MODLIBMRT for LabVision® - Library for Micro Reaction Technology

MODLIBMRT
Module Library for Micro Reaction Technology
contains all project modules for micro reaction plants constructed in Designer of LabVision®.
Each module has a unique operation for process technology grouped in:
mixers, reactors, heat exchangers, sensors, controllers and actuators.
Peripheral devices such as pumps, thermostats, samplers are also included.

Properties and benefits
- flexible design of micro reaction plants with preconfigured modules – ready-to-use
- precise control and automation
- automatic link to data points
- knowledge on measurement and control technology not necessary
- error-free configuration of plants
- instant use of micro reaction plants
- no delay or loss of time with configuration
- essential programmes for automation available

Applications
- most efficient use with a laboratory automation system and samplers

Ideal for
- research
- feasibility studies
- process & product development and screening
- fully automated plants
- plants with exchangeable modules
- small scale production
Project modules of LabVision®

Project modules developed by the new technology of LabVision® introduce a unique procedure for automation offering a user-friendly and safe configuration as well as fast functionality for chemical plants and process control. Project modules are preconfigured, ready-to-use modules. By designing a chemical plant they can be included by drag-and-drop for visualization and by starting a project they have full functionality without further configuration.

Project modules are combined with different objects of LabVision® including:

- Operating objects
- Data points
- Device components
- Visualisation objects
- HiText™ programs, etc.

Project modules having similar operations and configurations are grouped in libraries. Due to their instant functionality the development period of projects is significantly shortened.

Modules of Micro Reaction Technology

The unique modular micro reaction system of Ehrfeld Mikrotechnik was developed to achieve a technology for the most efficient and flexible chemical engineering. The perfect control of processes in a micro reaction plant is realized by our LabManager and LabVision®. The visualized modules are also developed by the project module technology of LabVision®.

MODLIBMRT

Module Library for Micro Reaction Technology is the collection of micro project modules required to design and control a micro reaction plant. Functional parameters are displayed on modules, can be set and if necessary the operation can be switched on or off. Several modules are designed for different operation ranges. The maximum value of the operation range entered in the window is used for scaling of the measured value.

Since the project modules are ready-to-use elements they can be used by drag-and-drop in the Designer of LabVision® and by starting a project they are immediately functional. The user does not need any knowledge on measurement and control technology and mistakes are avoided.

Project modules having the same function are summed up in groups. MODLIBMRT contains the following groups of micro modules:

- Mixers
- Reactors
- Sensors
- Pressure and flow controllers
- Heat exchangers
- Valves

Peripheral devices, like

- Pumps
- Thermostats
- Samplers

are also included in the project module library. However, unlike the micro modules, peripheral devices are not scaled to the screen, but are represented by a typical symbol.

Their control elements are visualized by switches and the most important parameters are displayed and/or can be set.

After instantiating a module from the library, a micro reaction plant can be designed without any further configuration. The user is informed about the connections to the LabManager® and the module will be numbered automatically, in case several modules of the same type are used.

Exchange of modules

It can occur that a module must be exchanged, because e.g. a new measuring range is necessary for a precise process control. In the past the new module had to be configured again after exchanging it.

MODLIBMRT offers a beneficial solution for such cases: the user can simply select the new range of parameter on a pull-down menu and the configuration is finished. (Of course, the hardware has to be changed by the user.) LabVision® sets the new parameters automatically.

Automated screening

An additional feature of a micro reaction plant is a fast process control. Due to this property it is the best tool for screening process parameters and product qualities. Since, due to the micro structures of modules a process parameter reaches its constant value after change on a time scale of minutes (usually in a minute), the complete screening of a process can be done in a very short time. To carry out an automatic screening we provide all tools: samplers of different types and control programmes like EasyBatch™ and HiText™. For standard screening plans of temperatures, or mixing ratios of educts e.g., we offer ready-to-use programmes.

Automatic temperature screening of a process.

Beneficial special features

- Preconfigured modules for micro reaction plants
- Automatic link of data points and device components to a LabManager® and to peripheral devices
- Easy-to-use: knowledge on measurement and control technology not necessary
- Ready-to-use for micro reaction plants
- Fast plant design: no time lost by configuration
- Easy exchange of module types
- No mistakes by configuration and automation

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