



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

## Benefits

- Measuring range of 0.2 to 100 µm (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<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 µm (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 PDControl and FTControl software
- Simple operation
- Calibration, cleaning and lamp replacement can all be performed independently by the customer
- Low maintenance

## Applications

- Determination of the separation efficiency of car interior filters, engine air filters, room air filters, compressed air filters, vacuum cleaner filters, cleanable filters, electrostatic precipitators, oil separators, cooling lubricant separators, wet scrubbers, cyclones and other separators
- Isothermal and isobaric particle size and quantitative determination, for instance in the automobile, chemical, pharmaceutical and food industries
- Analysis of fast, transient processes
- Inspection of smoke detectors
- Particle formation for cloud formation
- Emission measurements
- Immission measurements
- Breathing function: Inhalation / Exhalation (Particle size and number)



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

## Datasheet

Parameter	Description
<b>Interfaces</b>	USB
<b>Measurement range (size)</b>	0.2 µm – 10 µm, 0.3 µm – 17 µm, 0.6 µm – 40 µm, 2 µm – 100 µm
<b>Size channels</b>	up to 64/decade
<b>Measuring principle</b>	Optical light-scattering
<b>Measurement range (number C<sub>N</sub>)</b>	< 1 • 10 <sup>6</sup> particles/cm <sup>3</sup>
<b>Time resolution</b>	≥ 10 ms
<b>Thermodynamic conditions</b>	250°C, -100 – 50 mbar
<b>Volume flow</b>	5 l/min
<b>Data acquisition</b>	20 MHz processor, 256 raw data channels, digital
<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>	PDCControl, FTControl
<b>Installation conditions</b>	+5 – +40 °C (control unit)

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