

# BOA-80 Aerosol Sampler



The BOA-80 sampler is intended for aerosol sampling from the air for pollution measurements, typically radioactive contamination. The flow rate of the air being sampled can be constant or proportional to the flow rate in the ventilation line.

## Purpose

The BOA-80 sampler is intended for aerosol sampling on filter media with adjustable flow rate. The flow rate of sampled air can be set to be constant, or it can be proportional to the value of control unit input, typically the measured flow rate in the ventilation line, e.g. in ventilation stack or duct. The primary components – suction units – are doubled (in basic model K0025) with the reserve sampling circuit automatic switch. Hence the BOA-80 device is suitable for applications in conditions that require high sampling reliability, the discharge monitoring in nuclear power plants ventilation stacks, for example. The device is provided with comprehensive auto-diagnostics.

The radioactive pollutants retained on the filter can be subsequently analysed in a laboratory and the nuclide specific volume activities can be calculated.

## Description

The BOA-80 is supplied in several configurations. The basic model (K0025) contains one filter and two suction units. The simplified model (K0025-01) contains one filter and only one suction unit. The suction units are identical.

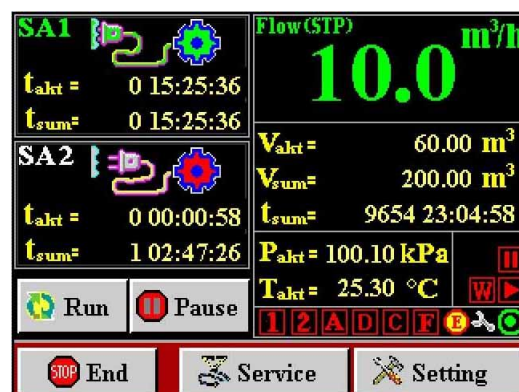
The suctioned air mass arrives from the input pipeline into the filter unit, flows via one or other suction unit, and then the air is returned through the air volume meter to the sampling line.

The filter unit contains a filter holder. The standard filter active area is 220 x 170 mm (8 5/8 x 6 3/4 in); the filter size is 240 x 220 mm (9 1/2 x 8 5/8 in).

The control unit manages the current air mass flow rate through a filter and negative pressure behind the filter; it measures the total filtered air mass volume, and switches over the single suction units. By means of motor speed regulation, the airflow control system provides a sustained pre-set air flow, regardless of filter fouling.

## Main Advantages

- High reliability
- Comprehensive auto-diagnostics
- Automatic standby by redundant system
- Easy control
- Optional display of data and control of the unit remotely from a host system



Operator's screen, BOA-80 controlled by host PC

## Description

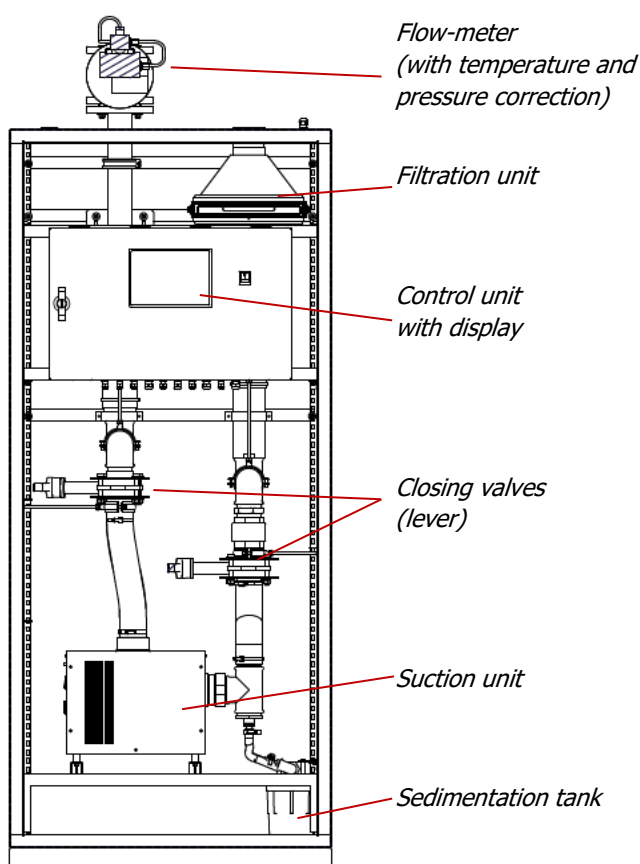
The BOA-80 basic model (K0025), besides manual control, can work in one of two modes:

- standard mode – the chosen suction unit is working and other is on standby (begins working in the case of the suction unit failure)
- cyclic mode – both suction units operate and pull in air alternatively, in pre-set period

In case of suction unit failure or demanded flow rate is not achieved, the other suction unit will begin to pull in air.

Parameters setting and data display is provided by a local touch LCD display, or optionally, can be connected to a host system whose operation is controlled by an external PC via RS-485 or Ethernet interface.

On the graphic display, there can be seen the current flow rate (recalculated into standard flow rate, i.e. corrected by temperature and pressure), total sampled volume in selectable time interval, and total sampled volume from the last filter change.



## Specification

Adjustable flow rate	8 ~ 80 m <sup>3</sup> /h (±2 %) 4.7 ~ 47 cfm
Available negative pressure	10 kPa (75 mmHg)
Medium temperature	-5 ~ +45 °C (+23 ~ 113 °F)
Medium humidity	max. 80%, non cond.
Filter active area according to DIN 24184	220 x 170 mm (8 <sup>5</sup> / <sub>8</sub> x 6 <sup>3</sup> / <sub>4</sub> in)
Standard medium junction – Ø flange	input DN 80 mm output DN 50 mm
Control	LCD touch screen 5.7"
Dimensions (L x W x H)	800 x 550 x 1860 mm (13 <sup>1</sup> / <sub>2</sub> x 21 <sup>5</sup> / <sub>8</sub> x 73 <sup>1</sup> / <sub>4</sub> in)
Weight	app. 200 kg (440 lb)
Connectivity to host system	RS-485 or Ethernet
Power input	230 VAC, max. 10 A
Electric protection	IP 30
Ambient temperature	+15 ~ 30 °C (59 ~ 86 °F)

## Models and Accessories

Type	Description
K0025	BOA-80, Aerosol Sampler
K0025-01	BOA-80, Aerosol Sampler (model with one suction unit)
<b>Optional Accessories</b>	
<ul style="list-style-type: none"> <li>▪ Customized filter holders</li> <li>▪ Eye bolts (for crane manipulation)</li> <li>▪ Transport wheels</li> <li>▪ Software for remote display and control</li> </ul>	
<b>Consumable Spare Parts</b>	
K0022-05 K0022-06	FPM Cloth Filter FPM 1515, FPM 1530 types, 240 x 220 mm (9 <sup>1</sup> / <sub>2</sub> x 8 <sup>5</sup> / <sub>8</sub> in) (52 pcs/year, at weeklong cycle)



[www.vf.eu](http://www.vf.eu)

### Contact Address

#### Czech Republic

VF, a.s., nám. Míru 50  
CZ 679 21 Černá Hora  
tel. +420 516 428 611  
fax +420 516 428 610  
info@vf.eu

#### Slovak Republic

VF, s.r.o., M. R. Štefánika 9  
SK 010 02 Žilina  
tel. +421 415 072 411  
fax +421 415 072 410  
info@vf.eu

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