



Knowledge Beyond Measure.

Condensation Particle Counter

Model 3750



The most referenced CPCs with over 40 years of experience

The 4th generation of TSI® Butanol-CPCs (Condensation Particle Counters) make the best CPCs even better: providing easier use for everyone with an intuitive direct-touch user-interface, new software and secure internal data storage for months of data. Users can rely on the proven compact and rugged instrument with new wired or optional wireless communication capabilities accommodating the modern needs of researchers, enabling full remote access to instruments located in monitoring sites around the world.

The Standard CPC model 3750 fits seamlessly into the family of four Butanol-based CPCs including the High Concentration, the Ultrafine Particle and the 1-nm model, and is fully integrated into the SMPS™¹ family series 3938. With its high counting flow, concentration and size range it serves a lot of applications.

All TSI® CPCs are equipped with a removable saturator wick for easy transport and maintenance to allow longer operation time by simple user maintenance.

¹ SMPS™ stands for Scanning Mobility Particle Sizer, another reference system by TSI® to measure nanoparticle size distributions.

Features and Benefits

- Extended concentration range up to 100,000 particles/cm³
- Extended size range down to 7 nm (D50) – Improved counting efficiency for SMPS™
- Data rate up to 50 Hz – Capture highly dynamic processes
- Water-removal system – Compatible to high-humidity environments
- Improved Diagnostics with Pulse Height Monitoring
- Upgradeable with CEN/TS 16976 calibration for continuous ambient monitoring
- Upgradeable to 1nm CPC with compatible Nano Enhancer

Applications

- Filter testing
- Basic aerosol research
- Combustion
- Health and atmospheric studies



Specifications

Condensation Particle Counter

Model 3750

Particle Size Range

7 nm min. detectable particle size (D50), verified with monodisperse sucrose particles

>3 µm max. detectable particle size

Particle Concentration Range

Up to 100,000 (1x10⁵) particles/cm³

Single particle counting with continuous live-time coincidence correction

Particle Concentration Accuracy

±5% at <100,000 particles/cm³

False Background Counts

<0.001 particles/cm³ based on 12 hour average

Response Time

Response time described in percentage to concentration step change

<1 second for 90% to 10% (T10-90, T90-10)

~2 seconds for 0 to 95% (T95)

Flow System

1.0 ± 0.05 L/min inlet and counting flow (volumetric)

Requires external pump

Liquid System

Butanol (n-Butyl alcohol, not included) used as working fluid

Use of the internal water removal pump to remove condensate is recommended for use in humid environments

Communication Interfaces

Embedded touch-display

Pulse output: BNC connector, TTL level pulse, nominally 350 nanoseconds wide

USB type C to connect CPC directly to computer operating control software Aerosol Instrument Manager (included)

Ethernet port (8-wire RJ-45 jack, 10/100 BASE-T, TCP/IP) for remote connection. Configurable for automated (DHCP) or manual network settings

USB type B for external memory drives

A Wi-Fi adapter can be used to enable wireless network integration

Ambient Operating Conditions

Temperature 10 to 35°C (50 to 95°F)

Humidity 0 to 90% RH, noncondensing

Pressure 75 to 105 kPa (0.75 to 1.05 atm)

Accessories

Required

Electrical: 100 to 240 VAC, 50/60 Hz, 200 W maximum.

Auto recovery from power failure built in

Vacuum: 60 kPa (18 in Hg) minimum gauge (below atmospheric pressure)

Included

Fill and drain bottles

Aerosol Instrument Manager for Count products license

USB C to A cable for connecting to a computer

Optional

Aerosol Humidity and Temperature Sensor

Data Storage

Internal memory lasts for approx. 1 year of data at 50 Hz data rate.

Dimensions (H x W x D)

27.5 cm x 18.3 cm x 29.9 cm (10.83 in. x 7.21 in. x 11.76 in.), not including fill bottle and bracket

Weight

~6.6 kg (~14.6 lbs)

To Order

Specify

3750

3032

3032-1

3750-MKIT

3750-WKIT

3750200

RHT3000

Description

Condensation Particle Counter

Vacuum Pump 110V

Vacuum Pump 230 V/50 Hz

Maintenance Kit for CPC

Wick Replacement Kit for CPC

Sampling System for

Atmospheric Particles

Aerosol Humidity and

Temperature Sensor

Specifications are subject to change without notice.

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