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DERRICK
INTERNATIONAL

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MSA safetySCOPE

European Product Portfolio

- Supplied Air Respirators
- Air-Purifying Respirators
- Head, Eye, Face & Hearing Protection
- Fall Protection

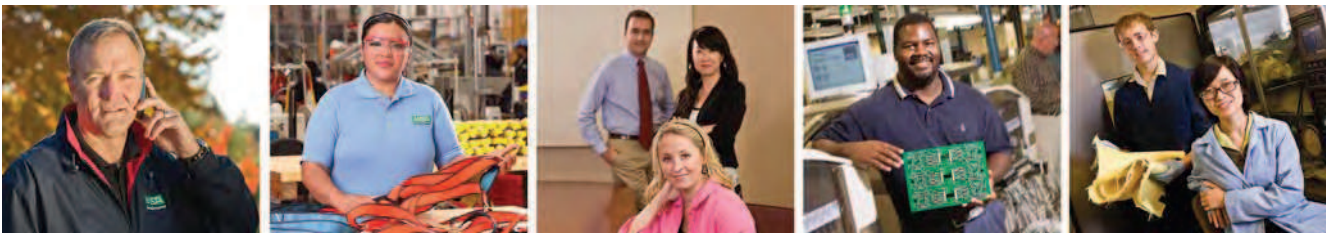
- Thermal Imaging
- Portable Gas Detection
- Fixed Gas & Flame Detection
- Service & Workshop Solutions

MSA – The Safety Company

MSA is the world's leading manufacturer of high-quality Safety Products and Gas Detection System Solutions, protecting people throughout the world for over a century.

With manufacturing operations on five continents and with more than 40 locations worldwide, MSA serves customers in more than 140 countries. All MSA products meet local and international standards.

Always there for you



With MSA's worldwide presence we deliver the right safety solution to the right place, at the right time, supported by highly skilled personnel at local MSA offices.

More than 5,000 MSA associates are at work throughout the world to ensure that you always get the best safety solution. We are always ready to assist you in choosing the right option and to help you purchase the right equipment. Whatever information and advice you require on our products and services, we are always there for you. Simply contact the MSA affiliate or distributor near you. See page 152 for contact details.



Our Values

Our mission is to see to it that men and women may work in safety and that they, their families and their communities may live in health throughout the world.

MSA is an organization fully committed to protecting the health and safety of our customers, and we spend countless hours developing, testing, and evaluating our products to ensure we achieve our goals.

MSA's values are the foundation of our company culture. Our seven core values define who we are and what makes us truly stand apart.

*Integrity – Customer Focus – Speed & Agility – Innovation & Change
Diversity & Inclusion – Teamwork – Engagement*

Our Quality

There's a reason MSA is known worldwide as "The Safety Company." It's because we harness precision engineering to craft the highest-quality safety products possible so people across the world are able to work in the safest environments possible.

We believe that concepting, designing, and building the best safety solutions means we must look beyond the bottom line. For starters, we invest more resources in safety research and engineering than any other company in our industry.

We're proud of the work we do and we stand behind every product we make. Because we know people rely on us to protect their health and well-being. We work hard to earn the trust of our customers. As we often say at MSA, we make the world safer – one person at a time.



MSA's comprehensive product portfolio ranges from simple to complex high-tech solutions. The great breadth of technologies, products and services we offer is unique to the market.

MSA products are designed to ensure the integrated system compatibility of individual safety and gas detection products. MSA's own software integrates perfectly into our range of hardware.

Markets



- Fire & Rescue Service
- Construction Industry
- Chemical Industry
- Petrochemical Industry
- Offshore Industry

- Marine Navigation Service
- Public Authorities
- Water Purification
- Automotive Industry
- Pharmaceutical Industry

This safetySCOPE catalogue gives you an overview on MSA's product portfolio in Europe:

- Supplied Air Respirators
- Air-Purifying Respirators
- Head, Eye, Face & Hearing Protection
- Fall Protection
- Thermal Imaging
- Portable Gas Detection
- Fixed Gas & Flame Detection
- Service & Workshop Solutions



Please also visit us at MSAsafety.com to get additional product information, pictures, videos, documents for download and further tools, such as simulators and configurators.

Connect with us on Facebook, LinkedIn and Twitter to always get the latest news on MSA and subscribe to our YouTube channel to be informed about new videos.



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Supplied Air Respirators

MSA offers various Supplied Air Respirators (SAR) that function independently of the ambient air.

The self-contained breathing apparatus system is independent of the ambient atmosphere and not tied to a specific location. MSA SCBAs come with a wide variety of features and can be used for various applications.

The Airline system is designed for applications of extended duration; e.g. in confined spaces. This system connects to an external air supply, offering cost effective protection.

If you have to be prepared for situations where sudden oxygen deficiency can occur, an MSA compressed air escape device is an option well worth considering.

MSA's chemical oxygen apparatus are ideal for escape or working applications wherever outbreaks of toxic gases, particles or the sudden occurrence of oxygen deficiency are to be expected.

For MSA's test bench and compressor range please see the chapter "Service & Workshop Solutions" on page 136.



MSA's self-contained breathing apparatus systems are designed for long life and low maintenance. To meet every application and budget the long duration SCBAs can be configured according to individual requirements.

Based on its decades of experience, MSA has also developed four SCBA presets, which offer the ideal configuration for the most common applications. The allrounder preset "AirGo pro" is a high quality system for a wide range of applications. The preset "AirMaXX" offers optimum wearing comfort and technological sophistication for frequent and demanding use. "eXXtreme" is the optimal choice for flash-over trainings. For occasional rescue and escape operations the "AirGo compact" provides superior protection in the low budget range.

The G1 fire service SCBA offers all available technology, such as telemetry, head-up display and voice amplification, in a highly integrated fashion.

The patented SingleLine air management system combines five features in just one hose.

Another enhancement is the alpha Personal Network, a modular personal monitoring and alarm system with telemetric capabilities.

The personal alert safety system motionSCOUT detects the cessation of bodily movement and offers manual alarm capabilities as well.

The versatile PremAire Combination respirator with its small size and low profile is ideal for working in confined spaces or tight places.

MSA's wide range of full face masks, demand valves, cylinders and various accessories complete the whole system.

Breathing Apparatus

MSA SCBA Systems

MSA breathing apparatus systems are completely customisable to meet every application and budget. With our easy-to-use configurator, available as a CD or online, you build your SCBA system exactly the way you need it. Based on decades of experience, we also offer four SCBA presets which are described below.

All MSA premium components are designed for easy use in challenging job conditions. For example all adjustments on our SCBAs can be made with work gloves on. With their long life and low maintenance they offer exceptional value and reduced total cost of ownership.



Preset: AirGo pro

When you are looking for a strength carrier for firefighting and for a wide range of maintenance or rescue operations, the AirGo pro is ready for deployment. Its rugged reliability, flexibility and great value make it a popular choice for fire brigades, plant, sub-surface or offshore use. Weight is distributed evenly and kept close to your body to reduce stress and fatigue.

The alpha SingleLine pneumatic system integrates warning signal, second connection and gauge in an easily accessible manifold at your chest (for details see page 11). The optional alpha Personal Network offers extended electronic and telemetric monitoring and communication capability.

Firefighters and industrial workers around the world who are looking for high quality, solid reliability and comfort use AirGo pro for their respiratory protection.

EN 137: 2006, type 2

ATEX Ⓢ II 1 G IIA T6 or II 1 G IIB T6 or II 1 G IIC T6 (according to configuration)

MED 96/98/EC Ⓢ

10086571 AirGo pro



Preset: AirGo compact

Rule #1: expect the unexpected. The AirGo compact SCBA preset is specifically designed for emergency response and escape. On ships or industrial facilities where such units are mandatory, the AirGo compact is an obvious choice. The lung governed demand valve AutoMaXX-AS is fixed to the medium pressure line (for details on AutoMaXX see page 18). The no-frills system keeps costs at a minimum without sacrificing safety.

The vital pneumatic and carrier components are the same as those used in the high-end MSA presets, making AirGo compact a fully-fledged device for the toughest applications including firefighting.

EN 137: 2006, type 2

ATEX Ⓢ II 1 G IIA T6 or II 1 G IIB T6 or II 1 G IIC T6 (according to configuration)

MED 96/98/EC Ⓢ

10086572 AirGo compact



Preset: AirMaXX®

For high-frequency and extended SCBA wear, maximum user comfort translates directly into increased performance and good health. The AirMaXX SCBA preset combines premium ergonomic features with advanced technology to provide the best experience in SCBA wearability available today.

The ergonomically designed and optimally balanced AirMaXX backplate is adjustable to fit all body sizes. This works in conjunction with the premium S-swing shoulder pads and swivelling hip belt to distribute weight evenly while increasing freedom of movement. Stress and fatigue are reduced as you perform your job without restrictions. The AirMaXX stays with you even when you are turned upside down.

The alpha SingleLine pneumatic system integrates warning signal, second connection and gauge in an easily accessible manifold at your shoulder. The optional alpha Personal Network offers further electronic and telemetric monitoring and communication capability.

If you use your SCBA frequently, for long periods at a time or require absolute concentration in your work, the AirMaXX is the system of choice.

EN 137: 2006, type 2

ATEX Ⓢ II 1 G IIA T6 or II 1 G IIB T6 or II 1 G IIC T6 (according to configuration)

MED 96/98/EC Ⓢ

10060803 AirMaXX SL



Preset: eXXtreme

The continuous exposure to flames and heat from repeated hard training takes an especially hard toll on equipment. The eXXtreme preset utilizes special materials to reduce maintenance and cost of ownership of critical components that would otherwise require frequent replacement in such extreme applications.

The eXXtreme harness has been designed to meet the toughest demands for protection and durability, using materials which could also be applied in turnout gear. The protective sleeves are easily exchangeable and cover the most exposed areas of the air supply lines.

With the rapid cylinder exchange coupling alphaCLICK, the cylinder is simply snapped onto the pressure reducer (for details see page 11).

All other features such as adjustable AirMaXX back plate and alpha components are identical to the AirMaXX preset. Trainers and others who repeatedly work in high-heat and flame circumstances choose eXXtreme.

EN 137: 2006, type 2

ATEX Ⓢ II 1 G IIA T6 or II 1 G IIB T6 or II 1 G IIC T6 (according to configuration)

MED 96/98/EC Ⓢ

10069671 AirMaXX eXXtreme SL-CLICK



G1

The G1 fire service SCBA was designed to integrate all modern SCBA features into a compact and easy-to-operate device. The single power supply drives alarm system and user interface, telemetry radio module, head-up-display (HUD) and voice amplifier. The display provides full benefit without distraction by always displaying exclusive information which is relevant in the given situation.

All G1 versions include swivelling and adjustable hip belt, electronic control unit, telemetry module, lung governed demand valve and buddy breather 2nd connection. The G1 SCBA works exclusively with the G1 mask (please see page 20).

EN 137: 2006, type 2

10160443	G1 SCBA with demand valve, telemetry
10160444	G1 SCBA with demand valve, telemetry, alphaCLICK
10160445	G1 SCBA with demand valve, telemetry, alphaCLICK, HUD
10160436	G1 SCBA with demand valve, telemetry, alphaCLICK, HUD, voice amplifier
10160437	G1 SCBA with demand valve, telemetry, HUD
10160438	G1 SCBA with demand valve, telemetry, HUD, voice amplifier

Other configurations are available on request.



AirXpress

With the AirXpress, the SCBA system made for tight budgets, MSA has concentrated on those features most essential for safety and performance. World-reknoned MSA quality combined with advanced technology make the AirXpress an outstanding value in SCBA equipment. The first-stage pressure reducer is the same one used in all MSA systems. This patented and choice component distinguishes itself through reduced parts and low maintenance – and that translates into reduced cost of ownership.

EN 137: 2006, type 2

ATEX Ⓢ II 1 G IIA T6 or II 1 G IIB T6 or II 1 G IIC T6 (according to configuration)
MED 96/98/EC Ⓢ

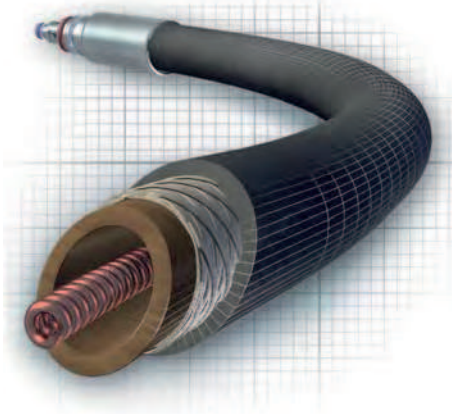
10109407	AirXpress with 2nd connection
10111838	AirXpress without 2nd connection

CBRN Approval

Today's First Responder Teams face a widened array of potential threats. There is an increased likelihood that they are called to assist in a terrorist attack involving chemical or biological warfare agents, as the only relevant standard outside the USA, the British standard BS8468-1, has been introduced. MSA's "CBRN" breathing apparatus comply with that standard, as well as EN 137. Most AirMaXX configurations can be converted into a "CBRN" device by using one of the following AutoMaXX demand valves that comprise a special butyl rubber diaphragm:

BS8468-1 / EN 137

10098524	AutoMaXX-AS-B-CBRN
10098544	AutoMaXX-AS-B-CBRN short
10069702	AutoMaXX-AS-CBRN
10098781	AutoMaXX-ESA-CBRN
10098782	AutoMaXX-ESA-CBRN short



alpha SL

The alpha pneumatic system is based on the acclaimed SingleLine (SL) air management system. alpha SL supplies the demand valve, gauge, warning signal, second connection and “QuickFill”, through the use of just one single visible hose. Part of the secret behind this system is the patented hose-in-hose technology. The high-pressure line runs inside the medium pressure line. With alpha SL and a state-of-the-art pressure reducer weight and maintenance requirements are minimised. You can order your next MSA breathing apparatus with SL system or you simply upgrade your existing MSA breathing apparatus.

EN 137

- | | |
|----------|--|
| 10065798 | alpha SL Upgrade kit (pressure reducer, manifold and SingleLine in exchange for your old SCBA pneumatics) |
| 10065799 | alpha SL-Q Upgrade kit (pressure reducer with QuickFill, manifold and SingleLine in exchange for your old SCBA pneumatics) |



alphaCLICK

With the alphaCLICK rapid cylinder exchange coupling, you can say goodbye to cumbersome threading. Simply snap the cylinder onto the pressure reducer and you're done. The alphaCLICK lets you change cylinders ten times faster than threading methods, while also improving on safety.

EN 137

- | | |
|----------|--|
| 10075278 | alphaCLICK cylinder adapter 200/300 bar (set of 5) |
|----------|--|
- Several upgrade sets and workshop solutions are available.



alphaFP

The alphaFP fall protection harness for SCBA has been developed for challenging applications which require both respiratory and fall protection. The unique 2-in-1 solution can be connected easily to any MSA SCBA backplate. Donning is completed in very few and intuitive steps.

alphaFP offers the highest safety in exposed situations. Its excellent wearer comfort makes the SCBA harness ideal for height and shaft rescues, respiratory protection and tunnel operations.

The two versions alphaFP pro and alphaFP basic are available in standard and large size. alphaFP pro additionally features hose protection tunnels on the shoulder pads and quick connect buckles between harness and SCBA for ease of mounting or emergency removal during operation.

EN 361, EN 358, EN 813, EN 137

10116510	alphaFP basic, standard
10117620	alphaFP basic, large
10116541	alphaFP pro, standard
10117573	alphaFP pro, large



alphaBELT

The safest way to use fall protection PPE with an SCBA is a fully integrated and approved solution that combines all necessary equipment in a user-friendly product, providing optimally balanced protection. Our revolutionary alphaBELT is a sleek and durable multi-function holding belt for first responders which can be quickly integrated into an SCBA. It comes with the following features:

- Permanently heat resistant webbing
- Two high-contrast D-rings for positioning and restraining
- Performance beyond requirements of current standards
- Securing pouch protects lanyard against damage and prevents the risk of getting caught
- Lanyard is easily demountable and could be used separately as an anchor point or rescue loop or just for standard restraining and positioning
- alphaBELT Pro in combination with lanyard provides a quickly accessible rescue seat
- Quick release mechanism allows usage of alphaBelt with or without SCBA

Certified for AirMaXX and AirGo Series as accessory according to EN 137 and ATEX

10151246	alphaBELT Pro, Holding and Rescue belt
10151241	alphaBELT Basic, Holding belt w/o lanyard
10151242	alphaBELT Lanyard



eXXtreme SCBA Harness

The eXXtreme harness has been designed to meet the toughest demands for protection and durability, as in repeated training situations. Silicon carbon coated Kevlar makes it exceptionally resistant to flame, heat and abrasion. Special design features like the large reflector areas enhance the visibility of the user.



Certified for AirMaXX and AirGo Series as accessory according to EN 137 and ATEX

10145843 eXXtreme Upgrade kit, black (incl. stainless steel cylinder retaining clamp)



Rescue Handle for SCBA

Our upgrade handle not only makes it easy to transport the SCBA. In an emergency, the helper can also quickly and safely grasp the SCBA at the most resilient part to pull the colleague to safety in an ergonomical position.



Certified for AirMaXX and AirGo Series as accessory according to EN 137 and ATEX

10152624 Rescue handle for SCBA (pack of 4)



Composite Cylinder



Steel Cylinder

Cylinders

MSA steel and composite compressed air cylinders meet a wide range of applications. Composite cylinders are 50% lighter than the traditional economic steel construction.

MSA offers cylinder versions with 200 and 300 bar service pressure and 2 to 9 litre capacity. Additional safety is provided by a full choice of valve options such as integrated gauge, ratchet hand wheel to prevent unintended closing and flow restrictor in case of valve breakage.

MSA cylinders can be ordered empty or charged and are equipped with cylindrical thread M18 x 1.5. The valves are approved according to EN 144.

PED 97/23/EG

Empty cylinders:

10113769	6.8 l/300 bar, composite, 30 years
10118597	6.8 l/300 bar, composite, with flow restrictor, 30 years
10118598	6.8 l/300 bar, composite, with flow restrictor, valve with gauge, 30 years
D5103976	6 l/300 bar, composite
10042070	6 l/300 bar, composite, valve with gauge
10055168	6.9 l/300 bar, composite
10055170	6.9 l/300 bar, composite, with lockable valve
10072888	6.9 l/300 bar, composite, with flow restrictor
D5103985	4 l/200 bar, steel (not useable in connection with QuickFill Q)
D5103986	6 l/300 bar, steel
10010967	6 l/300 bar, steel, valve with gauge



RFID Transponder Holder Rings for Cylinders

The holders on the neck of the cylinder contain a transponder to facilitate the administration of your cylinders, e.g. with our TecBOS.Tech software. You can easily keep track on conditions of all your devices and their service intervals.

Certified as SCBA accessory according to EN 137

(pack of 10)

10146101	RFID holder rings for Ø 26-30 mm, for steel cylinders
10128846	RFID holder rings for Ø 34-40 mm, for composite cylinders

T-Pieces

The T-piece offers the opportunity to increase the duration of your SCBA by using two cylinders at the same time. It can be easily mounted on the pressure reducer on the backplate and comes with two screw wheels.



T-piece 115/200 bar

D4075818	T-piece 156/300 bar, for 2x 6/6.8l composite cylinders
D4085817	T-piece 115/200 bar, for 2x 4l steel cylinders

Cylinder Covers

Our protective covers made of non-flammable material meet all basic needs for the protection of your high-value composite cylinders. Beside the basic protection, the eXXtreme protective cover offers improved carrying comfort and perfect visibility and durability, also for hot trainings.



eXXtreme Cover



Basic Cover

Certified for AirMaXX and AirGo Series as accessory according to EN 137

10155096	Cylinder cover eXXtreme, 6-6.9 l, black
10155097	Cylinder cover Basic, 6-6.9 l, black
10155098	Cylinder cover Basic, 6-6.9 l, signal yellow



Standard Carrying Case



Universal Carrying Bag



Wall Box Type A

Storage Solutions

With our storage solutions you can keep your equipment clean and ready for use. The standard hard-cover case fulfills all important basic needs to protect your equipment during transport and storage. The premium case offers comfortable rolls and a larger storage room. The textile bag can cover small SCBAs like the PremAire Combination.

10126797	Carrying case for SCBA with one cylinder, standard
10049021	Carrying case for all SCBA with one or two cylinders, premium
10049626	Universal carrying bag
D4080801	Wall box type A, standard SCBA with one cylinder (1 cylinder clamp)
D4074992	Wall box type B, two small SCBA with one small cylinder (2 hooks)
D4074994	Wall box type C, two small SCBA with one small cylinder (1 hook)
D4074877	Wall box type D, standard SCBA with one cylinder (1 rubber strap)

Rescue Sets

The rescue sets and the RespiHood are designed for rescuing people from hazardous areas.



RespiHood

10045764	RespiHood
10040152	Rescue set in pouch

Bag for Rapid Intervention Team

The Bag for Rapid Intervention Team serves to provide air to persons caught in hazardous environments.

10103749	Bag for Rapid Intervention Team
10104597	Bag for Rapid Intervention Team, SL long
10104598	Bag for Rapid Intervention Team SL-Q

alpha Personal Network

The alpha Personal Network is a system of modular and wireless components that can be individually integrated to enhance your operation safety and capability as needed. A basic setup includes personal monitoring, pressure data and motion alarm.

This can be extended to include telemetry and evacuation notification. Existing AirGo, AirMaXX and BD 96 SCBA systems can be upgraded to include alpha Personal Network capability.



alphaSCOUT and Manifold

alphaSCOUT

At the core of the alpha electronic system is a unique personal monitoring and signal device called alphaSCOUT. It is wireless and full disengaged, it receives pressure information from the transmitter on the back plate and then calculates the remaining service time. A motion detector and alarm signal are also integrated.

Each user can identify himself with the alphaSCOUT he is using through the alphaTAG identification tag. alphaTAGs are programmed by using the TAGwriter.

EN 137
ATEX Ex ia IIC T3/T4 Ga
ATEX II 1G Ex ia IIC T3/T4 Ga

10058213	alphaSCOUT (complete set incl. batteries and alphaTAG)
10058212	alphaSCOUT TM (complete set incl. longdistance radio, batteries and alphaTAG)
10078682	Retrofit of radio module to alphaSCOUT
10065874	alphaSCOUT Support bracket attachment (set of 10)
10065873	alphaTAG (set of 5)
10071717	Labels for alphaTAG (10 sheets of 42 labels)
10065875	alpha TAGwriter (including USB cable)



alphaSCOUT



alpha TAGwriter



alphaHUD in Ultra Elite mask

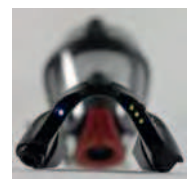
alphaHUD

Using a non-distracting LED display at the perimeter of your field of vision, the alphaHUD heads-up-display lets you monitor your air supply while keeping your hands free. The wireless alphaHUD provides pressure status and alarm information. It is easily attached to the inside of your Ultra Elite mask.

Advantages include greatly improved operational efficiency and safety. In combination with chemical protection suits, where the ability to use a hand-operated gauge is limited, alphaHUD is indispensable. When used in conjunction with the alphaSCOUT and alphaBASE command communication option, the alphaHUD can also deliver an evacuation signal.

ATEX II 1G Ex ia IIC T4 Ga

10086118	alphaHUD (incl. battery)
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alphaMITTER on AirMaXX backplate

alphaMITTER

The alphaMITTER, a short-range transmitter on the SCBA backplate sends air pressure data to the alphaSCOUT every second.

Because the wireless alphaSCOUT is independent of the back plate, the number of units needed by a brigade can be reduced by up to 75% – a dramatic saving in investment.

EN 137

ATEX Ⓜ Ex ia IIC T3/T4 Ga

ATEX Ⓜ II 1G Ex ia IIC T3/T4 Ga

10058211	alphaMITTER, retrofittable to AirMaXX, eXXtreme or AirGo with SingleLine (Q), incl. support bracket for alphaSCOUT
10069803	alphaMITTER, retrofittable to BD 96 with SingleLine (Q), incl. support bracket for alphaSCOUT



alphaBASE standard

alphaBASE

The alphaBASE base station works in combination with any PC. It communicates with all active alphaSCOUTs to provide complete telemetric capability.

A battery-powered version of the alphaBASE can be used with the xplora TABLET PC. This combination allows full freedom of movement for mobile applications.

The alphaBASE is powered by the alphaCONTROL 2 software for automatic monitoring without the need for operator intervention. For details on alphaCONTROL 2 please see page 17.

EN 60950/ EN 61000-6-2/ EN 61000-6-3

10058214	alphaBASE standard (incl. software, power supply, direct and external aerial with magnetic foot)
10070795	alphaBASE battery powered (incl. 2 batteries and charger)
10124324	alphaRACK (alphaBASE standard + car PC)

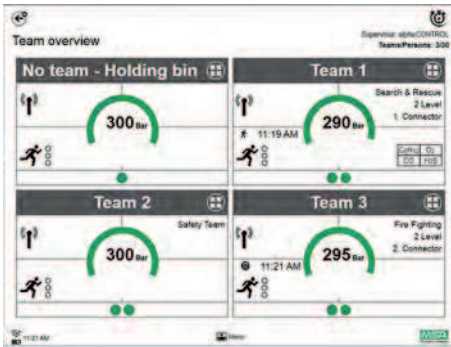


xplora TABLET PC with alphaBASE

xplora TABLET PC

The xplora TABLET PC with its high computational power and its compact design is the ultimate tool for managing information on the go. The housing is extremely robust and watertight (tested according to IP65) making it suitable for use in emergency service operations or other harsh environments. The high resolution screen provides good viewing in all lighting conditions, including direct sunlight.

10068805	xplora TABLET PC
10076041	Set: xplora TABLET PC, alphaBASE battery powered, accessories (software, 2 batteries, charger) in rugged case



alphaCONTROL 2

alphaCONTROL is a full substitute to conventional tally boards, capturing all details of a classic accountability system. The realtime display provides a higher level of safety.

The alphaCONTROL 2 software shows: user, team assignments, cylinder pressure including time remaining and gas concentration (ALTAIR 5X with Wireless USB). Motion alarm, manual alarm, low cylinder pressure and gas alarms are highlighted by pop-up windows and audible signals. Complete incident data is also automatically logged and analysed, replacing time-consuming manual reports and maximising traceability.

10153880 alphaCONTROL 2, monitoring software



motionSCOUT

The next generation of standalone personal alert safety systems motionSCOUT detects the cessation of bodily movement and activates an automatic alarm. For enhanced safety the alarm can be activated manually as well. With highly visible LEDs and an alarm volume of at least 95 dB it helps to locate the person in danger.

The sensitive, electronic motion sensor recognises all normal body movements. A bi-colour LED clearly shows the readiness of the unit. Maintenance-free and durable (IP 67) it guarantees a great cost-performance-ratio.

motionSCOUT is extremely simple to use and can be easily affixed to the shoulder strap or hip belt. An easy-to-use key version (switch ON by pulling out the key), a version with manual alarm reset function, as well as an optional temperature sensor are available.

EMC: 2004/108/EC, EN 61000-6-2:2006, EN 61000-6-3:2007
ATEX Ⓜ II 1G Ex ia IIC T3/T4 Ga

10088031 motionSCOUT

10088032 motionSCOUT K (key version)

10088033 motionSCOUT T (with temperature sensor)

10088034 motionSCOUT K-T (key version with temperature sensor)

The version "manual alarm reset" is available upon request for all versions above



MSA CONTROL F

MSA CONTROL F allows the operations centre to closely monitor the position of the individual operatives and their air supply. The information is manually recorded on the water-resistant (IP54) tally board together with time data.

The optional motionSCOUT keys and apparatus tags enable the operations centre to monitor the situation specifically and according to directives.

10125668 MSA CONTROL F without text printing

Lung Governed Demand Valves



AutoMaXX[®]

The lung governed demand valve AutoMaXX is handy, light, and has a conveniently rounded shape. It was developed along with the compressed air breathing apparatus AirMaXX but can also be used with the AirGo and BD 96 systems.

The valve is impact resistant (impacting objects are deflected) and its hemispherical shape permits a sure grip. The housing is fitted with non-skid elastomer strips. Large, variously coloured buttons can be operated easily even with gloves by right-handed or left-handed users. The medium pressure line swivels and remains flexible even at low temperatures. The AutoMaXX is very maintenance friendly.

EN 137

10023686	AutoMaXX-N
10043464	AutoMaXX-ESA
10023687	AutoMaXX-AE
10023688	AutoMaXX-AS
10023689	AutoMaXX-AS-C
10038296	AutoMaXX-AS-B
10070760	AutoMaXX-N-Short
10070973	AutoMaXX-ESA-Short
10070972	AutoMaXX-AE-Short
10043133	AutoMaXX-AS-Short
10036274	AutoMaXX-N-G
10047230	AutoMaXX-ESA-G
10036271	AutoMaXX-AE-G
10038410	AutoMaXX-AS-B-G
10036273	AutoMaXX-AS-C-G
10036272	AutoMaXX-AS-G
10073157	AutoMaXX-ESA-G-Short

N: negative pressure with round thread connector
AE: positive pressure with M 45 x 3 thread connector
AS: positive pressure with MaXX plug connector
AS-C: combination of the AE and the AS
ESA: positive pressure with DIN plug connector
G: rubber medium pressure line for industrial applications
B: by-pass valve provides an adjustable, constant air stream
Short: shorter medium pressure line (50 cm)



AutoMaXX-N



AutoMaXX-AE



AutoMaXX-AS



Ultra Elite

Innovative full face mask manufactured from a specially developed black rubber (silicone option also available) for two-way breathing (valve breathing), with standard thread for respiratory filters, airline appliances, and compressed air breathing apparatus. Pressure-free fit through comfortable single sealing flange and deep chin cup. Available in two sizes for optimal fit.

Silicate coated lens with distortion-free field of vision of almost 100%. Fog-free viewing through flushed lens. Five-point rolling buckle harness and good speech communication. Also available as positive pressure mask with M 45 x 3 thread or MSA plug connector.

EN 136, class 3

D2056700	Ultra Elite
D2056779	Ultra Elite small
10013876	Ultra Elite with transponder
D2056718	Ultra Elite Silicone
D2056770	Ultra Elite-EZ
10031393	Ultra Elite-PF-ESA
D2056741	Ultra Elite PF
D2056785	Ultra Elite-PF small
D2056763	Ultra Elite-PF-Si, silicone
D2056771	Ultra Elite-PF-EZ
D2056751	Ultra Elite PS
D2056789	Ultra Elite-PS small
10026552	Ultra Elite-PS with transponder
D2056764	Ultra Elite-PS-Si, silicone
D2056772	Ultra Elite-PS-EZ
10031385	Ultra Elite-PS-MaXX
10031383	Ultra Elite-PS-MaXX, small
10031384	Ultra Elite-PS-MaXX-Si, silicone
10031382	Ultra Elite-PS-MaXX-EZ
10031381	Ultra Elite-PS-MaXX-EZ small

EZ = Easy-Don Nomex harness
 MaXX = for positive pressure with MSA quick connector, for AutoMaXX-AS
 PF = for positive pressure with thread M 45 x 3
 PS = for positive pressure with MSA plug connector
 ESA = for positive pressure with DIN plug connector



Ultra Elite



Ultra Elite Silicone



Ultra Elite PF



Ultra Elite PS



Ultra Elite-PF-EZ



3S

The 3S mask, worldwide top seller over the last 30 years, has been enhanced to improve comfort. In addition to a proven design, the 3S mask offers everything a mask wearer needs. Comfortable materials, good communication through speech diaphragm, anti fogging air flow, low weight, no pressure points, low breathing resistance, good vision. With EN 148 thread connector. Also available as positive pressure version with M 45 x 3 thread or MSA plug connector.

