



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 **welas[®] aerosol sensors welas[®] 2070 HP, 2100 HP, 2200 HP, 2300 HP, and welas[®] 2500 HP¹** 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[®] 3000 HP, the pressure and temperature of the carrier gas are measured, and the required operating volume flow is automatically set to 5 l/min.

Includes:

- Mass flow controller for volume flow regulation
- Heating regulator up to 120 °C
- Temperature sensor
- Absolute pressure capsule
- Filter unit to protect the flow rate control

OPERATION PRINCIPLE

¹welas[®] aerosol sensors welas[®] 2070 HP, 2100 HP, 2200 HP, 2300 HP and welas[®] 2500 HP:
<https://www.palasz.de/en//en/product/aerosolsensorswelas2000>

BENEFITS

- Measuring range of 0.2 to 100 μm (4 measuring ranges selectable in one device)
- Up to four measuring ranges in only one device:
 - 0,2 μm – 10 μm
 - 0,3 μm – 17 μm
 - 0,6 μm – 40 μm
 - 2 μm – 100 μm (additionally for sensors 2300 and 2500)
- Up to 128 size channels per measuring range
- Concentration range of 1 particle/ cm^3 to 10^6 particles/ cm^3
- Calibration curves for different refractive indices
- Very high and reproducible counting efficiency rate starting at 0.2 μm
- 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
- External control by RS 232 or Ethernet
- With analysis software PDAnalyze
- Optional: Software PDControl for operation as welas® digital available
- Low maintenance
- Reliable function
- Reduces your operating expenses

DATASHEET

| | |
|-----------------------------------|--|
| Measuring principle | Optical light-scattering |
| Measurement range (number C_N) | $< 1 \cdot 10^6$ Partikel/cm ³ |
| Measurement range (size) | 0.2 – 10 μm , 0.3 – 17 μm , 0.6 – 40 μm , 2 – 100 μm |
| Volume flow | 5 l/min regulated by mass flow |
| 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 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 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. 2.8 kg |

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



Mehr Informationen:
<https://www.palas.de/product/promo3000hp>