



With automatic regulation of sampling volume flow by the aerosol sensors *welas*® under overpressure up to 10 bar or in temperatures to 120 °C

Description

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 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.

Promo® 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.

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.

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

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/cm³ to 10⁶ particles/cm³
- 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

<i>Parameter</i>	<i>Description</i>
Interfaces	USB, Ethernet, RS232/485, Wi-Fi
Measurement range (size)	0.2 µm – 10 µm, 0.3 µm – 17 µm, 0.6 µm – 40 µm, 2 µm – 100 µm
Size channels	up to 128 (64/decade)
Measuring principle	Optical light-scattering
Measurement range (number C_N)	< 1 • 10 ⁶ particles/cm ³
Time resolution	up to 1 s
Thermodynamic conditions	10 – 120 °C, 2 – 10 bar _g
Volume flow	5 l/min regulated by mass flow
Data acquisition	20 MHz processor, 256 raw data channels, digital
Light source	Xenon arc lamp 35 W
Power consumption	100 W
User interface	Touch screen, 800 • 480 pixels, 7" (17.78 cm)
Power supply	115 – 230 V, 50 – 60 Hz
Housing	Table housing, optionally with mounting brackets for rack-mounting
Dimensions	185 • 450 • 315 mm (H • W • D) (19")
Support options	Direct remote access, Palas [®] webserver service
Weight	approx. 8 kg (control unit), approx. 2.8 kg (per sensor)
Operating system	Windows embedded
Data logger storage	4 GB Compact Flash
Software	PDControl, FTControl, PDAnalyze
Installation conditions	+5 – +40 °C (control unit)

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

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