APPLICATIONNOTES

Optimising Product Yields with Flow Chemistry:

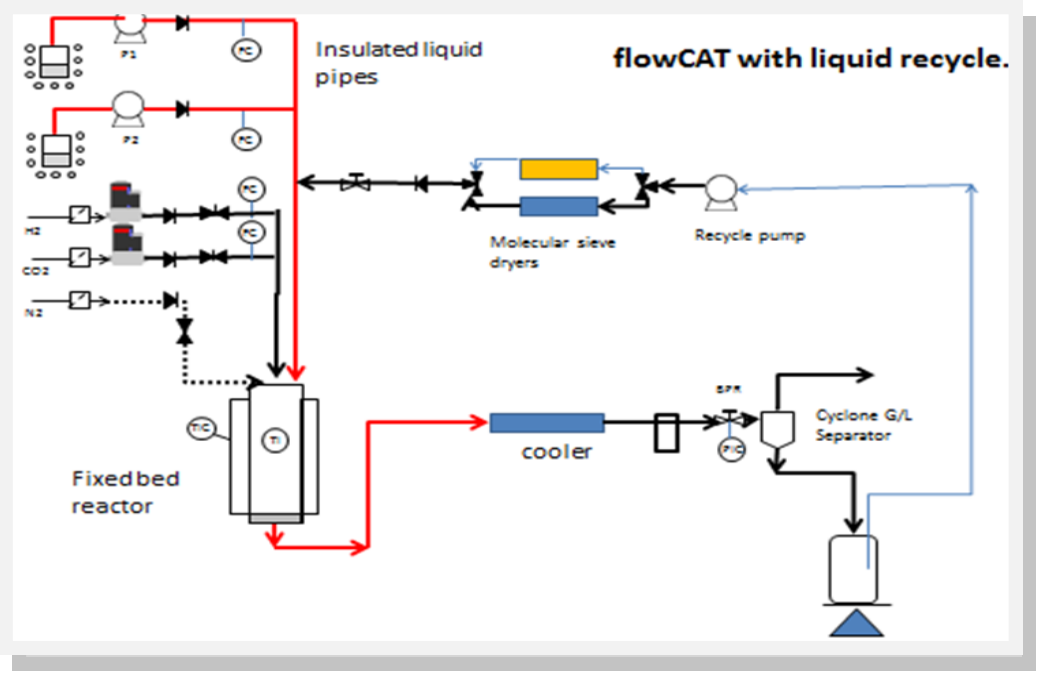
HEL FlowCAT With Liquid Recycle

better chemistry – faster

Note No.: 20140128

The FlowCAT represents a freely-configurable platform on which to build versatile, automated systems for Flow Chemistry. In this example we take a look at a configuration which optimises conversion through liquid recycle.

Many continuous flow industrial processes operate with a partial recycle of the product. This is a way of increasing the conversion without either making the reactor longer or altering the working conditions. The photo and simplified flow diagram relate to a flow system of this type where liquid product is recycled at a constant rate. The ability to operate in this way on the smaller scale will provide a robust data set for later scale-up.



Excess gas is even less frequently recycled as there is no economic incentive to do this on the laboratory scale. However, it is sometimes important to do this as the recycled gas can contain chemicals which potentially influence the chemistry in a significant way and this is important to replicate. HEL is able to provide this facility as well.