

CPC 4312

(Condensation Particle Counter)

Condensation of supersaturated vapors has been used for more than a century to grow small aerosol particles to sizes that can be detected optically.

The HCT Condensation Particle Counter Model 4312 is used for measuring nano particle concentration easily and simply.

The CPC consists of a saturator, condenser and optical sensing part. Upon entering the CPC, particles pass through a saturator where the working fluid evaporates into gas stream.

The flow becomes saturated with vapor from the working fluid before passing into a condenser where supersaturation of the vapor occurs. Under this condition the vapor condenses onto the particles to form droplets larger in diameter than original particles. The droplets pass through a laser upon leaving the condenser, and light scattered by the droplets is collected and focused onto a photodetector. The photodetector converts the light signal to an electrical pulse that is recorded as a particle count.

Features and Benefits

- 7 nm sensitivity at 1.0 L/min aerosol flow rate
- Measures particle concentrations up to 10^4 particles/ cm^3
- Built-in touch LCD and computer
- USB and Ethernet available
- Built-in SMPS compatibility (Optional)
- Particle concentration, total counts, or instrument status shown on front-panel LCD display

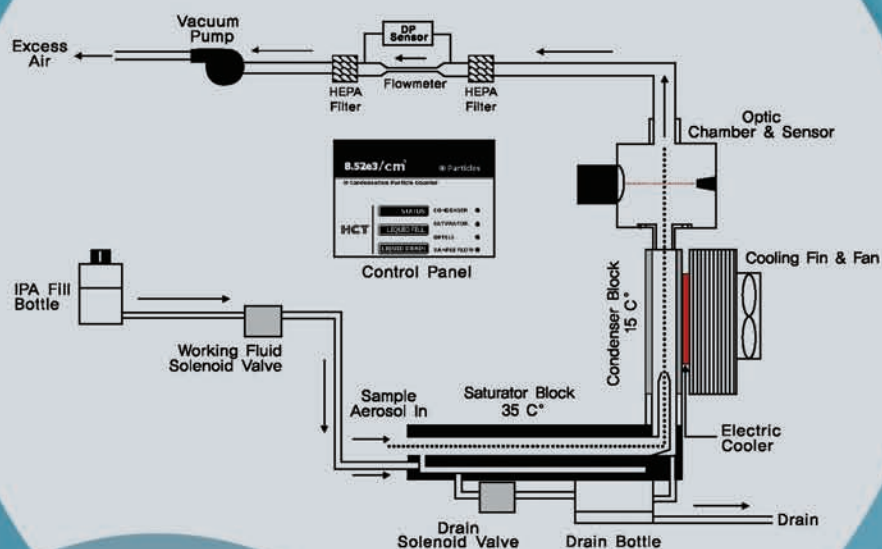


Specifications

- Minimum Sensitivity : 5 nm
- Counting Efficiency : 50 % @ 7 nm
- Flow Rate (Inlet and Sensor) : 0.3, 1.0 L/min
- Working Fluid : n-butyl alcohol
- Maximum Detectable Concentration : 10,000 particles/ cm^3
- Accuracy : ± 10 % up to 10,000 particles/ cm^3
- False Background Counts : 0.001 particles/ cm^3
- Response Time : < 5 seconds for 95 %
- Communications : Ethernet communications using LAN or USB connections
- Operating System : Windows XP embedded
- Data Logging : CF Memory Card (4GB)
- Dimensions (L x H x W) : 320 x 315 x 260 mm
- Weight : 13.2 kg
- Power : 100~230 VAC, 50~65 Hz

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Applications

- Basic Aerosol Research
 - Particle Monitoring
 - Condensation / Nucleation
- Atmospheric Research
 - Indoor and Outdoor Air Quality Monitoring
- Climate Research



San 136-1, Ami-ri, Bubal-eup, Icheon-si, Kyoung-do, Korea 467-701

TEL : +82-31-639-8546 / FAX : +82-31-639-8526

E-mail : product @ hct.co.kr

Worldwide Distributor : Sunwoo ChemTek Co., Ltd.