

5421

Standard 19" rack Condensation Particle Counter

For continuous nanoparticle counting

- n-Butanol based CPC
- $D_{50} = 4.0$ nm
- Integrated sample pump,
no external vacuum required



Features

- **Precise nanoparticle counting**
 - $D_{50} = 4.0$ nm
 - Can be calibrated in accordance to CEN/TS 16976: 2016 to a D_{50} of 7.0 nm for silver particles
 - n-Butanol based CPC
 - Droplet size control
 - Continuous condensate drain with micro pump
 - Single count mode (150 000 particles/cm³)
 - Photometric mode (up to 10⁷ particles/cm³)
- **Sample flow rate controlled by critical orifice**
Integrated sample pump, no external vacuum required
- **Saturator shutter**
- **Analog input for optional meteorological sensors**

Benefits

- **Suitable for versatile nanoparticle applications**
 - Fundamental aerosol research
 - Environmental and climate studies
 - Nanotechnology process monitoring
 - Studies on atmospheric nucleation
 - Studies on nanoparticle growth, coagulation and transport
- **All in one solution**
 - Status control via LEDs
 - LCD display for real-time number concentration data
 - 5475 GRIMM nanoSoftware for Counters
- **Compact design**
19" design for easy integration in measurement racks

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 μ m
Response time $t_{10} - t_{90}$	< 3 s
Sample flow rate	0.3 l/min integrated sample pump, no external vacuum required
Flow control	Critical orifice with stabilized temperature
Aerosol carrier gas	Air and inert gases

Data recording	Directly on PC with GRIMM nanoSoftware, optionally on USB flash drive
Connectivity	USB, USB flashdrive, RS-232, analog pulse output
Power requirements	90 ... 264 VAC; 47 ... 63 Hz
Power consumption	30 W standby 40 W standard operation 80 W warm up
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 ... 1100 mbar
Transport and storage	0 ... +50 °C (32 ... 122 °F), RH < 95%
Dimensions (h x w x d)	19", 22 x 48 x 41 cm (8.7 x 19 x 16 inch)
Weight	16.2 kg (35.7 lbs)

