

5431

## Standard PMP Condensation Particle Counter

Precise and compact – for solid particle number (PN)

- n-Butanol based CPC
- Complies to the GPRE particle measurement program
- Integrated sample pump, no external vacuum required



## Features

- **Precise nanoparticle counting**
  - n-Butanol based CPC
  - $D_{50} = 23.0$  nm
  - Droplet size control
  - Continuous condensate drain with micro pump
  - Single count mode (up to 50 000 particles/cm<sup>3</sup>)
- **Sample flow rate controlled by critical orifice**  
Integrated sample pump, no external vacuum required
- **Saturator shutter**
- **Wide range power supply**  
100 ... 240 VAC wide range power supply, 50 ... 60 Hz

## Benefits

- **Optimized for special applications**
  - Measuring of solid particle number (PN)
  - Exhaust emission monitoring
  - Aerosol research
  - Testing of diesel particulate filter (DPF)
- **Easy to use**
  - Status control via LEDs
  - LCD display for real-time number concentration data
  - 5475 GRIMM nanoSoftware for Counters
- **Cost saving**  
Low maintenance

## Technical data

<b>Detection principle</b>	Condensation particle counter
<b>Working fluid</b>	n-butanol (n-butyl alcohol)
<b>Output</b>	Particle number concentration/cm <sup>3</sup>
<b>Particle concentration range</b>	Single count mode: up to 50 000 particles/cm <sup>3</sup>
<b>Coincidence correction</b>	< 10% ... 23 000 particles/cm <sup>3</sup>
<b>Concentration linearity</b>	$R^2 \geq 0.98$
<b>Concentration accuracy</b>	$\geq 90\%$
<b>Response time</b> $t_{10}$ ... $t_{90}$	< 2 s
<b>Counting efficiency</b>	at 23 nm $50 \pm 12\%$ at 41 nm $\geq 90\%$
<b>False background counts</b>	< 0.001 particles/cm <sup>3</sup>
<b>Readability</b>	0.1 particles/cm <sup>3</sup>
<b>Sample flow rate</b>	0.6 l/min (integrated sample pump), independent of altitude above sea level
<b>Flow control</b>	Critical orifice with stabilized temperature

<b>Aerosol carrier gas</b>	Air and inert gases
<b>Interface</b>	USB or RS-232
<b>Data recording</b>	Directly on PC with GRIMM nanoSoftware, optionally on USB flash drive
<b>Analog input</b>	Port for optional analog sensor e.g. T, RH; 3 x 0 ... 10 V
<b>Power supply</b>	100 ... 240 VAC, 50 ... 60 Hz, max. 10.4 A
<b>Power input</b>	40 W standard operation 30 W standby 80 W warm up
<b>Dimensions (h x w x d)</b>	<ul style="list-style-type: none"> <li>• Housing: 23 x 26 x 24 cm (9 x 10.2 x 9.4 inch)</li> <li>• Fully assembled with n-butanol and condensate bottle: 35 x 26 x 29 cm (13.8 x 10.2 x 11.4 inch)</li> </ul>
<b>Weight</b>	9.2 kg (20.3 lbs)
<b>Operating conditions</b>	+10 ... +40 °C (50 ... 104 °F), RH < 95% non condensing, 500 ... 1 100 mbar
<b>Transport and storage</b>	0 ... +50 °C (32 ... 122 °F), RH < 95%