LAB-manager
Everything automation needs today!

Automation in laboratory, pilot plant stations and mini plant is indispensable, if you want to increase quality and productivity and to decrease your costs. Single components like dose regulators, pH or vacuum controllers, data registration and control units etc. were assumed to be the best way of building an automation-system, for years. But flexibility, scope of works and usability of a LAB-manager-system are far beyond the limits of these conventional configurations. It is especially suitable for continuous and batch processes in chemistry, pharmaceuticals, biotechnologies and food. All the single components required are integrated with almost infinite possibilities. External measuring converters, loop controllers, controlling equipment, power supplies etc. are no longer needed.

Field of application
▶ **Process development**
▶ **Process optimization**
▶ **Scale-up**
▶ **Screening**
▶ **Quality assurance**

Specifically developed for the special needs in R&D, the system is unique in its flexibility and usability. Even advanced complex recipe-control can be accomplished at the push of a button with unmatched reproducibility. With the HiTec Zang LAB-manager-System, which sets the standard for modern laboratory-automation, you can now even solve complex problems in an easy way and open new possibilities for your research:

- **data logging, supervision, closed loop control**
- **open loop control, analysis, logging**
- **temperature, pressure and vacuum control**
- **dosing control of liquids, solids and gases, gravimetric and volumetric, with pumps or gas pressure and valves**
- **basic and/or acidic pH-regulation**
- **stirrer speed control with torque monitoring**
- **automation of single, parallel and coupled reactor systems, reaction calorimeters, fermenters etc.**
- **simple and multi-stage synthesis**
- **controlled distillation, rectification, polymerisation, crystallization etc.**

The automation device
LAB-manager and LAB-box are each equipped with the required NAMUR-compliant interfaces to connect laboratory devices, sensors and actuators.

From temperature sensors to dosing pumps you simply connect with the help of converted cables everything on your own. Instead of elaborately wiring single-components, such as measuring converters, plotters, loop controllers, data loggers, power supplies etc., you now only need a LAB-manager or LAB-box and a PC with LabVision.

Until now automation-hardware was composed of a switchboard filled with single components with elaborate cabling and required extensive planning and enormous installation expenses. All this is now compressed into this small device which you can integrate immediately in your plant, saving space and money i.e. in the extractor hood.

The scalable system grows with your demands from a small data logging system to a complex process control system. It is even able to migrate from the process in the laboratory to pilot plant, mini plant or even to production. You achieve even in the early stages an important insight of how your process can be automated and therefore shorten the time to market.

The sophisticated safety and alarm concept enables you in most cases to leave your process unsupervised, even over night or at the weekend. By this alone, the investment amortizes in a very short time.

Several systems can be linked together and with the chemist's office PC, the service-department or external service-agencies.
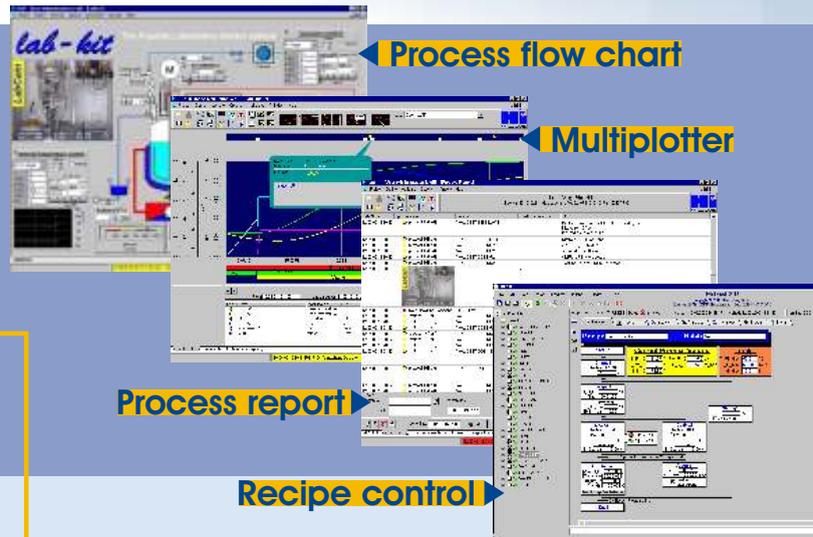
Cut your costs, increase quality, reproducibility and productivity!
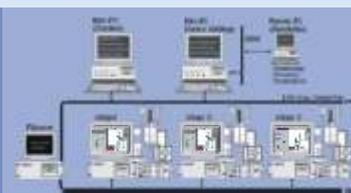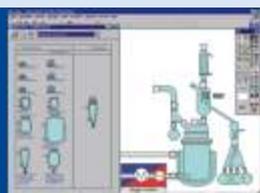
LAB-manager

