micro innova efficient processing

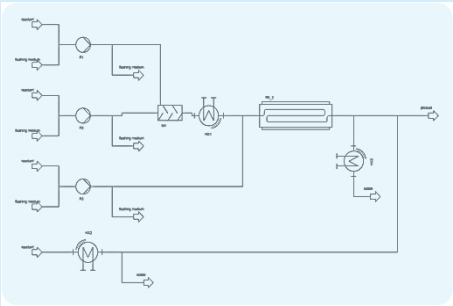
Microinnova is your One-Stop-Facility for

- **Process Development**
- **Modular Multipurpose Benchtop & Pilot Plants**
- **Modular Production Plants**

Continuous Flow Chemistry & Process Intensification

Switching your traditional batch process to an intensified continuous process will bring along plenty of benefits. Innovation via process intensification with the aim of drastically increasing the efficiency of processes (chemical reactions, formulations, …). Even allowing chemical reactions to be operated at new operation conditions, known as “Novel Process Windows”, continuous flow technology reduces reaction times down to a minimum, whereas completely pushing reaction conditions to the possible limits.

Important approaches for process intensification include:



- reduction of process steps
- acceleration of heat & mass transfer
- use of micro process engineering
- supply of non-classical energy forms (microwave, ultrasound,…)
- utilisation of extruder - rotor stator - membrane or cascade systems
- application of plug flow
- new methods in metrology, process control & operation

Micro Reactor Technology

Micro chemical engineering is gaining significant importance in the field of chemical engineering over the last decade. In micro chemical plants chemical reactions are carried out in three-dimensional structures with inner dimensions in the range of micrometers (µm). The handling of extreme reaction conditions such as temperatures ranging from -80 to 900 °C and pressure ranges up to 300 bar is much easier inside a micro reactor than in conventional set-ups and enables to go for new synthesis pathways.