

# DUSTTRAK™ Aerosol Monitor Model 8520

Measure, data log, and graph airborne dust concentration using TSI's DUSTTRAK™ Aerosol Monitor.



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## Features and Applications

The DUSTTRAK Aerosol Monitor is a portable, battery-operated, laser-photometer that measures and records airborne dust concentrations. Use it to measure aerosols in a wide variety of environments, from offices to industrial workplaces. Common applications include:

- Indoor Air Quality Investigations
- Industrial Workplace Monitoring
- Environmental Monitoring
- Evaluation of Filters and Engineering Controls
- Real-time Remote Site and Perimeter Monitoring

With the DUSTTRAK Aerosol Monitor, an easy-to-read digital display shows real-time concentrations in milligrams per cubic meter ( $\text{mg}/\text{m}^3$ ) while data is simultaneously logged into memory. And the DUSTTRAK has enough memory to record weeks worth of data, even at one-minute intervals.

You can program start and stop times for unattended data logging. The DUSTTRAK Aerosol Monitor executes your instructions with microprocessor precision and patiently waits for your return. Your precious data is safely tucked away in lithium-battery-backed memory.

What do you do with all that data? When you're ready, download the data from the DUSTTRAK monitor to your PC and easily create custom graphs using the Windows software included with each instrument. You can illustrate how airborne particle concentrations vary over time, and pinpoint hard-to-locate time-of-day dependent IAQ (indoor air quality) or industrial workplace problems. Print graphs on a monochrome or color printer and use them to make impressive reports or presentations. Overlay other DUSTTRAK graphs or data from a TSI Q-TRAK™ Plus IAQ Monitor or P-TRAK™ Ultrafine Particle Counter to help identify suspicious patterns.

The DUSTTRAK with analog and alarm outputs can now be used in applications like site perimeter monitoring, ambient monitoring, and other remote monitoring applications. The analog output is capable of providing a voltage signal that is proportional to the displayed mass concentration. The analog output has an output voltage range of 0-5 VDC, with four user selectable output scaling ranges. The alarm output with adjustable setpoint can alert the user of upset or changing conditions. This new feature allows you to program a switch closure to occur at the aerosol mass concentration value of your choosing. The alarm setpoint is user-defined via TRAKPRO™ Data Analysis Software. An on-board, audible alarm beeps when the setpoint is exceeded and the instrument's digital display alternates between alarm ("AL") and the real-time aerosol mass concentration reading. See TSI Application Notes ITI-073 and ITI-074 for additional information on the analog and alarm output functions, respectively.

The DUSTTRAK monitor is factory-calibrated for the respirable fraction of standard (ISO 12103-1, A1) test dust which typifies common ambient aerosols. For ultimate precision, it can be conveniently calibrated in the field for the specific airborne contaminant in your workplace, even liquid aerosol mists. Simply make a simultaneous gravimetric analysis and then adjust the internal calibration factor accordingly. Reset the calibration factor to 1.0 to restore the factory calibration.

The 10 mm cyclone included with each instrument lets you isolate respirable aerosol fractions in accordance with the internationally accepted 4 micrometer (50 percent) cut-off criteria. We even provide a precision flow meter so you can verify and set specific sample flow rates for inlet conditioning devices like cyclones, impactors or isokinetic samplers.

Impactors for 2.5 $\mu\text{m}$  and 1.0  $\mu\text{m}$  are also included with every DUSTTRAK.



Consistent performance in the dirtiest environments is assured, due to the DUSTTRAK monitor's unique sheath air system. Critical lenses are isolated from particle-laden flows by surrounding the sample with filtered air. Particles can't collect on surfaces they never touch!

The DUSTTRAK is now suitable for more demanding outdoor applications. The new weatherproof Environmental Enclosure will protect the DUSTTRAK from harsh environmental extremes, indoors or outdoors.

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### **Accessories Included With the Instrument:**

- TRAKPRO Data Analysis Software, interface cable and manual
- 10 mm cyclone (4 micron cut-off)
- Impactors for 2.5  $\mu\text{m}$  and 1.0  $\mu\text{m}$  cut points
- Flow meter (rotometer)
- Zero filter
- AC adapter
- Four C-size alkaline batteries
- Carrying case, shoulder strap, wrist strap
- Replacement filters (8), sample tubing (4 feet)
- Operation and service manual
- Calibration certificate

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### **TRAKPRO Data Analysis Software Features:**

- Windows environment (95, 98, Me, NT, 2000)
- Program the DUSTTRAK monitor for unattended operation

- Set alarm setpoint
- Set analog output scaling
- Download data from the DUSTTRAK monitor
- Report generation
- Chart generation
- Overlay multiple data sets from same or other TSI instruments
- Export data in ASCII format

*Specifications are subject to change without notice.*

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