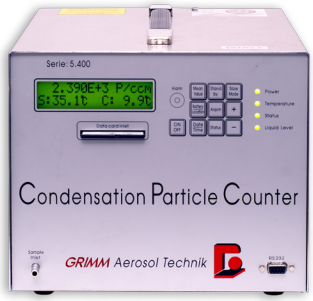
THE PORTABLE HIGH-ACCURACY COUNTER FOR NANOPARTICLES

a member of DURAG GROUP

MOBILE CONDENSATION PARTICLE COUNTER (CPC) MODEL 5403

With the CPC model 5403 GRIMM established condensate removal and anti-spill saturatordesign for the modern thermal diffusion – laminar flow CPC.

These features improved accuracy and handling considerably. Along with the compact design GRIMM created a truly portable high-accuracy nanoparticle counter that can be used in a large variety of applications.



The instrument includes pumps, butanol tank, battery, internal memory, and the option for remote operation. The model 5403 provides highly accurate measurements for nanoparticles as small as 4.5 nm over a wide concentration range of up to 10^7 particles/cm^3.

The mobile CPC model 5403 has a built-in control unit for Scanning Mobility Particle Sizer (SMPS) measurements and also a pump for the sheath air of a Differential Mobility Analyzer (DMA).

YOUR BENEFITS

- A perfect solution for on-the-spot measurements
- Integrated battery for field use.
- All-in-one-design
- Counts particles from 4.5 nm to >3 µm
- Sampling with 1 Hz
- Concentrations from 1 to 10^7/cm^3
- Compact and rugged
- Integrated Butanol tank
- Butanol safety features (anti-spill, odor removal)
- Fully automated use with GRIMM software
- Self-test upon start-up assures highest reliability

APPLICATIONS

- Mobile aerosol studies
- Work place monitoring
- Roadside monitoring
- Environmental & climatic studies
- Fundamental aerosolresearch
- Filter testing
- Nanotechnology process monitoring
- Inhalation & exposure studies
- Health effect studies

Made in Germany · Quality Guarantee · Genuine Guarantee · GRIMM

CPC | SMPS+C | PORTABLE | 1Hz | REAL-TIME

TECHNICAL DATA

SPECIFICATIONS

Particle Detection System	
Particle Size Range	4.5 nm (D50, verified with Tungsten oxide) to greater than 3 µm
Particle Concentration Range	0 to 14 000 particles/cm^3 (single particle counting with coincidence correction), to 10^7 particles/cm^3 with photometric mode
Particle Concentration Accuracy	5% (single particle counting), >10% (photometric mode)
Response Time	T_{90} = 3.9 s
False Counts	< 2 x 10 – 4 particles/cm^3
Air Flow System	
Pumps Pulse	Free carbon vane pumps
Flow Rates of Sample Air	Standard flow 0.3 l/min
High Flow	1.5 l/min, of which 0.3 l/min sample flow and 1.2 l/min bypass flow [1)]
Flow Rate of Sheath Air	3 l/min
Flow Control	Through differential pressure sensors across a heated orifice. Insensitive against variations in ambient temperature and pressure
Aerosol Carrier Gas	Air and inert gases
Liquid System	
Working Fluid	1-butanol (Reagent-grade p.A.) for activation of hydrophobic and hydrophilic particles
Refill	Automatic refill of internal tank when refill bottle is connected
Condensate Removal	Continuous drain with a micro-pump into drain bottle for highest accuracy

FUNCTION

RS-232	9-pin D connector, ASCII based command set
Memory Card	PCMCIA SRAM 4MB
Status Indication	4 LEDs with 3 colors and messages on the digital display
Analog Inputs	Port for 3 optional analog climatic or gas sensors, plug and play

HANDLING

Ambient Temperature	10 to 35°C (50 to 95°F)
Ambient Humidity	0 to 95% RH, noncondensing
Pressure	± 50 mbar to ambient pressure
Power Requirements	85-264 VAC wide range power supply, 47-440 Hz or 120-370 VDC
Dimensions	22 x 26 x 30 cm / 8.7 x 10.2 x 11.8 inches (H x W x D)
Weight	13 kg (28.7 lbs)

1) High flow mode can not be used for SMPS measurements

This technical data might be changed without notice.

Dealer:

E_CPC_5403_V1.0

GRIMM Aerosol Technik Ainring GmbH & Co. KG
Dorfstr. 9 • D-83404 Ainring
Tel: +49-8654-578-0
Fax: +49-8654-578-35
www.grimm-aerosol.de