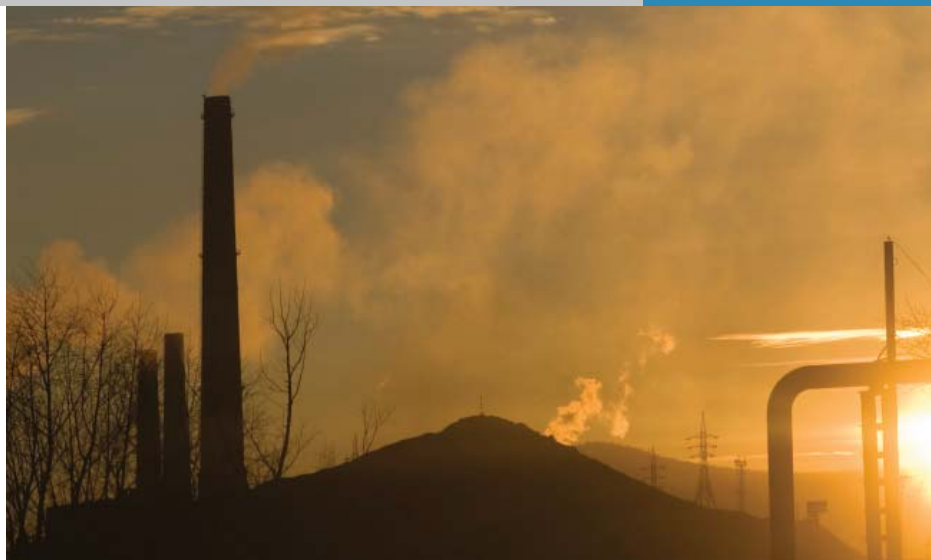


Dichotomous Sequential Air Sampler, Partisol®-Plus 2025-D

Simultaneous collection sampler of fine and coarse PM fractions



Key Features

- US EPA PM-2.5 & PM-Coarse Equivalent sampler
- Collection of fine (PM-2.5) and coarse fractions of PM-10 on two separate 47 mm filters
- Sequential sampling system with 16-filter capacity
- Filter integrity assured through sealed magazines
- Pneumatic filter exchange—no belts, motors or gears
- ActiVol™ flow control

**Candidate for US EPA PM-10 Equivalent sampler*

The Thermo Scientific Dichotomous Sequential Air Sampler, Partisol-Plus 2025-D provides a convenient means of collecting high quality samples of fine and coarse ambient particulate matter (PM). The sampler is based upon the Partisol-Plus 2025 Sequential Air Sampler, which makes up a large part of the US EPA PM-2.5 reference-designated network of air samplers.

The simultaneous sampling of fine and coarse PM can be important for source identification, since these particle size fractions often have different origins.

The sampler utilizes the classical US EPA dichotomous virtual impactor design to separate an incoming PM-10 air stream into its fine (PM-2.5) and coarse (PM-10 minus PM-2.5) components.

The sampler simultaneously collects the fine and coarse PM on two 47 mm filters housed in FRM-style molded filter cassettes. The sampler exchanges and exposes each set of two filters according to a user-specified sampling program, for example a midnight-to-midnight sample exchanged daily, every three or every six days.

Filter cassettes are stored in supply magazines prior to use and in storage magazines after collection. Each magazine has a capacity of 16 filter cassettes. Filter exchange is highly reliable, using pneumatically-actuated assemblies that do not require the use of any specialized electromechanical components. The protection afforded by the filter cassette magazines during transport between sites maintains the integrity of the collected PM samples.

Dichotomous Sequential Air Sampler, Partisol®-Plus 2025-D

To maintain optimal product performance, you need immediate access to experts worldwide, as well as priority status when your air quality equipment needs repair or replacement. We offer comprehensive, flexible support solutions for all phases of the product life cycle. Through predictable, fixed-cost pricing, our services help protect the return on investment and total cost of ownership of your Thermo Scientific air quality products.

