GRIMM AEROSOL TECHNIK
DURAG GROUP

5420
High-end 19" rack mounted
Condensation Particle Counter

For continuous nanoparticle counting – with SMPS+C capability

- Integrated DMA controller
- 3.0 l/min sheath air flow
- 0.3 l/min sample air flow
- Compact 19" design

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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 10^7 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
  - Nanotechnology process monitoring
  - Nanoparticle growth, coagulation and transport
  - Filter testing
  - Workplace monitoring
  - Printer emission studies
- **All in one solution**
  - Ready to use
  - Status control via LEDs for CPC and SMPS functionality
  - 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/cm³
Particle number concentration	Single count mode: up to 150 000 particles/cm³ Photometric mode: up to 10^7 particles/cm³
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
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%
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)

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