VASTHI INSTRUMENTS

Sheet No. 01

Vasthi Explosive Meter

Vasthi Monitors For Combustible Gas

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Vasthi Explosive Meter

Description :

Vasthi (Model VS-70 E) HAND HELD PORTABLE COMBUSTIBLE GAS DETECTOR is a compact battery operated portable instrument used for taking an air sample and indicating the presence and concentration of combustible gas. Samples of the air under test are drawn by means or a rubber aspirator bulb and analysed for combustible gas content on a heated platinum filament in a Wheatstone bridge measuring circuit. A built-in meter indicates combustible gas content in units of explosibility. Power for operation or the instrument is provided by Lithium ion battery. A probe and extension hose permit withdrawal of samples from remote locations and the instrument fits in a compact leather case with over the shoulder carrying strap. The model VS-70 E is suitable and recommended for testing tanks, manholes, vessels, pressure cylinders, pipelines, and other closed systems or confined spaces to determine presence or absence of combustible gas. It is a valuable aid for safety of operations whenever combustible gases or vapors are handled.

Examples of confined spaces:

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

Operation:-

Before using the instrument for job, check battery status. If it cannot be set beyond mark batteries need recharge with Vasthi Make Charger for recharging purpose. The display should show the battery indication while you kept for charging. And the display should show zero reading. If it not showing zero. Continue with the next steps of preliminary adjustment as follows:

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A. Select the Calibration mode.
B. Select the Auto zero.
C. Provide the password which is set by factory.
D. Than select the set zero, press ok.
E. Than display will show the zero reading at safe area.
F. With sample inlet in fresh air, squeeze bulb several times to flush out any remaining gas.

G. Check zero setting by turning switch to ON position. Meter should read close to zero. Lift and turn ZERO knob to bring reading to exactly 0.
H. Couple sampling hose to instrument inlet on left hand end, and connect probe to end of hose .Hold finger over probe to block flow and squeeze bulb. Bulb should remain squeezed while finger blocks inlet.
I. Admit a sample of some combustible gas to end of probe, and confirm that meter rises upscale. Instrument is adjusted and ready to use. lt may be turned off and carried to the job.

About Calibration & Working Principle:

Vasthi Explosive Meter readings are taken on a scale graduated 0 - 100% LEL. The abbreviation L.E.L. stands for Lower Explosive Limit, and represents the lowest concentration, which can be ignited by a source of ignition, hence the lowest concentration which can produce an explosion. This quantity is also spoken of as the Lower Flammable Limit (L. F. L.).

The model VS-70 E is calibrated before shipment to read directly in percent L.E.L. of methane in air, based on the known L.E.L. for methane of 5.0% by volume. That is, a 5.0% by volume will produce a reading of 100%, and smaller concentrations will read in proportion. Other combustible gases will read in approximate terms of explosibility. For maximum accuracy, the unit should be calibrated to the gas intended to be detected.

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Concentrations may also be interpreted in terms of volume percent by multiplying the percent L.E.L. in the sample (determined from the meter reading and the curve) by the published figure for L.E.L. in volume percent. as noted on the curve. The maximum concentration allowable in a space where men are working or where welding operations are carried out is primarily a matter of local regulation and of judgement based on knowledge of conditions. A maximum reading of 10% or 20% is usually allowed. If 20% is selected, this is often spoken of as a factor safety of 5, as the concentration must be increased five times before explosive conditions are reached.

