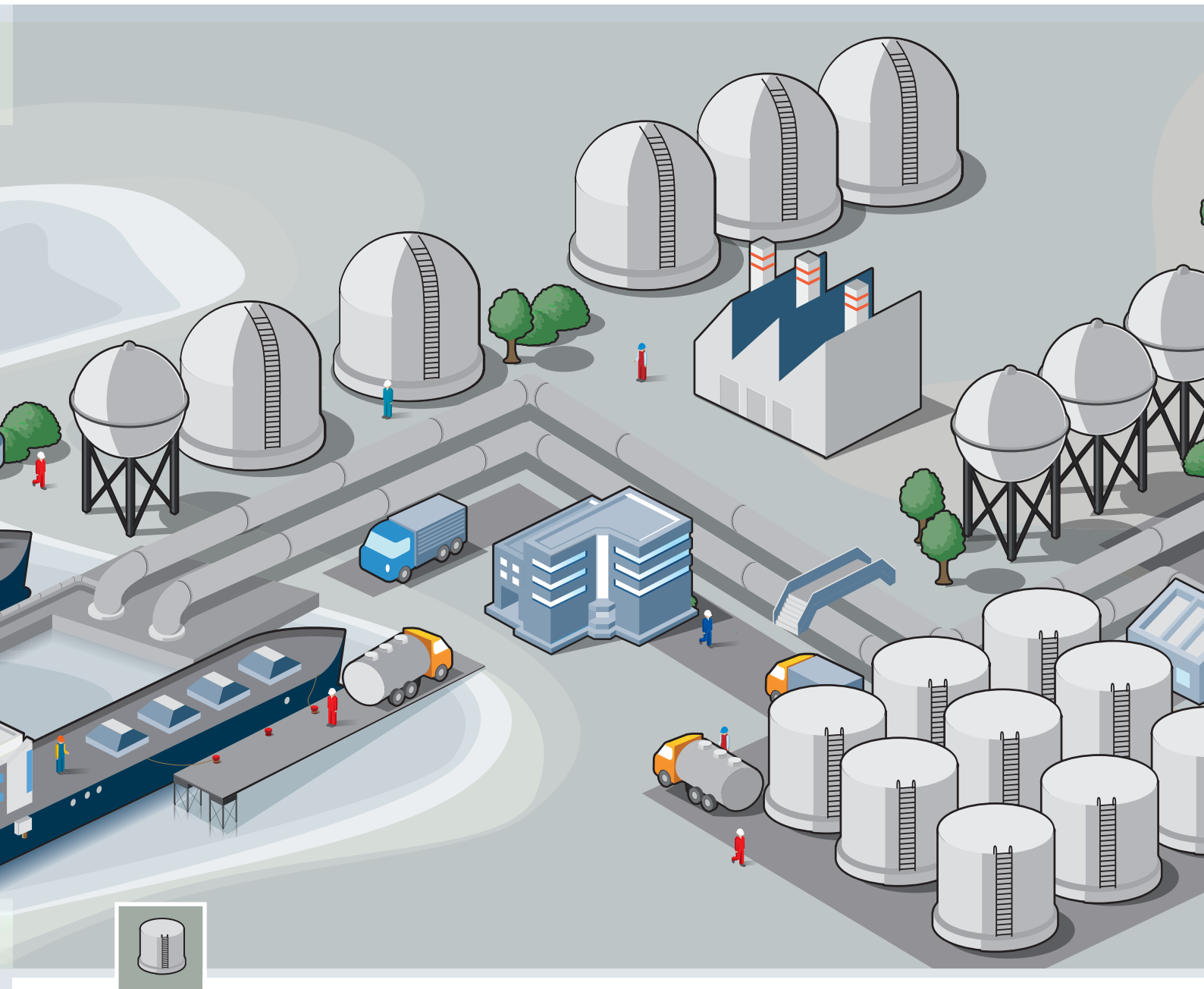


Drilling and Exploration



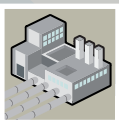
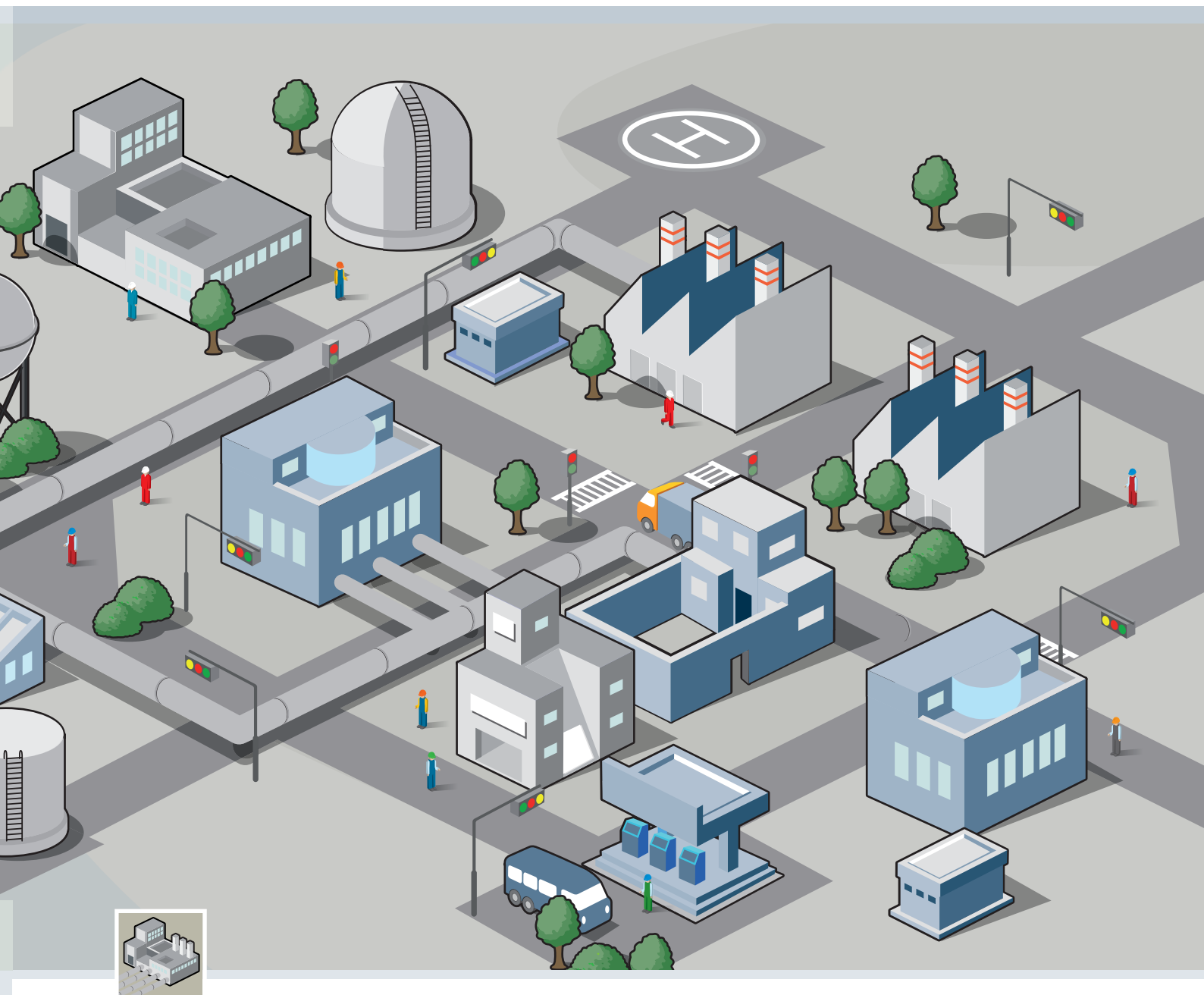
Applications	Risks	MSA Solutions
■ Geophysical, seismographic and geological research operations	<i>Extreme weather conditions: hot, cold temperatures, sand, salt water</i>	➤ HEFH* protection, protective clothing, respirators
■ Appraisal and production drilling	<i>Hazards related to drilling through rocks, noise and chemicals</i>	➤ HEFH protection, respirators
■ Site preparation	<i>Falling objects and shocks, falls and slips</i>	➤ HEFH protection, fall protection
■ Wire line operation	<i>Receiving burns, respiratory hazards due to a fire</i>	➤ Protective clothing, HEFH protection, respirators
■ Well logging	<i>Exposure to radiation</i>	➤ Protective clothing, eye protection, portable gas detectors
■ Cementing	<i>Exposure to potential ignition and respiratory hazards</i>	➤ Respirators, portable gas detectors
■ Pumping	<i>Exposure to chemical hazards, high noise levels, slips, trips and falls, combustible toxic gases</i>	➤ Respirators, protective clothing, hearing protection, fall protection, permanent gas detection systems
■ Rigging up and down	<i>Exposure to potential ignition and respiratory hazards</i>	➤ Respirators, protective clothing
■ Restoration of the drilling site upon work completion	<i>Falling objects and shocks, falls and slips</i>	➤ HEFH protection, fall protection

