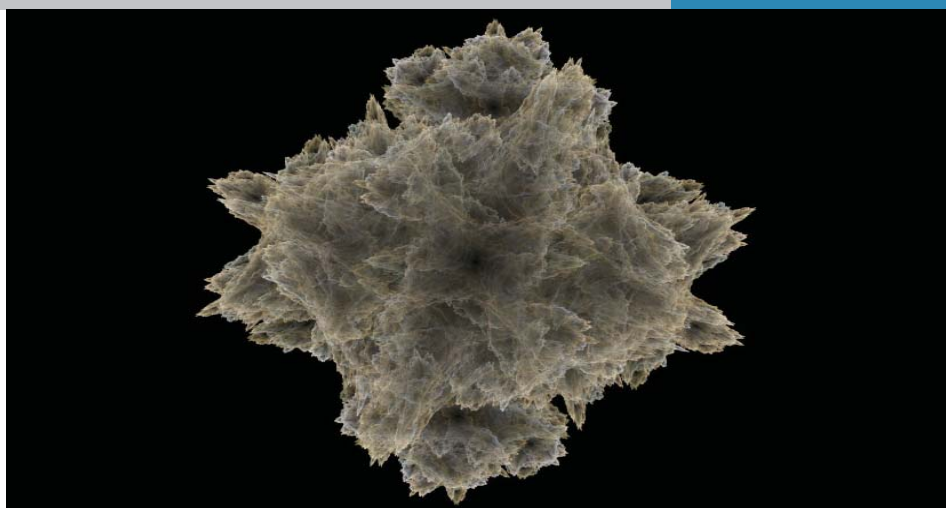


Thermo Scientific TEOM® 1400ab Ambient Particulate Monitor

The Thermo Scientific TEOM 1400ab provides a continuous direct mass measurement of particulate matter in ambient air. Unmatched innovation, quality and support have made the TEOM 1400ab a worldwide preferred standard.



Key Features/Benefits

- PM-10 (EQPM-1090-079) and PM-2.5, worldwide approvals
- Continuous true mass measurement with unmatched short-term precision and resolution
- Active volumetric flow control using advanced mass flow controllers
- Audit and calibration using NIST-traceable mass and flow standards

Quality

The Thermo Scientific TEOM 1400ab Ambient Particulate Monitor is the choice of air pollution monitoring networks worldwide to measure particulate mass concentrations continuously. The system has become the de facto standard for particulate mass concentration measurements in areas such as Canada, Hong Kong, the United Kingdom and France due to its high data quality, reliability and unparalleled support.

Technology

The instrument incorporates the patented tapered element oscillating microbalance, a microweighing technology that provides true mass measurements. Using a choice of sample inlets, the hardware can easily be configured to measure PM-10, PM-2.5, PM-1 or TSP concentrations. This microprocessor-based unit easily accommodates all siting requirements and

provides internal data storage and advanced analog and serial data input/output capabilities.

Flexibility

The TEOM 1400ab monitor is used to monitor ambient air quality in the following major applications:

- Air quality monitoring networks, including background sites
- Special studies and supersites
- Routine input for air quality index
- In and around industrial and material handling facilities
- Remediation projects (Superfund, hazardous waste)
- Indoor air, exposure chamber, and industrial hygiene measurements

TEOM 1400ab Ambient Particulate Monitor

Regulatory Designations

- USEPA equivalency designation number EQPM-1090-079 as an equivalent PM-10 monitor, USEPA CACM for PM-2.5.
- German EPA approval for TSP, PM-10. Conforms with European continuous PM-10 monitoring requirements.
- Norms/approvals in Australia, Japan, Korea and Taiwan.

Safety/Electrical Designations

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

Standard System Configuration

- TEOM Sensor Unit and TEOM Control Unit
- Menu-Driven Software for User Interaction via the Keypad
- ActiVol™ flow control using Automatic Mass Flow Controller(s) and supplied Ambient Temperature and Ambient Pressure Sensors
- Connecting and Interface Cables, and Vacuum Pump
- Consumables for average first year's operation (ambient)
- RPCOMM Software for Local or Remote Communication
- Support for the ACCUTM System
- System Configurations Include PM-10, PM-2.5, PM-1, TSP and basic

Instrument Performance (3 l/min, 1s, stable conditions)

- Measurement Range: 0 to 5,000,000 $\mu\text{g}/\text{m}^3$ (5 g/m^3)
- Resolution: 0.1 $\mu\text{g}/\text{m}^3$
- Precision: $\pm 1.5 \mu\text{g}/\text{m}^3$ (1-hour ave), $\pm 0.5 \mu\text{g}/\text{m}^3$ (24-hour ave)
- Minimum Detectable Limit for Mass Measurement: 10 nano grams, 0.06 $\mu\text{g}/\text{m}^3$ (1-hour ave)
- Accuracy for Mass Measurement: $\pm 0.75\%$

Data Averaging and Output

- Real-time Mass Conc Averages: 10 min default, 10 to 3600 sec
- Long-Term Averaging: 30 min, 1, 8, and 24 hr
- Data Output Rate: every 2 sec

Operating Range

- The temperature of the sampled air may vary between -40 and 60 °C. The TEOM Sensor and Control Units must be weather protected within the range of 2 to 40 °C. An optional Complete Outdoor Enclosure provides complete weather protection.
- Main Flow Rate: 0.5 to 4.0 l/min
- Auxiliary Flow Rate: 2.0 to 18.0 l/min
- Temperature of Mass Transducer: ambient to 70 °C
- Temperature of Internal Sample Tube: ambient to 70 °C

Data Storage

- Internal data logging of 1 to 8 user-specified variables; capacity of 40 weeks of hourly mass concentration data.

Filter Media

- Pallflex TX40, 13 mm effective diameter

Data Output and Input

- Four-Line Display on TEOM Control Unit
- Two-way RS232 communication using the AK Protocol or German Ambient Network Protocol.
- 3 User-Defined Analog Outputs (0-1, 0-2, 0-5 or 0-10 VDC)
- 2 User-Defined Contact Closure Alarm Circuits
- 7 Averaged Analog Inputs (± 2 VDC or ± 10 VDC) with user-defined conversion to engineering units, including vector-averaged wind velocity and direction.

Power Requirements

- Sensor and Control Units: 120 VAC/60 Hz: 1 A; 240 VAC/50 Hz: 0.5 A
- Pump: 120 VAC/60 Hz: 4.25 A; 240 VAC/50 Hz: 2.25 A

Physical Dimensions

- Base of TEOM Sensor Unit: W: 14" (36 cm) x D: 11" (28 cm) x H: 13" (33 cm); Heated Air Inlet of TEOM Sensor Unit: H: 26" (66 cm) x Diameter: 3.5" (9 cm); Weight: 40 lb (18 kg)
- TEOM Control Unit: W: 17" (43 cm) x D: 18" (46 cm) x H: 9" (22 cm) (rack mountable); Weight: 32 lb (15 kg)

This specification sheet is for informational purposes only and is subject to change without notice. Thermo Fisher Scientific makes no warranties, expressed or implied, in this product summary.

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