

# DUSTTRAK® Environmental Enclosure

The DUSTTRAK™ Aerosol Monitor is a portable, battery-operated, laser-photometer that measures and records airborne dust concentrations. The DUSTTRAK has been used to measure aerosols in a wide variety of environments, from offices to industrial workplaces. Now the DUSTTRAK has a weatherproof Environmental Enclosure accessory for making the same accurate and precise measurements outdoors.

The Environmental Enclosure can be used in conjunction with the DUSTTRAK for many different applications. While its primary use is in outdoor applications, the enclosure and extended-life battery may also be advantageous in indoor industrial applications to provide additional security and protection to the instrument.

The Environmental Enclosure comes with a sampling inlet specifically designed to sample efficiently in a broad range of wind conditions. The enclosure also contains a water trap that prevents precipitation from entering the instrument. The extended-life, lead acid batteries that are included with the enclosure permit continuous, 24-hour operation. Two batteries are supplied with the unit, allowing one battery to be charged while the other is in operation. The rugged enclosure provides a secure method of storing and transporting the DUSTTRAK and its accessories.



The DUSTTRAK Aerosol Monitor has an easy-to-read digital display showing real-time concentrations in milligrams per cubic meter ( $\text{mg}/\text{m}^3$ ) while simultaneously logging data into memory. The DUSTTRAK has enough memory to record weeks worth of data...even at one-minute intervals. The unique sheath air system provides consistent performance in the dirtiest environments. 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 Environmental Enclosure may be mounted to a standard surveyor tripod equipped with a 5/8"-11 threaded stud. The enclosure should be set up in a location where it can easily sample the particles of interest. It should be placed away from obstructions which may affect wind currents. The sampling inlet on the Environmental Enclosure samples most efficiently from 0 to 22 mph.

#### Monitoring applications include:

- Environmental site perimeters
- Fugitive dust emissions
- Dust control
- Construction sites
- Harsh industrial environments
- Urban pollution



## Specifications

### Environmental Enclosure Model 8520-1

#### Sampling Conditions

Operating Temperature	32 to 120°F (0 to 50°C)
Wind Speed	0 to 22.5 mph (0 to 10 m/s)
Aerosol Concentration Range	0.001 to 100 mg/m <sup>3</sup> (Calibrated to ISO 12103-1, A1 test dust)
Storage Temperature	-4 to 140°F (-20 to 60°C)
Zero Stability	±0.001 mg/m <sup>3</sup> over 24 hours using 10-second time-constant
Particle Size Range	0.1 to approximately 10 micrometers (Upper limit is dependent on flow rate)
Flow Rate	1.7 L/min
Temperature Coefficient	+0.001 mg/m <sup>3</sup> per °C (for variations from temperature at which DUSTTRAK was zeroed)

#### Physical

External Dimensions	16 in. × 13 in. × 7.5 in. (406 mm × 330 mm × 191 mm)
Weight (with battery and DUSTTRAK)	15.8 lb (7.2 kg)

#### User Maintenance Maintenance Check/ Data Collection Clean Inlet

Recommended daily, but longer intervals allowed based on battery usage. Weekly, under normal conditions, or daily if concentrations are over 30 mg/cm<sup>3</sup> As needed

#### Re-grease O-rings

#### Power Requirements External Battery Pack Battery Run-time Battery Charge Time

6 VDC, 10 Ah  
24 to 60 hours (typical)  
13 hours at 72°F (22°C) (New battery, deep discharge to 95% charge)

## Ordering Information

Model  
8520-1

#### Description

Environmental Enclosure includes:  
Two Battery Packs, Battery Charger,  
Omni-directional Sampling Inlet,  
Dust Caps, Tubing, Plug, and O-rings.

Specifications are subject to change without notice.



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