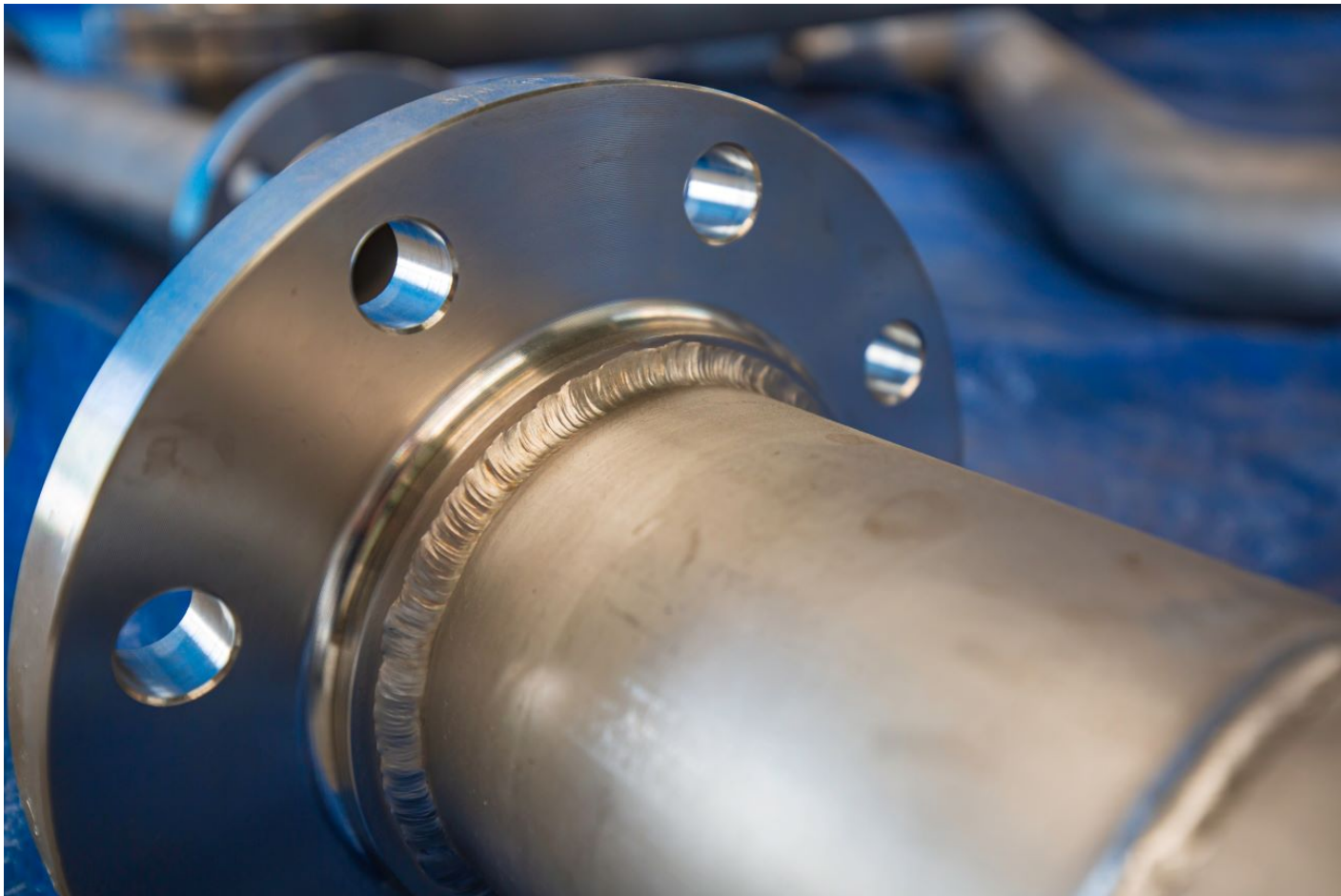# Composition: Fixed Flange Probe
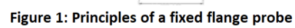
Uncategorized > Composition: Fixed Flange Probe

Fixed flange probes are permanently installed on a flare system line usually on the top of a horizontal pipe or the flare knock out drum. They are flanged connected, isolated with a DB&B valve, and can only be removed for maintenance during a flare system shutdown.

How it Works

A fixed flange probe protrudes through a double block & bleed valve isolation arrangement to extract a sample of the flowing gas nominally from the centre third of the pipeline.

Fixed flange probes inserted into a process line, such as a flare line, must undergo wake frequency calculations to ensure they will not fail during maximum flaring conditions.

With a flare line, the fixed flange probe must protrude into the flare line by a minimum of 25.4mm (1") to extract the sample and the maximum intrusion depth is dependent on the wake frequency calculation acceptable criteria.

Fixed flange probes can only be inspected or have maintenance conducted during a flare system shutdown.

Figure 1: Principles of a fixed flange probe

Figure 2: Installed sample probe for a sampling system

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

Advantages

☑

Low equipment costs

☑ Low maintenance costs

Limitations

☒ Can only be installed during
a flare system shutdown

☒ Can only be inspected
and/or maintained during a
flare system shutdown

☒ Must be designed to handle
the very high velocities in
flare system pipework

Go Deeper

- [Vendor Website](#)

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Case study

No case study available at this time.

Do I know the gas composition?

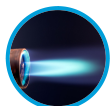[Composition: Spectrometry (GC – MS)](#)

Composition: On-Line

Composition: Laboratory Analysis

Composition: Specific Gravity Analyser (Relative Density)

Composition: Wobbe Index Analyser (Calorimeter)