DESCRIPTION FLARING



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.

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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.



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)