EN 136, class 3

D2055000	3S
D2055779	3S small
10013877	3S with transponder
D2055767	3S-EZ
D2055718	3S Silicone
10031394	3S-PF-ESA
D2055741	3S-PF
D2055763	3S-PF-Si, silicone
D2055791	3S-EZ-PF
D2055751	3S-PS
D2055792	3S-EZ-PS
D2055764	3S-PS-Si, silicone
10031422	3S-PS-MaXX
10031388	3S-PS-MaXX-Si, silicone

EZ = Easy-Don Nomex harness

MaXX = for positive pressure with MSA quick connector, for AutoMaXX-AS

PF = for positive pressure with thread M 45 x 3

PS = for positive pressure with MSA plug connector

ESA = for positive pressure with DIN plug connector



3S



3S Silicone



3S-PF



3S-PS



G1 Mask with net harness

G1 Mask

The G1 full face mask excels in outstanding wearing comfort, low profile and low maintenance requirement. In stand-by, the open port technology offers unrestricted breathing. No electronic components reside on the mask to reduce the overall investment.

The G1 mask comes with a choice of either a classic rubber or a modern fabric harness.

EN 136, class 3

10156458	G1 full face mask, size S, net harness
10156459	G1 full face mask, size M, net harness
10156460	G1 full face mask, size L, net harness
10156461	G1 full face mask, size S, rubber harness
10156462	G1 full face mask, size M, rubber harness
10156463	G1 full face mask, size L, rubber harness

The listed configurations can only be used with the G1 SCBA.



G1 Mask with rubber harness



3S Mask-Helmet-Combinations

MSA as the mask and helmet manufacturer offers the innovative, safe and simple connection between helmet and mask.

EN 136, class 3

10042635	3S-H-F1
10044435	3S-H-F1, small
10042639	3S-H-PF-ESA-F1
10042636	3S-H-PF-F1
10044437	3S-H-PF-F1, small
10042637	3S-H-PS-F1
10044439	3S-H-PS-F1, small
10042638	3S-H-PS-MaXX-F1
10044441	3S-H-PS-MaXX-F1, small



3S-H-F1



3S-H-PF-F1



Ultra Elite Mask-Helmet-Combinations

Mask-helmet-combinations allow the wearer to don and take off the full face mask without removing the helmet. MSA is the only mask and helmet manufacturer that offers an innovation in safety: "springless" adjustable adapters.

EN 136, class 3

10045891	Ultra Elite-H-F1
10045892	Ultra Elite-H-small-F1
10045895	Ultra Elite-H-PF-ESA-F1
10045893	Ultra Elite-H-PF-F1
10045894	Ultra Elite-H-PF-small-F1
10045897	Ultra Elite-H-PS-F1
10045898	Ultra Elite-H-PS-small-F1
10045899	Ultra Elite-H-PS-MaXX-F1
10045910	Ultra Elite-H-PS-MaXX-small-F1



Ultra Elite-H-F1



Ultra Elite-H-PF-F1



Ultra Elite ComKit

ComKit Mask-Mounted Headsets

Combining ease-of-use and excellent speech intelligibility, ComKit mask-mounted communication systems allow the wearer of respiratory protective equipment to communicate clearly over commercially available two-way radios.

Microphone and loudspeaker of the communication system are placed on the Ultra Elite or 3S face mask by means of a rubber adapter on the exhalation valve housing. They are linked by a cable with the separate push-to-talk (PTT) button and a connecting plug to the radio. The versatile LEMO coupling offers the possibility to disconnect microphone/loudspeaker from the PTT button when removing the equipment without detaching it from the mask adapter.

10113273	Ultra Elite ComKit (with 5 pin LEMO plug for MSA PTT)
10124074	Ultra Elite ComKit (with 4-pole NEXUS plug for MSA HandyCom or Savox C-C400 / C-C500)
D2056731	Ultra Elite ComKit mask rubber adapter
D2055761	3S ComKit mask rubber adapter (negative pressure)
D2055720	3S-P ComKit mask rubber adapter (positive pressure)

For the Ultra Elite ComKit, the PTT button with cable and plug for the radio has to be ordered separately. For 3S ComKits, please contact your local MSA affiliate or distributor for a full list of available radio connections.



Ultra Elite ComKit and Adapter



3S ComKit and Adapters



HandyCom PTT Microphone Speakers

With the HandyCom PTT you can experience the clearest speech intelligibility in combination with intuitive use. It is designed for durable and trouble-free operation under extreme environmental conditions, such as flame and heat exposure or the influence of water (IP67) – ideal for firefighters, police, and industry.

The HandyCom PTT is optimally suited for use in a digital radio network (e.g. TETRA). The NEXUS plug connection makes it compatible with various headsets and offers perfect synchronisation with the Ultra Elite ComKit.

10157059	HandyCom PTT for Motorola digital (MTP850 FuG, etc.)
10157058	HandyCom PTT for Sepura digital (STP 9000, etc.)

Please contact your local MSA affiliate or distributor for a full list of available radio connections.





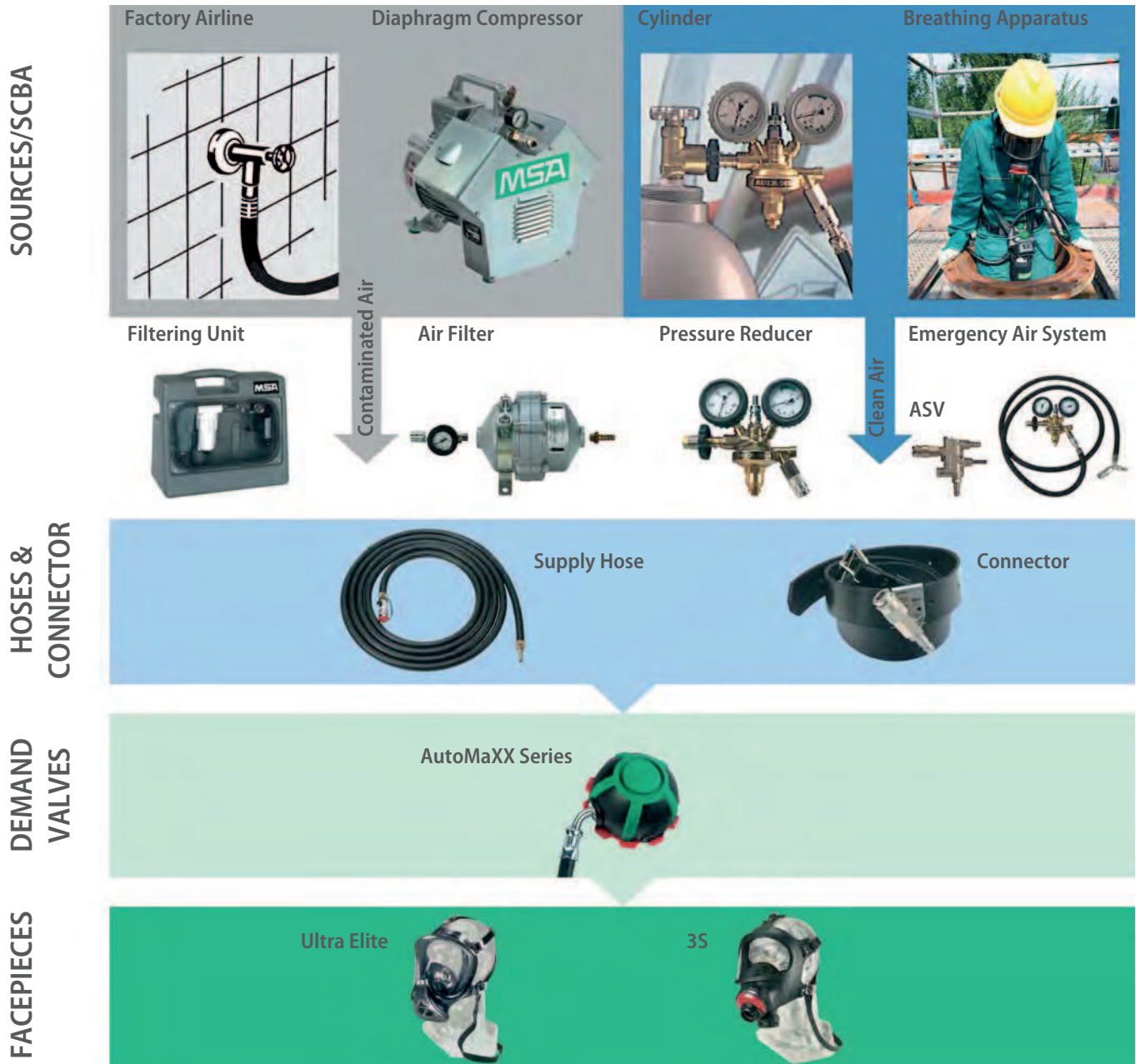
Airline systems are suited for long-duration work restricted to one location or adverse conditions when a confined entry does not permit use of a compressed air breathing apparatus. You can choose between compressed air systems and fresh air hose devices.

For escape purposes MSA offers a wide range of escape devices suiting all scenarios, even extremely high H₂S concentrations.

Compressed Airline Breathing Apparatus

MSA compressed airline breathing apparatus, according to EN 14593-1, function independently of the ambient atmosphere. They can be used in all places where the ambient air is not breathable because of contaminants or oxygen deficiency

and where filtering devices do not provide sufficient protection. Compressed air is supplied from an external source (e.g. factory airline), from a compressed air cylinder or from a compressor.





Diaphragm Compressor

V-Meko 400: portable compressor with an intake performance of 360 l/min and a medium pressure of approx. 5 bar.

R-Meko 720: has a 400 V motor and an intake performance of 720 l/min. It is fixed onto a solid frame with wheels. Both compressors supply oil-free air.

D4066843 V-Meko 400

10014875 R-Meko 720

D4066804 Y-Piece



Airline Belt & Connecting Piece

For connecting a full face mask and a demand valve with the airline supply hose.

D4066803 Connecting piece

D3043918 Leather waist belt



Air Supply Hose

Compressed air supply hose, antistatic, with one-hand operation safety couplings.

D4066847 Air supply hose, 5 m

D4066848 Air supply hose, 10 m

D4066849 Air supply hose, 20 m

10152521 Air Supply Hose, 30 m



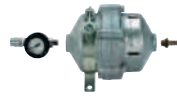
Air Filtering Unit

Air purification for up to 4 users in 2 stages:

- 1) dirt, oil and water aerosols removal
- 2) oil vapour and odour removal

D4066851 Compressed air filtering unit (without couplings)

10041367 Kit of airline couplings



Air Filter

Filter to purify compressed air for up to 2 users.

D3043986 Filter housing

D3043994 Filter connectors

D3043987 Airline filter cartridge CO

D3043989 Airline filter cartridge AB/St

D3043993 Airline filter cartridge A

D4066804 Y-Piece



Pressure Reducer

Directly connected to a cylinder 200 or 300 bar.

D4066830 Pressure reducer



ASV - Automatic Switch Valve

The ASV connects a compressed airline to a PremAire Combination or any other MSA SCBA. This ensures a continuous supply of air in case the external air source (e.g. factory airline) fails.

D4066700 Automatic switch valve



Emergency Air System

The emergency air supply system will be connected to a 200 or 300 bar cylinder, the Y-piece will be connected to an air supply system (e.g. Meko compressor) and via the supply hose to the belt connector. If the operating pressure drops, the air comes automatically from the cylinder.

D4066845 Emergency air system with Y-Piece

Short Duration SCBA, Combination & Escape Devices



PremAire Combination

The PremAire Combination, a combination supplied airline respirator with compressed air cylinder, is designed to be versatile, comfortable, and affordable. A streamlined design offers a first stage pressure reducer and cylinder valve within one assembly, creating a very small size and profile that is less likely to snag when working in confined space or tight places. The PremAire Combination can be equipped with either the 3S-PS-MaXX or the Ultra Elite-PS-MaXX full face mask in combination with the AutoMaXX-AS lung governed demand valve.

Depending on the type of application or approvals requested, four different configurations can be ordered:

- **PremAire Combination Escape**
Escape only respirator approved to EN 402
- **PremAire Combination Airline/Escape**
Airline/Escape respirator approved to EN 14593-1 and EN 402
- **PremAire Combination Airline/SCBA**
Airline/SCBA respirator approved to EN 14593-1 and EN 137
- **PremAire Combination Mini**
Short duration SCBA approved to EN 137-type I

EN 402 or EN 14593-1/EN 402 or EN 14593-1/EN 137 or EN 137

10124784	PremAire Combination Escape, with 3S full face mask, 2 l steel cylinder (empty)
10124796	PremAire Combination Escape, with 3S full face mask, 2 l composite cylinder (empty)
10124787	PremAire Combination Airline/Escape, with 3S full face mask, 2 l composite cylinder (empty)
10152571	PremAire Combination Airline/SCBA, with 3S full face mask, 2 l composite cylinder (empty)
10152572	PremAire Combination Mini, with 3S full face mask, 3 l composite cylinder (empty)

Please contact us for configurations with charged cylinders and/or Ultra Elite full face masks.



BD mini

The compressed air breathing apparatus BD mini is used for brief explorations or inspection tours and can be carried on the back like a standard SCBA. With a coupling for compressed airline breathing apparatus (available as accessory), the BD mini can be connected to a stationary air source. This permits the operator to remain at the worksite for longer durations.

EN 137

D4075713	BD mini
10050853	3 l/300 bar composite cylinder, with airflow restrictor (charged)
10058821	3 l/300 bar composite cylinder, with airflow restrictor (empty)
D5103969	2 l/300 bar composite cylinder (charged)
D5103974	2 l/300 bar composite cylinder (empty)
D5103964	2 l/300 bar steel cylinder (charged)
D5103984	2 l/300 bar steel cylinder (empty)



PremAire Escape

PremAire Escape is a positive pressure short duration compressed air emergency escape breathing device that provides the users with respiratory protection while they escape from toxic atmospheres. The components of the fast to don and easy to use respirator withstand the highest levels of potential industrial gas leaks and harsh chemical environments. PremAire Escape enables the wearer to escape without difficulty from a potentially hazardous environment. It offers a duration of 10-15 minutes for safe escape.

The standard PremAire Escape is equipped with a 3S full face mask. For potential leaks of high concentration industrial gas, like deadly H₂S, the device is available with the PremAire Mask-Hood.

EN 402

10152573	PremAire Escape, with 3S full face mask, 2 l steel cylinder (empty)
10152574	PremAire Escape, with 3S full face mask, 2 l composite cylinder (empty)
10152752	PremAire Escape, with 3S full face mask, 2 l composite cylinder (charged)
10151746	PremAire Escape, with PremAire Mask-Hood, 2 l composite cylinder (empty)

Please contact us for other configurations.



S-Cap-Air

The S-Cap-Air is a compressed air, constant flow, escape breathing apparatus designed to aid escape from hazardous areas in which toxic substances or oxygen deficiency may occur. It is very easy to operate – simply open the unit, put on the hood and make your escape.

The 3 litre, 200 bar compressed air cylinder is available in two versions: steel and composite (S-Cap-Air light).

EN 1146

10017668	S-Cap-Air with empty cylinder
10032181	S-Cap-Air with charged cylinder
10033919	S-Cap-Air light with empty cylinder
10034561	S-Cap-Air light with charged cylinder

Fresh Air Hose Devices



Turbo-Flo

The Turbo-Flo fresh air breathing apparatus supplies the wearer with fresh air from outside the hazardous environment with or without assistance from an electric blower. Without blower the user can have up to 18 m of hose and up to 54 m with blower assistance. Blowers are available for all applications in 12 V, 110 V or 240 V versions.



EN 138

B1260006	Turbo-Flo, complete unit (3S mask, breathing tube, belt with connector, 9 m hose, without blower)
B1260007	Turbo-Flo, complete unit (breathing tube, belt with connector, 9 m hose, without mask and blower)
D3029900	Turbo-Flo blower, 240 V AC with plug
B1260009	Turbo-Flo blower, 240 V AC without plug
B1260011	Turbo-Flo blower, 110 V AC

Turbo-Flo Accessories

The following accessories are available for the Turbo-Flo.



D2055000	3S
10027724	Advantage 3111, small
10027723	Advantage 3121, medium
10027725	Advantage 3131, large
B1260021	Carrying case
B1260012	Twin breathing tube
B1260013	Connector with waistbelt
B1260014	Air supply hose, 9 m
B1260018	Air supply hose, 18 m
B1266000	Hose connector
B1260015	Spike & Clip
B1260016	End filter



Self-contained MSA chemical oxygen (KO₂) breathing apparatus for use in oxygen deficient atmospheres, as well as hazardous atmospheres containing smoke and toxic gases, offer protection for periods of between 20 minutes and 4 hours for a variety of applications ranging from routine assistance and salvage to tough fire fighting and rescue missions.

The chemical oxygen apparatus applies the proven principle of regenerating the breathing air with oxygen produced by the chemical Potassium Hyperoxide. Simultaneously retaining the carbon dioxide and humidity contained in the exhaled air, these breathing apparatus are very reliable and almost maintenance-free for extended storage periods.

The breathing apparatus AirElite 4h is designed for missions of long duration, in particular for use in tunnels, high-rise buildings and large storage facilities. In underground mining it is used by rescue teams for speedy rescue missions.

SSR 30/100, SavOx and SSR 90 are the standard oxygen self-rescuers that provide breathing protection for evacuees from fire and smoke, and in gaseous / oxygen deficient environments. They are used worldwide in mining and tunneling.

In addition to these three models, the SavOx Cap 60 offers a hood for additional protection of the eyes and face.

The compact breathing apparatus SAR 30 L is specifically designed for working in situations requiring immediate and reliable breathing protection if hazardous atmospheres develop quickly and unexpectedly.

Common to all MSA chemical oxygen apparatus is their capacity to be stored for long periods in a condition of immediate readiness, combined with minimum maintenance requirements.



AirElite 4h

Closed circuit breathing apparatus for extended operational duration of up to 4 hours. Weight: 15 kg, width: 36 cm.

Excellent breathing comfort with service-free cooling system, dry and cool breathing air, comfortable harness and underarm breathing hoses. Very little maintenance required, trouble-free servicing and refurbishment. Pressure-free system without compressed oxygen cylinder. Electronic self-check and consumption monitor (IC-Air), visual and audible alarms, automatic and manual motion alarm. Fully automatic start and monitoring procedures.

For efficient training of the user, several options are available. MSA offers a KO₂ training kit for the most demanding training scenarios in fire schools or mine rescue training galleries. The economical trainer conversion kit using ambient air is ideal for donning and doffing purposes.

A choice of face masks: 3S-R AirElite or Advantage AirElite.

DIN 58652-2, vfdb 0802, incl. flame engulfment test (mining and fire service)



10065152 AirElite 4h (without mask and oxygen canister kit)

10065373 AirElite 4h canister kit

10065153 Full face mask 3S-R AirElite

10065154 Full face mask Advantage AirElite

10118774 Full face mask Advantage 4000 AirElite

10100126 AirElite 4h-TR HD, Trainer conversion kit

10151860 AirElite KO₂ Trainer canister set

10151861 AirElite KO₂ Trainer housing cover

10094376 Particle Filter P3 PlexTec (pack of 10)

10071650 AirElite case



SSR 30/100

SSR 30/100

The oxygen self-rescuer SSR 30/100 is a small, light and robust respiratory protective device, packed in a stainless steel container, which can be used anywhere, where the ambient atmosphere may be oxygen deficient or contain toxic contaminants. The apparatus is designed to be carried on a belt, donned in seconds and will supply oxygen to the wearer during his escape or while waiting for rescue.

EN 13794 class 20S
SOLAS

D1123701 SSR 30/100, class 20S

D1123711 SSR 30/100-TR, Trainer



SavOx

SavOx

Very similar to the SSR 30/100 the SavOx offers additional features like safety goggles for eye protection, an automatic starter system and an indicator window. The apparatus is designed to be carried on a belt or shoulder strap, can be donned in seconds and will supply oxygen to the wearer during his escape or while waiting for rescue.

EN 13794 class 30S
CA 16.817
SOLAS

10023263 SavOx, class 30S

10024538 SavOx-TR, Trainer



SSR 90

SSR 90

The chemical oxygen apparatus SSR 90 provides oxygen on demand during gas outbursts, fires and after explosions. Designed especially for self-rescue, the unit is housed in a robust stainless steel case and can be carried along or kept on site. It provides 60 minutes of rescue oxygen and up to 5 hours while awaiting rescue.

EN 13794 class K60S

D1118701 SSR 90, class 60S

D1118709 SSR 90-TR, Trainer



SavOx Cap 60

SavOxCap 60

SavOxCap 60 is the only chemical oxygen self-rescuer with hood and starter giving 60 minutes duration. The bright orange coloured hood features an integrated half mask with speech diaphragm for voice communication. Packed in a robust stainless steel container it is made specifically for use in facilities and installations where there is a risk of sudden outbursts of toxic gases and vapours and/or oxygen deficiency.

Weight during use: 3,4 kg.

Directive 89/686/EEC
DIN 58639
EN 13794

10073550 SavOxCap 60

10075670 SavOxCap 60-TR, Trainer



SAR 30 L

SAR 30 L

The SAR 30 L is a compact and robust respiratory protective device with full face mask, speech diaphragm, countdown timer and automatic starter system. The apparatus is designed to be used in situations where light work is being done. It can be used wherever the ambient atmosphere may be lacking oxygen or contain toxic contaminants.

In case of emergency the apparatus can be donned in seconds and will supply oxygen to the wearer while working, or while making an escape from a threatened area.

DIN 58652-1

D1131701 SAR 30 L, chemical oxygen apparatus

D1131702 SAR 30 L TR, trainer



Air-Purifying Respirators

Filtered respiratory protection is dependent on the ambient atmosphere. Local regulations concerning the use of filtering devices must be observed.

In order to use filtering respirators, the type, properties and composition of the hazardous agent in the ambient air must be known. The oxygen content in the inhalation air must be sufficient (for example according to German regulations: at least 17 vol %).

When using particle filters, no hazardous gases may be present; when using gas filters, no hazardous particles. In case of doubt, a combined filter must be used.

The most frequently used filters are of the ABEK type, which protect against many hazards at the same time, due to the wide range of protection that they provide. Based on EN 14387, these filters have an application range covering the code letters A, B, E and K. Benefits for the user include: safe selection, no mix-ups, economical procurement, simpler stockkeeping.


High-grade multiple range filters have an even greater sphere of application, e. g. the combined filter 93 ABEK CO NO Hg/St or 93 A2B2E2K2 Hg/St. .

Full Face Masks – APR

MSA's expertise in breathing protection is very evident in its range of full face masks. Comfort and quality, useful accessories and an unbelievable range of filters meet every challenge.

The APR masks are designed for use with filters and powered air purifying devices (please see page 48). For SAR masks (Supplied Air Respirators) please see page 19.

Overview Full Face Masks

Mask	Advantage 3000	3S Basic Plus	3S	Ultra Elite
				
	Versatile solution for industrial applications	Economical solution for industrial applications	Popular solution for various applications	Premium solution for various applications
Main Features	<ul style="list-style-type: none"> • Comfort harness • Single & twin filter use • Wide field of vision • Special filter range • Easy maintenance • 3 sizes 	<ul style="list-style-type: none"> • Compact design • Optimal price-performance-ratio • Wide range of accessories 	<ul style="list-style-type: none"> • > 50 different versions • Optional transponder • Speech diaphragm • Anti-fog airflow • 2 sizes • Wide range of accessories 	<ul style="list-style-type: none"> • > 40 different versions • Optional transponder • Speech diaphragm • Wide field of vision • Anti-fog airflow • 2 sizes
Connections				
Standard EN 148 thread filters	YES (Advantage 3100)	YES	YES	YES
Bayonet twin filters	YES (Advantage 3200)	NO	NO	NO
Other	Special versions for PAPR and KO ₂ devices	PAPR	PAPR, Airline, SAR, Special version for KO ₂ devices	Airline, SAR
Technical data				
Standard	EN 136 class 2 (Advantage 3200) class 3 (Advantage 3100)	EN 136 class 2	EN 136 class 3	EN 136 class 3
Harness options	Patented easy-to-use Advantage harness, Silicone harness	5-point-harness	5-point harness, Special harnesses, Mask-Helmet-Combinations	5-point harness, Special harnesses, Mask-Helmet-Combinations
Lens options	Coated distortion-free PC	Polycarbonate (PC)	PC, Silicate coated PC, Triplex glass	Silicate coated PC
Faceblank	Silicone	Rubber NBR	Rubber NBR, Silicone	Special rubber, Silicone
Nose Cup	TPE	Rubber NBR	Rubber NBR, Silicone	Rubber NBR, Silicone
Weight	480 g	515 g	633 g	714 g

Advantage 3000 Series

The full face mask series Advantage 3000 sets new milestones for full face masks, providing both protection and unparalleled comfort. In order to meet all requirements concerning respiratory protective equipment, the Advantage 3000 comes in two versions, each in three different sizes.

Donning the Advantage 3000 with the patented Advantage harness is unbelievably quick, simple and accomplished without painful hair pulling. Besides its functionality we have provided a large, optically corrected lens which assures a clear, undistorted view. And: the grey-blue colour of the mask creates an aesthetic appearance.

Advantage 3000 Selection

The selection of an Advantage is easier when using its four-digit version number:

- 1) 3 = product line 3000
- 2) 1 or 2 = EN thread or bayonet connection
- 3) 1 or 2 or 3 = small/medium/large
- 4) 1 or 2 = Advantage harness / Advantage harness w silicone strap



Advantage 3200 and Advantage 3100

Advantage 3200 "twin"

This version is identified by the second digit (2), standing for 2 bayonets. With the Advantage 3200, you can use the Advantage filter range as well as the unique TabTec and FLEXifilters. For filter details, please see page 36.

EN 136, class 2

(carton of 22 pcs)

10027727	Advantage 3211, small
10027726	Advantage 3221, medium
10027728	Advantage 3231, large
10042732	Advantage 3212, small
10042733	Advantage 3222, medium
10042734	Advantage 3232, large



Advantage 3100

Advantage 3100 "single"

The Advantage 3100 is identified by the second digit (1) standing for a single filter. It can be used with the full range of filters with thread connector according to EN 148 (see page 42).

EN 136, class 3

(carton of 22 pcs)

10027724	Advantage 3111, small
10027723	Advantage 3121, medium
10027725	Advantage 3131, large
10042664	Advantage 3112, small
10042730	Advantage 3122, medium
10042731	Advantage 3132, large

Filters



Advantage Filter

The Advantage filter line is a complete line of particulate, chemical and combination cartridges approved according to EN 14387 and EN 143, providing the best in lightweight and high-performance filters.

EN 14387, EN 143

(pack of 1 pair)

430375	200 Advantage P3 R, EN 143 (carton of 50 pairs)
430371	201 Advantage A2, EN 14387 (carton of 25 pairs)
10107163	201 Advantage K2, EN 14387 (carton of 25 pairs)
10144827	201 Advantage A1B1E1, EN 14387 (carton of 25 pairs)
430373	201 Advantage A2B2E1K1, EN 14387 (carton of 30 pairs)
430372	202 Advantage A2-P3 R, EN 14387 (carton of 25 pairs)
10107165	202 Advantage K2 P3, EN 14387 (carton of 25 pairs)
10144828	202 Advantage A1B1E1 P3, EN 14387 (carton of 25 pairs)
430374	202 Advantage A2B2E1K1-P3 R, EN 14387 (carton of 25 pairs)
10011347	P2 R (10 pairs) + 2 adapters, EN 143 (carton of 12 sets)

R = Reusable according EN 143:2000 / A1:2006



TabTec® Filter

The patented TabTec filter technology allows the production of filters with minimum housing while maintaining high filtering performance. For use with Advantage full face and half masks.

EN 14387

(pack of 1 pair)

10030510	A1 TabTec gas filter (carton of 72 pairs)
10030511	A2 TabTec gas filter (carton of 60 pairs)
10038476	A2B2E1K1 TabTec gas filter (carton of 60 pairs)
10030514	Adapter for TabTec/FLEXIfilter combination (carton of 80 pairs)



FLEXIfilter

With its extremely flat design, the MSA FLEXIfilter is a superb alternative to traditional particle filters. Available as P2 or P3, as well as with a layer against nuisance odors (OR) which also protects against ozone.

EN 143

(pack of 5 pairs, carton of 8 packs)

10027699	P2 R FLEXIfilter
10027639	P3 R FLEXIfilter
10027697	P3 R FLEXIfilter OR

OR = Odour Removal

R = Reusable according EN 143:2000 / A1:2006

Filters with Standard Thread

For details, please see page 43.



3S Basic Plus

MSA's economy model 3S Basic Plus is typically used in general industry, HazMat remediation and handicrafts. The full face mask 3S Basic Plus is designed for use with filters (EN 148 thread connector) and filtering devices. For filters please see page 43.

EN 136, class 2
(carton of 12 pcs)

D2055790 3S Basic Plus



3S

The 3S mask offers everything a mask wearer needs. Comfortable fit, good communication through speech diaphragm, anti fogging air flow, low weight, no pressure points, low breathing resistance, good vision. With EN 148 thread connector. For filters please see page 43.

EN 136, class 3
(carton of 22 pcs)

D2055000 3S

D2055779 3S small

D2055718 3S Silicone

D2055767 3S-EZ

EZ = Easy-Don Nomex harness



Ultra Elite

Innovative full face mask of black special rubber (optionally silicone) for two-way breathing (valve breathing), with standard thread for respiratory filters, air line appliances, and compressed air breathing apparatus. Pressure-free fit through comfortable single-sealing flange and deep chin cup. Available in two sizes for optimal fit. Silicate coated lens with distortion-free field of vision of almost 100%. Fog-free viewing through flushed lens. Five-point rolling buckle harness and good speech communication. For filters please see page 43.

EN 136, class 3
(carton of 22 pcs)

D2056700 Ultra Elite

D2056779 Ultra Elite small

10013876 Ultra Elite with transponder

D2056718 Ultra Elite Silicone

D2056770 Ultra Elite-EZ

EZ = Easy-Don Nomex harness

Accessories for Full Face Masks



3S-H carrying case



Advantage Container



Mask Spectacle Plastic

Carriers

Carriers for full face masks series Ultra Elite, 3S, 3S Basic Plus and Advantage 3000.

D2055709	3S Carrier (plastic)
D2056734	Ultra Elite Carrier (plastic)
10026179	Advantage Container for all masks (plastic)
D2055400	Elite Carrying bag (nylon soft bag)
D6125067	3S-H carrying case (nylon soft bag)

Mask Spectacles

MSA mask spectacles can be quickly attached to 3S, Ultra Elite and Advantage 3000 masks.

D2055811	3S-M Mask spectacle frame (metal)
D2055954	3S Mask spectacle frame (plastic)
D2056733	Ultra Elite-M Mask spectacle frame (metal)
D2056730	Ultra Elite Mask spectacle frame (plastic)
10037282	Advantage 3000 spectacle frame (metal)



Welding Adapter

Welding Adapters & Cover Lenses

Welding adapters and covering lenses can be easily mounted to the standard MSA masks 3S, Ultra Elite and Advantage 3000.

D2055781	3S Welding adapter (for lens 90 x 110 mm)
D2056701	Ultra Elite Welding adapter (for lens 90 x 110 mm)
D2055706	3S Cover lenses (pack of 10)
10037238	Advantage 3000 cover lenses, clear (pack of 10)
10037237	Advantage 3000 cover lenses, tinted (pack of 10)
D2056702	Ultra Elite cover lenses (pack of 10)

Test Device

Mobile carrying case for testing the tightness of various types of masks.



Test Device

D6063705	Mask tightness tester for all masks
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Traditionally, MSA has always offered high quality half masks. Comfort, efficiency and aesthetics are some of the most important features MSA products stand for.

All half masks come with a full range of filters and accessories. With the exclusive technology used to create the new generation of filters, MSA leapfrogs over all other products currently in existence.



Advantage 410



Advantage 420

Advantage 400 Series

The innovative Advantage 400 half mask stands out due to exceptional comfort and sophisticated design. The user-friendly respirator only consists of three major components, that can be easily cleaned: head harness, nose cup and 4-point yoke.

The patent-pending single loop head harness is unique to the market. It grants the user an intuitional operation and offers high comfort and flexibility. The drop-down option allows the user to remove the mask from the face without removing his other safety equipment (like helmet, ear muffs or spectacles). The respirator can be worn along the chest until the next use. Lock-down permits to set the harness to the proper fit. It can be then reused without any further adjustments.

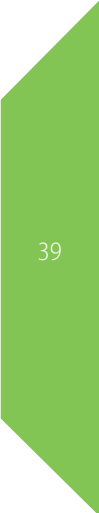
The one-piece MultiFlex nose cup is made of soft and smooth co-molded silicone and rigid plastic. This unique combination gives the face piece great durability and extraordinary stability when worn, without compromising comfort.

