

# GSRe/ GSReS

*THE NEXT GENERATION OF CBRN RESPIRATORY PROTECTION*



# A NEW ERA IN CBRN RESPIRATORY PROTECTION



- **THE PLATFORM MASK**

When the United Kingdom Ministry of Defence (UK MoD) assessed the changing capability requirements for CBRN individual protection they demanded a series of advanced respirator features not previously thought feasible. The UK MoD General Service Respirator (GSR) program was born and Scott Safety was selected as the design and manufacturing partner for this advanced technology development.

The successful result of this complex product development is the revolutionary GSR technology suite;

*“The new General Service Respirator offers a higher level of protection than any other negative pressure respirator. To achieve this alongside lower breathing resistance, better all-round visibility and improved equipment compatibility is a very impressive achievement and as such offers a new benchmark in respiratory protection.”*

(Dr. Matt Chinn – Head of CBRN Office UK Defence Science and Technology Laboratory)

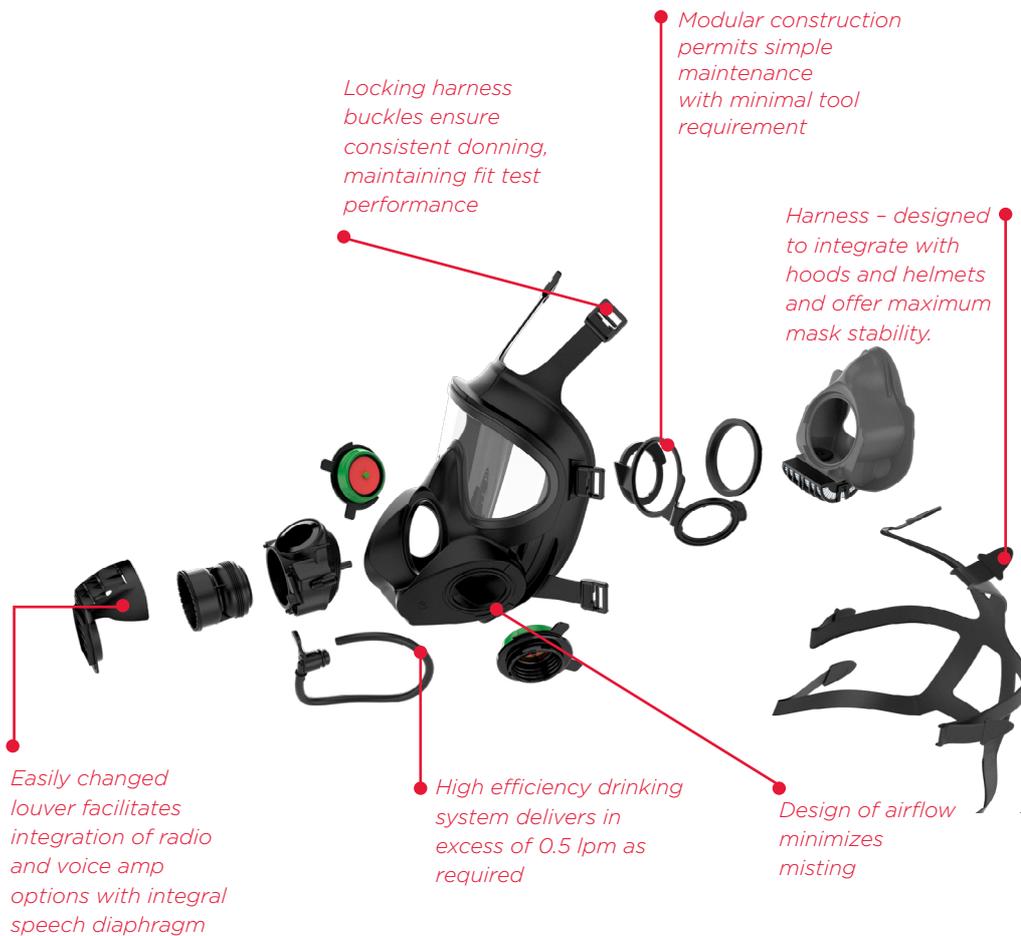
## **EVOLUTION OF THE GSR – THE NEW SCOTT GSRe / GSReS**

The “next generation” design features of the GSR were easily seen to offer a superb platform for a military off-the-shelf mask capable of addressing numerous capability gaps. The “evolution” of the respirator to the Scott GSRe / GSReS variants includes the ability to rapidly change between high performance GSR teardrop twin filters to global standard Stanag 4155/ DIN 40 mm threaded filters as well as the capability to easily switch between negative and positive pressure operating modes permitting the use of multiple respiratory protection options, including in multi-functional combination respirator ensembles.

