



GROVELEY DETECTION

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Ultrasonic Leak Detection The First Stage in Gas Detection

Groveley Detection are able to bring you a range of unique detectors which will detect all pressure gas leaks - the GDU series.

This range of intrinsically safe and flameproof sensors use the proven ultrasonic method of gas detection. These sensors will detect gas at 'the speed of sound' and do not need to be in the gas cloud to operate successfully. Ultrasonic gas detectors have been designed to detect pressure gas leaks from all gases, this includes the 35% of Hydrocarbon Leaks which go undetected in the North Sea (Source UK HSE).

Airborne ultrasound is generated when gas leaks from high pressure to low pressure areas ie. pipework to atmosphere - a pressure differential of as little as 2 BarA is all that is needed.

A pressurised gas leak generates an ultrasonic sound and the GDU INCUS is tuned in to these frequencies, enabling it to ignore workplace background noise levels eg. sound created by generators.

Relative Spectral Range

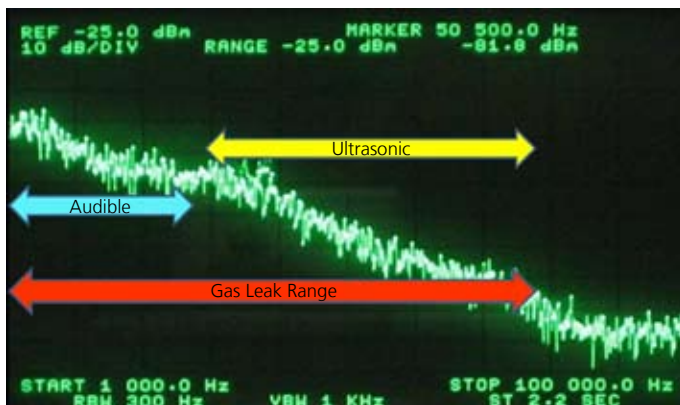


Fig. 1. Shows the audible sound range is outside the ultrasonic (detection) sound range



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The GDU INCUS is Groveley's latest ultrasonic gas leak detector, with enhanced wide area coverage achieved by utilising 4 individual sensor pods. It has features such as auto self cleaning and a unique gas leak simulation system to truly test sensors in a live situation - it is the most advanced ultrasonic gas leak detector available today.

The GDU INCUS can incorporate heating and cooling systems which allow use in extremes of heat and cold and is fully water resistant to the extent it can be submerged without any detrimental effect. It is certified to ATEX II 2G Ex d e ia IIB + H2 T4 along with other international standards.

It is designed to interface to DCS/PLC and Fire and Gas Control Systems and, as such, is fitted with 4-20mA, relay, RS 485 serial and can even be integrated into an addressable system.

As the GDU INCUS is an ultrasonic gas leak detector, this forms the 'first response' as part of an overall gas detection package which could include, flammable and toxic gas point detectors, flame detectors and line of sight detectors. Only with the full detection package can you have a comprehensive system.

Benefits

- Fast response to all gas leaks – increasing site safety and reducing wastage
- Maintenance free – self cleaning and testing
- Wide area coverage minimising number of sensors – reducing field wiring

Acoustic Mapping

To achieve optimum performance with ultrasonic detection systems we would always recommend a site mapping survey be carried out. This is available either from Groveley direct or a Groveley trained and approved agent.

Mapping Tool

Site mapping involves the use of a specially designed mapping tool which enables the engineer to:-

- Check background noise levels
- Ensuring alarm levels are set above normal background levels
- Program suitable time delays to allow for accepted pressure venting etc
- Position the GDU sensors optimally to ensure all potential leak areas are covered by a detector footprint

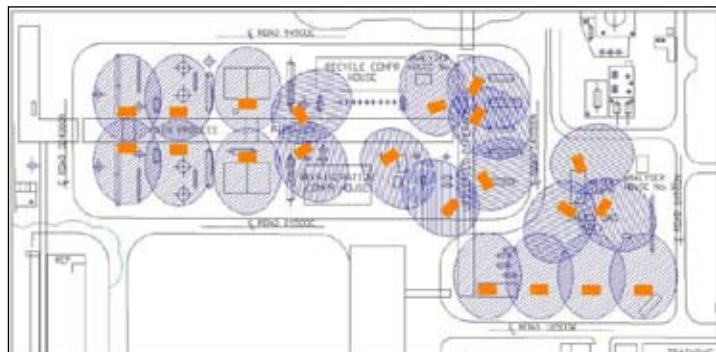


Fig. 2. Shows typical mapping footprints taking in to account practical site conditions such as cable routes etc



- With optimum positioning all detectors are fully utilised and no excessive detectors are fitted
- For further information see the GDU Incus data sheet (DS-GDU-Incus-R06)

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