

# PROMO<sup>®</sup> 3000 HP



The welas<sup>®</sup> aerosol sensors welas<sup>®</sup> 2070 HP, 2100 HP, 2300 HP, and welas<sup>®</sup> 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.

The Promo<sup>®</sup> 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<sup>®</sup> 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.

## BENEFITS

- Very high size resolution
- Concentration range from < 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 starting at 0.2 μm
- Optical fiber technology
- Easy operation thanks to large touch display
- Calibration, cleaning, and lamp replacement can be performed independently by the customer
- External control via RS 232 or Ethernet
- Low maintenance

## 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

## FEATURES

- Up to four measuring ranges in one device: 0.2 μm – 10 μm | 0.3 μm – 17 μm | 0.6 μm – 40 μm | 2 μm – 100 μm
- Up to 128 size channels per measuring range
- Unique calibration curve thanks to white light source with 90° scattered light detection
- Patented T-aperture: No edge zone error, coincidence detection and correction on individual signals
- Selectable sensors for optimized measurement in terms of concentration
- On-site calibration and adjustment (particle size and volume flow)

## DATASHEET

Measuring principle	Optical light-scattering
Measurement range (number $C_N$ )	$< 1 \cdot 10^6$ particles/cm <sup>3</sup>
Measurement range (size)	0.2 – 10 $\mu\text{m}$ , 0.3 – 17 $\mu\text{m}$ , 0.6 – 40 $\mu\text{m}$ , 2 – 100 $\mu\text{m}$
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 <sub>g</sub>
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