# PROMO® 1000 P


Depending on the aerosol composition 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, e.g., due to condensation or evaporation.

For this reason, the aerosol sensor welas ® 1100 P[1] and the aerosol sensor welas ® 1200 P[2] 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.

Includes:

- Mass flow controller ...

[1] aerosol sensor welas® 1100 P: http://www.palas.de//product/aerosolsensorwelas1100P
[2] aerosol sensor welas® 1200 P: http://www.palas.de//product/aerosolsensorwelas1200p

## Benefits

Measuring range of 200 nm to 40 $\mu$m (3 measuring ranges selectable in one device)

Up to three measuring ranges in only one device:

- 0.2 $\mu$m – 10 $\mu$m
- 0.3 $\mu$m – 17 $\mu$m
- 0.6 $\mu$m – 40 $\mu$m

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 $\mu$m

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

- 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 • $10^5$ particles/$cm^3$ |
| Measurement range (size) | 0.2 – 10 $\mu$m, 0.3 – 17 $\mu$m, 0.6 – 40 $\mu$m | 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″) |

additional parameter on our website …