

VRAE

Hand Held 5 Gas Surveyor



VRAE is a hand held 1, 2, 3, 4 or 5 gas monitor with built-in sampling pump and optional data logging.

Sensors include new RAE dual range 0-100% Volume and 0-100% LEL, oxygen and three, smart, interchangeable toxic sensors or up to four smart, interchangeable toxic sensors may be added. The dual range combustible sensor can monitor explosive gases in an oxygen-free environment at percent by volume levels.

The internal pump automatically shuts off plus an alarm is activated, if the remote probe tubing crimps or water is sucked onto the field replaceable filter.

Toxic Sensors Include

- Carbon monoxide
- Hydrogen sulfide
- Sulfur dioxide
- Nitric oxide
- Nitrogen dioxide
- Chlorine
- Ammonia
- Hydrogen cyanide
- Phosphine

Features

- Large, alarm activated back light LCD display
- Visual alarm with flashing
- Large keys usable with gloved hand
- Rigid inlet probe
- 10 hours operation
- Sample collection port

- 16,000 data points download to PC
- Rubber boot

Special Points of Interest:

- Protected from portable radios
- Internal sample draw pump for quick response and remote sampling
- Smart battery charging with status indication and LED indicator
- Snap-in rechargeable NMH or alkaline battery pack
- 48 built-in correction factors for LEL sensor
- 4 toxic sensor version

Applications

- Refineries and petrochemical plants — confined space entry, hot work permits
- Utilities — cable vaults, transformer stations
- Waste water treatment plants — confined space entry
- Marine and off shore oil wells — testing of confined spaces
- Landfill operations — monitoring wells and confined spaces
- Food processing — refrigeration, decomposition, process off gasing, poultry farms
- Fire departments
- Confined Space Entry — trenches, silos, railcars

Specifications

Intrinsic Safety	UL Class 1, Division I, Group A,B,C,D cUL and EEx ia IIC T4 (Europe) PENDING
Size	8.3" (21 cm) L x 3.0" (7.6 cm) W x 1.9" (4.9 cm) H
Weight	20 oz (568 gm) with battery pack
Detector	Catalytic sensor for combustible gas. Thermal conductivity sensor for percentage volume combustible gas. Electrochemical sensors for oxygen and toxic gases
Battery	Rechargeable, snap-in, field replaceable 4.8V, 1.1Ah NMH battery pack, 4 AA alkaline battery adapter
Operating Hours	10 hours continuous
Battery Charging	10 hours charge through built-in charger or an external battery charger
Display	2 line by 16 digit LCD with LED back light automatically in dim light or alarm condition
Keypads	1 operation and 2 program keys
Direct Readout	Instantaneous (up to 5 values): <ul style="list-style-type: none"> • Oxygen as percentage by volume • Combustible gas as percentage by volume or percentage of lower explosion limit • Toxic gases as parts per million • High and low values for all gases • STEL, TWA for toxic gases • Battery and shut down voltage
Alarm	90 dB buzzer and flashing red LED to indicate exceeded preset alarms: <ul style="list-style-type: none"> • High — 3 beeps and flashes per second • Low — 2 beeps and flashes per second • STEL and TWA — 1 beep and flash per second Alarms latching with manual override or automatic reset Additional diagnostic alarm and display message for low battery and pump stall
Calibration	Two points field calibration of zero and span gas
Datalogging	16,000 points (53 hours, 5 channels at one minute intervals) down load to PC with serial number of unit, user ID, site ID and calibration date
Datalogging Interval	1 - 3,600 seconds, programmable
Sampling Pump	Internal pump, flow rate 400 cc/minute Automatic shut off at low flow condition
Temperature	-4°F to 113°F (-20°C to 40°C)
Humidity	0% to 95% relative humidity (non-condensing)

Gas	Nominal Range	Extended Range	Resolution	Response Time (t90)
Combustible	0 - 100% LEL		1%	15 sec
	0 - 100 VOL		1%	20 sec
Oxygen	0 - 30%		0.1%	15 sec
Carbon Monoxide	0 - 500 ppm	1500 ppm	1 ppm	40 sec
Hydrogen Sulfide	0 - 100 ppm	500 ppm	1 ppm	35 sec
Sulfur Dioxide	0 - 20 ppm	150 ppm	0.1 ppm	35 sec
Nitric Oxide	0 - 250 ppm	1000 ppm	1 ppm	30 sec
Nitrogen Dioxide	0 - 30 ppm	150 ppm	0.1 ppm	25 sec
Chlorine	0 - 10 ppm	30 ppm	0.1 ppm	60 sec
Hydrogen Cyanide	0 - 100 ppm	100 ppm	1 ppm	200 sec
Ammonia	0 - 50 ppm	200 ppm	1 ppm	150 sec
Phosphine	0 - 5 ppm	20 ppm	0.1 ppm	60 sec

Ordering Information

Models 7800 & 7840

- VRAE unit with combustible, oxygen and up to 3 toxic sensors (7800) OR combustible, and up to 4 toxic sensors (7840)
- Rechargeable NMH battery pack
- AC/DC charging adapter
- Backup Alkaline battery adapter (accept 4 AA size alkaline)
- Inlet probe and water trap filter
- Operation and maintenance manual
- 2 year warranty for LEL / O₂ / CO / H₂S VRAE monitor

Accessories

- Confined space entry kit
- Calibration kits with gas cylinder, flow regulator and tubing
- ProRAE Suite Software and interface cable
- Automotive charging adapter
- Collapsible remote sampling probe
- Vibration alarm
- Additional sensors — contact the factory for details



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