AutoLAB
Bench & Kilo Scale Reactor Systems
**Flexible Platform for Any Chemistry**

The AutoLAB is a modular, flexible reactor platform backed up by over 25 years in reactor design. Innovative design features mean that AutoLAB meets every research need from simple daily use to more complex processes. Each AutoLAB is designed and built to match your chemistry.

**Complete Control for Increased Efficiency**

The AutoLAB is designed to enhance productivity in the laboratory and that is why the AutoLAB comes with control and data capture software is offered as standard. Benefit from better reproducibility and 24/7 operation through:

- Full automated control and data logging
- Real time monitoring
- Built in safety controls with automated emergency shut-down procedures

The AutoLAB software control enables you to get the most from your reactor investment.

**APPLICATIONS**

- Hydrogenation
- Polymerisation
- Catalyst testing
- Crystallisation
- Synthesis

**Evolves with your Chemistry**

The AutoLAB can adapt over time to follow the evolving needs of Research and Development. Future proof designs allow effortless integration of new hardware and control features.

We supply the complete Turnkey Package!
AutoLAB systems incorporate a number of design features for extreme ease of use.

- Quality stirrer motors with computer interface
- Touch screen software control (stirring, temperature, dosing, pH, etc.)
- Range of sensors
- Range of glassware
- Easily adjustable
- Simple, quick alignment of stirrer motor
- Double and triple wall vessels
- Neatly contain all cable and computer interface cards
- Drip tray
- Release clamp for packing & transporting
- Support clamp makes vessel changes effortless
- Standard ground glass joints
- Quick release lid clamp
- Quick release fitting for oil pipes
- Spare port for oil temperature sensor
- Oil drain valve, for fast vessel change
- Supports for oil pipes, take stress off reactor side arm
- Choice of magnetic or mechanical stirrer shaft seal
- Dimensions (cm): 60(L) X 48(W) X 67(H)
The AutoLAB offers a complete solution, configured to volume, control and process requirements. From simple benchtop to customised pilot reactors, systems are designed and engineered to meet any demand and all come with HEL signature control as standard. Glass reactors are available in standard atmospheric or medium pressure (up to 12bar) options.

**Bench Scale Systems (up to 5 litres)**

Simple Jacketed bench reactor set-up within minutes and with intuitive touch-screen control.

Design Simplicity ensures **Ease of Use and Flexibility**.

- Flexible stand design accommodates entire system in a compact footprint (L 60cm X W 48cm X H 67cm)
- Quick connect features facilitating easy vessel exchange in minutes
- One system - different volumes with the reactor lid fixed different volume vessels can be interchanged quickly

**Combine high and low pressure reactors on dual stand with full control and data logging**

Pressure glass reactor double jacket (up to 12bar)
AutoLAB Multi purpose high pressure reactor features

- Available in a range of sizes and materials - stainless steel, hastelloy, titanium, etc.
- Pressure option to 100, 200 or 350 bar and temperature to 250°C, 350°C and 500°C
- Electrical or oil jackets for temperature control
- Bench or trolley stands with compact designs
- Customisable cover plates with a range of accessories
- Simple vessel exchange
- Combine with other reactors on a multi reactor stand

Bench standing design

Floor standing design

Viewing window allows visualisation of the reaction

Special and customised systems are a speciality and are designed to order

Parallel high pressure reactors, independently controlled, for hydrogenation
When it comes to reactors we believe in taking control. That is why each AutoLAB comes with our proprietary state of the art software. In keeping with the flexibility of hardware design a number of control and data management options are possible.

The simple MicroNOTE touchscreen interface allows immediate, intuitive access to the complete system.

For more involved processes and advanced data management, upgrade to our WinISO software which allows complex recipe construction, full downstream data analysis and gives comprehensive custom safety controls.

The following standard signals can be monitored/controlled:

- Temperature
- pH
- Stirrer speed
- Torque (for viscosity indication)
- Pressure
- Feed rates - solid or liquid feeds
- Solubility and super-solubility
- Automated sampling
- Other 3rd party segments
- And many more...

Mimic screen gives interactive graphic of entire system

Tabular and graphical displays of real time data

Unlimited step recipe planning which allows online editing at anytime without process interruption

Decide on how the system should respond to process conditions

Export data functions and support for integration with in-house electronic and record keeping systems
CONTROL AND LOG ANY DEVICE!

Control and log any device. With 25 years in the business there is little we haven’t integrated into the AutoLAB platform.

Circulators  Automated Sampling  Reflux/Distillation

Process Monitoring Probes  On line Calorimetry  Liquid dosing  Gas consumption or evolution measurement

And many more - just ask!

BEYOND THE BENCH

Kilo Lab Reactors and Larger Customised systems. Take advantage of our wide ranging experience and knowledge and we can design a system ideally suited to your needs.

Floor standing reactors available to 50 litres. Ergonomic design with fully portable infrastructure

Low and high pressure reactors with Reflux control, liquid addition and coupled with HEL PolyBLOCK

Parallel high pressure reactors, independently controlled, for hydrogenation

Multi Reactor systems designed for parallel process from a single software setup
About Hel

Hel is an international company that specialises in research and pilot scale chemical reactors and related data logging/automation tools for process R&D in the pharmaceutical, fine chemical and petrochemical industries. Established in 1987 and with clients worldwide our key strengths are:

Knowledgeable staff - highly qualified and experienced chemical engineers and chemists
Quality - underpinned by ISO9001 certification for over 20 years
Service - choice of service contracts backed by established culture of unmatched client support
Range of products - both off-the-shelf and custom designs, manual and fully automated controls, low and high pressure/temperature applications, single and parallel/multi-vessel products

Consultancy & Testing Services

Over the past 25 years we have developed expertise and become industry leaders in:
- Reaction hazards, calorimetry, vent sizing
- Process development and optimisation
- Dust and powder flammability
- Other hazard consultancy services, including expert opinion, HAZOPS, DIERS, incident and accident investigation and professional training

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