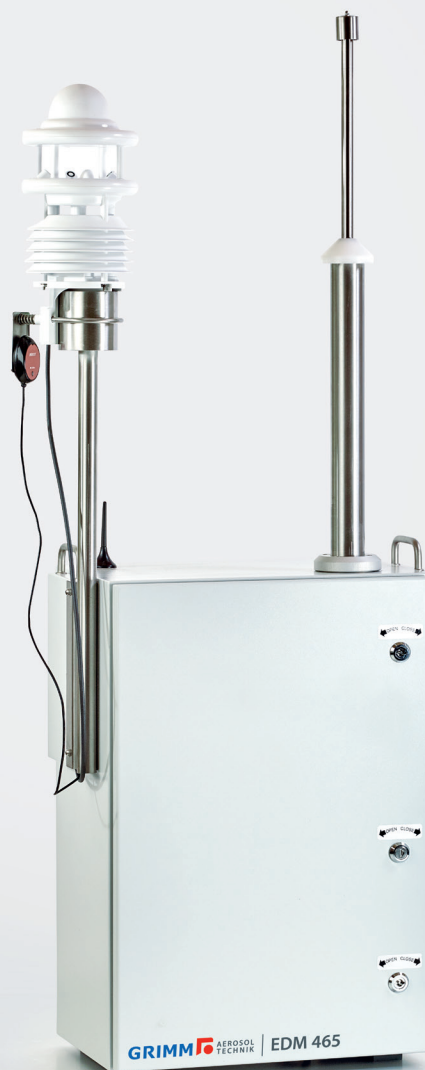


EDM 465

Ultra-fine particle counter

For real-time monitoring of ultrafine particles –
CPC performance according to CEN/TS 16976:2016

- Fully automatic 24/7 monitoring system
- Temperature-controlled weather housing



Features

- Real-time monitoring of ultrafine particles
- Fully automatic 24/7 monitoring system
- Temperature-controlled weather housing
- Energy-efficient sampling with isothermal drying system
- Various meteorological sensors

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 ... 1 µm D ₅₀ = 7 nm (measured with silver particles) D ₉₀ < 14 nm |
| Response time | t _{rise} < 5 s, t _{fall} < 5 s |
| Sampling and conditioning | 1 m sampling pipe with sampling head, isothermal humidity extraction via Nafion membrane, senso-controlled |
| CPC Sample flow rate | 0.3 l/min pulse-free carbon vane pumps |
| Total inlet flow rate | 1.5 l/min, ≤ 5% difference to the nominal flow rate |
| Flow control | Critical orifice with stabilized temperature |
| Diffusion losses | < 30% for smallest relevant particle size of 7 nm |

Benefits

- CPC performance according to CEN/TS 16976:2016
- 30 days unattended operation
- Low maintenance
- Remote access via data logger with GSM connection
- High precision at low and high concentrations
- Excellent counting statistics and reproducibility

| | |
|-------------------------------|---|
| Weather housing | Stainless steel, powder-coated, thermally isolated, temperature-controlled |
| Meteorological sensors | Wind speed and direction, precipitation, pressure, temperature relative humidity; GPS positioning |
| Data recording | Data logger and netbook integrated in housing for online data, optionally on USB flash drive |
| Connectivity | Data logger, USB, GSM with SIM card for mobile network, analog input for meteorological sensors |
| Power requirements | 110 ... 220 VAC, 50 ... 60 Hz; 100 ... 150 W |
| Operating conditions | <ul style="list-style-type: none"> • Ambient temperature: -20 ... 40 °C (-4 ... 104 °F), RH < 95% • 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) | <ul style="list-style-type: none"> • Housing: 49 x 28 x 65 cm (19.3 x 11 x 25.6 inch), • Total height with sampling pipe and meteorological sensor: 140 cm (55.1 inch) |
| Weight | 38 kg (83 lbs) |

