

Qty: Description:

Approx. Cost Ea.

2 BETA-ATTENUATION PARTICULATE (PM_{2.5}) MONITOR

\$20,000.00

General Specifications:

- The monitor must be an Environmental Protection Agency (EPA) Designated Equivalent Method (DEQ) and must include any accessories necessary to maintain this equivalency.
- The monitor must use the Beta-Attenuation process for determining particulate matter (PM) concentrations.
- The monitor must utilize a very sharp cut cyclone to limit PM size to 2.5 microns or smaller.
- The monitor must have the ability to control sample relative humidity at operator selected level from 10% to 90%.
- Monitor must be capable of automatic hourly checks of the zero and span.
- The sample must be collected on filter tape; the tape must be mechanically aligned under the sample inlet after completing a beta ray transmission reading to determine the initial filter tape concentration (zero) and a post sample reading must be collected to determine PM_{2.5} concentrations of the sample.
- Must have the ability to measure and internally store 1 to 24 hour averages.
- Must provide access to data for retrieval via a RS-232 port, compatible with a modem or laptop.
- Must have at least one isolated analog output; switch selectable 0 to 1 VDC or 0 to 10 VDC.
- Must have all data files accessible via industry standard two-way RS-232 serial port using common terminal programs.
- Must be capable of interfacing with digital data loggers.
- Monitor to be supplied with Medo Linear Piston vacuum pump.
- Monitor to be supplied with sample inlet system adequate for installation in a sampling shelter with 8 foot ceilings.

TECHNICAL SPECIFICATIONS:

- **RANGES:** A minimum of: 0 – 0.1, 0.2, 0.25, 0.5, 1, 2, 5, and 10 milligrams per cubic meter (mg/m^3).
- **OPERATING TEMPERATURE:** 0.00 to + 50.0 degrees Celsius.
- **SAMPLE FLOW RATE:** 16.7 liters/minute. Adjustable 0-20 liters/ minute range, actual or standardized flow.
- **LOWER DETECTABLE LIMIT:** 1 microgram per cubic meter for 24 hour readings and 5 micrograms per cubic meter for 1 hour readings.
- **POWER REQUIREMENTS:** 100-230 Volts AC all at 50-60 Hertz; less than 0.4kw maximum consumption.
- **MEASUREMENT RESOLUTION:** 0.1 micrograms per cubic meter or better
- **DISPLAY RESOLUTION:** 1.0 micrograms per cubic meter or better
- **ACCURACY:** Must meet or exceed US-EPA Class III $\text{PM}_{2.5}$ FEM standards for additive and multiplicative bias
- **BETA SOURCE:** ^{14}C , 60 μCi (Carbon 14 @ 60 micro curie)
- **DATA STORAGE:** At least 180 days of hourly values.