Aerosol sensor welas® 2100 P

Aerosol sensor pressure-resistant up to 10 bar overpressure

Description

Depending on the composition of the aerosol to be measured, i.e. the carrier gas component and the particle material, pressure changes in the carrier gas can significantly influence the particle size distribution and the particle concentration, e.g. due to condensation or evaporation. For this reason, the aerosol sensors welas® 2070 P through to welas® 2500 P are equipped with a pressure-resistant cuvette to ensure isobaric sampling down to the sensor's measurement volume.

Figure 1: Pressure-resistant welas® cuvette The cuvettes are made of eloxed aluminium (black) by default. If the sensor is used in aggressive and corrosive aerosols, the cuvette can be made of stainless steel or other special materials, such as Hastelloy. Sealed additional disks prevent aerosol from the cuvette from escaping into the surroundings. This even offers an advantage to the measuring of toxic substances under ambient pressure. The additional disks are easy to clean and replace by the operator.

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Benefits

- The sensors are easy to replace
- The world’s smallest and most robust sensors in the 2000 series
- Very good agreement of all sensors in terms of particle size and concentration (see Graph 1)
- Minimization of particle losses in long sampling lines by simply installing the sensor directly at the sampling location
- Sensors for in-situ measurements
- Measurement in potentially explosive environments with the 2000 series (without heating)
- Easy to clean
- Simple operation
- Reliable function
- Low maintenance
- Reduces your operating expenses

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Datasheet

Parameter	*Description*
Measurement range (size)	0.2 – 40 µm (3 measurement ranges)
Measurement range (number C_N)	0 – 5 • 10^5 particles/cm^3
Thermodynamic conditions	+10 – +40°C, 10 bar
Volume flow	5 l/min (others on demand)
Light source	Xenon arc lamp 35 W
Dimensions	50 • 250 • 100 mm (H • W • D)
Weight	approx. 2.8 kg
Cuvette	Pressure-resistant

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Applications

- Determination of the separation efficiency of car interior filters, engine air filters, room air filters, compressed air filters, vacuum cleaner filters, cleanable filters, electrostatic precipitators, oil separators, cooling lubricant separators, wet scrubbers, cyclones and other separators
- Isothermal and isobaric particle size and quantitative determination, for instance in the automobile, chemical, pharmaceutical and food industries
- Analysis of fast, transient processes
- Inspection of smoke detectors
- Particle formation for cloud formation
- Emission measurements
- Immission measurements

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