The Advantage 400 is either available with single thread EN 148-1 connection (Advantage 410) or with twin bayonet MSA connection (Advantage 420). For both versions MSA offers a wide range of different filters, suitable for all applications.

EN 140

10102276	Advantage 410, small
10102277	Advantage 410, medium
10102278	Advantage 410, large
10102273	Advantage 420, small
10102274	Advantage 420, medium
10102275	Advantage 420, large

The weight of a single filter shall not exceed 300 g when used with the Advantage 410





Advantage 200 LS with TabTec®

Advantage 200 LS

The Advantage 200 LS half mask is ideal for applications where workers are exposed to various hazards from job to job, such as high concentrations of fumes, mists and gases. Offering unmatched fit and comfort, it's the first respirator to feature MSA's patented MultiFlex system, a soft, pliable combination of rubber and plastic that provides a customised fit, instantly conforming to the wearer's unique facial characteristics. Three available sizes raise standards of fit and comfort up another notch.

The Advantage 200 LS has a full line of particulate, chemical and combination cartridges, approved according to EN 14387 and 143. To meet your individual needs you could choose between the classic Advantage filters and the exclusive range of TabTec and FLEXifilters, please see page 36.



Pouch

EN 140

(carton of 48 pcs)

430357	Advantage 200 LS, small
430356	Advantage 200 LS, medium
430358	Advantage 200 LS, large
10016038	Pouch for Advantage 200 LS

The service time of respiratory filters depends on the conditions of use. For gas or combined filters that are used against gases, the end of a filter's service life can usually be detected by odour, taste or irritation during inhalation. Some filters have a specified maximum service time (CO filter cartridges, combined filters 93 Hg/St).






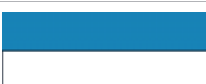
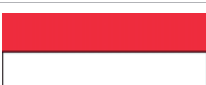
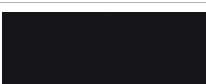


For particle filters or combined filters that are used against particles, the end of service time can be detected by an increase in inhalation resistance.

With combined filters – depending on the predominant protective function – both criteria must be observed. Particle filters must only be used once against radioactive contaminants, spores, bacteria, virus and proteolytic enzymes.

The 9X series of MSA gas and combination filters are in full compliance with the REACH regulation and do not include any toxic materials listed in the European Regulation.

For Advantage filters and the exclusive range of TabTec and FLEXifilters please see page 36.

Applications, Markings

Colour mark	Type	Application	Class	Max. allowed gas concentration	Standard
	A	Organic gases and vapours (boiling point > 65°C)	1 2 3	1000 ml/m ³ (0.1 Vol.-%) 5000 ml/m ³ (0.5 Vol.-%) 10000 ml/m ³ (1.0 Vol.-%)	EN 14387
	B	Inorganic gases and vapours (not CO) e.g. chlorine, H ₂ S, HCN	1 2 3	1000 ml/m ³ (0.1 Vol.-%) 5000 ml/m ³ (0.5 Vol.-%) 10000 ml/m ³ (1.0 Vol.-%)	EN 14387
	E	Sulfur dioxide and acidic gases and vapours	1 2 3	1000 ml/m ³ (0.1 Vol.-%) 5000 ml/m ³ (0.5 Vol.-%) 10000 ml/m ³ (1.0 Vol.-%)	EN 14387
	K	Ammonia and organic ammonia derivatives	1 2 3	1000 ml/m ³ (0.1 Vol.-%) 5000 ml/m ³ (0.5 Vol.-%) 10000 ml/m ³ (1.0 Vol.-%)	EN 14387
	AX	Organic gases and vapours (boiling point < 65°C) of low boiling substance groups 1 and 2	–	Gr. 1 (100 ml/m ³ max. 40 min.) Gr. 1 (500 ml/m ³ max. 20 min.) Gr. 2 (1000 ml/m ³ max. 60 min.) Gr. 2 (5000 ml/m ³ max. 20 min.)	EN 14387
	NO-P3	Nitrogen oxides e.g. NO, NO ₂ , NO _x and particles	–	Maximum allowed time of use 20 minutes	EN 14387
	Hg-P3	Mercury vapours and particles	–	Maximum allowed time of use 50 hours	EN 14387
	CO*	Carbon monoxide	–	Local guidelines	DIN 58620 EN 14387
	Reactor P3*	Radioactive iodine and particles	–	Local guidelines	DIN 3181*
	P	Particles	1 2 3	Max. filter penetration 20 % Max. filter penetration 6 % Max. filter penetration 0.05 %	EN 143 EN 14387

*only colour mark and type standardized

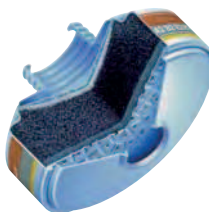
An Excerpt from our Wide Range

Description	Part No.	Pack of	Packs in Carton	Acc. to DIN/EN	Weight	Ø/Height in mm	Thread Connector
Particle Filters							
Pre Filter for Filter cartridge	D1070754	12	-	flame resistant	3 g	107/35	P3 PlexTec, series 92 & 93
Particle Filter P3 PlexTec	10094376	10	20	P3 R	80 g	104/46	EN 148-1
Gas Filters							
Gas Filter 90 A	10115187	1	32	A2	230 g	107/70	EN 148-1
Gas Filter 90 AB	10098113	1	32	A2, B2	230 g	107/70	EN 148-1
Gas Filter 90 E	10115349	1	32	E2	> 300 g	107/70	EN 148-1
Gas Filter 90 K	10115320	1	32	K2	> 300 g	107/70	EN 148-1
Gas Filter 90 ABE	10152442	1	32	A1, B1, E1	185 g	107/70	EN 148-1
Gas Filter 90 ABEK	10098114	1	32	A2, B2, E2, K1	255 g	107/70	EN 148-1
Gas Filter 90 AX	10108408	1	32	AX, A2	230 g	107/80	EN 148-1
Gas Filter 90 ABEK2	10098112	1	32	A2, B2, E2, K2	290 g	107/77	EN 148-1
Combined Filters							
Combined Filter 92 A/St	10115188	1	32	A2-P2 R D	260 g	107/85	EN 148-1
Combined Filter 92 AB/St	10097994	1	32	A2, B2-P2 R D	270 g	107/85	EN 148-1
Combined Filter 92 ABEK/St	10097995	1	32	A2, B2, E2, K1-P2 R D	295 g	107/85	EN 148-1
Combined Filter 92 ABEK2/St	10097996	1	32	A2, B2, E2, K2-P2 R D	350 g	107/93	EN 148-1
Combined Filter 93 A/St	10115189	1	32	A2-P3 R D	260 g	107/85	EN 148-1
Combined Filter 93 AX/St	10108409	1	32	AX-P3 R D	260 g	107/85	EN 148-1
Combined Filter 93 AB/St	10097993	1	32	A2, B2-P3 R D	270 g	107/85	EN 148-1
Combined Filter 93 K/St	10115190	1	32	K2-P3 R D	295 g	107/85	EN 148-1
Combined Filter 93 ABE/St	10147479	1	32	A1, B1, E1-P3 R D	215 g	107/70	EN 148-1
Combined Filter 93 ABEK-Hg/St	10097231	1	32	A2, B2, E2, K1, Hg-P3 R D	295 g	107/85	EN 148-1
Combined Filter 93 ABEK2-Hg/St	10097232	1	32	A2, B2, E2, K2, Hg-P3 R D	350 g	107/93	EN 148-1
Special Filters							
Combined Filter 93 Hg/St	10115201	1	32	Hg-P3 R D	270 g	107/85	EN 148-1
Combined Filter 93 NO-CO/St	10115314	1	32	NO-P3 R D	470 g	107/85	EN 148-1
Combined Filter 93 ABEK-CO-NO-Hg/St	10115315	1	32	A1, B2, E2, K1, CO, NO, Hg-P3 R D	420 g	107/93	EN 148-1

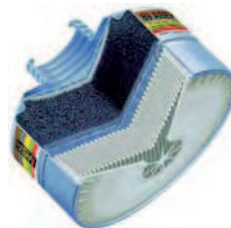
R = Reusable according EN 143:2000 / A1:2006; D = Dolomite dust tested



Particle Filter



Gas Filter



Combined Filter

Filters with Standard Thread



Advantage 3100 with Particle Filter

Particle Filter

With large retention capacity for protection against solid and liquid particles of toxic agents, e.g. radioactive and carcinogenic particles.

With its significantly increased filtering surface the high-performance particle filter P3 PlexTec reduces inhalation resistance and improves filtering performance and service time, while at the same time allowing slightly more relaxed breathing.

EN 143

10094376 Particle Filter P3 PlexTec (pack of 10)

10114676 Particle filter P3 PlexTec (pack of 100)



Particle Filter
P3 PlexTec



3S with Gas Filter

Gas Filter

For protection against organic or inorganic gases and vapours, according to the required protection range. Gas filter classes 1 or 2, single or multiple range filter (ABEK).

EN 14387

Various types, please see page 42



Gas Filter 90



3S with Combined Filter

Combined Filter

For protection against organic or inorganic gases and vapours, according to the required protection range, as well as against solid and liquid particles. Single and multiple range filters (ABEK/St). Also available, a filter for protection against radioactive iodine and its organic compounds, especially methyl iodide. In addition, special filters for carbon monoxide, low-boiling compounds, nitrous gases, mercury, etc.

MSA combined filters have been redesigned and upgraded by using the PlexTec media to provide even better comfort for the user.

EN 14387

Various types, please see page 42



Combined Filter 93

Filter Escape Devices



miniSCAPE

miniSCAPE

Using the latest filtering media TabTec technology, the miniSCAPE is a onetime use escape device with 5 minutes service time. It is equipped with mouthpiece and nose clip. Small and handy, the miniSCAPE fits into the pocket of a lab overall or any work clothing. It can also be belt carried, with the very practical integrated belt clip. In case of emergency, it can be donned very quickly and is immediately operational. In case of sudden and unexpected outbreaks of toxic gases or vapours at the workplace, personnel can quickly and safely leave the danger area using the miniSCAPE.

The hygienic and convenient plastic casing allows the device, if unused, to be distributed indefinitely to different people, for example mechanics, visitors or shift workers.

ABEK-5 DIN 58647-7

10038560 miniSCAPE in plastic housing



MSR 2

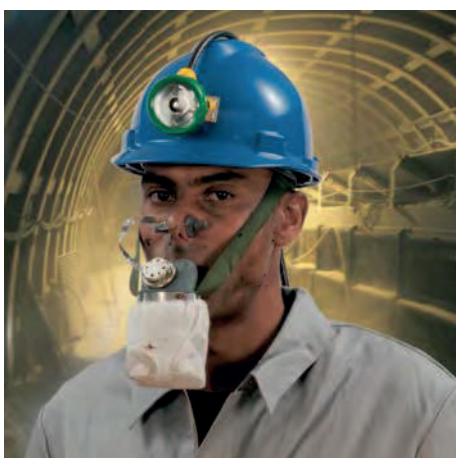
MSR 1 & MSR 2

The MSR 1 provides protection against hazardous gases of the types A, B, E and K. The MSR 2 also provides protection against particles (P2). Both devices are packaged in a robust carrying container with belt clip.

ABEK-15 DIN 58647-7

D2264700 MSR 1 escape respirator

D2264701 MSR 2 escape respirator



W65-2

W65-2 & W95

The MSA Filter Self-Rescuers W65-2 and W95 for one-time escape use provide protection against toxic carbon monoxide (CO) and other gases emitted in underground mine fires or explosions. The W65-2 is a standard Filter Self-Rescuer. The W95 is designed for extended escape routes. Both devices are available in shoulder carrying mode or with integral belt loop and as trainer version.

EN 404 (FSR 4BR)

D1035701 W65-2

10064638 W65-2 BL (with belt loop)

D1034700 W95

10014932 W95 BL (with belt loop)



Belt loop



Shoulder carrying mode



S-CAP

S-CAP

S-CAP is an escape hood especially designed to protect persons endangered by smoke and gases generated by fires. The most dangerous of these gases is carbon monoxide.

S-CAP provides effective protection for eyes, head and especially the respiratory tract, and thus rescue can be effected with little risk. Even for those who wear spectacles, the donning of the device is very fast and easy.

The S-CAP Trainer is a device to be used by rescue teams to train potential users. The standard yellow hood is included in a blue bag, closed by velcro straps intended to simulate the tearing of the aluminized foil bag.

EN 403:2004

10064644	S-CAP in cardboard box
10064645	S-CAP in luminescent wall box
10064646	S-CAP in fireman's pack (pack of 3)
10081637	S-CAP in pouch
10113222	S-CAP in pouch w/o carrying strap
10101163	S-CAP in container Elite (pack of 2)
10146795	S-CAP Trainer hood without filter, in pouch
B1446031	Filter holder for Trainer
B1446030	Filter pads for Trainer (pack of 100)
10146807	Spare hoods (3 pcs)



Wall Box



Pouch



Container Elite



Trainer



Smoke Hood

Smoke Hood

The Smoke Hood is an emergency escape respirator, designed to the exacting requirements of the North Sea oil production industry, for self rescue from fire incidents where smoke, carbon monoxide and other toxic gases may be present.

The hood provides protection against radiant heat while the neck seal provides additional protection against smoke rising inside the hood. A self-adjusting, one size fits all, head harness allows quick and easy donning.

EN 403:1993

B1440005	Smoke Hood
B1446021	Smoke Hood Trainer (without filter holder)
B1446031	Filter holder for Trainer
B1446030	Filter pads for Trainer (pack of 100)



Smoke Hood in Bag



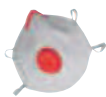
Filtering Face Pieces

Affinity Range

A full range of disposable masks for both professional and DIY (Do-It-Yourself) use. Different types of masks cover the protection levels FFP1 to FFP3 to enable safe work in various applications. The "Odour-Removal" (OR) versions offer relief from unpleasant odours, e.g. of acid gases (incl. HF), in concentrations below TLV (nuisance levels).

Affinity is true to its name: automatically conforming to the face. The Affinity product line, with the versions 1100 and 2100, provides every user with a compatible respirator according to the latest European Standards.

All Affinity masks are compatible with MSA Protective Eyewear (see page 74).

Applications	Color	Type
Grinding, Sanding, Cutting, Sweeping, Sawing, Bagging		FFP1
Machining, Welding, Brazing, Plastering, Insulation Installation		FFP2
Pharmaceuticals, Industrial Processes, Asbestos Environments		FFP3

Approvals

The products have been tested and approved according to the latest revision of EN 149:2008 (solid and liquid particles) which now includes the loading test, described in the amendment A1 of EN 143:2000. The classification of these products is NR (not reusable), i.e. for single shift use only.



FFP1



FFP2



FFP3



Affinity 1100

Affinity 1100

The AnthroCurve sealing flange ensures that these cup shaped respirators fit safely and comfortably. Furthermore a pre-shaped nose band and inner nose foam make adjustment easy and provide improved comfort. The FFP3D version comes additionally with an adjustable elastic band for easy donning and doffing.

The selected filter materials of Affinity 1100 are Dolomite tested to guarantee better breathing comfort, particularly in high dust environments.

EN 149:2001

10128847	Affinity 1110 FFP1 NR D, green (pack of 10, carton of 12 packs)
10128848	Affinity 1111 V FFP1 NR D, green (pack of 10, carton of 12 packs)
10128849	Affinity 1120 FFP2 NR D, yellow (pack of 10, carton of 12 packs)
10128850	Affinity 1121 V FFP2 NR D, yellow (pack of 10, carton of 12 packs)
10128873	Affinity 1141 V OR FFP2 NR D, blue (pack of 10, carton of 12 packs)
10128871	Affinity 1131 V FFP3 NR D, red (pack of 5, carton of 12 packs)

D = Dolomite tested
OR = Odour Removal
V = with Valve



Affinity 2100

Affinity 2100

Affinity 2100 foldable disposable respirators offer high-performance light filtering media, which are thin and light, and provide a comfortable fit even when used for longer periods. The low-profile design with vertical fold makes it ideal for use under welding hoods or in any tight spot where a respirator must be worn. A pre-shaped nose clip allows for easy contour adjustments to achieve a snug fit that prevents exhaled breath from escaping and fogging safety glasses. A colour coding system ensures easy identification of the protection level and helps the user to select the right kind of mask for any given application.

Due to the exceptional quality of the filtering media, Affinity 2100 masks have a storage life of 5 years, from the date of manufacture.

EN 149:2001

(pack of 15, carton of 12 packs)

10128874	Affinity 2110 FFP1 NR D, green
10128875	Affinity 2111 V FFP1 NR D, green
10128876	Affinity 2120 FFP2 NR D, yellow
10128877	Affinity 2121 V FFP2 NR D, yellow
10128878	Affinity 2131 V FFP3 NR D, red

D = Dolomite tested
V = with Valve

Powered Air-Purifying Respirators

A wide range of occupations require long periods of time in unhealthy or even toxic environments. Typical applications are work with hazardous materials such as asbestos removal, paint and lacquer spraying, welding, chemical plants, agriculture and medicine. The use of a traditional non-powered filter system over time adds a significant strain on breathing and increases body temperature.

When long-term breathing protection is necessary, a Powered Air-Purifying Respirator (PAPR) is the way to go. Breathing remains easy and free from resistance even after hours of work. Maximum safety, flexibility and ease-of-handling allows the user to concentrate on his work.



OptimAir 3000

OptimAir® 3000

The OptimAir 3000 is the next generation PAPR to protect against hazardous particles, gases and vapours. Our specially designed OptimAir 3000 EX unit can also be used in areas where there is a potential danger of ignition. Driven by a powerful low profile blower, OptimAir 3000 is the most advanced High-Tec system using an exclusive stackable filter system. Easy to use (one-button operation) and ergonomic.

EN 12941, EN 12942

10049557	OptimAir 3000 (Standard unit with 130 l airflow, NiMH Battery, Charger and Comfort Belt)
10049558	OptimAir 3000 A (Unit with 160 l airflow, OptimAir Mask w/Hose, Particle Filter [pack of 10], NiMH Battery, Charger and Decon Belt)
10049559	OptimAir 3000 EX (Unit with 130 l airflow, NiMH EX Battery, Charger and Comfort Belt)



OptimAir Mask

Head Pieces

The OptimAir 3000 features a wide range of specially designed head pieces (full face masks, hoods, hooded helmet, welder's screen and visor) to cover most applications.



OptiVizor



OptiTop

EN 12941, EN 12942

10051810	OptimAir Mask with hose (TM3)
10051807	OptiTop (Hooded helmet) (EN 397), (TH3) with hose
10051805	OptiHood Demi (TH2) without hose
10051806	OptiHood Full (TH2) without hose
10049638	OptiVizor (Face shield) without hose (TH2) (EN 166)
10049639	OptiVizor W (Welder's screen) complete (TH2) without hose (EN 166, EN 175)
10049630	Hose for masks
10049631	Hose for hoods and visors



OptimAir 3000 Filters

Depending on the application, the following filters can be used with the OptimAir 3000.

(pack of 10)

10049632	OptimAir 3000 Particle filters
10049635	OptimAir 3000 ABEK filters
10049637	OptimAir 3000 A2 filters



Head, Eye, Face & Hearing Protection

Due to their importance and sensitivity, the protection of the head, face, vision and hearing is a paramount consideration in many working environments.

Whether required for the special, most demanding requirements of firefighters, rescue teams and policemen or for the wide field of industrial use, MSA provides a huge selection of the best head protection, integrated or attached face shields, advanced systems for communication and hearing protection as well as fashionable protective eyewear.

These products are extremely reliable and comfortable and are designed to work perfectly in conjunction with all MSA equipment, e.g. respiratory protectors.

Furthermore, a complete range of accessories is available to suit your individual needs.

Head Protection



A great many professions today require the wearing of helmets as protection against a variety of risks.

As the European leader in head protection, MSA's mission is to protect the heads and lives of highly-trained professionals, such as firefighters, aircraft and helicopter pilots, soldiers and policemen.

MSA develops solutions that provide greater safety and effectiveness in global head protection systems, including integrated accessories like lamps and communication systems.

Firefighting

The entire range of helmets for firefighters provides head protection in various types of operation, like structural firefighting, operations during forest fires, rescue missions, traffic rescue and hazardous environment operations.

Police

Law enforcement helmets, with or without ballistic protection, are designed for special support teams, which are exposed to ballistic or terrorist threats.

Industry

With several models to choose from depending on the level of protection required, and available in a range of colours, MSA safety helmets provide high impact and penetration protection, combined with comfortable wearing support.

Combat & Aeronautic

MSA supplies combat helmets designed according to the customer's needs and wishes which also feature high ballistic performance that meets the exacting requirements of armed forces worldwide.

Moreover, MSA manufactures high technology, state-of-the-art aeronautic helmets for jet-aircraft and helicopter pilots throughout the world.

For further information on these helmets, please contact your local MSA office.

It is essential for firefighters to have optimum protection while performing their difficult and dangerous missions. The F1 advanced head protection system has been designed in cooperation with fire brigades around the world. Its unique design protects the firefighter against various dangers, including falling objects, electrical hazards, heat and flames.

The helmet system offers a wide variety of options such as a comprehensive range of neck curtains and visors, as well as adaptable face masks, lamps and communication systems. The mask-helmet-combination offers even greater breathing protection. The SCBA face piece can be attached directly without the need to take off the helmet, ensuring continuity of head protection.



Gallet F1 XF

The Gallet F1 XF fire helmet provides superior protection, integration of functionalities, comfort of use and modularity. The configurable design, with ergonomic eye and face protection, adjustable mask adapters as well as proximity lighting and communications and hearing protection options, makes the Gallet F1XF the perfect solution for structural and outdoor firefighting, technical rescue operations and road traffic accidents.

The Gallet F1 XF is available in size M (52-62 cm) and L (57-65 cm) and a variety of colours for helmet, reflectants and front plates that can be customized with metal badges and printings. The helmet interior is available in Nomex or leather. Neck curtains come in 4 options.

EN 443:2008, EN 14458:2004

GXM2111100000-JL35	Gallet F1 XF, M, fluorescent yellow, gold coated faceshield, ocular visor EN 14458, textile interior, aluminized neckcurtain, gold frontplate
GXL1121200010-VF16	Gallet F1 XF, L, photoluminescent, clear faceshield, ocular visor, leather interior, integral neckcurtain wool+nomex, black frontplate
GXM1011100000-RE35	Gallet F1 XF, M, red, clear faceshield, textile interior, aluminized neckcurtain, gold frontplate
GXL2121100110-VF16	Gallet F1 XF, L, photoluminescent, gold coated faceshield, ocular visor, leather interior, aluminized neckcurtain, integrated illumination module, black frontplate

This is just a small selection of possible configurations. Please contact us for more options .





F2 X-TREM

The F2 X-TREM is a high performance helmet for a variety of rescue missions like forest fires, natural disasters, traffic accidents and industrial environments. It protects against falling and laterally impacting objects as well as perforation and offers high resistance to lateral deformation and elevated temperatures.

The different helmet versions are available in numerous colours (including high visibility and photoluminescent) and can be ordered with customizable retro-reflective stickers, goggles, chinstraps and neck curtains. Further accessories include a range of visors, ear muffs, lamps and communication systems. Choosing from all these options, the F2 X-TREM helmet can be individually configured.



Certification according to head protection standards applicable to technical rescue, wildland fires and other applications depending on the helmet configuration

GA3112100000-JDB00	F2 X-TREM vented shell, yellow, silver reflectants, 3-pt chinstrap, Responder goggle, lamp support
GA3110000000-OBB00	F2 X-TREM vented shell, fluorescent orange, silver reflectants, 3-pt chinstrap
GA3210000000-REJ00	F2 X-TREM non-vented shell, red, yellow reflectants, 3-pt chinstrap

This is just a small selection of possible configurations. Please contact us for more options .





Gallet F1 XF Options and Accessories

Accessories developed to fit the Gallet F1XF helmet can be mounted easily to enhance its functionality.

Electronic components are ATEX approved for use in potentially explosive atmospheres.

Communication devices are connected via a Push-to-Talk (PTT) unit that can be adapted to 100+ radios (see page 56).

Level-dependant hearing protection greatly enhances communication and situation awareness in operations with exposure to noise.

GA1087A	Ocular visor kit for F1 XF, EN 14458
GA1484	Integrated light module for F1 XF
GA1485D	External lamp bracket
GA1116A	Aluminized neck curtain
GA1116B	Integral wool/Nomex neck curtain
GA1116C	Nomex neck curtain
GA010002B3X	Flexible microphone headset for F1 XF, 1 speaker
GA010002D3X	Hearing protection with flexible boom microphone for F1 XF, SNR 26 dB



Integrated light module



Nomex neck curtain



Hearing protection with flexible boom microphone



Responder Goggle

Designed for rescue teams and forest firefighters, these high performance goggles provide advanced eye protection against a multitude of hazards, like impacts, liquid splash, smoke, heat, hot solids, dust, wind and ultraviolet radiation.

Furthermore, the optimized combination with the F2X-TREM helmet is the optimal solution for long-term operations in all kinds of rescue and forest fire fighting applications.

EN 166-3459-BT KN

GA3027B	Responder goggle, Premium anti-fog and anti-scratch coating
GA3027C	Spare headband (10 pcs)





Ear Muffs for F2 X-TREM

In various rescue applications hearing protection is required in addition to head protection, as the wearers are often exposed to very high level noise sources. MSA offers ear muffs especially designed for F2X-TREM helmets.

SOR12015 X-TREM passive hearing protection



Visors for F2 X-TREM

For the combination with F2X-TREM helmets, two carriers and various optical class 1 visors are available. The visors are compatible with X-TREM hearing protectors.

EN 166, EN 1731
(carton of 20 pcs)

SOR60020 Visor carrier to mount on F2 X-TREM with ear muffs

SOR60022 Visor carrier to mount on F2X-TREM without ear muffs

SOR60040 Clear PC visor, 20 cm (1, F, 3, 9)

SOR60043 Clear PC visor, 20 cm, for electric arcs (B, 3, 8, 9)

SOR60044 Clear PC visor, 23 cm, (B, 3, 9)

SOR60045 Clear PC visor, 20 cm, anti-fog/anti-scratch (F, 3, 9)

SOR60060 Metal mesh visor (S)

SOR60065 Nylon mesh visor (S)

PC = Polycarbonate

1 = Optical class 1

Mechanical strength:

B = 120 m/sec

S = 12 m/sec

F = 45 m/sec

Protection against:

3 = liquid splash

8 = short circuit electric arc

9 = molten metals and hot solids



PC Visor



Mesh Visor

Lamp XPS

The Lamp XPS is compact, lightweight and economical. Its high power LED is powered by 3 AA batteries to provide a highly penetrating light beam featuring over 50 lumens during 8 hours.

ATEX Zone 0, T4

GA1488	Lamp XPS (with batteries, without support)
GA1485D	External lamp bracket for Gallet F1 XF
GA1431	Support for F1S, F1E helmets
GA1426	Support for vented F2X-TREM helmets



Lamp XP LED

The high power Lamp XP LED provides a high penetration in heavy fume environments thanks to its unique light reflection system. It is designed for a 7 h burning time with 4 batteries and features 65 lumens with a 1 W LED.

ATEX Zone 0, T4

GA1464	Lamp XP LED (with batteries, without support)
GA1485D	External lamp bracket for Gallet F1 XF
GA1431	Support for F1S, F1E helmets
GA1426	Support for vented F2X-TREM helmets



Lamp XS

The Lamp XS is a short range 0.18 W LED lamp. With its white light and 8.9 lumens it is ideal for reading maps or illuminating a working area. The Lamp XS has an extended burning time (up to 130 hours) and limited weight. It comes with adapter and lanyard.

ATEX Zone 0, T6

GA1466	Lamp XS (with batteries and support)
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AS-R Lamp

The rechargeable AS-R Lamp for firefighting helmets and operations combines excellent performance, increased functionality and a compact ergonomic design. The high intensity LED has a 3 h burn time providing 135 lumens and a power saving mode with a 6 h burn time. A flashing red LED indicates the user's position in the dark and smoke. Comes with Li-ion battery, charge indicator and option for multiple lamp chargers.

ATEX Zone 0, T4

GA1481	AS-R Lamp, without support
GA1483A	Individual charger for AS-R Lamp
GA1485D	External lamp bracket for Gallet F1 XF
GA1431	Support for F1S, F1E helmets
GA1426	Support for vented F2X-TREM helmets



Communication Systems

Push to Talk Module (PTT)

Robust and easy to handle PTT to connect all MSA Gallet headsets via an anti-tearing LEMO plug. Connections available to more than 100 PMR radios via a download cable and specific plug. Variants for selected ATEX radios are available.



GA010314249 PTT for MICRO/F1 XF Flexible Micro, Motorola GP320 series

GA01021424K PTT for OSTEO, Motorola DP3400 series

GA010414249 PTT for L'COM, Motorola GP320 series

MICRO

The MICRO system is a microphone and a loud-speaker all in one. Small and light, the MICRO can be easily fitted into the helmet, or it can be used independently, for example, in gas tight suits. This system is available for more than 100 different types of radios.



GA01000231 MICRO Headset for F1 helmets

GA01000232 MICRO Headset for F2 helmets

OSTEO

OSTEO uses the principle of osseous sound transmission, whereby background noises are effectively filtered out. This system is available for more than 100 different types of radios.



GA01000221 OSTEO Headset for F1 helmets

GA01000222 OSTEO Headset for F2 helmets

L'COM

L'COM is a non-integrated, independent communication kit that is worn separately inside the helmet. The ears remain free allowing wearers to remain in immediate contact with their surroundings. Its revolutionary technology makes it one of the most advanced communication systems of its kind. A high level of safety is provided by the self-breaking plug.



GA0104X11XX L'COM System with plug

For communication systems for full face masks please see page 22. For communications systems designed for Gallet F1 XF helmets please see page 53.

Please contact us for more details on available radio connections.

Police and law enforcement forces are subject to a wide variety of risks, dangers and physical attacks during the course of their work. Therefore they need personal protective equipment which they can rely on at all times. MSA offers a range of law enforcement helmets with a high quality of performance, intended for riot control during demonstrations

or other incidents of public disorder, where the wearer is exposed to the risk of injury from projectiles, gas, smoke and other hazards. The helmets and full face masks together create a total head and respiratory protection system.



MO 5006

The jet-shaped helmet shell is equipped with a comfortable, soft inner padding, 3-point chinstrap with locking buckle and anti-strangulation system, a curved face shield and a 4-stud neck curtain. The integration of a bone microphone communication system is also possible. The helmet is resistant to damage and penetration from blunt and sharp objects, and protects against aggressive chemicals, as well as fire and flames.

With the face mask 3S-H-A, the MO 5006 can be enhanced with an integrated mask-helmet protection system that meets international requirements.

The helmet is available for head sizes from 51 to 64 cm in white, black and olive-green.

Accessories: protection cover, carrying bag, belt buckle.

Approvals: technical specification of the German Police, Motorcycle Standard EN 22-03 for shock absorption, Mask-Helmet-Combination 3S/MO5006: prEN 137:2002 (flame engulfment), EN 136:1998.

GA5006*X MO 5006 with curved face-shield and 4-stud neckcurtain

GA5016*X MO 5006 with curved face-shield with add-on anti-fog Pinlock® and 4-stud neckcurtain

* **Helmet colour references:** White= BE, Olive-green= VK, Black= NE, Green= VA, Matt Black= BU (only for GA5006*X)
X: Depending on the size (available from XXXS to XXXL)



MO 5011R

The MO 5011R is intended for riot control and law enforcement operations which may involve the risks of projectiles, gas, smoke, etc. The helmet can be fitted with a respiratory mask and is equipped with a curved face-shield.

The polycarbonate shell is injection moulded. The cradle is comfortable and adjustable by means of self-gripping parts. The leather chinstrap has an anti-strangulation system.

Two side holes on the shell make hearing easier and three back holes mean better ventilation.

Sizes range from 52 cm to 62 cm (6 1/2 to 7 3/4).

Three colours are available: white, blue, black.

Performances: compliant to EN 397 (low shocks, penetration, flame, retention system strength), anti-scratch treated and high protection face-shield.

