

# Confined Space Entry

Solutions for Wastewater Workers



*Because every life has a **purpose** ...*



## MSA Water & Wastewater Solutions

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*In the water and wastewater industry, operators are often required to enter confined spaces in order to carry out cleaning, servicing, maintenance or inspections. There is a variety of confined spaces in the water industry, such as manholes, sewers, tanks, tunnels, lift/pump stations, pipelines, wells, sludge digesters, and trenches.*

*A confined space can be defined as an area that:*

- Is large enough for an employee to bodily enter and perform work.*
- Has limited or restricted means of entry or exit.*
- Is not designed for continuous human occupancy.*

However, in these areas, the risk of anoxia, asphyxiation, poisoning or explosion is real. In addition, there are other risks, such as drop height or electric shock.

Every year people die after entering these environments by underestimating the risks, and others also put themselves at risk trying to rescue them.

In Europe, hundreds and thousands of workers from private companies and public authorities are involved in the operation, servicing, maintenance and development of water and sanitation facilities, through which millions of cubic metres of water pass every day.

In Germany, specific regulations apply to wastewater workers who operate in confined spaces: the BGR 126, a safety regulation issued by the German Statutory Accident Insurance that provides guidelines for works in confined spaces of wastewater systems.

**CER**



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### MSA Service

In addition to the extensive range of top quality personal protective equipment and gas detection systems, MSA provides a high level of customised service solutions.

MSA's comprehensive and versatile range of services ensures that your equipment and systems will always be reliable, economical and ready for use. MSA is always at your service to provide you with the support you need, when you need it.

**For CER, info about CSE training instead of Service text**

### Further Information

Please also visit us at [MSAsafety.com](https://www.msasafety.com) to get additional product information, pictures, videos, documents for download and further tools, such as simulators and configurators.

Make sure to subscribe to our MSA eNews and connect with us on Facebook for the latest news on MSA and subscribe to our YouTube channel for information about new videos.



# Confined Space Entry Solutions

## Single Anchorage Points

### MSA Workman Tripod

Weighing just 19.5 kg with a maximum extension length of 245 cm, this aluminium tripod is an ideal anchorage point for work assignments with limited staff.



### MSA Workman Winch

The winch with built-in energy absorber offers safe entry when no aids such as rungs or conductors are available. The integrated bracket can easily be mounted on the tripod. A double braking system provides secondary protection. In addition, loads of up to 225 kg can be transported.

### MSA Workman Rescuer

The appropriate fall arrester with integrated rescue lift and bracket makes mounting on the tripod a simple and very flexible security system. With a 15 m long steel cable, this fall arrester can also be used for work assignments independent of the tripod, on steel beams or fixed single anchorage points.



## Harness

With its lightweight components and robust fabric, the MSA Workman Premier harness offers comfortable protection. The integrated load indicator facilitates rapid visual inspection by the user prior to use. The rescue loops allow rescue operations through narrow manholes. Certified according to EN 361, EN 1497.



## Spreader Bar

When connected to the shoulder loops of the MSA Workman Premier harness, the MSA Workman spreader bar can be used for rescuing people from confined spaces. The attached web loops can be used to secure an incapacitated victim's arms when lifting or lowering. Certified according to EN 354.



## Self-Retracting Lanyards

### Latchways Standard SRL

The completely field serviceable device with frictionless Constant Force braking system and 100% full contact locking mechanism is available in a wide range of lengths with both webbing and cable lifelines. The Latchways SRL range is suitable for use in explosive atmospheres. Certified according to EN 360.



### MSA Workman SRL

The lightweight and durable MSA Workman SRL range is equipped with integral, ergonomic carrying handle for easier transport and installation. A built-in RFID chip allows for simple product tracking and inspection. The swivel snap-hook avoids twisting of the cable during use. Certified according to EN 360.



## Lanyard

The MSA Workman lanyard protects the supervisory leader at the manhole. Using the length-adjustable lanyard with integrated shock absorber, it is possible to rapidly secure persons in direct proximity to the manhole. Certified according to EN 354, EN 355.



