



# MultiRAE Benzene

Wireless Portable Six-Gas Monitor With Benzene-Specific Measurement



The MultiRAE Benzene is the only gas monitor that includes up to 6-gas<sup>1</sup> detection and real-time wireless capability, plus benzene-specific measurement.

The MultiRAE Benzene monitor combines the ability to make quick benzene-specific assessment ("snapshot") measurements<sup>2</sup> with the advantages of a versatile multi-gas monitor that can support approximately 20 intelligent interchangeable sensor options.

Its optional wireless capability improves safety by providing real-time access to instrument readings and alarm status from any location, which delivers better situational awareness and faster incident response.

The MultiRAE Benzene monitor's unique features make it an ideal instrument for industrial applications, from confined space entry pre-screening during plant maintenance to personal protection, leak detection and refinery downstream monitoring.

## KEY FEATURES

Wireless. Versatile. Proven.

- Versatile multi-gas and Benzene-specific<sup>2</sup> modes
- Wireless access to real-time instrument readings and alarm status from any location<sup>3</sup>
- Unmistakable five-way local and remote wireless notification of alarm conditions, including Man Down Alarm<sup>3</sup>

- Intelligent sensors store calibration data, so they can be swapped in the field<sup>4</sup>
- Continuous datalogging (up to 6 months for 5 sensors) and snapshot datalogging capabilities

## APPLICATIONS

- Confined space entry pre-screening
- Plant Shutdown (downstream)
- Personal Protection
- Leak detection

- Unique instrument for multiple applications
- Highly versatile and customizable
- Benzene-specific measurement up to 200 ppm with 0.1 ppm resolution
- Man Down Alarm with real-time remote wireless notification
- Fully automatic bump testing and calibration with AutoRAE 2



MultiRAE Benzene used for leak detection




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## SPECIFICATIONS

### Instrument Specifications

|   |   |
|---|---|
| Size  | 7.6" H x 3.8" W x 2.6" D (193 x 96.5 x 66 mm) without RAE SepTube Cartridge   |
| Weight  | 31oz (880g) without RAE SepTube Cartridge   |
| Sensors   | More than 20 intelligent interchangeable field-replaceable sensors, including PID sensor for VOCs, electrochemical sensors for toxic gases, and oxygen and LEL sensor   |
| Battery Options, Runtime <sup>5</sup> and Recharge Time | - Rechargeable Li-ion (~12-hr. runtime, < 6-hr. recharge time)<br>- Extended-duration Li-ion (~18-hr. runtime, < 9-hr. recharge time)<br>- Alkaline adapter with 4 x AA batteries (~6-hr. runtime)  |
| Display   | Monochrome graphical LCD display (128 x 160) with backlighting. Automatic screen "flip" feature.  |
| Display Readout   | - Real-time reading of gas concentrations; non-specific PID measurement ; Man Down Alarm on/off; visual compliance indicator; battery status; datalogging on/off; wireless on/off and reception quality.<br>- STEL, TWA, peak, and minimum values<br>- Benzene-specific snapshot measurement <sup>2</sup>   |
| Keypad Buttons  | 3 operation and programming keys (Mode, Y/+, and N/-)   |
| Sampling  | Built-in pump. Average flow rate: 250 cc/min. Auto shutoff in low-flow conditions   |
| Calibration   | Automatic with AutoRAE 2 Test and Calibration System or manual  |
| Alarms  | - Wireless remote alarm notification; audible (95 dB @ 30 cm), vibration, visible (flashing bright red LEDs), and on-screen indication of alarm conditions<br>- Man Down Alarm with pre-alarm and real-time remote wireless notification <sup>3</sup>   |
| Datalogging   | - Continuous datalogging (6 months for 5 sensors at 1-minute intervals)<br>- User-configurable datalogging intervals (from 1 to 3,600 seconds)<br>- Snapshot datalogging  |
| Communication and Data Download                         | - Data download, instrument set-up and upgrades on PC via desktop charging and PC communications cradle, travel charger, or AutoRAE 2 Automatic Test and Calibration System.<br>- Wireless data and alarm status transmission via built-in RF modem (optional)  |
| Wireless Network  | ProRAE Guardian Real-Time Wireless Safety System or EchoView Host-based Closed-Loop System  |
| Wireless Range (Typical)                                | MultiRAE to RAElink3 [Z1] Mesh modem ~330 feet (100 meters)<br>MultiRAE to EchoView Host, RAEMesh Reader or RAEPoint ~660 feet (200 meters)   |
| Operating Temperature                                   | -4° to 122° F (-20° to 50° C)   |
| Humidity  | 0% to 95% relative humidity (non-condensing)  |
| Dust and Water Resistance                               | IP-65 ingress protection rating   |
| Hazardous Location Approvals                            | <b>CSA:</b> Class I, Division 1, Groups A, B, C and D, T4<br>Class II, Division 1; Groups E, F, G; T85°C<br><b>ATEX:</b>  II 1G Ex ia IIC T4 Ga<br>II 2G Ex ia d IIC T4 Gb with IR Sensor installed<br>I M1 Ex ia I Ma<br><b>IECEX:</b> Ex ia IIC T4 Ga<br>Ex ia d IIC T4 Gb with IR Sensor installed<br>I M1 Ex ia I Ma |
| EMC/RFI   | EMC directive: 2004/108/EC  |
| Performance Tests                                       | LEL CSA C22.2 No. 152; ISA-12.13.01   |
| Languages   | Arabic, Chinese, Czech, Danish, Dutch, English, French, German, Indonesian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Russian, Spanish, Swedish, and Turkish  |
| Warranty  | - Two years on non-consumable components and catalytic LEL, CO, H <sub>2</sub> S, and O <sub>2</sub> sensors<br>- One year on all other sensors, pump, battery, and other consumable parts<br>- 6 months on PID sensor  |
| Wireless Frequency                                      | ISM license-free band. IEEE 802.15.4 Sub 1GHz   |
| Wireless Approvals                                      | FCC Part 15, CE R&TTE, Others <sup>5</sup>  |
| Radio Module  | Supports RM900A   |

