

PROCESS DEVELOPMENT CAPABILITIES

Microinnova owns various types of plants with throughputs in the lab and pilot scale range. Plants for liquid-liquid, liquid-gas and catalysed gasphase processes are set-up with a wide range of microreactors and other microstructured devices in the lab or can be modified for it in a short period of time. Precipitation processes can be carried out as well as photocatalysed processes. Further types of unit operations can be provided on request. Demonstration of the plants is possible by appointment.

Lab facilities of Microinnova provide usual instrumental analytic equipment like GC-MS (Varian), FT-IR (Biorad/Varian), HPLC (HP) and UV-VIS-Spectrometer (Shimadzu) for process development projects. Titrations, pH-value, conductivity measurements and a lot more parameters are self-evident.

A detailed list of process development capabilities including a description of the different development plants with all technical details can be provided on request. We are permanently expanding our capabilities. Please give us a specific request for conditions outside the described ones.

Liquid/Liquid Processes

-40 – 300°C (higher Temperature with electrical heating)

Pressure up to 40 bar (one plant up to 150 bar)

Multi Stage Reactions

Precipitations (micro and nano particles)

Emulsification

Reactions with corrosive substances (Teflon and/or Hastelloy equipment)

Reactions with toxic substances (closed systems, fume cupboard)

Strong exo- or endothermal reactions

Gas/Liquid Processes

-40 – 300°C

Pressure range: 0 – 100 bar

UV-stimulated reactions

Temperature controlled

disperse or non-disperse phase contacting

almost all substances

Gas/Gas Processes

-40 – 850°C

Pressure range: 0 – 100 bar

catalytic reactions with coated channel walls or powder/granulate catalyst

Strong exo- or endothermal reactions

temperature controlled

almost all substances

Liquid/Solid Processes

-40 – 300°C (higher Temperature with electrical heating)

Pressure up to 40 bar (one plant up to 150 bar)

Reactions with Suspensions

Precipitations (micro and nano particles)

Particle Surface Modifications