

PROMO[®] 1000 H



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

BENEFITS

- Very high size resolution
- Concentration range from $< 1 \text{ particle/cm}^3$ to $5 \cdot 10^5 \text{ particles/cm}^3$
- Calibration curves for different refractive indices
- Very high and reproducible counting efficiency even from $0.12 \mu\text{m}$
- 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

APPLICATIONS

- Separation efficiency determination of automotive cabin air filters, engine air filters, ambient air filters, compressed air filters, vacuum cleaner filters, cleanable filters, electrostatic precipitators, oil separators, cooling lubricant separators, wet separators, cyclones, and other separators
- Isothermal and isobaric particle size and quantity determination, e.g., in the automotive, chemical, pharmaceutical, and food industries
- Investigation of fast, transient processes
- Particle measurement for cloud formation
- Emission measurements

FEATURES

- Up to three measuring ranges in one device $0.2 \mu\text{m} - 10 \mu\text{m}$ | $0.3 \mu\text{m} - 17 \mu\text{m}$ | $0.6 \mu\text{m} - 40 \mu\text{m}$
- Up to 128 size channels per measuring range
- Unique calibration curve thanks to white light source with 90° scattered 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)

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 embedded
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