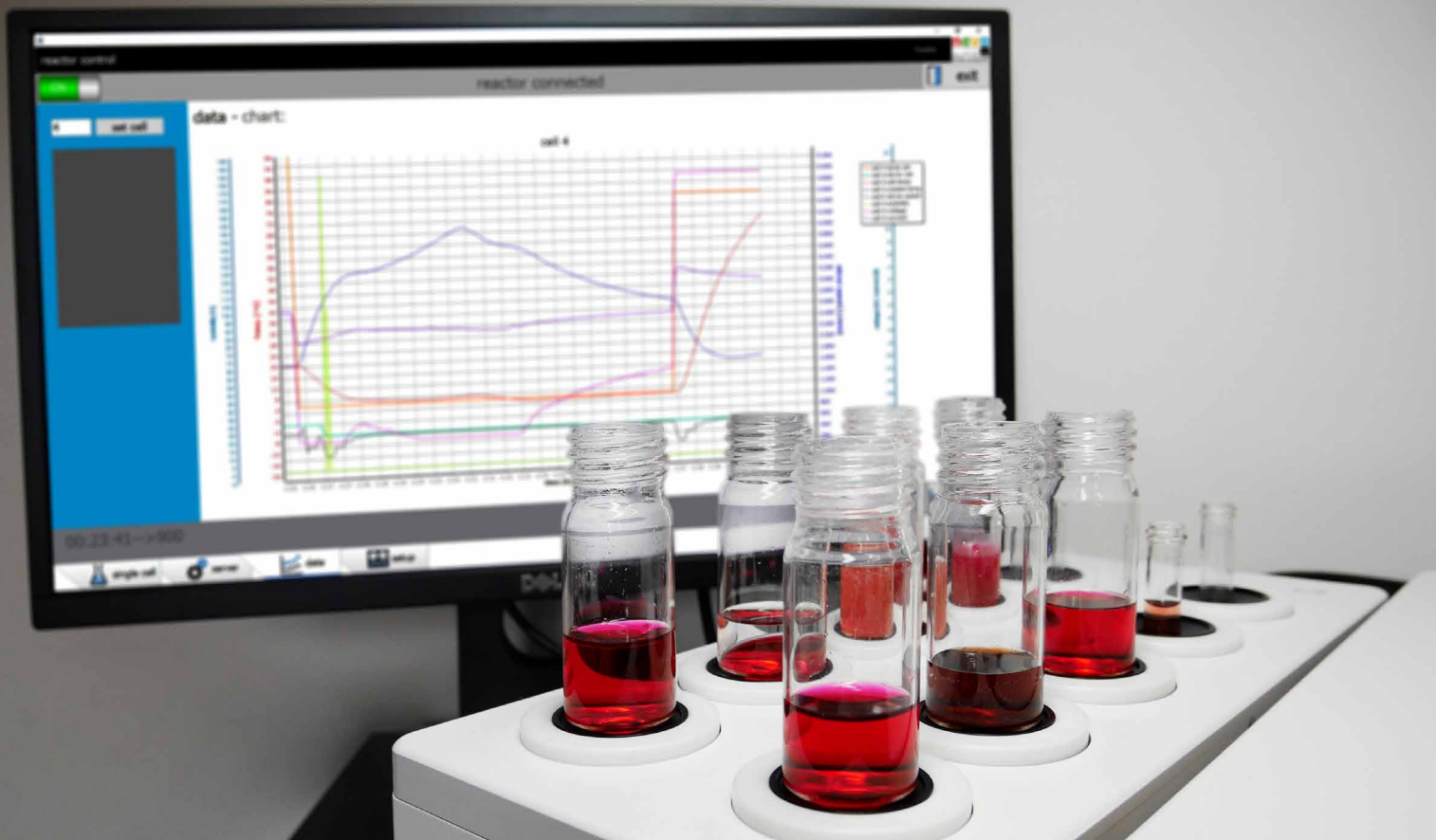


XELSIUS

-20 °C | +120 °C

Highspeed Solubility & Synthesis Reactor





Compact parallel **Synthesis Reactor** with **10 individually** controllable cells: for extraction, QC, process optimization & **Solubility Testing**

Inspired by the possibilities of lab automation!

XELSIUS solubility & synthesis reactor, is capable of taking charge of precise and individual temperature controlling, stirring and turbidity measurements.

The right fit in a wide range of applications up to fully automated chemical processing.

XELSIUS offers 10 individual reactor cells, but can easily be customized.

Controlling by an easy-to-use software interface. XELSIUS can be easily combined with our SAMPLIFY product family.

