气溶胶传感器WELAS® 2100

2100 型气溶胶传感器配备小测量体积，用于无重合测量，最大数浓度可达500,000 个颗粒/cm³。测量范围：0.2 – 10 µm / 0.3 – 17 µm / 0.6 – 40 µm。

MODEL VARIATIONS

Aerosol sensor welas® 2100 H
Pressure-resistant version up to 1 bar overpressure and heatable up to 250 °C

Aerosol sensor welas® 2100 HP
耐压版本，最高承受10 bar 过压，可加热至120 °C

Aerosol sensor welas® 2100 P
Pressure-resistant version up to 10 barg overpressure

工作原理

用于测量高达500,000 个颗粒/CM³ 数浓度的气溶胶传感器

welas® digital 和Promo® 系统基于单个粒子的散射光分析原理。待测粒子通过一个T 形、由白光光源照明的光学界定测量体积。在此过程中产生散射光脉冲，其脉冲幅度即为浓度的量度。

以下特殊功能保证了高分级精度和高粒径分辨率：

- White light and 90° light-scattering detection→ unambiguous calibration curve
- Patented T-aperture technology for a T-shaped measurement technology→. No border zone error
- New digital individual signal processing for the analysis of the scattered-light pulse→ Coincidence detection and correction, which enables measurement in up to 5 times higher concentrations
- 白光及90° 光散射检测→ 明确的校准曲线
- 获得专利的T 形测量技术T 形孔径技术→ 无边界区误差
- 用于散射光脉冲分析的新型数字式独立信号处理→ 重合检测与校正，可实现在高达5 倍浓度下进行测量

通过5 L/min 高体积流量和较大采样管径的垂直气溶胶管道，确保传感器能无故障、可靠地测量粒径达40 μm 的大颗粒。

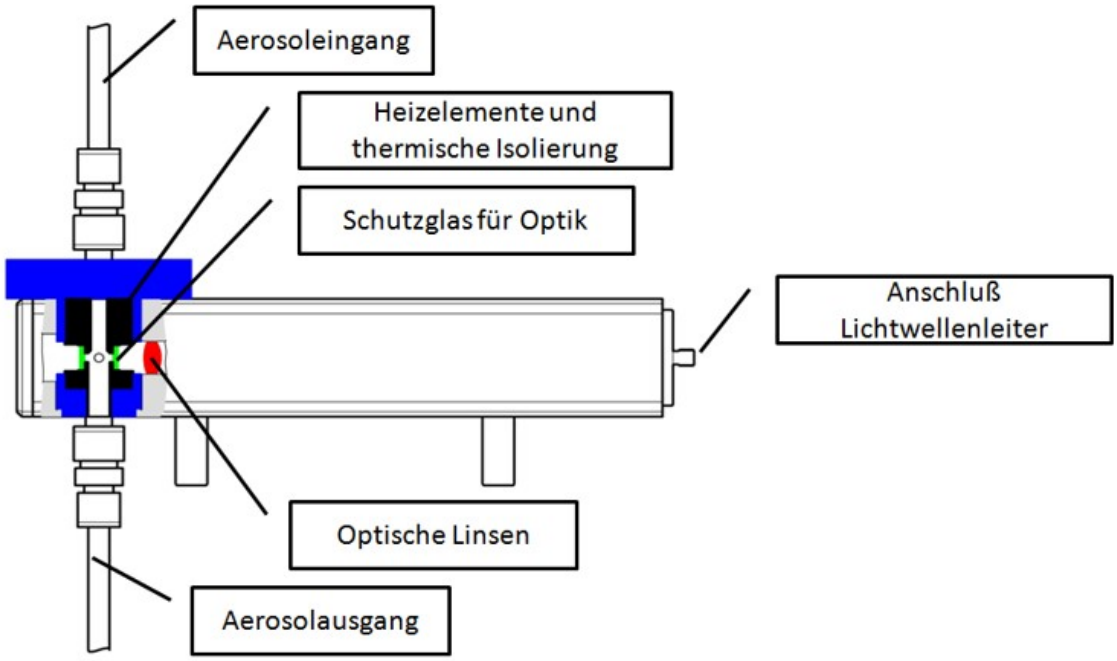

Figure 1: Aerosol guiding welas Sensoren.jpg

Aerosolführung welas Sensoren

$10^3/cm^3$ 1 mm^3

[/m³]	[/cm³]	[cm]	[mm]	[µm]
1	10^{-6}	100	1000	
10^{3}	10^{-3}	10	100	
10^{6}	1	1	10	
10^{9}	10^{3}		1	1000
10^{12}	10^{6}		0.1	100
10^{15}	10^{9}		0.01	10
10^{18}	10^{12}		0.001	1

