PROMO® 2000 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 welas ® aerosol sensors welas ® 2070 P, 2100 P, 2200 P, 2300 P and welas ® 2500 P[1] 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® 2000 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] welas® aerosol sensors welas® 2070 P, 2100 P, 2200 P, 2300 P and welas® 2500 P: https://www.palas.de//product/aerosolsensorswelas2000

Benefits

- Measuring range of 0.2 to 100 µm (up to 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)

- 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

Features

- Up to four measuring ranges can be selected in one device: 0.2 µm – 10 µm | 0.3 µm – 17 µm | 0.6 µm – 40 µm | 2 µm – 100 µm

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

DATASHEET

Measuring principle	Optical light-scattering	Measurement range (number C_N)	$< 1 \cdot 10^6$ particles/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)	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