



## Highlights

- Up to 16 filter, 47 mm
- Microcomputer calculates the physically correct flows
- Time or volume controlled sampling
- Internal memory
- Easy calibration of all temperature and pressure sensors
- Leak test function
- Sheath air for sampling line
- Insulated aluminum outdoor housing

## Description

The microcomputer controlled air sampler, MicroPNS Type LVS16, is a system for the automatic collection of particles on filters.

The modular system is furnished with an internal pump for volume flow rates of up to 2,3m<sup>3</sup>/h and sequentially collection up to 16 membranes with diameter 47 mm without surveillance.

Gas flow is regulated via flow controller, which is controlled by the built-in microcomputer and electronic of MicroPNS. The system has an orifice plate and differential pressure measurement with temperature and pressure compensation.

Different sampling heads for PM<sub>10</sub>, PM<sub>2,5</sub> or TSP are offered as an accessory.

Different temperature and pressure sensors integrated. Sheath air for sampling line avoid condensation. All sampler specifications are in accordance with EN 12341:2014.

With the MicroPNS LVS16 you can preset a sampling for a variable volume during an unrestricted period of time or a sampling over a preset period with a constant gas flow.

Depending on the setup of the unit, up to 16 membranes can be collected.

The collection is performed sequentially and starts in each case on a preset date and time. The internal microcomputer computes the physically correct volume and shows different status messages and the actual volume on a display. All parameters and all data are stored and can be output to the display, RS 232 or USB stick. Optional an alarmmodul for messaging via SMS is available.

Optionally a Peltier cooler or AC is available for cooling the sampled filters < 23°C. Sheath air for conditioning of the sample line. Temperature sensor for active filter. The system is available in an outdoor cabinet or as 19" version for mounting in a measuring station.

The MicroPNS particulate sampler guarantees an exact sampling in accordance with VDI and EN standards (Association of German Engineers) and can be employed in the area of emissions, immissions, testing for waste disposal sites, MAK value monitoring (maximum admissible concentration), as well as being applicable to many other industries and fields.

The mechanical execution depends on the application. A variety of different sampling heads, in accordance to EN 12341: 2014 and others are available.

Via RS 232 or USB the stored data can be read out. A PC software for data transfer from MicroPNS to PC comes with the sampler. Also the complete remote control via internet is possible. Additional options are a second RS 232 which can be used in combination with a radio modem as alarm module, or as direct connection to a data acquisition software to collect online data of actual flow, temperatures, status signals or alarm messages. The protocol type is the Bavarian /Hessen Protocol. Other protocols on request.

If the modem is installed the sampler can also be started or stopped by remote control by sending an SMS to the sampler. waste disposal sites,

## Technical data

Sampling	independent, microcomputer controlled sequential sampling on particulate filters,
Number of filters	up to 16 sampling filters (sequentially)
Sampling control	time or volume controlled sampling
Flow control	mass or volume flow controlled, flow meter with high accuracy 1%FS Measuring principle: orifice with differential pressure method sensors for ambient temperature and pressure
Sample Pump	rotary carbon vane pump 4m <sup>3</sup> /h, controlled by frequency converter
Flow range	variable from 1m <sup>3</sup> /h up to 2,3m <sup>3</sup> /h
Power supply	230V/50Hz
Consumption	approx. 250VA
Automatic Sequencer	unattended automatic operation; user enters time and date for beginning and stop, volume, and flow rate for each sampling event; If flow rate falls outside these limits, the sampling will stop and indicate that these sampling was not valid, filter status control
Flow Limits	The user can set flow limits as a range of percent difference from the expected value
Data storage	internal storage of all necessary parameters, output via RS232 or USB option
Mechanical	19" rack mounted or outdoor housing with thermal insulation and painted aluminum housing
Temperature control	Thermostat controlled heater and fan, optional peltier cooler for sampled filter storage
Noise	< 35dBA according to DIN 2058 in a distance of 8m
Outputs	RS 232, USB, optional alarm module for sending SMS in case of failure or remote start, as well as remote control via internet if available
Weight:	approx. 60kg, without options
Dimensions	50cm x 40cm x 160cm ( l x w x h outdoor housing)