

XELSIUS REACTION SOLUTIONS



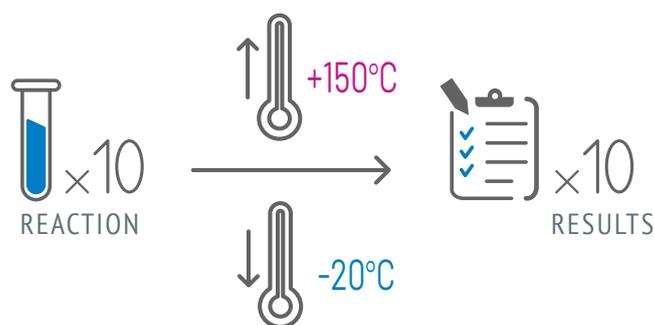
LabTech

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10 IN 1... AND MUCH MORE!

XELSIUS is a compact and fast reactor with 10 completely individually tempered and stirred reactor cells in the temperature range from -20°C to $+150^{\circ}\text{C}$.

This system is suitable for parallel synthesis, flow chemistry, reaction and process optimization, as well as for performing DoE (*Design of Experiment*) studies.



Save valuable space in the fume hood with a flexible and innovative solution. With **XELSIUS** you save time, increasing your laboratory throughput.

XELSIUS System is integrated into a PTFE-coated housing, granting high resistance and protection in rough laboratory conditions.

The versatility of the product stands out: it can be used inside a fume hood, mounted onto a robotic platform, coupled together as multiple units for mass sampling or simply operated free standing on a laboratory work surface.

REPLACEMENT FOR:

- 10 heaters
- Magnetic stirrers
- Ice baths
- Reactor cells
- Reflux condensers

IN JUST ONE DEVICE!

A compact instrument under the fume hood as a clever and flexible solution for all aspects of operating and setting-up the reactor.



12 GOOD REASONS TO CHOOSE XELSIUS



Wide temperature range -20°C to +150°C



Different stirring rate in each vial



Long lifetime reaction cell



Ergonomic and small footprint



Overheat Protection for safety operation



Very intuitive and user-friendly Interface



Independent control of all parameters for each cell



PTFE coated surface resistant to aggressive acids/solvents



Live monitoring of flow and temperature on graphical display



Temperature stability and accuracy of $\pm 0,1^\circ\text{C}$



Gloves sensitive touch screen



Flexibility of operation under fume hood or outside on bench-top surface



MAIN APPLICATIONS

- Reaction Optimization
- Drug Discovery
- Parallel Synthesis
- Route Scouting
- Gravimetical Analysis
- Experiment Studies (DoE)
- Automated Filtration



CONFIGURATION OPTIONS



1 - REFLUX CONDENSER

An easy to integrate tool specifically developed for **XELSIUS** reactor. The innovative design prevents the annoying condensation of ambient air humidity. The evaporation losses of low-boiling solvents are significantly reduced. With the transparent cooling body you have an eye on what is going on inside. Stainless steel inserts guarantee an optimal heat transfer from the glass vials.

3 - WIDE RANGE OF VIALS

A wide range of reaction vials are available, in different volumes (from 1 to 30ml) and materials such as polypropylene, glass or PTFE to fulfill any modern laboratory need.



2 - TEMPERATURE MONITORING

Thanks to the 10 x PT1000 external temperature sensors, it is possible to independently control and monitor the temperature in each cell which is reported on the touch screen terminal.



4 - 5-PORT-REACTION CAPS

The unique PTFE 5-Port-Reaction cap allows a wide range of continuous-flow and multi-stage processes.



5 - INERT WORKSTATION

To assure reproducible performances at screening scale and Inertization processes. This workstation can be easily coupled with the **XELSIUS** reflux condenser to provide excellent reproducibility, maintaining high degree of flexibility, thus offering a significant improvement in data quality and laboratory efficiency.



7 - DOSING STATION

Precise and automated dosage of a defined sample/solvent volume inside **XELSIUS** reaction vial. Easy and flexible preparation of dilution series by an intuitive software interface. The dispensing unit is composed by 2 independent dosing units with flow rates 20 $\mu\text{L}/\text{min}$ - 4000 $\mu\text{L}/\text{min}$ and includes tube & fitting kit.



6 - LED LIGHT-CONTROLLED PHOTOCHEMISTRY

A precise current control of the LED is necessary for the reproducibility of photochemical processes. The new **XELSIUS** high-current LED controller is specially developed for this purpose. LEDs can be operated with higher forward currents when there are very short lightning pulses. Available in different wavelengths according to reaction needs, **XELSIUS** can individually temper up to 10 photochemical reactions in parallel.



