

# NBC Filtration Systems



The purpose of an NBC system is to clear the air within a shelter or building of an NBC contamination and allow the occupants to function normally without using personal protection equipment. To be effective the NBC system must be designed in conjunction with the shelter, or building air-conditioning or ventilation system. The shelter must be air-tight during an NBC attack. This can be achieved by using gas-tight valves, doors and utility penetrations.

The NBC Filtration System will comprise:

- Filters & Air Filtration Unit (AFU)
- Ductwork
- Control System
- Fan



Multiple AFU's assembly in static frame

The NBC system will have two modes of operation, By-Pass and Filtration. The By-Pass mode is used when there is no danger of an NBC attack and air will be supplied by the shelters normal air-conditioning or ventilation system. During periods of danger the filtration mode is switched on. The shelter will be sealed and the NBC system will start to filter and circulate the cleaned air throughout the shelter. The air to be filtered can come either directly from outside the shelter, or the air-conditioning system can direct cooled, or heated air to the room housing the NBC filtration system. In this case the shelter can still maintain temperature control.



AFU in frame for mobile use

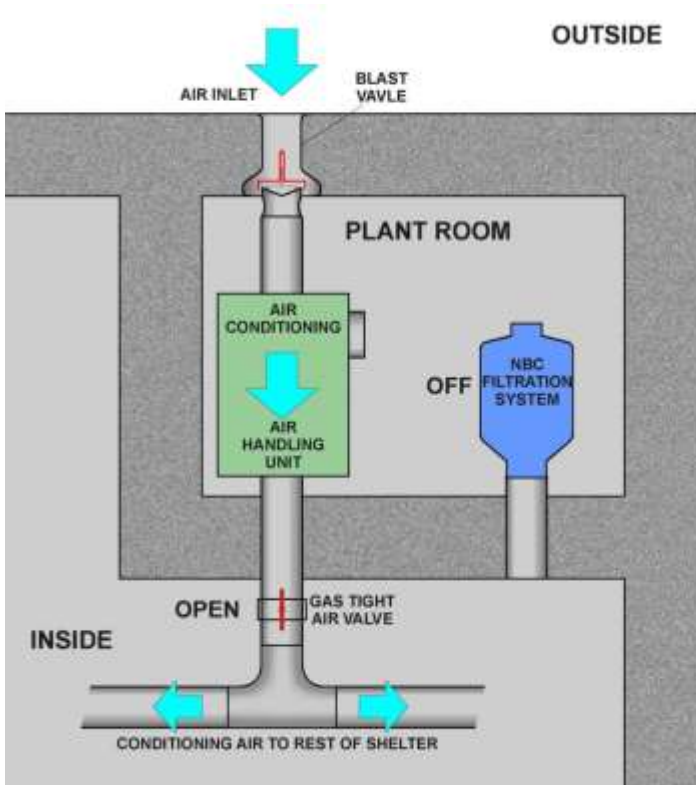
Depending on the size of the shelter will determine the number of AFU's (Air Filtration Units) required. Multiple AFU's can be mounted in steel frames for large shelters.

| AFU Specification         |   |
|---------------------------|---|
| Volume Flow Rate Per Unit | 375 m <sup>3</sup> /hr against a shelter pressure of 80 Pascals |
| Filter Efficiency & Life  | NATO Triptych AC/225 (Panel VII0 D251)                          |
| Power Supply Per AFU      | 220 V – 3 Amp   |
| Dimensions Per AFU        | 1260 x 680 x 680 mm   |
| Weight Per AFU            | 93 kg   |



