

Pilot Units for Continuous Supercritical Fluid Reactions

Standard Design

Max. operating pressure	50–1,000 bar
Max. operating temperature	20–500°C

Performing a reaction at supercritical conditions enhances the conversion rates and the space-time yield. Smaller reactors can be used for the same amount of reaction product.

Advantages

- Improved space-time yield
- High selectivity
- Enhanced conversion rates
- Smaller reactors
- Higher catalytic activity
- Homogeneous reactions because of unlimited solubility of reactants
- Increased catalyst endurance

Features

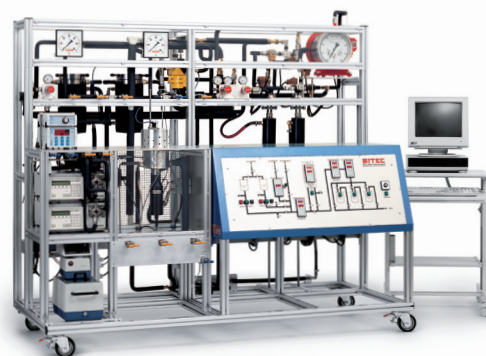
- Fixed-bed tube reactors, slurry reactors, recirculation reactors, down-flow column reactors, Berty-type reactors
- Pressure generation for gases and liquids
- Mass flowmeters for gases and liquids

Options

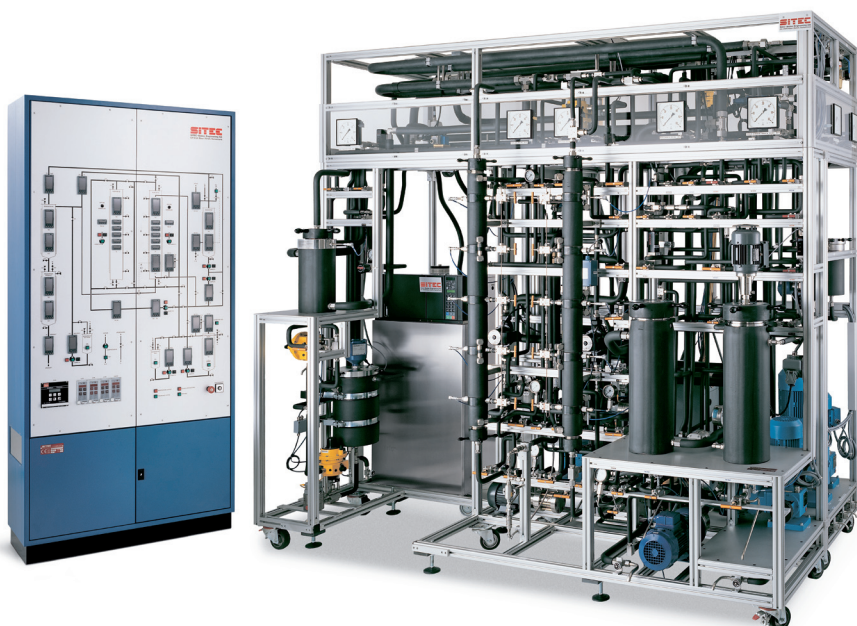
- Data acquisition system
- Process control and batch documentation with programmable logic controller (PLC)
- External recirculation of reaction fluids

Applications

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|-------------------|-----------------------|
| ■ Hydrogenations | ■ Catalytic reactions |
| ■ Polymerizations | ■ Enzymatic reactions |
| ■ Isomerizations | ■ Synthesis reactions |
| ■ Oxidations | ■ Hydrolysis |



Pilot unit built for reaction engineering research (Germany). This unit is equipped with a Berty-reactor for 450°C max. reaction temperature.



Pilot unit designed for catalytic high-pressure reactions for a pharmaceutical company (Switzerland). The two reactors are fixed-bed catalytic reactors which can be operated up-flow, down-flow, in series or parallel.