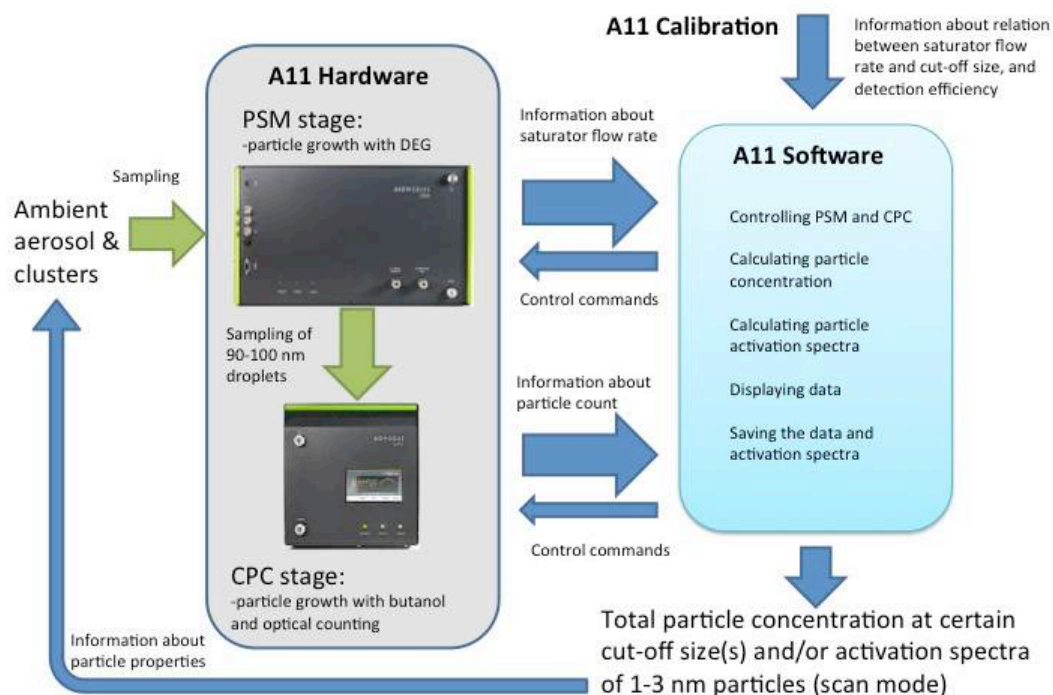


A11 nCNC System

Study and monitor particles smaller than the detection threshold of any CPC. **Airmodus A11 Nano Condensation Nucleus Counter system** measures particles as small as 1 nm in diameter. It is a complete system consisting of a particle size magnifier, a particle counter and operation software. Airmodus A11 can be used to measure the total number concentration of sub-micron particles, or to learn about characteristics and dynamics of the 1-4 nm particles in real time.



A11 Nano Condensation Nucleus Counter system



Benefits of the A11

- Detect particles as small as 1 nm in diameter in real time
- Also the electrically neutral particles
- Study the formation and growth of 1-4 nm particles
- Activation spectrum can be used for size or composition information.
- Data inversion in real time

Three operation modes

- Fixed mode: One fixed cut-off* for monitoring the appearance of nanoparticles.
- Stepping mode: Steps through several user defined cut-offs*. Use to observe pre-defined size classes.
- Scanning mode: The activation spectrum of 1 – 4 nm* particles in less than 5 minutes

A11 nCNC Specifications

www.airmodus.com

| | |
|--|--|
| Measurement range | 1 - 1000 nm. 50% cut-off selectable: 1.2 – 3.5 nm* |
| Concentration | Calibrated: 0 – 100 000 #/cm ³ We recommend using in single particle counting mode: Up to 30 000 #/cm ³ in single particle counting mode with coincidence <10%; higher concentrations with Total Scattering Mode Correction |
| Aerosol sample flow | 2.5 lpm (sample flow to CPC 1 lpm) |
| Working fluid | Diethylene Glycol (>99%) n-Butanol (>99%) |
| Sample conditions | Pressure: 90 to 105 kPa Relative humidity: 0 to 95% non-condensing** |
| Environmental conditions | Temperature: 15°C to 30°C Pressure: 90 to 105 kPa Relative humidity: 0 to 95% non-condensing |
| Communication | Airmodus A10: <i>Serial:</i> RS-232 <i>USB:</i> type B connector <i>Analog out:</i> BNC connector 0 to 10 V for external devices, e.g. controlling of a DMA or ion filter. AirmodusA20: <i>Analog in:</i> BNC connector, 0 to 10 V (reading data of external sensor) <i>Analog out:</i> BNC connector 0 to 10 V, user-selectable function output (linear concentration, also DMA voltage control) <i>Pulse out:</i> BNC connector <i>Serial:</i> RS-232 <i>Ethernet:</i> RJ45 <i>USB:</i> type B connector Both instruments: All communication based on ASCII character-encoding scheme. |
| Fittings | Airmodus A10: <i>External vacuum:</i> fitting for 1/4 in. tubing <i>External compressed air:</i> fitting for 1/4 in. tubing <i>Inlet:</i> 1/4 in. stainless steel tube <i>Outlet:</i> 1/4 in. stainless steel tube Airmodus A20: <i>External vacuum:</i> 1/4 in. stainless steel tube <i>Inlet:</i> 1/4 in. stainless steel tube |
| Software | Airmodus A1X software for online data inversion and data acquisition (for Microsoft Windows) |
| External vacuum requirement | 100 - 350 mbar pressure at NTP |
| External compressed air requirement | 1.5 - 2.5 bar at NTP The air should be free of particles, oil and water (dew point below 0°C); maximum operating pressure is 3.0 bar at NTP. |
| Power requirements | For both instruments: 100 - 240 VAC max. 320 W universal AC input/full range |
| Dimensions and weight | Airmodus A10: 290x450x465 (height x width x depth in mm), 17.0 kg Airmodus A20: 260x230x400 (height x width x depth in mm), 10.5 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. |

*) Nickel Chromium equivalent activation diameter

***) Above 40% please dry the sample to avoid excess water condensation inside the instruments
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