GA5011R-BA00 MO 5011R with anti-shock curved face-shield (4 mm), white

GA5011R-IA00 MO 5011R with anti-shock curved face-shield (4 mm), blue

GA5011R-NE00 MO 5011R with anti-shock curved face-shield (4 mm), black

GA5011R-VV00 MO 5011R with anti-shock curved face-shield (4 mm), green

Please contact us for other versions.



3S-H-A Police Full Face Mask

Whenever respiratory protection is required, the 3S-H-A mask can be attached to the MO 5006 without the necessity of removing the helmet. Adjustable rubber straps allow the mask to be connected quickly and securely to the helmet.

If the mask is worn without the helmet, a supplementary harness is available which attaches simply and quickly to the mask.

The 3S-H-A has a round thread connector (EN 148-1) and comes with helmet adapters.



EN 136

10058157	3S-H-A Police, with carrying strap
10061667	3S-H-A Police, small, with carrying strap
10058272	3S-H-A Police, without carrying strap
10061666	3S-H-A Police, small, without carrying strap
10056607	3S-H-A Supplementary harness Advantage
10060802	Combined Filter M89 ABEK2 Hg P3

Special forces and soldiers are responsible for our safety and must face a new reality when preparing for any possible threat to the security of the country. With today's increasing need for specialized Personal Protection, MSA has invested significant resources in its research and engineering capabilities, including ballistic testing chambers.

MSA's test laboratories use highly sophisticated technology to develop and test our products to the most rigorous and punishing standards. We take the business of protecting our troops very seriously, as evidenced by our long history of intimate working relationships with military command.



TC800 & 500 Series

The Gallet TC 800 and TC 500 ballistic helmets are adapted to different applications:

Combat, where gear needs to be robust and reliable, and where strategies co-exist with modern technologies and equipment.

Airborne Missions, which are complex and require different equipment (free fall jumps, O₂ equipment, specific wings).

Anti-Terrorism and Special Operations, where teams often operate under high ballistic threats. Each team member designs his own, unique equipment configuration.

Intelligence Operations, where the different phases of the missions (infiltration, intelligence gathering and exfiltration) require lightweight and discrete equipment.

The helmets are available in 3 ear cuts and in green, black, or tan with a non-reflective finish.



Gallet TC 800 Series: V50 670 m/s with 17gr fragment from STANAG 2920, level IIIA with ammunitions described in NIJ-STD-0101.06

Gallet TC 500 Series: V50 550 m/s with 17gr fragment from STANAG 2920, level II with ammunitions described in NIJ-STD-0106.01

GC1431320001000000 TC 501 (ear cut), NATO green, with side rails and NVG interface

GC1431330001000000 TC 501 (ear cut), Tan, with side rails and NVG interface

GC3231320001000000 TC 800 (ACH cut), NATO green, with side rails and NVG interface

GC3331310001000000 TC 802 (mid ear cut), black, with side rails and NVG interface

Please contact us for other versions.



TC Tactical

Bulletproof helmet equipped with shock protective face-shield and neck curtain for riot control and peace keeping missions involving ballistic threat.

**Compliant to EN 397 (slow shocks, penetration, flame, retention system strength)
Resistance to bullets: Level IIIA according to NIJ-STD-0106.01 and NIJ-STD-0101.03
ammunitions**

GA8514R2-NA00 TC Tactical, with anti-shock face-shield, belt strap, soft carry bag

Please contact us for other versions.



TC Special Forces V2

Bulletproof helmet equipped with level IIIA ballistic face-shield for missions with high ballistic threat levels.

**Compliant to EN 397 (slow shocks, penetration, flame, retention system strength)
Resistance to bullets: Level IIIA according to NIJ-STD-0106.01 and NIJ-STD-0101.03
ammunitions**

GA8514R1-NA00 TC Special Forces V2 black with ballistic face-shield level IIIA

Please contact us for other versions.



KFS V2

Bulletproof helmet for assault in crisis situations under high ballistic threat levels.

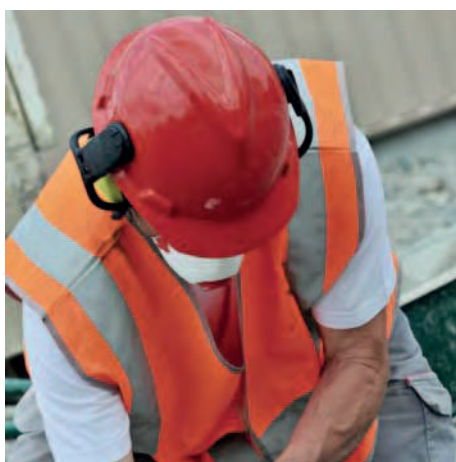
**Helmet: Superior to level IIIA according to NIJ-STD-0106.1 and NIJ-STD-0101.03
Bullet-proof face-shield and neck curtain: Level IIIA according to NIJ-STD-0106.01
and NIJ-STD-0101.03 ammunitions**

GA8512-NE00 KFS V2 with level IIIA neck curtain and face-shield

Please contact us for other versions.

Head protection is required in almost every industry where restricted headroom, falling objects or working at dangerous heights pose a risk of serious injury. In many workplaces head protection is mandatory, and it is the main form of personal protective equipment worn by millions of people every day. With over four decades of experience in the development and manufacture of safety helmets and head/face protection,

MSA has acquired the expertise, and created a wide range of products, to meet all your safety needs. Our programme of continuous development also means that we are constantly striving to anticipate and meet all your future needs. With the help of your invaluable input, we have developed the MSA V-Gard range, the ultimate in headgear comfort and protection.



V-Gard

V-Gard

The popular V-Gard features a high density polyethylene (HDPE) shell and a textile suspension. It is compatible with the full range of MSA safety helmet accessories and is available in high-visibility orange and yellow, as well as the standard range of colours. It is certified according to EN 397, with the following optional requirements:

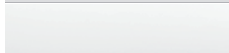







- very low temperature (-30 °C)
- electrical insulation (440 V AC)

It is also approved to the following standards:

- EN 50365 - Electrically insulating helmets for low voltage installations
- EN 13463-1 - Use in Potentially Explosive Atmosphere (ATEX, Zone 1, 2, 20, 21, 22)
- GOST (Russia) with optional requirements (-50°C)

For details, please see leaflet 06-104.2.



Colour	V-Gard with Fas-Trac suspension with PVC sweatband sewn	V-Gard with Staz-On suspension with PVC sweatband sewn
	White GV112-0000000-000	GV111-0000000-000
	Yellow GV122-0000000-000	GV121-0000000-000
	Red GV132-0000000-000	GV131-0000000-000
	Green GV142-0000000-000	GV141-0000000-000
	Blue GV152-0000000-000	GV151-0000000-000
	Orange GV162-0000000-000	GV161-0000000-000
	High Viz Orange GV192-0000000-000	GV191-0000000-000
	High Viz Yellow GV1A2-0000000-000	GV1A1-0000000-000

Also available:
Premium Fas-Trac suspension with foam replaceable sweatband and ratchet cover (GV1x9)



V-Gard 200

V-Gard 200

The V-Gard 200 is a stylish, high profile helmet suited for various applications. It features a high performance ABS vented or non vented shell with a short peak for improved upward vision, and is particularly suited for hearing protection attachment and integrated eye protection. Its effective ventilation system with larger holes on the upper part makes the V-Gard 200 the most ventilated helmet on the market with 445 mm² of ventilation holes. It is certified according to EN 397, with the following optional requirements:

- very low temperature (-30 °C)
- lateral deformation (LD)
- electrical insulation (non-vented version only - 440 V AC)

It is also approved to the following standards:




- EN 50365 - Electrically insulating helmets for low voltage installations

And tested according to:

- EN 13463-1 - Use in Potentially Explosive Atmosphere (ATEX, Zone 1, 2, 20, 21, 22)

For details, please see leaflet 06-104.2.



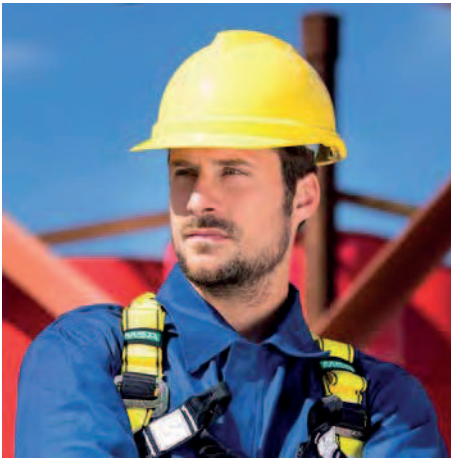
Colour	V-Gard 200 vented with Fas-Trac suspension with PVC sweatband sewn	V-Gard 200 vented with Staz-On suspension with PVC sweatband sewn	V-Gard 200 non-vented with Fas-Trac suspension with PVC sweatband sewn	V-Gard 200 non-vented with Staz-On suspension with PVC sweatband sewn
 White	GV612-0000000-000	GV611-0000000-000	GV712-0000000-000	GV711-0000000-000
 Yellow	GV622-0000000-000	GV621-0000000-000	GV722-0000000-000	GV721-0000000-000
 Red	GV632-0000000-000	GV631-0000000-000	GV732-0000000-000	GV731-0000000-000
 Green	GV642-0000000-000	GV641-0000000-000	GV742-0000000-000	GV741-0000000-000
 Blue	GV652-0000000-000	GV651-0000000-000	GV752-0000000-000	GV751-0000000-000
 Orange	GV662-0000000-000	GV661-0000000-000	GV762-0000000-000	GV761-0000000-000
 High Viz Orange	GV692-0000000-000	GV691-0000000-000	GV792-0000000-000	GV791-0000000-000
 High Viz Yellow	GV6A2-0000000-000	GV6A1-0000000-000	GV7A2-0000000-000	GV7A1-0000000-000

Also available:

Premium Fas-Trac suspension with foam replaceable sweatband and ratchet cover (GV6x9)

Also available:

Premium Fas-Trac suspension with foam replaceable sweatband and ratchet cover (GV7x9)



V-Gard 500

V-Gard 500

The V-Gard 500 is a high quality helmet suited for various applications. It features a high performance ABS shell (vented or non-vented) with a rain gutter and a textile suspension. The V-Gard 500 design is ideal for attaching ear muffs, visors or MSA eyewear headbands using the goggle clip. Furthermore the helmet can be customized with a badge holder. The V-Gard 500 is certified according to EN 397, with the following optional requirements:

- very low temperature (-30 °C)
- lateral deformation (LD)
- electrical insulation (non-vented version only - 440 V AC)

It is also approved to the following standards:

- EN 50365 - Electrically insulating helmets for low voltage installations
- EN 13463-1 - Use in Potentially Explosive Atmosphere (ATEX, Zone 1, 2, 20, 21, 22)
- GOST (Russia)

For details, please see leaflet 06-104.2.



Colour	V-Gard 500 vented with Fas-Trac suspension with PVC sweatband sewn	V-Gard 500 vented with Staz-On suspension with PVC sweatband sewn	V-Gard 500 non-vented with Fas-Trac suspension with PVC sweatband sewn	V-Gard 500 non-vented with Staz-On suspension with PVC sweatband sewn
White	GV412-0000000-000	GV411-0000000-000	GV512-0000000-000	GV511-0000000-000
Yellow	GV422-0000000-000	GV421-0000000-000	GV522-0000000-000	GV521-0000000-000
Red	GV432-0000000-000	GV431-0000000-000	GV532-0000000-000	GV531-0000000-000
Green	GV442-0000000-000	GV441-0000000-000	GV542-0000000-000	GV541-0000000-000
Blue	GV452-0000000-000	GV451-0000000-000	GV552-0000000-000	GV551-0000000-000
Orange	GV462-0000000-000	GV461-0000000-000	GV562-0000000-000	GV561-0000000-000
Grey	GV472-0000000-000	GV471-0000000-000	GV572-0000000-000	GV571-0000000-000
Black	GV482-0000000-000	GV481-0000000-000	GV582-0000000-000	GV581-0000000-000
High Viz Orange	GV492-0000000-000	GV491-0000000-000	GV592-0000000-000	GV591-0000000-000
High Viz Yellow	GV4A2-0000000-000	GV4A1-0000000-000	GV5A2-0000000-000	GV5A1-0000000-000

Also available:
Premium Fas-Trac suspension with foam replaceable sweatband and ratchet cover (GV4x9)

Also available:
Premium Fas-Trac suspension with foam replaceable sweatband and ratchet cover (GV5x9)



V-Gard 520

V-Gard 520

The V-Gard 520 is the short peak version of the V-Gard 500, particularly suited for work at height applications or work requiring good overhead vision. It features a high performance, non-vented ABS shell with a rain gutter and can accommodate a specific 4-point chinstrap. The V-Gard 520 design is ideal for attaching ear muffs, visors or headbands of MSA eyewear using the goggle clip. Furthermore the helmet can be customized with a badge holder. The V-Gard 520 is certified according to EN 397, with the following optional requirements:

- very low temperature (-30 °C)
- lateral deformation (LD)
- electrical insulation (440 V AC)

It is also approved to the following standards:

- EN 50365 - Electrically insulating helmets for low voltage installations
- EN 13463-1 - Use in Potentially Explosive Atmosphere (ATEX, Zone 1, 2, 20, 21, 22)

For details, please see leaflet 06-104.2.



Colour		V-Gard 520 with Fas-Trac suspension with PVC sweatband sewn	V-Gard 520 with Staz-On suspension with PVC sweatband sewn
	White	GV912-0000000-000	GV911-0000000-000
	Yellow	GV922-0000000-000	GV921-0000000-000
	Red	GV932-0000000-000	GV931-0000000-000
	Green	GV942-0000000-000	GV941-0000000-000
	Blue	GV952-0000000-000	GV951-0000000-000
	Orange	GV962-0000000-000	GV961-0000000-000
	High Viz Orange	GV992-0000000-000	GV991-0000000-000
	High Viz Yellow	GV9A2-0000000-000	GV9A1-0000000-000

Also available:

Premium Fas-Trac suspension with foam replaceable sweatband and ratchet cover (GV9x9)



ThermalGard

ThermalGard

The ThermalGard is a special application helmet for use in elevated temperature environments. It features a high strength helmet shell made of glass-reinforced nylon, a textile suspension with ratchet and a selection of high-temperature frames, visors and flame retardant winter liners. The helmet includes slots for fitting ear muffs and/or visors. It is certified according to EN 397, with the following optional requirements:

- very low temperature (-30 °C)
- lateral deformation (LD)
- molten metal splash (MM)
- very high temperature (+150°C)

EN 397

GV815-0000000-000	ThermalGard, white incl. Fas-Trac suspension with PVC sweatband sewn
GV825-0000000-000	ThermalGard, yellow incl. Fas-Trac suspension with PVC sweatband sewn
GV895-0000000-000	ThermalGard, high viz orange incl. Fas-Trac suspension with PVC sweatband sewn





Basic Forestry Kit



Premium Forestry Kit



Premium Forestry Kit with chinguard

V-Gard Forestry Kits

The V-Gard forestry kits are designed to offer easy customer solutions, all in one convenient box: orange helmet, frame, metal mesh visor, ear muffs and PVC neck cape (for Premium only). They are ideal for lumberjacking and trimming.

- High visibility versions with reflective stickers
- Visors adapted to the shape of the ears muffs
- Widest face coverage
- High visual light transmittance (>76%)
- Retractable chinguard option
- Robust frame to withstand chainsaw rebound

Helmet: EN 397
Frame & Visor: EN 1731 F
Ear muffs: EN 352

GV161-001700E-000	Basic, V-Gard with Staz-On suspension
GV462-0017004-000	Premium (without reflective stickers), V-Gard 500 vented with Fas-Trac suspension
GV462-0017044-000	Premium (with reflective stickers), V-Gard 500 vented with Fas-Trac suspension
GV462-0018004-000	Premium with chinguard (without reflective stickers), V-Gard 500 vented with Fas-Trac suspension
GV462-0018044-000	Premium with chinguard (with reflective stickers), V-Gard 500 vented with Fas-Trac suspension



Electrician Kit

V-Gard Electrician Kit

The V-Gard electrician kit offers a complete solution for short-circuit electrical arc, all in one convenient box:

- White V-Gard 500 helmet non-vented with Fas-Trac suspension
- Standard V-Gard frame
- V-Gard sheet visor, 203 x 432 x 1.5 mm

Helmet: EN 397 440 V AC, EN 50365
Frame: EN 166: 389 BT
Visor: EN 166 (2C-1,2 1B 389)

GV512-0024000-000 Electrician kit

When you need more than just a helmet you can add a comprehensive range of compatible accessories providing additional protection, comfort levels and adaptations for environmental conditions. With the MSA configurator you can configure your individual helmet with a variety of options.

The reliable V-Gard accessories offer the same high standard of protection as the popular V-Gard helmet.

For helmet mounted ear muffs compatible with V-Gard helmets, please see pages 85 and 87.



MSA logoed helmet

Logo Express

MSA's integrated process for the V-Gard helmet range includes made-in-France clichés/plates, ink mixture and production.

- Express customisation process
- Top-quality printing, durable and weatherproof
- Print logos, pictures or text on up to 4 helmet sides (for V-Gard 500 also on peak)
- Minimum order quantities starts with 20 helmets
- 2-colour technologies:

Pantone: solid colour or colour gradient, up to 8 colours per logo

Image 2000™ Service: unique feature of MSA Logo Express premium 4C printing process (you can even print pictures or very complex logos using high colour)

For details, please see leaflet 06-104.2.



Colour gradient



4C process



V-Gard 520 with badge holder

Badge Holder

The robust badge holder at the front of the V-Gard 500 or V-Gard 520 is highly valuable for industries or construction sites where several operators are involved in the same work area. Business cards, access control badge or "InCaseOfEmergency" cards can be easily inserted or removed.

The badge holder must be ordered together with the helmet. See examples of configurations below.

EN 397

GV412-0000500-000	V-Gard 500, white, vented, Fas-Trac suspension, with badge holder
GV411-0000500-000	V-Gard 500, white, vented, Staz-On suspension, with badge holder
GV512-0000500-000	V-Gard 500, white, non-vented, Fas-Trac suspension, with badge holder
GV511-0000500-000	V-Gard 500, white, non-vented, Staz-On suspension, with badge holder
GV912-0000500-000	V-Gard 520, white, non-vented, Fas-Trac suspension, with badge holder
GV911-0000500-000	V-Gard 520, white, non-vented, Staz-On suspension, with badge holder



V-Gard 500 with badge holder



Fas-Trac

Suspensions

The Fas-Trac suspension has a quick action ratchet wheel adjustment system for the ultimate in safety helmet comfort.

The Staz-On suspension has a slide adjustment designed for lower weight.



Staz-On

10109230 Staz-On suspension with PVC sweatband sewn*

10109261 Fas-Trac suspension with PVC sweatband sewn*

10110605 Fas-Trac suspension with leather sweatband sewn*



Fas-Trac Premium

GA90018 ThermalGard Fas-Trac suspension with PVC sweatband sewn

CH504431 Premium Fas-Trac suspension with foam replaceable sweatband and ratchet*

* not compatible with ThermalGard helmet

Sweatbands

MSA helmets have suspensions with PVC or leather sewn sweatband. In hot environments or summer conditions, you can add a sweatband in washable and reusable terry-cotton to the PVC or leather one.

MSA also offers a premium Fas-Trac suspension with replaceable foam sweatband and foam ratchet cover. There is one suspension with both these options, but you can also order the parts separately.



Fas-Trac with Terri-Band



Fas-Trac with foam sweatband

696688 Washable Terri-Band sweatband for all MSA suspensions

GA90030 Sweatband with foam (10 pcs), fits all MSA suspensions with a hook/loop closure

GA90027 Kit for MSA Fas-Trac Premium suspension: foam sweatband and foam ratchet cover (10 pcs each)



3-point chinstrap

Chinstraps

Adjustable chinstraps, available in nylon webbing or elastic, add extra security when working at dangerous heights or in strong winds.

EN 397

9100001 2-point chinstrap, webbing

B0259378 2-point chinstrap, elastic

10147559 3-point chinstrap, webbing (for use with Fas-Trac suspension)

10148055 4-point chinstrap (for V-Gard 520 only)

GA8403 Chin piece (can be added to the 3-point chinstrap)



2-point chinstrap

Goggle Clips

These two special brackets are the perfect solution to fix the headband of the MSA Altimeter, ChemPro and Flexichem goggles on the rain gutter of a V-Gard 500 or V-Gard 520 helmet.



Goggle clip on V-Gard 520

GA9006 Bracket to attach goggles to V-Gard 500/520 (2 clips)

Stow-Away Visors

Fully integrated head and eye protection. The Stow-away "stows away" inside the helmet when eye protection is not required – protecting the visor from damage. Extremely comfortable, with no pressure points behind the ears. Compatible with V-Gard and V-Gard 200 helmets and helmet mounted ear muffs.



Stow-away visor, clear



Stow-away visor, tinted

EN 166, class 1F

10002674 Stow-away visor, clear, antifog coated

10002675 Stow-away visor, tinted



Knit Cap



Select Liner, Hi-Viz

Winter Liners

V-Gard winter liners offer a high level of protection against cold and wet weather. Perfect for workers in refrigeration plants and other demanding environments, they are available in various materials, thicknesses and designs to suit all applications. Winter Liners can be removed easily from the helmet for washing/drying.

10118417	V-Gard Liner Knit Cap
10118419	V-Gard Value Liner
10118424	V-Gard Select Liner, extended, flame retardant up to 25 washings, Hi-Viz
10129659	V-Gard Select Liner, 2-piece, flame retardant up to 50 washings
10118425	V-Gard Supreme Liner, extended, flame retardant, higher thickness



Crown cooler



Crown cooler with neck shade

Cooling Pads

MSA offers two innovative cooling pads for extended relief from heat fatigue and heat stress. A water management system created from the HyperKewl™ fabric absorbs and releases water within the multi-layered material providing 5-10 hours of cooling relief per soaking, which is 6 to 12°C lower than the outside temperature. Hook and loop conveniently attaches to the V-Gard helmet suspension.

Both have passed testing to EN 397 EN 471 (GA90023)

GA90022	Crown cooler
GA90023	Crown cooler with neck shade



Neck Cape PVC

Neck Capes

Neck Capes provide protection from wind and rain, dust, debris and liquid splash.

Also available in flame-resistant Nomex.

GA90005	Neck Cape, PVC
T1900700	Neck Cape, Nomex



Orange curved sticker



Silver straight sticker

Retro-Reflective Stickers

In many outdoor working conditions, wearing high-visibility clothes is key to workers' security. The reflective MSA stickers, available in different colours, materials and shapes, increase the visibility of the wearer, especially when used in low light conditions. They can be mounted within the production process or ordered separately as an accessory.

EN 471

GA90001-JO	Sticker set curved, textile yellow
GA90001-RO	Sticker set curved, textile orange
GA90001-BO	Sticker set curved, textile silver
GA90003-JO	Sticker set curved, vinyl yellow
GA90003-BO	Sticker set curved, vinyl silver
GA90002-JO	Sticker set straight, vinyl yellow
GA90002-BO	Sticker set straight, vinyl silver



Plastic side lamp bracket



Metal lamp bracket

Lamp Attachments

MSA offers 3 optional lamp brackets which are mounted in the production process and need to be ordered together with the helmet.

- Plastic lamp bracket for helmet front, black retention clip in the rear
- Metal lamp bracket for helmet front, transparent retention clip in the rear
- Plastic lamp bracket fixed on right side of the helmet, for MSA PELI lamps (XS, XP, XP LED)

For ordering information of MSA lamps please see page 55.

For details, please see leaflet 06-104.2.



V-Gard 500 with name sticker

Individual Naming

If you need individual naming on your helmets, you can choose the cost effective solution to have the name of each user on a sticker. This allows individual traceability of your PPE. The stickers are approved with all MSA helmets, as are they are attached to them when the helmets undergo penetration and shock testing, as well as hot and cold conditioning. The individual naming option is available from 40 units.

GA90025	Transparent sticker, black font
GA90029	White sticker, black font

Face Protection



For many industrial applications it is important to protect the face from splashes, flying particles, UV or IR radiation, heat and other hazards. For those needs, MSA offers a wide range of visors, frames and chin protectors designed and certified as a system with MSA helmets.

All V-Gard visors can be combined with the V-Gard Headgear browguards, providing reliable protection for your face. If head and hearing protection need to be combined with face protection, the visors will be mounted on the V-Gard frames, which are easily adaptable to all V-Gard helmets.



V-Gard 500 with frame and PC visor clear

V-Gard Visors

The V-Gard visor range with 22 versions offers reliable protection against impact, chemical splash, high temperatures, short circuit electric arc, UltraViolet and InfraRed radiation. The visors come in three thicknesses, two widths, three distinct lengths and are supplied either flat or premoulded. Many of them are designed for use with helmet-mounted ear muffs. Visors for chinguards allow the use of V-Gard chin protectors for additional protection.

Markings according to EN 166

- 1 = Optical class 1 for permanent usage
- B = Medium energy impact protection (B = 120 m/s)
- T = Impact resistance at extreme of temperatures (-5/+55°C)
- 3 = Protection against droplets and splashes of liquids
- 8 = Resistance to short circuit electric arc
- 9 = Non adherence of molten metals
- K = Resistance to surface damage by fine particles
- N = Resistance to fogging
- R = Enhanced reflectance

Polycarbonate Sheet Visors for General Purpose

10115836	Clear PC, 203 mm long (EN166: 2C-1.2 1B)
10115837*	Clear PC, 203 mm long, for chinguards (EN166: 2C-1.2 1B)
10115863	Clear PC, 241 mm long (EN166: 2C-1.2 1B)
10115840	Clear PC 1.5 mm, 203 mm long (EN166: 2C-1.2 1B 389)

Polycarbonate Coated Sheet Visors for Demanding Applications

10154949	Clear PC 1.5 mm, 203 mm long, AS/AF (EN166: 2C-1.2 1B 389 KN)
10154950*	Clear PC 1.5 mm, 203 mm long, AS/AF, for chinguards (EN166: 2C-1.2 1B 389 KN)
10154961	Green PC 1.5 mm, 203 mm long, AS/AF (EN166: 2-2 1B 39 KN)
10154962*	Green PC 1.5 mm, 203 mm long, AS/AF, for chinguards (EN166: 2-2 1B 39 KN)

Propionate Moulded Visors for Chemical and Splash

10115851	Propionate 2.5 mm, 235 mm long (EN166: 1B 3)
10115855	Propionate 2.5 mm, 203 mm long (EN166: 1B 3)
10115856*	Propionate 2.5 mm, 203 mm long, for chinguards (EN166: 1B 3)

Polycarbonate Moulded Thick Visors for Heavy Duty Purpose

10115844	Clear PC 2.5 mm, 235 mm long, AS/AF (EN166: 2C-1.2 1BT 389 KN)
10115853	Clear PC 2.5 mm, 264 mm long, AF/AS (EN166: 2C-1.2 1BT 389 KN)
10115845	Green PC 2.5 mm, 235 mm long (EN166: 2-2 1BT 39 KN)

Polycarbonate Shaded Moulded Visors for Welding, Cutting and Brazing Applications

10115859	Shade 3 IR, PC 1.8 mm, 203 mm long (EN166: 3.0/4-3 1BT 39)
10115860*	Shade 3 IR, PC, 1.8 mm, 203 mm long, for chinguards (EN166: 3.0/4-3 1BT 39)
10115861	Shade 5 IR, PC, 1.8 mm, 203 mm long (EN166: 5.0/4-5 1BT 39)
10115862*	Shade 5 IR, PC, 1.8 mm, 203 mm long, for chinguards (EN166: 5.0/4-5 1BT 39)

Polycarbonate Reflective Coated Moulded Visors for Radiant Heat/Elevated Temperatures

10115848	Gold Reflective coated, clear PC 1.8 mm, 241 mm long (EN166: 2C-2.5 1BT 3R)
10115850	Gold Reflective coated, green PC 1.8 mm, 241 mm long (EN166: 2-4 1BT 3R)

Mesh Visors for Forestry Applications

10155774	Metal Mesh, 203 mm long (EN1731)
10155775*	Metal Mesh, 203 mm long, for chinguards (EN1731)

* please add a V-Gard chin protector





V-Gard 500 with visor, frame and standard chin protector

V-Gard Chin Protectors

V-Gard chin protectors provide extra protection from impact, arc flash and splash hazards to face and neck, approved in combination with frames and visors.

The retractable chin protector features retractable plates for greater flexibility of head movement both up and down, as well as side to side.

EN 166 389 BT / EN 1731-F

10115828 Retractable chin protector

10115827 Standard chin protector



V-Gard chin protectors



V-Gard 500 with visor, frame and chin protector



V-Gard frame with debris control

V-Gard Frames

The V-Gard Accessory System offers helmet mounted frames for various work conditions and user helmets. The sloped design allows liquids, chips and other materials to slide off the frame and away from the line of vision. Each frame perfectly integrates with other MSA accessories such as hearing protection. The replaceable debris control creates a tight seal between the helmet and the frame while the sliding adjustment blades allow the visor to work with most half masks.

EN 166 389 BT / EN 1731-F

10115730 Frame for MSA slotted helmets, with debris control

10121266 Frame for MSA slotted helmets, without debris control

10121267 Elevated Temperature (ET) frame, without debris control

10115822 Universal Frame for helmets, with debris control

10121268 Universal Frame for helmets, without debris control



V-Gard frames for slotted helmets



V-Gard universal frames



V-Gard Headgear with visor

V-Gard Headgear

V-Gard Headgear is a browguard that in combination with the wide range of V-Gard visors offers a lightweight, comprehensive face protection system. It features a durable and stylish HDPE frame and a unique 3-point visor load system to fit or remove visors easily and quickly. With the patent-pending grippable knobs that don't unscrew, the visor stays securely in the desired position. The ratchet in the nape, with one-hand operation, ensures a secure fit and good balance on the head. Adjustable to all head sizes and with two comfort sweatbands, all-day comfort is guaranteed.

EN 166 389 BT / EN 1731-F

10127061 V-Gard Headgear standard, without visor

10127062 V-Gard Headgear Elevated Temperature, without visor



V-Gard Headgear standard



V-Gard Headgear ET



Years of experience, state-of-the-art materials and design technology make MSA eyewear the last word in robustness, style, comfort and fit.

MSA eyewear helps the wearer to comply with demanding labour safety regulations, ensures wearer acceptance and prevents eye injuries caused by mechanical, chemical or radiation hazards that exist in countless working environments.

All MSA spectacles and goggles are made with the best quality optical lenses (class 1).

MSA spectacles and goggles are CE marked, certified EN 166:2001 and according to type:

EN 170: UV filters

EN 172: Sun glare filters for industrial use.

A variety of attractively priced models, functional lens shades and coating options, as well as practical accessories, are designed to meet the specific requirements of any work situation.

Whatever your perspective, you will find an MSA eyewear model that meets your expectations.

Safety Spectacles

MSA safety spectacles protect against the following hazards:

IMPACT BY FLYING PARTICLES (45 m/s)

- machining/ lathe operations
- assembly work/ general workshop

UV RADIATION

- sunlight in outdoor activities
- quality inspection, laboratories etc.

VISIBLE GLARE (see lens colour selection table below)

- for drivers of forklifts and other machinery
- exposure to strong sunlight, reflections or intense artificial light

The following coating options protect your lenses from the daily risk of scratching and ensure good vision even at increased humidity or temperature changes. All coatings have anti-static properties.

TuffStuff: Excellent service time enhancing anti-scratch coating according to EN166 "K"










Sightgard: Anti-fog coating with good anti-scratch properties

OptiRock: Durable high performance anti-fog coating with outstanding anti-scratch properties according to EN166 "KN"

Choosing the Lens Colour and UV Protection

Choosing the right lens for the job will not only protect the eyes, but could also improve the wearer's working experience.

The filter class and light transmission values quoted are valid for MSA eyewear meeting or exceeding the requirements of EN166 and, where applicable, EN170/172. All MSA lenses filter out 99.9% of UV radiation up to a wavelength of 380 nm. Several special versions filter 100% UV, up to 400 nm and are therefore marked UV400.