Table 2: welas /

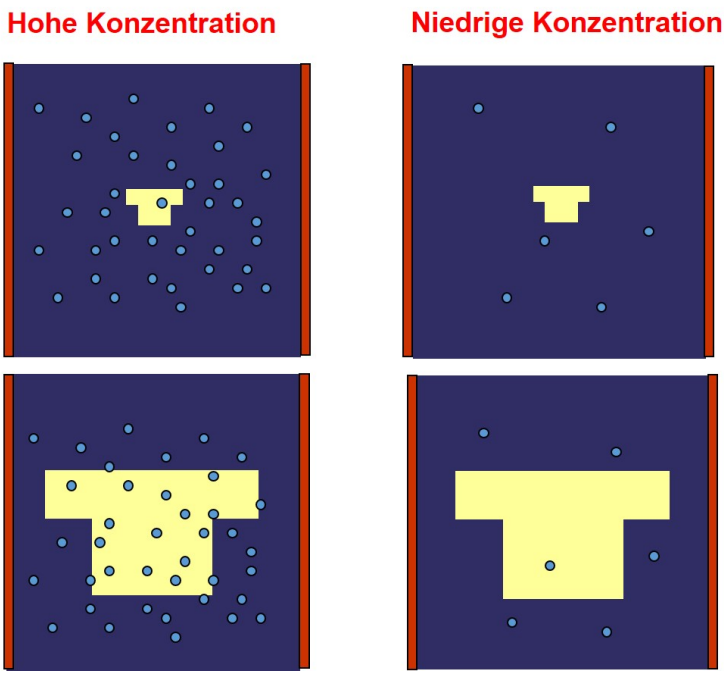

Figure 2: optical measurement volume

Welas sensoren / optische Messvolumen

1,000,000 /cm³ welas® 2070

welas®

1 welas® 2200 0.2 – 10 µm

/

welas®

- 250 °C
- 10 bar
-

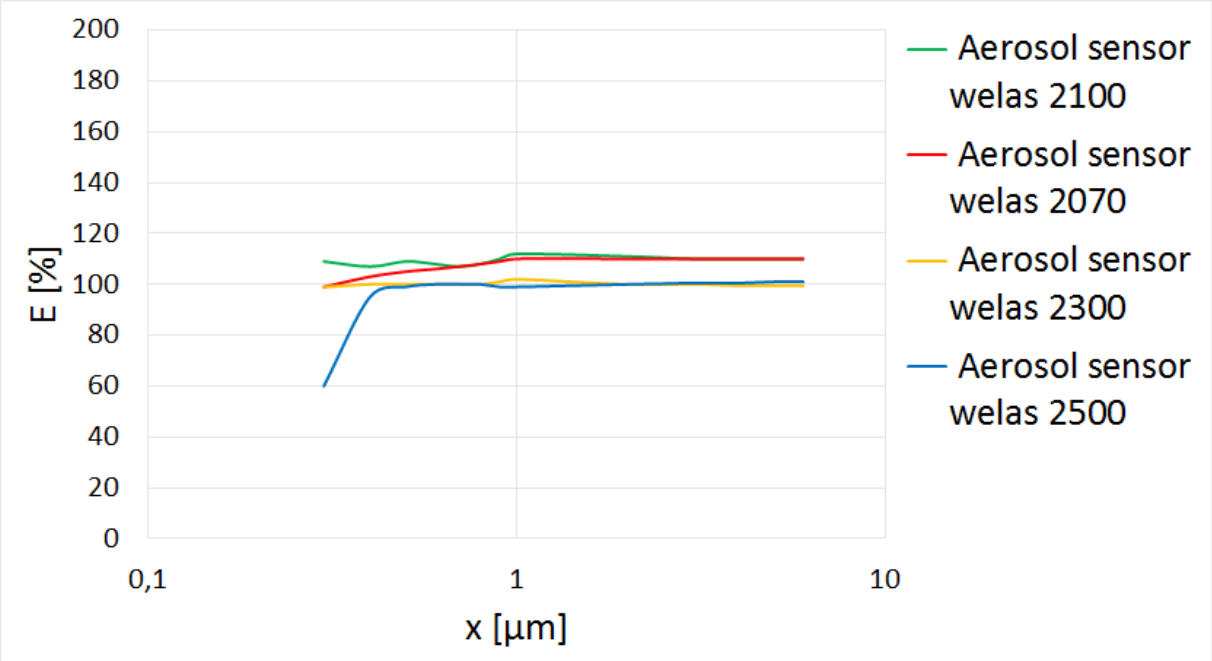

Figure 3: Diagram

welas digital

-
- 2000
-
-
-
- 2000
-
-
-
-
-

()	0 – 5 • 10^5 particles/cm^3
()	0.2 – 40 μm (3 measurement ranges)
	5 l/min (others on demand)
Thermodynamic conditions	+10 – +40 °C, -100 – +50 mbarg
Light source	Xenon arc lamp 35 W
Dimensions	50 • 250 • 100 mm (H • W • D)
	Approx. 2.8 kg

Mehr Informationen:
https://www.palas.de/zh/product/aerosolsensorwelas2100