

PRODUCT BULLETIN

PARTISOL[®]-PLUS DICHOTOMOUS SEQUENTIAL AIR SAMPLER

The sequential dichotomous configuration of the Partisol-Plus Model 2025 Air Sampler combines the unit's automatic filter exchange capabilities with the well-established dichotomous splitting methodology developed by the USEPA (see photo at upper right).

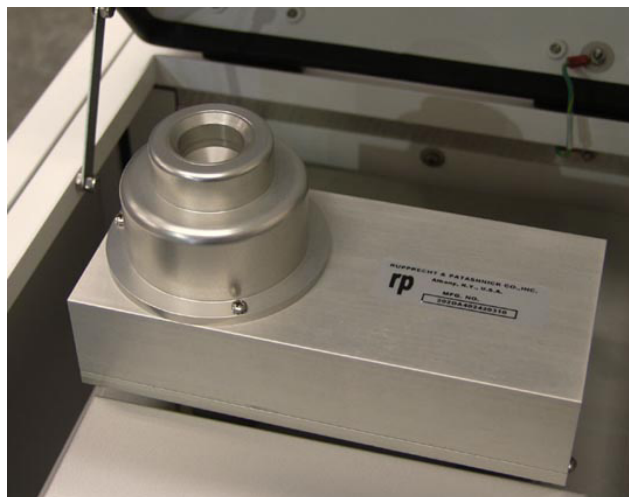
The dichotomous version of the Partisol-Plus Air Sampler splits a PM-10 sample stream into its fine (PM-2.5) and coarse (particles between 2.5 and 10 microns in size) fractions using a USEPA-designed virtual impactor for the additional 2.5 micron cutpoint. The system collects particulate matter on two 47 mm diameter filters simultaneously.

Users can determine the coarse and fine particle fractions by weighing the two corresponding collection filters. In addition, elemental analysis of the filters can reveal information concerning the sources of the collected particles, differentiated by particle size.

The system contains two supply and two storage magazines, each with a capacity of up to 16 filter cassettes, as well as a filter exchange mechanism that replaces two filter cassettes at the same time (see photo at lower right). The sequential dichotomous configuration permits the same range of programming, data input and storage features as the standard single-flow version of the sampler.

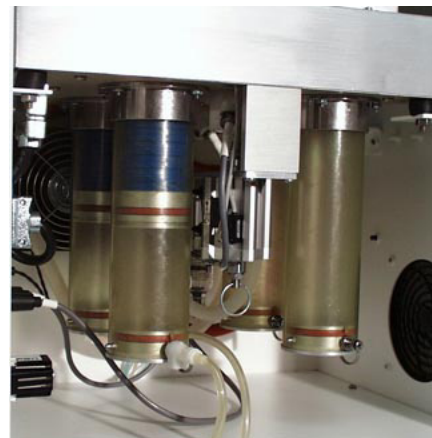
The device utilizes a Thermo PM-10 inlet operating at 16.7 l/min (1 m³/h) to provide the initial D₅₀ particle size cut-off at a 10 micron diameter (see schematic on page 2). The virtual impactor is located after the inlet, and two separate flow controllers maintain the coarse particle stream at 1.7 l/min and the fine particle stream at 15 l/min.

The dichotomous Partisol-Plus Sampler is available as Thermo part number 99-004728-0120 in its 120 VAC, 60 Hz version, or as 99-004728-0240 in its 220/240 VAC, 50 Hz configuration. It can also be operated as a



Dichotomous splitter installed in the Partisol-Plus Sampler.

Dichotomous system with four filter cassette magazines installed--two supply magazines (left), and two storage magazines (right).



conventional single-flow system (such as PM-10, PM-2.5 or PM-1) with the installation of the Partisol-Plus Pass Through Adapter (part number 55-005052) or WINS PM-2.5 impactor (part number 57-004006) along with an appropriate inlet.

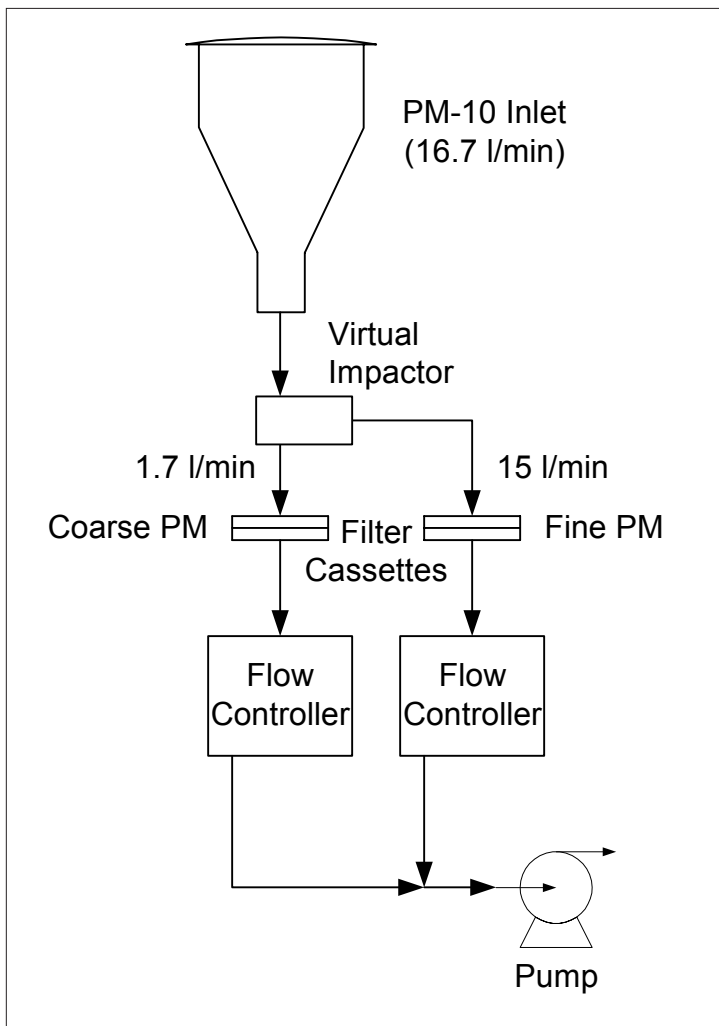
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