	Clear 2C-1.2 LT ~89%	Most popular lens for indoor/general use. Provides maximum visual acuity and colour recognition. MSA standard clear eyewear protects up to 380 nm, special versions up to 400 nm.
	Light Gold Mirror 5-1.7 LT ~50%	Indoor/outdoor lens that tones everything down and reduces glare and bright light, providing excellent vision in both indoor and outdoor lighting. Ideal for driving and for work places with changing light conditions. 100% UV protection to 400 nm.
	Amber 2-1.2 LT ~84%	Good lens for low-light conditions, especially at dawn/dusk and on foggy days. Increases contrast and enhances detail. Ideal for operations requiring optimum contrast for similar or small objects.
	Orange 2-1.7 LT ~44%	Especially for outdoors on foggy days. Enhances contrast and increases definition due to blocking blue light. Dark enough to block out the sun while still allowing visibility in flat light. UV400 protection.
	Smoke 5-2.5 LT ~21%	Most popular sun glare filter, protecting from excessive glare and high levels of hazardous visible light and UV radiation without distorting colour perception. Transmits all colours at the same level. Several MSA smoke models feature 400 nm 100% UV protection.
	Dark Brown 5-2.5 LT ~21%	Low light transmission lens that heightens visual acuity, improves colour perception and complements all light conditions. Enhances perception in changing light and shadow, especially for forest environments. Good sun glare filter. Some MSA models in dark brown offer 400 nm protection.
	Blue Purple 5-2 LT ~40%	Blue purple is a combination of grey and orange-red enhancing contrast in medium to low light conditions for outdoor activities. Dampens green light and enhances orange clays against background trees for shooting activities.
	Blue/Silver Mirror 5-2.5 LT ~21%	Mirror effect reflects light, reducing the amount that passes through the lens. Both lens colours are modern antiglare filters, decreasing visible brightness. Good for outdoor applications where a task specific lens is not required.
	Rainbow Mirror 5-3.1 LT ~14%	Superior glare reduction with heavy mirroring. Great lens for outdoor use in full sun conditions, favoured by outdoor workers who prefer a stylish lens.

LT = Luminous Transmittance



Alaska

The frameless design with metal parts sets new standards in stylish eyewear. Lightweight and with padded, adjustable nosebridge Alaska ensures all day comfort. The 9.75 lens base offers superior eye coverage and very good impact resistance. The smoke and silver mirror lenses feature real UV400 protection. All versions come with a Sightgard anti-fog coating with good anti-scratch properties.

EN 166 1 FT

(pack of 12, carton of 12 packs)

10145568 Alaska, clear lens, Sightgard coating

10145569 Alaska, smoke lens, Sightgard coating, UV400

10145570 Alaska, silver mirror lens, Sightgard coating, UV400



Move

These modern spectacles are designed for good comfort and a sportive look. The lightweight model comes with highly visible neon orange temples and nose pad and the option of orange lenses to increase contrast and reduce glare. Angle position adjustment for temples and wrap around lens ensure excellent individual protection. The Sightgard coating has anti-fog and anti-scratch properties. All available lens colours offer Premium UV400 protection.

EN 166 1 FT

(pack of 12, carton of 12 packs)

10153954 Move, clear lens, Sightgard coating, UV400

10153956 Move, orange lens, Sightgard coating, UV400

10153955 Move, smoke lens, Sightgard coating, UV400



Blockz

Blockz spectacles are stylish, lightweight and functional. With sliding temple adjustment and adjustable soft nose pad they ensure a comfortable fit. The large wrap around lens with good impact resistance provides excellent protection. Blockz comes with Sightgard anti-fog coating with good anti-scratch properties.

EN 166 1 FT

(pack of 12, carton of 12 packs)

10145571 Blockz, clear lens, Sightgard coating

10145572 Blockz, smoke lens, Sightgard coating





Alternator

A complete solution, offering different levels of protection and comfort in an exclusive style. Vented temples with good lateral protection. Stylish two-colour frame. Exchangeable lenses. Two optional inserts: Vented insert is impact absorbing. Non-vented insert prevents intrusion of coarse dust.

Each Alternator comes with soft bag and cord.

The Alternator Value Set perfectly covers changing protection requirements. The content fits into a practical and robust case:

- Alternator with clear Sightgard lens
- Amber and smoke lens as spare parts in a textile bag
- Vented impact foam insert
- Non-vented soft cushion insert
- Slip-on cord
- Soft textile bag



Optional inserts



Alternator Value Set

EN 166 1 FT

(pack of 12, carton of 12 packs)

10104619	Alternator, clear lens, Sightgard coating
10145579	Alternator, clear lens, OptiRock coating
10104620	Alternator, amber lens, Sightgard coating
10104661	Alternator, smoke lens, Sightgard coating
10104662	Alternator, gold mirror lens, Sightgard coating, UV400
10104667	Alternator spare lenses, clear, Sightgard coating
10104668	Alternator spare lenses, clear, OptiRock coating
10104663	Alternator vented impact foam insert
10104664	Alternator non-vented soft cushion insert
10145582	Alternator Value Set Premium (pack of 6)



Altimeter

Hybrid design for universal use. Soft frame for complete eye enclosure and superior shock absorption. 18 large ventilation slits ensure a comfortable and airy fit. Angle adjustable ratchet for use with flexible headband or length adjustable soft temples.

The headband option with central opening is the ideal solution to combine Altimeter with ear muffs, masks and helmets. Using special brackets you can fix the headband to the V-Gard 500/520 helmet.

Altimeter comes with a split headband and a set of temples.



EN 166 1 FT

(pack of 12, carton of 12 packs)

10153915	Altimeter, clear lens, Sightgard coating, UV400
10145583	Altimeter, smoke lens, Sightgard coating, UV400
GA9006	Bracket to attach goggles to V-Gard 500/520 (2 clips)



PERSPECTA 1320

Lightweight (29 grams), modern and comfortable spectacle with a 3-position-adjustment system for temple length and lens inclination that allows the PERSPECTA 1320 to fit to virtually every face shape. Soft nose buds and temple ends keep spectacles from slipping and provide good wearer comfort. Impact resistant wrap-around lens provides undistorted 180° view. Sightgard coated lenses, also available in a blue purple shade for enhanced contrast in outdoor activities.

EN 166 1 FT

(pack of 12, carton of 12 packs)

10075296 PERSPECTA 1320, clear lens, Sightgard coating

10075287 PERSPECTA 1320, blue purple lens, Sightgard coating

10075286 PERSPECTA 1320, smoke lens, Sightgard coating



PERSPECTA 010

Provides maximum protection against eye injury. Full wrap around with 9 curved lenses provide more coverage, without the distraction of seams or traditional-type side shields. The special multi-adjustment system includes a 5-position ratchet for lens inclination adjustment, and 4 positions for temple length adjustment. Semi-frame and slim temple design create a pair of spectacles that weighs only 32 grams.

EN 166 1 FT

(pack of 12, carton of 12 packs)

10045641 PERSPECTA 010, clear lens, TuffStuff coating

10045642 PERSPECTA 010, clear lens, Sightgard coating

10045643 PERSPECTA 010, amber lens, Sightgard coating

10045644 PERSPECTA 010, smoke lens, Sightgard coating



PERSPECTA 1900

Stylish lens offering a clear and panoramic view. Incredibly light (27 g) and comfortable. The straight co-injection temples (save length or inclination adjustment) with two materials will make the wearer literally forget they are there. The clear lens version comes with black frame, the light gold mirror and dark brown lens with red frame.

EN 166 1 FT

(pack of 12, carton of 12 packs)

10045648 PERSPECTA 1900, clear lens, TuffStuff coating

10045647 PERSPECTA 1900, clear lens, Sightgard coating

10045645 PERSPECTA 1900, light gold mirror lens, Sightgard coating, UV400

10045646 PERSPECTA 1900, dark brown lens, Sightgard coating





FeatherFit

The lightweight model, featuring a snug-fit, wrap around lens with good impact resistance, provides excellent protection. Soft temple tips and nose pad ensure a cushioned fit. FeatherFit comes with TuffStuff anti-scratch coating according to EN 166 "K".

EN 166 1 FT

(pack of 12, carton of 12 packs)

10145075 FeatherFit, clear lens, TuffStuff coating

10145076 FeatherFit, smoke lens, TuffStuff coating



PERSPECTA 9000

Incredibly light, resilient and durable protective eyewear for all-day wear. Snug-fitting wrap-around lens provides perfect impact protection around the eyes.

Special nose-pads secure the glasses to your face, eliminating the problem of slippage while providing a pillow-soft fit. Tight-fitting unitary front with dual 9.75 base curvature offers an unobstructed field of vision.

Revolutionary hard and soft material co-injected temple for improved comfort. Incredibly lightweight at only 26 grams.

EN 166 1 FT

(pack of 12, carton of 12 packs)

10045516 PERSPECTA 9000, clear lens, TuffStuff coating

10045517 PERSPECTA 9000, clear lens, Sightgard coating

10045519 PERSPECTA 9000, amber lens, Sightgard coating

10045518 PERSPECTA 9000, smoke lens, Sightgard coating

10045640 PERSPECTA 9000, blue mirror lens, Sightgard coating



PERSPECTA FL 250

The lightweight in the range at only 25 g. Sleek, single lens, "cat's eye" spectacle giving a close fit that is especially suited to smaller faces. The low profile design has very smooth surfaces.

EN 166 1 FT

(pack of 12, carton of 12 packs)

10064842 PERSPECTA FL 250, clear lens, TuffStuff coating





OverG

These modern spectacles are designed for use over small to medium framed prescription eyewear. At the same time they are compact and stylish enough to wear them without prescription spectacles. OverG features reliable impact resistance and full front, side and top protection. The TuffStuff anti-scratch coating according to EN 166 "K" provides extended lifetime. With a great price/performance ratio, OverG are the perfect spectacles for visitors.



EN 166 1 FT

(pack of 12, carton of 12 packs)

10145576 OverG, clear lens, TuffStuff coating

10145577 OverG, smoke lens, TuffStuff coating



PERSPECTA 2047 W

Offering all-around protection, these single lens spectacles with vented side shields, are ideal for visitors and regular wearers alike. Fit over most prescription eyewear.

EN 166 1 FT

(pack of 12, carton of 12 packs)

10064800 PERSPECTA 2047 W, clear lens



PERSPECTA 1070

"Classic" wrap-around single lens spectacles, incorporating side shields, which can also be worn over most prescription spectacles. The arms of these spectacles have 5 length adjustments and also pivot at the temple for a perfect fit.

EN 166 1 FT

(pack of 12, carton of 12 packs)

10064797 PERSPECTA 1070, clear lens,
TuffStuff coating



Racers

A perfect combination of dynamic style and the highest protection level. Very high impact resistant single lens, compliant with MIL-V-43511C clause 3.5.10. and MIL-PRF-31013 clause 3.5.1.1 (198 m/s). Adjustable soft nose buds for perfect fit also on different nose shapes. Formable wire temples adapt to different head sizes and provide a comfortable fit. Dynamic frame design, available in black or with silver-red surface finish combined with a stylish red rainbow mirror lens.

Racers comes with soft bag and cord.

EN 166 1 FT

(pack of 12, carton of 12 packs)

10104614	Racers, clear lens, Sightgard coating
10104615	Racers, amber lens, Sightgard coating
10104617	Racers, smoke lens, Sightgard coating
10104616	Racers, light gold mirror lens, Sightgard coating, UV400
10104618	Racers, rainbow mirror lens, Sightgard coating, glossy silver-red frame



TecTor

Very high impact resistant model according to military standard, impact protection STANAG tested >200 m/s. Full wrap-around design for maximum eye protection. Temple length adjustment allows perfect face adaptation. Soft nose buds and temple ends keep spectacles from slipping and provide good wearer comfort.

Lenses are available in various colours depending on the application. All versions provide UV400 protection and feature the durable high performance OptiRock anti-fog coating with outstanding anti-scratch properties, EN 166 "KN".

An optional RX insert for prescription lenses (up to 3.5 dioptré) can be easily attached with a special nose bridge.

TecTor comes with soft bag and cord.

EN 166 1 FT, STANAG

(pack of 12, carton of 12 packs)

10158958	TecTor, clear lens, OptiRock coating, UV400
10158960	TecTor, smoke lens, OptiRock coating, UV400
10158971	TecTor, orange lens, OptiRock coating, UV400
10158959	TecTor, amber lens, OptiRock coating, UV400
10158972	TecTor RX adapter with nosebridge



TecTor RX adapter

Safety goggles offer perfect eye enclosure protection by providing a closely fitting seal around the eyes. All MSA goggles feature our excellent antiscratch and antifog coated lenses of best optical quality (class 1). They provide excellent comfort while protecting, according to individual marking, against the following hazards (examples):

DROPLETS AND LIQUID SPLASH

- laboratory work
- handling of liquids

IMPACT BY FLYING PARTICLES

- water jet blasting
- stone dressing

COARSE DUST (>5µm)

- processing of minerals and fibers
- cement mixing

In numerous working environments, such as chemical, pharmaceutical, automotive industries, medical applications and construction.



FlexiChem

FlexiChem with Acetate lens is developed for special applications requiring superior chemical resistance. It offers reliable protection against splash and dust particles. The SoftFlex low profile frosted frame with indirect venting ensures a comfortable fit and long-lasting wear. The comfort headband is adjustable.

The lens features Sightgard+ premium anti-fog coating (EN 166 "N") with good anti-scratch properties.

FlexiChem can be used over prescription spectacles and with safety helmets (ideally fixed with special brackets to the V-Gard 500 or V-Gard 520 helmet).

EN 166 1-34 FT N

10145578	FlexiChem, Sightgard+ coating (pack of 6)
GA9006	Bracket to attach goggles to V-Gard 500/520 (2 clips)



ChemPro

Fresh look, soft fit and complete protection. "Soft touch" body that adapts perfectly to the face. Easily changeable lenses, available as spare parts. Comfortable headband with length adjustment. Indirect ventilation allows air movement whilst protecting against splash and coarse dust. The lens provides resistance to impact at extremes of temperature and protects against molten metal splash.

Two coating options are available: Sightgard+ premium anti-fog coating (EN 166 "N") with good anti-scratch properties. OptiRock durable high performance anti-fog coating with outstanding anti-scratch properties according to EN 166 "KN".

EN 166 1-349 BT KN, EN 13463-1
(pack of 6, carton of 15 packs)

10104671	ChemPro, Sightgard+ coating
10145597	ChemPro, OptiRock coating
10104672	ChemPro spare lens, clear, Sightgard+ coating (pack of 12)
10104673	ChemPro spare lens, clear, OptiRock coating (pack of 12)



PERSPECTA GIV 2300

Ergonomic goggle design with sophisticated ventilation system for exceptional wearer comfort.

11 indirect air vents protect perfectly against liquid droplets and coarse dust while providing good air circulation. Increased wearer safety is achieved by the flexible goggle body with perfect enclosure, as well as the Sightgard coated panorama lens, that is impact-resistant at extreme temperatures. The flexible face seal and length-adjustable head band of this model ensure a comfortable fit, even when worn over extended periods.

EN 166 1-34 BT

(pack of 6, carton of 15 packs)

10076384 PERSPECTA GIV 2300, Sightgard coating



PERSPECTA GH 3001

Comfortable goggle with anatomical design, suitable for laboratory workers. Fits over most prescription eyewear. Sightgard coated.

EN 166 1-34 B

(pack of 6, carton of 15 packs)

10064844 PERSPECTA GH 3001, Sightgard coating



PERSPECTA GV 1000

Lightweight, economical goggles with ventilation for basic use. Also suitable for arts and crafts hobbyists and general DIY use. Sightgard coated.

EN 166 1 B

(pack of 10, carton of 12 packs)

10064843 PERSPECTA GV 1000, Sightgard coating



klar-pilot Fluid

Cleaning & Antimist Solutions

Remove stains from oil or grease. klar-pilot gel or spray is spread on lenses to prevent their misting up. Suitable for lenses of totally encapsulating suits, full face masks, visors, safety spectacles and goggles.

GA1616	klar-pilot gel, bottle (25 ml)
10032164	klar-pilot fluid, spray (100 ml)
D8241079	Cleaning & Antifog Spray bottle (110 ml)
D8133039	Wiping tissues, replacement pack (280 sheets)



Hard Case & Soft Bag

Cases

For safe storage and to ensure that you have always your safety eyewear to hand, when you need it.

Practical spectacle cases, available in soft or rigid material, with zipper, velcro belt and hook. Fit all spectacles.



Storage Case

10058134	PERSPECTA Soft case (pack of 12, carton of 10 packs)
10081939	PERSPECTA Hard case (pack of 6, carton of 15 packs)
10104677	Soft bag, also for lens cleaning (pack of 12, carton of 10 packs)
10104665	Storage case for spectacle, foam inserts, spare lenses (pack of 6, carton of 10 packs)



Cords

Cords

The universal PERSPECTA cord with hooks fits all spectacle models (except for PERSPECTA 010 and PERSPECTA 9000).

The slip-on cord fits models without rubber on temples (or temples with only thin layers of rubber).

Both neck cords are adjustable.

(pack of 12, carton of 200 packs)

10058135	PERSPECTA cord
10104679	Slip-on cord



Displays

Displays

Attractive and compact stand-alone desktop displays for the complete range of MSA protective eyewear. Grey painted robust metal structure with plastic elements.

Stationary display MINI 5 for up to 5 spectacles/goggles. Dimensions: 15x13x48 cm (LxWxH).

Rotatable display MAXI 20 for up to 20 spectacles/goggles. Dimensions: 18x18x72 cm (LxWxH).

10085093	Display MINI 5
10085094	Display MAXI 20

Hearing Protection



The most important factors to consider when selecting hearing protection are the right performance and wearer comfort. Whether working in noisy environments for just a few minutes or for several hours, hearing protection is always needed. A worker who takes off his hearing protection because he does not feel 100% comfortable is a worker at risk.

MSA offers a wide range of passive and electronic ear muffs as well as ear plugs for DIY (Do-It-Yourself) use, construction, industry, police and other applications. All products are comfortable hearing protectors, designed to prevent the wearer from feeling isolated. The ear muffs are available as headband and helmet mounted versions.

No matter which MSA product you choose, you will be guaranteed a first class hearing protector. Due to the supersoft ear cushions, the light weight and the slim design of all passive

hearing protectors, comfort is guaranteed for the whole day. In addition the HPE and EXC Lines are equipped with the patented adjustable headband pressure system.



left/RIGHT

The left/RIGHT ear muffs are different from all existing hearing protectors. Individual muffs, especially designed for the left and right ear, compensate for the asymmetric position of the ears on the head. The revolutionary headband design and the thinner, more flexible sealing rings ensure an optimal fit for wearer comfort. Large muffs provide more room for the ear, in order to guarantee the right protection for all shapes and sizes of ears. Unique to the market, left/RIGHT takes the anatomical individuality of the users into consideration.

The left/RIGHT concept offers various options and, depending on the application and individual preferences, the ear muffs can be completely customised. All options can be combined: low, medium or high attenuation; headband or helmet mounted; yellow, blue, white or grey. Right protection for the right purpose.



headband



helmet mounted

Type	Yellow	Blue	White	Grey	Attenuation Values	Standard
HIGH						
headband	10087399	10087400	10087421	10101164	SNR 33dB, H=33dB, M=31dB, L=23dB	EN 352-1
helmet mounted*	10087422	10087423	10087424	10101997	SNR 31dB, H=31dB, M=28dB, L=21dB	EN 352-3
hygiene kit	10092880					
MEDIUM						
headband	10087425	10087426	10087427	10099847	SNR 28dB, H=32dB, M=26dB, L=17dB	EN 352-1
helmet mounted*	10087428	10087429	10087430	10101996	SNR 28dB, H=29dB, M=25dB, L=17dB	EN 352-3
hygiene kit	10092879					
LOW						
headband	10087434	10087435	10087436	10100455	SNR 24dB, H=27dB, M=22dB, L=14dB	EN 352-1
helmet mounted*	10087437	10087438	10087439	10101995	SNR 25dB, H=27dB, M=22dB, L=15dB	EN 352-3
hygiene kit	10092878					

* Fits V-Gard, V-Gard 200, V-Gard 500 and V-Gard 520 helmets. Please contact your distributor for part numbers of models compatible with other helmets.

Classic Line



XLS

XLS combines quality and comfort with great value. It has many of the features usually found only in more expensive ear muffs. XLS is mainly designed for use in lighter industrial environments and for DIY (Do-It-Yourself) use.

EN 352-1, EN 352-3

Headband: SNR 25 dB, H = 27 dB, M = 22 dB, L = 15 dB

Helmet mounted: SNR 27 dB, H = 31 dB, M = 25 dB, L = 18 dB

(carton of 20 pcs/pairs)

SOR24010 XLS headband

SOR14012 XLS helmet mounted*

SOR60088 Hygiene kit XLS

*Fits V-Gard, V-Gard 200, V-Gard 500 and V-Gard 520 helmets.

Please contact your distributor for part numbers of models compatible with other helmets.



XLS



EXC

The ear muff that's so comfortable, you'll never want to take it off! Unique injection moulded inserts provide both excellent noise attenuation and maximum comfort. EXC is suitable for most environments where hearing protection is required.

EN 352-1, EN 352-3

Headband: SNR 27 dB, H = 31 dB, M = 24 dB, L = 16 dB

Helmet mounted: SNR 26 dB, H = 29 dB, M = 23 dB, L = 15 dB

(carton of 20 pcs/pairs)

SOR20010 EXC headband

SOR10012 EXC helmet mounted*

SOR60080 Hygiene kit EXC

*Fits V-Gard, V-Gard 200, V-Gard 500 and V-Gard 520 helmets.

Please contact your distributor for part numbers of models compatible with other helmets.



EXC



HPE

The HPE ear muffs have been designed to offer protection against very high levels of noise, particularly at low frequency. Thick, soft, foam-filled cushions combine maximum comfort with a perfect seal.

EN 352-1, EN 352-3

Headband: SNR 32 dB, H = 32 dB, M = 29 dB, L = 23 dB

Helmet mounted: SNR 31 dB, H = 32 dB, M = 28 dB, L = 22 dB

(carton of 20 pcs/pairs)

SOR22010 HPE headband

SOR12012 HPE helmet mounted*

SOR60083 Hygiene kit HPE

*Fits V-Gard, V-Gard 200, V-Gard 500 and V-Gard 520 helmets.

Please contact your distributor for part numbers of models compatible with other helmets.



HPE

MSA offers a wide range of hearing protectors with built-in electronics – from basic functions to high specification communication devices.

All products are comfortable hearing protectors, designed to prevent you from feeling isolated and encouraging you to use them. This will help you preserve your hearing for the rest of your life.



left/RIGHT Dual Pro

left/RIGHT

Unique to the market the left/RIGHT range considers the anatomical individuality of the users. Individual muffs, especially designed for the left and right ear, compensate for the asymmetric position of the ears on the head. Anatomically shaped cushions and large cups with more space for the ears provide optimal wearer comfort.

left/RIGHT FM

Equipped with built-in FM radio receiver. Large rotating knobs permit easy tuning and volume adjustment.

left/RIGHT FM Pro

Equipped with built-in FM radio receiver and AUX input for connection to MP3 or com radio. Excellent radio reception and superior sound quality. Automatic tuning function and volume adjustment using three easy-to-use push buttons.

left/RIGHT CutOff Pro

Level dependent hearing protector that enables face-to-face communication while being protected. Equipped with AUX input for connection to MP3 or com radio.

left/RIGHT Dual Pro

Combines the features of the CutOff Pro and the FM Pro. Individual balance adjustment between level dependent and FM radio functions enables the wearer to adjust functionality to the working environment. Push-to-listen function for easy face-to-face communication.



left/RIGHT FM



left/RIGHT FM Pro



left/RIGHT CutOff Pro

Type	Yellow	Blue	White	Attenuation Values	Standard
left/RIGHT FM					
headband	10114477	10114478	10114476	SNR 24dB, H=25dB, M=21dB, L=16dB	EN 352-1, EN 352-8
left/RIGHT FM Pro					
headband	-	10108381	-	SNR 27dB, H=31dB, M=24dB, L=15dB	EN 352-1, EN 352-6, EN 352-8
helmet mounted*	-	10111829	-	SNR 27dB, H=31dB, M=24dB, L=16dB	EN 352-3, EN 352-6, EN 352-8
left/RIGHT CutOff Pro					
headband	10111789	10108383	-	SNR 27dB, H=31dB, M=24dB, L=15dB	EN 352-1, EN 352-4, EN 352-6
helmet mounted*	10111823	10111826	-	SNR 27dB, H=31dB, M=24dB, L=16dB	EN 352-3, EN 352-4, EN 352-6
left/RIGHT Dual Pro					
headband	-	10108385	-	SNR 27dB, H=31dB, M=24dB, L=15dB	EN 352-1, EN 352-4, EN 352-6, EN 352-8
helmet mounted*	-	10111832	-	SNR 27dB, H=31dB, M=24dB, L=16dB	EN 352-3, EN 352-4, EN 352-6, EN 352-8
Hygiene Kit for left/RIGHT electronics					
hygiene kit	10094605				

* Fits V-Gard, V-Gard 200, V-Gard 500 and V-Gard 520 helmets. Please contact your distributor for part numbers of models compatible with other helmets.



Connected by Cable

This comfortable range of hearing protection equipment comes with an electret noise-cancelling microphone as standard, permitting two-way communication with minimal interference from background noise, and a down lead for connection to a two-way radio. Also available with level-dependent CutOff feature.

Note: Part numbers below are for models with 2.5 mm single pin connectors. Other connectors are available on request.

EN 352-1, EN 352-3, EN 352-4

Headband: SNR 28 dB, H = 32 dB, M = 26 dB, L = 18 dB

Helmet mounted: SNR 27 dB, H = 30 dB, M = 24 dB, L = 17 dB
(carton of 4 pcs/pairs)

SOR41000 Connected by Cable headband

SOR41502 Connected by Cable helmet mounted*

SOR45000 Connected by Cable CutOff headband

SOR45502 Connected by Cable CutOff helmet mounted*

SOR60084 Hygiene kit CC & WW (carton of 20 pairs)

*Fits V-Gard, V-Gard 200, V-Gard 500 and V-Gard 520 helmets.

Please contact your distributor for part numbers of models compatible with other helmets.



Connected by Cable



Supreme Pro & Supreme Basic

A range of level-dependent hearing protectors for hunting and shooting applications that reproduce a natural and realistic sound.

The Supreme Pro products come in various versions. Different cup colours, optional LED light, textile or leather padding and more options are available depending on the ear muff selection. You can also choose between a foldable headband and a neckband version.

Supreme Pro is equipped with standard comfortable foam cushions. For increased comfort, especially during prolonged use in hot areas, there are also versions with silicon gel filled cushions.

The Supreme is also available as an entry level version, Supreme Basic, designed with basic level-dependent functions, with or without AUX input.

EN 352-1, EN 352-4

Headband: SNR=25 dB, H=28 dB, M=21 dB, L=16 dB

Neckband: SNR=24 dB, H=26 dB, M=21 dB, L=15 dB

(carton of 10 pcs)

SOR75300	Supreme Basic headband
SOR75301	Supreme Basic headband with AUX in
SOR75302	Supreme Pro headband, green
SOR76302	Supreme Pro neckband, green
SOR75302-X	Supreme Pro X headband, green
SOR75302-X-07	Supreme Pro X, headband, LED, gel cushions, green
SOR75302-X-08	Supreme Pro X, headband, LED, gel cushions, MultiCam
SOR75302-X-09	Supreme Pro X, headband, LED, gel cushions, blaze orange
SOR76302-X	Supreme Pro X neckband, green
SOR76302-X-06	Supreme Pro X, neckband, MultiCam
SOR60089	Hygiene kit Supreme (carton of 20 pairs)
SOR60092	Hygiene kit Supreme (gel) (carton of 20 pairs)

Please contact your distributor for more versions of Supreme Pro with gel cushions and in black color.



Supreme Basic



Supreme Pro



Supreme Pro X



Supreme Pro X LED



Supreme Pro X neckband



Supreme MIL CC

A range of hearing protectors for military and law enforcement applications.

The Supreme MIL CC has been developed to meet MIL specifications and to function in extreme conditions. It is a level-dependent headset that protects hearing while enabling clear communications. The headset is equipped with a noise cancelling boom microphone and a heavy duty down lead.

EN 352-1, EN 352-4

Headband: SNR=25 dB, H=28 dB, M=21 dB, L=16 dB

Neckband: SNR=24 dB, H=26 dB, M=21 dB, L=15 dB

SOR75332-06	Supreme MIL CC headband, single com with electret microphone, military green
SOR75332	Supreme MIL CC headband, single com with electret microphone, black
SOR75332-08	Supreme MIL CC headband, dual com with electret microphone, military green
SOR75332-09	Supreme MIL CC headband, dual com with electret microphone, black
SOR76332-06	Supreme MIL CC neckband, single com with electret microphone, military green
SOR76332	Supreme MIL CC neckband, single com with electret microphone, black
SOR76332-08	Supreme MIL CC neckband, dual com with electret microphone, military green
SOR76332-09	Supreme MIL CC neckband, dual com with electret microphone, black
SOR60089	Hygiene kit Supreme (carton of 20 pairs)
SOR60092	Hygiene kit Supreme (gel) (carton of 20 pairs)
SOR75802	Sniper PTT

Please contact us for information on compatible Push-To-Talk (PTT) systems.



Supreme MIL CC headband



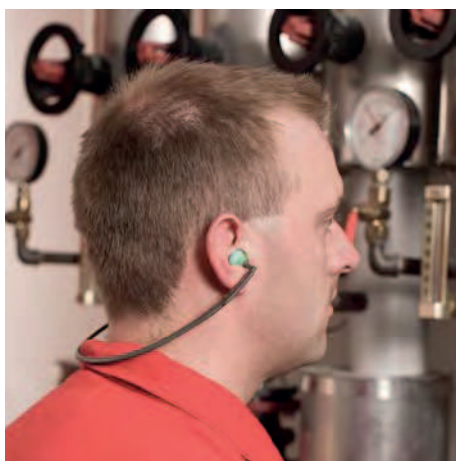
Supreme MIL CC neckband



Sniper PTT

Designed to provide the ultimate in comfort and protection, MSA ear plugs meet the various needs of people working in hazardous noise environments.

Perfect for industries, such as aviation maintenance, textile manufacturing, wood and metal working and construction.



RIGHT

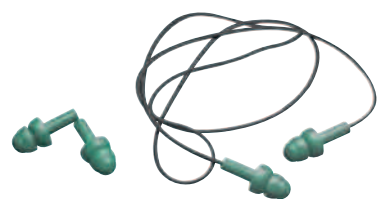
RIGHT is a complete range of ear plugs with high noise attenuation and excellent comfort. The RIGHT range includes disposable, reusable, non-corded, corded, banded and detectable plugs.

The foam disposable plugs come in two sizes to guarantee a perfect fit.

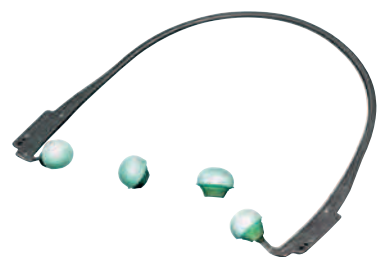
The banded version has a separate left and right plug to ensure a high level of protection and comfort.



Foam M/L Corded and Non-Corded



Reusable Non-Corded and Corded



Banded

EN 352-2

Foam Plugs Small/Medium (SNR 33 dB, H = 33, M = 30, L = 29)		
Non-corded	10087441	200 pairs
Non-corded, refillpack	10087442	200 pairs
Corded	10087443	100 pairs
Foam Plugs Medium/Large (SNR 37 dB, H = 36, M = 34, L = 34)		
Non-corded	10087444	200 pairs
Non-corded, refillpack	10087445	200 pairs
Corded	10087446	100 pairs
Corded, detectable	10087447	100 pairs
Dispenser		
Dispenser for foam plugs	10087448	1 piece
Reusable Plugs (SNR 23 dB, H = 24, M = 20, L = 17)		
Non-corded	10087449	50 pairs
Corded	10087450	50 pairs
Corded, detectable	10087451	50 pairs
Banded Plugs (SNR 24 dB, H = 27, M = 19, L = 18)		
Banded	10087452	10 pieces
Replacement pods	10087453	100 pairs

Disposable Ear Plugs

Reusable Ear Plugs



Fall Protection

Fall Protection equipment is used by workers in many industries. It is designed to prevent accidents at work or to protect against their consequences.