8 - PRESSURIZED VESSEL

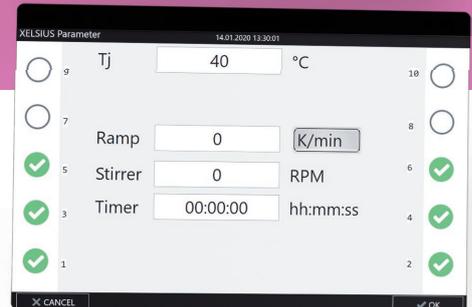
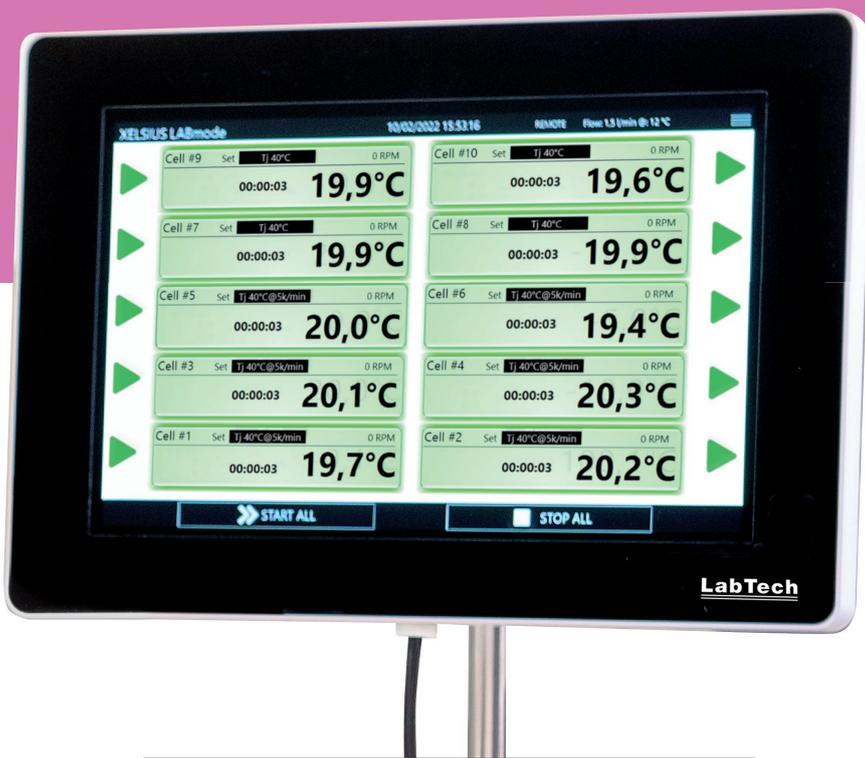
The Pressurized vessel allows small volumes to reach up to 15 bar, granting successful reactions under solvothermal conditions. It grants the possibility of working with the PTFE vial up to 10mL or with the glass vial up to 7mL according to the reaction and the substances used.

SOFTWARE

LAB MODE

By using the software in LAB mode, simply set the temperature, stirrer speed and desired time or ramp and start immediately.

With intuitive and clearly arranged features, you can start working productively with the **XELSIUS** after just few clicks.



After switching on, the **XELSIUS** immediately reports to LAB mode.

You have a complete overview of the status of all 10 reaction cells and can immediately start with individual heating, cooling, stirring or temperature ramping.

LAB mode allows to display, save and export diagrams, temperatures and other parameters of each cell.

Scales, axis and displayed parameters can be chosen depending on what you want to observe.

Each cell can work separately with access to all essential functions.

With only few clicks the set parameters can be transferred to one up to ten reaction cells.

TECHNICAL SPECS

PERFORMANCE	
Reaction Cell Positions	10
Reaction Cell Diameter	24mm
Reaction Cell Power	100W
Working Temperature Range	-20°C to +150°C
Temperature Accuracy	±0,1°C
Temperature Stability	±0,1°C
Temperature Ramping	Independent for each cell
Maximum Heating Rate	+48°C/min
Maximum Cooling Rate	-36°C/min
Temperature Variation With Time Function	Yes
Heating and Cooling Mode	Peltier Module System
Stirring Rate	100 to 1.500 RPM
Sample Volume for each cell	Up to 30ml
Sampling during the reaction	Yes
Inert Gas atmosphere	Yes
Separate Electronic Module	Yes
Built-in anti-condensing circuit	Yes
Over Heating Protection	Yes

TECHNICAL DATA	
Dimensions (LxWxH)	Reactor module: 360 x 165 x 140mm
	Power supply module: 360 x 165 x 140mm
	Touch Screen Terminal: 10,1" (resolution: 1200 x 800)
Surface Material	Aluminium with PTFE coating
Weight	Reactor module: 13kg
	Power supply module: 7kg
	Touch Screen Terminal: 2kg

POWER SUPPLY	
Power Supply Input	240V-50Hz/110V- 60Hz
Power Consumption	1,2kW

SYSTEM	
Info	Microsoft Windows IoT - 4 GB RAM - 128 GB SSD
Display	Color Multi-Touch Screen
Interfaces	USB, RS232, Ethernet, WLAN, Bluetooth
Temperature Control Mode	P.I.D.
Data Logging	Simultaneous for each reaction cell
Export Extensions	Excel, CSV, PDF and graphic visualization

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LabTech, your reliable laboratory solution provider.

LabTech is a leading manufacturing company with skill and passion devoted to provide advanced laboratory solutions to the analytical community. We are located in Sorisole, northern Italy, with facilities in USA and China. Incorporated with global branches, LabTech is organized into R&D, production, marketing & sales and customer support. Major LabTech products include organic/inorganic sample preparation systems, laboratory cooling/heating/temperature control equipments, analytical instruments, gas generators, laboratory centrifuges and liquid nitrogen generators. With knowledgeable scientists and experienced engineers, our R&D team has developed and released a series of new lab equipments and instruments dedicated to the modern analytical laboratories. With all of these accomplishments and our endless research and development efforts, we are proud to be your professional partner in lab solutions.



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