Protective solutions

Applications

The Temet ES-75 NBC-filter is used in NBC-protected Civil Defence and military shelters for filtration of Nuclear Fallout and Biological and Chemical Warfare agents with maximum efficiency.

Specification

Manufacturer of ES-75 NBC-filter is Temet, Helsinki Finland.

The ES-75 NBC-filter comprises a high efficiency particulate aerosol (HEPA) filter and a gas adsorption filter enclosed in a steel container and providing a two stage filtration of the intake air, aerosol and particle filtration first followed by gas filtration. The filter is enclosed in a rigid gas tight container made of steel plate with minimum thickness of 2.0 mm ensuring shock and blast resistance of the NBC-filter. The gas adsorption filter is composed of a layer of specially impregnated activated carbon manufactured to comply with the Finnish Civil Defence standards. Optionally the filter can also be provided with activated carbon for removal of Toxic Industrial Chemicals (TIC). An advanced carbon packing and compression system is applied to guarantee that the carbon bed retains its integrity and tightness.

Design Criteria

The ES-75 NBC-filter is made in accordance with the requirements of specific provisions issued by the Finnish Ministry of Interior. The ES-75 NBC-filter is type tested and approved for use by the Technical Research Centre of Finland / VTT Building Technology, an Independent Testing Authority mandated to perform type inspection for shelter equipment and systems by the Ministry of Interior. Type test reports as well as additional test data available upon request.

Test and performance data

The filter is designed and tested against reflected blast pressure of 1.0 bar and reflected total impulse of 7.0 bar ms measured at the intake air duct in front of the filter.

Efficiency of the absolute filter (HEPA) of ES-75 NBC-filter is better than 99.995% for particles of 0.3 µm.

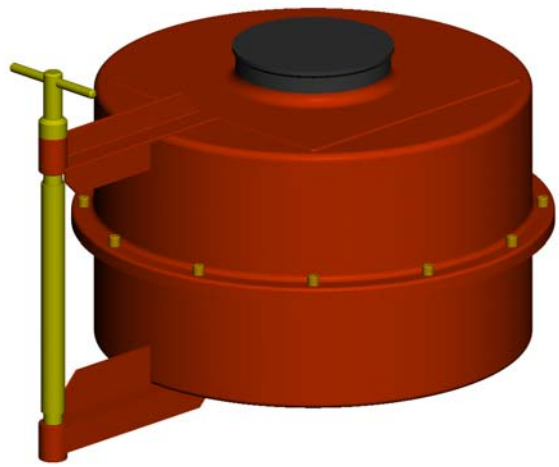
The filter is shock tested with a mechanical shock of the installation base having an acceleration of 10 g and a rapid change in velocity of 1.0 m/s.

Type test report

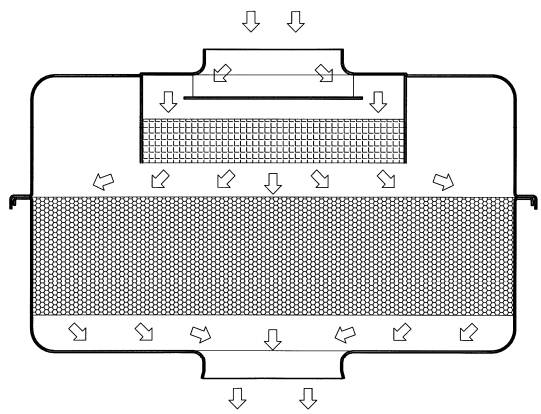
VTT type test report available upon request.

Other documents related to ES-75 NBC-filter:

Installation Instructions
Operation Principle & Maintenance Instructions



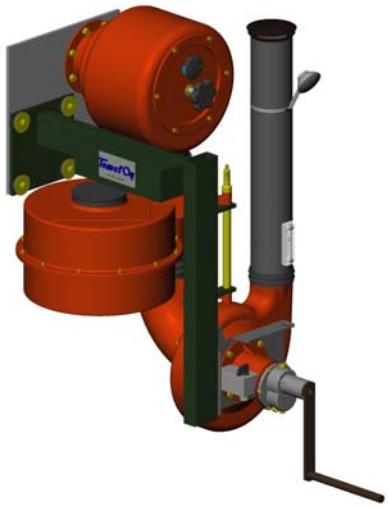
ES-75 NBC-filter



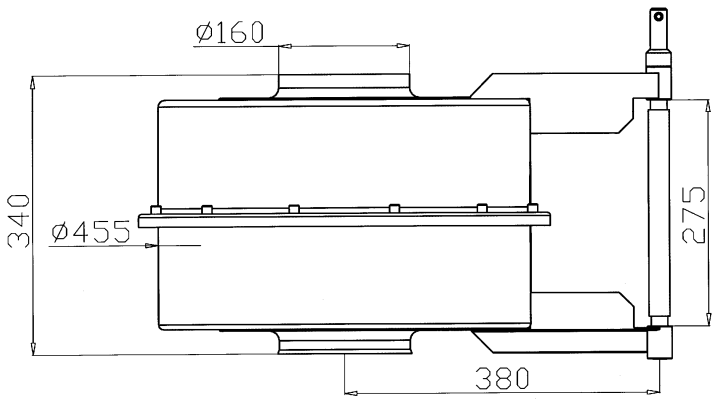
ES-75 NBC-filter operation principle

Solid particles and aerosols are retained by the first filter, high efficiency particulate filter (HEPA). All gaseous components are then retained by the gas adsorption filter, a layer of specially impregnated activated carbon.

Typical installations



ES-75 NBC-filter installed in a VIL-75 Emergency Ventilation Unit



ES-75 NBC-filter dimensions

ES-Series NBC-filters

NBC-filter type	Nominal air volume	Nominal pressure drop	Specific carbon volume
ES-75	75 m^3/h	250 Pa	0,213 l/m^3/h
ES-150	150 m^3/h	550 Pa	0,200 l/m^3/h
ES-600	600 m^3/h	800 Pa	0,200 l/m^3/h
ES-1250	1250 m^3/h	800 Pa	0,200 l/m^3/h

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