



With heating regulation up to 120 °C for welas[®] aerosol sensors

Description

Depending on the composition of the aerosol to be measured, i.e. the carrier gas component and the particle material, pressure and temperature changes in the carrier gas can significantly influence the particle size distribution, e.g. due to condensation or evaporation.

this reason, the welas[®] aerosol sensors welas[®] 1100 HP and welas[®] 1200 HP are equipped with a heatable and, as required, pressure-tight cuvette to ensure isobaric and isothermal sampling into the sensor's measurement volume.

welas[®] digital 1000 H model variant also offers heating regulation for temperatures up to 120 °C for the aerosol sensors with heatable cuvette welas[®] 1100 HP and welas[®] 1200 HP. The welas[®] digital is usually calibrated for the operating volume flow. In the welas[®] digital 1000 H version, regulation of the sampling volume flow is performed independently by the customer taking the temperature and pressure into consideration.

Benefits

- Three measuring ranges in only one device:
 - 0.2 μm – 10 μm
 - 0.3 μm – 17 μm
 - 0.6 μm – 40 μm
- Up to 128 size channels per measuring range
- Concentration range from $< 1 \text{ particle/cm}^3$ to $5 \bullet 10^5 \text{ particles/cm}^3$
- Calibration curves for different refractive indices
- Very high and reproducible counting efficiency rate starting at 0.2 μm
- High temporal resolution down to 10 ms
- Extensive PDControl and FTControl software
- Strong, powerful external suction pump ASP 1000
- Calibration, cleaning and lamp replacement can all be performed independently by the customer
- Simple operation
- Low maintenance
- Reliable function
- Reduces your operating expenses

Datasheet

Parameter	Description
Interfaces	USB
Measurement range (size)	0.2 - 10 µm, 0.3 - 17 µm, 0.6 - 40 µm
Size channels	up to 64/decade
Measuring principle	Optical light-scattering
Measurement range (number C_N)	< 5 • 10 ⁵ particles/cm ³
Time resolution	≥ 10 ms
Thermodynamic conditions	10 - 40 °C, -100 - 50 mbar
Volume flow	5 l/min, 1.6 l/min
Data acquisition	20 MHz processor, 256 raw data channels, digital
Light source	Xenon high pressure lamp 75 W
User interface	Laptop
Power supply	115 - 230 V, 50 - 60 Hz
Housing	Table housing, optionally with mounting brackets for rack-mounting
Dimensions	185 • 450 • 315 mm (H • W • D) (19")
Weight	approx. 8 kg (control unit), approx. 18 kg (sensor)
Software	PDControl, FTControl
Installation conditions	+5 - +40 °C (control unit)

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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