Water-based CPCs deliver accurate concentrations of particles in gases while making use of safe, eco-friendly and easily available distilled water. When combined with a particle sizer, nanoparticle size distributions and concentration can be quantified from <2 nm to nearly 1,000 nm.

The 3rd generation of water-based CPC comes with numerous enhancements:
+ Unprecedented reliability
+ Low maintenance
+ Adjustable counting efficiency

**Features and Benefits**
- Selectable counting efficiencies
- Predefined setpoints of 50% counting efficiency for 2.2 nm and 7 nm (sucrose)
- User-defined counting efficiency setting saved
- Single particle counting up to $2 \times 10^5$ particles/cm³
- Distilled water as convenient, eco-friendly and safe working fluid
- 50 Hz data acquisition
- Built-in SMPS™ spectrometer compatibility
- Large internal memory for 1+ year of data
- Remote control and data download through Ethernet

**Applications**
TSI’s versatile W-CPC is suitable for most particle counting applications, but its ability to detect down to 2.2 nanometers make this W-CPC ideally suited for:
+ Particle formation and growth studies
+ Nanotechnology research or process monitoring
+ Inhalation or exposure chamber studies
+ Long-term, uninterrupted air quality monitoring

TSI®
UNDERSTANDING, ACCELERATED
tsi.com
SPECIFICATIONS
WATER-BASED CONDENSATION PARTICLE COUNTER
MODEL 3789

Particle Size Range
User-selectable 2.2 nm and 7 nm min. detectable particle size (D50), verified with monodisperse sucrose particles
Custom setpoint for growth section temperatures

Particle Concentration Range
Up to 200,000 (2x10^5) particles/cm³
Single particle counting with continuous live-time coincidence correction

Particle Concentration Accuracy
±5% at <200,000 particles/cm³

False Background Counts
<0.01 particles/cm³ based on 12 hour average

Response Time
Response time described in percentage to concentration step change
~0.6 s for 90% (T10-90, T90-10)

Flow System
0.3 L/min aerosol flow
0.6 or 1.5 L/min inlet flow
2.5 L/min inlet flow option

Liquid System
Distilled water is used as working fluid
Water consumption approx. 43 mL per 24h

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.
Automated configuration (DHCP) of network settings

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

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)
30.7 cm x 18.3 cm x 40.4 cm (12.1 in. x 7.2 in. x 15.9 in.)
without fill and drain bottle attached

Weight
8.2 kg (18.2 lbs)

TO ORDER
Water-based Condensation Particle Counter
Specify Description
3789 Versatile W-CPC

Optional Accessories
Specify Description
3789-WKIT Wick replacement kit
3772200 Environmental sampling system

Specifications are subject to change without notice.
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