



# QRAE II

Multi-gas Diffusion or Pump Detector for O<sub>2</sub>, Combustibles, H<sub>2</sub>S, or CO



The QRAE II is a full-featured, compact, one- to four-sensor gas detector for oxygen, combustibles, hydrogen sulfide, or carbon monoxide. Key features include easy-to-change battery pack, a water-resistant case and a new state-of-the-art O<sub>2</sub> sensor.

## KEY FEATURES

- Patented SPE O<sub>2</sub><sup>SM</sup> Oxygen sensor features:
  - Lead-free design that complies with RoHS directive
  - Extended life resulting in low cost of ownership
  - Leak-free design, minimizing downtime
- Best EMI/RFI immunity technology, minimizing electromagnetic and radio interference
- Easy access to pump, sensors, filter and battery compartment
- IP-65 water- and dust-resistant case
- Strong, protective, concussion-proof design
- Plug-in sensors: oxygen, combustibles, hydrogen sulfide, or carbon monoxide
- Intuitive simple-to-operate two-button user interface
- Multi-language support
- One-button calibration with auto-zero capability

## APPLICATIONS

Confined space entry and general safety and compliance in:

- Emergency response
- Environmental
- Fire service
- Industrial safety
- Oil and gas applications

- Pump or diffusion models available
- Cradle connects to PC and charges monitor and battery
- Large graphic display can be flipped 180° with a push of a button for convenient viewing from belt or hand
- Rechargeable Lithium-ion battery pack provides up to 14 hours of continuous operation
- Rugged housing



SPE O<sub>2</sub><sup>SM</sup> sensor designed to meet RoHS directive



QRAEII Pump being used for a confined space entry

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## SPECIFICATIONS

### Detector Specifications

Size	Diffusion: 5" L x 2.8" W x 1.5" H (12.5cm x 7.2cm x 3.8cm) Pump: 5" L x 2.8" W x 2" H (12.5cm x 7.2cm x 5.0cm)
Weight	Diffusion: 9 oz (250 g) Pump: 12 oz (350 g)
Sensors	<ul style="list-style-type: none"> <li>Catalytic bead for combustibles</li> <li>Oxygen: SPE O<sub>2</sub><sup>SM</sup> (non-consumable Solid Polymer Electrolyte technology)</li> <li>Toxic: electrochemical for H<sub>2</sub>S or CO</li> </ul>
Battery	Interchangeable Lithium-ion or alkaline battery packs
Operating Period	Diffusion: Up to 14 hours continuous operation with Lithium-ion battery, up to 10 hours with alkaline battery (typical, without alarm) Pump: Up to 10 hours with Lithium-ion battery, up to 8 hours with alkaline battery
Display Graphic	4 lines, with LED automatic back light in dim light or alarm condition
Keypad	Two-button operation
Direct Readout	<ul style="list-style-type: none"> <li>Instant reading from up to four sensors</li> <li>Oxygen as percentage by volume</li> <li>Combustible gas as percentage of lower explosive limit (LEL), scalable using correction factors</li> <li>Toxic gases in parts per million</li> <li>High and low values for all gases</li> <li>Battery and shutdown voltage</li> <li>Date, time, elapsed time, temperature</li> </ul>
Alarms	<ul style="list-style-type: none"> <li>95dB buzzer (at 30 cm, typical), vibration alarm, and flashing red LED</li> <li>High: 3 beeps, vibration and flashes per second</li> <li>Low: 2 beeps, vibration and flashes per second</li> <li>STEL and TWA: 1 beep, vibration and flash per second</li> <li>Alarms: latching with manual override or automatic reset</li> <li>Additional diagnostic alarm and display message for low battery</li> <li>Pump stall alarm (QRAE II Pump only)</li> </ul>
EMI/RFI	Highly resistant to EMI/RFI. Compliant with EMC directive 2004/108/EC additional +60 volts/meter
IP Rating	IP-65
Datalogging	Standard 12 days at one-minute intervals
Calibration	Two-point calibration for zero and span (manual, or automatic with the AutoRAE Lite)
Sampling Pump	Optional, internal pump 300 cc/min
Hazardous Area Approval	<ul style="list-style-type: none"> <li>US and Canada: cUL vs C1, D1, Groups A, B, C, D, T4</li> <li>Europe: ATEX II 2G EEx ia d IIc T4</li> <li>IECEX: Ex ia d II C T4</li> </ul>
Temperature	-4° to 113° F (-20° to 50° C) for T4 temperature code
Humidity	0% to 95% relative humidity (non-condensing)
Attachments	Stainless-steel alligator clip
Warranty	Full 2-year warranty, including all sensors

Specifications are subject to change

### Default Sensor Specifications\*

Gas Monitor	Range	Resolution
Oxygen	0 to 30.0%	0.1%
Combustible	0 to 100% LEL	1% LEL
Carbon Monoxide	0 to 1000 ppm	1 ppm
Hydrogen Sulfide	0 to 100 ppm	0.1 ppm

\*Consult RAE Systems for custom configurations

## QRAE II ORDERING OPTIONS

### QRAE II Monitor Includes:

- Monitor as specified
- Sensors as specified
- Calibration adapter and internal filters (diffusion only)
- Quick reference guide
- User manual and ProRAE Studio II Software Package for Windows® XP, Windows® Vista and Windows® 7
- Alkaline adapter
- Water trap filter (pump only)
- Rechargeable versions additionally offer:
  - Charging/download cradle with computer interface cable
  - Universal adapter
  - Lithium-ion battery pack

### Confined Space Entry Kit for Pump and Diffusion Models (CSK1) (CSK2)

- Hard transport case with pre-cut foam
- 6' (2 m) Tygon® tubing
- 10" (25cm) stiff aluminum sample probe with replaceable filter
- Constant-flow hand pump
- Tool Kit
- Three water trap filters
- CSK2 versions additionally offer:
  - Four-gas mix in a 34L cylinder (50% LEL, 18% O<sub>2</sub>, 10 ppm H<sub>2</sub>S, 50 ppm CO)
  - Calibration regulator and tubing

#### CORPORATE HEADQUARTERS

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