AEROTRAK® PORTABLE
PARTICLE COUNTER
MODEL 9110

CONFIDENCE COMES WITH
A HIGHER CALIBER OF DATA

The TSI AeroTrak® 9110 Portable Particle Counter offers an accurate measurement of particles down to 0.100 µm! This is made possible utilizing a patented* HeNe laser technology that is low maintenance with an enhanced signal to noise ratio. The Model 9110 is ideal for performing ISO-14644-1 classifications for Class 1 and Class 2 clean rooms. This instrument is designed for clean room monitoring, process tool monitoring, and filter test applications.

The Model 9110 can generate pass/fail reports for ISO 14644-1 via the onboard printer and the supplied TrakPro™ Lite Secure download software. Multiple particle counter configurations can be conveniently stored and uploaded as needed. This product can be used as a stand-alone particle counter or integrated into a facility monitoring system like TSI's FMS 5.
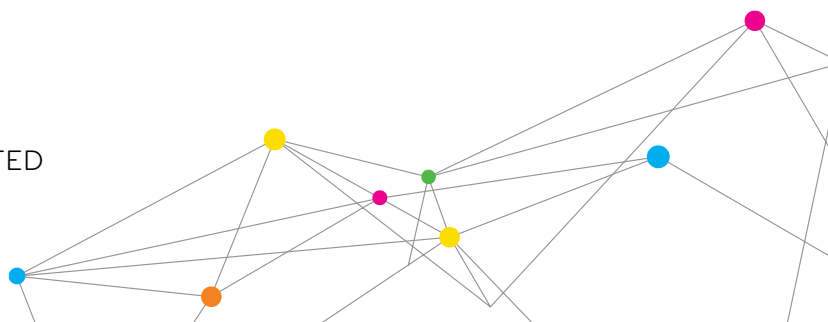
The Model 9110 complies with all the stringent requirements set forth in ISO 21501-4. It is calibrated with NIST traceable PSL spheres using TSI's world-class Classifier and Condensation Particle Counters, the recognized standard for particle measurements. Backed with a standard two-year warranty and TSI commitment for superior service and support, there are no other portable 0.100 µm particle counters like it on the market today.

Features and Benefits

+ Accurately measures particles at 0.100 µm
+ 0.100 to 10.0 µm size range
+ Up to eight channels of simultaneous data
+ 1.0 CFM (28.3 L/min) flow rate
+ Complies with all requirements of ISO 21501-4
+ Best choice for testing Class 1 and 2 Clean Rooms
+ Onboard reports for ISO-14644-1, EU GMP Annex 1, and FS209E
+ External certification reports via TrakPro™ Lite Secure
+ Utilizes enhanced HeNe laser
+ Highly repeatable and reliable measurements/data
+ Data storage: 250 zones, 999 locations, and 10,000 samples
+ USB, USB storage device, ethernet data transfer and pulse outputs
+ Industry's loudest audible alarm
+ Allows storage and recall of specific Recipes and Zone configurations
+ Displays up to three environmental parameters
+ Stainless steel enclosure
+ Seamless integration with M32-01 manifold

UNDERSTANDING, ACCELERATED

SPECIFICATIONS

AEROTRAK PORTABLE PARTICLE COUNTER MODEL 9110

Particle Counting	
Size Range	0.100 to 10.0 μm
Particle Channel Sizes	9110-01: 0.10, 0.15, 0.2, 0.25, 0.3, 0.5, 1.0, 5.0 μm
Size Resolution	<15% @ 0.2 μm (per ISO 21501-4)
Counting Efficiency	50% at 0.100 μm; 100% for particles >0.15 μm (per ISO 21501-4 and JIS)
Concentration Limit	>99,100 particles/ft³ (3,500,000/m³) at 10% coincidence loss
Light Source	Enhanced active cavity HeNe laser
Zero Count	<1 count per 5 minutes (per ISO 21501-4 and JIS)
Flow Rate	1 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)
Calibration	NIST traceable using TSI calibration system
Calibration Frequency	Recommended minimum of once per year
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
Communication Mode	Modbus® TCP over Ethernet or USB
Audible Alarm	Built-in; >85 dB at 1 meter (adjustable)
Status Indicator	Low battery, flow, laser
Alarm Output	Dry contacts, normally 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
Dimension (H x W x D)	9.3 in. x 8.1 in. x 20.5 in. (23.6 cm x 20.6 cm x 52.2 cm)
Weight	24.5 lb (11.14 kg) without battery; 28 lbs (12.70 kg) with battery
Power	110 to 240 VAC, 50 to 60 Hz universal power supply
Battery	Removeable/rechargeable Li-Ion battery, up to four batteries
Battery Life	Up to 4 hours continuous use
Recharge Time	3.5 hours (when idle)
Standards	ISO 21501-4, CE, JIS B9921
Warranty	Two years, extended warranties available
Operating Range	50˚to 95˚F (10˚ to 35˚C), 20% to 95% RH noncondensing
Storage Range	32˚ to 122˚F (0˚ to 50˚C), up to 98% RH noncondensing
Included Accessories	Printed QuickStart guide, operating manual on CD, power supply, battery, barbed inlet, isokinetic probe, purge filter, tripod, tubing, 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

*Patent Number 6,167,107
Specifications are subject to change without notice. AeroTrak, TSI, and the TSI logo are registered trademarks, and TrakPro is a trademark of TSI Incorporated.

Modbus is a registered trademark of Modicon, Inc.

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