

# 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.

## OPERATION PRINCIPLE

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

## BENEFITS

- Very high size resolution
- Concentration range from  $< 1$  particle/cm<sup>3</sup> to  $10^6$  particles/cm<sup>3</sup>
- Calibration curves for different refractive indices
- Very high and reproducible counting efficiency starting at  $0.2 \mu\text{m}$
- 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

## 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   |

## 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/en/product/promo3000hp>