HITEC ZANG

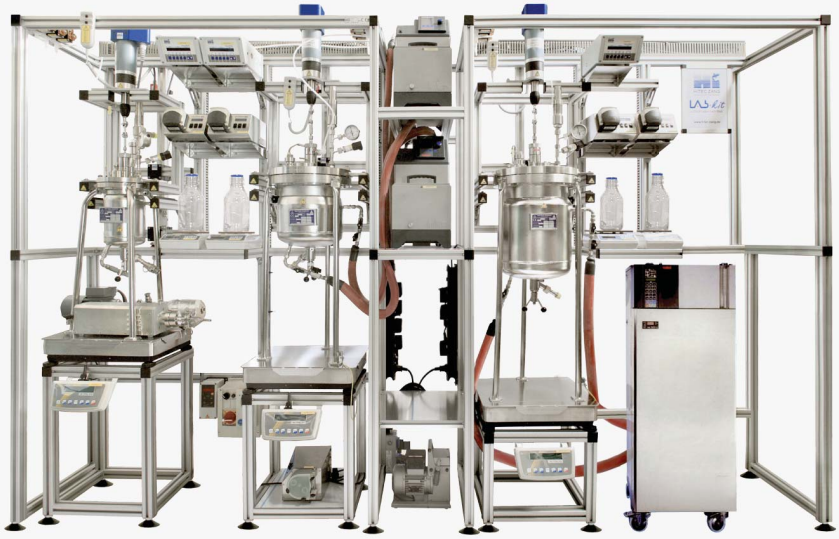
Made-to-measure plant construction!

LAB·kit™ - Laboratory reactor and mini-plant systems

4-fold parallel reactor plant for catalytic converter tests, pressures of up to 120 bar, 3-stage reactions, continuous operation

Laboratory clarification unit with pH, turbidity and foam sensors, stirred tanks in continuous operation

Laboratory calorimeter with a 5-litre glass reactor with a stainless steel lid, heat balance calorimetry and extensive sensors



Plant for emulsion polymerisation, dispersion and reactor weighing for fed-batch and circular flow operation, made of stainless steel (1.4571)

Automated laboratory reactor systems...

- work in a more reproducible manner
- gain reliable data
- save costs and time by day and night operation
- shorten the transfer to production
- work more safely

LabKit™ is...

- a flexibly adjustable construction kit of laboratory systems
- deployable in batch, semi-batch and continuous operation
- versatile expandable
- easy to operate
- freely programmable

Reasons for automated systems

The classic method for the transfer of a promising reaction from the laboratory to production is directly from manual operation in the laboratory to automated operation in the plant. The data which are necessary for designing the layout of the production equipment are only gained in the plant.

The interface is always a problem

The understanding between the laboratory chemist and the plant is not always simple, as there are hardly any data available for a sensible equipping of the plant system and expensive plant is therefore blocked for some time.

Automated laboratory systems are able to supply a major part of the necessary layout data and therefore shorten the development time.

A high level of flexibility for hardware and software is urgently needed in the laboratory with its constantly changing demands. The local user must be capable of carrying out changes to the configuration himself with little effort.

What is LabKit™?

LabKit™ stands for flexibly produced continuous and batch systems for application in chemical, pharmaceutical, biological and foodstuffs technology. LabKit™ systems are deployed as laboratory reactors in laboratories and plants (pilot plants) or as a mini-plant for varied applications such as single- and multiple-stage syntheses, distillation, reflux distillation, rectification, extraction, polymerisation or crystallisation. Simple, cascade and parallel reactor systems are available.

Special customer desires may be met thanks to an extensive range of reactor components in glass or metal, apparatus for the agitating, gassing or measuring of gases, liquids and solids and temperature, pH, pressure and vacuum control.

LabKit™ systems are suited for such applications as

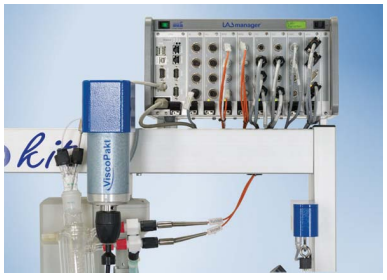
- scale-up
- process development
- process optimisation
- small production volumes
- training

Advantages of LabKit™

LabKit™ is based on a standardised module system of proven apparatus and components such as pumps, valves and sensors, but it still maintains the possibility of expansion using devices or components which are fitted with normal standard interfaces.

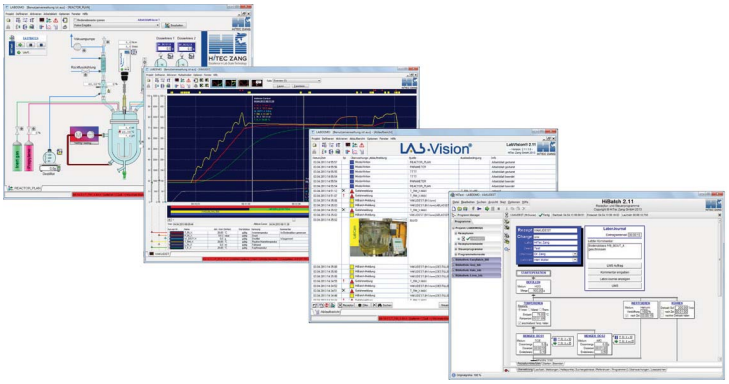
Automation

LabKit™ makes use of the capabilities of the HiTec Zang LabManager® system. It offers simple programming and operation, universal interfaces with distinctive plug connectors and excellent robustness. LabManager® systems can be operated in fume cupboards.



LabManager® can be installed space-saving on a construction

You, as a user, can connect new sensors and actuators yourself without any problems. Many types of interface are available as a ready-to-use module, others can be easily defined and calibrated by yourself. An extensive library of devices connected in series, such as thermostats, pumps, scales etc., is also supplied. An editor simplifies the setting up of NAMUR compliant communication protocols.



Research process control system LabVision®

The HiBatch™ graphic batch control system is available for the generation of sequential programs. Through a simple linking of graphic icons for basic operations, such as tempering, dosing, vacuum and pH control, you can generate complex batch sequences in a very short time and later accurately reproduce them. Alternatively, you can use the EasyBatch™ table-based batch control system. Even the recording and later automatic repetition of manual batch process is possible.

All data are recorded and may be exported into third-party programs such as Microsoft® Excel®. An editable protocol system is also integrated.

Features

- An easy-to-handle, open system
- Expandable: Automatic sampling, product processing, CIP function, online analysis, reaction calorimetry etc.
- Space-saving construction
- Optimal utilisation of laboratory resources due to 24-hour operation
- Best possible reproducibility
- Increase in quality
- Relief from routine activities
- Reduction in the risk of accidents
- Advice, planning, production, installation, commissioning and training from one source
- Exactly tailored to your demands
- Clearly defined framework for time and costs

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