



Aerosol spectrometer **with two aerosol sensors**, highest particle size resolution, measuring range from 200 nm to 100  $\mu\text{m}$  for **quasi simultaneously measurements**

## Benefits

- Measuring range of 0.2 to 100  $\mu\text{m}$  (4 measuring ranges selectable in one device)
- Up to four measuring ranges in only one device:
  - 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  $\mu\text{m}$  (additionally for sensors 2300 and 2500)
- Up to 128 size channels per measuring range
- Concentration range of 1 particle/cm<sup>3</sup> up to 10<sup>6</sup> particles/cm<sup>3</sup>
- Calibration curves for different refractive indices
- Very high and reproducible counting efficiency rate starting at 0.2  $\mu\text{m}$  (see Graph 2)
- High temporal resolution down to 10 ms
- Optical fibre technology
- Measurement in potentially explosive environment
- Long service life of the light source of 2000 h
- Extensive PDCControl
- Simple operation
- Calibration, cleaning and lamp replacement can all be performed independently by the customer
- Low maintenance

## Applications

- Abscheidegradbestimmung von KFZ Innenraumfiltern, Motorluftfiltern, Raumluftfiltern, Druckluftfiltern, Staubsaugerfiltern, abreinigbaren Filtern, Elektrofiltern, Ölabscheidern, Kühlschmierstoffabscheidern, Nassabscheidern, Zyklonen und anderen Abscheidern
- Isotherme und isobare Partikelgrößen- und Mengenbestimmung, z. B. in der Automobil-, Chemie-, Pharma- und Lebensmittelindustrie
- Untersuchung schneller, instationärer Prozesse
- Test von Rauchmeldern
- Partikelmessung zur Wolkenbildung

## Model Variations



welas<sup>®</sup> digital 3000 H  
With heating regulation up to 250 °C for  
welas<sup>®</sup> aerosol sensors

<https://www.palas.de/product/welasdigital3000h>

... more variations available

<https://www.palas.de/product/welasdigital3000>

## Datasheet

Parameter	Description
<b>Interfaces</b>	USB
<b>Measurement range (size)</b>	0.2 – 10 $\mu\text{m}$ , 0.3 – 17 $\mu\text{m}$ , 0.6 – 40 $\mu\text{m}$ , 2 – 100 $\mu\text{m}$
<b>Size channels</b>	up to 64/decade
<b>Measuring principle</b>	Optical light-scattering
<b>Measurement range (number <math>C_N</math>)</b>	$< 1 \cdot 10^6$ particles/ $\text{cm}^3$
<b>Time resolution</b>	$\geq 10$ ms
<b>Thermodynamic conditions</b>	10 – 40 $^{\circ}\text{C}$ , -100 – 50 mbar
<b>Volume flow</b>	5 l/min
<b>Data acquisition</b>	Digital, 20 MHz processor, 256 raw data channels
<b>Light source</b>	Xenon arc lamp 35 W
<b>User interface</b>	Laptop
<b>Power supply</b>	115 – 230 V, 50 – 60 Hz
<b>Housing</b>	Table housing, optionally with mounting brackets for rack-mounting
<b>Dimensions</b>	185 • 450 • 315 mm (H • W • D) (19")
<b>Weight</b>	Approx. 18 kg (control unit), ca. 2.8 kg (per sensor)
<b>Software</b>	PDControl
<b>Installation conditions</b>	+5 – +40 $^{\circ}\text{C}$ (control unit)

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