SPECIFICATION SHEET

TOA DKK

PM Monitor   FPM-377C

FPM-377C is an automatic measuring device that continuously measures particulate matter (PM10 or PM2.5) in the ambient air using the ß-ray absorption method. The PM10 can be measured by attaching the PM10 inlet alone to the FPM-377C, and the PM2.5 can be measured by attaching the additional VSCC Inlet.

One hour value, which is important for PM10/PM2.5 monitoring measurement, can be measured with high accuracy and stability. PM2.5 and PM10 are USEPA certified.By meeting the conditions, it can be used for reporting Course PM (PM10-PM2.5).

USEPA Designation Number
  PM10 : EQPM-0905-156
  PM2.5: EQPM-1224-264
  PM10-2.5 : EQPM-1224-265

Characteristics

○By adopting our original filter holding structure in the particle collection unit, able to arrange the sample air inlet to the particle collection unit in a vertical line. In addition, since there is no bend in the sample air introduction pipe from the particle sizer to the particle collection unit, it meets the strict structural requirements of PM10/PM2.5 measuring instruments that have no bend in the sample air introduction path.

Using a heater-type dehumidifier to keep the relative humidity of the collecting section constant, the effect of humidity is small and the consistency with the standard measurement method is excellent.

○Facilitates identification of time and date for collection spots. A user can extend intervals between a collection spot at 00:00a.m. and that 01:00a.m. to a double period. This facilitates identification of the time and date for collection spots. Used filter paper can be used as a reference material when measurement data is defined.

○A liquid crystal touch panel is used and the operation is interactive. Each data history can be easily displayed on the LCD.
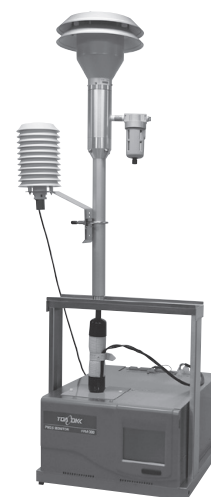
○Measurement conditions such as the flow rate, temperature, and pressure of the sample air, as well as the calibration information and event history of this device can be recorded on the CF card.

Standard specifications

Product name   : Particulate Monitor
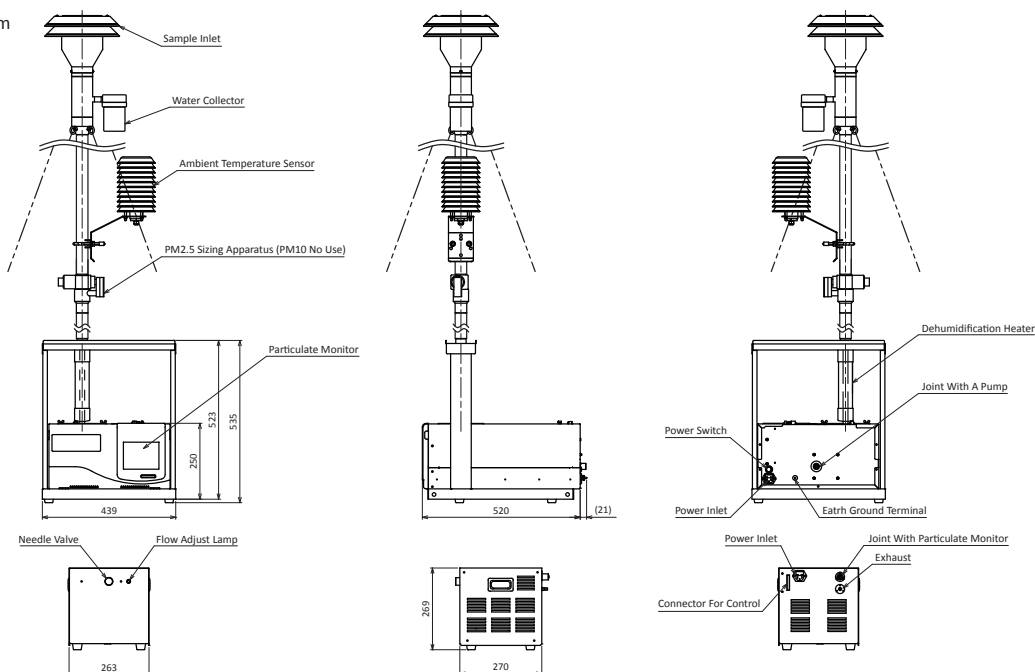Model   : FPM-377C
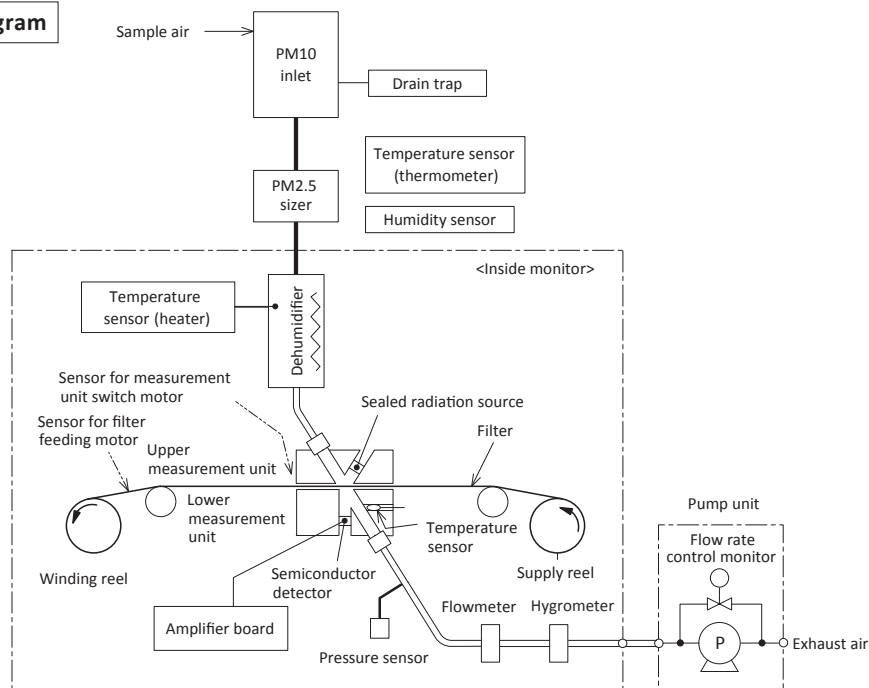Measurement Object : PM10 or PM2.5 in ambient air (either)