A high grade of modularity makes this product suitable for small research facilities, as well as industry-level development labs:

- Temperature studies
- Optimization of reaction parameters
- Crystallization analysis
- Solubility profiles
- Process optimization
- DoE reactor
- Screening studies

APPLICATIONS

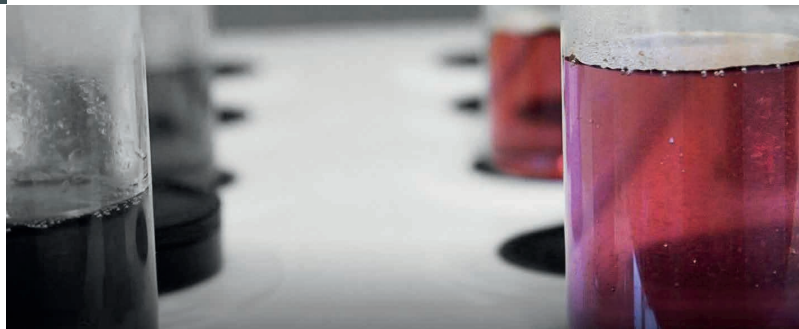


Application 1: Screening

Development of new catalyst products by a parallel testing. 10 individual experiment settings and temperature methods on one device. Sample stirring and accessories for external gas impingement.

Application 2: Solubility

Optimization of reaction parameters for scale up processes or QC of pharmaceutical compounds with different solvents and temperature profiles. Optional integrated turbidity measurement. Optional integrated software module for analysis and handling of chromatography data.



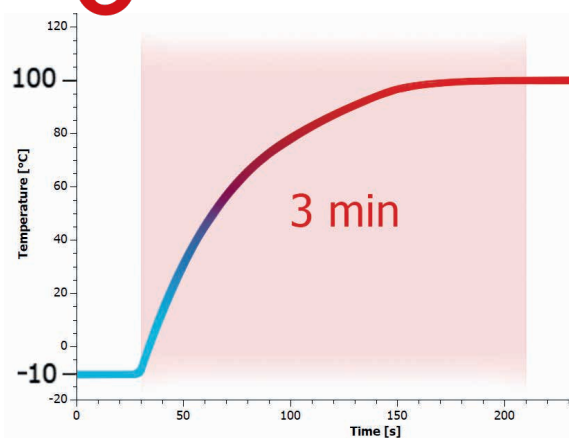
Application 3: Crystallization

Crystallization studies e.g. for protein analysis and bioavailability, resp. crystal breakage analysis. Automated supersaturation control by temperature adjustment of solvents. Optimization of crystal growth at 10 different parameter settings for high comparability.



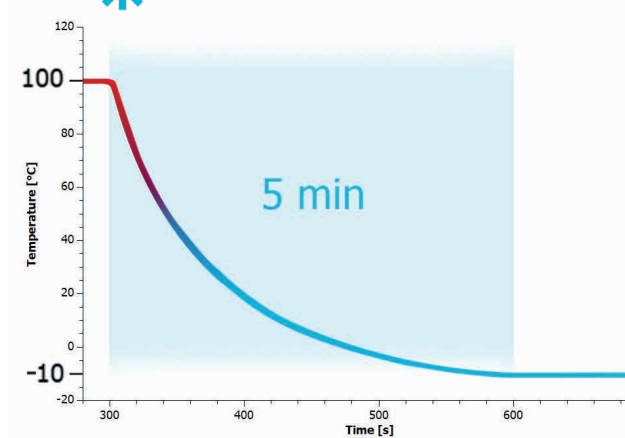
Rapid Heating

-10 to 100°C in 3 min



Rapid Cooling

100 to -10°C in 5 min

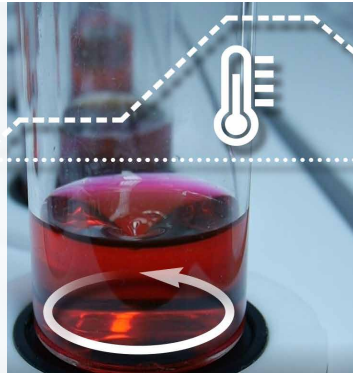


Temperature control for each cell. Individually defined temperature profiles with up to 100 ramping steps.

Experiment reliability: High accuracy of temperature control ($\pm 0,1$ °C) in combination with a stability of 0,1 °C. Temperature control by the cell-block or by connecting with an external probe for measuring the core temperature of the sample.