Refining and Distribution



Applications	Risks	MSA Solutions
■ Purification of crude oil and natural gas	<i>Toxic gases and oxygen deficiency</i>	▶ Respirators, permanent gas detection systems
■ Converting the crude into petroleum and gas products	<i>Chemical and toxic hazards, explosions, fire risk</i>	▶ Protective clothing, respirators, permanent gas detection systems
■ Transportation via pipelines or ships	<i>Explosions, fire risks</i>	▶ Respirators, portable gas detectors
■ Fuel loading	<i>Explosions (gas leaks) fire hazards</i>	▶ Portable gas detectors, respirators
■ Work at pipelines, oil and gas terminals	<i>Combustible gas leaks</i>	▶ Respirators, portable gas detectors
■ Storing of oil and natural gases	<i>Leakages and fire risks</i>	▶ Portable gas detectors and permanent gas detection systems
■ Maintenance jobs	<i>Eye injuries caused by mechanical impact, liquid splash or UV radiation, chemical and toxic hazards</i>	▶ Eye protection, respirators, fall protection, portable gas detectors
■ Tank cleaning	<i>Toxic gases and oxygen deficiency</i>	▶ Protective clothing, portable gas detectors, respirators
■ Work in confined spaces	<i>Oxygen deficiency, chemical and toxic hazards</i>	▶ Respirators, portable gas detectors
■ Escape situations	<i>Explosions</i>	▶ Respirators

Petrochemicals



Applications	Risks	MSA Solutions
■ Petroleum and natural gas processing	<i>Flammable gases</i>	▶ Permanent gas detection systems, portable gas detectors
■ Aromatic compounds and lubricants production	<i>Chemical hazards</i>	▶ Protective clothing, respirators
■ Dipping/coating operations	<i>Chemical hazards, eye injuries</i>	▶ Respirators, eye protection
■ Sampling of oil	<i>Toxic and chemical hazards</i>	▶ Respirators
■ Maintenance, servicing and minor repairs	<i>Hazards from noise and smoke, toxic substances, oxygen deficiency</i>	▶ Respirators, hearing protection, portable gas detectors, fall protection
■ Chemical waste management	<i>Harmful fumes</i>	▶ Protective clothing, respirators, portable gas detectors
■ Escape situations	<i>Oxygen deficiency, explosions, fire risks</i>	▶ Respirators

Respiratory Devices



Maximum breathing protection is necessary when working in confined spaces and other toxic and hazardous conditions for long durations. MSA offers a complete line of self-contained, supplied air breathing apparatus, airline equipment, PAPR systems and accessories to meet the highest safety standards at production plants, and onshore and offshore platforms.



BD mini

Compressed air breathing apparatus for short-duration work in confined spaces

- Small and lightweight.
- With 2 l/300 bar composite cylinder, weight less than 5 kg.
- Various carrying modes.
- Especially suited for use in confined spaces.
- Innovative state-of-the-art 1st stage pressure reducer with new, modern design.
- For use with normal or positive pressure.



ASV

Automatic Switch Valve is an optional accessory which allows connecting a breathing apparatus (e.g. BD mini) to a compressed airline

- Continuous supply of air in case the external air source [e.g. factory airline] fails.
- Switches automatically to the air source with higher pressure.
- Compressed air cylinder stays open.



AirGo pro

When you are looking for a heavy duty carrier for a wide range of firefighting, first response or rescue operations, the AirGo pro is ready for deployment

- SingleLine technology delivers medium and high pressure supply using just one hose.
- SingleLine pneumatic system integrates warning signal, second connection and gauge in an easily accessible manifold at the chest.
- AirGo backplate is ergonomically designed to keep weight close to the body's centre of gravity.
- Hip belt for balanced weight distribution.
- The optional alpha Personal Network offers extensive electronic and telemetric monitoring and communication capabilities.



MASS trolley system

Breathable air supply system which is not restricted to a specific location. It is equipped with a pressure reducer with high and medium pressure gauges, safety valve, warning signal, medium pressure coupling and a Y-piece

- Especially designed for long-duration work.
- Capable of holding up to two 50L cylinders.
- 200 or 300 bar options.
- Up to a maximum of 4 users.
- Hose wheel length 40m (max. length 100m).