Measurement method	: Beta (ß) ray absorption method
Meas. range	: Option (0 to 500µg/m³, 0 to 2000µg/m³, 0 to 5000µg/m³)
Radiation source	: ¹⁴C (3.7MBq±10%, radiation source)
Radiation detector	: Semiconductor detector
Sizer	: PM10 Inlet / PM10 Inlet + VSCC inlet
Dehumidification method	: By heating the sample air / Relative humidity control method
Collection filter	: Filters made of polytetrafluoroethylene (Roll type Available for 70days)
Collection efficiency	: 99.9% or more (0.3µm DOP particle)
Suction flow rate	: 16.7L/min
Flow control	: Actual flow control
Collecting time	: 59 min. (per hour batch measurement)
Average time	: 1 hour and 24 hours
24Hour Detection Limit 2σ	: ≤1.2µg/m³
Repeatability (reproducibility)	: 2%FS or less
Zero drift	: ±2%FS or less/24h
Span drift	: ±3%FS or less/24h
Linearity (indication error)	: ±3%FS or less
Indication value for calibration air	: Within ± 10% of standard measurement method
Blank test (Indicated value for air containing no particulate matter)	: ±2.0µg/m³ (Average)
Logging data	: One hour value, flow rate, temperature, humidity, Barometric pressure etc
Ambient temperature	: 0 to 40°C
Power supply	: AC 220V, 50/60Hz
Power consumption	: Max. approx. 250VA, average approx. 150W (including power supply for pump)
Display	: LCD
Analog Output	: 0 to 1V
Digital Output	: RS232 port (TCP/IP/Ethernet with external hardware)
Measurement resolution	: 0.1µg/m³

Dimensions
Unit : mm

Sample Inlet
Water Collector
Ambient Temperature Sensor
PM2.5 Sizing Apparatus (PM10 No Use)
Particulate Monitor

523
535
250
439

Needle Valve
Flow Adjust Lamp

263

520
(21)

269

270

Dehumidification Heater
Joint With A Pump
Power Switch
Power Inlet
Eatrh Ground Terminal

Power Inlet
Joint With Particulate Monitor
Exhaust
Connector For Control

Measurement system diagram

Sample air

PM10 inlet
Drain trap

Temperature sensor (thermometer)
Humidity sensor

PM2.5 sizer

<Inside monitor>

Temperature sensor (heater)
Dehumidifier

Sensor for measurement unit switch motor
Sealed radiation source
Filter

Sensor for filter feeding motor
Upper measurement unit
Lower measurement unit

Winding reel
Semiconductor detector
Temperature sensor
Supply reel

Pump unit
Flow rate control monitor

Amplifier board
Pressure sensor
Flowmeter
Hygrometer

P
Exhaust air

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⚠ **CAUTION**   Please read the operation manual carefully before using producuts.

https://www.toadkk.com/english/

Information and specifications are subject to change without notice.