

DIGITEL PM2.5 pre-separator for 30 m³/h according to EN 14907

Determination of the PM2.5 fraction of suspended particulate matter by means of the DIGITEL DPM2.5/30/00 according to the guideline EN14907.

In order to keep the weight low, all parts are made of aluminium or stainless steel. The long lasting proven and tested 'Ematal' procedure provides a highly corrosion-resistant and an extremely smooth coating (f.e. application close to the sea). The Ematal-surfaces haven't shown any effects so far on the particle substances of contents to be analysed.



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General

In order to standardise the evaluation of the air quality within the EU the standard measuring techniques and measuring, resp. sampling procedures have been determined. Basically for the evaluation and control of the air quality is the EU guideline 96/62/EC as well as the EU guideline 1999/30/EC [1] which determine the specified requirements for the evaluation of the suspended matters in the environment (inhalable, thoracic and alveolic fraction). According to this, the sampler with PM2.5 pre-separators agree with the CEN/ISO convention about thoracic suspended matters. Apart from above, selective sampling of different suspended matters in various other applications is mandatory to be able to attribute the measurement results to certain sources as for example physical and chemical processes.

- Traffic related measurements. Soot particles of elementary carbon have aerodynamic diameters well in the fine dust region. Their analysis requests to keep off coarse sized particles from the sampled material e.g. particles of biogenic origin.
- Investigations of the anthropogenic impact onto the aerosols found in the atmosphere are backed by size selective sampling
- Long range transport studies, fine dust particles (besides favorably shaped coarse particles) primarily are involved in these phenomena
- Separation of undesired coarse salt particles out of the sample flow when sampling in maritime

environment

Design

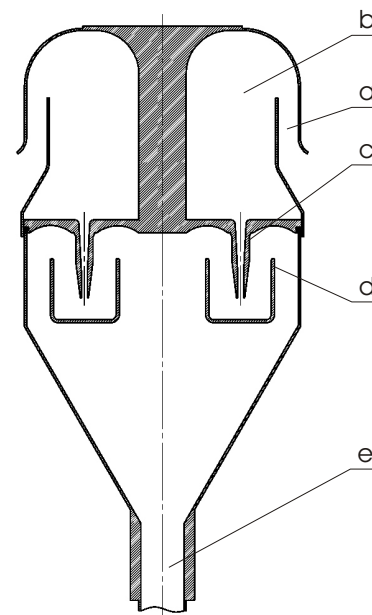
The DIGITEL PM2.5 Inlet is a single stage impactor designed to achieve its cut-off for 2.5 µm at a flow rate of 30 m³/h. This flow has been selected because of the fact that many monitoring networks are sampling TSP with DIGITEL High Volume Samplers at this flow value since many years. The toroidal shaped impactor plate (baffle pot) can be removed for cleaning and greasing. In order to avoid icing of the impactor surface during winter time heating is provided. (Requests option heating supply for DIGITEL DHA-80 samplers). Using a short piece of the standard DIGITEL suction tube the PM2.5 can immediately be mounted onto the entrance sleeve of the DIGITEL High Volume Sampler.

Remark

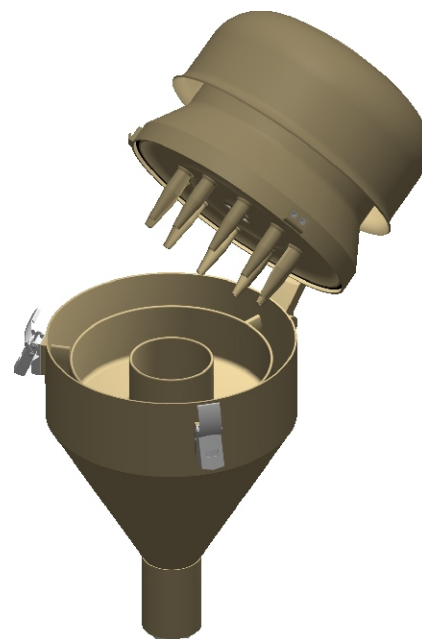
DIGITEL DPM 2.5/30/00 pre-separators as well as DIGITEL PM2.5 systems have proved in the equivalence process that they are up to the data-quality objectives according to the guideline EN14907.

Options

- Pre-separator heating
- Spare baffle pot for cleaning in lab
- nozzle plate to convert PM2.5 inlet into PM10 inlet



- a air inlet
- b air calm chamber 6750 cm³
- c 10 nozzles
- d baffle pot
- e air outlet



DIGITEL PM2.5 inlet opened for maintenance

Technical Data

Specifications	DIGITEL DPM2.5/30/00
sampling flow rate:	30 m ³ /h (500 l/min)
cut point	PM2.5
dimensions:	d = 270 mm; h = 538 mm
weight:	approx. 4.5 kg
material:	aluminium, "Ematal"-coated
operating concept:	single-stage impactor
connection	tube d = 44 mm

More information about our latest products is available under *NEWS* on our website: www.digitel-ag.com