MSA has been in the business of safety at height since 1930. Today it is at the forefront in both the supply and the range of innovative fall protection products.

Our extensive product range include textiles, such as the EVOTECH and MSA Workman line of product, and a selection of hard goods, including self-retracting lanyards and confined-space equipment. These are complimented by MSA rescue products, to ensure workers at height have the protection they need at all times.

For applications which require both respiratory and fall protection, MSA has developed the alphaFP SCBA harness (please see page 12).



Superlight EN

The Superlight EN Full Body Harnesses are especially designed to protect people working at height, while keeping the cost of ownership low. The versatile range with three different models (single back webbing loop, additional two loops at the front, integral waist belt) ensures the right protection for the job. The orange polyester webbing improves worker safety through better visibility. The Qwik-fit leg straps provide quick and simple donning.

EN 361, EN 358 (depending on model)

10149777	Superlight EN Harness, back fall arrest, small
10149778	Superlight EN Harness, back fall arrest, medium
10149779	Superlight EN Harness, back fall arrest, large
10152174	Superlight EN Harness, back and front fall arrest, small
10152175	Superlight EN Harness, back and front fall arrest, medium
10152176	Superlight EN Harness, back and front fall arrest, large
10149768	Superlight EN Harness, back fall arrest, with waist belt, small
10149769	Superlight EN Harness, back fall arrest, with waist belt, medium
10149770	Superlight EN Harness, back fall arrest, with waist belt, large

Superlight EN Waist Belt

The Superlight EN Waist Belt is part of a work positioning system. It can be attached to the Superlight Harness together with a work positioning lanyard. The belt in 2 different sizes fits a wide range of body types and sizes.



EN 358

10149780	Superlight EN Waist Belt, standard
10149781	Superlight EN Waist Belt, large



MSA Workman Light

The MSA Workman Light, single D-ring harness, provides comfortable protection, due to its lightweight components and durable webbing. The vest-style harness fits a wide range of body types and sizes. Colour contrasting thigh and torso straps simplify donning. The Qwik-fit leg straps offer easy adjustment.

EN 361

10115526	MSA Workman Light Harness, small
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10115527	MSA Workman Light Harness, medium
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10115528	MSA Workman Light Harness, large
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MSA Workman Premier

The MSA Workman Premier offers the user an additional attachment point at the front, with extra adjusters on the torso for more precise adjustment. The harness also offers shoulder loops for use with the MSA Workman Spreader Bar.

The MSA Workman Premier harness is available with Qwik-fit or bayonet style leg straps. Both styles offer fast and easy connection and adjustment.

EN 361, EN 1497

10115541	MSA Workman Premier Harness, small, Qwik-fit leg straps
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10115542	MSA Workman Premier Harness, medium, Qwik-fit leg straps
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10115543	MSA Workman Premier Harness, large, Qwik-fit leg straps
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10115544	MSA Workman Premier Harness, small, Bayonet leg straps
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10115545	MSA Workman Premier Harness, medium, Bayonet leg straps
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10115546	MSA Workman Premier Harness, large, Bayonet leg straps
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MSA Workman Utility

The MSA Workman Utility offers everything the Premier harness offers and more. An integral waist belt and pad for added comfort and hip-positioning D-rings make this the perfect harness for Utility work.

EN 358, EN 361, EN 1497

10115547	MSA Workman Utility Harness, small
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10115548	MSA Workman Utility Harness, medium
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10115549	MSA Workman Utility Harness, large
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EVOTECH

Using the latest technology in safety and comfort, the EVOTECH harness is designed for all-day use for the most demanding of users. The EVOTECH has a host of features including:

- Breathable padding with moisture-wicking material keeps wearers cooler
- Patent-pending leg strap design keeps leg straps in place
- Leg strap padding offers additional comfort during work positioning
- Variable width, sub-pelvic strap webbing provides 50% more surface area for improved weight distribution
- 3-position back D-ring allows users to determine optimal lanyard connection position
- Built-in RFID chip allows you to track and inspect the harness easily
- NanoSphere® coating on webbing repels dirt, grease, moisture, and more
- Reflective piping increases visibility in low-light environments
- Front and back fall arrest attachment points



EN 358, EN 361 (depending on model)

10123403	EVOTECH Harness, small
10123404	EVOTECH Harness, medium
10123405	EVOTECH Harness, large
10123406	EVOTECH Harness, small, waist padding, hip D-rings
10123407	EVOTECH Harness, medium, waist padding, hip D-rings
10123408	EVOTECH Harness, large, waist padding, hip D-rings
10123411	EVOTECH Harness, small, waist padding, dorsal ext., hip & shoulder D-rings
10123412	EVOTECH Harness, medium, waist padding, dorsal ext., hip & shoulder D-rings
10123413	EVOTECH Harness, large, waist padding, dorsal ext., hip & shoulder D-rings
10123414	EVOTECH Harness, small, waist padding, hip & shoulder D-rings
10123415	EVOTECH Harness, medium, waist padding, hip & shoulder D-rings
10123416	EVOTECH Harness, large, waist padding, hip & shoulder D-rings



TechnaCurv

The TechnaCurv full body harness was designed with your comfort in mind.

- Curvilinear Comfort System
- Visco-elastic shoulder padding
- Downward-adjusting torso straps to ease adjustment
- Variable width webbing distributes weight over a wider surface area to increase comfort during suspension/work positioning (width varies from 42 mm to 67 mm)
- Integral load indicator

EN 361, EN 358

10105802	TechnaCurv Harness, STD
10105805	TechnaCurv Harness, XLG
10105810	TechnaCurv Harness, SXL



Gravity Utility

The Gravity Utility full body harness can be used in a diverse number of applications like confined space, rescue, transmission tower, telecom tower, rope access, and many others.

The ASTM version has been tested to continue to provide protection against a fall at heights after an arc flash event. It features orange/black webbing, PVC coated back, side and chest D-rings, frontal loops, ASTM waist and leg pads and Santoprene webbing keepers.

The non-ASTM version comes with orange/black webbing, steel back and side D-rings, sternal and frontal loops, non-ASTM waist and leg pads and elastic webbing keepers.

EN 361, EN 358, EN 813, STMF 887-13

10150936	Gravity Utility Harness, ASTM version, small
10150937	Gravity Utility Harness, ASTM version, medium
10150938	Gravity Utility Harness, ASTM version, large
10150952	Gravity Utility Harness, Non-ASTM version, small
10150953	Gravity Utility Harness, Non-ASTM version, medium
10150954	Gravity Utility Harness, Non-ASTM version, large



Gravity Suspension

The Gravity Suspension harness is designed to offer the best comfort, safety and quality for suspended work. Its waist pad is manufactured from fully breathable material and designed with multi-layered padding which dissipates pressure from the webbing to reduce fatigue when working for long periods of time.

The Gravity Suspension harness comes with aluminium hardware and shoulder, leg and waist padding. The Gravity Light Suspension harness comes with steel hardware and waist and leg padding.

EN 361, EN 358, EN 813

10150408	Gravity Suspension Harness, green, small
10150409	Gravity Suspension Harness, green, medium
10150410	Gravity Suspension Harness, green, large
10150441	Gravity Suspension Harness, black, small
10150442	Gravity Suspension Harness, black, medium
10150443	Gravity Suspension Harness, black, large
10150433	Gravity Light Suspension Harness, green, small
10150434	Gravity Light Suspension Harness, green, medium
10150407	Gravity Light Suspension Harness, green, large



Gravity

The Gravity harness is suitable for controlled descent, positioning, ladder climbing, rescue, and fall arrest. It has a cross-over style design and includes back and front D-rings, Qwik-Fit leg straps, and an integral load indicator to alert you when the harness has been involved in a fall event.

EN 361

10105562	Gravity Harness, STD, red/blue nylon webbing
10105565	Gravity Harness, XLG, red/blue nylon webbing
10105563	Gravity Harness, STD, black nylon webbing
10105564	Gravity Harness, STD, yellow reflective nylon webbing



Thermatek

With heat and flame resistant Kevlar/Nomex blend webbing, the Thermatek full body harness is designed to withstand harsh welding environments. It features webbing and stitching in contrasting colors for easier inspection, fully adjustable leg, chest and shoulder straps for a perfect fit, and Qwik-Fit leg straps for easy connection.

EN 361

10129398	Thermatek Harness, small, black, Kevlar/Nomex
10129399	Thermatek Harness, medium, black, Kevlar/Nomex
10129400	Thermatek Harness, large, black, Kevlar/Nomex



Superlight EN Harness Kits

Superlight EN harness kits meet basic fall protection needs. The kits consist of a Superlight EN harness with an energy-absorbing lanyard, permanently attached to the back of the harness, and a zinc-plated steel scaffold hook as a connector. The lanyard can be either a single-leg or twin-leg.

EN 361, EN 355

10149756	Superlight EN Harness, back fall arrest, 1.8 m single-leg lanyard, small
10149757	Superlight EN Harness, back fall arrest, 1.8 m single-leg lanyard, medium
10149758	Superlight EN Harness, back fall arrest, 1.8 m single-leg lanyard, large
10149762	Superlight EN Harness, back fall arrest, 2 m single-leg lanyard, small
10149763	Superlight EN Harness, back fall arrest, 2 m single-leg lanyard, medium
10149764	Superlight EN Harness, back fall arrest, 2 m single-leg lanyard, large
10149759	Superlight EN Harness, back fall arrest, 1.8 m twin-leg lanyard, small
10149760	Superlight EN Harness, back fall arrest, 1.8 m twin-leg lanyard, medium
10149761	Superlight EN Harness, back fall arrest, 1.8 m twin-leg lanyard, large
10149765	Superlight EN Harness, back fall arrest, 2 m twin-leg lanyard, small
10149766	Superlight EN Harness, back fall arrest, 2 m twin-leg lanyard, medium
10149767	Superlight EN Harness, back fall arrest, 2 m twin-leg lanyard, large



MSA Workman Harness Kits

Your basic fall protection needs for construction and general maintenance are now available in one, easy-to-order kit. All fall protection kits include the MSA Workman Light harness, energy-absorbing lanyard (webbing) and anchorage connector in an easy-to-stow bag.

EN 354, EN 355, EN 361

10115529	MSA Workman Light small, single-leg lanyard, aluminium carabiner
10115530	MSA Workman Light medium, single-leg lanyard, aluminium carabiner
10115531	MSA Workman Light large, single-leg lanyard, aluminium carabiner
10115532	MSA Workman Light small, single-leg lanyard, aluminium scaffold hook
10115533	MSA Workman Light medium, single-leg lanyard, aluminium scaffold hook
10115534	MSA Workman Light large, single-leg lanyard, aluminium scaffold hook
10115535	MSA Workman Light small, twin-leg lanyard, aluminium carabiner
10115536	MSA Workman Light medium, twin-leg lanyard, aluminium carabiner
10115537	MSA Workman Light large, twin-leg lanyard, aluminium carabiner
10115538	MSA Workman Light small, twin-leg lanyard, aluminium scaffold hook
10115539	MSA Workman Light medium, twin-leg lanyard, aluminium scaffold hook
10115540	MSA Workman Light large, twin-leg lanyard, aluminium scaffold hook



MSA Workman Energy-Absorbing Lanyards

Energy-absorbing lanyards provide a means of connection between the fall arrest attachment of MSA full body harnesses and a qualified anchorage and anchorage connector. The energy absorber keeps fall arrest forces below EN limits and deceleration distance is controlled to a maximum of 175 cm. The lanyard is available in web and kernmantel rope configurations with a variety of snaphooks.

MSA Workman energy-absorbing lanyards are lightweight 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. Certified to EN 354, EN 355.



Part No. Single-Leg	Part No. Twin-Leg	Material	Length	Carabiner on Harness Connection	Carabiner/Hook on Anchorage Connection
10115741	10115750	Webbing	2.0 m adjustable	Steel screwgate	Steel screwgate
10115742	10115751	Webbing	2.0 m adjustable	Steel screwgate	Steel scaffold
10115745	10115754	Webbing	2.0 m adjustable	Aluminium screwgate	Aluminium screwgate
10115747	10115756	Webbing	2.0 m adjustable	Aluminium screwgate	Aluminium scaffold
10115748	10115757	Webbing	2.0 m adjustable	Aluminium screwgate	Aluminium snaphook
10115749	10115758	Webbing	2.0 m adjustable	Aluminium autolock	Aluminium autolock
10115759	10115777	Kernmantel rope	1.5 m fixed	Steel screwgate	Steel screwgate
10115760	10115778	Kernmantel rope	1.5 m fixed	Steel screwgate	Steel scaffold
10115763	10115781	Kernmantel rope	1.5 m fixed	Aluminium screwgate	Aluminium screwgate
10115765	10115783	Kernmantel rope	1.5 m fixed	Aluminium screwgate	Aluminium scaffold
10115766	10115784	Kernmantel rope	1.5 m fixed	Aluminium screwgate	Aluminium snaphook
10115767	10115785	Kernmantel rope	1.5 m fixed	Aluminium autolock	Aluminium autolock
10115768	10115786	Kernmantel rope	2.0 m fixed	Steel screwgate	Steel screwgate
10115769	10115787	Kernmantel rope	2.0 m fixed	Steel screwgate	Steel scaffold
10115772	10115790	Kernmantel rope	2.0 m fixed	Aluminium screwgate	Aluminium screwgate
10115774	10115792	Kernmantel rope	2.0 m fixed	Aluminium screwgate	Aluminium scaffold
10115775	10115793	Kernmantel rope	2.0 m fixed	Aluminium screwgate	Aluminium snaphook
10115776	10115794	Kernmantel rope	2.0 m fixed	Aluminium autolock	Aluminium autolock



Superlight EN Energy-Absorbing Lanyards

Superlight EN energy-absorbing lanyards are especially designed to protect people working at height, while keeping the cost of ownership low. The single or twin-leg lanyards with zinc-plated steel snaphook (19 mm) or scaffold hook (55 mm) are available in both 1.8 and 2 m lengths. The orange polyester webbing improves worker safety through better visibility.

EN 355

10149771	Superlight EN Energy-Absorbing Lanyard, 1.8 m, single-leg, snaphook
10149774	Superlight EN Energy-Absorbing Lanyard, 2 m, single-leg, snaphook
10149772	Superlight EN Energy-Absorbing Lanyard, 1.8 m, single-leg, scaffold
10149775	Superlight EN Energy-Absorbing Lanyard, 2 m, single-leg, scaffold
10149773	Superlight EN Energy-Absorbing Lanyard, 1.8 m, twin-leg, scaffold
10149776	Superlight EN Energy-Absorbing Lanyard, 2 m, twin-leg, scaffold



ArcSafe Lanyards

Originally designed in the US to meet the stringent requirements of ASTM F887 standard for electrical arc flash protection, ArcSafe energy-absorbing lanyards utilize a tear-tape design to keep fall arrest forces below 6 kN.

- Constructed of 25 mm nylon webbing
- Includes sewn-on loop at end of energy absorber 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

EN 354, EN 355

10101886	ArcSafe Lanyard, single-leg, hitch loop, 1 x 19 mm snaphook
10101887	ArcSafe Lanyard, twin-leg, hitch loop, 2 x 19 mm snaphooks



Thermatek Lanyard

This specialized energy-absorbing lanyard features a Tuffweld protective cover that is superior to Nomex and a unique energy absorber design that incorporates a Kevlar back-up strap that is resistant to charring and burning.

- 6 mm cable
- 1.8 m length

EN 354, EN 355

10101888	Thermatek Lanyard, cable, 2 x 19 mm snaphooks
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Sure-Stop EN Lanyards

The Sure-Stop EN energy-absorbing lanyards are engineered with precision and are manufactured using only those components that meet our high quality standard. With a compact, tear-tape energy absorber design, the Sure-Stop EN lanyards ensure that the fall arrest forces transmitted to your body do not exceed 6 kN. In addition, Sure-Stop EN lanyards feature:

- A clear energy absorber cover to protect product labels from damage and make inspection easier
- A choice of high-strength web, rope, or cable models
- A variety of snaphook options for virtually any application
- Single-leg and twin-leg models (twin-leg models provide 100% continuous connection)
- Fixed and adjustable lengths (1.8 m adjustable length lanyards adjust down to 1.2 m)
- A standard length of 1.8 m

FP5K Tie-Back Energy-Absorbing Lanyard

- Uses the FP5K carabiner with 22.24 kN gate strength in any direction
- Utilizes Monster Edge webbing with 53.38 kN minimum breaking strength, designed for increased abrasion resistance

Expanyard Energy-Absorbing Lanyards

- Designed to stretch to a 1.8 m length (relaxed length is 1.5 m)
- When relaxed, it stays close to the user's body, reducing the possibility of trip and snag hazards

EN 354, EN 355

10114328	Sure-Stop EN Lanyard, 25 mm nylon web, fixed length, 2 x 19 mm snaphooks
10114329	Sure-Stop EN Lanyard, 25 mm nylon web, twin-leg, fixed length, 3 x 19 mm snaphooks
10114334	Sure-Stop EN Lanyard, cable, fixed length, 2 x 19 mm snaphooks
10114335	Sure-Stop EN Lanyard, cable, twin-leg, fixed length, 3 x 19 mm snaphooks
10114327	Sure-Stop EN Lanyard, 25 mm Monster Edge web, adjustable length, 1 x 19 mm snaphook, 1 x 25 mm FP5K snaphook
10114325	Sure-Stop EN Lanyard, 25 mm Monster Edge web, twin-leg, adjustable length, 1 x 19 mm snaphook, 2 x 25 mm FP5K snaphooks
10114331	Sure-Stop EN Lanyard, Expanyard style, 2 x 19 mm snaphooks
10114332	Sure-Stop EN Lanyard, Expanyard style, twin-leg, 3 x 19 mm snaphooks
10114333	Sure-Stop EN Lanyard, Expanyard style, twin-leg, 1 x 19 mm snaphook, 2 x 52 mm carabiners

Restraint & Positioning Devices



MSA Workman Restraint Lanyards

Restraint lanyards are primarily used for travel restriction (to restrain a worker from reaching a fall hazard) and work positioning applications (stabilizing a worker at an elevated location).

To meet all your application needs and environments, MSA Workman restraint lanyards are available in web and kernmantel rope.

EN 358

10115795	MSA Workman Restraint Lanyard, webbing, 1.5 m fixed length, steel screwgate carabiner
10115796	MSA Workman Restraint Lanyard, webbing, 1.5 m fixed length, aluminium screwgate carabiner
10115797	MSA Workman Restraint Lanyard, webbing, 2 m fixed length, steel screwgate carabiner
10115798	MSA Workman Restraint Lanyard, webbing, 2 m fixed length, aluminium screwgate carabiner
10115799	MSA Workman Restraint Lanyard, webbing, 2 m adjustable length, steel screwgate carabiner
10115800	MSA Workman Restraint Lanyard, webbing, 2 m adjustable length, aluminium screwgate carabiner
10115801	MSA Workman Restraint Lanyard, kernmantel rope, 2 m adjustable length, aluminium carabiner



Restraint Lanyards

A fall restraint lanyard connection is used between the anchor point and the body harness for work positioning applications (stabilizing a worker at an elevated location) and to prevent the user from reaching the fall area.

EN 358

10102692	Restraint Lanyard, cable, 1.5 m fixed length, 19 mm snaphooks
10102693	Restraint Lanyard, polyester rope, 1.8 m fixed length, 19 mm snaphooks, 35 mm width



Rebar Assemblies

Designed for work positioning applications such as tying rebar or constructing concrete forms.

EN 358

10102695	Rebar web assembly, 25 mm polyester, 33 cm legs, with sliding large snaphooks
10102689	Rebar chain assembly, 19 mm snaphook with 65 mm gate



Lineman's Pole Strap

The Lineman's Pole Strap is used to assist a lineman in climbing wooden poles and for work positioning.

EN 358

10102694	Lineman's pole strap, nylon, adjustable to max. length of 1.78 m, steel snaphooks
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MSA Workman Anchorage Sling

Anchorage connectors are compatible for use with MSA fall arrest and confined space entry/retrieval components. They have a minimum breaking strength of 22.24 kN. Available in 1.5 or 2 m lengths, the Workman anchorage sling is made of a 25 mm webbing.

EN 354, EN 795

10115802 Workman anchorage sling, 1.5 m

10115803 Workman anchorage sling, 2 m



PointGuard Anchorage Connector Strap

- Quick and easy to install
- Residential construction
- Durable polyester webbing

EN 354, EN 795

10103224 PointGuard anchorage connector strap, 0.9 m with D-ring



Thermatek Anchorage Connector Strap

- Kevlar webbing and stitching
- Contrasting colours allow for easier inspection
- Includes replaceable wear pad to protect webbing from abrasion
- Heat and burn resistant

EN 354, EN 795

10103221 Thermatek anchorage connector strap, 1.5 m



Anchorage Connector Strap

The anchorage connector strap has a D-ring on one end and a sewn loop on the other end.

EN 354, EN 795

10103223 Anchorage connector strap, nylon, 1.5 m

10103222 Anchorage connector strap, polyester, 1.5 m



Anchorage Cable Sling

- Vinyl coated
- 6.35 mm galvanized cable
- Flemish eye spliced

EN 354, EN 795

10110162 Anchorage cable sling, 1.2 m

10110163 Anchorage cable sling, 1.8 m



Anchorage Connector Cable

- Vinyl coated
- 6.35 mm galvanized cable

EN 354, EN 795

10103219 Anchorage connector cable, 1.8 m

Self-Retracting Lanyards



MSA Workman PFL

Self-retracting lanyards are fast-acting fall arresters that limit free fall distance, deceleration distance and free fall forces, while allowing the user freedom of movement.

With its solid design and fast-acting brake mechanism, you can be confident that the MSA Workman Personal Fall Limiter (PFL) will be there for you when you need it most. It is equipped with integral load indicator and integral swivel at the PFL/SRL connector.

The MSA Workman PFL EN is ideal for climbing ladders or any other application where vertical mobility is needed.

EN 360

10119078	MSA Workman PFL EN, cable, 3.6 m, steel snaphook
10119079	MSA Workman PFL EN, cable, 3.6 m, aluminium snaphook
10119080	MSA Workman PFL EN, cable, 3.6 m, aluminium carabiner
10119081	MSA Workman PFL EN, cable, 3.6 m, steel scaffold hook, back d-connector



MSA Workman Twin Leg PFL

The MSA Workman Twin Leg Personal Fall Limiter increases worker productivity by providing greater mobility and continuous connection.

- Patent-pending ARCA™ harness connection connects in seconds
- RFID-enabled product for simplified product tracking and inspection
- 100 kg working capacity
- Maximum arrest distance of 1.1 m is ideal for use in low clearance applications
- Fall arrest forces limited to 6 kN reduce impact upon user
- 2 m lifeline length provides extra mobility

EN 360

10126099	MSA Workman Twin Leg PFL, 21 mm snaphooks
10126098	MSA Workman Twin Leg PFL, 65 mm snaphooks



MSA Workman SRL

With lightweight its design, durable thermoplastic housing and impact-absorbing bumpers, the MSA Workman SRL range will provide years of dependable service.

- Integral, ergonomic carrying handle for easier transport and installation
- RFID-enabled product for simplified product tracking and inspection
- 136 kg working capacity for increased versatility
- Swivel snap-hook prevents twisting of the cable during use
- Load indicator alerts users that the MSA Workman SRL has been involved in a fall and needs to be removed from use

EN 360

10120722 MSA Workman SRL, 9 m, galvanized cable

10120723 MSA Workman SRL, 9 m, stainless-steel cable

10121776 MSA Workman SRL, 15 m, galvanized cable

10121777 MSA Workman SRL, 15 m, stainless-steel cable



MSA Workman Leading Edge SRL

In addition to the normal vertical use, the MSA Workman leading edge self-retracting lanyard is designed for use in horizontal and leading edge applications. It is available in lengths of 6 or 11 m. The lifeline is made of galvanized steel cable. RFID simplifies product tracking and inspection.

EN 360

10146094 MSA Workman Leading Edge SRL, 6 m

10146096 MSA Workman Leading Edge SRL, 11 m



MSA Workman Tripod

The MSA Workman tripod may be used for fall arrest, rescue, retrieval or evacuation, depending on which attachment elements are included.

- Legs automatically lock in the open position for added safety
- A maximum height indicator provides quick and easy identification of the maximum leg extension length
- No need for a separate pulley/bracket assembly
- Accessories can attach to any leg for faster set up
- Aluminium leg and head design reduces weight
- Telescoping legs (up to 2.45 m high) do not tangle when the unit is collapsed
- 4 attachment points: the central swivel eye is for winch or personal fall arrest systems, the side-mount swivel eyes are for accessories such as a pulley for MSA Rescuer or SRL
- Optional nylon bag for protection during transport and storage

EN 795

10116521	MSA Workman Tripod
10129891	Replacement leg strap
10129888	Steel carabiner
506222	Pulley
10105656	Carrying bag for tripod



MSA Workman Winch

The rugged MSA Workman winch has been designed for lifting, lowering, and positioning personnel and materials. Furthermore it allows for non-entry rescue of a confined space entrant.

- Tripod pin connection fits directly onto the MSA Workman tripod
- No additional bracket or tools for set-up required
- Level wind mechanism keeps cable evenly spooled on hub
- Built-in clutch prevents injury if worker becomes snagged
- Double braking system provides secondary protection
- Built-in energy absorber keeps forces below 6 kN
- RFID chip allows easy tracking of the device
- Integral, ergonomic carrying grip and unique, foldable handle for simple storage

Machinery Directive 2006/42/EC, EN 1496

10147296	MSA Workman Winch, 20 m, stainless-steel cable
10147567	MSA Workman Winch, 15 m, stainless-steel cable
10147566	MSA Workman Winch, 10 m, stainless-steel cable
10153830	MSA Workman Winch, 20 m, galvanized cable
10153829	MSA Workman Winch, 15 m, galvanized cable
10153828	MSA Workman Winch, 10 m, galvanized cable

The installation of the MSA Workman Winch requires a pulley and a carabiner (see MSA Workman Tripod ordering information).



SureGrab Rope Grab and Vertical Lifeline Kit

The SureGrab device and lifeline is used to provide temporary fall protection on ladders or when climbing vertical structures. This system can also be used to provide a secondary lifeline for suspended positioning systems used by building/structure inspectors, window cleaners, and maintenance personnel. The SureGrab device moves freely up or down an approved 16 mm diameter lifeline. When sudden downward movement occurs, a camming lever is activated arresting the fall. The device can be installed or removed from the lifeline at any point along its length.

The Vertical Lifeline Kit consists of a 16 mm diameter, 18 m length polyblend rope and a 19 mm snaphook on one end. It comes with rope grab.



EN 353

10104072	Rope grab fall arrester, automatic/manual, open body, 44.5 mm x 30.5 cm web lanyard, 19 mm snaphook
10110161	Vertical Lifeline Kit, 18 m, 19 mm snaphook, incl. rope grab
10121804	Vertical Lifeline, replacement rope

Gravity Sure-Line Horizontal Lifeline

The Gravity Sure-Line is a temporary synthetic horizontal lifeline for quick, easy installation at temporary work sites. It is suspended between two approved anchor points to provide the worker with fall protection during horizontal movement. The Gravity Sure-Line offers unique bypass shuttles enabling two workers to share a line and pass each other while maintaining 100% tie-off.



EN 795

10119640	Gravity Sure-Line Horizontal Lifeline, 3 m
10119692	Gravity Sure-Line Horizontal Lifeline, 10.7 m including carabiners, anchorage cable slings 1.8 m, bag
10110164	Gravity Sure-Line Horizontal Lifeline, 18 m including carabiners, anchorage cable slings 1.8 m, bag

Fall Protection Accessories



Suspension Trauma Safety Step

The Suspension Trauma Safety Step is designed to help workers in a post-fall suspension position avoid the effects of suspension trauma. Workers can use a single Safety Step or two Safety Steps (one for each leg) to provide additional support, balance, and comfort.

- Compact, lightweight, versatile
- Multiple attachment point options
- Fast, easy installation and deployment
- Attaches to any harness
- Multiple loop design accommodates all heights and sizes

10143346 Suspension Trauma Safety Step with carabiner

10143347 Suspension Trauma Safety Step without carabiner



MSA Workman Spreader Bar

The MSA Workman spreader bar is used in conjunction with the Premier or Utility harness for raising and lowering a person during rescue. The attached web loops can be used to secure an incapacitated victim's arms when lifting or lowering.

EN 354

10115550 MSA Workman Spreader Bar, steel snaphook

10115551 MSA Workman Spreader Bar, aluminium snaphook



Carabiners

MSA carabiners have a minimum breaking strength of 22.24 kN.

EN 362

10144125 Steel screwgate carabiner, 17 mm gate

10080675 Steel autolock carabiner, 22 mm gate

10080678 Steel autolock carabiner, 25 mm gate

10080676 Steel autolock carabiner, 52 mm gate

10157585 Steel triple lock carabiner

10144126 Aluminium screwgate carabiner, 19 mm gate

10080677 Aluminium scaffold autolock carabiner, 52 mm gate



Hands-Off Chisel Grip

The spark resistant Hands-Off chisel grip keeps hands away from the point of contact. It is ergonomically designed to match the specific shape of the human hand for a comfortable and firm grip, permitting faster, safer and more accurate work.

10040018 Hands-Off chisel grip

10083464 Replacement band



Ergonomic Tool Holder

Eases awkward hand positioning with a vibration-absorbing design to hold wrenches, chisels, etc. and attaches to broom handles and mops for better grip.

507005 Tool holder, 45 cm

507006 Tool holder, spark resistant, 45 cm



Harness Accessories

The practical cell phone holder comes with Velcro attachments for fitting to the harness.

With the tool lanyard you can securely carry or stow tools when working.

10117271 Cell phone holder

10110670 Tool lanyard



Thermal Imaging

MSA's state-of-the-art thermal imaging cameras (TIC) are invaluable tools for fire fighters and police, e.g. for fast and safe navigation in smoke filled rooms or dark environments.

The two TIC series feature ergonomic design, robust components and extreme durability. The image quality is best-in-class. However, the MSA TIC models each feature different resolutions in order to ensure the optimal price/performance ratio for each application.

The practical system allows all types of camera to be equipped with a Video Transmission System or a Video Capture. The Video Transmission System gives the back-up team a clear view of what is happening on the fire ground in real time. Furthermore the Video Capture supports the documentation and training.



EVOLUTION[®] 6000

EVOLUTION 6000 makes TIC use easier, faster, lighter, and more intuitive. The TIC platform comprises three models to offer the best mix of features, including NFPA compliance, to support the thermal imaging needs of all first responders.

Depending on the model, features include best-in-class image quality, light weight, laser pointer and range finder, compass, integrated video and picture capture, and integrated wireless video transmission system.

All EVOLUTION 6000 TIC models are built with high resolution 320x240 imaging cores.

NFPA 1801, 2013 edition

10145966	EVOLUTION 6000 Basic TIC (includes flashlight, laser pointer, degrees C)
10145967	EVOLUTION 6000 Plus TIC (includes laser range finder, meters, degrees C, zoom 2x/4x, colour palettes, compass)
10145968	EVOLUTION 6000 Xtreme TIC (includes laser range finder, meters, degrees C, zoom 2x/4x, colour palettes, compass, image capture, video capture)

The EVOLUTION 6000 TIC is configurable to your needs by means of an Assembly To Order (ATO) code. We offer the above mentioned pre-configured TIC's. If you need any other configurations, please contact your local MSA affiliate.



EVOLUTION[®] 5800

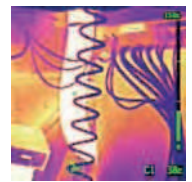
The EVOLUTION 5800 is ergonomically in line with the other three models of the EVOLUTION 5000 Series and provides extremely convincing visualisation technology. The user can select five different colour palettes according to surroundings requirements and personal preferences.

The EVOLUTION 5800 provides sharp images in all temperatures and maintains heat source definition where other cameras lose their way. With its optional twofold digital zoom, areas requiring a closer look can be precisely examined. The large display makes it the perfect tool for multiple users to see the screen simultaneously.

