PROMO® 1000 P



The aerosol sensor welas® 1100 P and the aerosol sensor welas® 1200 P are are equipped with a pressure-tight cuvette to ensure isobaric and isothermal sampling into the sensor's measurement volume.The Promo®system is usually calibrated for the operating volume flow. As the operating volume flow changes with pressure, it is advantageous for the user if automatic volume flow regulation for the sampling volume flow is provided for in the device.

In the Promo® 1000 P, the pressure of the carrier gas is measured, and the required operating volume flow is automatically set to 5 l/min.

BENEFITS

- Very high size resolution
- Concentration range from < 1 particle/cm^3 to 5 • 10^5 particles/cm^3
- Calibration curves for different refractive indices
- Very high and reproducible counting efficiency even from 0.12 μm
- High temporal resolution of up to 10 ms
- Calibration, cleaning, and lamp replacement can be performed independently by the customer
- External control via RS 232 or Ethernet
- Low maintenance, reduces operating costs

FEATURES

- Up to four measuring ranges can be selected in one device: 0.12 μm - 3.5 μm | 0.2 μm - 10 μm | 0.3 μm - 17 μm | 0.6 μm - 40 μm
- Up to 128 size channels per measuring range
- Clear calibration curve thanks to white light source with 90° stray light detection
- Patented T-aperture: No edge zone error
- Digital single signal processing: Coincidence detection and correction on the single signal
- Selectable sensors for optimized measurement with regard to concentration
- On-site calibration and adjustment (particle size and volume flow)

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

DATASHEET

Measuring principle	Optical light-scattering
Measurement range (number C_N)	$< 5 \cdot 10^5$ particles/cm^3
Measurement range (size)	0.2 – 10 μm, 0.3 – 17 μm, 0.6 – 40 μm
Volume flow	5 l/min, 1.6 l/min
Size channels	Max. 128 (64/decade)
Time resolution	1 s
Interfaces	USB, Ethernet (LAN), Wi-Fi, RS-232/485
User interface	Touchscreen, 800 • 480 pixel, 7″ (17.78 cm)
Data logger storage	4 GB Compact Flash
Software	PDControl, FTControl, PDAnalyze
Thermodynamic conditions	+10 – +40 °C, -100 – 50 mbar
Data acquisition	Digital, 20 MHz processor, 256 raw data channels
Light source	Xenon high pressure lamp 75 W
Housing	Table housing, optional: with mounting brackets for rack-mounting
Support options	Direct remote access, Palas webserver service
Operating system	Windows 10 IoT (LTSC)
Power supply	115 – 230 V, 50/60 Hz
Power consumption	100 W
Installation conditions	+5 – +40 °C (control unit)
Dimensions	185 • 450 • 315 mm (H • W • D) (19″)
Weight	Control unit: approx. 8 kg, sensor: approx. 18 kg