



AUTRONICA

SHALE SHAKER VENTILATION

Reliable gas detection has been close to impossible in the dirtiest environments offshore. So far.

In the harshest oil and gas environments, achieving reliable gas detection is extremely challenging. One of the primary concerns in the drilling area of an oil rig, is hydrocarbon leakage from the well. The risk is that this may lead to a "blow out".

Up until now, traditional IR detectors have been chosen for this task, due to a lack of other options. However, traditional IR gas detectors rely on close proximity to the source for the best results. This is not suitable in extreme conditions where the risk of detector pollution is extremely high, such as shale shaker rooms.



Safety in the harshest environments

We have developed a revolutionary method for gas detection focused on providing equipment that operates with a high degree of reliability and without supervision.

No other available technologies can handle the same task as the Autronica Omicron gas sampling system. Our method is particularly suitable in areas such as the shale shaker ventilation channel and similar areas where the mud quickly contaminates traditional gas detectors. The primary advantage of using our gas sampling technology is the distance between the monitored area and the detector. The detector itself

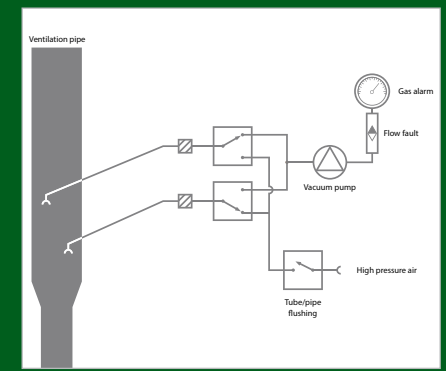
is located in a cleaner and more stable environment. The sampling tubes are mounted vertically so that the gas, which has low density, is easily captured. The materials that cause detector contamination, are generally heavier and therefore less likely to be drawn through the sampling tubes. By using compressed air to clean away any small amounts of dirt that make it into the pipes, contaminants will be prevented from passing all the way through the pipes and into the detector. The compressed air provides a self-cleaning of the sampling pipes.



Traditional detection in shale shaker ventilation



Traditional open point-IR gas detector after only a few weeks in a shale shaker environment



Principle

The direct gas sampling system consists of a detector cabinet where all components inside the cabinet - including the operating panel - is approved for mounting in Zone 1 area. This means that the cabinet door can be opened in zone 1.

Sensor(s) 4-20 mA signal and flow signal are sent to the main system. Each sampling point is provided with two sampling tubes. While one tube tests the gas, the other is being cleaned and vice versa. This provides continuous and reliable detection in the monitored area.

The solution is here – finally

Omicron direct gas sampling system is specially made for "direct detection" in harsh areas such as shale shaker rooms etc.

Features

- Dual sampling channels for reliable detection.
- Can be mounted on existing gas detector flange minimizing installation costs
- Multiple gas detectors for voting and detecting different gases(HC/H2S)
- Sample gas flow alarm
- System can operate with one, two or three sensors.
- Sample probe can be mounted directly into existing GD10 duct flange
- Sample gas inlet temperature up to 70 °C (higher temperatures on request)
- Standard software configuration allow up to 50 m sampling tube
- Standard system sampling tube connections 8 mm OD (10 mm optional)
- Sampling tube recommended for installation is 8x1 mm or 10x1,5 mm

For installation with requirement for low instrument air consumption we recommend that the sampling probe is installed lower than cabinet, as sampling points higher than the cabinet require more instrument air consumption.

Shorter sampling tubes give better response time as sample gas transportation time is reduced (recommended installation).

With installation in areas where temperatures are below 0°C we recommend heat tracing to prevent icing inside the sampling tubes.

Sampling tubes can be cleaned with water if the sampling area allows this.





AUTRONICA

**One supplier
– total fire safety**

Oil and gas installations around the world are becoming a safer place to work. We are bold enough to take some of the credit.

For years we have been a preferred supplier of fire and gas safety systems in the petrochemical, oil and gas market throughout the world

We make world class products, but believe that even the very best can get better. Appreciative of this, we continuously develop new products whilst providing safety to an entire industry, where thousands of lives depend on them every single day and night.



A worldwide company

Autronica Fire and Security AS is a leading innovator, manufacturer and supplier of advanced sensors and systems for fire and gas detection to the Petrochemical Oil and Gas industry. The product range includes AutoSafe Integrated Fire & Gas Detection System with SelfVerify, the world's first IEC 61508 Safety Integrity Level (SIL 2) approved integrated addressable Fire & Gas Detection System. Autronica Fire and Security AS also offers a full range of flame and gas detectors, high sensitive smoke detection (HSSD), gas sampling, alarm management and control systems. Services offered includes system design, project management, installation and commissioning, after sales service and training.

Service and maintenance

Service and maintenance must be performed in accordance with local/national requirements. We recommend an annual service and control of the total system.

For information on service and maintenance of the fire detection system and other equipment, refer to relevant procedures included in the installation and commissioning handbooks from Autronica.

We recommend that you let us or one of our certified partners take care of the service. Then you lay your trust in the hands of people with training on and experience with our systems. This will ensure a longer life span of your system and increase the safety, thus reducing the life-cycle cost.

Approvals

For certificates, go to www.autronicafire.com.

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