

Protective solutions

Applications

The Temet ES-600 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-600 NBC-filter is Temet, Helsinki Finland.

The ES-600 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 gastight container made of steel plate with minimum thickness of 2.5 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-600 NBC-filter is made in accordance with the requirements of specific provisions issued by the Finnish Ministry of Interior. The ES-600 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 are available upon request.

Test and performance data

The filter is designed and tested against reflected blast pressure of 2 bar and reflected total impulse of 15 bar ms measured at the intake air duct in front of the filter.

Efficiency of the absolute filter (HEPA) of ES-600 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 20 g and a rapid change in velocity of 1.5 m/s.

Type test report

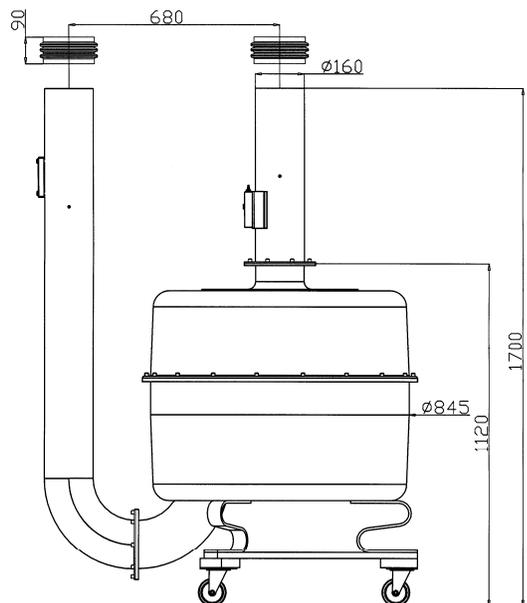
VTT type test report available upon request

Other documents related to ES-600 NBC-filter:

- Installation Instructions
- Operation Principle & Maintenance Instructions
- ESL NBC-filtrations systems



ES-600 NBC-filter

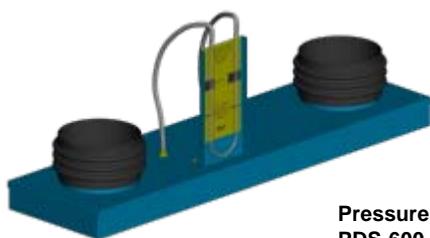


ES-600 NBC-filter dimensions

Typical installations



ES-600 NBC-filter c/w inlet and outlet ducts with airflow and pressure difference gauges.

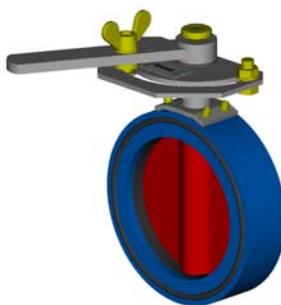


Pressure Drop Simulator PDS-600 is used for simulation of ventilation system filtration mode.

Technical Data:

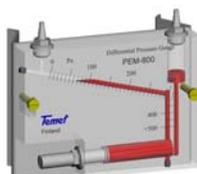
Nominal airflow	600 m ³ /h
Nominal Pressure Drop	800 Pa
Weight of Activated Carbon	60 kg
Total Carbon Volume	120 l
Specific Carbon Volume	0.20 l / m ³ /h
Weight of the Filter	160 kg
Height of the filter	1110 mm
Width of the filter	900 mm
Connection height of the inlet duct	1720 mm
Connection height of the outlet duct	1720 mm
Inlet and Outlet duct diameter	159 mm
Connection width	680 mm

Accessories for ES-600 NBC-filter



Gastight Shut Off Valve KS-150:

can be used in ES-series filters for control of the airflow. The valves can be connected directly to the filter inlet or outlet or as part of duct system.



Pressure Difference Meter PEM-800 kit:

by installing PEM-800 pressure difference meter to ES-series filters the condition of the aerosol filter can be easily monitored during the filtration mode. PEM-800 is a pressure difference meter designed specially for Temet NBC-filters.



Airflow meter ROT-6:

rotameter type airflow measuring device can be connected to the outlet air duct of the ES-600 NBC-filter

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

Design - Production – Installation – Maintenance - Consultation