



® Knowledge Beyond Measure.

# Condensation Particle Counter

Model 3756



## The ultrafine particle specialist.

The 4th generation of TSI® Butanol-CPCs (Condensation Particle Counters) makes 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 Ultrafine CPC model 3756 fits seamlessly into the family of four Butanol-based CPCs including the Standard model, the High Concentration and the 1-nm model, and is fully integrated into the SMPS™<sup>1</sup> family series 3938. With its concentration and size range it serves all 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.

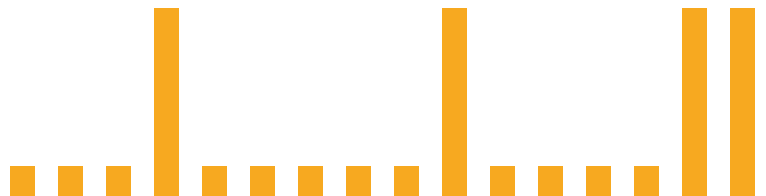
<sup>1</sup> SMPS™ stands for Scanning Mobility Particle Sizer, another reference system by TSI® to measure nanoparticle size distributions.

## Features and Benefits

- Extended concentration range up to 300,000 particles/cm<sup>3</sup>
- Size range down to 2.5 nm (D50)
- Data rate up to 50 Hz – capture highly dynamic processes
- Water-removal system – compatible to high-humidity environments
- Improved diagnostics with Pulse Height Monitoring

## Applications

- Filter testing
- Basic aerosol research
- Combustion
- Health and atmospheric studies, specifically serving researchers in need of reaching down to smallest particles



## Specifications

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### Particle Size Range

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

>3 µm max. detectable particle size

### Particle Concentration Range

Up to 300,000 (3x10<sup>5</sup>) particles/cm<sup>3</sup>

Single particle counting with continuous live-time coincidence correction

### Particle Concentration Accuracy

±10% at <300,000 particles/cm<sup>3</sup>

### False Background Counts

0.01 particles/cm<sup>3</sup> based on 12-hour average

### Response Time

Response time described in percentage to concentration step change

#### High flow

<0.2 seconds for 90% to 10% (T10-90, T90-10)

<1 seconds for 0 to 95% (T95)

#### Low flow

<2 seconds for 90% to 10% (T10-90, T90-10)

<3 seconds for 0 to 95% (T95)

### Flow System

0.3 ± 0.015 L/min or 1.5 ± 0.05 L/min inlet flow (volumetric)

0.05 ± 0.005 L/min counting flow (volumetric)

### 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

### 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, 335 W maximum. Auto recovery from power failure built in.

#### Included

Fill and drain bottles

Aerosol Instrument Manager for Count products license

USB C to A cable for connecting to a computer

### Data Storage

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

### Dimensions (H x W x D)

30.1 cm x 28.1 cm x 35.4 cm (11.84 in. x 11.05 in. x 13.92 in.), not including fill bottle and bracket

### Weight

~9.1 kg (~20 lbs)

Specifications are subject to change without notice.

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## To Order

### Specify

3756

3756-MKIT

3756-WKIT

6005740

3750200

RHT3000

### Description

Condensation Particle Counter

Maintenance Kit for CPC

Wick Replacement Kit for CPC

Replacement Diaphragm for Pump

Sampling System for Atmospheric Particles

Aerosol Humidity and Temperature Sensor



Knowledge Beyond Measure.

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