OptimAir 3000 EX

OptimAir 3000 EX is the ATEX approved powered air purifying respirator to protect against hazardous particles, gases and vapours. This stunningly compact, low profile device is designed to be used in areas exposed to the danger of gas combustion

- Exclusive stackable filter system.
- One-button easy-to-use blower unit.
- One-click battery change.
- Intuitive battery and charger design (EX).
- Automatic head top detection.
- Automatic calibration procedure.
- Wide range of headpieces.

Respiratory Devices



Exposure to harmful fumes, dust and work for long periods of time in unhealthy, often toxic environment requires the highest standard of respiratory equipment. Our versatile range of air purifying respirators, including full face masks, half masks and respiratory filters combines effective protection with unparalleled comfort and ease of use.



Advantage 3000

High-quality full face mask series available in different versions and sizes

- Soft, durable silicone face seal.
- New patented, pre-adjustable head harness for consistent fit.
- Wide, optically corrected lens to avoid distortions in the field of vision.
- Deep chin cup for better stability and more comfort.
- Easy fitting and maintenance.
- Choice of single EN 148 standard thread or twin Advantage filter ports.
- Available in 3 sizes (S,M,L).



Advantage 400

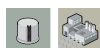
User-friendly, high-quality and extended life time half mask respirator. Various models available with a full range of adjustments and accessories

- Single loop head harness and one piece silicone nose cup for exceptional comfort.
- Drop-down and lock-down option.
- Multi-ethnic face seal for precise fit and maximum safety.
- Adjustable head cradle and 3 face piece sizes.
- Choice of single thread and bayonet twin filter connections.
- Only 3 major components for cost-effectiveness.
- Has undergone extensive durability testing to help ensure a long life in many demanding work environments and applications.

Escape Devices



Efficient emergency escape from hazardous areas and confined spaces require speed and precision. MSA solutions combine intuitive product design and close integration of work and escape products so that personnel and crews are able to don equipment without thinking or hesitation - and at maximum speed.



miniSCAPE

Single use escape device with 5 minutes service time that uses the latest filtering media TabTec technology

- Fast protection against hazardous gases (types A, B, E and K) and vapours.
- Compact design, high performance.
- Quick and easy donning.
- Universal fit (mouthpiece and nose clip).
- Easy carrying in the pocket or on the belt.
- Approval: ABEK-5, according to DIN 58647-T7.
- Can be worn by administrative personnel or workers.



S-Cap

Escape hood with 15 minutes service time designed to protect persons endangered by smoke and gases generated by fires

- Simple and quick handling
- Safe protection of breathing, eyes and head
- Large field of vision
- High performance multipurpose filter (CO, gases from fire & particles P2)
- Low breathing resistance
- Also suitable for persons wearing spectacles
- Improved performance with the addition of a light cotton neck seal
- Four proven packaging options available

Portable Instruments



Oxygen deficiency or the presence of combustible gases is typical in gas storage areas and during oil drilling or gas treatment operations. MSA offers a full line of portable gas detection instruments providing early warning where there is a risk of explosion or exposure to toxic gas.



ALTAIR® 5X

Multigas instrument for detection of up to 6 gases

- Powered by MSA XCell® sensor family including brand new NH₃, Cl₂, SO₂ for expanded monitoring applications. Industry-leading accuracy, repeatability, and response times.
- Sensor response and clear times in under 15 seconds. Bump test in under 15. Span calibration time of 60 seconds for the most common configurations with XCell LEL, O₂, CO, H₂S sensors.
- 4-year expected sensor life on LEL, O₂, CO, H₂S, SO₂, IR and 3-year expected sensor life on NH₃, Cl₂. Spend less money and time maintaining instruments, more time using them.
- Industry-exclusive end-of-sensor-life-warning. Use this early warning feature to save money by reducing instrument downtime and sensor inventory.
- Interchangeable sensor slots, multilingual, MSA Logo Express™.
- 3-year back-to-back instrument warranty with LEL, O₂, CO, H₂S, SO₂ and IR sensors; 2-year warranty on NH₃ and Cl₂; minimum 12-month warranty on other sensors.



