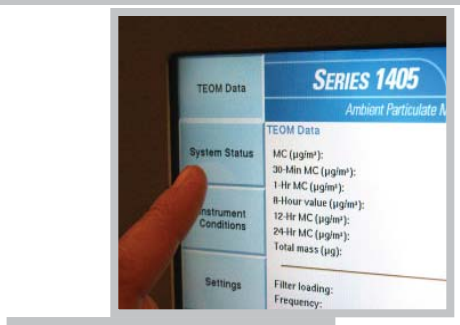
Product Specifications

The Thermo Scientific TEOM 1405 is a continuous ambient air monitor that provides unmatched short-term precision and resolution using direct mass measurement.

Thermo Scientific TEOM® 1405



Key Features/Benefits

- Patented TEOM technology with innovative updates.
- Touch screen user interface
- Embedded FTP server, ethernet, USB, RS-232 and RS485 communications
- Activol™ flow control

Quality

Thermo Scientific TEOM 1405 is the replacement for the successful 1400ab Ambient Particulate Monitor which 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 technnology 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 single cabinet, network ready unit easily accommodates all site requirements and provides internal data storage and advanced analog and serial data input/output capabilities.

Total Certainty

The 1405 provides a self-referencing, NIST-traceable true mass measurement using Thermo Scientific's proven high reliability TEOM technology. The system differentiates itself from other PM measurement methods by utilizing a direct mass measurement that is not subject to measurement uncertainties found in surrogate techniques such as beta attenuation, light scattering and pressure drop.

TEOM 1405 Ambient Particulate Monitor

Safety/Electrical Designations
Designed to meet:
- CE: EN 61326:1997 + A1:1998 + A2:2001 + A3:2003, EN:61010-1
- UL: 61010-1:2004
- CSA: C22.2 No. 61010-1:2004
- FCC: Part 15 Subpart B, Class B

Standard System Configuration
- Menu-driven software for user interaction via 1/4 VGA display with touch screen
- Connecting and Interface Cables, and Vacuum Pump
- Consumables for average first year's operation (ambient)
- RPCOMM and ePort Software for Local or Remote Communication

Instrument Performance (3 l/min, 1s, stable conditions)
- Measurement Range: 0 to 1,000,000 µg/m³ (1 g/m³)
- Resolution: 0.1 µg/m³
- Precision: ±2.0 µg/m³ (1-hour ave), ±1.0 µg/m³ (24-hour ave)
- Accuracy for Mass Measurement: ±0.75%

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

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 8 to 25 °C. An optional Complete Outdoor Enclosure provides complete weather protection.

Sample Flow
- Activol flow control system uses the mass flow sensors and the measured ambient temperature and pressure to maintain constant volumetric flow rates.
- Main Flow Rate: 3 1/min
- Bypass Flow Rate: 13.67/min

Data Storage
- Internal data logging of user-specified variables; capacity of 500,000 records.

Filter Media
- Sample Filter: Pallflex TX40, 13 mm effective diameter

Data Output and Input
- ePort software to view and change system operation from PC
- Touch screen user interface
- Ethernet with embedded FTP server, USB, RS232, RS485
- 8 User-Defined Analog Outputs (0-1 or 0-5 VDC)
- 2 User-Defined Contact Closure Alarm Circuits
- 4 Averaged Analog Inputs (0-5 VDC) with user-defined conversion to engineering units

Power Requirements
- Model 1405: 100-240 VAC, 440 VA, 47-63 Hz
- Pump: 120 VAC/60 Hz: 4.25 A; 240 VAC/50 Hz: 2.25 A

Physical Dimensions
- W: 17" (43.2 cm) x D: 19" (48.3 cm) x H: 29.5" (75 cm)
- Weight: 38 lbs (18 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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