



® Knowledge Beyond Measure.

# AeroTrak® Remote Particle Counters With Pump

Models 6310, 6510 & 6510-VHP



Model 6310

**AeroTrak® Models 6310, 6510 and 6510-VHP are independent monitoring systems condensed into an easy-to-clean 316L stainless steel enclosure.**

The integrated clean pump eliminates the need for an external vacuum source. Four standard analog inputs help to reduce installation and integration costs. Vaporized Hydrogen Peroxide (VHP) resistance and sample inlet capping auto-detect means this instrument is ideal for use in any GMP controlled area where continuous particulate and environmental monitoring is required.

Data is output via integrated Ethernet (TCP/IP), serial Modbus RTU communications and 4-20 mA analog outputs. Removing the unique hot-swap combined particle sensor and blower assembly from the mounted enclosure requires no tools, making it quick and easy to maintain. For ease of use, the internal pump automatically stops when the sample inlet probe is capped. TSI's optional FMS Buddy Automatic Hot-Standby Monitoring Software adds increased levels of assurance by maintaining full system functionality in the event of a monitoring computer failure.

The 3,000 sample record data buffer provides data redundancy, assuring full compliance and peace of mind during an unexpected network failure. Backed by TSI's comprehensive warranty and commitment for superior service and support, these remote particle counters lead the way with such a unique combination of features and benefits.

#### Monitoring Applications:

- GMP Controlled Areas
- Isolators
- Restricted Access Barrier Systems (RABS)
- Cleanrooms
- Hospital Pharmacies
- Laboratories
- Industrial
- Aerospace



## Specifications

# AeroTrak® Remote Particle Counters With Pump

Models 6310, 6510 & 6510-VHP

### Easy to Install and Maintain

- Eliminates the need for centralized vacuum system
- Internal blower has no carbon vanes and low heat gain
- Standard four 4-20 mA analog inputs reduce environmental sensor integration and installation costs
- Hot-swap optical sensor and pump slide out as a single assembly for fast and easy maintenance, no tools required
- Sample inlet capping auto-detect automatically stops the blower and prevents accidental damage
- Model 6510-VHP is resistant to VHP exposure, enabling use where VHP surface disinfection is utilized
- Easy-to-clean passivated 316L stainless steel enclosure, sample probe and cap, which are resistant to cleaning solutions
- Ethernet (TCP/IP) and serial Modbus RTU data output enables seamless integration into most software, including TSI's FMS Software

### Meets Current GMP Guidelines and International Standards

- 1 CFM (28.3 L/min) flow rate, up to four channels of particle data including 0.5 µm and 5 µm per EU and US FDA Aseptic Processing Guidelines
- ISO 21501-4 compliant calibration delivers consistent instrument counting and sizing performance
- FMS 5 Monitoring Software integration enables 21 CFR Part 11-compliant data collection



Hot Swap Optical Sensor and Pump

Specifications are subject to change without notice.

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### 6310

Size Range	0.3 to 25 µm
Channel Sizes	0.3, 0.5, 0.7, 1.0 µm 0.3, 0.5, 1.0, 5.0 µm
Counting Efficiency	50% at 0.3 µm; 100% for particles > 0.45 µm (per ISO 21501-4 and JIS)

### 6510 & 6510-VHP

Size Range	0.5 to 25 µm
Channel Sizes	0.5, 0.7, 1.0, 5.0 µm
Counting Efficiency	50% at 0.5 µm; 100% for particles > 0.75 µm (per ISO 21501-4 and JIS)

### 6310, 6510 & 6510-VHP

Concentration Limits	821,000 particles / ft <sup>3</sup> (29,000,000/m <sup>3</sup> ) @ 10% coincidence loss
Size Resolution	< 15% @ 0.5 µm (per ISO 21501-4)
Zero Count Level	< 1 count / 5 minutes (< 2 particles / ft <sup>3</sup> ) (per ISO 21501-4 and JIS)
Flow Rate	1 CFM (28.3 LPM) with ± 5% accuracy
Vacuum Source	Blower*, -non particle generator, auto stops if flow blockage detected due inlet capping – HEPA filtered exhaust
Light Source	Long Life Laser diode
Communications	Ethernet (TCP/IP) and serial Modbus output 4-20 mA Analog Outputs: 2 channel log/linear particle counts, one channel unit status
Data Storage	3,000 sample record buffer in the event of network failure
Analog Inputs	4-20 mA, supports up to 4 environmental sensors (loop powered)
External Alarm Output	Normal open dry contact rated 0 to 60 V AC/DC 1 Amp
Status Indicators	Four LEDs: power, flow, status and sampling
Monitoring Software	FMS 5 Facility Monitoring Software, enables 21 CFR Part 11 Compliance
Sensor Configuration	Via Ethernet (TCP/IP) Web interface
Dimensions (H x W x D)	10.5 in. x 10 in. x 6.1 in. (26.7 cm x 25.4 cm x 15.5 cm)
Weight	14.3 lb (6.5 kg)
Power	24 VDC, 3 A
External Surface	316L Passivated Stainless Steel
Standards	CE, JIS B9921, ISO 21501-4
Warranty	Two Years, 1 Year (Model 6510-VHP)
Operating Conditions	36° to 104°F (2° to 40°C) / 20% to 95% non-condensing
Storage Conditions	14° to 122°F (-10° to 50°C) / 20% to 98% non-condensing
Included Accessories	316L Stainless Steel Isokinetic Sample Probe Inlet, Probe Cap and Chain, 316L Stainless Steel Inlet, Flexible Sample Tubing, Operating Manual on CD
Optional Accessories	24 VDC Power Supply, Zero Filter

\*Patent Number 6,167,107



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