Knowledge Beyond Measure.

Aerotrak® Portable Particle Counter

MODEL 9500

The TSI® AeroTrak® 9500 Portable Particle Counter offers best-in-class features and versatility.

Perform ISO 14644-1 classifications and complete certifications of EU GMP facilities by sampling 1 m³ of air in just 10 minutes! Particle count data can be conveniently viewed on screen, downloaded using TrakPro™ Lite Secure Software, or printed directly to the integrated printer. Compatible with TSI® accurate ventilation probes that measure air velocity/temperature/RH, the Model 9500 is a complete solution for your certification needs. The combination of an optional electronic filter scanner with up to 26 ft of tubing, makes this the best instrument for in-place filter testing.

This particle counter can generate 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. It can be used as a stand-alone particle counter or integrated into a facility monitoring system like TSI® FMS 5.

The Model 9500 complies with all the stringent requirements set forth in ISO 21501-4. It is 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
- 0.5 to 25 µm size range
- Up to six channels of simultaneous data
- 3.53 CFM (100 L/min) flow rate
- Complies with all requirements of ISO 21501-4
- Best choice for filter testing in cleanrooms
- 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 3 hours of continuous operation

Size Range
0.5 to 25 µm

Particle Channel Sizes
0.5, 0.7, 1.0, 3.0, 5.0, 10.0 µm

Size Resolution
<15% @ 0.5 µm (per ISO 21501-4)

Counting Efficiency
50% at 0.5 µm, 100% for particles > 0.75 µm
(per ISO 21501-4 and JIS)

Concentration Limit
425,000 particles/ft^3 (15,000,000/m^3)
@ 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
3.53 CFM (100 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 26.2 ft (8 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

External Chemical Resistance
Isopropyl alcohol, chlorinated solution,
hydrogen peroxide

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 3 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 noncondensing

Storage Range
32˚ to 122˚F (0˚ to 50˚C),
up to 98% RH noncondensing

Standards
ISO 21501-4, CE, JIS B9921

Warranty
Two years

Included Accessories
Printed QuickStart guide, operating manual on
CD, power supply, battery, barbed inlet, isokinetic
probe, tubing, purge filter, printer paper, 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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