

5412

Standard Condensation Particle Counter

Precise and compact – for nanoparticle counting

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



Features

- **Precise nanoparticle counting**
 - n-Butanol based CPC
 - $D_{50} = 4.0 \text{ nm}$
 - Droplet size control
 - Continuous condensate drain with micro pump
 - Single count mode (100 000 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**
- **Wide range power supply**
90 ... 264 VAC ; 47 ... 63 Hz; 80 ... 130 W

Benefits

- **Suitable for many applications**
 - Fundamental aerosol research
 - Environmental and climate studies
 - Filter testing
 - Nanotechnology process monitoring
- **Easy to use**
 - Status control via LEDs
 - LCD display for real-time number concentration data
 - 5475 GRIMM nanoSoftware 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 100 000 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 $t_{10} \dots t_{90}$	< 2 s
Sample flow rate	0.6 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, analog input for meteorological sensors
Power requirements	90 ... 264 VAC; 47 ... 63 Hz
Power consumption	30 W standby 40 W standard operation 80 W warm up
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%
Size (h x w x d)	23 x 25 x 29 cm (9 x 9.8 x 11.4 inch)
Weight	9.2 kg (20.3 lbs)

Optional accessories

7813, 7814 Small, large diffusion dryers

