PROMO® 1000 HP

Depending on the aerosol composition 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. For this reason, the aerosol sensor welas ® 1100 HP[1] and the aerosol sensor welas ® 1200 HP[2] are equipped with a cuvette heatable up to 120 °C and pressure-tight up to 10 barg to ensure isobaric and isothermal sampling into the sensor's measurement volume.

The Promo® 1000 HP is usually calibrated for the operating volume flow. As the operating volume flow changes with pressure and temperature, 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 HP, the pressure and temperature of the carrier gas are measured, and the required ...

BENEFITS

Measuring range of 200 nm to 40 μm (3 measuring ranges selectable in one device)

Up to 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 particle/cm^3 to 5 • 10^5 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

PDAnalyze analysis software

Calibration, cleaning and lamp replacement can all be performed independently by the customer

External control by RS 232 or Ethernet

Optional: Software PDControl for operation as welas® digital available

Simple operation

Low maintenance

Reliable function

Reduces your operating expenses

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

[1] aerosol sensor welas® 1100 HP: http://www.palas.de//product/aerosolsensorwelas1100hp
[2] aerosol sensor welas® 1200 HP: http://www.palas.de//product/aerosolsensorwelas1200hp

DATASHEET

Measuring principle	Optical light-scattering	Measurement range (number C_N)	< 5 • 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 – +120 °C, 2 – 10 bar_g	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″)

additional parameter on our website …