

A30 Condensation Particle Counter

The A30 is a robust and reliable tool for aerosol particle measurements in all applications where precision and sensitivity are of essence. The A30 is a compact particle counter, with a user-friendly design that can detect all aerosol particles larger than 7 nm (by request A30 can be delivered with a cut-off between 5 – 23 nm).

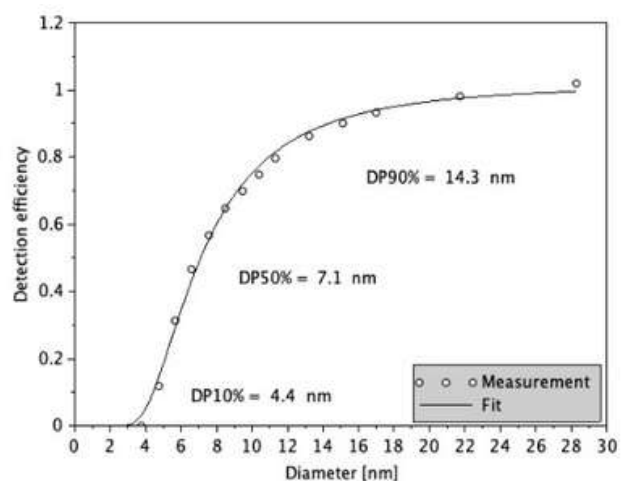
The A30 can be used both as a stand-alone instrument for measuring the total particle number concentration, as well as the detector in various aerosol measurement systems. It is easy to use and handle. All settings can be quickly adjusted from the touchscreen, which also displays the current concentration reading and instrument diagnostics.

Airmodus A30 can be delivered as an OEM version.



BENEFITS

- A compact and versatile particle counter
- Up to 500 000 #/cm³ in single counting mode
- Precise particle counting
- No sample dilution
- Easy to use touchscreen
- Advanced signal diagnostics
- Compatible with Airmodus A10
- New inlet anti-block system
- Reduced maintenance cost
- New active water removal system
- dualCPC-compliant



Specifications

| | |
|---------------------------------|--|
| Particle size range | 7nm – 2.5 µm (Dp50% on request 5 – 23 nm) |
| Concentration range | 0 – 500 000 #/cm ³ with single counting mode |
| Aerosol inlet flow | Nominal flow 1.5 lpm. Bypass flow of 1.3 lpm controlled with a critical orifice. Can be measured externally using a low pressure drop flow meter |
| Aerosol sample flow | Nominal flow 0.211 lpm, controlled with a critical orifice. Can be measured externally using a low pressure drop flow meter |
| Response time | t ₉₅ < 1 s |
| False counts | <0.001 #/cm ³ |
| Working fluid | n-Butanol (>99.5%) |
| Operating temperatures | Saturator: 39°C, Condenser 15°C, Optics: 40°C (at Dp50% = 7nm cut-off) |
| Sample conditions | Pressure: 75 to 105 kPa Relative humidity: 0 to 95% non-condensing (preferably <40%)** |
| Environmental conditions | Temperature: 15°C to 35°C Pressure: 75 to 105 kPa Relative humidity: 0 to 95% non-condensing |
| Communication | Analog out: BNC connector, 0 to 10 V, user-selectable function output (linear concentration, also DMA voltage control) Pulse out: BNC connector Serial: RS-232 Ethernet: RJ45 USB: type B connector All communication based on ASCII character-encoding scheme. |
| Fittings | External Vacuum: One touch fitting for 6 mm tubing Inlet: 6mm stainless steel tube |
| Software | Airmodus CPC software for online data acquisition (for Microsoft Windows, 7 or newer) Compatible with TSI 3082/3080 SMPS platforms and AIM software. |
| External vacuum | 100 - 400 mbar pressure at NTP (or <40% of inlet pressure) required |
| Power requirements | Instrument uses an external power adaptor (provided with the instrument) Power adaptor input: 100 - 240 VAC 50/60 Hz, max. 100 W Steady state consumption: 40 W Power adaptor output: 12VDC 11.5 A |
| Dimensions and weight | 190x170x250 (height x width x depth in mm) 4.9 kg |
| Shipping conditions | Temperature: 0 - 40°C Relative humidity: <95% non-condensing The instrument should be shipped in upright position and should be protected against tremor and blows. |

*) Cut-off size in mobility equivalent diameter. See calibration certificate. On request the cut-off can be calibrated to be in the range 5 – 23 nm. Note: When delivered as part of an A11 nCNC system, the A30 CPC is delivered with a cut-off of about 10 nm.

**) With high relative humidity, an aerosol drier should be used to prevent excess water condensation inside the instrument. A30 CPC has a water removal feature to prevent the condensation inside the system.
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