



VF NUCLEAR



NUCLEAR
POWER PLANTS



WASTE
MANAGEMENT



RESEARCH
CENTRES



INDUSTRY
& MANUFACTURING

VOPV-12

AEROSOLS AND IODINE SAMPLER



MAIN ADVANTAGES

- High-volume air sampling in a very short time
- Long lifetime
- High reliability
- Low operating costs
- Continuous operations
- Programmable sampling intervals
- Constant airflow through the filter
- Pump power regulation, depending on filter clogging
- Ease of use
- Optional control from the host system

PURPOSE

The VOPV-12 is intended for air sampling on filter media with adjustable flow rate. It is used for the sampling of radioactive aerosols and/or iodine in air. The filter can be subsequently analysed in a laboratory and the nuclide specific volume activities can be calculated.

Due to high performance, low maintenance and easy handling, it can be used in particular as:

- suction unit in air sampling systems,
- sampling unit for grab sampling of aerosols and iodine in the air,
- sampling unit in environmental monitoring stations,
- sampling unit for the regulatory measurement of aerosols and iodine activity in the ventilation stacks of nuclear facilities.

The sampler includes an input interface for the flow control according to the flow values in the stack, to be able to use the device for regulatory reporting of released activities.

The sampler can run in different modes: constant flow until filter clogging, sampling the specified air volume, sampling for the specified time at the specified flow rate, etc.

The standard components of VOPV-12 are:

- one aerosols (particulates) filter holder or one iodine cartridge holder (others can be ordered as an option),
- a flow meter with ΔP measurement,
- a powerful pump with a high-speed asynchronous motor,
- a control unit,
- a membrane keyboard and backlit alphanumerical display.

The flow meter ΔP (i.e. without rotating parts), with temperature and pressure compensation, measures the amount of sampled air. The sampler keeps the set flow rate thanks to an automatic suction power control that compensates for the clogging of the filter.

The display shows the actual flow rate, the total sampled volume since the start of sampling, the total number of operating hours from startup, the temperature and pressure of the sample, status and error messages, real time and other information.

Two basic models of samplers are available: VOPV-12 I and VOPV-12 AE. The difference is the settable flow rate. VOPV-12 I is primarily used to sample iodine. VOPV-12 AE is primarily used to sample aerosols (particulates).

Aerosols samplers use cloth filters with active filter area of 254 x 202 mm.

Iodine samplers use iodine cartridges with activated carbon with a diameter of 57 mm and a thickness of 25.4 mm.

Easy replacement of filters ensure filters holders.

TYPES OF SAMPLERS

Name	Sampler	Airflow [m ³ /h]	Max. negative pressure
VOPV-12 I	iodine	1,25 – 5,0 2,25 – 9,00	9 kPa
VOPV-12 AE	aerosols	2,25 – 9,00 17 - 68 20 – 90 40 – 150	2 kPa < 100 m ³ /h

Note: standard iodine cartridges can be used at a maximum flow rate of approximately 5 m³/h.

SPECIFICATION

Accuracy	± 5 %
Dimensions (W × H × D) without the filter holder	440 × 300 × 200 mm
Weight without the filter holder	16,5 kg
Interface	RS-485
Power supply	230 V AC
Sample temperature range	from 5 to 50 °C
Operating temperature range	from 5 to 40 °C

OPTIONAL ACCESSORIES

50-A-0015047	Aerosol filter holder 270 × 220 mm
50-P-0014100	Aerosol filter 270 × 220 mm, surface density of fibrous layer 30 - 40 g/m ²
50-P-0014101	Aerosol filter 270 × 220 mm, surface density of fibrous layer 40 - 60 g/m ²
50-A-0011804	Iodine cartridge holder
1-7004-00003	Iodine cartridge with activated carbon impregnated with 5% TEDA
50-P-0014105	Aerosols (particulates) filter protecting the iodine cartridge
50-A-0015027	Transport case
50-A-0012755	Tripod
53-A-0000395	Software for remote control



Transport case



VOPV-12 with iodine cartridge holder