# A WORLD CLASS RESPIRATOR RESPONDING TO FUTURE CHALLENGES



GSR<sub>e</sub> / GSR<sub>e</sub>S is able to leverage the completely new system improvements developed for GSR into a respirator designed to respond to all CBRN threats now, and in the future.



GSR<sub>e</sub> / GSR<sub>e</sub>S exceeds all requirements of NATO D103 and D104 standards

## PRODUCT HIGHLIGHTS

Best in Class protection factors for the wearer- significantly higher than the industrial norm

Twin filter system can be modified without tools in the field to be compatible with Stanag 4155/DIN 40 mm threaded filters allowing filter interoperability

Low breathing resistances - significantly lower than industry norms

Manufactured from chemical hard materials that have proven comfort characteristics for 24 hour wearing

Flexible, hard coated lens featuring minimal haze and light transmission providing a wide field of view and impact protection in excess of EN166, Class 1 requirements

Provides superior weapon sighting capability utilizing either primary filter option  
Re-breathed CO<sub>2</sub> levels significantly below 1%

Designed for 100% population fit via multiple sizing combinations between mask and separate oro-nasal module

Meets the heat and flame resistance standards of EN 136



### FACE SEAL

Self regulating twin primary seals provide increased protection and comfort for long duration wearing. Built in features enable simple mask/suit integration



### EXHALATION VALVE

Twin exhalation valves provide a clean 'airlock' to ensure leak tight exhalation and low resistance



### INLINE SECONDARY FILTRATION

'Mask within a mask' system combined with optional secondary filtration technology allows for unrivalled levels of protection and automatic sweat clearance. Comprising of a PTFE membrane the secondary filter will operate under the most challenging conditions, even when wet.

# THE SCOTT SAFETY MRPS CONCEPT

## OPERATIONAL FLEXIBILITY WITH PAPR, SCBA AND AIRLINE

In addition to functioning as an advanced design negative pressure respirator the GSRe / GSReS can incorporate the highest level of operating flexibility so it may be configured to operate either singly or in any two combinations of Air Purifying Respirator (APR), Powered Air Purifying Respirator (PAPR) and positive pressure Self Contained Breathing Apparatus (SCBA) or supplied airline. The ability to function as a combination respirator, a Scott Modular Respiratory Protection System (MRPS), is facilitated by the use of modular side fittings and different exhalation structures, including auto switchable. Configurable versions of the respirator are designated as GSReS models. Final detail of the operational configuration of the MRPS is determined by the specific concepts of operation of the user group. The MRPS conversion kit allows simple upgrade of the GSRe, to GSReS standards in a matter of minutes if required.



# CONFIGURING MRPS

A true MPRS, the GSReS enables the user to select a combination of components that will meet the specific concept of operation



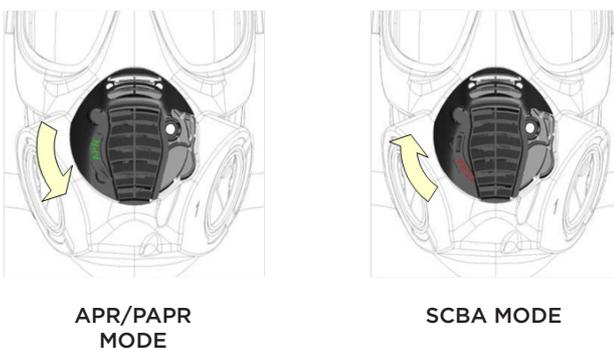
## GSReS MODULAR INLET SYSTEM

Optional side fittings are chosen to adapt to a single alternate or two combined respiratory technologies. For example, the user may utilize the two inlet ports for a PAPR and an SCBA. Adapters are also easily configured in the field without the need for tools so that the operating modes can be changed.



