



"Good reactions"™



CatCart Changer™

The CatCart Changer™ is an automated system for alternating between different catalyst cartridges whilst working in a flow chemistry environment using ThalesNano 'Cube' series reactors.

The 6-channel CatCart Changer™ works by switching the flow from one cartridge to another 'on the fly' enabling the user to run samples on up to 6 different catalysts at temperatures and pressures of up to 100°C and 100 bar respectively.



When combined with the ThalesNano's bench-top hydrogenator, the H-Cube®, the CatCart Changer™ allows the easy screening of a selection of catalysts as well as reaction optimization.

When used in conjunction with the H-Cube® Autosampler it gives the possibility for such screening and optimization to be run on a fully automated basis and for simplified sample injection and fraction collection of the end product.

Operation

A 6-channel valve, operated either through the H-Cube® or in conjunction with the H-Sampler integration software via a PC, controls the flow of the compound into any of the 6 CatCart® chambers in the CatCart Changer™.

The temperature and pressure can be set individually for each catalyst.

APPLICATIONS

The CatCart Changer™ has a number of useful applications:

Catalyst Screening

Using a different catalyst in each chamber enables up to 6 catalysts to be screened against a particular compound.

In the micro-flow environment of the H-Cube®, where the first results of a pass through can be analyzed after five or ten minutes, the CatCart Changer™ allows 6 to 10 diverse catalysts to be screened every hour.

Reaction Optimization

In the H-Cube® reaction optimization is already facilitated due to the fast reaction times. With the CatCart Changer™ this is further enhanced, as with the same catalyst in each chamber and each chamber pre-set to different temperatures and pressures, the optimization process occurs without any manual intervention. Using the H-Cube® Autosampler the different fractions can be collected and sorted for analysis.

Library Production

Using the same catalyst in each chamber a library of compounds can be synthesized in an automated environment without fear of catalyst deactivation. This is achieved through continually directing the compound through a new, fresh CatCart® at pre-set intervals ensuring the catalyst does not deactivate during the library production.

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