

CBRN mask with multiple protection capability

Technical Data

The FM53™ has been designed to be compliant with the latest US and NATO military CBRN requirements. Whilst the actual performance data achieved is classified, the following data gives a good indication of its performance.

FM53™ Mask Performance

CBRN Agent Resistance	FM53™ Performance
Mustard (H) Sarin (GB) Soman (GD) VX	Greater than 36 Hrs
Laboratory protection factor performance (sodium chloride)	Greater than 10,000
Re-breathed CO ₂	0.8%
Inhalation Resistance at: 30 L/Min 95 L/Min 160 L/Min	7 mm WG 16 mm WG 32 mm WG
Exhalation resistance negative pressure mode 85 L/min 160 L/min	11 mm WG 30 mm WG
Exhalation valve positive mode cracking pressure	35 mm WG
Mask weight	570 gram
Field of view (Visual Field Score – NIOSH CBRN standard)	96

FM53™ Filter Performance

The FM53™ filter canister protects the face, eyes and gastro-intestinal tract of the wearer against chemical and biological agents in aerosol, liquid and vapour form including:

a	Nerve agents
i)	"G" series
ii)	"V" series
iii)	Any thickened form of agent
b	Blister agents
i)	Mustard
ii)	Lewisite
iii)	Any thickened form of agent
c	Blood agents
i)	Hydrogen Cyanide
ii)	Cyanogen Chloride
iii)	Chloropicrin
d	Riot Control agents
i)	CS
ii)	CN
iii)	OC (pepper spray)

Protection against certain Toxic Industrial Chemicals (TICs) is also provided, including organic vapours with a boiling point over 65°C, chlorine, hydrogen sulphide and sulphur dioxide.

Typical filter performance measured against NIOSH CBRN Cap 1 requirement

Test Representative Agent	NIOSH CBRN Cap 1 Requirement	Typical Performance
Cyclohexane	15 mins	>20 mins
Hydrogen Cyanide (AC)	15 mins	>45 mins
Cyanogen Chloride (CK)	15 mins	>45 mins
Phosgene	15 mins	>100 mins

The filter canister protection against particulate aerosols in accordance with NATO A/C 225 (Panel VII) D/103 para IV.4, using a salt aerosol method will be less than 1 in 10⁵ for the particulate filter, and typically as low as 1 in 10⁶ (the canister is designed to achieve not greater than 0.003% penetration of dioctylphthalate aerosol when challenged at 85 L/min airflow rate).



The FM53™ mask has been designed specifically with specialist applications in mind. The FM53™ is Avon's most technically advanced mask providing high levels of protection in conjunction with highly adaptable functionality. The FM53™ features a new patented twin exhalation valve providing the capability to use the mask with all recognised modes of RPE (Respiratory Protective Equipment). The FM53™ will function as a conventional negative pressure mask as well as with a range of SCBA (Self Contained Breathing Apparatus) and PAPRs (Powered Air Purifying Respirators). This is achieved without the need to remove or change any components. CCBA (Closed Circuit Breathing Apparatus) capability is also available with a front mounted adapter.

For further information on the FM53™ respirator please contact:

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Distributor Information



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The FM53™ is Avon's most technically advanced mask providing high levels of protection in conjunction with highly adaptable functionality.



Unique Visor Technology

- Unique polyurethane visor is highly flexible plus scratch and impact resistant
- Fully optically correct across the entire field of view
- Panoramic visor design gives maximum field of vision and wearer recognition
- The Vision Correction System allows prescription lenses to be mounted inside the mask
- Sunlight outserts for high intensity light situations and clear outserts for extreme environments

Air Flow Management

- Heat build up minimised
- Low inhalation resistance
- Low re-breathed carbon dioxide
- Excellent anti-fog properties

Filters

- Conformal filter design locates the filter tightly against the mask minimising interference with other equipment and provides a more stable fit
- Optional filter mount position on either left or right hand side
- The general purpose filter provides protection from CBRN and CW hazards
- The lower profile, lower inhalation resistance particulate filter can be used specifically for particulate challenges such as biological, radiological and certain riot agents

User Comfort

- A fully integrated, lightweight CBRN hood manufactured in 4 sizes using the latest materials enables rapid donning and provides full head and neck protection
- Lightweight with extremely low profile for better integration with weapon sights
- Close contour brow and extended chin flap ensures compatibility with a variety of helmets and CBRN suits
- Available in 4 sizes with either a right or left handed filter
- The harness and buckles provide comfortable integration with ballistic helmets and communication headsets
- Unique low profile conformal filter further improves equipment compatibility and provides a very stable fit
- Made of a unique blend of silicone and butyl rubber for maximum flexibility and comfort whilst providing high levels of protection
- High flow fail-safe drinking device allows connection to either a canteen or bladder type system
- Enhanced speech with low profile Voice Projection Unit



Communication

- Sealed Electronic Communication Port (ECP) allows ancillary equipment and Voice Projection Unit (VPU) to be connected to an internal microphone without risk of contamination
- Additional external communication systems can be attached via this ECP using an appropriate lead

Multiple RPE Capability

- The unique patented switchable resistance exhalation unit provides the capability to use the FM53™ with a variety of RPE (Respiratory Protective Equipment)
- At the turn of a switch the FM53™ can operate as a negative pressure Air Purifying Respirator, a positive pressure Self Contained Breathing Apparatus (SCBA) or a Powered Air Purifying Respirator (PAPR) without the need to remove or change any components
- CCBA (Closed Circuit Breathing Apparatus) capability is also available with a front mounted adapter



Accessories and Spares

- Operator replaceable spare parts available, easy to maintain with access to key components such as valves
- A wide range of fully compatible accessories such as hydration canteens, vision correction system, clear and sunlight outsert lenses and a range of storage and carry bags

