

FEATURES & BENEFITS

FRR - FIRST RESPONDER RESPIRATOR NIOSH

FEATURE	BENEFIT
Conformance to regulatory standards	The FRR is designed to meet worldwide standards pertinent to a full face respirator to be used in civil emergency response duty. Regulatory standards currently met for mask and filters are NIOSH CBRN Cap-1 APR, NIOSH CFR 42 Part 84, EN136:1998 Class 3, EN8468-2:2006 (CBRN), EN 148-1 (for DIN 40 connections) and AS/NZ1716:2012. The FRR is also approved for use with positive pressure SCBA under EN8468-1:2006 and PAPR under EN8468-4:2006 and equivalent NIOSH approvals are in the application process.
Specialized materials of construction	To maximize comfort and provide superior protection against target chemical warfare agents and toxic industrial chemicals even during extended periods of use, the FRR is constructed from a special proprietary butyl blend and the inner mask is made of liquid silicon rubber (LSR). The mask also meets the flame and radiant heat requirements of EN136:1998, Class 3.
Twin primary mask seals	Self regulating twin reverted edge primary seal design on mask provides increased protection against inward leakage.
Secondary inner mask	A separate oro-nasal mask module provides a “mask within a mask” system that offers an extra level of protection against ingress and works with the exhalation structure to minimize level of CO ₂ in the dead space.
Inline secondary filter system	Optional patented secondary filter incorporated into the oro-nasal inner mask offers the highest levels of particulate (biological, radiological and nuclear) protection. The secondary filter system has the added unique capability of constantly collecting and removing sweat from inside the mask.
Twin exhalation valves	Dual valve structure provides a clean airlock and ensures leak tight exhalation preventing any ingress of toxic material.
Single flexible lens design	The lens design provides optimal, non-distorted visibility with superior lateral, downward and binocular vision capabilities while meeting EN166 standard for goggle level protection. The visor also provides excellent integration with sighting systems, night vision goggles and other associated equipment.
Multiple mask sizes	There are 4 sizes available for both the primary mask body and the oro-nasal inner mask that are combined to provide optimum protection factors and comfort via best custom fit characteristics. Sizing options assure virtually 100% fit capability.
High efficiency drinking assembly	Drinking rate typically 3-4 times better than in service products currently. Adaptation easily made to canteen or any brand backpack style reservoir.
Airflow characteristics	Breathing resistances lower than industry norm provide the wearer comfort and significantly reduced physiological burden. Airflow design minimizes misting on the lens.

Communication interface	Communication louver, proven to function in extreme environments, has connectivity to most leading communications devices. The respirator does not impair hearing and provides ability to communicate verbally via rugged speech diaphragm.
Ancillary equipment options	Prescription lenses, including progressive type, can be mounted easily inside the mask and correctly positioned using height adjustment feature. Tight fitting, rigid shaped lens outserts are available to provide protection against harsh environmental conditions, sunlight, flash and IR/laser. Haversacks in multiple camouflage designs provide protective storage options for the respirator, spare filters and associated additional equipment.
Ensemble integration	Mask shape, brow design and buckle positions enable hoods to be held firmly in position without any external corrections. The respirator does not impede free movement and there are no interferences between the mask and user suit ensembles that would affect protection.
Life cycle costs	Mask meets strict robustness requirements to meet target minimum 10-year service life. Filters meet regulatory requirements for strength and robustness. Storage under accepted temperature range of -10 C to +40 C provides a 15 year shelf life. Required maintenance is minimal and mask modularity allows for easy exchange of components.
Multiple operational modes	In addition to performing as a negative pressure filter respirator using standard DIN 40mm filters, the FRR can function as a positive pressure mask for use with a PAPR or SCBA systems, using modified mask interface connections for SCBA, that provide higher protection factors. This operational flexibility facilitates use of the mask for combination respirator systems and different exhalation valve bias designs are available to accommodate different concepts of operation. These modes of operation are currently approved under applicable EN standards.