



The aerosol sensor welas<sup>®</sup> 1100 P and the aerosol sensor welas<sup>®</sup> 1200 P are equipped with a pressure-tight cuvette to ensure isobaric and isothermal sampling into the sensor's measurement volume. The Promo<sup>®</sup> 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<sup>®</sup> 1000 P, the pressure of the carrier gas is measured, and the required operating volume flow is automatically set to 5 l/min.

## OPERATION PRINCIPLE

Includes:

- Mass flow controller for volume flow regulation
- Absolute pressure capsule
- Filter unit to protect the flow rate control

## 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

## DATASHEET

|                                   |  |
|-----------------------------------|--|
| Measuring principle               | Optical light-scattering   |
| Measurement range (number $C_N$ ) | $< 5 \cdot 10^5$ particles/cm <sup>3</sup>                               |
| Measurement range (size)          | 0.2 – 10 $\mu\text{m}$ , 0.3 – 17 $\mu\text{m}$ , 0.6 – 40 $\mu\text{m}$ |
| 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")                                     |
| Weight                            | Control unit: approx. 8 kg, sensor: approx. 18 kg                        |

## 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



Mehr Informationen:

<https://www.palas.de/en/product/promo1000p>