

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/cm³)
- **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

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

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