ALTAIR® 4X

4 gas instrument

- Powered by fast MSA XCell® sensor family for LEL, O₂, CO, H₂S. Sensor response and clear times under 15 seconds.
- MotionAlert™ feature - "man-down" alarm - You and your fellow workers now have additional ways to call for help and send out a warning.
- InstantAlert™ feature - manual alarm - Ideal for confined space applications when there is no direct line of sight.
- Extended temperature range: -40°C to +60°C. Greater signal stability and repeatability under changing or extreme environmental conditions.
- Withstand 6 m drop, IP 67 rating. Rely on the ALTAIR® 4X detector performance without worrying about breaking a "delicate" instrument.
- Lasting durability proven by full 3-year warranty which covers the entire detector, including the sensors and battery.



SIRIUS

4 gas instrument with PID sensor

- Simultaneous monitoring of Volatile Organic Compounds with low vapour pressures and measuring combustible, toxic and oxygen deficient atmospheres within one unit.
- Reliable PID performance with proprietary sensor design reducing maintenance time and cost.
- Loud, attention grabbing alarm system. The Sirius multigas detector provides outstanding alarms to clearly warn users of a hazardous situation.
- Interchangeable Lithium-Ion and Alkaline battery packs that keep instruments running 24 hours-a-day, 7 days-a-week.



ALTAIR®/ALTAIR® PRO

Single gas instruments for oxygen and toxics

- Single gas instruments Maintenance-Free with at least 2 years service life or with replaceable sensor and CR2 battery ensuring long instrument life as PRO version.
- IP67 rated and designed to pass 3m drop test. Will withstand the roughest treatment in the harshest environments.
- Bump check confirmation stays displayed for 24 Hrs. The user knows the instrument has been correctly tested.
- Event logging records including alarm events. Allows the user greater assessment of previous alarm conditions.
- High performance triple audio, visual and vibrating alarm. Provides excellent indication of alarm status.
- Small and lightweight. Can be comfortably worn in various different positions.



ALTAIR® QuickCheck

Bump station for ALTAIR® / ALTAIR® PRO

- Convenient, automated test system - simplifies recommended bump and function test even without pressing a button.
- Simple and clear indication of test results - by LEDs on the test stand and by 24h bump checkmark on the instrument.
- Testing time less than 30s. Minimum usage of test gas.
- All three alarms and sensors response checked during the complete test.
- Available either with automatic gas delivery system or manual regulator.



GALAXY

Calibration & Test System for Portable Single Gas and Multigas Detectors

- The multifunctional GALAXY provides simple but intelligent automatic testing and calibration of MSA portable gas detectors.
- Calibration without the touch of a single button which makes the station easy to use, minimal training required.
- Instrument can be left overnight to be calibrated, charged and ready for use the next day.
- Standalone system, expendable up to 10 modules where no computer is required, permits space-saving and minimizes costs.
- Optional battery pack for remote use where GALAXY can carry out up to 100 calibrations.
- Protective system door functions as a dust cover, preventing dust and debris from entering the test stand.

Permanent Instruments



MSA offers a full line of permanent gas detection instruments to closely monitor combustible gases, toxic gases and oxygen deficiency. MSA is one of the few suppliers of permanent gas detection technology that develops and manufactures a complete range of sensors, controllers and monitors, and integrates them into individually configured system solutions to meet the customers' safety requirements.



PrimaX

Catalytic and electrochemical sensor gas transmitter

- Large display accompanied by three status LEDs providing information at a glance; housed in innovative IP 66 enclosure.
- Wide range of up to 22 detectable gases (combustible gases, toxic gases, oxygen) with field selectable ranges for toxic gases and oxygen.
- 4-20 mA analogue output signal with optional HART and relay module
- Easy installation on site with integral mounting plate and double cable entries (3/4" NPT or M25).
- Built-in keypad for easy menu navigation including the option of one-man set up and calibration to save time.
- Plug-and-play durable sensor simplifies maintenance.



PrimaX IR

Infrared gas transmitter

- Wide range of detectable gases in 0-100% LEL range with 4-20 mA analog output signal.
- Patented dual source design ensures reliable and uninterrupted performance.
- 316 stainless steel, IP67-rated, rugged housing protects unit from environmental extremes.
- Heated optics prevent build-up of condensation.
- Wide operating temperature range (-40°C to +80°C)
- User-friendly set-up, calibration diagnostics, and maintenance via HART digital communication.
- Easy calibration using a calibration cap saves maintenance time.
- Factory-calibrated for fast commissioning.





47 K Series

Remote combustible gas transmitter

- Range of sensors for detection up to 100%LEL concentrations of various combustible gases.
- Standard, Poison Resistant and High Temperature versions to meet the requirements of many applications.
- New housings options: Flameproof [Ex d], Increased Safety [Ex e] also with push button for one-man calibration.
- Variety of accessories including flow-through adaptors, and duct mount flanges allow trouble-free detection in difficult places with minimum maintenance.
- Easy installation on site with universal mounting plate and screw or spring terminals.



