



® Knowledge Beyond Measure.

# AeroTrak® Cleanroom Condensation Particle Counter

Model 9001



**The AeroTrak® 9001 Cleanroom Condensation Particle Counter (CPC) is the only water-based, laminar flow, high flow rate instrument on the market—providing the confidence needed for monitoring critical environments.**

Using patented technology, the AeroTrak® 9001 Cleanroom CPC provides 10 nm sensitivity at a 0.1 CFM (2.83 L/min) flow rate. With an ultra-low false count rate, the AeroTrak 9001 Cleanroom CPC is ideally suited for the low particle concentrations found in ISO Class 1 and Class 2 environments.

TSI is the world leader in condensation particle counter technology, supplying commercial instruments since 1979. TSI's world-class classifiers and CPCs are used by national and standards labs worldwide. This same technology is used in the AeroTrak 9001 Cleanroom CPC. Backed by a standard one-year warranty and TSI's long-standing reputation for high quality, there is no other CPC like it on the market today that provides the same confidence for monitoring critical environments.

Unlike other high flow rate water-based CPCs, the AeroTrak 9001 Cleanroom CPC does not use turbulent mixing, so it minimizes particle losses and increases counting accuracy. Unlike alcohol or other non-water based CPCs, the AeroTrak 9001 Cleanroom CPC does not introduce chemicals into clean environments.

The AeroTrak 9001 Cleanroom CPC has the same easy-to-use graphics interface as other AeroTrak Particle Counters. Multiple particle counting configurations can be conveniently stored and uploaded as needed.

The AeroTrak 9001 Cleanroom CPC can be used as a standalone particle counter or run continuously, integrated into a facility monitoring system like the TSI FMS Software. Optionally, the instrument can be interfaced to other systems using the Ethernet interface and Modbus communications.

## Features and Benefits

- 10 nm sensitivity
- 0.1 CFM (2.83 l/min) sample flow
- Low false-count rate (< 0.07 count/ft<sup>3</sup>) provides accurate measurements at low particle concentrations
- Fast response
- Uses Ultra-Pure or DI water as working fluid, keeping alcohol or other chemicals out of the cleanroom
- Data Storage: 250 zones, 999 locations, and 10,000 samples
- USB, USB storage device, and Ethernet data transfer
- External reporting via TrakPro™ Lite Secure Software
- Industry's loudest audible alarm
- Easy, icon-driven touch screen operation
- Allows storage and recall of specific recipes and zone configurations
- Works with optional AeroTrak® 7950 High Pressure Diffuser (HPD) for measurement of high pressure gases (CDA, N<sub>2</sub>, AR)
- 316L stainless steel enclosure

## TSI—Providing the confidence needed for monitoring critical environments

- Ultra-low false count rate
- Trusted performance
  - Three detector design ensures reliability
  - Comprehensive self-diagnostics

## Specifications

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<b>Particle Size Range</b>	Min. Detectable Particle (D <sub>50</sub> ) - 10 nm Max. Detectable Particle - 1000 nm
<b>Particle Channel Sizes</b>	Single channel
<b>Counting Efficiency</b>	50% at 10 nm
<b>Concentration Limits</b>	57,000,000 p/Cu. ft @ 10% coincidence
<b>Working Fluid</b>	Ultra-Pure or De-Ionized Water
<b>Light Source</b>	Long life laser diode
<b>Zero Count</b>	<0.07 count/Cu. ft
<b>Flow Rate</b>	0.1 CFM (2.83 L/min)
<b>Sample Tube Extension</b>	Up to 3 ft (1 m) for 10 nm particles
<b>Sampling Modes</b>	Manual, automatic, beep, count or concentration
<b>Sampling Time</b>	1 second to 99 hours
<b>Sampling Frequency</b>	1 to 9999 cycles or continuous
<b>Vacuum Source</b>	Internal pump
<b>Communication Mode</b>	Modbus TCP over Ethernet or USB
<b>Audible Alarm</b>	Built-in; > 85 dBA at 1 m (adjustable)
<b>Alarm Output</b>	Dry contacts, closed when alarm is engaged
<b>Alarm Limits</b>	Programmable
<b>Display</b>	VGA 5.7 in. (14.5 cm) touch screen display
<b>Languages</b>	English, German, French, Spanish, Japanese, Chinese (simplified), Italian
<b>Software</b>	Compatible with TrakPro Lite Secure and FMS 5 Software
<b>Unit ID</b>	Configurable IP address
<b>Security</b>	2-level password protection to lock out usage and configuration
<b>Data Storage</b>	250 zones 999 Locations 10,000 sample records including date, time, particle concentration, flow status and instrument status
<b>Data Transfer</b>	Via USB storage device, connection to TrakPro Lite Secure Software through Ethernet or USB cable, or optional TSI FMS Software
<b>Calibration Frequency</b>	Recommended minimum of once per year
<b>Dimension (H x W x D)</b>	22.4 in. x 9.3 in. x 8.6 in. (56.9 cm x 24.6 cm x 21.8 cm) (without water bottle)
<b>Weight</b>	28.5 lbs (13.0 kg)
<b>Power</b>	110 to 240 VAC universal power supply
<b>External Surface</b>	316L Stainless steel
<b>Operating Range</b>	59° to 95° F (15° to 35° C) 0 to 90% RH, non-condensing
<b>Storage Range</b>	-40° to 158° F (-40° to 70° C)
<b>Warranty</b>	One year
<b>Included Accessories</b>	Quick Start Guide, manual on a CD, power supply, purge filter, 2 inlets (barbed inlet and a 3/16 in. OD straight tube connector inlet), water bottle, bracket for water bottle, drain bottle and USB cable
<b>Optional Accessories</b>	AeroTrak® 7950 High Pressure Diffuser
<b>ISO 14644-14:2016</b>	An assessment, including an agreed upon representative mode of operation, according to ISO 14644-14 showed that the AeroTrak® 9001 Cleanroom CPC has suitability for use within a cleanroom of ISO Class 3 at 0.1µm