

5416

High-end Condensation Particle Counter

For nanoparticle counting – with SMPS+C capability

- Integrated DMA controller
- 3.0 l/min sheath air flow
- 0.3 l/min sample air flow
- Compact design



Features

- **Precise nanoparticle counting**
 - n-Butanol based CPC
 - $D_{50} = 4.0$ nm
 - Droplet size control
 - Single count mode (150 000 particles/cm³)
 - Photometric mode (up to 10⁷ particles/cm³)
- **Internal pumps for sample and sheath air**
- **Saturator shutter**
- **Analog input for optional meteorological sensor**
- **Wide range power supply**
90 ... 264 VAC wide range power supply,
47 ... 63 Hz; 80 ... 130 W
- **SMPS+C capability**
 - Integrated DMA controller
 - 3.0 l/min sheath air flow

Benefits

- **Suitable for many nanoparticle applications**
 - Fundamental aerosol research
 - Environmental aerosol research
 - Filter testing
 - Nanotechnology process monitoring
 - Workplace monitoring
 - Printer emission studies
 - Studies on atmospheric nucleation
- **All in one solution**
 - Ready to use
 - Status control via LEDs for CPC and SMPS functionality
 - 5475 GRIMM nanoSoftware for for Counters
 - Start/stop button for stand-alone operation
 - Direct USB flash drive data storage
- **Compact design**
Allows easy integration in laboratory setups

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 150 000 particles/cm ³ Photometric mode up to 10 ⁷ particles/cm ³
Reproducibility	Single count mode: > 95% Photometric mode: > 90%
Particle size range	4.0 nm (D_{50} measured with tungsten oxide particles) to greater 3 µm
Response time t_{10} ... t_{90}	< 3 s
Sample flow rate	0.3 l/min
Sheath air flow rate	3.0 l/min
Flow control	Critical orifice with stabilized temperature

Aerosol carrier gas	Air and inert gases
Data recording	Directly on PC with GRIMM 5475 nanoSoftware, optionally on USB flash drive
Connectivity	USB, USB flashdrive, RS-232, analog pulse output, analog input
Power requirements	90 ... 264 VAC, 47 ... 63 Hz; wide range power supply; 80 ... 130 W
Operating conditions	<ul style="list-style-type: none"> • Ambient temperature: 10 ... 40 °C (50 ... 104 °F) • Ambient humidity: 0 ... 95% RH, non-condensing • Absolute pressure range: 500 ... 1 100 mbar
Transport and storage	0 ... +50 °C (32 ... 122 °F), RH < 95%
Dimensions (h x w x d)	40 x 25 x 29 cm (15.7 x 9.8 x 11.4 inch)
Weight	12.4 kg (27.3 lbs)

Optional accessories

- 55-M Electrostatic Classifier "Vienna" M-DMA (5 ... 350 nm)
- 55-L Electrostatic Classifier "Vienna" L-DMA (10 ... 1094 nm)
- 5477 GRIMM nanoSoftware for Sizers
- 7917 Emission Sampling System ESS