## GSRES EXHALATION STRUCTURES

In addition to the standard twin valve negative pressure exhalation valve, two alternate structures are available as required for different operating modes. Exhalation structures are also readily changeable without the need for additional tools. Simply by covering the end of the filter and breathing in hard the first breath mechanism in the demand valve is activated and positive pressure breathing from the supplied air cylinder is provided.



## CHANGING OPERATING MODE

If the switchable exhalation option is chosen the wearer can switch between RPE modes seamlessly in the hot zone while maintaining very low inhalation resistance in the filtered air mode. Side fittings with desired exhalation option are available as upgrade kits and should be specified at purchase of the respirator if required.

# GSRe/GSReS FILTERS

## SCOTT SAFETY OPTIONS FOR CBRN PROTECTION

High performance GSR twin filter cartridge technology allows for high protection and low inhalation resistance in a simple to change locking filter mechanism. The PTFE particulate membrane allows operation under the most challenging conditions including emersion in water. Auto shut off valves enable filters to be changed without holding your breath, closing your eyes or the direct aid of a “buddy”. Visual indicators identify used and unused filters.



Mask within a mask system combined with patented secondary filtration technology allows for unrivalled levels of protection against biological and radiological particulate. The filter also facilitates the unique sweat removal system greatly increasing overall comfort.



With a simple reconfiguration the GSRe / GSReS is adaptable for use with all standard STANAG 4155/ DIN 40 mm threaded filters, mounted on either side of the mask. In addition to the option of this type filter as initial user selection, this interoperability allows a simple field change from GSR type if needed for emergency use in the standard negative pressure unit. A full range of Scott CBRN, Law Enforcement and other 40 mm filter canisters are available.



# GSRe/GSReS ACCESSORIES



## COMMUNICATION

The GSRe in all configurations is able to be integrated with any RPE communications system to ensure operational excellence. Voice amplification is kept external to moist, acidic environment of the exhalation area. A simple change of the front louver is used to incorporate the selected system with the integral speech diaphragm.



## HYDRATION

Hydration adapters are available to easily incorporate the high rate drinking assembly with canteens and all commercially available backpack/bladder systems



## EYE PROTECTION

Optical outserts are available in a common carrier system design for sun, flash (including nuclear) and IR/laser protection



## CARRIAGE SYSTEMS

Haversacks are available in user camouflage or black tactical options for the safe storage of respirator and associated equipment.



## FIT TESTING

The GSRe can be successfully fit tested with standard equipment, but to fully and correctly quantify the unprecedented protection factors the respirator provides the unique Scott Advanced Respirator Test System (ARTS) must be used.



## CORRECTIVE VISION

Integration with corrective vision systems, including progressive (vari-focal) lens prescriptions, ensures a safe and comfortable fit.

# GSReS - POSITIVE PRESSURE OPTIONS

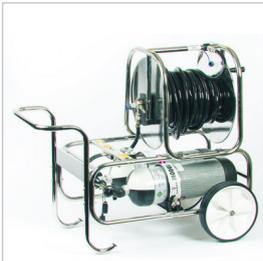
## SCOTT SAFETY OPTIONS FOR CBRN PROTECTION

In MRPS Configuration there are three main types of positive pressure respiratory protection that can be used with the GSReS in the face of different hazards.



### SELF-CONTAINED BREATHING APPARATUS

SCBA supplies clean air to the user independent from the surrounding environment. Breathing apparatus is needed when the nature of the hazard has not been quantified (CBRN Agent type, concentration) or the air is oxygen deficient. Scott breathing apparatus are designed for extreme operations in Military, Civil Defence and SWAT operations. Scott SCBA constitute leading edge protection against the threats of today's world. To cater for all CONOPS SCBA systems are available with fixed and adjustable back frames as well as more specialist tactical requirements in the form MOLLE integrated back frames.