### Sensor Specifications

| PID Sensors  | Range                        | Resolution       |
|--|------------------------------|------------------|
| VOC 9.8eV  | 0 to 2,000 ppm               | 0.1 ppm          |
| Benzene-specific snapshot <sup>2</sup>                           | 0 to 200 ppm                 | 0.1 ppm          |
| Combustible Sensors  | Range                        | Resolution       |
| Catalytic LEL  | 0 to 100% LEL                | 1% LEL           |
| Electrochemical Sensors  | Range                        | Resolution       |
| Ammonia (NH <sub>3</sub> )                                       | 0 to 100 ppm                 | 1 ppm            |
| Carbon Monoxide (CO)   | 0 to 500 ppm                 | 1 ppm            |
| Carbon Monoxide (CO), Ext. Range                                 | 0 to 2,000 ppm               | 10 ppm           |
| Carbon Monoxide (CO), H <sub>2</sub> -comp.                      | 0 to 2,000 ppm               | 10 ppm           |
| Carbon Monoxide (CO) + Hydrogen Sulfide (H <sub>2</sub> S) Combo | 0 to 500 ppm<br>0 to 200 ppm | 1 ppm<br>0.1 ppm |
| Chlorine (Cl <sub>2</sub> )                                      | 0 to 50 ppm                  | 0.1 ppm          |
| Chlorine Dioxide (ClO <sub>2</sub> )                             | 0 to 1 ppm                   | 0.03 ppm         |
| Ethylene Oxide (EtO-A)   | 0 to 100 ppm                 | 0.5 ppm          |
| Ethylene Oxide (EtO-B)   | 0 to 10 ppm                  | 0.1 ppm          |
| Formaldehyde (HCHO)  | 0 to 10 ppm                  | 0.05 ppm         |
| Hydrogen Cyanide (HCN)   | 0 to 50 ppm                  | 0.5 ppm          |
| Hydrogen Sulfide (H <sub>2</sub> S)                              | 0 to 100 ppm                 | 0.1 ppm          |
| Methyl Mercaptan (CH <sub>3</sub> -SH)                           | 0 to 10 ppm                  | 0.1 ppm          |
| Nitric Oxide (NO)  | 0 to 250 ppm                 | 0.5 ppm          |
| Nitrogen Dioxide (NO <sub>2</sub> )                              | 0 to 20 ppm                  | 0.1 ppm          |
| Oxygen (O <sub>2</sub> )   | 0 to 30% Vol.                | 0.1% Vol.        |
| Phosphine (PH <sub>3</sub> )                                     | 0 to 20 ppm                  | 0.1 ppm          |
| Sulfur Dioxide (SO <sub>2</sub> )                                | 0 to 20 ppm                  | 0.1 ppm          |

1 A two-gas combination sensor is required for a 6-gas configuration.

2 Requires Benzene RAE-Sep Tube Cartridge

3 Additional equipment and/or software licenses may be required to enable remote wireless monitoring and alarm transmission.

4 RAE Systems recommends calibrating sensors on installation.

5 Contact RAE Systems for country-specific wireless approvals and certificates.

Specifications are subject to change.

## ORDERING INFORMATION

- Wireless<sup>3</sup> and non-wireless configurations are available
- Refer to the Portables Pricing Guide for part numbers for monitors, consumables (RAE-Sep Tube Cartridge), accessories, sampling and calibration kits, gas, sensors, and replacement parts

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