



Advanced Test Equipment Corp.

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Knowledge Beyond Measure.

AeroTrak® Portable Particle Counter

Models 9310 & 9510



The TSI® AeroTrak® 9310 and 9510 Portable Particle Counters offer best-in-class features and versatility.

TSI® AeroTrak 9310 and 9510 Portable Particle Counters provide a 1.0 CFM (28.3 L/min) flow with 0.3 or 0.5 μm sensitivity. Compatible with TSI® accurate ventilation probes that measure air velocity/temperature/RH, these products provide you with a complete solution for your certification needs. Particle count data can be conveniently viewed on screen, downloaded using TrakPro™ Lite Secure Software, or printed directly to the integrated printer.

The AeroTrak® Portable Particle Counter generates pass/fail reports for ISO 14644-1, EU GMP Annex 1, and FS209E, via the onboard printer and the supplied TrakPro™ Lite Secure Download Software. Multiple particle counter configurations can be conveniently stored and uploaded as needed. These products can be used as a stand-alone particle counter or integrated into a facility monitoring system like TSI® FMS 5.

Both Models 9310 and 9510 comply with all the stringent requirements set forth in ISO 21501-4. These particle counters are calibrated with NIST traceable PSL spheres using TSI's world-class Classifier and Condensation Particle Counters, the recognized standard for particle measurements. Backed with a standard two-year warranty and TSI's long-standing reputation for high quality, there are no other particle counters like it on the market today.

Features and Benefits

- AeroTrak 9310 Particle Counter: 0.3 to 25 μm
- AeroTrak 9510 Particle Counter: 0.5 to 25 μm
- Up to six channels of simultaneous data
- 1.0 CFM (28.3 L/min) flow rate
- Complies with all requirements of ISO 21501-4
- Data storage: 250 zones, 999 locations, and 10,000 samples
- USB, USB Storage Device and Ethernet data transfer
- Industry's loudest audible alarm
- Easy icon-driven touch screen operation
- Onboard reports for ISO-14644-1, EU GMP Annex 1, and FS209E
- External certification reports via TrakPro™ Lite Secure Software
- Barcode scanner supports recall of specific Recipe and Zone configurations
- Displays up to three environmental parameters
- Stainless steel enclosure
- Lightweight
- Stand-alone or integrate into a facility monitoring system
- Battery life provides up to 10 hours of continuous operation



Specifications

AeroTrak® Portable Particle Counter

Models 9310 & 9510

Size Range

9310-02: 9310: 0.3 to 25 µm
9510-02: 9510: 0.5 to 25 µm

Particle Channel Sizes

9310-02: 0.3, 0.5, 1.0, 3.0, 5.0, 10 µm
9510-02: 0.5, 0.7, 1.0, 3.0, 5.0, 10 µm

Size Resolution

<15% @ 0.5 µm (per ISO 21501-4)

Counting Efficiency

9310-02: 50% at 0.3 µm;
100% for particles >0.45 µm
(per ISO 21501-4 and JIS)

9510-02: 50% at 0.5 µm;
100% for particles 0.75 µm
(per ISO 21501-4 and JIS)

Concentration Limit

820,000 particles/ft³ (29,000,000/m³)
@ 10% coincidence loss

Light Source

Long life laser diode

Zero Count

<1 count per 5 minutes
(per ISO 21501-4 and JIS B9921)

Flow Rate

1.0 CFM (28.3 L/min) ±5% accuracy
(meets ISO 21501-4 and JIS B9921)

Flow Rate Control

Electronic, automatic closed loop
(patented* flow control technology)

Sample Tube Extension

Up to 39.4 ft (12 m)

Sampling Modes

Manual, automatic, beep; cumulative/differential;
count or concentration

Sampling Time

1 second to 99 hours

Sampling Frequency

1 to 9999 cycles or continuous

Exhaust

Internally HEPA filtered

Vacuum Source

Internal pump

Communication Mode

Modbus® TCP over Ethernet or USB

Audible Alarm

Built-in; >85 dB at 1 meter (adjustable)

Status Indicators

Low battery, flow, laser

Alarm Output

Dry contacts, closed when alarm is engaged

Alarm Limits

Programmable for all particle channels

Display

VGA 5.7-inch (14.5-cm) touch screen display

Languages

English, German, French, Spanish,
Japanese, Chinese (simplified), Italian

Software

Compatible with TrakPro™ Lite Secure
and FMS 5 Software

Printer

Built-in thermal printer
(also available without printer)

Printer Output

Prints in all available languages

Environmental Sensor Interface

Supports TSI® Probe Models: 960, 962,
964, 966, (air velocity/temp/RH) and
Temp/RH probe

Unit ID

Configurable IP address

Security

2-level password protection to
lock out usage and configuration

Data Storage

250 Zones
999 Locations
10,000 sample records including: date, time,
six total particle size channels, flow status,
and instrument status

Data Transfer

Via USB storage device, connection to
TrakPro™ Lite Secure Software through Ethernet
or USB cable, or optional TSI® FMS Software.

Reports

Provides Pass/Fail on ISO 14644-1,
EU GMP, and FS209E reports

Calibration

NIST traceable using TSI® calibration system

Calibration Frequency

Recommended minimum of once per year

Dimension (H x W x D)

9.5 in. x 9.0 in. x 9.2 in.
(24.1 cm x 23.0 cm x 23.2 cm)
(without isokinetic inlet)

Weight

14.2 lbs (6.44 kg) with two batteries

Power

110 to 240 VAC universal power supply

Battery

Removable/rechargeable Li-Ion batteries
(2 battery slots)

Battery Life**

Up to 10 hours of continuous operation

Battery Recharge

5 hours (when idle)

External Surface

Stainless steel

Operating Range

36° to 95° F (2° to 35° C),
20% to 95% RH non-condensing

Storage Range

32° to 122° F (0° to 50° C),
up to 98% RH non-condensing

Standards

ISO 21501-4, CE, JIS B9921

Warranty

Two years

Included Accessories

Online operating manual, power supply, battery,
isokinetic inlet, purge filter, stylus, USB cable and
TrakPro Lite Secure Software

Optional Accessories

Electronic filter scanning probe, basic filter
scanning probe, TSI velocity probes,
Temp/RH probe, additional battery, dual port
external battery charger, isokinetic probes,
sample tubing, carrying case

* Patent Number 6,167,107

** Battery life will vary based on setup and application.

Specifications are subject to change without notice.

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