



## CONTAMINATION CONTROL

## Portable Particle Counters



### Features and Benefits

- AEROtrak™ 9310 particle counter: 0.3 to 25  $\mu\text{m}$
- AEROtrak™ 9510 particle counter: 0.5 to 25  $\mu\text{m}$
- Up to six channels of simultaneous data
- 1.0 CFM (28.3 L/min) flow rate
- Complies with all requirements of ISO 21501-4
- 10,000 sample record storage, 999 locations
- Ethernet and USB outputs
- Industry's loudest audible alarm
- Easy icon-driven touch screen operation
- Reports for ISO-14644-1, EU GMP Annex 1, and FS209E
- Allows storage and recall of specific tests/recipes
- Displays up to three environmental parameters
- Stainless steel enclosure
- Lightweight
- Stand-alone or integrate into a facility monitoring system
- Clean room classification down to ISO Class 2

### AEROtrak™ Portable Particle Counter Models 9310 & 9510

The TSI AEROtrak™ 9310 and 9510 Portable Particle Counters offer best-in-class features and versatility. They provide a 1.0 CFM (28.3 L/min) flow with 0.3 or 0.5  $\mu\text{m}$  sensitivity. Compatible with TSI's accurate ventilation probes that measure air velocity/temperature/RH, these products provide you with a complete solution for your certification needs.

These particle counters can generate pass/fail reports for ISO 14644-1, EU GMP Annex 1, and FS209E. These products can be used as a stand-alone particle counter or integrated into a facility monitoring system like TSI's 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.



TRUST. SCIENCE. INNOVATION.

## Specifications

## Models 9310 &amp; 9510

AERO<sup>TRAK</sup>™ Portable Particle Counter

Features	9310 & 9510	
Size Range	<b>9310-02</b>	<b>9510-02</b>
	9310: 0.3 to 25 µm	9510: 0.5 to 25 µm
Particle Channel Sizes	9310-02: 0.3, 0.5, 1.0, 3.0, 5.0, 10 µm, additional channel sizes available	9510-02: 0.5, 0.7, 1.0, 3.0, 5.0, 10 µm, additional channel sizes available
Size Resolution	9310-02: <15% @ 0.5 µm (per ISO 21501-4)	9510-02: <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	>400,000/ft <sup>3</sup> at 5% 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	Internal HEPA filter	
Vacuum Source	Internal pump	
Communication Mode	Modbus® RTU over Ethernet or USB	
Data Storage	10,000 sample records: includes date, time, six particle channels, flow, ID, and sample volume; transferable via USB storage device or TRAKPro™ Lite software	
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	

Features	9310 & 9510
Software	Compatible with TRAKPro™ Lite 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
Location ID	Up to 999 Locations; 16 characters long
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	>4 hours of continuous operation
Battery Recharge	4 hours (when idle)
External Surface	Stainless steel
Operating Range	41° to 95°F (5° to 35°C), 20% to 95% 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, extended warranties available
Included Accessories	Printed QuickStart guide, operating manual on CD, power supply, battery, barbed inlet, isokinetic probe, tripod, tubing, purge filter, printer paper, USB cable and TRAKPro™ Lite 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, isokinetic inlets, sample tubing, carrying case

\*Patent Number 6,167,107

Specifications are subject to change without notice. TSI, the TSI logo, AeroTRAK, and TRAKPro are trademarks of TSI Incorporated. Modbus is a registered trademark of Modicon, Inc.

**TSI Incorporated** - 500 Cardigan Road, Shoreview, MN 55126-3996 USA

<b>USA</b>	Tel: +1 800 874 2811	E-mail: info@tsi.com	Website: www.tsi.com
<b>UK</b>	Tel: +44 149 4 459200	E-mail: tsiuk@tsi.com	Website: www.tsiinc.co.uk
<b>France</b>	Tel: +33 491 11 87 64	E-mail: tsifrance@tsi.com	Website: www.tsiinc.fr
<b>Germany</b>	Tel: +49 241 523030	E-mail: tsigmbh@tsi.com	Website: www.tsiinc.de
<b>India</b>	Tel: +91 80 41132470	E-mail: tsi-india@tsi.com	
<b>China</b>	Tel: +86 10 8260 1595	E-mail: tsibeijing@tsi.com	
<b>Singapore</b>	Tel: +65 6595 6388	E-mail: tsi-singapore@tsi.com	



TRUST. SCIENCE. INNOVATION.

Contact your local TSI Distributor or visit our website [www.tsi.com](http://www.tsi.com) for more detailed specifications.