

WELAS[®] DIGITAL 3000



The welas[®] digital 3000 is a flexible, powerful, and economic light-scattering spectrometer system with two aerosol sensors, which determines particle concentration and size precisely and reliably.

welas[®] digital 3000 is famous for up to 128 size channels per measuring range and a concentration range from < 1 particle/cm³ to 10⁶ particles/cm³.

优势

- 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/cm³ up to 10⁶ particles/cm³
- 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 fiber technology
- Measurement in potentially explosive environment
- Long service life of the light source of 2000 h
- Extensive PDControl

- Simple operation
- Calibration, cleaning and lamp replacement can all be performed independently by the customer
- Low maintenance

应用领域

- Separation efficiency determination of automotive cabin air filters, engine air filters, ambient air filters, compressed air filters, vacuum cleaner filters, cleanable filters, electrostatic precipitators, oil separators, cooling lubricant separators, wet separators, cyclones, and other separators
- Isothermal and isobaric particle size and quantity determination, e.g., in the automotive, chemical, pharmaceutical, and food industries
- Investigation of fast, transient processes
- Test of smoke detectors
- Particle measurement for cloud formation

MODEL VARIATIONS



welas[®] digital 3000 H

Version with heating regulation up to 250 °C for welas[®] aerosol sensors

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

技术数据

测量原理	Optical light-scattering
测量范围(数量浓度)	$< 1 \cdot 10^6$ particles/cm ³
测量范围(粒径)	0.2 – 10 μm, 0.3 – 17 μm, 0.6 – 40 μm, 2 – 100 μm
体积流量	5 l/min
Size channels	Max. 64/decade
Time resolution	≥ 10 ms
接口	USB
User interface	Laptop
软件	PDControl
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
外壳	Table housing, optional: with mounting brackets for rack-mounting
电源	115 – 230 V, 50/60 Hz
Installation conditions	+5 – +40 °C (control unit)
Dimensions	185 • 450 • 315 mm (H • W • D) (19")
重量	Control unit: approx. 18 kg, sensor: approx. 2.8 kg