ULTIMA X Series

Gas monitors

- State-of-the-art gas monitors for continuous detection and monitoring of oxygen concentrations and a wide range of combustible gases and toxics, also available with HART.
- Sensor change facilitated by MSA's patented sensor design, allows for quick and easy sensor changes in the field, even in hazardous areas.
- Interchangeable, smart pre-calibrated sensor modules are ready for immediate installation.
- Versatile liquid crystal display and optional "quick check" LEDs for status overview.
- Unified, single hardware design with three sensing options: catalytic, electrochemical and infrared absorption.
- The ULTIMA X3 version is also capable of digital communication. Up to 31 ULTIMA X3 transmitters can be connected to the same line via ModBUS RTU, 93 sensors in all can share a single signal line. The wiring effort is minimal.



SUPREMA^{Touch}

Control unit with modular design

- Provides signal processing for up to 256 inputs, 512 relay outputs and 256 analog outputs. Compatible with many different detectors, SUPREMA guarantees that the user will be warned if any gas hazards appear.
- Compact modular design in conjunction with the latest bus technology, SUPREMA can be compactly and inexpensively tailored to every application.
- Decentralized configuration minimizes wiring by using satellite technology and easy checkbox selection allows the linking of measurement input with appropriate output. No programming skills required.
- The new enhancements offer the user and the installer improved features such as:
 - Upgraded CPU with increased system speed and performance
 - Large colour touch screen with innovative graphical user interface (GUI)
 - Compatibility with Advance Electronic fire panels connecting addressable fire detectors
 - USB interface for easy configuration/parameterization using SUPREMA Manager software
 - Expandable language options



Permanent Instruments



The MSA permanent gas detection range makes use of technologies like open path, gas cloud imaging, and ultrasonic gas leak detection products which constantly increase the effectiveness of our solutions. Conventional gas detection is complemented with the innovative sensing equivalents of sight, hearing and smell to detect hazardous conditions.



FlameGard 5 Series

Flame detectors

- Utilizes advanced multi-spectral IR or dual UV/IR sensors - providing the widest field of view.
- Continuous optical path monitoring - Checks optical path integrity and the detector's electronic circuitry.
- Event logging - Stores maintenance, fault, warning and alarm records.
- HART or Modbus communication options - Provides complete status and control capability in the control room.
- Other version available: for hydrogen fires and with special explosion-proof housing.



FlameGard 5 Test Lamp

The test lamp provides a high-energy, broad-band radiation source that emits sufficient energy in both the ultraviolet and infrared spectra to activate UV and/or IR flame detectors.

- Rechargeable/replaceable battery provides an extended product life.
- Easy grip handle integrated into housing ensures ease of use.
- Battery charger status indicator simplifies maintenance.
- Explosion-proof cast aluminum housing.
- Microcontroller monitors all operations.



ULTIMA MOS-5 and ULTIMA MOS-5E

H₂S gas transmitters

- Robust detection of hydrogen sulfide by highly selective sensor in harsh environments with operating range – 40 to 75°C and humidity range 0 to 100% RH.
- Ease of use provided by single point and one-man calibration. No adjustments, tools, or de-classification required.
- Substantial cost savings with HART reduce hard-wiring costs.
- Enhanced tracking of calibrations, warning and alarm events.



ULTIMA OPIR-5

Open path infrared detector

- Continuous monitoring of methane and propane gas concentrations. Dual detection range for both small (ppm-meter) and large (LEL-meter) gas leaks.
- Single detection beam improves accuracy and reduces drift.
- Continuous self-checking ensures fail-safe.
- Multiple communication outputs (HART, Modbus, AMS Support) provides complete status and control capability in the control room.
- Automatic gain control system compensates for dirty optics, rain and fog.



UltraSonic IS-5 and UltraSonic EX-5

Ultrasonic leakage detectors

- Detect leaks from high-pressure systems by responding to the airborne ultrasound generated by gas emissions in both open and well ventilated areas.
- Immune to most false signals and can be configured to filter short timescale ultrasonic noise that can produce nuisance alarms. Frequencies below 25 kHz are removed by a high pass filter.
- Equipped with an advanced stainless steel microphone for instant detection of high-pressure gas leaks with coverage of up to 20 meters in radius.
- Full AISI 316L stainless steel safe housing enclosure, corrosion resistant in harsh environments.
- One-person sound check and calibration with traceable portable test unit ensure complete reliability and trouble-free maintenance.

