



# Flow Impact Probe for natural gas and LPG analysis

## Application Note

Gas producing companies working with analyser sampling systems in Natural Gas processes are faced with a number of common problems. These include excessive time lags between sample probe inlet and analyser due to the volume of probe, block and bleed valves and sample lines and secondly, liquid carry-over problems.

These problems result in excessive response times, downtime and increased maintenance due to the liquid carry-over, and when flow rates are increased to reduce the response times, incomplete vaporization in the pressure regulators leading to loss of heavier components in the analysis.

To overcome the above problems Hobré Instruments has developed a Flow Impact Probe concept with a close coupled pressure reduction system. In this system the gas velocity in the process pipeline is used to drive a fast-loop through the probe, block valves and pressure reduction system inlet filter. The proven benefits to the gas producers are:

- Improved response time with lower sample flow to flare.
- No loss of heavy hydrocarbons with single stage heated pressure reduction.
- No liquid carry-over problem and therefore less down time
- Reduced maintenance on the sampling systems and analysers.
- The return pipe, in combination with the fast loop bypass filter, protects the inlet tube against entry of liquids.

For customers with process gas chromatographs, the installation of the Hobre Flow Impact Probe System has proven to be especially satisfactory.

Another application for our system is in liquefied gas sampling where we can provide a fast loop, returning sample to process without the need for a fast loop pump. For LPG type samples fast responding systems can be achieved with minimum system maintenance low sample to flare flow rates.

Typical drawing for HP natural gas analysis

