

plant redesign manufacturing concept

small plant change big performance effect

principle:

The basic idea of this concept is to obtain significant improvements by integrating microreactors or other process intensification devices in an appropriate place into existing production facilities. Throughout this approach the results can be achieved with minimum interference.

application area:

- existing chemical and pharmaceutical plant
- dedicated to one process or similar processes
- typical for one reaction step

case study example:

A microreactor with a total capacity of more than 3 tons per hour has been integrated into an existing manufacturing plant. By moving one reaction step into a microreactor the capacity of the plant has been doubled. Additionally energy savings were achieved by using the heat release of an exothermic reaction step to heat up an endothermic reaction step.

conclusion:

This concept generates typical significant efficiency improvements by minimal exchange of process equipment moderate addition of instrumentation.

reference example:

- American Fine Chemicals Company (confidential)