Head, Eye, Face, Hearing Protection



Head Protection

Falling objects, shocks, molten metal and chemical liquids splashes or working at dangerous heights are the main risks that you will encounter in OGP environments. To optimize your safety, MSA offers sophisticated solutions for head protection including industrial helmets with visors, ear-muffs and other accessories.



V-Gard Helmets

Safety helmets featuring a unique product design

- Moulded from HDPE or ABS.
- 2 options of textile 4-point suspensions : Fas-Trac and Staz-On.
- For applications -50°C to $+90^{\circ}\text{C}$.
- Provides lateral crushing protection.
- Available in vented or non vented configurations.
- Wide colour range (9 colours).
- Rain gutter available on V-Gard 500 to protect against liquids.
- Ideal positioning of the harness through height and length adjustment, perfect for use with full-face respiratory masks.



V-Gard Accessory System

A range of compatible accessories

- Visors and chinguards.
- Winter liners.
- Retro-reflective stickers.
- Chinstraps.
- Lamp attachments.
- Ear muffs.
- ATEX lamps.



Helmet customization

A professional pad printing service for all V-Gard helmets

- Top-quality printing, durable and weather-proof.
- Up to 4 logos per helmet (front, rear, left, right).
- High visibility of printed logo.
- Large printable area up to 6 x 9 cm per position/logo.
- All possible colours can be used for printings.
- Easy to use MSA Logo Express process.



Eye Protection

Risks of liquid, acid splashes or airborne particles are ever-present while working on reactor or tank cleaning or while handling acids. MSA has designed stylish and comfortable safety spectacles and goggles to ensure wearer acceptance and protect against volatile substances.



Alternator

Spectacles

- Stylish two colour frame.
- Exchangeable lenses ensure high level of safety and flexibility.
- Vented temples with good lateral protection offer high level of protection and wearer comfort.
- Vented and non-vented dust inserts (available as accessory) reduce intrusion of dust and upgrade impact protection.
- Sightgard anti-fog coating with good anti-scratch properties.
- Option: OptiRock 4x durable high performance anti-fog coating with outstanding anti-scratch properties according to EN 166.



ChemPro

Goggles

- Wide protection from front to side in a modern design.
- Easily changeable lenses available as spare parts.
- Comfortable headband with length adjustment adapts to individual head size for a perfect fit and allows universal use.
- "Soft touch" body that adapts perfectly to the face.
- The indirect ventilation allows air movement whilst offering reliable protection.
- Resistance to liquid droplets, large dust particles, high impact at 120m/s, extremes of temperatures and protection against molten metal splash.
- Sightgard anti-fog coating with good anti-scratch properties.
- Option: OptiRock 4x durable high performance anti-fog coating with outstanding anti-scratch properties according to EN 166.
- Fits over most prescription glasses.
- Option : brackets for goggles attachment on V-Gard 500 helmets.



Head, Eye, Face, Hearing Protection

Hearing Protection

Whether working in noisy environments, for just a few minutes, or for several hours - hearing protection is always needed. MSA has created a wide range of comfortable hearing protectors, designed to prevent you from feeling isolated, thereby encouraging you to use them and so protecting your hearing for the rest of your life.



left/RIGHT passive ear muffs

Unique muffs designed to account for the anatomical individuality of the user

- Individual ear cups, left and right.
- Helmet mounted and headband muff models.
- 3 distinct wearing positions of helmet mounted models.
- Wide range of accessories.



left/RIGHT electronic ear muffs

Muffs enabling protection and listening at the same time

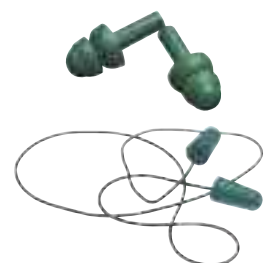
- All the advantages mentioned for passive ear muffs.
- Easy to use - operated by three distinct push buttons.
- Battery-saving function.
- Low battery warning function.
- AM/FM or FM radio knob versions.
- Professional line: CutOff Pro, Dual Pro, FM Radio Pro.



RIGHT ear plugs

A complete range of ear plugs for all requirements

- Soft and comfortable due to low pressure on the ear canal.
- Long recovery time.
- Hexagonal cavity for easy grip.
- Flat attenuation.
- Corded & non-corded, 2 sizes.



