

# TEOM 1405-D Ambient Particulate Monitor

## Continuous dichotomous air monitor

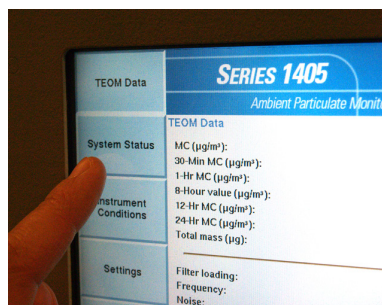
The Thermo Scientific™ TEOM™ 1405-D Ambient Particulate Monitor simultaneously measures PM-10, PM-2.5 and PM-Coarse (PM10-2.5) mass concentration with the same short term precision as the Thermo Scientific TEOM 1400ab.

### Features

- Real time measurement of three particle sizes
- Touch screen user interface
- Embedded FTP server, ethernet, USB, RS-232 and RS485 communications
- Activol flow control

### Introduction

The TEOM™ 1405-D Monitor is composed of two TEOM mass sensors housed in a single cabinet, network-ready configuration that includes the control system with touch screen user interface.



The system is designed to provide representative short and long term reading of the ambient PM concentration. The system's default data output consists of a 10 minute average mass concentration which can be changed to 30 minutes or up to 24 hours. The three simultaneous measurements are accomplished by the use of one PM-10 inlet combined with a

virtual impactor that splits the flow. The touch screen outputs all three measurements for easy viewing while the micro-processor based instrument accommodates advanced internal data storage.

The 1405-D monitor provides a self-referencing, NIST-traceable true mass measurement using our 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.



Thermo Scientific™  
TEOM™ 1405-D Monitor

## Thermo Scientific TEOM 1405-D Ambient Particulate Monitor

Specifications	
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/m <sup>3</sup> (1 g/m <sup>3</sup> ), resolution: 0.1 µg/m <sup>3</sup> Precision: ±2.0 µg/m <sup>3</sup> (1-hour ave), ±1.0 µg/m <sup>3</sup> (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 hour 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 2° to 40° 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: Fine PM filter: 3.0 l/min; Coarse PM filter: 1.67 l/min, Bypass Flow Rate: 12.0 l/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) × D: 19" (48.3 cm) × H: 29.5" (75 cm), Weight: 40 lbs (18 kg)
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

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 products.

### USA

27 Forge Parkway  
Franklin, MA 02038  
Ph: (508) 520-0430  
Fax: (508) 520-2800  
orders.aqi@thermofisher.com

### India

C/327, TTC Industrial Area  
MIDC Pawane  
New Mumbai 400 705, India  
Ph: +91 22 4157 8800  
india@thermofisher.com

### China

+Units 702-715, 7th Floor  
Tower West, Yonghe  
Beijing, China 100007  
Ph: +86 10 84193588  
info.eid.china@thermofisher.com

### Europe

Ion Path, Road Three,  
Winsford, Cheshire CW73GA UK  
Ph: +44 1606 548700  
Fax: +44 1606 548711  
sales.epm.uk@thermofisher.com

Find out more at [thermofisher.com](http://thermofisher.com)

**ThermoFisher**  
SCIENTIFIC