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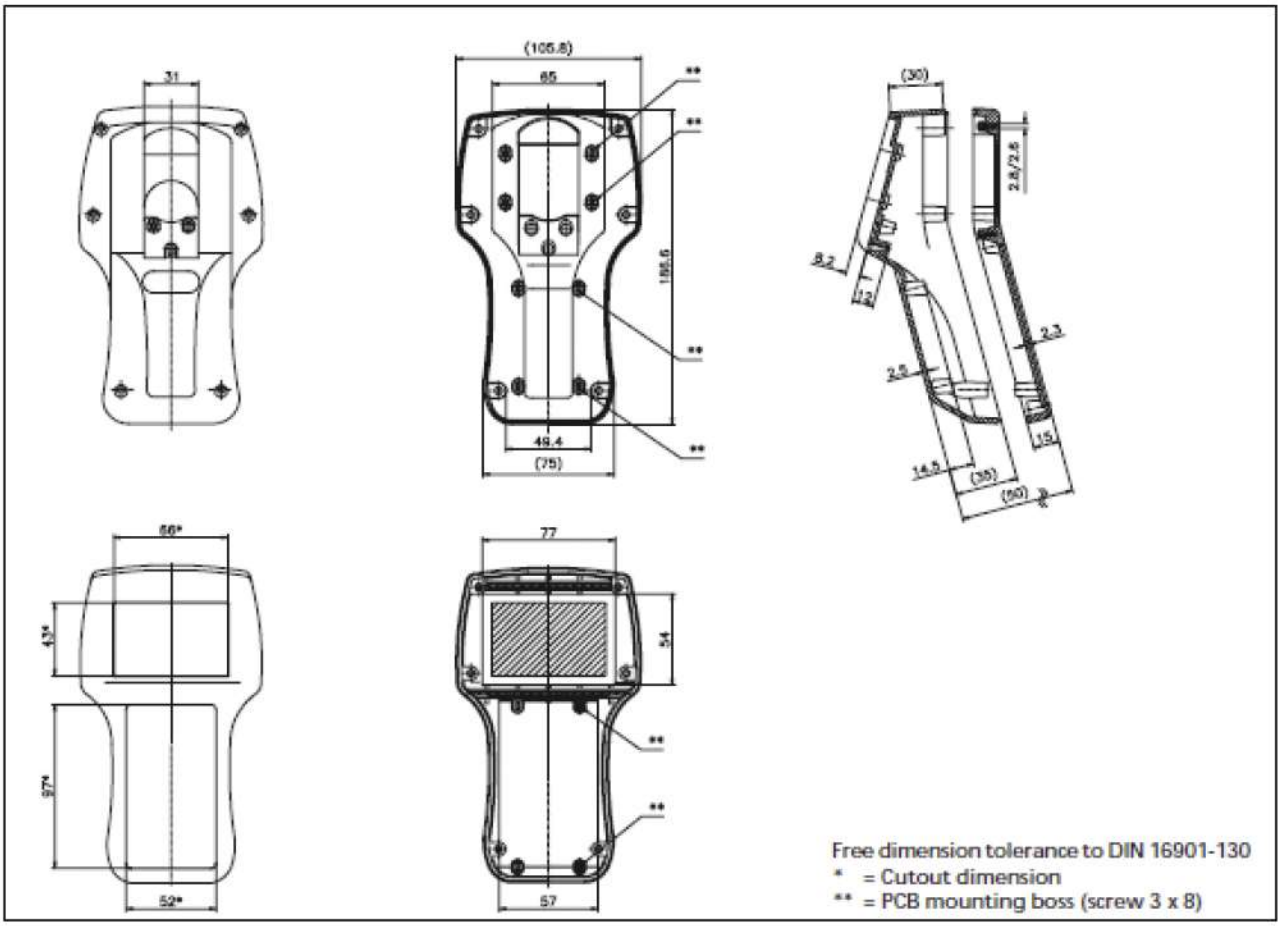
GA DRAWING



Free dimension tolerance to DIN 16901-130
* = Cutout dimension
** = PCB mounting boss (screw 3 x 8)

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Modus operandi: - This Model is battery operated. They transmit warnings via a series of audible and visible signals such as alarms and flashing lights, when dangerous levels of gas vapors are 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.

INSTRUMETN SPECIFICATIONS:-

Sampling Method	: Diffusion or Auto Suction
Sensors Life	: 5 years for Catalytic.
Measurement	: 0-100 % LEL Continuous.
Readout	: Graphical Digital
Resolution	: 0.1
Accuracy	: +/- 1 %
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

VASTHI INSTRUMENTS
Plot no: 21 & 22 , Block no: 24, Phase - IV ,
Auto Nagar, Guntur - 522 001, Andhra Pradesh,Inda.
Tel : +91 863 2238 667, +91 738 2708 685, +91 958 1678 685
web: www.vasthi.com,
E: info@vasthi.com, sales@vasthi.com