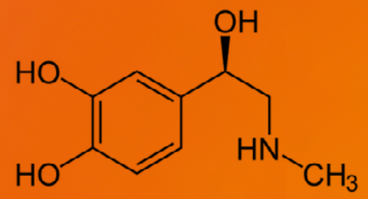
xelsius

TEN REACTIONS ⇌ ONE DEVICE

$$[10 \times \text{Reaction}]^{+150^\circ C}_{-20^\circ C} \longrightarrow \text{Results}^{10}$$

What chemists say about xelsius:

“Exact temperature profiles and strong stirring make my reactions reliable. This is what I need!”

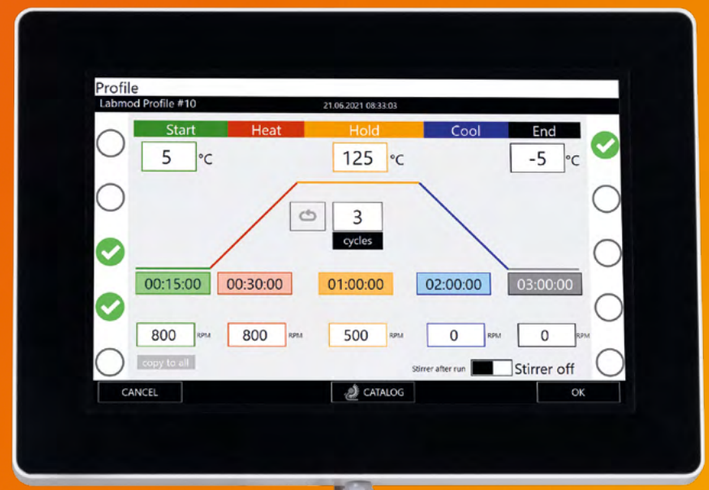


Easy to Use!
In LAB mode, simply set the temperature, stirrer speed and temperature profile to start. With intuitive and clearly arranged features you can work productively with the xelsius after just a few minutes.

“…much better than using ice baths, oil baths, stopwatches, and large flasks.”

“Fast training of new colleagues. After a short time, everyone can work safely with xelsius.”

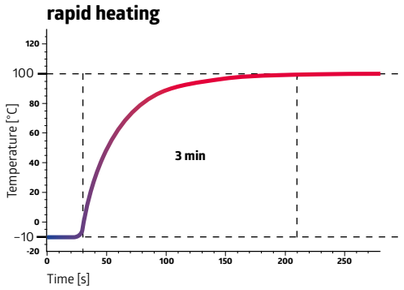
Ten independent controlled vessels: –20°C to +150°C

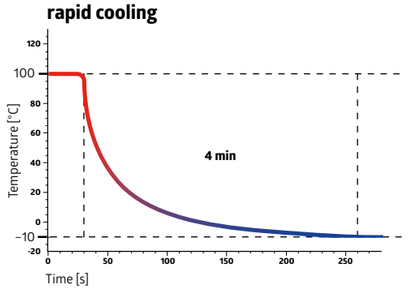


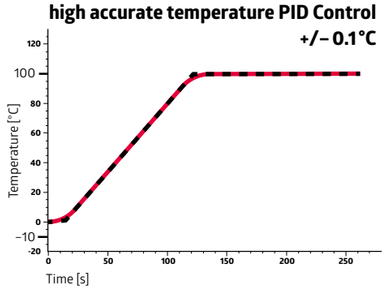
“Intuitive and user-friendly features are very helpful in my daily work.”

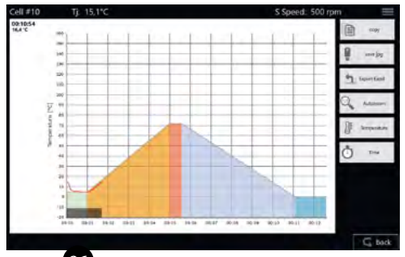
“With xelsius teamwork is pleasant and efficient.”

“xelsius is very compact and saves space in the fume hood. Investments in lab infrastructure can be reduced.”









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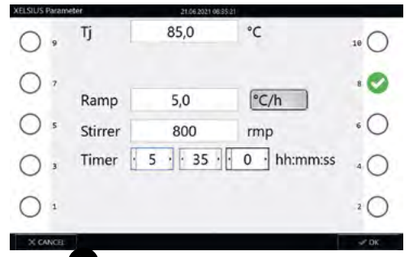

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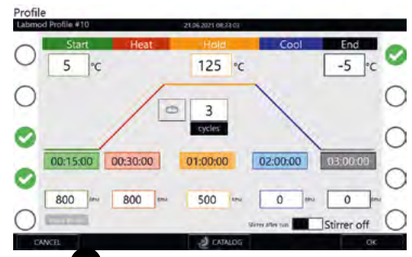
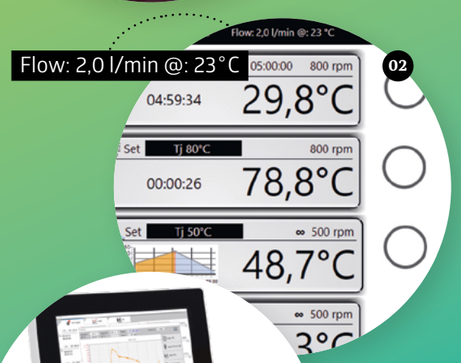


08

Features

01



02

04

05

rapid heating and cooling

- → –20°C | +150°C high-performance peltier elements
- → 30°C /min heating and cooling rates
- → accurate PID temperature control: stability of 0.1°C | accuracy of 0.1°C

strong stirring (01)

