

# EVM Series

ENVIRONMENTAL MONITORING



## PARTICULATE CONCENTRATION AND AIR QUALITY MONITORING IN ONE ADVANCED INSTRUMENT

Real-Time Direct Reading • Time History Data Logging • Portable or Stationary

# 2in1

INSTRUMENTS

FINALLY, AN AIR QUALITY MONITOR DESIGNED WITH EFFICIENCY IN MIND.

## Monitor both particulates and air quality in one compact instrument.

When it comes to monitoring a variety of air quality hazards, Quest Technologies has made it easy with the new EVM-7. The EVM-7 lets you simultaneously measure particulates, volatile organic compounds, toxic gas, carbon dioxide, relative humidity, temperature and air velocity. By offering two instruments in one, you'll enjoy a lower cost of ownership and the freedom of not lugging around multiple instruments from site to site. And that's just the beginning.



### Key Features of the EVM-7 Include:

#### Simultaneous Measurement of Particulate and Gas Concentrations

*Reduces the need for multiple instruments and lowers the cost of ownership.*

#### Dial-in Rotary Impactor

*Twist and click selection of particulate settings: PM2.5, PM4, PM10 or TSP.\* Eliminates disassembly and reduces the need for external cyclones.*

#### 90° Light Scattering Photometer

*Mass concentration engine offers real-time measurement of particulates.*

#### Built-in Sampling Pump for Gravimetric Analysis

*Allows user to insert a 25 or 37 mm cassette to capture particulates for laboratory testing.*

\*Within the instrument's measurement range.

## Easy to use and packed with features to make your life easier.

As with many Quest instruments, the EVM-7 provides a wide range of features, from basic monitoring to advanced functions. At Quest, we pride ourselves in producing monitors that are just as packed with features as they are easy to use. And the EVM-7 is no exception. Its large display and buttons, simple screens, straightforward commands and robust software solutions put all of the EVM-7's capabilities right at your fingertips. Here are just a few highlights:

- Factory calibrated relative to ISO 12103-1, A2 (Arizona Road Dust)
- Site correction factors for various particulates (user supplied)
- Auto run and security code protection for unattended sessions
- Carbon dioxide (CO<sub>2</sub>) trending algorithms for calculation of room air exchange rates (with QuestSuite™ Professional II software)
- Dew point readings for analysis of airborne moisture percentage
- Smart sensors which are auto-detectable at power on
- Real-time measurement with once per second update rate
- Time history data logging
- Trend graphing for all parameters
- Standard Quest menu driven user interface with 10 pushbuttons / 4 softkeys
- User selectable digital output for external functions
- Displayed measurements of Level, Minimum, Maximum, Average, Short-Term Exposure Level (STEL) and Time Weighted Average (TWA)



## No matter where you go, you'll have Quest's proven track record of reliability right by your side.

The true beauty of the EVM-7 is its versatility. With its rugged, yet lightweight design, the EVM-7 is well suited for a variety of applications and situations, including:

- Work site monitoring
- Industrial hygiene surveys
- Military site evaluation
- Internal vehicle sampling (aircraft, trains)
- Construction / mining site monitoring
- Engineering studies
- Industrial fence line monitoring
- Remediation sampling
- IAQ walk through & stationary studies
- Air quality assessment
- VOC screening and monitoring
- Regulatory compliance



**Removal of the back cover** allows for convenient access and customization of gravimetric filter cassette for sample collection.



## ADDITIONAL MODELS include the EVM-3 and EVM-4

For those customers who do not require the full functionality of the EVM-7.

### EVM-3

Specializes in real-time direct reading of particulate concentrations. This tri-sensor unit utilizes the built-in sampling pump and dial-in impactors for real-time mass concentration readings.

- Particulates (mass concentration)
- Temperature
- Relative Humidity

### EVM-4

Multi-sensor unit designed for typical indoor air quality investigations. Simultaneously track, log and monitor multiple indoor air quality parameters including room air exchange rates and dew point.

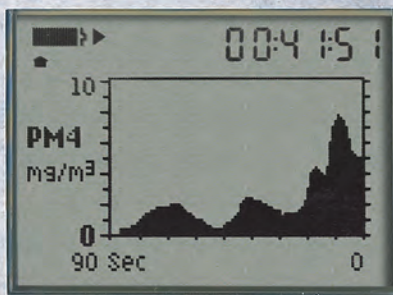
- Toxic Gas (choose from nine sensors)
- Relative Humidity
- Carbon Dioxide
- Temperature