Product Specifications

Regulatory Designations

- RFPS-0509-176: US EPA PM-Coarse Reference Sampler
- RFPS-0498-118: US EPA PM-2.5 Reference Sampler
- RFPS-1298-127: US EPA PM-10 Reference Sampler
- EN12341: Candidate equivalent PM-10 manual sampling method for European Norm EN12341.

Safety/Electrical Designations

Meets the following safety and electrical designations:

- CE: EN550011 Group 1, Class B (Emissions); EN55082-1 (Immunity); EN61010-1 (Safety)
- ETL: UL- and CSA-equivalent approval

Filter Holders and Media

Accommodates 47 mm filters. For USEPA PM-2.5 sampling, regulations only allow the use of Teflon® 2 µm pore size membrane filter. For PM-10 reference method sampling, the US EPA permits the use of Pallflex TX-40, quartz filter and Teflon® materials.

Optional cassette separators may be used to eliminate passive volatilization losses or cross-contamination for speciation work.

Sample Flow Control, Reporting, and Audit/Calibration

- ActivoI™ flow control system uses a mass flow controller and the measured ambient temperature and pressure to maintain a constant volumetric flow rate. The unit can control at rates ranging from 5 to 18 volumetric l/min.
- The sampler displays the current volumetric flow rate (l/min). For each filter exposed, the unit stores the total volume in volumetric or standard m³.
- Direct software support for single-point and multi-point audit/calibrations of the volumetric flow rate using a volumetric flow meter.
- Software support for the use of the Streamline™ FTS Flow Transfer Standard for flow audits and calibrations.

Internal Data Storage

Interval Data (every 5 minutes), Input Data (stored at user-defined interval) and Filter Data (one record for each filter). This stored information may be viewed on the display and retrieved through the RS232 interface. The sampler has the following capacities:

- 16 days of Interval Data (stored every 5 minutes)
- 32 days of Input Data (stored every 30 minutes, default)
- 50 filter records

Data Input and Output

- Keypad/display for data retrieval and user programming.
- RS232 interface for data retrieval and remote operation. Supports advanced bi-directional AK Protocol.
- 3 user-defined analog outputs (0-5 Vdc) for data logging.
- 2 user-defined TTL alarm outputs.
- Wind vane/anemometer connection with 24 Vdc power output and two 0-5 Vdc inputs for wind speed and direction.
- 3 averaged analog inputs (0-5 Vdc) with conversion to engineering units (in addition to wind speed and direction above).
- RS485 interface for connection with other Thermo devices.
- Automatic calibration of analog inputs and output channels.

Meteorological Features

- The sampler always stores the following meteorological information in each record of Input Data and Filter Data: average ambient temperature, ambient pressure, average ambient relative humidity
- With an optional wind vane/anemometer connected to the unit, the following data are also stored in each record of Input Data and Filter Data: Average wind speed, wind velocity (vector averaged), average wind direction (vector averaged)
- In the case of Input Data, these values are averaged over the data storage interval, which is user-selectable (default 30 minutes). Data are sampled once per second.
- In the case of Filter Data, these values are averaged over the periods during which the hardware sampled through a given filter. Data are sampled once per second.

Operating Range, Dimensions and Power Requirements

- Temperature: -30 to +50 °C. Temperatures down to -40 °C require additional optional hardware.
- Enclosure: 27.2" (69.1 cm) W x 15.8" (40.2 cm) D x 26.3 (67.3 cm) H. Height is 31" (78.8 cm) with the top cover, and 35.3" (89.5 cm) with the inlet connector.
- Weight: 115 lb (52 kg).
- Stand: Top Section: 30.8" (78.2 cm) W x 27.1" (68.8 cm) H x 14.0" (35.6 cm) D.
- Footprint: 42.0" (106.7 cm) W x 18.1" (46.0 cm) D.
- Power Requirements: 3 A @ 120 VAC, 1.5 A @ 240 VAC.

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This product is manufactured in a plant whose quality management system is ISO 9001 certified.

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