Protective Clothing



Combating incidents with unknown substance hazards requires the use of a totally encapsulating suit. To maximize freedom of movement for operational personnel in cramped quarters, an external supplied air unit or SCBA is often the preferred solution.



Vautex Elite ET

Chemical protective suit for emergency teams, chemicals, solid, liquid and gaseous or vaporous hazards

- Material combination of elastomer coated fabric and a multilayer film laminate with high chemical resistance, good mechanical stability, increased resistance against flame impingement.
- Large integrated lens reduces the weight of the head section.
- Push buttons on the cover of the zipper allow easy and effective decontamination.
- Integrated transponder provides fast electronic identification of the equipment.
- Compressed air breathing apparatus is worn inside the suit.
- Removable back padding.
- Replaceable gloves and safety boots for high safety and flexibility.
- Optional suspender for greater wearing comfort, relief from the weight of the suit.
- Convenient integrated radio pocket, optional.

Fall Protection



With major manufacturing plants located across the globe, MSA can support your needs wherever you are in the world. Our extensive product range includes the innovative ArcSafe and the MSA Workman line of products. Please contact MSA for further information on our full range of textile, mechanical and rescue products.



MSA Workman Premier

- Comfortable vest-style harness with back D-ring and an additional attachment point at the front, with extra adjusters on the torso for even greater ease of adjustment.
- Lightweight components and durable webbing.
- Colour contrasting thigh and torso straps simplify donning.



MSA Workman Utility

- Multi-purpose fall protection harness, that offers front and rear fall arrest attachment points, positioning belt and back-pad, and also incorporates shoulder loops for rescue.



ArcSafe Harness

- The ArcSafe harness is SEI-certified to the requirements of the ASTM F887-05 standard for arc flash protection up to 40 cal/cm².
- Nylon web loop attachment points.
- Integral load indicator.
- Y-shaped back web loop locator pad provides comfort by moving the webbing away from the wearer's neck.
- Colour-coded leg and torso straps to simplify donning.
- Downward-adjusting torso straps to ease adjustment.
- Qwik-Fit leg straps.
- Available in vest and cross-chest style.



MSA Workman Energy-Absorbing Lanyards

- MSA Workman energy-absorbing lanyards are lightweight kernmantle ropes with a low-profile body.
- The energy absorber includes a clear, durable protective cover over the labels to increase service life and allow for easy inspection.
- Available in 1.5 or 2m lengths
- Tear-tape design to keep fall arrest forces below 6 kN
- Choice of single or twin-leg configurations
- Variety of connectors available



ArcSafe Lanyards

- SEI-certified to the requirements of ASTM F887 standard for electrical arc flash protection.
- A tear-tape design to keep fall arrest forces below 4 kN.
- Made from 25 mm nylon webbing.
- Includes sewn loop on energy absorber end, and 19 mm snaphook on lanyard leg.
- Adjustable in length (1.8 m down to 1.2 m).
- Incorporates a protective cover over the energy absorber.



MSA Workman Anchorage Sling

- 25 mm webbing
- 1.5 m or 2 m lengths available
- Minimum breaking strength of 22.24 kN.



Service

Professional, Reliable & Responsive

■ PPE & Portable Gas Detectors

Maintenance

MSA offers maintenance services for personal protection equipment and portable gas detectors according to established regulations and guidelines.

Repair & Service

Depending on the nature of the contract, repair services can be carried out on your premises at short notice.

Training

You can avail of individually tailored courses on the proper care, use and maintenance of our products, either at your own premises or at one of MSA's many local branch offices.



■ Permanent Gas Detection Systems

Project Planning & Development

MSA Service starts from the beginning of the planning stage through to the complete project management of facilities.

Installation & Commissioning

MSA also provides support throughout the installation phase. This includes areas such as the calibration of sensors, the programming of logic systems or the certification of the total facility.

Maintenance

After the successful commissioning of the facility, MSA offers a comprehensive range of maintenance services if these are required.

System Modification

Complete system overhauls or modifications are carried out using the original engineering design data, material specifications, manufacturing expertise and approved parts.



Your direct contact

MSA Europe
Thiemannstrasse 1
12059 Berlin
Germany
Phone +49 (0)30 68 86-0
Fax +49 (0)30 68 86-1558
E-mail contact@msa-europe.com

MSA International
1000 Cranberry Woods Drive
Cranberry Township, PA 16066
USA
Phone +1 412 967 33 54
Fax +1 412 967 34 51
E-mail msa.international@msanet.com

www.MSAafety.com