Wall mounted AFU with control box

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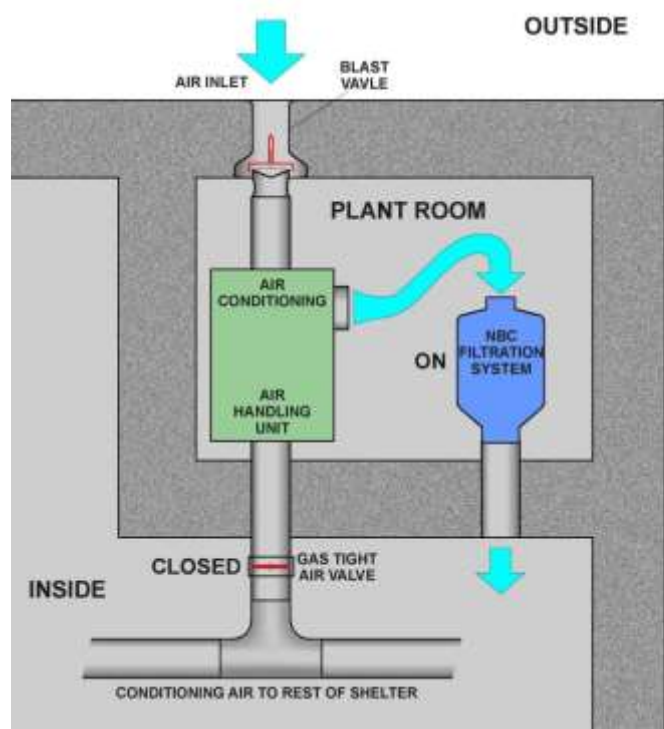


Peacetime operation with the NBC Filtration System OFF and the air-conditioning system using fresh air directly from the outside.

Wartime operation with the NBC filtration system ON.

The air-conditioning system can continue to be used but the plant room will be sealed and the air to the rest of the shelter filtered through the NBC system.

Alternatively, the air-conditioning system can be shut down and only unconditioned air filtered by the NBC system feed into the shelter



## NBC Filters

The NBC system composite NBC Filters provide the highest levels of protection from Nuclear, Biological and Chemical threats.

Each filter includes two filtration stages to remove the particulate and gaseous threats. Particulate contamination such as dust and biological agents is removed by the ultra-high efficiency particulate filter element before an activated charcoal bed absorbs chemical agents from the air passing through the filter.

The NBC Filters are 99.997% efficient to BS3928 in removing particulate contamination and exceed the requirements of the NATO Tripych relative to NBC protection.

All NBC Filters are fully tested for both particulate and gas efficiency using the company's state of the art airflow test rig which incorporates the latest Sodium Flame photometer and Halide gas detection equipment.



## Peacetime Filters

Peacetime Filters are used in place of carbon filled NBC Filters. This allows the carbon filled filters to be held in hermetically sealed storage containers until they are needed.

The Peacetime Filters provide high levels of dust filtration within the crew space of military vehicles where Collective NBC Protection Systems are fitted. Peacetime Filters compatible with the British Army No 1 Composite NBC Filter are available.

Peacetime Filter versions of other types of NBC Filter are also produced. These Filters offer a very effective way of reducing the lifecycle cost of fitting Collective NBC Protection Systems to military vehicles.



## About Us

Established in 1996, European EMC Products (EEP) are an established British company whose experience and understanding of the science of shielding makes it an ideal partner in whom you can place your trust with confidence. The purpose of installing EEP shielding systems is to protect people and equipment against the threats posed by electromagnetic and radio frequency (RF) interference, radiation, magnetic fields and electromagnetic pulses. Our diverse range of turnkey products and services, including design, project management, testing and consultancy are delivered across multiple sectors to an international client base.

## Quality

European EMC Products Limited are registered to BS EN ISO 9001:2015, Certificate Number FS38901.

Registered Scope: The design, assembly, installation, servicing and testing of RF Shielded Structures and equipment including EMI Shielding, Blast Doors, Gas Tight Doors and specialised mobile Electromagnetic Pulse Protection (EMPP) containers.

Radio Frequency, Magnetic Shielding and Quench systems for MRI (Magnetic Resonance Imaging) scanners.

The design, assembly and installation of Ionising Radiation Protection facilities.

The design, manufacture and installation of LED lighting systems for medical applications.

EEP Filters Limited are registered to BS EN ISO 9001:2015, Certificate Number FS38901.

Registered Scope: The design, manufacture, management of installation and testing of high performance EMC and EMP Power and Data Line Filters.

## Disclaimer

NB: All the information provided within this datasheet is for reference only. Product specifications are subject to change without notice.