

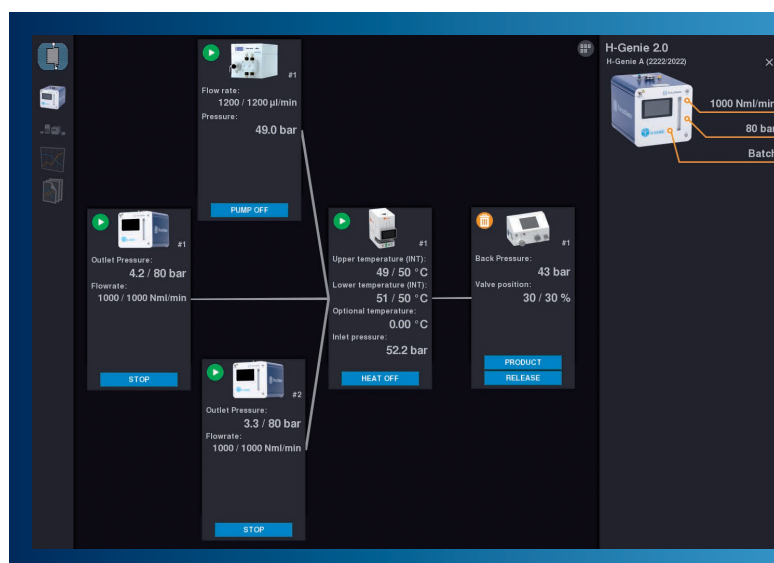


THS SYSTEM CONTROLLER® AND THS REACTION® SOFTWARE

As part of the Phoenix - H-Genie® platform, the THS System Controller® and the THS ReAction® PC application are designed to efficiently control ThalesNano laboratory flow chemistry reactor modules using a computer with user-friendly software. The THS System Controller® establishes seamless communication between the laboratory devices and the computer, while the THS ReAction® software enables remote control of all modules in the system.

KEY FEATURES OF THE SOFTWARE

Remote Control of All Attached Modules via the Software



ThalesNano's THS ReAction® software offers a seamless and user-friendly interface to remotely control all laboratory flow chemistry reactor modules. With this feature, researchers can conveniently and efficiently manage various reactor components from a computer, eliminating the need for manual adjustments and increasing experimental precision.

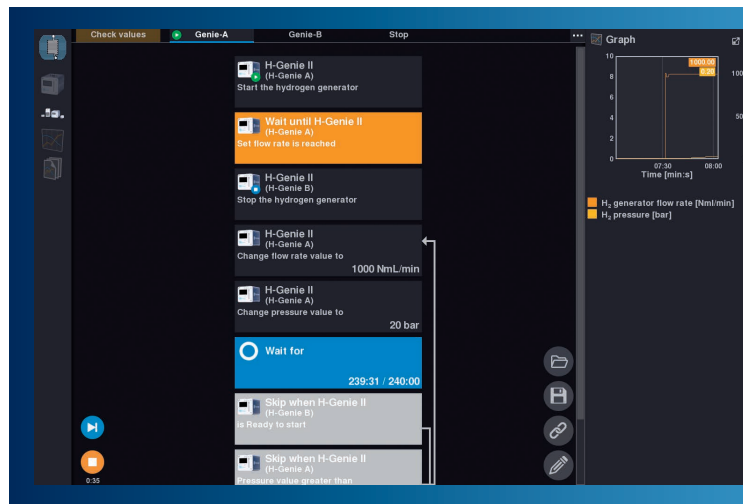
Option for Controlling Third-Party Modules

The software's flexibility is designed to extend beyond ThalesNano's own modules. On custom request, researchers can integrate and control third-party modules, enabling compatibility with a wider range of experimental setups. This open and adaptable approach allows users to harness the full potential of their existing laboratory equipment while benefiting from the enhanced capabilities of THS System Controller®.

Individual Control of All Reaction Parameters

One of the software's key strengths is its ability to provide precise control over all essential reaction parameters. Researchers can tailor and adjust temperature, pressure, flow rates, and other critical variables on a module-by-module basis. This level of customization empowers scientists to optimize their experiments according to specific reaction requirements and achieve reproducible results.