Check our website or contact your local channel partner to learn more about our complete range of fall protection solutions. A choice of MSA textile products and hard goods, including SRL, confined space equipment and rescue products is complemented by the Latchways state-of-the-art engineered Fall Protection Systems (both horizontal and vertical), field-serviceable self-retracting devices, personal rescue devices, and passive fall protection systems for people working at heights.



## Lightweight Industry Helmet for Confined Spaces

The V-Gard 520 is a lightweight and comfortable industry helmet with a short visor and rain gutter. The innovative suspension FasTrac III with ratchet handwheel, interchangeable premium sweatband and resilient neck strap enables stable helmet wear, even if the wearer leans over. A variety of certified options is available, such as chinstraps, lamp bracket, reflective stickers, high viz shell colors, logo printing, visors, hearing protection, winter liners, and cooling pads. Depending on specific configuration, V-Gard 520 is certified according to EN 397, -30°C, LD, 440 VAC, EN 50365 (1000 V), ATEX.

Other helmet models with ventilation system and many other options are available. Please ask for the complete V-Gard System brochure 06-104.2.

## Hearing Protection

left/RIGHT ear muffs have dedicated right and left ear cups that are designed to fit ears of all shapes and sizes which offers increased comfort and protection. The headband's breakthrough design simulates the head's curves to provide a comfortable and stable fit, balancing muffs with ear cup angle.

The precise fit provides maximum loud noise protection using a minimal cup size. The headband adjusts up and down to provide custom fit for different head sizes. left/RIGHT ear muffs are available in low, medium, and high attenuation, three sizes, and different colors. The yellow version is ideal for working in low light environments.

A complete range of ear plugs with high noise attenuation and excellent comfort complete the range.



## Safety Goggles for an Ideal Helmet Combination

The multipurpose Altimeter goggles can be worn with headband or temples. Soft frame for complete coverage and outstanding shock absorption. The Sightgard coating and 18 indirect ventilation holes provide perfect, fog-free vision. Altimeter can be taken from the head without taking off the helmet using the comfortable, adjustable head strap with snap button on the middle band. The headband may be attached to the gutter of the V-Gard 520 helmet using retaining clips.

Many other goggles, spectacles or visors are available. Please ask for the eyewear or visors overview brochure.



### Did you know ... ?

Accident data indicates that **victims of confined space accidents have a wide variety of occupations**. While most of them are employees and contractors, victims also include engineering and technical staff, supervisors and managers, and emergency response personnel. Sadly, the human tragedy and high fatality rate for incidents involving confined spaces is in part a price that is often paid twice: once by those who initially enter and again by those who subsequently attempt rescue.

The ILO and OSHA estimate that worldwide, these **confined space accidents claim about 200 victims per year**. About two-thirds of the accidents resulted from hazardous atmospheric conditions in the confined space. In about 70 % of these, the hazardous condition existed prior to entry and the start of work.

Source: Health and Safety International  
ILO: International Labour Office; OSHA: Occupational Safety and Health Administration

# Confined Space Entry Solutions

## Portable Multigas Detectors

### ALTAIR 5X

The ALTAIR 5X detector with integrated pump and PID option is especially designed for confined space entry in wastewater environments. With more than 20 sensors available, it measures up to 6 gases. Clearance measurements can be performed remotely using sampling line and floating probe.

Dangerous gases such as Methane, O<sub>2</sub>, CO, H<sub>2</sub>S and CO<sub>2</sub> are continuously monitored and readings recorded in the device memory. The integrated XCell sensors offer fast response times that help save lives. The ALTAIR 5X withstands a drop of 3 m and comes in standard charcoal housing or glow-in-the-dark housing, perfect for low visibility applications.

For additional safety, ALTAIR 5X features the exclusive MotionAlert man-down alarm and InstantAlert manual alarm.



