

5417

High-end Condensation Particle Counter

SMPS+C capability optimized for the use as PSMPs

- Integrated DMA controller
- Two sheath air flows: 3 or 10 l/min
- Two switchable sample flows of 0.3 and 0.6 l/min
- Compact design



Features

- **Precise nanoparticle counting,**
 - n-Butanol based CPC
 - $D_{50} = 4.0 \text{ nm}$
 - Droplet size control
 - Single count mode (150 000 particles/cm³)
 - Photometric mode (up to 10⁷ particles/cm³)
 - Internal
- **Internal pumps for sample and sheath air**
- **Two switchable sample flows of 0.3 and 0.6 l/min**
- **Saturator shutter**
- **Analog input for optional meteorological sensors**
- **Wide range power supply**
90 ... 264 VAC; 47 ... 63 Hz; 80 ... 130 W
- **Extended SMPS+C capability**
 - Integrated DMA controller
 - Two sheath air flows: 3.0 or 10.0 l/min

Benefits

- **Suitable for many nanoparticle applications**
 - Fundamental aerosol research
 - Environmental + climate studies
 - Nanotechnology process monitoring
 - Studies on atmospheric nucleation
 - Nanoparticle growth, coagulation and transport
 - Engine exhaust studies
 - Mobile aerosol studies
- **All in one solution**
 - Ready to use
 - Status control via LEDs for CPC and SMPS functionality
 - 5475 GRIMM nanoSoftware for Counters
 - Compact design
 - Allows easy integration in laboratory setups
 - Start/stop button for stand-alone operation
 - Direct USB flash drive data storage

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} determined with tungsten oxide particles) up to greater 3µm
Response time $t_{10} \dots t_{90}$	< 3 s
Sample flow rate	0.3 or 0.6 l/min
Sheath air flow rate	3.0 or 10.0 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	• 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-S Electrostatic Classifier "Vienna" S-DMA
- 55-M Electrostatic Classifier "Vienna" M-DMA
- 55-L Electrostatic Classifier "Vienna" L-DMA
- 5477 GRIMM nanoSoftware for Sizers
- 5490 Airmodus A10 PSM
- 7917 Emission Sampling System ESS