

# PROMO<sup>®</sup> 3000



Das Promo<sup>®</sup> 3000 ist ein Streulichtaerosolspektrometer mit zwei Sensoren zur Partikelgrößenanalyse und Konzentrationsbestimmung. Es kann mit allen welas<sup>®</sup> Sensoren ausgerüstet werden kann. Am Promo<sup>®</sup> 3000 können die mit bei Bedarf unterschiedlich großen Messvolumina ausgestatteten welas<sup>®</sup> Sensoren über Lichtwellenleiter leicht angeschlossen und beliebig ausgetauscht werden. Diese Sensoren erlauben die sichere Messung im Konzentrationsbereich von  $<1$  Partikel/cm<sup>3</sup> bis  $10^6$  Partikel/cm<sup>3</sup> und sind sowohl zur Messung in Gasen als auch in Flüssigkeiten erhältlich.

Bis zu 128 Größenkanäle pro Messbereich und ein Konzentrationsbereich von  $< 1$  Partikel/cm<sup>3</sup> bis  $10^6$  Partikel/cm<sup>3</sup> zeichnen das Promo<sup>®</sup> 3000 aus.

## 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

## FEATURES

- Two sensors can be connected for raw and clean gas measurement
- Up to four measuring ranges:  $0.2 \mu\text{m} - 10 \mu\text{m}$  |  $0.3 \mu\text{m} - 17 \mu\text{m}$  |  $0.6 \mu\text{m} - 40 \mu\text{m}$  |  $2 \mu\text{m} - 100 \mu\text{m}$
- Up to 128 size channels per measuring range
- Clear calibration curve thanks to white light source with  $90^\circ$  scattered light detection
- Patented T-aperture: No edge zone error, coincidence detection and correction on the individual signal
- Selectable sensors for optimized measurement with regard to concentration
- On-site calibration and adjustment (particle size and

<https://www.palاس.de/en/product/promo3000>

## 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

## MODEL VARIATIONS



### Promo<sup>®</sup> 3000 H

With heating control up to  $250^\circ\text{C}$  for welas<sup>®</sup> aerosol sensors

<https://www.palاس.de/en/product/promo3000h>



### Promo<sup>®</sup> 3000 HP

Version with automatic regulation of sampling volume flow by the aerosol sensors welas<sup>®</sup> under overpressure up to 10 bar or in temperatures to  $120^\circ\text{C}$

<https://www.palاس.de/en/product/promo3000hp>

## 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
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 – +40 °C, -100 – 50 mbar
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