

Real-time particulate monitor
utilizing beta attenuation and
nephelometry

Product Specifications

Thermo Scientific Model 5030 SHARP Synchronized Hybrid Ambient, Real-time Particulate Monitor



Key Features

- U.S. EPA PM-2.5 Equivalent Monitor (EQPM-0609-184)
- True continuous mass calibrated instrument for accurate PM measurements with high time resolution
- IMR (Intelligent Moisture Reduction) System eliminates moisture interference while preserving volatile aerosols
- Dynamic digital filtering for continuous calibration update
- Superior accuracy for consistent correlation with Federal Reference Methods

The Thermo Scientific Model 5030 SHARP Synchronized Hybrid Ambient Real-time Particulate Monitor combines light scattering photometry and beta attenuation for continuous PM-10/PM-2.5 measurement.

The 5030 SHARP Monitor utilizes proprietary digital filtering to continuously mass calibrate the nephelometric measurement of PM-10 and PM-2.5. The result is an accurate, precise, and real-time continuous particulate monitor with unprecedented time resolution and detection limit.

The Intelligent Moisture Control System (IMR) regulates humidity levels using a heating system that is linked to a relative humidity sensor located just upstream of the sample, providing a representative

measurement of the relative humidity at the particulate measurement head.

The result is a system that heats only when necessary, eliminates moisture effects, and assures that the volatile aerosol remains intact for accurate measurement.

Installation and set-up of the 5030 SHARP Monitor is extremely simple without the need for complex components that require excessive time and effort. Easy to navigate menus allow users to glide through parameter set-up allowing the instrument to run almost effortlessly. Routine maintenance is necessary only once per year making the 5030 SHARP Monitor the lowest maintenance continuous particulate monitor on the market today.

Product Specifications

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 air quality products.

Thermo Scientific Model 5030 SHARP Synchronized Hybrid Ambient Real-time Particulate Monitor

Concentration Ranges	0 to 1,000 µg/m ³ and 0 to 10,000 µg/m ³
Minimum Detectable	<0.5 µg/m ³ @ 2x (1-hour time resolution)
Hourly Precision	+/- 2 µg/m ³ <80µg/m ³ , +/-5 µg/m ³ >80µg/m ³
Measurement Time	1 minute (updated every 4-seconds)
Precision Between	+/- 2 µg/m ³ (2-sigma, 24-hour time resolution)
Span Drift	0.02% per day
Display Resolution	0.1 µg/m ³ (internally logged and displayed data)
Accuracy	+/- 5% (compared to 24 hour FRM)
Sources	Optical: IRLED, 6 mW, 880 nm Beta: carbon-14, 3.7 MBq (100 mCi), 5700-year half-life
Detectors	Optical: silicon/hybrid amplifier Beta: proportional counter
Air Flow Rate	1 m ³ /h (16.67 lpm) measured across an internal sub-sonic orifice; user selectable from 0 to 20 lpm
Output	Two serial interface RS232 / Analog output: 4-20mA or 0-10V output of concentration (µg/m ³) (specify upon order)
Operating Temperature	-22° to 140°F (-30° to 60°C)
Power Supply	Instrument: 10-240V, 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: 50lbs (22.5kg) / Pump: 18lbs (8.1kg)

Ordering Information

Model 5030 SHARP Synchronized Hybrid Ambient Real-time Particulate Monitor

Choose from the following configurations/options to customize your own Model 5030 SHARP

1. Sampling tube:

1st letter is 110V, 2nd letter is 220V

A1, B1 = Heated sample tube, 3m
A2, B2 = Heated sample tube, 1m
A3, B3 = None
A4, B4 = Heated sample tube, 2m

2. Universal vacuum pump:

WP = With pump with STAS 3 connector for direct connection
NP = No pump

3. Cyclones / Inlets

A = PM2.5 Sharp cut cyclone
B = PM2.5 Very sharp cut cyclone
C = PM10 Inlet
D = PM2.5 Sharp cut cyclone and PM10 inlet
E = PM2.5 Very sharp cut cyclone and PM10 inlet
F = None
G = Digital PM10 inlet
H = Digital PM2.5 Inlet
K = TSP Sampling head

4. Roof flange

A = US
B = EU
C = None

5. Manual

A = English
B = German

6. Zero Air Option

A = US
B = EU
C = None

7. Calibration Kit

A = Calibration foil kit
B = None

Your Order Code: 5030- _____

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

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