High Volume Sampler 1PMxHV

dado lab

High Volume Sampler 1PMxHV

Description

The **1PMxHV** high volume sampler is the instrument dedicated to the determination of particulate matter and IPA, PCDD / PCDF or heavy metals in accordance to both ISO 16362, on the single particulate phase, and ISO 12884 and US EPA TO9 / TO13 standards, on particulate and gas phase.

Main Characteristics

1PMxHV is realized in an anti-corrosion steel outdoor cabinet with nternal aluminum parts to reduce the overall weight. The **1PMxHV** is characterized by an extremely reduced weight and dimensions, 47x32x32 cm and 16 kg, including the sampling module and installation support

Equipped with a 3-stage brushless blower, granting a flow range between 100 and 600 l / min, the 1PMx has a built-in digital flow management system through a Venturi tube, compliant with ISO 5167.

This solution delivers very accurate flowrate measures, better than 1%, fast flow compensation and, because there are no moving parts inside, a low maintenance requirement.

To operate in cold climates, down to -20°C, the blower is equipped with a thermoresistor.

The electronics of the **1PMxHV** derives directly from the one developed appositely for our sequential samplers Dado lab mod. Giano and Gemini and offers an advanced graphical interface on a color LCD display on which all the information related to programming and sampling is available.

In case of power failure during the operation, the built-in backup battery will ensure the saving of the set program and of the acquired data.

When the power returns, the operations will resume automatically according to the scheduled program

The instrument is equipped with sensors for measuring the ambient temperature and pressure, required to evaluate and mantain the sampling flowrate at actual conditions.

All sampling data relating to volumes, temperatures and pressures will be included in the report automatically generated aby the instrument generates and stores at the end of each operation. The reports will be stored in the internal memory and will be available for direct download through a USB key and viewable through browser or spreadsheet software.

Furthermore is also possible to connect wind speed/direction sensors in order to conditionate the sampling in relation to those parameters. Data generated by the weather sensors will also be logged in the report.

Thanks to a simple and intuitive interface, **1PMxHV** can be quickly programmed with date and time of start of sampling, duration and cycle of the sample and number of cycles.

Sampling Module

For the determination of PAH or PCB-a-like, the **1PMxHV** sampler can be equipped with a module designed in accordance to ISO 12884 and US EPA TO9 / TO13 standards for the collection on 102 mm diameter particulate phase filter and adsorption on PUF cartridge with 60mm diameter for the gas phase.

The working flowrate specified for sampling module is between 180 and 220 l / min.

The module housing is realized of anodized aluminum and incorporates the support for the filter.
The glass cartridge for the PUF is placed below the filter.
The module is placed directly on the sampling tube on the top of the sampler.

To the transport of the sample in the laboratory, caps are available to seal the cartridge and a protective container.

PMx Sampling heads

In case it is necessary to determine the PM10 or PM2.5 fractions of the particulate matter, the dedicated sampling heads for PM10 or PM2.5 are available, dimensioned to operate at 200 lt/min.

Technical Characteristics

General

Operation conditions	-20 ÷ 45°C
Stock conditions	-10 ÷ 50°C 95% UR
Display	3.5" Graphic LCD (QVGA)
Data port	USB 2.0
Internal memory	16GB
Power supply	230 Vac ±10% 50/60Hz
Materials	Steel/Aluminum combined structure
Keyboard	Polycarbonate, tactile effect keys
Dimensioni (AxLxP)	47x32x32 cm
Weight	1PMxHV: 12 kg Support stand: 5 kg
Power consumption	4.0A circa 0.880 kW

Integrated measuring sensors

Flowrate

Type	orifice meter
Range	100 ÷ 600 l/min
Resolution	0.1 l/min
Accuracy	± 1%

Ambient Pressure & Pressure Drop

Range	10 ÷ 105 kPa (1050 mBar)
Hysteresis and Linearity	0.25 % F.S
Resolution	0.01 kPa (0.1 mBar)
Accuracy	Better than 1% (± 0.25kPa)

Temperature

Ambient	PT100
Range	-20 ÷ 100°C
Resolution	0.01°C
Uncertainty	≤ 1°C

Weather sensors

Relative Humidity %

Range	0 ÷ 100 %
Accuracy	± 5 % (range 0% to 60% RH)

Wind Speed

Range	0.5 ÷ 80 m/s
Resolution	0.1 m/s
Accuracy	± 1 m/s

Wind Direction

Resolution	8 sectors on compass rose
Accuracy	± 4°

Models, accessories and spare parts

102 105 1001 **1PMxHV - High Volume Sampler**
Standard supply includes:
- Test and calibration report
- Administrator USB key
- Power cable
- User manual

102 105 2031 **Sampling module for 102mm filter and PUF cartrdrige**

102 103 2001 **1PMx support stand**

PMx Sampling heads

102 105 2001 **PM10 head for 1PMx HV**
102 105 2011 **PM2.5 head for 1PMx HV**

Accessories:

102 101 2100 **Speed/Direction sensors interface**
102 101 2101 **Speed/Direction sensors**