The LAB-manager-system complies to the requirements of the NAMUR working group AK 2.4 for research process-control systems and is therefore usable for regularly changing and modifying experiments in research.

◄ Process flow chart

◄ Multiplotter

Process report ►

Recipe control ►

The Visualisation interface — LAB·Vision

Using the Process Control System-software LabVision under Windows NT/2000/XP you can control and observe the plant from your screen. Critical values are reported and all values, application flows and events are consistently documented without interruption.

In the area of control and online evaluation LabVision is in a class of its own. Features include, easy for everyone to control, graphical recipe control HiBatch, the easy to learn programming language HiText as well as STL according to IEC 1131 and device components. With the help of the expandable unit operation library you create self-documenting complex recipe control plans with in a simple way.

LabVision is convincing due to its easy handling and operation and its outstanding scope of capabilities. Powerful additional modules are available such as:

▶ **NAMUR conforming recipe control**
▶ **Connection of analyzers**
▶ **Reaction calorimetry module**
▶ **Specialized and fully adaptive controllers**
▶ **Teleservice (Remote service), remote alarming**
▶ **Cross plattform networking**

Charts and Presentation

LabVision enables you to analyze your process data even during runtime automatically and to present the results as xy and xt charts and tables on clearly arranged user-defined protocol sheets.
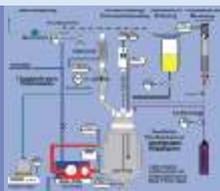
For more extensive and challenging offline analysis, HiTec Zang has developed the technical-scientific evaluation program DaDas. DaDas closes the gap between easy to use but restricted analysis with spreadsheets, and the costly yet practically unlimited evaluation using a high level programming language. With the LAB-manager system you implement a continuous data chain reaching from the experiment planning up to documentation and presentation, which helps to avoid mistakes. Thus, resulting in a cost reduction, as well as quality and productivity improvement.
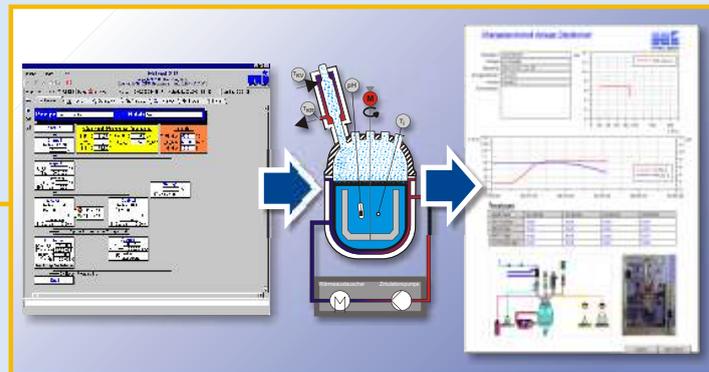
With our extensive service, starting with the planning of your plant regarding process-technical consulting up to the moment of start-up and customer oriented training program, we will support you in every step of the plant building process and of course afterwards as well.

Still having questions? Call us, we are ready to support you!