

# WELAS<sup>®</sup> DIGITAL 3000 H



The aerosol sensors welas<sup>®</sup> 2070 H, HP, 2100 H, HP, 2200 H, HP, 2300 H, HP, and welas<sup>®</sup> 2500 H, HP are equipped with a heatable and, as required, pressure-tight cuvette to ensure isobaric and isothermal sampling into the sensor's measurement volume.

The welas<sup>®</sup> digital 3000 H model variant also offers heating regulation for temperatures up to 250 °C for the aerosol sensors with heatable cuvette.

The welas<sup>®</sup> digital is usually calibrated for the operating volume flow. In the welas<sup>®</sup> digital 3000 H version, regulation of the sampling volume flow is performed independently by the customer taking the temperature and pressure into consideration.

## 优势

- 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/ $\text{cm}^3$  up to  $10^6$  particles/ $\text{cm}^3$
- 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 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
- Emission measurements
- Breathing function: inhale / exhale (particle size and number)

## 技术数据

测量原理	Optical light-scattering	测量范围(数量浓度)	$< 1 \cdot 10^6 \text{ particles/cm}^3$
测量范围(粒径)	0.2 – 10 $\mu\text{m}$ , 0.3 – 17 $\mu\text{m}$ , 0.6 – 40 $\mu\text{m}$ , 2 – 100 $\mu\text{m}$	体积流量	5 l/min
Size channels	Max. 64/decade	Time resolution	$\geq 10 \text{ ms}$
接口	USB	User interface	Laptop
软件	PDControl	Thermodynamic conditions	$\leq 250^\circ\text{C}$ , -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 $^\circ\text{C}$ (control unit)	Dimensions	185 • 450 • 315 mm (H • W • D) (19")
重量	Control unit: approx. 18 kg, sensor: approx. 2.8 kg		