

PS 02 / 03

particulate sampler



The activity concentration of dust and particulates suspended in the air at worksites may be monitored when required. These monitoring operations do not require the permanent installation of an entire measurement channel. They can be effectively performed by taking a sample on the spot, and having this sample analysed in a laboratory at a later date.

Particulate Samplers PS 02 and PS 03 provide the ideal solution for this type of activity by trapping dust and particulates on fixed filter paper. The PS 02 version can also be used to trap iodine by means of an adsorbent cartridge.

Filtering is carried out in a sampling head, upstream from an internal pump. The sampling head makes it possible to replace filter components rapidly and easily. The PS 02 version is equipped with a positive displacement pump with a high flow rate. The PS 03 version is equipped with an extremely quiet centrifugal pump. The amount of air filtered is indicated by a volumetric counter.

The PS 02 version also includes an hour counter which is slaved to the pump, and a programmer which is used to preset pump start-up and the duration of deferred sampling operations in 30-hour periods.

Thanks to their small size and compact, ergonomic design, Particulate Samplers PS 02 and PS 03 are extremely easy to install and use.

physical characteristics

Equipment :

	PS 02	PS 03
pump	positive displacement	centrifugal
140/110 filter	optional	standard
75/65 filter	optional	no
57/47 filter	optional	no
adsorbent cartridge	with 57/47 filter	no
hour counter	yes	no
volumetric counter	yes	yes
programmer	yes	yes

Noise generated by the pump :

Positive displacement pump : ≤ 60 dBA at 1 m

Centrifugal pump : ≤ 55 dBA at 1 m

Pneumatic characteristics :

PS 02 nominal flow rate : $4.2 \times 10^{-4} \pm 8.33 \times 10^{-5} \text{ m}^3/\text{s}$ (25 ± 5 l/min)

PS 02 with adsorbent cartridge : $4.2 \times 10^{-4} \pm 8.33 \times 10^{-5} \text{ m}^3/\text{s}$ (25 ± 5 l/min)

PS 03 nominal flow rate : $3.3 \times 10^{-4} \pm 8.33 \times 10^{-5} \text{ m}^3/\text{s}$ (20 ± 5 l/min)

Filter characteristics :

Yellow paper filter (DOP) efficiency : 95%

Pink paper filter (DOP) efficiency : 99% (DOP: monodispersed dioctyl phthalate particulates with a $0.3 \mu\text{m}$ diameter)

Adsorbent cartridge : collection efficiency given for two relative humidities

	methyl iodide	molecular iodine
relative humidity 40%	99.99%	99.98%
relative humidity 75%	98%	-----

Operating conditions :

Operating temperature :

10 to 45°C for PS 03

10 to 35°C for PS 02

Maximum non-destructive operating temperature : 65°C

Maximum humidity : 90%

Pressure : 860-1060 hPa

Immunity to industrial interference : According to CEA recommendation MCH/MEN 7

electrical characteristics

The equipment is powered from the mains.

Power supply : Single-phase 220 V with ground, 50 Hz (110 V-60 Hz option)

Absorbed intensity : 1 A

2 fuse protection : 1 A time delayed

Note : The equipment is connected to the mains via an EEC-type connector and a cable delivered with the sampler.

mechanical characteristics

The body of the Particulate Sampler PS 02/ PS 03 is made of stiff, moulded thermoplastic.

height	325 mm
width	410 mm
depth	185 mm
weight	11 kg



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