- → 100–1500 rpm
- → speed controlled neodym supermagnet, fast and strong
- → various PTFE stirring bars

safety guard (02)

- → monitored flow and temperature
- → overheat protection
- → threshold control

robust and reliable (03)

- → Teflon® white coated surface
- → easy to clean
- → Teflon® sealing reactor cells
- → non-spill connector

ergonomic (04)

- → 10.1“ high resolution multitouch screen
- → flexible mounted screen
- → compact footprint easy installation
- → gloves sensitive touchscreen

data-integration (05)

- → remote control
- → USB port
- → ethernet network
- → interface protocols: TCP/IP, DataREST, JSON / RS232
- → export data to USB stick
- → online support tool

03

Easy to use

analysis and traceability (06)

- → live recording
- → quality control
- → run visualization

setpoints (07)

- → temperature [°C]
- → ramp setting [°C/min l °C/h]
- → stirrer speed [rpm]
- → timer [hh:mm:ss]
- → easy parameter duplication

profile and cycle (08)

- → user defined reaction profile
- → reproducible reactions
- → time controlled stirring
- → repeat reaction cycles

touch and start (09)

- → simply and intuitive user interface
- → multiple user optimized

data export and automation

- → data-export: XLS, CSV
- → run-documentation: PDF, JPG
- → webcam integration
- → external devices e. g. pumps, valves, sampler

09

01

02

02

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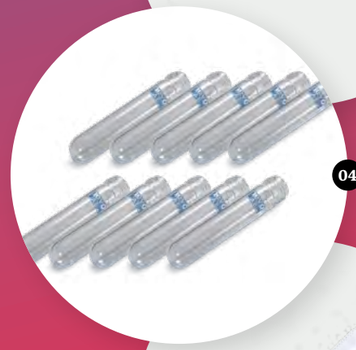

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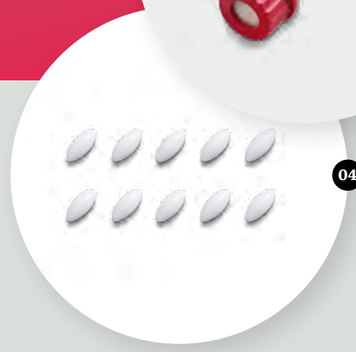

04

05

Accessories

reflux condenser (01)

→ Easy plug-in reflux condenser to save solvents and costs
for cooling water at long term experiments.

inerting workstation (02)

→ designed and approved by users to improve
inversion rates during oxygen sensitive reactions
→ PTFE-sealed vial caps and fittings
→ easy to use gas and vacuum manifold

temperature reaction control (03)

→ control and evaluate your reaction temperature
by using a Teflon® coated mini-PT1000
→ designed for low volume vessels

vials and stirrer (04)

find out what fits best for your reaction:
→ glass vials 20 ml GL25
→ glass vials 0.5 ml—4 ml GL25
→ PTFE vials TFM GL32
→ PTFE magnetic stirring bars

liquid dosing modul (05)

→ chemical inert caps made for inline reaction dosing
in combination with an external syringe pump

Applications

innovative heating, cooling and stirring

→ save valuable space in fume hood and investment costs
by running ten independent and flexible experiments
→ gain highly reproducible experiments and data with less
chemicals and energy

drug discovery and parallel synthesis

→ reaction optimisation
→ drug discovery
→ route scouting
→ design of experiment studies

easy and rapid solvent screening

→ find a more sustainable solvent in less than three hours
→ automated gravimetrical analysis after sedimentation
and equilibration
→ concentration range from 0.5 % to 50 % m/m

automated solubilty test and sampling

→ your ideal lab-companion to generate solubility data and
support your crystallisation processes
→ ideal to generate solvent /antisolvent studies
→ automated filtration and sampling into HPLC vials
to measure ten solubility curves at four temperatures
in less than three hours

Technical data	**Article Number**	8053 100
	Dimensions	Reactor unit: 360 × 165 × 140 mm Power Supply: 360 × 165 × 140 mm LCD Lab Screen User Terminal : 10.1”/ resolution: 1200 × 800 pixel
	Surface Material	PTFE coated
	Weight	13 kg reactor; 7 kg power supply unit
Power Supply	**Power Supply Input**	IN: 240 VAC 50/60 Hz; 1.4 kW OUT: 24 VDC/1 kW
Control	**System**	PC controlled via multi touch display Microsoft Windows® 10 IoT RAM: 4 GByte SSD: 128 GByte
	Interfaces	Ethernet, RS485, RS232, USB 3.0
	Temperature Control	PID temperature-control for each individual cell
	Stirring Control	Individual stirring speed control: 1500 rpm
	Data Logging	Simultaneous data logging for each single cell. Export as Excel, CSV, graphic visualization.
Performance	**Cells**	10 cells per unit, vial diameter 13 mm up to 24 mm, 100 W per cell
	Temperature Range	–20 °C up to +150 °C
	Temperature Ramping	Independent temperature profiles and ramping for each cell. Max. heating rate: 48 °C/min, Max. cooling rate: -36 °C /min (at single cell operation)
Options	**External Temperature Probe**	Temperature measurement directly in the sample.
	Turbidity	Turbidity measurement for each cell.
	CDS Software Module	Integrated software module for analysis and handling of chromatography data of connected analyzer.
	xelsius Data Center	Viewing data sets, precise analysis and method development. Postprocessing of recorded method data. Management of reports and data export files.

nevolab

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