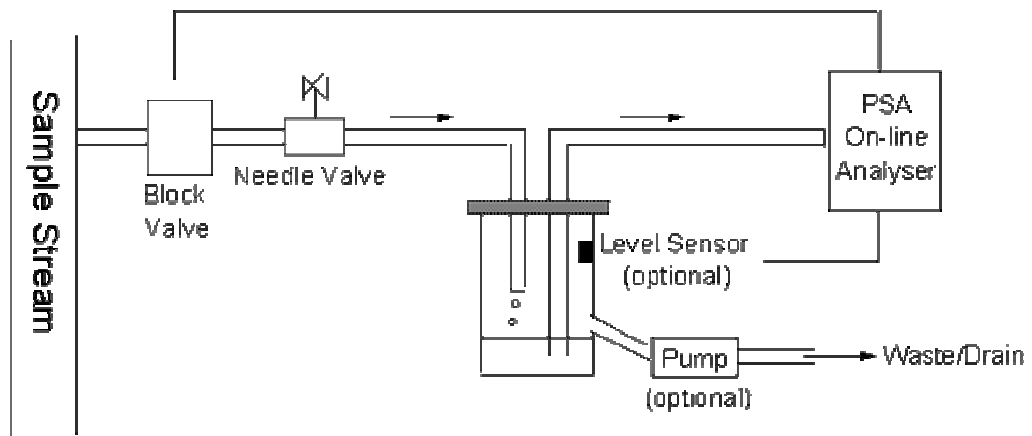


SIMPLE SAMPLING INTERFACE FOR LIQUID ON LINE ANALYSERS

There are three main considerations for sampling systems for the PSA liquid on line analyser. First of all the sample must be at atmospheric pressure, it must be particle free and it must be representative of the sample stream.

If the sample is at elevated pressure then it could cause leaks at the inlet to the analyser, which can lead to corrosion and malfunction of the valves. Particles and suspended solids can lead to blockages leading to leaks, corrosion, valve malfunction and erroneous results.

If the sample delivered to the analyser is not representative of the sample stream then the results will not be representative. As a result it is often necessary to include a sampling interface between the sample point and the analyser to overcome the difficulties outlined above.



A schematic diagram of the sampling interface

The sampling interface can be quite basic or quite advanced depending on the customers' requirements, but the basic principles are the same. A diagram of the interface is shown in figure 1. The pressurised sample is passed through a needle valve to reduce the pressure, and from there it drips into a container at a flow rate ranging from 20 to 100 ml min⁻¹.

The sample probe from the liquid on line analyser is situated in this container and sample is drawn up through the analyser using the peristaltic pump. The container has an overflow which is either gravity drained to a drain or is pumped.



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