Protective solutions

Applications

Temet CV-90 NBC -Filters are designed for protection of ventilation systems against CBRN -agents and other toxic compounds in vehicles, ships and various collective protection shelters. The filters are made of anti-magnetic materials.

Specification

The CV-90 NBC-filter comprises a high efficiency particulate aerosol (HEPA) filter and activated charcoal filter enclosed in a steel container. This construction provides two stage filtration of the intake air, aerosol and particle filtration, followed by gas filtration.

CV-90 Filters are available for nominal airflows of 50, 150, 170 m^3/h

Performance data

The Temet CV-90 filters are provided with activated carbon with proven capacity against Chemical Warfare Agents and Toxic Industrial Compounds.

Aerosol penetration measured using monodisperse DOP -aerosol does not exceed 0.005 % respective to nominal air flow rate.

Tightness

The Temet CV-90 -series filters do not leak under normal operating conditions. Tightness of each filter is tested at the end of the manufacturing process by applying a 1000 Pa internal overpressure inside the filter canister and observing the capability of the filter to sustain the overpressure.

CV-90/50 and 170 NBC-filters

CV-90 NBC-filters					
Filter type	**Height**	**Diameter**	**Nominal airflow**	**Nominal pressure drop**	**Weight**
CV-90/50	125 mm	300 mm	50 m^3/h	1400 Pa	8 kg
CV-90/150	350 mm	300 mm	150 m^3/h	900 Pa	17 kg
CV-90/170	369 mm	325 mm	170 m^3/h	1100 Pa	20 kg

Mechanical performance

Shock Resistance

The Temet CV-90 -series filters are designed to withstand a shock load with acceleration of 3.0 g. The shock resistance of the filters is tested using vibration test in accordance with MIL-STD 810 C, test 514.2 - W111, curve M. Additionally, the filters are designed to withstand stresses caused by a dropping test in which the filter is dropped at inclined angle on a hard surface from height of 0.75m. The allowable increase is flow resistance and decrease in filtration capacity after the dropping test is 10%.

Blast Resistance

The Temet CV-90 -series filters are designed to withstand a short duration blast impulse of 250 Pas entering from the intake air opening of the filter. The peak reflected pressure and duration of the test blast pressure is 200 kPa respectively 4 ± 0.5 ms

The upstream side of the aerosol filter is mechanically protected against the effects of blast impulse and possible entry of foreign objects along with the air stream.

Resistance Against Environmental Conditions

The Temet CV-90 -series filters are designed for 20 years shelf life.

The CV-90 filters have particular resistance against air humidity, making its continuous online use possible.

Additionally, the filters are designed to resist the following environmental test conditions:

cold temperature resistance: the filter is exposed to temperature of -45 °C for 24 hours

heat resistance: the filter is operated at nominal air flow rate at temperature of +80 °C for 24 hours

heat resistance: the filter is operated at nominal air flow rate at temperature of +150 °C for 1 minute

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