### RESPIRATORY AIRLINE SYSTEM (RAS)

Airline breathing apparatus is the perfect solution for applications across many CBRN applications. Ideal for environments where ambient oxygen cannot be guaranteed, airline breathing apparatus combines the highest degree of respiratory protection with long duration. Fed by a medium pressure air hose, Scott RAS will support prolonged decontamination operations of critical infra-structure and other large equipment. Completely modular, Scott airline components afford almost unlimited flexibility, allowing the user to individually specify a system that exactly meets their operational needs. The advantages are clear; there is no weight, no bulk and - in theory - an infinite amount of air.



### POWERED RESPIRATOR

Other filtering devices, like a powered respirator with a GSReS, offer a reliable solution to respiratory protection for specialist teams during decontamination and cleaning-up operations when contaminants have been identified and measured; this type of respirator is appropriate to remove the CBRN contaminants and other associated hazards. Scott Proflow CBRN and C420+ powered air purifying respirators make sense for civil defence by providing air through a fanning effect extending user wear times.

# SPECIFICATIONS & ORDERING INFORMATION

## GSR<sub>e</sub> / GSR<sub>eS</sub> RESPIRATOR

GSR <sub>e</sub> /GSR <sub>eS</sub> PART NUMBERS		
Article Number	Description	NATO Stock Number
7000347	GSR <sub>e</sub> MASK ASSEMBLY SIZE 1	N/A
7000348	GSR <sub>e</sub> MASK ASSEMBLY SIZE 2	N/A
7000349	GSR <sub>e</sub> MASK ASSEMBLY SIZE 3	N/A
7000350	GSR <sub>e</sub> MASK ASSEMBLY SIZE 4	N/A
7000351	GSR <sub>e</sub> MASK ASSEMBLY SIZE 3/2	N/A
7000370	GSR <sub>eS</sub> MASK ASSEMBLY - SIZE 1	4240-99-853-6922
7000371	GSR <sub>eS</sub> MASK ASSEMBLY - Size 2	4240-99-851-7437
7000372	GSR <sub>eS</sub> MASK ASSEMBLY - Size 3	4240-99-613-8488
7000373	GSR <sub>eS</sub> MASK ASSEMBLY - Size 4	4240-99-929-2080
7000374	GSR <sub>eS</sub> MASK ASSEMBLY SIZE 3/2	
7000670	Filter Pack, Respirator MK2 (Pairs)	4240-99-553-8969
5145145	CBRN CAP-1 Filter Canister	4240-99-958-8264
7000448	GSR <sub>eS</sub> LOUVRE COVER SWITCHABLE ASSEMBLY - SHORT LEVER	4240-99-366-6242
7000449	GSR <sub>eS</sub> LOUVRE COVER SWITCHABLE ASSEMBLY - LONG LEVER	4240-99-886-2750
7000450	GSR <sub>eS</sub> LOUVRE COVER SWITCHABLE ASSEMBLY - SHORT LEVER WITH COMMS	4240-99-176-8150
7000451	GSR <sub>eS</sub> LOUVRE COVER SWITCHABLE ASSEMBLY - LONG LEVER WITH COMMS	4240-99-838-2950
7000408	CAMELBAK HYDRATION ADAPTOR	4240-99-838-2698
7000409	SOURCE HYDRATION ADAPTOR	N/A
7000410	OUTCERTS LENS TINT	6540-99-615-7713
7000411	OUTCERTS LENS CLEAR	6540-99-975-5959
7000415	NET HEAD HARNESS	N/A
7000382	GSR <sub>eS</sub> MRPS ASSEMBLY	N/A
7000460	SAVOX MICROPHONE	N/A
7000465	GSR <sub>e</sub> /GSR <sub>eS</sub> HAVERSACK ASSY - BLACK	8465-99-383-2958
7000480	CAMELBAK CBRN BLADDER	N/A



### Evolution of the GSRe/GSReS

The GSRe/GSReS an evolution of the existing GSR design concept, with the ability to rapidly change between high performance GSR teardrop twin filters to global standard Stanag 4155/DIN 40 mm threaded filters as well as the capability to easily switch between negative and positive pressure operating modes permitting the use of multiple respiratory protection options, including in multi-functional combination respirator ensembles.



Scott Safety is a global business unit of Tyco International that supplies a variety of industries through manufacturing facilities located in the United States, United Kingdom, Asia, Finland and Australia.  
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