Product Specifications

Thermo Scientific Continuous Particulate Monitor, FH 62 C14 Series

Continuous, real-time measurement

Key Features

- New technology that provides continuous, "real-time" measurement by a C14 monitor
- Radon gas activity measurement eliminates interference of natural airborne radioactivity
- Control and data exchange over two serial interfaces possible
- Storage of half-hour average concentrations over a whole year
- Insensitive to vibration and diurnal temperatures

The Thermo Scientific Continuous Particulate Monitor, FH 62 C14 Series measures the mass concentration of suspended particulate matter (e.g., TSP, PM_{10}, $PM_{2.5}$, PM_C and PM_1) by use of beta attenuation. In addition, the ambient radioactive influence of natural Radon (Rn-222) gas is measured as a refinement step toward better sensitivity at lower ambient particulate concentrations.

The FH 62 C14 particulate sample collection area is located between both the C14 source and the proportional detector. While ambient particulate matter is being deposited onto a filter tape sample spot, the dynamic filter loading is measured continuously by the attenuation of the C14 source beta rays.

As a result, a continuous " real-time" measurement of airborne particulate is provided. It is not necessary to move the filter spot from the sample position to the detector position for zero and mass determination.

Additional features include:

- User selectable reporting of mass concentration based on standard or actual flow rate
- Processor controlled calibration of all sensors

The FH 62 C14 Series is approved to meet the following U.S. EPA Automated Equivalent PM-10 Method. (EQPM-1102-150) and the CARB California Approved sampler (CAS) for PM-10 and PM-2.5.

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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 lifecycle. 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.

Continuous Particulate Monitor, FH 62 C14 Series

Measuring Principle	Continuous and simultaneous particulate collection couples with beta ray attenuation
Source	Carbonium-14 (C14) < 3.7MBq (<100µCi)
Ranges	0 to 5,000µg/m3 or 0 to 10,000µg/m3
Minimum detection limit	<1 µg/m3 (24-hour average); <4 µg/m3 (1-hour average)
Precision of two monitors	± 2 µg/m3 (24-hour)
Resolution	± 1 µg/m3 (instantaneous)
Correlation coefficiant	R > 0.98
Measurement cycle	Single filter spot in position for 24 hours (default); user selectable 30-minutes to 24 hours
Data averages	Each full 1/2, and 24 hour values automatically stored; each full 1/2, 1, 3 and 24 hour
Air flow rate	1 m3/h (16.67 lpm) measured across an internal subsonic orifice; user selectable from 0 to 20 lpm
Sample Flow Rate	0.6 liters/min.
Operating temperature	-22 to 140°F (-30 to 60°C)
Output	Serial interface RS 232 Analog output: 4-20mA or 0-10V output of concentration (µg/m3)
Power Requirements	Instrument: 100-240V, 50/60Hz, 330W max., 15W without pump or heater
	Pump: 100-110/100-120V, 50/60Hz or 220/240V, 50/60Hz, 100W
Dimensions	Instrument: 19" (W) x 12.25" (H) x 13" (D) / 483mm (W) x 311mm (H) x 330mm (D)
	Pump: 8.25" (W) x 8.75" (H) x 4.25" (D) / 210mm (W) x 222mm (H) x 108mm (D)
Weight	Instrument: 50 lbs (22.5 kg) / Pump: 18 lbs (8.16 kg)

Optional Accessories

- Adjustable Tube Heaters
- Analog I/O Expansion Board
- Filter Tape Printer
- Foil Separation
- TSP or PM_{10} Inlets
- Mass & Flow Rate Calibration Kits
- WINS Impactor, Sharp-Cut Cyclone & Very Sharp-Cut Cyclone for $PM_{2.5}$

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

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