



Depending on the composition of the aerosol 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 **welas® aerosol sensors welas® 2070 HP, 2100 HP, 2200 HP, 2300 HP and welas® 2500 HP<sup>1</sup>** 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® system 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® 2000 HP the pressure and temperature of the carrier gas are measured ...

## BENEFITS

- Measuring range of 0.2 to 100  $\mu\text{m}$  (4 measuring ranges selectable in one device)
- Up to four measuring ranges in only 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  $\mu\text{m}$
  - 2  $\mu\text{m}$  – 100  $\mu\text{m}$  (additionally for sensors 2300 and 2500)
- Up to 128 size channels per measuring range
- Concentration range of 1 particle/cm<sup>3</sup> to 10<sup>6</sup> particles/cm<sup>3</sup>
- Calibration curves for different refractive indices
- Very high and reproducible counting efficiency rate starting at 0.2  $\mu\text{m}$
- Pressure-resistant up to 10 bar (optional)
- Heatable to 250 °C (optional)
- Optical fibre technology
- Simple operation with a large touch display
- Calibration, cleaning and lamp replacement can all be performed independently by the customer

## APPLICATIONS

- Emission monitoring of installations
- Control of grinding and classification processes
- Monitoring of production processes in the food, pharmaceuticals and chemicals industries
- Testing of complete filters, inertial and wet separators or electrostatic precipitators

<sup>1</sup> External control by RS-232 or Ethernet  
 welas® aerosol sensors welas® 2070 HP, 2100 HP, 2200 HP, 2300 HP and welas® 2500 HP:  
 With analysis software PDAnalyze  
<http://www.palas.de/Products/AerosolSensors/welas2000>

- Optional: Software PDControl for operation as welas® digital available

## DATASHEET

Measuring principle	Optical light-scattering	Measurement range (number $C_N$ )	$< 1 \cdot 10^6$ Partikel/cm <sup>3</sup>
Measurement range (size)	0.2 – 10 $\mu\text{m}$ , 0.3 – 17 $\mu\text{m}$ , 0.6 – 40 $\mu\text{m}$ , 2 – 100 $\mu\text{m}$	Volume flow	5 l/min
Size channels	Max. 128 (64/decade)	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	Data acquisition	Digital, 20 MHz processor, 256 raw data channels
Light source	Xenon arc lamp 35 W	Housing	Table housing, optional: with mounting brackets for rack-mounting
Support options	Direct remote access, Palas webserver service	Operating system	Windows embedded
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. 2.8 kg