HAND-HELD CONDENSATION PARTICLE COUNTER MODEL 3007

The Model 3007 is a hand-held particle counter intended for measuring ultrafine particles in a wide variety of applications. Its small size and ergonomic design make it the best choice for short-term outdoor and indoor air quality monitoring, nanoparticle work area surveys, and mobile aerosol research. This highly portable condensation particle counter (CPC) weighs only 1.7 Kg (3.8 pounds)!

Applications

TSI offers the most comprehensive line of CPCs available. Building on a tradition of 30 years experience, TSI CPCs have become the standard to which all others are compared.

General applications include:

+ Basic aerosol research
+ Filter and air cleaner testing
+ Atmospheric and climate studies
+ Particle formation and growth studies
+ Combustion and engine exhaust studies
+ Inhalation or exposure chamber studies
+ Health effects studies

Features and Benefits

+ Battery-powered operation
+ Programmable data-logging capabilities
+ Particle size range of 0.01 to >1.0 µm
+ Concentration range of 0 to 100,000 particles/cm^3
+ Built-in LCD display
+ RS-232 serial data port

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SPECIFICATIONS

HAND-HELD CONDENSATION PARTICLE COUNTER
MODEL 3007

Particle Size Range
Min. Detectable Particle (D_{50}) 10 nm
Max. Detectable Particle >1 µm

Concentration Range
0 to 100,000 particles/cm³

Minimum Displayable Concentration Value
1 particle/cm³

Concentration Accuracy
±20%

False Background Counts
<0.01 particles/cm³

Response Time
<9 sec for 95% response

Environmental Operating Conditions
Ambient Temperature 10 to 35°C (50 to 95°F)
Storage Temperature -40 to 70°C (-40 to 160°F)

Flow Rate
Detected Aerosol 100 cm³/min
Inlet 700 cm³/min (nominal)

Aerosol Inlet Diameter
¼-in. O.D.

Power Requirement
Battery Type 6 AA alkaline or rechargeable
Battery Life 5 hours (alkaline batteries at 21°C)

Alcohol Requirement
Type 99.5%+ reagent-grade isopropyl alcohol
Hours Per Fill 6 hours at 21°C (70°F)

RS-232 Output
9600 Baud rate

Software
Supplied with TSI Aerosol Instrument Manager® software, CPC Module

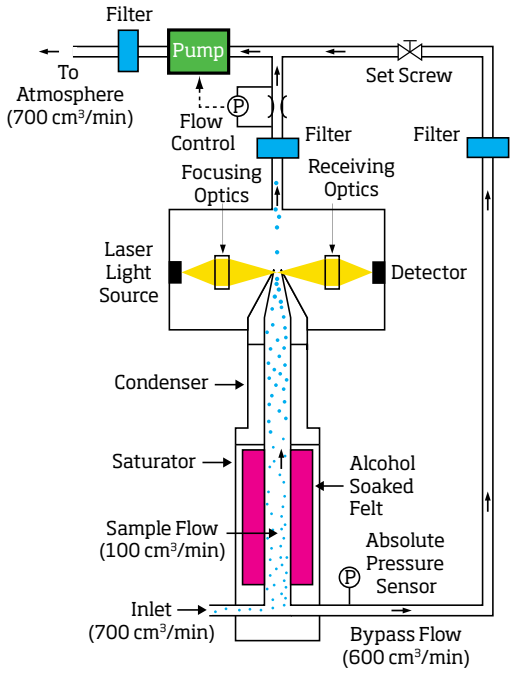
Calibration check
Recommended annually

Dimensions (L x W x H)
CPC 29.2 cm x 14 cm x 14 cm (11.5 in. x 5.5 in. x 5.5 in.)
Carrying Case 53 cm x 36 cm x 21 cm (21 in. x 14 in. x 8.3 in.)

Weight
CPC with Batteries 1.7 kg (3.8 lbs)
Instrument with Accessories in Case 7.7 kg (16.8 lbs)

Software
Every Model 3007 is supplied with Aerosol Instrument Manager® software designed for use with Microsoft® Windows® operating systems. The software is used for instrument control and provides data collection, management, and export capabilities, as well as several choices for data display.

Operation
In general, laminar-flow CPCs operate by drawing an aerosol sample continuously through a heated saturator, in which alcohol is vaporized and diffuses into the sample stream. Together, the aerosol sample and alcohol vapor pass into a cooled condenser where the alcohol vapor becomes supersaturated and ready to condense. Particles present in the sample stream serve as condensation sites for the alcohol vapor. Once condensation begins, particles grow quickly into larger alcohol droplets and pass through an optical detector where they are counted easily.



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