

Which Gas Detection Devices are Right for Your Workplace?

There are three different gas detection devices:

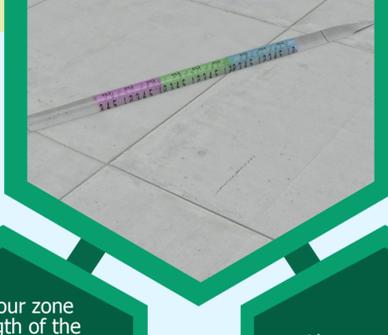
- Colorimetric detector tubes
- Fixed monitoring devices
- Portable monitoring devices

Make an informed choice by learning about the benefits and limitations of three gas detection device types.

Colorimetric detector tubes

Colorimetric detector tubes use a pump to fill the detector tube with air.

Any contaminants in the air sample react with the substances in the detector tube to turn a different colour, or cause a stain.



The colour zone (the length of the stain) indicates the concentration of the contaminant. Choose a type and model that's appropriate for your situation.

Always read the user's manual before using the detector model of your choice.

Limitations:

- This method has low accuracy (around + or -25%)
- Detector tubes are temperature and age (e.g.: expiry dates) sensitive
- Detector tubes are prone to interferences from other gases

Fixed Monitors

Fixed devices are engineered into the design of facilities and plants.

Fixed devices include monitoring and alarm systems.



Normally installed in areas where monitoring is required 24 hours per day.

Programmed to continuously provide up-to-the-minute data on toxic gases, oxygen depletion, and explosive environments.

Limitations:

- They are costly to install and maintain
- They apply only to specific target areas
- They may be temperature sensitive (e.g., high/low temperatures and humidity)
- They may drift over time, due to the responsiveness of the sensors, providing inaccurate readings

Portable monitors

Portable monitors can be designed for a single substance or have multiple sensors to detect explosive environments, oxygen deficiency or enrichment, and a range of toxic gases.

When the monitored gases reach a specific concentration, the electronic detector's alarm sounds.



Worn on the lapel in your breathing zone.

Limitations:

- They may be temperature sensitive (e.g., high/low temperatures and humidity)
- They may drift over time, due to the responsiveness of the sensors, providing inaccurate readings

Combustible gas monitors (meters)

Combustible gas monitors are used throughout the course of work to continuously monitor a substance's Lower Explosive Limit (LEL).

Remember, LEL is the lowest concentration (percentage) of a gas or a vapor in air capable of producing a flash fire in the presence of an ignition source.



Limitations:

- They have low accuracy in atmospheres that are lower than 20.9% oxygen
- They do not accurately measure toxic gases (e.g., H2S)
- Readings can be unreliable if the device is exposed to too much moisture or water, or to high concentrations of combustible gases and dusts