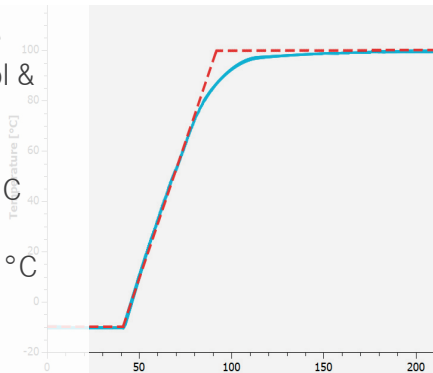
Individual or parallel

- Temperature profiles or set point from -20 °C to 120 °C
- Stirring speeds from 100 to 800 RPM



Reliable & accurate temperature control & ramping

- Stability of 0,1 °C
- Accuracy of 0,1 °C

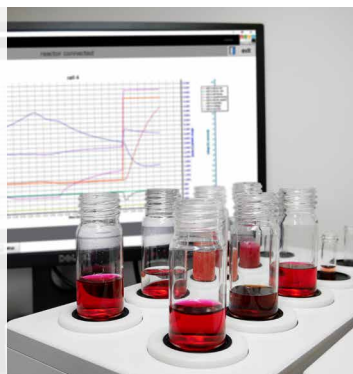


- Different vial diameters from 13 mm to 24 mm
- Processable volumes from 1 ml to 50 ml



Controlling

- Stand alone via touch display and XELSIUS Control
- Method creation and data analysis by the XELSIUS Data Center at an external PC





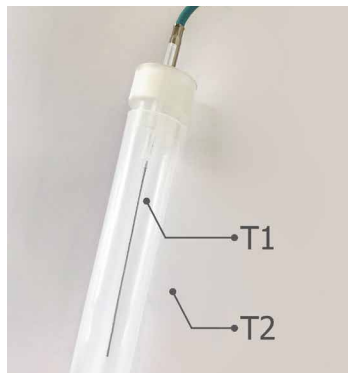
USB Data Transfer

- Automated report generation after each run. Export run data to USB stick
- Method upload from USB stick



Inert surfaces

- White PTFE coating
- PTFE isolation blocks
- Black PTFE with high thermostability



Flexible temperature control:

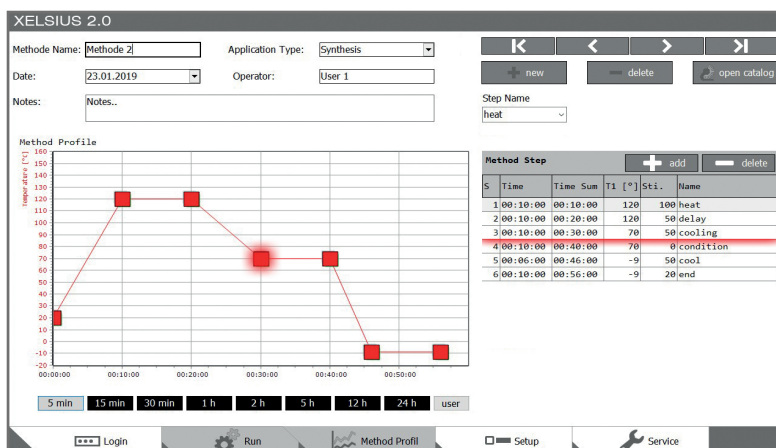
- by internal temperature control
- by connecting an external temperature probe. Direct measurement inside the sample.



Ready for automation! Combinable with a flexible automation platform for

- Timed sampling
- Sample dilution
- Injection in external analyzer

Software & Performance



Easy Control

Creating methods easily and flexible via drag and drop adjustment of the set points.

Every single step is precisely defined in the parameter table:

setting temperatures, temperature times, stirring speed and step name.

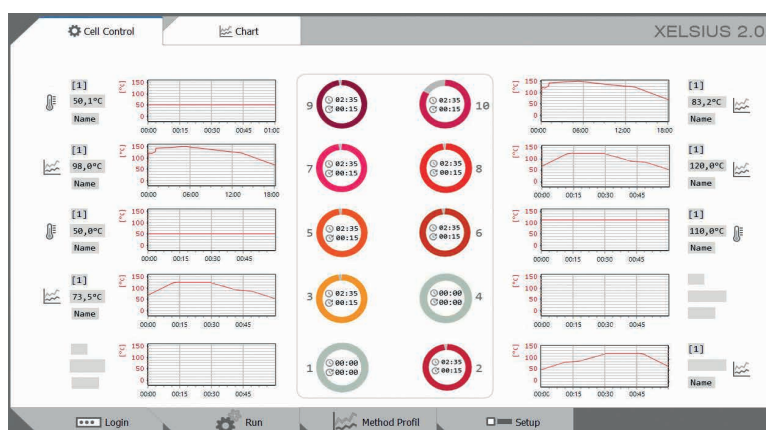
For your data and method security, the software is password protected. Trail files make your run traceable and reproducible.