Automated Operation Mode for Enhanced System Control



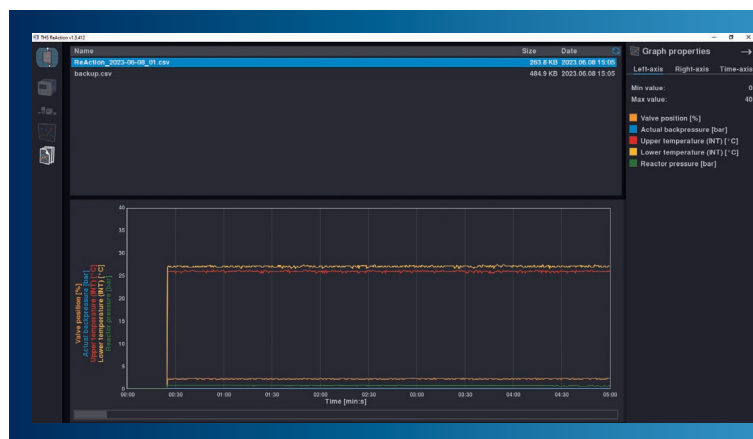
THS ReAction® software incorporates an automated operation mode, which streamlines and optimizes the execution of experimental protocols. Researchers can program the software to follow predefined sequences, execute step-by-step instructions, and adjust parameters automatically at specified time points. This feature not only reduces the risk of human errors but also allows for unattended, long-duration experiments, freeing researchers to focus on other important tasks.

Real-Time Monitoring of Reaction Parameters



The software provides continuous, real-time monitoring of crucial reaction parameters during the experimental run. Researchers can track variables such as temperature, pressure, and flow rates on a dynamic graphical interface. This immediate feedback facilitates quick decision-making, enabling adjustments or interventions as needed during the course of the experiment.

Data Logging Capabilities



To ensure comprehensive record-keeping and easy data retrieval, the THS ReAction® software features robust data logging capabilities. It automatically collects and stores experimental data, including parameter values, time stamps, and any relevant system events. Researchers can easily access this data for analysis, comparison, and reporting, enhancing the reproducibility and traceability of experiments.

Plug-and-Play Methodology

THS ReAction® software's plug-and-play approach simplifies the setup and configuration of experimental systems. Researchers can quickly connect and integrate new modules into the software interface without complex setup procedures. This user-friendly feature minimizes the learning curve for new users and encourages seamless experimentation from the start.

On-Demand Sequence Programming and Controlling Options

One of the software's most powerful features is its ability to create custom reaction sequences tailored to specific experimental goals. Researchers can easily define and program sequences that involve multiple modules, each with its set of unique parameters and conditions. Moreover, the software includes an extensive library of predefined reaction templates, which can be readily applied and adapted to match the user's specific needs.

Supports Parallel Systems, Managed by the THS ReAction Software® with the THS System Controller®

Researchers working with parallel reactor systems will find the THS ReAction® software particularly valuable. The software efficiently manages and synchronizes the operation of multiple reactors simultaneously, allowing users to conduct parallel experiments effortlessly. This capability significantly increases experimental throughput and accelerates research productivity.

BUILT-IN SAFETY FEATURES

- Maximum column temperature setting
- Temperature regulation for solvents based on applied pressure
- Automatic process control during reactions
- Emergency shutdown protocols for added safety
- Customizable temperature, pump flow rate, and back-pressure control
- In case one of the devices is disconnected (or any parameter exceeds the normal limit of the reaction), the reaction can be automatically stopped, and an emergency process can be initiated

THS SYSTEM CONTROLLER®



MODULES FOR THE PHOENIX FLOW REACTOR™ - H-GENIE® PLATFORM

PHOENIX II FLOW REACTOR™

The Phoenix Flow Reactor™ is a versatile heater unit with a temperature range from room temperature to 450 °C and a pressure range from atmospheric pressure to 100/200 bar, depending on the connected modules. It can accommodate various types of reactors, including loops made from PTFE, stainless steel, or Hastelloy, and different columns, pre-filled or user-loaded, with a wide variety of volumes.

H-GENIE® II

The H-Genie® is an award-winning compact system designed for on-demand hydrogen generation. Utilizing patented technology, it enables you to produce 4.0 purity hydrogen gas from water at pressures up to 100 bar and flow rates up to 1 NL/min. The system is designed to be used in any laboratory as a safer and simpler replacement for hydrogen cylinders and to expand your chemistry capabilities.

HPLC PUMP

The HPLC pump is either a 10 mL/min or 50 mL/min (higher pump capacity can be provided on special request) capacity unit with built-in pressure sensor.

PRESSURE MODULE™

The Pressure Module™ generates pressure within the reaction chamber and incorporates a system valve, a pressure sensor, and a 3-way valve to set the outlet either to waste or to product collection. The maximum pressure capacity is 100/200 bar, depending on the applications.

GAS MODULE™

The Gas Module™, when connected to the Phoenix Flow Reactor™ - H-Genie® platform, allows the introduction of various gases alongside hydrogen, such as carbon monoxide, oxygen, or syngas. With the capability to handle 14 different gases at up to 100 bar pressure, or any gas compatible with the system, it significantly broadens the reactor's chemical capabilities. The system also supports the use of multiple Gas Modules and mixers to introduce more than one gas simultaneously.



For more information, please visit
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