



Vasthi Monitors for confined space  
Entry.



Vasthi Engineers offer the latest and most innovative monitors available for confined Space Entry (CSE). Data logging is an option on all our multi-gas monitors

Examples of confined spaces:

- Storage tanks and vessels
- Sewers and manholes
- Underground utility values
- Railcar tanks
- Marine vessel tanks
- Tunnels
- Grain elevators

### Atmospheric Hazards in confined Spaces

Atmospheric hazards in a confined space are those that expose entrants to a risk such as death, entrapment, injury, or acute illness from one or more of the following causes.

### Vasthi confined space Entry Monitor

The Vasthi CSE monitor is pre-set as an easy touse tool to comply with atmospheric testing. The Vasthi offers the flexibility to work effectively in a confined space while remaining protected from combustibles, hydrogen sulfide, carbon monoxide, and high or low oxygen levels.

### Oxygen Concentration

Vasthi acceptable levels are between 19.5% and 23.5%. This instrument has preset alarms (low, 19.5%, and high 23.5%) which are user selectable, to warn of a hazardous condition. An atmospheric oxygen concentration below 19.5 % (oxygen deficiency), or above 23.5 % (oxygen enrichment)

- 23.5% oxygen enriched, extreme fire hazard
- 20.9% oxygen concentration in normal air
- 19.5% minimum permissible oxygen level
- 15% to 19% decreased ability to work strenuously, may impair coordination and may cause early symptoms for persons of coronary, pulmonary and circulatory problems.
- 10 to 12% respiration further increase in rate and depth: poor judgment, blue lips.
- 8% to 10% mental failure, fainting, unconsciousness, ashen face, nausea, vomiting.
- 6 to 8% recovery still possible after four or five minutes. 50 % fatal after six minutes.



- \_ 4% to 6% coma in 40 seconds, convulsions, respiration ceases, death.

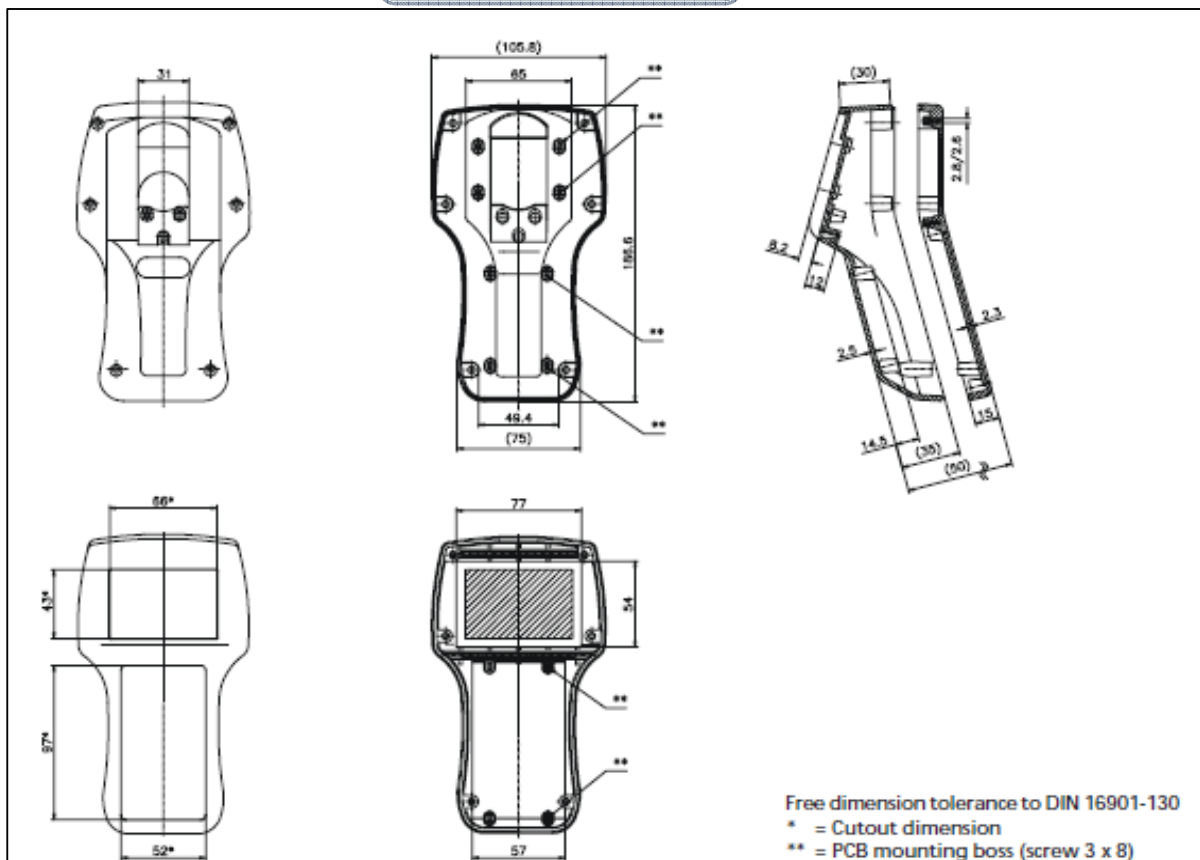
### Combustible Gases

Concentration must be below 100% of the LEL. This Instrument has a pre-set alarm at 10% LEL of combustible gases, and a high alarm set 20% LEL. These set points are user selectable. A flammable gas or Vapor in excess of 10% its lower explosive limit (LEL) yet still remaining below the upper explosive limit. The lowest concentration (air-fuel mixture) at which gas can ignite is called lower explosive limit (LEL). Concentrations below this limit are too lean to burn. The highest concentration that can be ignited is its upper explosive limit (UEL). Above that concentration, the mixture is too rich to burn.

### Toxic Gases:

Vasthi Multi gas detector has pre-set alarms for H<sub>2</sub>S at 10 ppm, low alarm, and 20 ppm, high alarm. CO Alarms are at 35 ppm low alarm and 200 ppm, high alarm. These alarm set points are user selectable. The Vasthi Multi Gas Detector also offers several other toxic gases.

## GA DRAWING





detected. As detectors measure a gas concentration, the sensor responds to a calibration gas, which serves as the reference point or scale. As a sensor's detection exceeds a preset alarm level, the alarm or signal will be activated. As units, gas detectors are produced as portable or stationary devices. Originally, detectors were produced to detect a single gas, but modern units may detect several toxic or combustible gases, or even a combination of both types.

#### **INSTRUMENT SPECIFICATIONS:-**

Sampling Method : Auto Suction (with pump)  
Sensors Life : 5 years for Catalytic, 2 years for Electrochemical  
Measurement : 0-100 % LEL & 0-25 % Continuous.  
Readout : Graphical Digital  
Resolution : 0.1  
Accuracy : +/- 2 %  
Repeatability : +/- 1 %.  
Response Time : < 10 seconds at 95 % variation.  
Alarms : Low & HI Visual and Audible (Different Tones).  
Low Battery Alarms: Audio & Visual.  
Power Supply : Standard batteries  
Battery backup : continuous 8 hours.  
Temperature Range: 0 - 55 Deg. C.  
Warranty : One year.  
Display : 128 X 64 Pixels Graphical LCD  
Power : Single cell lithium ion Battery with In-built charge control  
Weight : 445 grams (approx.)  
Dimensions : Refer to GA Drawing  
Degree of Protection: IP - 65

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