Combined with the other features, such as extreme durability, shutter indicator and instant mode switching, this camera is a high end Thermal Imaging Camera.

Video Output, Heat Seeker PLUS and Quick-Temp as standard

10098049	EVOLUTION 5800 standard with Standby Mode
10098048	EVOLUTION 5800 with Digital Zoom 2x (without Standby Mode)



Fusion imagery



EVOLUTION[®] 5200 HD

The EVOLUTION 5200 HD features brilliant, high resolution images. With the 320 x 240 pixels sensor and the optional 2x digital zoom, it is the perfect tool for challenging policing and fire-fighting operations.

The design is lightweight, compact and ergonomical. The Heat Seeker PLUS and the Quick-Temp functions enable the fast location of fire sources and hot-spots, supported by a graphic and numerical temperature readout.

Video Output, Heat Seeker PLUS and Quick-Temp as standard

10081715	EVOLUTION 5200 HD standard with Standby Mode
10081714	EVOLUTION 5200 HD with Digital Zoom 2x (without Standby Mode)



Normal image



2x Zoom image



EVOLUTION[®] 5200

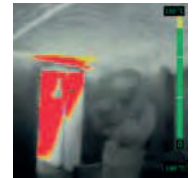
MSA's all-rounder EVOLUTION 5200 is designed according to various requirements and is the best camera for a wide range of applications.

The Heat Seeker PLUS function provides shaded, heat-seeking colour pixels. The colour spectrum ranges from light yellow to dark red, indicating increases in structural temperature and displaying the intensity and direction of a fire in revealing detail.

The rugged, compact and lightweight design, as well as the shutter indicator, instant-on and Quick-Temp functions, provide additional value to the user.

Video Output and Standby Mode as standard

10063770	EVOLUTION 5200 standard
10063772	EVOLUTION 5200 with Quick-Temp
10063773	EVOLUTION 5200 with Heat Seeker PLUS
10063775	EVOLUTION 5200 with Heat Seeker PLUS and Quick-Temp



Original Image



EVOLUTION[®] 5600

The EVOLUTION 5600 features state-of-the-art image resolution. With its excellent price-performance ratio, it is the optimal solution for applications requiring a speedy overview.

MSA's Heat Seeker PLUS and Quick-Temp functions deliver excellent performance at all temperatures. The lightweight, compact and durable design, as well as the shutter indicator and instant mode switching, make it a very user-friendly device.

Standby Mode, Heat Seeker PLUS and Quick-Temp as standard

10083575	EVOLUTION 5600 standard
10083576	EVOLUTION 5600 with Video Output





EVOLUTION 5000 with Video Transmitter

Video Transmitter

The ability to send thermal images from the area of operation to the incident control centre gives the commander the essential information required to know what is happening in "real time". This enables faster and more effective decision-making, increases safety and permits the rapid selection and deployment of the resources required to tackle the situation in hand.

The Video Transmitter is retrofittable to and removeable from any EVOLUTION 5000 series thermal imager within seconds.

10048841	Video Transmitter (incl. 10043960 Lithium ion battery pack)
10067721	Receiver Station (without monitor and case)
10039300	Receiver Station with case
10049271	Receiver Station with monitor and case



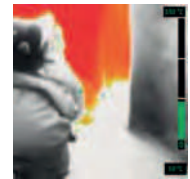
Receiver Station

Video Capture

In the fire service, documentation is becoming more and more important. MSA's Video Capture for EVOLUTION 5000 thermal imaging cameras is quick and easy to set-up and enables straightforward video recording from thermal imaging equipment for documentation and training purposes.

The video capture is a small and easy-to-use free-standing unit, which is retrofittable and can be transferred to any EVOLUTION 5000 series thermal imager within seconds. An integrated standard flash memory card provides more than 2 hours filming capacity in MPEG-4 format.

10064785	Video Capture (incl. 10069791 MMC-Memory Card Reader and 10069792 RS-MMC Memory Card 1 GB)
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Still Image from Saved Video



Station Kit

EVOLUTION[®] 6000 Series Accessories

For more accessories, please see the leaflet.

10147389	EVOLUTION 6000 TIC Station Kit (includes carrying case, 2 rechargeable batteries, multi-use charger, retractable lanyard, carabiner)
10145771	EVOLUTION 6000 TIC Vehicle Kit (includes 2 rechargeable batteries, vehicle charger, retractable lanyard, carabiner)
10147388	Multi-use charger (12 V) kit
10101312	Vehicle mounted charger system
10067707	Vehicle mounting bracket
10120606-SP	Lithium-ion battery
10127441-SP	Plastic carrying case
10148391-SP	Disposable display covers (pack of 3)



Truck Charger



Camera Case

EVOLUTION[®] 5000 Series Accessories

For more accessories, please see the leaflet.

10043951	Desktop battery charger
10043960	Lithium ion battery
10040223	Camera Case
10038970	Disposable display covers (pack of 3)
10101312	Vehicle mounted charger
10067707	Vehicle mounting bracket
GA10007002	Permanent power supply



Vehicle Charger



Portable Gas Detection

Portable measuring instruments and personal monitors can be grouped into three application areas:

Combustible Gases

There are three elements required to ignite combustible gases:

1. Fuel or flammable gas
2. Heat or a source of ignition
3. Oxygen to support combustion

This is known as the fire triangle. If you remove any one of the elements, combustion will not occur. The percentage of combustible gas in the air is also important.

According to the ATEX manufacturer directive 94/9/EC and the user directive 99/92/EC, any personal monitor for flammable gases, if used as a safety device to reduce the risk of explosion, has to be performance approved.

Any manufacturer seeking ATEX EC certification must demonstrate that their product conforms to EN 60079 a minimum requirement for gaining ATEX approval. All MSA combustible gas detectors are designed to comply fully with ATEX standards and can therefore be used as safety devices.

Oxygen

Instruments to monitor oxygen deficiency or enrichment (measurement in vol.% range), to warn of the danger of asphyxiation or to monitor the inerting of tanks and containers.

Toxic Gases

In order to recognise and measure toxic substances in the ambient air (typically in ppm – parts per million), single or multi-gas instruments, such as ALTAIR 5X, are used.

Selection Guide



	ALTAIR	ALTAIR PRO	ALTAIR 2X	ALTAIR 4X	ALTAIR 5X <i>with internal pump</i>	SIRIUS
Detected Gases	1	1	up to 2	up to 4	up to 6	1-5
Number of Sensors	1	1	1*	1-3*	1-5*	1-5
Combustible Gases						
0-100% LEL				■	■	■
0-100% LEL for heavy hydrocarbons & solvents				■	■	
0-100% LEL for mining/LNG applications				■	■	
0-100 Vol.%					■	
Oxygen						
Oxygen (O ₂)	■	■		■	■	■
Toxic Gases						
Ammonia (NH ₃)			■		■	
Carbon Monoxide (CO)	■		■	■	■	■
Carbon Monoxide (CO) resistant to Hydrogen cross-sensitivity			■	■	■	
Carbon Monoxide (CO) high concentration			■		■	
Carbon Dioxide (CO ₂)					■	
Chlorine (Cl ₂)			■		■	
Chlorine Dioxide (ClO ₂)		■			■	
Hydrogen Cyanide (HCN)		■			■	
Hydrogen Sulphide (H ₂ S)	■		■	■	■	■
Hydrogen Sulphide (H ₂ S) low concentration			■	■	■	
Nitric Dioxide (NO ₂)			■	■	■	
Phosphine (PH ₃)		■			■	
Sulfur Dioxide (SO ₂)			■	■	■	
Volatile Organic Compounds (VOC)						■
Features						
Drop test	3 m	3 m	7.5 m	6 m	3 m	1 m
MotionAlert (man down alarm)			■	■	■	
InstantAlert (activate alarms manually)				■	■	
Stand-alone bump test (without calibration gas)**			■			
End-of-sensor life indicator			■	■	■	
24-hour bump checkmark	■	■	■	■	■	
Eventlogging	■	■	■	■	■	■
Datalogging		■	■	■	■	■
Glow-in-the-dark housing available			■	■	■	
GALAXY GX2 System compatible	■	■	■	■	■	
ALTAIR QuickCheck compatible	■	■				

* XCell Two-Tox sensors available

**ALTAIR 2XP only

■ Contact MSA for availability



ALTAIR

This maintenance-free single gas detector offers a choice of carbon monoxide, hydrogen sulphide or oxygen sensor options with a warranty of two years or 1080 minutes of alarm and, under normal circumstances, should comfortably last longer than 24 months.

The built-in IR communication port allows assessment of the last 25 alarm events or alarm set point changes via PC. A check mark appears on the ALTAIR's display for 24 hours after a calibration test has been carried out, providing added security to the wearer. A triple alarm system alerts the wearer instantly of any change in conditions and a wide choice of clips ensures further user acceptability.



ALTAIR CO

**ATEX Ex ia IIC T4
EN 60079-0, EN 60079-11, EN 50270, EN 61000-6-3**

10092523	ALTAIR, O ₂ , 19.5/23 Vol %
10071364	ALTAIR, O ₂ , 19.5/18 Vol %
10092522	ALTAIR, CO, 25/100 ppm
10071334	ALTAIR, CO, 30/60 ppm
10091171	ALTAIR, CO, 30/200 ppm
10071336	ALTAIR, CO, 35/400 ppm
10071337	ALTAIR, CO, 50/200 ppm
10071361	ALTAIR, H ₂ S, 5/10 ppm
10092521	ALTAIR, H ₂ S, 10/15 ppm

All ALTAIR versions are delivered with suspension clip.
Other alarm setpoints are available on request.



ALTAIR PRO

The ALTAIR PRO is a reliable and compact high-performance single-gas detector with field-proven, fast-responding 20 series sensors. A 24 hour check-mark for the bump test and the comprehensive data-logging facility are standard, ensuring further user confidence. Data can be analysed and alarm setpoints changed on a PC via infra-red link.

Sensor options include oxygen, chlorine dioxide, hydrogen cyanide and phosphine .

Gas concentration, alarm conditions, set points, peaks and battery status are clearly displayed and the triple alarm system ensures complete protection.

Both the sensors and battery can be quickly and easily replaced when required, minimising any maintenance downtime.



ALTAIR PRO O₂

ATEX **II 2G Ex ia IIC T4**
EN 60079-0, EN 60079-11, EN 50270, EN 61000-6-3, EN 50271, EN 50104
MED 2008/67/EC

10074137 ALTAIR PRO, O₂, 19.5/23 Vol %

10076732 ALTAIR PRO, O₂, 19.5/18 Vol %

10076717 ALTAIR PRO, ClO₂, 0.1/0.3 ppm

10076729 ALTAIR PRO, HCN, 4.7/10 ppm

10076735 ALTAIR PRO, PH₃, 0.3/1 ppm

All ALTAIR PRO versions are delivered with suspension clip and battery.
Replacement sensors and other alarm setpoints are available on request.

ALTAIR & ALTAIR PRO Accessories

Below you find a selection of accessories for ALTAIR and ALTAIR PRO. For calibration gases please see page 124.



Lanyard Kit, Cellphone Clip, Stainless Steel Clip

10040002 Clip, suspender

10069894 Clip, stainless steel

10041105 Cellphone clip

10073346 Hardhat clip

10041107 Lanyard kit

10088099 MSA Link Software CD-ROM

10082834 Jet-eye for MSA Link (without software)

10030325 Tubing, 40 cm, for O₂, CO, H₂S, HCN, SO₂, NO₂, PH₃

10080534 Tubing, 40 cm (16"), for Cl₂, ClO₂, NH₃



ALTAIR 2X

The ALTAIR 2X single gas detector incorporates the industry-leading MSA XCell Sensor Technology to deliver unparalleled performance while drastically minimizing total cost of ownership, increasing durability and delivering enhanced worker safety, compliance and traceability.

The ALTAIR 2XP introduces the revolutionary XCell Pulse Technology. Based on proven science and advanced, patented sensor capabilities, the ALTAIR 2XP detector delivers the world's first stand-alone bump test, allowing a daily bump test to be performed without the need for calibration accessories or specific calibration gas.

The ALTAIR 2XT two-tox gas detector eliminates the need for a second detector by utilizing proven XCell Two-Tox Sensors.



ALTAIR 2X H₂S



MSA XCell sensors



ATEX $\text{II 2G Ex ia IIC T4 Gb}$ EN 60079-0, EN 60079-12, EN 50270, EN 61000-6-3

10157955	ALTAIR 2XP H ₂ S-Pulse (H ₂ S: 5, 10, 10, 5)
10157957	ALTAIR 2XT CO/H ₂ S (CO: 30, 60; H ₂ S: 5, 10)
10159651	ALTAIR 2XT SO ₂ /H ₂ S-LC (SO ₂ : 1, 2; H ₂ S: 5, 10, 10, 1.6)
10154071	ALTAIR 2XT CO-H ₂ /H ₂ S (CO: 25, 100; H ₂ S: 10, 15)
10154072	ALTAIR 2XT CO/H ₂ S-LC (CO: 25, 100; H ₂ S: 5, 10)
10154073	ALTAIR 2XT CO/NO ₂ (CO: 25, 100; NO ₂ : 2.5, 5)
10157965	ALTAIR 2X CO (CO: 30, 60, 60, 30)
10154074	ALTAIR 2X CO-H ₂ (CO: 25, 100)
10154075	ALTAIR 2X CO-HC (CO: 25, 100)
10157973	ALTAIR 2X H ₂ S-LC (H ₂ S: 5, 10, 10, 1.6)
10157975	ALTAIR 2X SO ₂ (SO ₂ : 1, 2)
10154078	ALTAIR 2X NO ₂ (NO ₂ : 2.5, 5)
10154079	ALTAIR 2X NH ₃ (NH ₃ : 25, 50)
10154080	ALTAIR 2X Cl ₂ (Cl ₂ : 0.5, 1)

Versions with phosphorescent housing and / or different alarm levels are available on request.

ALTAIR 2X Accessories

Below you find a selection of accessories for ALTAIR 2X. For calibration gases please see page 124.

10088099	MSA Link Software CD-ROM
10082834	Jet-eye for MSA Link (without software)
10030325	Tubing, 40 cm, for O ₂ , CO, H ₂ S, HCN, SO ₂ , NO ₂ , PH ₃
10080534	Tubing, 40 cm (16"), for Cl ₂ , ClO ₂ , NH ₃
10154893-SP	Alcohol-free sanitizing wipes



ALTAIR 4X

ALTAIR 4X is an extremely durable Multigas Detector that simultaneously measures up to four gases from a wide range of sensor options including combustible gases, O₂, CO, H₂S, SO₂ and NO₂.

The versatile detector surpasses industry standards in several crucial areas and is a perfect match for industries ranging from fire fighting to OGP, steel industry, waste water treatment, utilities and more.

The real strength of the ALTAIR 4X comes from the MSA XCell sensor technology offering superior stability, accuracy, repeatability, and an extended lifetime of 4 years.

The ALTAIR 4X features exclusive MotionAlert, which lets others know if the user has become immobile, and InstantAlert, a manual alarm that alerts others of potentially dangerous situations.

ALTAIR 4X is available with charcoal or glow-in-the-dark housing for dark environments or to differentiate the detector fleet.

- ATEX** Ⓢ II 2G Ex ia d mb IIC T4, IP 67 Zone 1 (w combust. sensor)
- ATEX** Ⓢ II 1G Ex ia IIC T4, IP 67 Zone 0 (w/o combustible sensor)
- ATEX** Ⓢ I M1 Ex ia I Ma
- MED 2009/26/EC** Ⓢ

10110453	ALTAIR 4X (LEL, O ₂ , CO, H ₂ S)
10110456	ALTAIR 4X (LEL, O ₂ , CO, H ₂ S) glow-in-the-dark
10126262	ALTAIR 4X (LEL, EX-H, O ₂ , CO, H ₂ S)
10126261	ALTAIR 4X (LEL, O ₂ , CO, H ₂ S-LC)
10146853	ALTAIR 4X (LEL, O ₂ , H ₂ S-LC, SO ₂)
10146839	ALTAIR 4X (LEL, O ₂ , CO, NO ₂)
10110454	ALTAIR 4X (LEL, O ₂ , CO)
10110455	ALTAIR 4X (LEL, O ₂)
10110458	ALTAIR 4X (LEL, O ₂) glow-in-the-dark

ALTAIR 4X comes complete with charger, calibration cap and tubing. It can be configured for your individual requirements. Some of the popular configurations are listed above.



ALTAIR 4X



ALTAIR 4X glow-in-the-dark



MSA XCell sensors



ALTAIR 4X Accessories

Below you find a selection of ALTAIR 4X accessories. For calibration gases please see page 124.

10152668	ALTAIR pump probe (EU charger included)
10153040	ALTAIR pump probe (without charger)
10127423	Vertical multi-unit charger for 4 ALTAIR 4X
10095774	Vehicle charger
10088099	MSA Link Software CD-ROM
10082834	Jet-eye for MSA Link (without software)



Vertical multi-unit charger and ALTAIR pump probe



ALTAIR 5X

The versatile ALTAIR 5X is capable of measuring up to 6 gases simultaneously and can be fitted with a wide range of both toxic and infrared sensors. It can be configured for individual requirements to suit a myriad of applications. The multifunctional alarms, MotionAlert and InstantAlert, are standard. ALTAIR 5X comes with the proven high performance triple alarm system, 24 hour bump test checkmark and comprehensive data-logging facility.

The real strength of the ALTAIR 5X comes from the MSA XCell Sensor Technology. MSA XCell Sensors offer superior stability, accuracy, repeatability, and an extended lifetime. Doubling the industry average, they speed up response, clear and calibration times.

Gas concentrations and other data can be seen at a glance via the full graphical monochrome display or the optional high resolution colour display, which provides simple yet comprehensive information instantly and can be customised with a company logo.

On top of this ALTAIR 5X can offer the Wireless USB option that allows the integration into the alpha Personal Network.

ATEX Ⓜ II 2G Ex d ia mb IIC Gb IP65 Zone 1 (w XCell Ex sensor)
ATEX Ⓜ II 1G Ex ia IIC Ga IP65 Zone 0 (w/o XCell Ex sensor)
ATEX Ⓜ II 2G Ex d e ia mb IIC T4 Gb IP65 (ALTAIR 5X IR)
EN 50270 Type 2, EN 61000-6-3
MED 2010/68/EU Ⓜ

10119615	ALTAIR 5X IR (LEL, O ₂ , CO, H ₂ S, 0-10% CO ₂) Colour
10119632	ALTAIR 5X (LEL, O ₂ , CO, H ₂ S, NH ₃) Colour
10119616	ALTAIR 5X (LEL, O ₂ , CO, H ₂ S, SO ₂) Colour
10119649	ALTAIR 5X (LEL, O ₂ , CO, H ₂ S) Colour, Wireless USB
10119614	ALTAIR 5X (LEL, O ₂ , CO, H ₂ S) Colour
10119600	ALTAIR 5X (LEL, O ₂ , CO, H ₂ S) Monochrome

ALTAIR 5X comes complete with rechargeable battery pack, charger, integral pump, calibration cap and tubing. It can be configured for your individual requirements. Some of the popular configurations are listed above.



ALTAIR 5X, monochrome



ALTAIR 5X, colour



ALTAIR 5X glow-in-the-dark



MSA XCell sensors



ALTAIR 5X Accessories

Below you find a selection of ALTAIR 5X accessories. For calibration gases please see page 124.

10099648	Leather holster
474555	Carrying harness
10103191	Sampling probe, flexible 30 cm
10159431	Sampling line, 30 m, PU conductive
10103189	Sampling line, 3 m, PU conductive
10114838	Alkaline battery pack ALTAIR 5X, EU
10127428	Vertical multi-unit charger for 4 ALTAIR 5X



SIRIUS®

The SIRIUS PID (Photo Ionization Detector) combines incredible performance, versatility, and ease of use in one instrument. Designed as a versatile PID for measuring volatile organic compounds (VOCs), SIRIUS can be configured with up to four additional sensors: combustible gas, oxygen, carbon monoxide and hydrogen sulphide. Easily operated with one hand, it is an ideal measuring instrument as well as a personal monitor for a wide range of applications.

SIRIUS is delivered with rubber boot and shoulder strap. Power supply and charger cradle for Li-ion versions included.

ATEX **II 2G EEx ia d IIC T3/T4**
EN 50014, EN 50018, EN 50020, EN 50104, EN 50270, EN 50271,
EN 61779-1/-4
MED 2008/67/EC

10064031	SIRIUS, Ex/Ox, CO, H ₂ S, PID, Li-ion, Datalogging
10064032	SIRIUS, Ex/Ox, CO, PID, Li-ion, Datalogging
10064033	SIRIUS, Ex/Ox, H ₂ S, PID, Li-ion, Datalogging
10064034	SIRIUS, Ex/Ox, PID, Li-ion, Datalogging
10064035	SIRIUS, Ex, PID, Li-ion, Datalogging
10064036	SIRIUS, Ox, PID, Li-ion, Datalogging
10064037	SIRIUS, PID, Li-ion, Datalogging



SIRIUS

SIRIUS® Accessories

MSA offers the following SIRIUS accessories.

10050123	Protective rubber boot, black
474555	Carrying harness
10068655	Charger cradle with power supply
10066628	Charger cradle
10047343	Power supply, global
10049410	Vehicle charger for Li-ion batteries (12 V DC)
10052296	Li-ion battery pack
10051980	Alkaline battery pack
D6203723	Sampling probe, flexible, 30 cm



Li-ion Battery Pack and Charger Cradle



GALAXY® GX2

The easy-to-use GALAXY GX2 automated test stand offers high performance as either a stand-alone unit or an integrated portable detector management system, enabling total data access and control of the MSA ALTAIR gas detector fleet.

Once any ALTAIR family gas detector is placed into the GALAXY GX2 System, it can be tested, calibrated and charged* automatically. Flexibility allows for up to 10 test stations, four cylinder holders and multi-unit charger within one GALAXY GX2 System detector bank.

In combination with the advanced MSA Link Pro Software, the GALAXY GX2 enables you to manage your gas detection fleet easily and proactively by analysing all data at any time.

*no charging capability on GALAXY GX2 for ALTAIR, ALTAIR PRO and ALTAIR 2X



**GALAXY GX2
for ALTAIR 4X**

GALAXY GX2 System Test Stands	with EU plug	with UK plug
GALAXY GX2, ALTAIR 5/5X, charging, 4 valve	10128634	10128654
GALAXY GX2, ALTAIR 5/5X, charging, 1 valve	10128635	10128655
GALAXY GX2, ALTAIR 5/5X, 4 valve	10128636	10128656
GALAXY GX2, ALTAIR 5/5X, 1 valve	10128637	10128657
GALAXY GX2, ALTAIR 4/4X, charging, 4 valve	10128638	10128658
GALAXY GX2, ALTAIR 4/4X, charging, 1 valve	10061875	10128659
GALAXY GX2, ALTAIR 4/4X, 4 valve	10128640	10128660
GALAXY GX2, ALTAIR 4/4X, 1 valve	10128651	10128661
GALAXY GX2, ALTAIR/PRO/2X, 4 valve	10128652	10128662
GALAXY GX2, ALTAIR/PRO/2X, 1 valve	10128653	10128663
Multi-Unit Chargers	with EU plug	with UK plug
Multi-unit charger ALTAIR 4X	10127423	10127424
Multi-unit charger ALTAIR 5X	10127428	10127429
GALAXY GX2 System Accessories		
Smart electronic cylinder holder with integrated DFR	10105756	
Non-electronic cylinder holder	10125135	
MSA Link Pro key	10123938	
Digital Secure USB key	10123937	
SD card	10127111	
End cap	10125907	
Demand flow regulator (universal)	10034391	
Sticker or receipt / sticker printer	10127808	
Detector sticker label roll (2800 labels per roll)	10126437	
Receipt & sticker label roll (375 labels per roll)	10126138	

The GALAXY GX2 System test stand comes with pre-configured plugs, barbs, fresh air filter, power supply with corresponding plug, spare parts kit (gas tubing, barbs and plugs), Ethernet cable (short cable for connection between test stands), DIN rail clip kit and screen protector.



ALTAIR QuickCheck

The ALTAIR QuickCheck provides a fast and easy bump test for ALTAIR and ALTAIR PRO Single-Gas Detectors. This easy-to-use test station is available either with automatic gas delivery system or manual regulator.

All ALTAIR QuickCheck automatic versions are delivered with standard power supply, automatic regulator and tubing.

Manual versions only come with standard power supply. Regulator and tubing have to be ordered separately.



ALTAIR QuickCheck

10076693	ALTAIR QuickCheck O ₂ , CO, H ₂ S, SO ₂ , NO ₂ - Manual
10076705	ALTAIR QuickCheck O ₂ , CO, H ₂ S, SO ₂ , NO ₂ - Automatic
10076714	ALTAIR QuickCheck Cl ₂ , ClO ₂ - Automatic
10076708	ALTAIR QuickCheck NH ₃ - Automatic
10076711	ALTAIR QuickCheck Automatic HCN - Automatic

For calibration gases please see page 124

ALTAIR QuickCheck Accessories

MSA offers the following accessories for ALTAIR QuickCheck.

467895	Pressure reduction valve 0.25 l/min
10077384	Regulator tubing
10080534	Tubing, 40 cm (16"), for Cl ₂ , ClO ₂ , NH ₃
10047343	Power supply, global
10049410	Vehicle charger for Li-ion batteries (12 V DC)
10075893	Automatic gas delivery system
710386	Single cylinder holder

Calibration Gases

Where required portable gas detectors must be calibrated with the appropriate gas mixture. MSA offers a wide range of gas cylinders, which are suitable for various MSA detectors.



		ALTAIR	ALTAIR PRO	ALTAIR 2X	ALTAIR 4X	ALTAIR 5X	SIRIUS
10122425	Gas can (34 l) CH ₄ -1.45%, CO-60, H ₂ S-20, O ₂ -15%, SO ₂ -10%				■	■	
10122426	Gas can (58 l) CH ₄ -1.45%, CO-60, H ₂ S-20, O ₂ -15%, SO ₂ -10%				■	■	
10128160	Gas can (34 l) CH ₄ -1.45%, CO-60, H ₂ S-20, O ₂ -15%				■	■	
10053022	Gas can (58 l) CH ₄ -1.45%, CO-60, H ₂ S-20, O ₂ -15%				■	■	■
10128181	Gas can (34 l) CH ₄ -1.45%, CO ₂ -2.5%, CO-60, H ₂ S-20, O ₂ -15%					■	
10102853	Gas can (58 l) CH ₄ -1.45%, CO ₂ -2.5%, CO-60, H ₂ S-20, O ₂ -15%					■	
10128182	Gas can (34 l) CH ₄ -1.45%, O ₂ -15%				■		
10143308	Gas can (34 l) CH ₄ -1.45%, CO-60, NO ₂ -10, O ₂ -15%				■	■	
10128183	Gas can (34 l) CH ₆ H ₁₄ -0.3%, O ₂ -15%				■		
10128184	Gas can (34 l) CH ₆ H ₁₄ -0.3%, CO-60, H ₂ S-20, O ₂ -15%				■	■	
10086549	Gas can (58 l) C ₃ H ₈ -0.4%, CO-60, H ₂ S-20, O ₂ -15%				■	■	
10029473	Gas can (34 l) 100 Vol% Methane					■	
10029500	Gas can (34 l) 50 Vol% Methane in N ₂					■	
10022595	Gas can (34 l) 20 Vol% Methane in N ₂					■	
10029471	Gas can (34 l) 2.5 Vol% Methane in Synth. Air				■	■	■
10029472	Gas can (34 l) 2 Vol% Methane in Synth. Air				■	■	■
10029475	Gas can (34 l) 50 Vol% Propane in N ₂					■	
10078013	Gas can (34 l) 8 Vol% Propane in N ₂					■	
10029476	Gas can (34 l) 1 Vol% Propane in Synth. Air				■	■	■
10029477	Gas can (34 l) 0.5 Vol% Propane in Synth. Air				■	■	■
10029478	Gas can (34 l) 0.4 Vol% Propane in Synth. Air				■	■	■
10078011	Gas can (34 l) 0.5 Vol% Butane in Synth. Air				■	■	
10078012	Gas can (34 l) 8 Vol% Butane in N ₂					■	
10022596	Gas can (34 l) 0.3 Vol% Hexane in Synth. Air				■	■	■
10029496	Gas can (34 l) 2 Vol% H ₂ in Synth. Air				■	■	■
10029497	Gas can (34 l) 1 Vol% H ₂ in Synth. Air				■	■	■
10083457	Gas can (58 l) 0.75 Vol% Pentane in Synth. Air				■	■	■
10069618	Gas can (34 l) 2.5 Vol% CO ₂ in N ₂					■	
10029498	Gas can (34 l) 1.5 Vol% CO ₂ in N ₂					■	

Nitrogen (N₂) or Synthetic Air (Synth. Air) used as balance gas.

■ Recommended

■ Possible

Further calibration gases on request.



		ALTAIR	ALTAIR PRO	ALTAIR 2X	ALTAIR 4X	ALTAIR 5X	SIRIUS
10073231	Gas can (34 l) 60 ppm CO in Synth. Air	■	■	■	■	■	■
10154976	Gas can (34 l) 60 ppm CO, 20 ppm H ₂ S in N ₂			■			
10154977	Gas can (58 l) 60 ppm CO, 20 ppm H ₂ S in N ₂			■			
10154978	Gas can (34 l) 60 ppm CO, 10 ppm NO ₂ in N ₂			■			
10154980	Gas can (58 l) 60 ppm CO, 10 ppm NO ₂ in N ₂			■			
10011727	Gas can (34 l) 40 ppm H ₂ S in N ₂	■	■	■	■	■	■
10154995	Gas can (34 l) 20 ppm H ₂ S, 10 ppm SO ₂ in N ₂			■			
10154996	Gas can (58 l) 20 ppm H ₂ S, 10 ppm SO ₂ in N ₂			■			
10155919	Gas can (34 l) 20 ppm H ₂ S in N ₂			■			
10155918	Gas can (58 l) 20 ppm H ₂ S in N ₂			■			
711072	Gas can (34 l) 10 ppm HCN in N ₂		■			■	
10029521	Gas can (34 l) 10 ppm NO ₂ in Synth. Air		■	■		■	
10079807	Gas can (34 l) 25 ppm NH ₃ in Synth. Air		■	■		■	
10079806	Gas can (34 l) 10 ppm SO ₂ in Synth. Air		■	■		■	
10011939	Gas can (34 l) 10 ppm Cl ₂ in N ₂		■	■		■	
711082	Gas can (34 l) 2 ppm Cl ₂ in N ₂		■	■		■	
10029522	Gas can (34 l) 0.5 ppm PH ₃ in N ₂		■			■	
10081672	Gas can (34 l) 5 Vol% O ₂ in N ₂	■	■				
10029510	Gas can (34 l) 100 Vol% in Synth. Air				■	■	
D0715896	Gas can (34 l) 100 ppm Isobutylene						■
467895	Pressure reduction valve 0.25 l/min	■	■	■	■		
710288	Gas miser regulator					■	■
10079801	Gas miser regulator for exotics (Cl ₂ , HCN, PH ₃ , NH ₃)					■	■

Nitrogen (N₂) or Synthetic Air (Synth. Air) used as balance gas.

■ Recommended

■ Possible

Further calibration gases on request.

Portable Gas Detection Accessories



ALTAIR Pump Probe

For workers who occasionally need to use the ALTAIR 4X or ALTAIR 2X gas detectors for pumped applications, the ALTAIR Pump Probe, with sampling options using a sample wand or sample line of up to 30 m, is the ideal solution.

A rugged unibody housing provides unsurpassed durability, including the ability to survive a 3 m drop. With a large, glove-friendly button for single-handed operation, the ALTAIR Pump Probe is designed for easy use in any work environment.

The ALTAIR Pump Probe has 30-h battery autonomy. The Li Ion battery can be charged using your existing ALTAIR 4X charger.