### Bluetooth now as standard feature

- Visualize key information on your Android smartphone display: ALTAIR 5X live gas readings, sensor health information, various alarms including gas and MotionAlert
- Configure ALTAIR 5X remotely with your Android smartphone
- Send automated SMS with GPS location to single or group recipients: gas alarms, man-down alarms, calibration due and cleared alarms
- Sampling mode feature calculates duration time of your sampling task



### ALTAIR 4X

### Not for DE + AT

The 4-gas detector ALTAIR 4X is a perfect match for wastewater workers. IP 67 and designed to withstand a drop of up to 6 m, ALTAIR 4X is available in charcoal or glow-in-the-dark housing, perfect for confined space low visibility environments.

It is equipped with XCell sensors providing fast response times that help save lives. The ALTAIR 4X surpasses industry standards in several crucial areas. Its 4-year XCell sensor life is 60% longer than the industry average, while its 24-hour run time exceeds the industry average by 71%.

For additional safety, ALTAIR 4X features the exclusive MotionAlert man-down alarm and InstantAlert manual alarm.



### Sampling Accessories

A full range of sampling accessories is available, such as sampling lines of various lengths, floating probe and sampling probes.

The versatile ALTAIR Pump Probe is a rugged sampling accessory, capable of drawing samples from up to 30 m away, quickly convert ALTAIR 4X into a pumped detector for remote confined space sampling applications.



ALTAIR Pump Probe

Sampling Probe

Sampling Line with Floating Probe

### Testing & Calibration

For your bump test and/or calibration needs, you can either opt for our GALAXY GX2 Automated Test Stand or manual testing using a pressure reducer.



GALAXY GX2 Automated Test Stand

Manual Testing with Test Gas

**Not for DE + AT**

## Short-Duration SCBA, Combination & Escape Devices

The PremAire devices offer sufficient breathing air for about 15 minutes for short revisions, inspection work, or, in case of emergency, to bring oneself or a colleague out of the danger zone. In combination with an airline system or simply as a self-rescue device, PremAire is ideal for working independently of the ambient air in all applications with short distances, where a short-duration SCBA is applicable.

For applications requiring an extended source of compressed air, MSA offers the MASS Trolley System. This Mobile Air Supply System provides the user with a mobile air source wherever needed. It can be ordered in several configurations to fulfill any unique requirements for working in hazardous and dangerous situations.



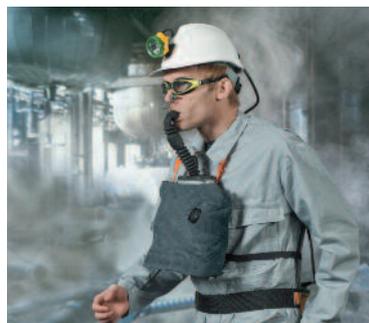
PremAire Combination



PremAire Escape



MASS Trolley & PremAire Combination



## Oxygen Self-Rescuers

The SAVOX is a small and compact self-rescuer with a breathing air supply of approximately 30 minutes (at 40 litres/min). This is particularly suitable for hard and dirty missions due to the robust design with stainless steel housing. With a low weight of only 2.5 kg, it can easily be attached to the belt and is therefore always ready to use, should self-rescue be necessary.

For shorter escape routes below 20 minutes, MSA offers the SSR 30/100 which provides the same high level of protection.



## Fresh Air Hose Devices

The TurboFlo offers many advantages for longer working times in areas where air circulating breathing systems are required. No additional weight from compressed air cylinders on the body and the excellent breathing comfort enhance performance under severe conditions. The low maintenance and no logistical problems for air cylinders add additional economic benefit to this system. The powerful blower unit can simultaneously supply up to two people with breathing air. You only need a reliable power supply with an output of 220 volts.



Advantage 420

## Air-Purifying Respirators

The APR Advantage Series 3000 and 400 is setting new standards with regard to safety and comfort. The full face and half masks with bayonet or standard thread connection use the wide range of MSA filters which have been optimized over many years and offer a broad range of protection without compromising safety. The Advantage Series is available in several sizes to fit every user perfectly.