User Interface

The intuitive user interface provides all important data at a glance: active/inactive cells, actual temperatures, cell mode, actual processed step, total duration of the method and remaining time.

Detailed information is shown in a second screen in real time.

The methods for each cell are predefined and can be started simultaneously.

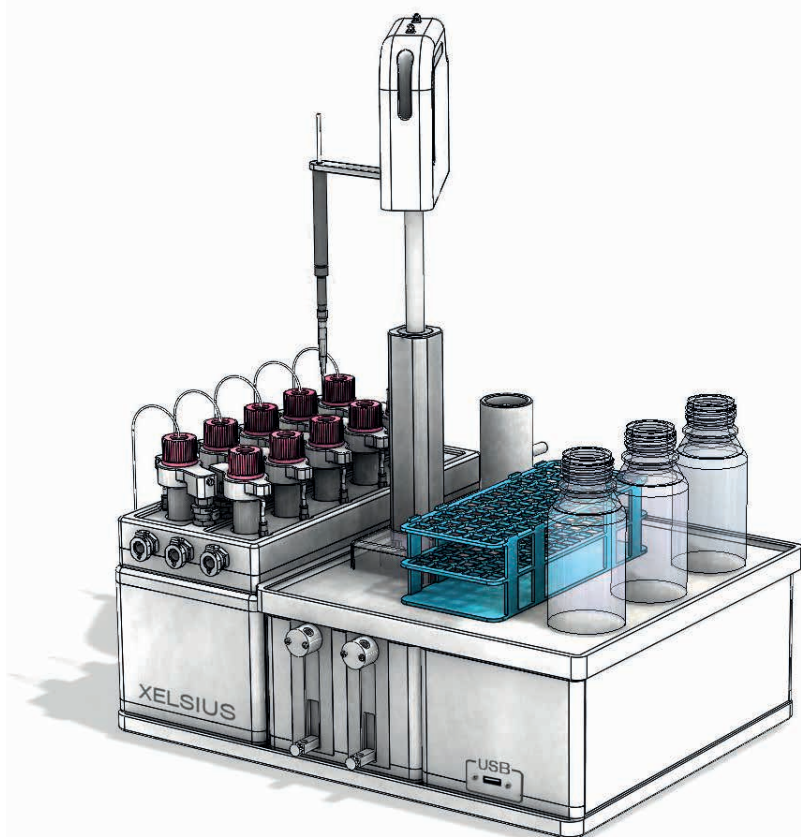


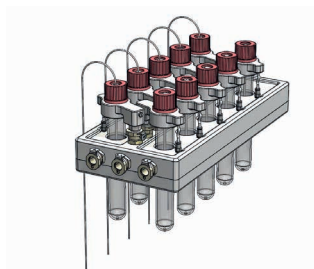
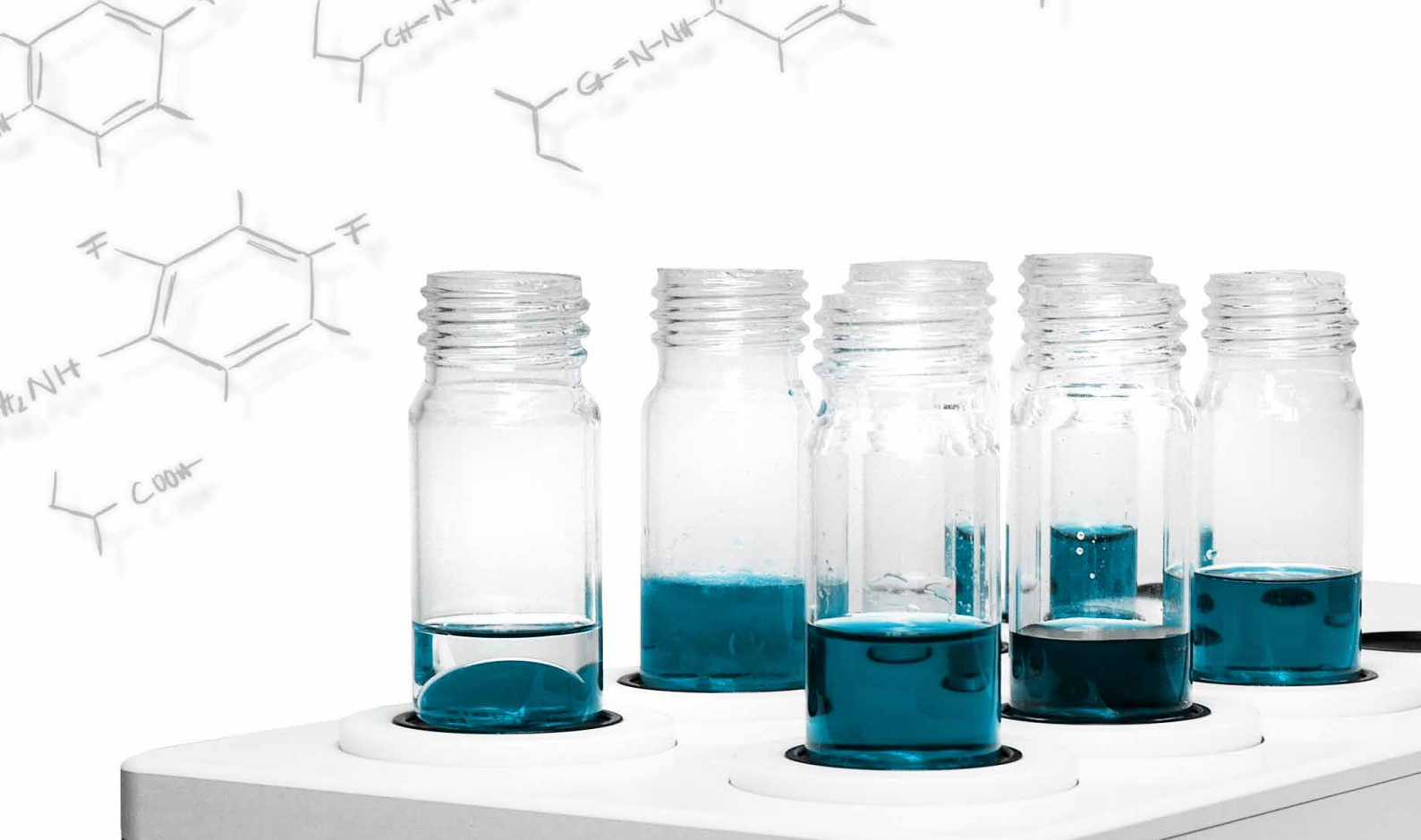
Automation

Automation platform: SAMPLIFY STS

The combination with the automation platform SAMPLIFY STS offers many advantages and application fields in a space-saving unit.

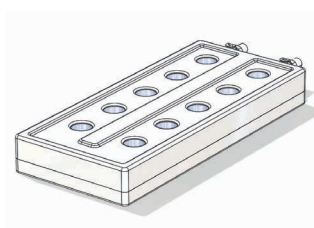
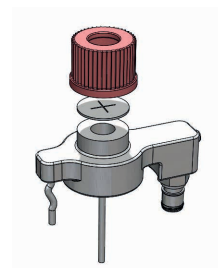
- Automated sampling at a defined time or at reaching a temperature set point.
- Automated sample dilution, ready for analytic measurement. Direct injection into an external HPLC system.
- Dosage of reagents or solvents.
- Fraction collector
- Integration in customized high throughput automation systems.





Inerting Reflux Condenser

- Inerting caps for flushing reaction atmosphere
- Impingement of reaction atmosphere
- Bubbling of gas through reagents



Reflux Condenser

- Cost efficient base model without inerting function
- Easy-to-access coolant connection
- Dropless quick-lock couplings



Vials & Tubes

- Vials and cell adapter in mm-increments
- Diameters from 13 mm to 24 mm OD



External Temperature Probes

- Individual probe per cell. 10 probes can be connected
- Small size sensing end (no heat loss from sample)
- PTFE mantled probe for good chemical resistance

Technical Data

Article Number	8053
Dimensions	Reactor: 360 x 165 x 140 mm Power supply: 360 x 165 x 140 mm Display: 10,1" (resolution: 1200 x 800)
Surface Material	Aluminium with PTFE coating; PTFE
Weight	13 kg reactor; 7 kg power supply unit
Power Supply	
Power Supply Input	IN: 240 VAC 50/60 Hz 1,2 kW OUT: 24 V
Control	
System	Controlled via touch display
Interfaces	USB, RS232, Ethernet, WLAN, Bluetooth
Temperature Control	PID temperature-control for each individual cell
Stirring Control	Individual stirring speed control (max. 800 RPM)
Data Logging	Simultaneous data logging for each single cell. Export as Excel, CSV, PDF-file and 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 +120 °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 developement. Postprocessing of recorded method data. Management of reports and data export files.

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