

# METHANE FROM FLARING TOOLKIT



## Composition: Repurpose Existing Nozzles

Do I know the gas composition? > Composition: Repurpose Existing Nozzles

Installing a sample probe within an existing (Brownfield) operation is nominally a difficult exercise, options are [installing a sample probe under a hot tap](#), or [during a shutdown / outage](#). However, repurposing existing nozzles for sample probes is another option.

### How it Works

On every flare system, there are nominally nozzles associated with installed pressure and temperature transmitters to allow meter correction to standard conditions for flow measurement.

To install a sample probe for a sample to be extracted for either laboratory or online analysis, nominally requires a new nozzle to be inserted into the flare system for the sample probe.

If installing a new nozzle is not feasible or practical, it is potentially possible to repurpose either of the nozzles used for pressure or temperature measurement.

If the nozzle for the pressure measurement is repurposed to be used for the sample probe, then with a redesigned flange on the sample probe, additional valve manifold and new instrument tubing the pressure measurement can still be taken at the same time as the sample is extracted.

If the nozzle for the temperature measurement is repurposed to be used for the sample probe, then a skin temperature measurement sensor can be adhered to the flare system and a temperature transmitter connected to the temperature sensor.

The above operations are required to be completed under a shutdown or an outage as it requires access to the pressurised flare system.

#### Advantages

- ✔ No major piping modifications required
- ✔ Temperature and pressure measurement maintained.

#### Limitations

- ✘ Installation of a sample probe requires at minimum a 2" nozzle to be available

#### Go Deeper

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#### Case study

No case study available at this time.

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## Do I know the gas composition?



Composition: Spectrometry (GC – MS)



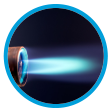
Composition: On-Line



Composition: Laboratory Analysis



Composition: Specific Gravity Analyser (Relative Density)



Composition: Wobbe Index Analyser (Calorimeter)