Advantage 3200

## Ordering Information

Fall Protection	
10116521	MSA Workman tripod
10158192	MSA Workman Rescuer fall arrester, 15 m
10147566	MSA Workman winch, 10 m
10129888	Steel carabiner
10169369	Carrying bag for MSA Workman tripod
506222	Pulley
10115545	MSA Workman Premier harness
10115550	MSA Workman spreader bar
62207-00UK	Latchways Standard SRL, 7 m, stainless-steel cable
10120723	MSA Workman SRL, 9 m, stainless-steel cable
10115731	MSA Workman lanyard with energy absorber
Head Protection	
GV969-6000840	V-Gard 520 helmet orange, FasTrac III Premium, 4-point chinstrap pre-fitted, metal front lamp bracket*, yellow reflection sticker curved
Hearing Protection	
10087425	left/RIGHT ear muffs, headband, yellow, medium attenuation
10087428	left/RIGHT ear muffs, helmet mounted, yellow, medium attenuation
Eye Protection	
10153915	Altimeter safety goggles clear UV400, Sightgard Antifog
GA9006	2 brackets for attaching Altimeter to the gutter of the V-Gard 500/V-Gard 520

\* Example of matching lamp: KSE holder KS-2180



If you have any questions related to wastewater applications, please contact your local channel partner or email us at [Water.UK@MSAsafety.com](mailto:Water.UK@MSAsafety.com)

Portable Gas Detectors & Accessories	
10119611	ALTAIR 5X Wireless LEL, O <sub>2</sub> , CO, H <sub>2</sub> S, CO <sub>2</sub>
10119614	ALTAIR 5X Wireless LEL, O <sub>2</sub> , CO, H <sub>2</sub> S
10166730	ALTAIR 5X Wireless LEL, O <sub>2</sub> , CO, H <sub>2</sub> S, PID
On request	ALTAIR 5X Wireless LEL, O <sub>2</sub> , CO, H <sub>2</sub> S-LC
10166741	ALTAIR 5X Wireless LEL, O <sub>2</sub> , CO, H <sub>2</sub> S-LC, PID
10082307	5 m sampling line with floating probe
10110453	ALTAIR 4X LEL, O <sub>2</sub> , CO, H <sub>2</sub> S
10126261	ALTAIR 4X LEL, O <sub>2</sub> , CO, H <sub>2</sub> S-LC
10152668	ALTAIR Pump Probe

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Not for DE, AT

NL

Not for DE, AT

Short-Duration SCBA, Combination & Escape Devices	
10152572	PremAire Combination Mini, with 3S full face mask, 3 l composite cylinder (empty)
10152778	PremAire Combination Airline /SCBA, with 3S full face mask, 2 l composite cylinder (charged)
10152728	PremAire Combination Escape, with 3S full face mask, 2 l composite cylinder (charged)
10152752	PremAire Escape, with 3S full face mask, 2 l composite cylinder (charged)

Trolley System	
M0018642	MASS trolley system, with 40 m hose, w/o cylinder

Self-Rescuer	
10023263	SAVOX**
D1123701	SSR 30/100**

Fresh Air Hose Devices	
B1260006	Turbo-Flo, complete unit (3S mask, breathing tube, belt with connector, 9 m hose, without blower)
B1260009	Turbo-Flo blower, 240 V AC without plug

Air-Purifying Respirators	
10027726	Advantage 3200 full face mask, size M
10102273	Advantage 420 half mask, size M

\*\* also available as trainer version

**For CER, following P/N for PremAire Combination Mini (replaces 10152572):**

10163540\* PremAire Combination Mini, mit 3S-Vollmaske, 2 l-Flasche aus Verbundstoff (gefüllt)

\* Erfüllt die Kriterien des Grundsatzes 26 (Gruppe 2) der arbeitsmedizinischen Vorsorge (ArbMedVV). Das Gesamtgewicht des einsatzbereiten Systems beträgt < 5 kg.

**Note:** This bulletin contains only a general description of the products shown. While uses and performance capabilities are described, under no circumstances shall the products be used by untrained or unqualified individuals and not until the product instructions including any warnings or cautions provided have been thoroughly read and understood. Only they contain the complete and detailed information concerning proper use and care of these products.



ID 00-700.2 GB/00

Subject to change without notice

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