

METHANE FROM FLARING TOOLKIT



Composition: Automatic Sampling

Do I know the gas composition? > Composition: Automatic Sampling

Automatic sampling systems are permanently installed systems that allow known volumes of process gas to be extracted from a process line, such as a flare line, on a flow or time proportional basis. These systems are nominally designed with redundant cylinders allowing online automatic changeover, these sample cylinders are then removed to a laboratory for compositional analysis.

How it Works

Automatic sampling systems are installed as a standalone system to collect gas samples.

Sampling systems extract a known sample of fluid through a fixed or retractable sample probe that is permanently installed into a flare line, this sample is then routed through a filter and isolation valves, to a grab sampler, where samples are taken, on a flow or time proportional basis.

The objective of flow proportional sampling is to collect a representative sample equivalent to the size of the sample cylinder relative to a stated flow volume.

The objective of time proportional sampling is to collect a representative sample equivalent to the size of the sample cylinder taken at stated intervals of time over a required time-period.

Automatic systems are nominally designed with redundant cylinders allowing online automatic changeover, these sample cylinders are then removed to a laboratory for compositional analysis

Once the sample cylinder is full, the cylinder is isolated, and the flexible hoses vented before the sample cylinder is removed. The sample cylinder is then taken to a laboratory for analysis.

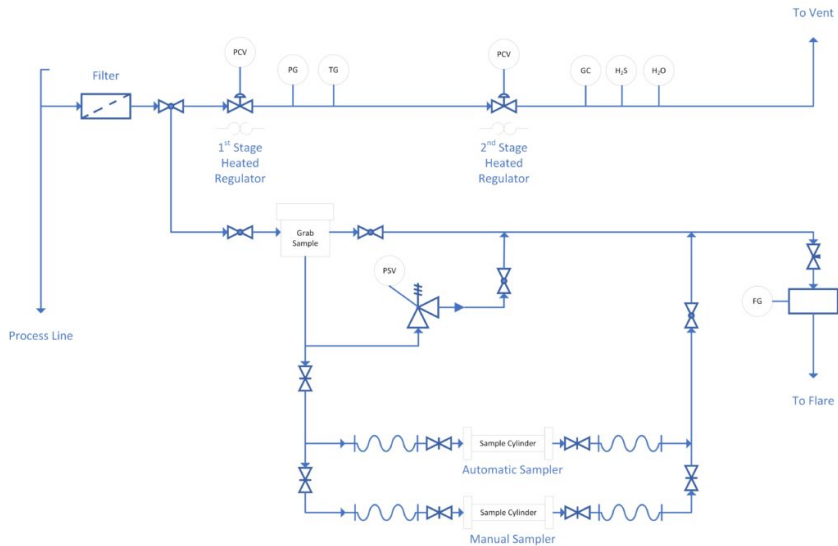


Figure 1: Principles of an Automatic Sampling System

Industry Standards

ISO 10715: Natural Gas – Sampling Guidelines.



Figure 2: Installed sample probe for a sampling system

Sample systems are installed on multiple systems globally to either take samples for laboratory analysis or analysis by on-line analyser systems.

Advantages

- ✓ Representative sample
- ✓ Automated system
- ✓ Greater Accuracy

Limitations

- ✗ High equipment costs

Go Deeper

- [Vendor Website](#)
- [Vendor Website](#)
- [Vendor Website](#)

Case study

No case study available at this time.

Do I know the gas composition?



Composition: Spectrometry (GC – MS)



Composition: On-Line



Composition: Laboratory Analysis



Composition: Specific Gravity Analyser (Relative Density)



Composition: Wobbe Index Analyser (Calorimeter)