## MEASUREMENT SCREEN EXAMPLES



**PARTICULATE CONCENTRATIONS SCREEN**  
- Displays user-adjustable impactor setting and six simultaneous measurements.



**TREND SCREEN** - Provides synopsis of logged measurement values in a graphical format. Available for each parameter.



**COMPOSITE SCREEN** - Displays available parameters for a snap-shot overview of measurement values.

## SENSOR SPECIFICATIONS

METHOD	BASE UNITS	DISPLAY RESOLUTION	DISPLAY RANGE	ACCURACY REPEATABILITY
<b>▶ PARTICULATES:</b>				
90° Light Scattering / Integrating Photometer	mg / m <sup>3</sup>	0.001	0.000 - 199.9	+/-15% (rel ARD*)
	ug / m <sup>3</sup>	1	0 - 20,000	+/-15% (rel ARD*)
Particulates Size Range	µm	NA	0.1 - 10	**
<b>▶ VOC: 10.6eV Photo-Ionization Detector</b>				
Low Sensitivity PID	ppm	0.01	0.00 - 2,000	+/-5% / 2% *** at calibration level
High Sensitivity PID	ppb	1	0 - 50,000	+/-5% / 2% *** at calibration level
<b>▶ CO<sub>2</sub>:</b>				
NDIR (Non-Dispersive Infrared)	ppm	1	0 - 20,000	+/-2% of signal +/-50 ppm between 0-2,500
<b>▶ TOXIC ELECTROCHEMICAL SENSOR:</b>				
CO - Carbon Monoxide Sensor	ppm	1	0 - 1,000	+/-5% / 2% of signal
Cl <sub>2</sub> - Chlorine Sensor	ppm	0.1	0.0 - 20	+/-5% / 2% of signal
EtO - Ethylene Oxide Sensor	ppm	0.1	0.0 - 20	+/-5% / 2% of signal
HCN - Hydrogen Cyanide Sensor	ppm	0.1	0.0 - 50	+/-5% / 2% of signal
H <sub>2</sub> S - Hydrogen Sulfide Sensor	ppm	1	0 - 500	+/-5% / 2% of signal
NO - Nitric Oxide Sensor	ppm	0.1	0.0 - 100	+/-5% / 2% of signal
NO <sub>2</sub> - Nitrogen Dioxide Sensor	ppm	0.1	0.0 - 50	+/-5% / 2% of signal
O <sub>2</sub> - Oxygen Sensor	%	0.1	0.0 - 30	+/-5% / 2% of signal
O <sub>3</sub> - Ozone Sensor	ppm	0.01	0 - 1.0	+/-5% / 2% of signal
SO <sub>2</sub> - Sulfur Dioxide Sensor	ppm	0.1	0.0 - 50	+/-5% / 2% of signal
<b>▶ TEMPERATURE:</b>				
Junction Diode	deg C	0.1	-10.0 - 60.0	+/- 1.1 deg C
	deg F	0.1	14.0 - 140.0	+/- 2 deg F
<b>▶ RELATIVE HUMIDITY:</b>				
Capacitive	% humidity	0.1	0.0 - 100	+/-5% RH* of signal between 10%-90%
<b>▶ AIR VELOCITY:</b>				
Omni-directional Heated Thermistor Windprobe	meter/sec	0.1	0.0 - 20	+/-0.12 m/s + 4.5% of signal
	feet/min	1	0 - 3940	+/-23.6 ft/min + 4.5% of signal

\*ARD - Arizona Road Dust, RH - Relative Humidity

\*\*The photometer can detect particulates up to 100 µm; however accuracy is reduced for sizes greater than 10 µm.

\*\*\*Relative Isobutylene



### CONVENIENT SENSOR ACCESS

Removable sensor bar provides easy access to toxic electrochemical sensors.

## SPECIFICATIONS FOR THE EVM SERIES

### ► GENERAL

DISPLAY LANGUAGES:	English, French, German, Italian, Portuguese and Spanish
USER INTERFACE:	10 pushbuttons and 4 softkeys, menu driven
DISPLAY TYPE:	Transreflective 128 X 64 LCD with backlighting
SOFTWARE COMPATIBILITY:	QuestSuite™ Professional II
STANDARDS:	CE Mark and RoHS compliant
PARTICULATE IMPACTORS SIZE FRACTIONS:	PM2.5, PM4, PM10 or TSP (within the instrument's measurement range)
FLOW RATE:	1.7 L/min

### ► DISPLAYED DATA

MEASUREMENTS:	Level, Minimum, Maximum, Average, Short-Term Exposure Level (STEL), Time Weighted Average (TWA)
REAL-TIME MEASUREMENT:	Once per second display update rate
TIME HISTORY DATA LOGGING INTERVALS:	Seconds: 1, 5, 15, 30 / Minutes: 1, 5, 10, 15, 30, 60
TREND GRAPHING INTERVALS FOR ALL PARAMETERS:	Minutes: 1.5, 3, 15 / Hours: 1.5, 3, 8, 12, 24
STATUS INDICATORS:	Battery, Run, Stop, Overload and UnderRange
AVERAGING TIME:	1 to 30 seconds

### ► PHYSICAL CHARACTERISTICS

SIZE:	19 cm X 19 cm X 7 cm (7.5" X 7.5" X 2.75")
WEIGHT:	1.3 kg (2.9 lb)
HOUSING:	Static dissipative ABS Polycarbonate housing
TRIPOD MOUNT:	Standard photographic mount on bottom, 1/4" - 20 screw heads

### ► OPERATING CONDITIONS

TEMPERATURE RANGE:	0°C to 50°C (32°F - 122°F)
PRESSURE RANGE:	65 kPa to 108 kPa
RELATIVE HUMIDITY RANGE:	10% to 90% non-condensing

### ► STORAGE CONDITIONS

TEMPERATURE:	-20°C to 60°C (-4°F to 140°F)
HUMIDITY:	0% to 95% RH, non-condensing

### ► ELECTRICAL CHARACTERISTICS

INTELLIGENT SENSORS:	Auto-detectable when inserted at power-off mode
BATTERY PACK:	Rechargeable lithium-ion
BATTERY LIFE:	Minimum of 8 hours under continuous operation
EXTERNAL DC POWER INPUT:	10 to 16 Volt power inlet (nominal 12V DC) 1.5A
POWER ADAPTER:	Universal AC adapter 100 to 240 Volt AC, 50-60 Hz

\*All Specifications Subject to Change



### The System Solution Software



**QuestSuite™ Professional II Software** provides the ultimate "System Solution" for recording, reporting, charting and analyzing exposures to a variety of occupational and environmental hazards. With QuestSuite™, there are no more headaches of learning different programs or switching between multiple software applications. Just one simple, yet robust system solution for all of our rugged Quest instruments.



ISO 9001 Registered Company  
ISO 17025 Accredited Calibration Lab  
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