PROMO® 1000 HP

The aerosol sensor welas® 1100 HP and the aerosol sensor welas® 1200 HP are equipped with a cuvette heatable up to 120 °C and pressure-tight up to 10 barg to ensure isobaric and isothermal sampling into the sensor's measurement volume. The Promo® 1000 HP is usually calibrated for the operating volume flow. As the operating volume flow changes with pressure and temperature, it is advantageous for the user if automatic volume flow regulation for the sampling volume flow is provided for in the device.

In the Promo® 1000 HP, the pressure and temperature of the carrier gas are measured, and the required operating volume flow is automatically set to 5 l/min.

工作原理

Includes:

- Mass flow controller for volume flow regulation
- Heating regulator up to 120 °C
- Temperature sensor
- Absolute pressure capsule
- Filter unit to protect the flow rate control

优势

- 测量范围为120 nm 至40 μm （在一台设备中可选择4 个测量范围）
- 仅一台设备中可配置多达4 个测量范围：
  - 0.12 μm – 3.5 μm（仅限于welas® 1000 和Promo® 1000）
  - 0.2 μm – 10 μm
  - 0.3 μm – 17 μm
  - 0.6 μm – 40 μm
- 每个测量范围支持多达128 个粒径通道
- 浓度范围从< 1 颗粒/cm^3 至5 • 10^5 颗粒/cm^3
- 不同折射率的校准曲线
- 从0.12 μm 开始具有很高且可重现的计数效率

- 高时间分辨率可低至10 ms
- PDAnalyze 分析软件
- 客户可以独立进行校准、清洁和更换灯泡
- 外部控制可通过RS 232 或以太网实现
- 可选：PDControl 软件支持welas® digital 运行
- 操作简便
- 维护成本低
- 功能可靠
- 降低运营成本

技术数据

测量原理	Optical light-scattering
测量范围(数量浓度)	< 5 • 10^5 particles/cm^3
测量范围(粒径)	0.2 – 10 µm, 0.3 – 17 µm, 0.6 – 40 µm
体积流量	5 l/min, 1.6 l/min
Size channels	Max. 128 (64/decade)
Time resolution	⩽1 s
接口	USB, Ethernet (LAN), Wi-Fi, RS-232/485
User interface	Touchscreen, 800 • 480 pixel, 7″ (17.78 cm)
Data logger storage	4 GB Compact Flash
软件	PDControl, FTControl, PDAnalyze
Thermodynamic conditions	+10 – +120 °C, 2 – 10 bar_g
Data acquisition	Digital, 20 MHz processor, 256 raw data channels
Light source	Xenon high pressure lamp 75 W
外壳	Table housing, optional: with mounting brackets for rack-mounting
Support options	Direct remote access, Palas webserver service
Operating system	Windows embedded
电源	115 – 230 V, 50/60 Hz
Power consumption	100 W
Installation conditions	+5 – +40 °C (control unit)
Dimensions	185 • 450 • 315 mm (H • W • D) (19″)
重量	Control unit: approx. 8 kg, sensor: approx. 18 kg

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
- Particle measurement for cloud formation
- Emission measurements

Mehr Informationen:
https://www.palas.de/product/promo1000hp