ATEX II 2G Ex ia IIC T4 Gb Ta = -20°C to +50°C
IEC Ex ia IIC T4 Gb Ta = -20°C to +50°C

10152668	ALTAIR pump probe (EU charger included)
10153040	ALTAIR pump probe (without charger)
10151097	Sampling line, 15 m, PU conductive
10086638	European charging cradle
10095774	Vehicle charger

Additional sampling lines available



XCell Replacement Sensors

MSA XCell Sensors are a breakthrough in sensor design, enabling faster response and shorter span calibrations, saving you time and money. Below you can find a selection of replacement sensors for MSA ALTAIR Gas Detectors powered by XCell Sensor Technology.



ALTAIR 4X & ALTAIR 5X XCell Sensors

	EX	EX-M	EX-H	O ₂	CO/H ₂ S	CO-HC	CO H ₂ RES/H ₂ S	CO/H ₂ S-LC	SO ₂	SO ₂ /H ₂ S-LC	CO/NO ₂	NH ₃	Cl ₂
ALTAIR 4X Multi-Gas Detector	■	■	■	■	■		■	■		■	■		
ALTAIR 5X Multi-Gas Detector	■	■	■	■	■	■	■	■	■		■	■	■

■ Requires ALTAIR 4X software version 2.03 / ALTAIR 5X software version 1.27.06 or higher

ALTAIR 2X Low Consumption XCell Sensors

	CO	CO H ₂ RES	CO-HC	H ₂ S-LC	H ₂ S XCell Pulse	SO ₂	NO ₂	NH ₃	Cl ₂	CO/H ₂ S	CO H ₂ RES/H ₂ S	CO/H ₂ S-LC	CO/NO ₂	SO ₂ /H ₂ S-LC
ALTAIR 2X Single-/Two-Gas Detector	■	■	■	■	■	■	■	■	■	■	■	■	■	■



Fixed Gas & Flame Detection

Monitoring of hazardous gases and vapours in plants and large areas is necessary in all branches of industry. Directives and regulations covering the protection of plant and personnel, as well as the monitoring of immissions, require suitable gas detection equipment.

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 system solutions. This is the way to develop optimum systems that can meet all customer requirements at an excellent price/performance ratio – an unbeatable case for safety and flexibility.

Whether stand-alone, or integrated into existing control and monitoring systems, MSA offers made-to-measure solutions.

MSA's portfolio on Permanent Gas and Flame Detection Systems includes:

- **Controllers**
- **Detectors**
- **Sensors**
- **Monitors**
- **Fire and Gas Detection Systems**

Alongside the extensive range of the products mentioned above, MSA provides a high level of customised service, including project planning and development, installation support and commissioning, maintenance and system modification.

Selection Guide

	47K	PrimaX I	PrimaX P	PrimaX IR	ULTIMA MOS-5	ULTIMA MOS-5E	ULTIMA XL	ULTIMA XT	ULTIMA XE	ULTIMA XIR	ULTIMA OPIR-5	CHILLGARD RT	CHEMGARD	CHILLGARD M100
Detection Principle														
Catalytic combustion sensor	■		■				■	■	■					
Electrochemical sensor		■	■				■	■	■					
Semiconductor sensor					■	■								
Infrared sensor				■			■			■	■	■	■	■
Flammable Gases														
0-100% LEL	■		■	■			■	■	■	■				
0-5% LEL·m											■			
O₂														
Oxygen (O ₂)		■	■				■	■	■					
Toxic Gases														
Ammonia (NH ₂)		■	■					■	■			see next page	see next page	see next page
Arsine (AsH ₃)		■					■	■	■					
Bromine (Br ₂)								■	■					
Carbon Monoxide (CO)		■	■				■	■	■					
Carbon Dioxide (CO ₂)										■				
Chlorine (Cl ₂)		■	■					■	■					
Chlorine Dioxide (ClO ₂)								■	■					
Diborane (B ₂ H ₆)		■						■	■					
Ethylene Oxide (ETOX)							■	■	■					
Fluorine (F ₂)								■	■					
Germane (GeH ₄)								■	■					
Hydrogen (H ₂)		■	■				■	■	■					
Hydrogen Cyanide (HCN)		■	■						■					
Hydrogen Sulphide (H ₂ S)		■	■		■	■	■	■	■					
Hydrogen Chloride (HCl)		■	■					■	■					
Nitrogen Oxide (NO)		■	■				■	■	■					
Nitrogen Dioxide (NO ₂)		■	■				■	■	■					
Phosphine (PH ₃)		■					■	■	■					
Silane (SiH ₃)		■					■	■	■					
Sulphur Dioxide (SO ₂)		■	■				■	■	■					
Features														
Built-in display		■	■		■	■			■	■	■	■	■	
mV output (passive detector)	■													
4-20 mA output		■	■	■	■	■	■	■	■	■	■	■	■	■
Relays			■		■				■	■	■	■	■	
HART		■	■	■	■		■	■	■	■	■			
Modbus					■	■					■			
Hazardous area (ATEX)	■	■	■	■	■	■	■		■	■	■			

CHEMGARD Application Table

Measuring Range 0–1000 ppm:

Acrylonitrile, 1,3 Butadiene, Chloroform, Cyclopentane, 1,2 Dichloroethane, Diethyl Ether, Difluoromethane, Dimethylamine, Ethyl Acetate, Ethylene, Hexafluoropropylene, Hexafluoro 1,3, Butadiene, Isohexane, Methanol, Methyl Fluoride, Methyl Iodide, Methyl Isobutyl Ketone, Methyl Methacrylate, Methylene Chloride, Methylene Fluoride, Methyl N-Propyl Ketone, Monomethylamine, Nitrogen Trifluoride, Nitrous Oxide, Octafluorobutane, Octafluoropropene, Pentane, Perchloroethylene, Poly Methyl Vinyl Ether, Propanal, N-Propanol, Propylene Oxide, Tetrachlormethane, Tetrahydrofuran, Tetrafluoroethylene, 1,1,1 Trichloroethane, 1,1,2 Trichloroethane, Trichloroethylene, Triethylamine, Vinyl Acetate, Vinyl Chloride, O-Xylene, M-Xylene, P-Xylene, Xylenes

Other Measuring Ranges	500 ppm	1000 ppm	1% Vol.
Acetone	■	■	
Acetonitrile			■
Benzene	■	■	
Butane	■	■	
1-Butyl Acetate		■	
Carbon Dioxide		■	
Carbon Monoxide		■	
Diethyl Ether	■	■	
Dimethylamin		■	
Ethane	■	■	
Ethanol	■	■	
Ethylene Oxide	■	■	
Heptane		■	
Hexane		■	
Isobutane		■	
Isopentane		■	
Isopropanol		■	
JP-8 (as Hexane)		■	
MEK		■	
Methyl Formate		■	
Methylene Chloride	■	■	
2-Propanol		■	
Propane	■	■	
Sulphur Hexafluoride		■	
Toluene		■	

CHILLGARD RT & CHILLGARD M-100 Application Table

Measuring Range 0-1000 ppm	CHILLGARD RT	CHILLGARD M-100	Measuring Range 0-1000 ppm	CHILLGARD RT	CHILLGARD M-100
Ammonia	■		R134A	■	■
R11	■	■	R402A	■	
R12	■		R404A	■	■
R13	■		R407c	■	■
R22	■	■	R410a		■
R113	■		R500	■	
R114	■		R502	■	
R123	■	■	R507	■	
R124	■		R508B	■	
R125	■				
R1234yf	■				

The above-mentioned configurations for CHEMGARD, CHILLGARD RT and CHILLGARD M-100 are approved according to CE mark standards.



47K Series

Cost effective passive catalytic sensors to detect potentially hazardous concentrations of flammable gas and vapour in air up to 100% LEL.

Available as Standard (ST), Poison Resistant (PRP), High Temperature (HT) versions with a complete range of accessories and junction boxes to meet virtually all industrial applications.

Series 47K sensors used in combination with MSA Controllers fully meet the requirements of ATEX Directive 94/9/EC, including performance approval, and being SIL 2 capable, they can be used as part of a safety related system.

ATEX Ⓢ II 2G Ex d IIC T3/T4/T6, II 2D Ex tD A21 IP6X T85°C/T135°C/T200°C including performance approval, SIL 2 GOST-R



PrimaX I

The PrimaX I gas transmitter detects a wide range of toxic gases and oxygen using an electrochemical sensor technology.

Innovative enclosure design, ease of use, fast installation and suitability for both indoor and outdoor installations make the PrimaX I transmitter your choice for versatile gas detection. The large display with clear plain text provides information at a glance. Calibration is easily performed using the built-in keypad or via HART digital protocol. The plug-in replacement sensors and an integral backplate enable fast and easy installation.

PrimaX I comes as a general purpose or intrinsically safe design in a robust anti-static, reinforced nylon housing with standard 4–20 mA output and optional HART capability. SIL 2 compliance is approved by TUV.

ATEX Ⓢ II 1G Ex ia IIC T4 Ga, II 2D Ex ia IIIC T130 °C Db IP54, SIL 2 HART registered IECEX, UL, GOST-R, INMETRO



PrimaX P

The PrimaX P gas transmitter is suited to a wide range of indoor and outdoor applications for the detection of combustible gases (catalytic combustion sensor), toxic gases or oxygen (electrochemical sensors).

The PrimaX P features an innovative custom-designed enclosure with integral 4-way keypad for ease of use. The large LCD with clear plain text provides information at a glance and the additional LEDs give a clear status indication. The plug-in replacement sensors and an integral backplate enable fast and easy installation.

PrimaX P comes as a flameproof design in a coated aluminium enclosure with standard 4–20 mA output and optional HART and relays capability. SIL 2 compliance is approved by TUV.

ATEX Ⓢ II 2G Ex d ia [ia] IIC T4 Ga, II 2D Ex tb ia [ia] IIIC T130 °C Db IP67 including performance approval, SIL 2, HART registered IECEX, UL, CSA, CCCF, GOST-R, INMETRO



PrimaX IR

The PrimaX IR offers hydrocarbon detection in LEL range, using infrared absorption technology through the patent-pending PrimaX IR dual source design. A redundant IR source provides reliability and uninterrupted monitoring should a source failure occur. The 316 stainless steel, IP67-rated, rugged housing protects the PrimaX IR from environmental extremes.

Standard 4–20 mA output with HART capability offers user-friendly set-up, calibration diagnostics, and maintenance. A unique environmental guard with patent-pending clamshell design provides convenient installation in tight locations.



ATEX  **II 2G Ex d IIC T4 Gb, II 2D Ex tb IIIC T130°C Db IP67, SIL 2**
IECEX, CCCF, GOST-R, INMETRO



ULTIMA[®] MOS-5 & ULTIMA[®] MOS-5E

ULTIMA MOS-5 and MOS-5E detect ppm levels of hydrogen sulphide (H₂S), providing status indication and alarm outputs. Their performance is based on their metal oxide semiconductor sensor with unique technical parameters. High tolerance for a broad range of temperatures, humidity levels, as well as short-term high H₂S concentrations and very low cross sensitivity to common gases make these detectors ideal for installation in harsh environments.

The ULTIMA MOS-5 provides analogue 4–20 mA and 3 relay outputs in a stainless steel housing. The ULTIMA MOS-5E incorporates analogue 4–20 mA and three open collector outputs in an aluminum housing. HART and Modbus communication enable complete status and control capability in the control room.

ATEX  **II 2GD EEx d IIB+H2 T5, SIL 2 and SIL 3, IP66**
HART registered (ULTIMA MOS-5)
FM, CSA, GOST-R
ATEX  **II 2G EEx d e m IIC T4, SIL 3, IP66/67 (ULTIMA MOS-5E)**
GOST-R



ULTIMA[®] XL/XT Series

The cost-effective fixed installation gas monitors ULTIMA XL and XT with HART field communications protocol use well-proven catalytic, electrochemical and infrared technologies for detection of combustible and toxic gases and for oxygen deficiency. The interchangeable smart sensors can be changed under power without declassifying a hazardous area.

With the non-display ULTIMA XL/XT gas monitors, the user has multiple calibration options: the handheld HART communicator, a controller or laptop which communicates via a dedicated HART Software and local internal LEDs and push-buttons.

ULTIMA XL is explosion-proof with a stainless steel enclosure, while ULTIMA XT uses a general purpose, water and corrosion resistant polycarbonate housing.

ATEX  **II 2 (2) G Ex d (ib) IIC T6, II 3 (2) G Ex nA (ib) IIC T6, IP66 (ULTIMA XL)**
IECEX, FM, GOST-R, INMETRO



ULTIMA® X Series

The ULTIMA XE and XIR provide continuous monitoring of combustible and toxic gases and oxygen deficiency using catalytic, electrochemical and infrared sensor technologies. They are suitable for almost all applications in virtually any type of industry.

A large easy-to-read LCD shows the gas reading and gas type as well as clear text status messages. The ULTIMA X series is powered from 24 VDC with a 4–20 mA output signal and optional on board status LEDs and/or output relays. Smart sensor technology allows sensor disconnect and replacement under power in hazardous locations.

ULTIMA XE gas monitors are also available with HART field communications protocol.

The ULTIMA XA comes in a rugged plastic general purpose enclosure. It is available with 4–20 mA analogue output or with optional HART protocol.

**ATEX Ⓢ II 2G EEx d IIC T4, including performance approval
SIL 2 (ULTIMA XE)**

**ATEX Ⓢ II 2G EEx d IIC T5/T6, including performance approval
SIL 2 (ULTIMA XIR)**

IECEX, FM, UL, CSA, CCCF, GOST-R, INMETRO



FlameGard 5 Series

Designed with advanced ultraviolet (UV) and infrared (IR) sensing technology, the FlameGard 5 Series represents the state of the art in secure flame monitoring.

The FlameGard 5 MSIR, a multi-spectral infrared detector designed to detect hydrocarbon fires, features breakthrough Neural Network Technology (NNT) for reliable discrimination between actual flames and nuisance false alarm sources within a distance of up to 70 m.

FlameGard 5 UV/IR is designed to detect hydrocarbon fires within 15 m, FlameGard 5 UV/IR-H2 is optimized to detect hydrogen based flames, and FlameGard 5 UV/IR-E with stainless steel housing and Ex e wiring compartment provides a high level of resistance in harsh environments.

The FlameGard 5 Series flame detectors provide standard 4–20 mA output with optional relays or HART and Modbus digital communication. Suitable for a wide range of applications in the production, transport and processing.

**ATEX Ⓢ II 2G Ex d IIC T5 Gb, II 2D Ex tb IIIC T100 °C Db, SIL 3
HART registered (MSIR, UV/IR)**

IECEX, FM, CSA, GOST-R

**ATEX Ⓢ II 2G Ex d e IIC T4/T5 Gb, II 2D Ex tb IIIC T135 °C /100 °C Db, IP6X (UV/IR-E)
GOST-R**



ULTIMA® OPIR-5

The ULTIMA OPIR-5 open path hydrocarbon gas transmitter provides continuous monitoring of methane and propane gas concentrations based on advanced infrared sensor technology features. The dual detection range enables sensitivity to both small (ppm·m) and large (LEL·m) gas leaks.

The ULTIMA OPIR-5 includes continuous self-check monitoring for fail-to-safe operation. Automatic gain control compensates for dirty optics, rain, and fog. The result is precision accuracy with exceptional reliability in harsh environments and improved false alarm rejection with an optical path length of up to 150 m. Standard analogue output 4–20 mA with HART capability, relays and RS485 Modbus allow to connect ULTIMA OPIR-5 to standard industrial controllers.

ATEX Ⓢ II 2G D Ex d IIB+H2 T4 Gb, II 2D Ex tb IIIC T135 °C Db IP66/67
SIL 3, HART registered
IECEX, FM, CSA, GOST-R



GASSONIC OBSERVER-i

The GASSONIC OBSERVER-i is the world's first ultrasonic gas leak detector equipped with Artificial Neural Network (ANN) real-time broadband acoustic sound processing technology. Used to detect leaks from high-pressure systems with a maximum coverage radius of 28 metres, the GASSONIC OBSERVER-i responds to the airborne ultrasound generated from gas releases in open ventilated areas, where traditional methods of detection may be difficult.

The Senssonic™ patented self-test ensures failsafe operation and a three digit LED display showing actual ultrasonic level value (in dB) and alarm indication. Standard 4–20 mA output with HART capability and output relays can control additional action in case of alarm or fault condition.

ATEX Ⓢ Ex d ia IIB+H2 Gb T6, Ex tb IIIC T85°C Db
 (Ta = –40°C to +60°C)



UltraSonic IS-5

The UltraSonic IS-5 is a non-concentration based gas detector used to detect leaks from high-pressure systems with a maximum coverage radius of 20 metres. It responds to the airborne ultrasound generated from gas releases in open ventilated areas, where traditional methods of detection may be difficult.

Besides high-pressure gas applications, the intrinsically safe UltraSonic IS-5 is suited for installations restricted to low power (< 1 W). Interface outputs include 4–20 mA analogue and alarm/fault relays according to industry standards.

ATEX Ⓢ II 2G EEx ia IIC T4, SIL 1 and SIL 2
IECEX, GOST-R



9010/9020 LCD

The control system 9010/9020 LCD provides maximum flexibility, simple operation, high reliability and superb performance at considerably reduced costs. In combination with the large range of MSA gas sensors, the 9010/9020 LCD excels in a variety of industrial applications, where there could be a presence of dangerous gas concentrations.

The 9010 LCD control module processes signals from one gas sensor, while the 9020 LCD processes signals from two independent gas sensors.

ATEX II (1)G (2)G
FM, CCCF, GOST-R



GasGard XL

The GasGard XL is a multi-channel wall mount controller for monitoring toxic, oxygen and flammable gases in industrial plants. It can be easily configured to accept up to eight remote gas sensors, depending on the number of individual plug-in input cards installed. The large, easy-to-read, multi-language LCD graphic display allocates real time information on target gas levels and events, allowing full system diagnosis, supported by individual LEDs per channel, relays and internal buzzer.

ATEX II (1)G (2)G, SIL 2
CSA, CCCF, GOST-R



SUPREMATouch

SUPREMATouch is a gas and fire warning system for large area measuring and monitoring in industries and small or medium-sized plants. It can be used with a wide range of detectors including flammable and toxic gas, oxygen, smoke, fire and heat and manual call points.

The SUPREMATouch includes a large colour touchscreen display for easier and user-friendly operation, enhanced processing power and addressable fire and detector capability. Latest hardware and software technology permits simple planning, installation, configuration, integration and operation.

The compact, modular design of the SUPREMATouch allows it to be economically tailored for each application and to be extended and adapted any time to meet changing sensor and alarm requirements.

Designed around standard industrial 19" racks, SUPREMATouch provides signal processing for up to 256 inputs and 512 outputs and the ability to distribute the system over up to 8 racks, using satellites to minimise installation cost.

ATEX II (1)G (2)G, SIL 3
CSA, CCCF, GOST-R



CHILLGARD RT

The CHILLGARD RT is a single or multipoint gas warning system suitable for all industrial refrigeration systems or chillers, be it for production or research operations, food cold storage or meat packing operations. It allows precise monitoring of the smallest refrigerant concentrations and detection of leak locations.

The instrument works for months with very little deviation from the zero point. Due to its excellent detector stability, unlike other products, the zero point adjustment can be reduced to once a year.

The CHILLGARD RT generates the signals required to initiate audible and visible alarms.



CHILLGARD M-100

The CHILLGARD M-100 refrigerant sensor is designed to detect the presence of the most common halogenated refrigerants in cold storage facilities, mechanical equipment rooms and other refrigerant applications.

This compact sensor can be mounted almost anywhere to detect potential leaks of halogenated refrigerants. Easy installation ensures fast and practical integration into existing automated systems.



CHEMGARD

The CHEMGARD gas monitor can monitor more than 60 gases in the TLV range, such as hydrocarbons, solvents, alcohols, alkanes and toxics.

The photoacoustic infrared sensing technology provides precise, low cost and high performance monitoring. It is extremely stable and highly selective to the gas of interest and can operate for months with virtually no zero drift.

An optional multi point sequencer can be included in the CHEMGARD to allow either 4 or 8 points to be sampled. The monitor provides 3 freely adjustable alarm levels and relay outputs for each alarm level.



Service & Workshop Solutions

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

MSA also offers test benches for your workshop with manually or automatically recorded test results. From the mobile test case Multitest to MSA's latest development in modular testing and equipment management system solutions, the compact and fully automatic SmartCHECK, your equipment will be tested to the highest professional standards.



Training Courses

MSA offers a wide range of product and user training courses to enable our customers to get the best from our devices. In order to ensure the best knowledge transfer and provide professional competence, all courses are held by special MSA personnel. Our standardized training courses are usually held at MSA or partner locations throughout each country. Individual courses with contents addressing your training needs can also be provided and held on site at your own facilities.

Maintenance

A big team of MSA Service technicians ensures that your devices always run smoothly, and are updated and maintained. Your MSA contact will help you to get more information about MSA After Sales Service, including repair and maintenance, system modification and spare parts management.



Repair Service & Warranty

Your MSA devices do not function as usual or need an update?

Feel free to get in touch with your MSA Service where MSA product specialists will have a close look at your devices and bring them back to their best. Fixed devices can also be serviced on site by our service technicians.

Sales Support

We always want to offer the best solutions for our clients. Therefore our sales technicians are in very close contact with the sales team in order to add user expertise and hands-on knowledge.



MSA believes in developing and optimising its service solutions together with you. This means that you decide on the range of services you require, as well as on the length of time your contract should run.

The key to lasting performance lies in the development of individual, customised services that meet your needs best.



SmartCHECK

SmartCHECK

SmartCHECK is the next-generation, compact and fully automatic test bench for any SCBA equipment on the market today. A newly designed test head ensures easy handling and a tight fit for full face masks. It features an integrated computer system with touchscreen. The software TecBOS.Tech with Wizard, an intelligent assistant, allows intuitive operation. The user is guided step by step through the smart test process. TecBOS.Tech records and manages equipment testing dates, upcoming services, all documentation related to work carried out, replacement parts used and test results.

The fully automatic SmartCHECK performs a complete range of tests for: full face masks, lung-governed demand valves, compressed air breathing apparatus, chemical protective suits and closed circuit breathing apparatus (AirElite 4h) according to EN and local standards, i.e. VFdB. The stiff material of the test head ensures a tight fit and makes mask handling easy.

Depending on your needs, you can enhance your SmartCHECK with the following modules:

- variable artificial lung
- high pressure
- closed circuit breathing apparatus testing with constant dosage

Can be configured to individual requirements.



Multitest Plus desktop

Multitest & Multitest Plus

Mobile test device for static testing of masks, lung-governed demand valves as well as totally encapsulating suits. Low pressure gauge +/-30 mbar. The extended version Multitest Plus additionally has a medium pressure gauge of 0–16 bar. The extended version Multitest Plus-HP has a high pressure gauge 0–400 bar additional. Ideal for small and medium-sized workshops or as a supplement to stationary equipment.

10073519	Multitest ND (case)
D5175743	Multitest Plus (case)
D5175744	Multitest Plus (desktop)
10031753	Multitest Plus, 230 V (desktop)
10073651	Multitest Plus-HP, 230 V (desktop)



Compressors

MSA offers compressors that charge 200 and 300 bar compressed air cylinders at the same time. The quality of the breathable air meets the specifications of EN 12021.

The range includes models that offer a variety of different features: standard or noise – suppression enclosures for “super-quiet” compressors (64 dB), filling panels with up to nine cylinder connections, air supply from 160 – 450 l/min., compressors with three pressure settings. Other features include: fully automatic condensate removal and the easy replacement of filter/drying cartridges.


An operating hours counter or a supplementary humidity monitor indicate when the filters have to be replaced. Compressors and charging panels are offered with the option of a separate mounting in accordance with German Standard DIN 14092 (Fire Stations, Respiratory Protective Equipment Workshops).

EN 136	Respiratory protective devices – Full face masks.*
EN 137	Respiratory protective devices – Self-contained open-circuit compressed air breathing apparatus.
EN 138	Respiratory protective devices – Fresh air hose breathing apparatus for use with full face mask, half mask or mouthpiece assembly.*
EN 140	Respiratory protective devices – Half masks and quarter masks.*
EN 143	Respiratory protective devices – Particle filters.*
EN 144	Respiratory protective devices – Gas cylinder valves.
EN 148	Respiratory protective devices – Threads for face pieces.
EN 149	Respiratory protective devices – Filtering half masks to protect against particles.*
EN 166	Personal eye-protection – Specifications.
EN 172	Sunglare filters used in personal eye-protectors for industrial use.
EN 341	Personal fall protection equipment – Descender devices for rescue.
EN 352	Hearing protectors – Safety requirements and testing. Part 1: ear-muffs. Part 2: ear-plugs. Part 3: ear-muffs attached to an industrial safety helmet. Part 4: level-dependent ear-muffs. Part 6: ear muffs with electrical audio input. Part 8: entertainment audio ear-muffs.
EN 353	Personal protective equipment against falls from a height. Part 1: Guided-type fall arresters on a rigid anchorage line. Part 2: Guided-type fall arresters including a flexible anchor line.
EN 354	Personal fall protection equipment – Lanyards.
EN 355	Personal protective equipment against falls from a height – Energy absorbers.
EN 358	Personal protective equipment for work positioning and prevention of falls from a height – Belts for work positioning and restraint and work positioning lanyards.
EN 360	Personal protective equipment against falls from a height – Retractable type fall arresters.
EN 361	Personal protective equipment against falls from a height – Full body harnesses.
EN 362	Personal protective equipment against falls from a height – Connectors.
EN 363	Personal fall protection equipment – Personal fall protection systems.
EN 369	Please see EN ISO 6529.
EN 397	Industrial safety helmets.
EN 402	Respiratory protective devices – Lung governed demand self-contained open-circuit compressed air breathing apparatus with full face mask or mouthpiece assembly for escape.*
EN 403	Respiratory protective devices for self-rescue – Filtering devices with hood for escape from fire.*
EN 404	Respiratory protective devices for self-rescue – Filter self-rescuer from carbon monoxide with mouthpiece assembly.
EN 443	Helmets for fire-fighters.
EN 471	High-visibility warning clothing for professional use – Test methods and requirements.
EN 533	Protective clothing – Protection against heat and flame – Limited flame spread materials and material assemblies. (ISO 14116:2008)
EN 795	Protection against falls from a height – Anchor devices – Requirements and testing.
EN 813	Personal fall protection equipment – Sit harness.

* Requirements, testing, marking

EN 943	Protective clothing against liquid and gaseous chemicals, including liquid aerosols and solid particles. Part 1: Performance requirements for ventilated and non-ventilated gas tight (Type 1) and non-gas-tight (Type 2) chemical protective suits. Part 2: Performance requirements for gas-tight (Type 1) chemical protective suits for emergency teams (ET).
EN 1073	Protective clothing against radioactive contamination – Part 2: Requirements and test methods for non-ventilated protective clothing against particulate radioactive contamination.
EN 1146	Respiratory protective devices – Self-contained open-circuit compressed air breathing apparatus incorporating a hood (compressed air escape apparatus with hood).*
EN 1149	Protective clothing – Electrostatic properties. Part 1: Test method for measurement of surface resistivity. Part 5: Material performance and design requirements.
EN 1231	Workplace atmospheres – Short term detector tube measurement systems – Requirements and test methods.
EN 1497	Personal fall protection equipment – Rescue harnesses.
EN 1731	Mesh type eye and face protectors for industrial and non-industrial use against mechanical hazards and/or heat.
EN 12021	Respiratory protective devices – Compressed air for breathing apparatus.
EN 12492	Mountaineering equipment – Helmets for mountaineers – Safety requirements and test methods.
EN 12941	Respiratory protective devices – Powered filtering devices incorporating a helmet or a hood.*
EN 12942	Respiratory protective devices – Power assisted filtering devices incorporating full face masks, half masks or quarter masks.*
EN 13034	Protective clothing against liquid chemicals – Performance requirements for chemical protective clothing offering limited protective performance against liquid chemicals (Type 6 and Type PB [6] equipment).
EN 13463	Non-electrical equipment for use in potentially explosive atmospheres – Part 1: Basic method and requirements.
EN 13794	Respiratory protective devices – Self-contained closed-circuit breathing apparatus for escape.*
EN 14126	Protective clothing – Performance requirements and test methods for protective clothing against infective agents.
EN 14387	Respiratory protective devices – Gas filter(s) and combined filter(s).* (Includes Amendment A1:2008).
EN 14458	Faceshields and visors for use with firefighters' and high performance industrial safety helmets used by firefighters, ambulance and emergency services.
EN 14593	Respiratory protective devices – Compressed air line breathing apparatus with demand valve – Part 1: Apparatus with a full face mask.*
EN 14594	Respiratory protective devices – Continuous flow compressed airline breathing apparatus. *
EN 14605	Protective clothing against liquid chemicals – Performance requirements for clothing with liquidtight (Type 3) or spraytight (Type 4) connections, including items providing protection to parts of the body only (Types PB [3] and PB [4]).
EN 50104	Electrical apparatus for the detection and measurement of oxygen – Performance requirements and test methods.
EN 50270	Electromagnetic compatibility – Electrical apparatus for the detection and measurement of combustible gases, toxic gases or oxygen.
EN 50271	Electrical apparatus for the detection and measurement of combustible gases, toxic gases or oxygen – Requirements and tests for apparatus using software and/or digital technologies.
EN 50365	Electrically insulating helmets for use on low voltage installations.
EN 50402	Electrical apparatus for the detection and measurement of combustible or toxic gases or vapours or of oxygen – Requirements on the functional safety of fixed gas detection systems

* Requirements, testing, marking

EN 60079-0	Electrical apparatus for explosive gas atmospheres. Part 0: General requirements. Part 1: Equipment protection by flameproof enclosures "d". Part 11: Equipment protection by intrinsic safety "i". Part 29: Gas detectors. Performance requirements of detectors for flammable gases.
EN 60950	Information technology equipment – Safety – Part 1: General requirements .
EN 61010	Safety requirements for electrical equipment for measurement, control, and laboratory.
EN 61508	Functional safety of electrical/electronic/programmable electronic safety-related systems.
EN ISO 6529	Protective clothing – Protection against chemicals – Determination of resistance of protective clothing materials to permeation by liquids and gases.
EN ISO 13982	Protective clothing for use against solid particulates – Part 1: Performance requirements for chemical protective clothing providing protection to the full body against airborne solid particulates (Type 5 clothing).
BS 8468-1	Respiratory equipment for use against chemical, biological, radiological and nuclear (CBRN) agents. Positive pressure, self-contained, open-circuit breathing apparatus – Specification.
DIN 3181	Respiratory protective devices – CO and reactor filters – Classification, marking.
DIN 58620	Respiratory protective devices – Gas filter(s) and combined filter(s) for protection against carbon monoxide.*
DIN 58639	Respiratory protective devices for self-rescue – Self-contained closed-circuit compressed oxygen breathing apparatus incorporating a hood.*
DIN 58647	Respiratory protective devices for self-rescue – Part 7: Filtering devices for self-rescue.*
DIN 58652	Respiratory protective devices – Self-contained closed-circuit breathing apparatus. Part 1: Short duration-chemical oxygen (KO ₂) generating type for moderate workrates.* Part 2: Chemical oxygen (KO ₂) generating type for work and rescue.*
ATEX	ATmospheres EXplosible is French for potentially explosive atmospheres. According to ATEX Directive 94/9/EC all electronic gas detectors and personal monitors 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 the "ATEX" marking.
Performance Approval	According to the ATEX manufacturer directive 94/9/EC and the user directive 99/92/EC any gas detection system (detectors and controller) and any personal monitor for flammable gases, if used as safety device to reduce the risk of explosion, has to be performance approved. The ATEX EC type certificate for the product must then show compliance at least to EN 60079-29-1 (formerly EN 61779).
MED	Marine Equipment Directive 96/98/EC, Wheelmark, certified by "See-Berufsgenossenschaft". Amended by 2008/67/EC and 2011/75/EC.
NFPA 1801: 2013	Standard on Thermal Imagers of the Fire Service.
PED	Pressure Equipment Directive 97/23/EG.
PPE	Personal Protective Equipment Directive 89/686/EEC.
SOLAS	Safety of Life at Sea.
VFDB	0801: Selection of chemical protective suits for deployment tasks in the fire service. 0802: Selection of breathing protection equipment for deployment tasks in the fire service.

* Requirements, testing, marking

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