

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 flashing alarm
- Large keys usable with 3 layers of gloves

- 16,000 data points download to PC
- Snap-in, field replaceable NMH rechargeable battery
-10 hours of continuous operation

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
- 48 built-in correction factors for LEL sensors
- Rigid inlet probe & collection port
- 4 toxic sensor version
- Rubber protective boot

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
- Fire departments



Specifications

Detector Specifications

Size	8.3" (21cm)L x 3"(7.6 cm)W x 1.9"(4.9cm)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, external, field replaceable Nickel Metal Hydride battery pack Alkaline battery holder (for 4 AA batteries)
Operating Hours	10 hours continuous
Battery Charging	Up to 10 hours charge through built-in smart charger or external battery charger
Display	Large LCD, with LED backlit automatically in darkness and alarm activation
Large 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 LEL Toxic gases as parts per million High and low values for all gases STEL, TWA for toxic gases Battery and shut down voltage
Intrinsic Safety	UL & cUL Class 1, Division I, Group A,B,C,D (US & Canada), Eex ia IIC T4 & CE (Europe)
Alarm	90 dB buzzer and flashing red LED to indicate exceeded preset alarms Separate preset alarm limit for high, low, STEL and TWA alarm Additional diagnostic alarm and display message for low battery and pump stall
Alarm Mode	Latching or automatic reset
Data Logging	16,000 points (53 hours, 5 channels at one minute intervals)
Communication	Download data and up load instrument setup from PC through RS-232 link to serial port
Sampling Pump	Internal integrated flow rate 400 cc/minute Automatic shut off at low flow condition
Temperature	14°F to 113°F (-10°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% LEL		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
Chlorine Dioxide	0 ~ 10 ppm	30 ppm	0.1 ppm	60 sec

VRAE Accessories

Model 7800 & 7840 Monitor

- VRAE unit with combustible, oxygen and up to 3 toxic sensors (7800) OR combustible, and up to 4 toxic sensors
- Rechargeable Nickel metal hydride batteries
- Backup Alkaline battery adapter (4 AA)
- Rubber boot
- Inlet probe and water trap filter
- Operation and maintenance manual
- AC/DC charging adapter

Accessories

- Confined space entry kit
- Calibration kits with gas cylinder, flow regulator and tubing
- Automotive charger/adapter
- Collapsible remote access probe
- Vibration alarm

Data Logging Monitors also include:

- Software, ProRAE Suite Package for Windows 98, NT, 2000 & NT
- Computer Interface cable

Warranty: Lifetime on non-consuming components (per RAE Standard Warranty), 2 years for O₂, LEL, CO, and H₂S sensors, 1 year all other sensors, 1 year pump, 1 year battery



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