

SCT-LAB 2.0

HIGH-SPEED LOW-CONSUMPTION
CRYSTALLIZATION SCREENING



Scan me to discover
the full potential of the **SCT-LAB 2.0**

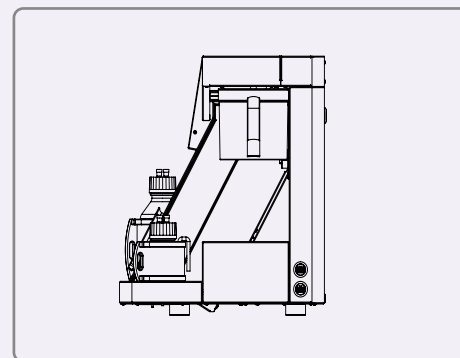
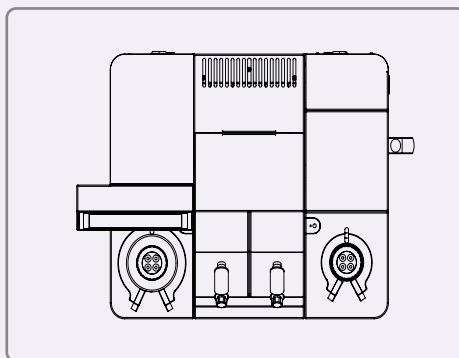
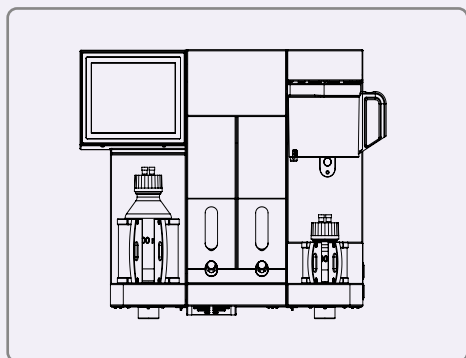
> Transforming crystal production with breakthrough innovation

The new generation of Secoya Crystallization Technology SCT-LAB instruments has now a fully integrated stock solution heating and agitating position, allowing to dissolve the molecule of interest inside the instrument without further handling required.

The accessibility of the mixing inserts and reactor has drastically improved, with a guaranteed watertightness of the reactor holder without the use of screws and bolts which enables the user to more rapidly exchange the reactor, without any fuss.

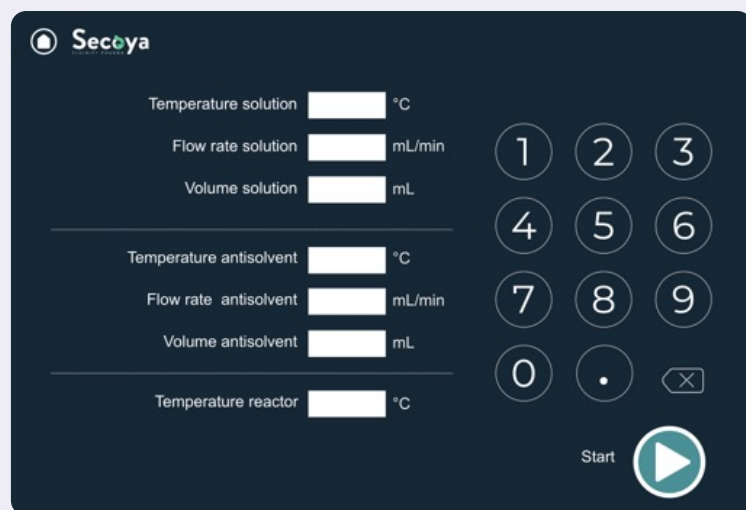
Heat flow studies have pointed out the increased thermal stability of the machine inside the syringes, transfer tubing, inserts and reactor so that heating and cooling is much more effective and uniform.

The tubing connecting the syringes and inserts is now maintained in the same heated and cooled compartment to avoid clogging before the product enters the inserts. It comes equipped with a dedicated thermostat from Huber Kaltmaschinebau, software controlled by our 21 cfr part 11 compliant software.



> Stand-alone instrument with a small footprint

Maximize your laboratory efficiency with this compact device (45 x 45 x 45cm), designed to operate at full capacity without the need for additional instrumentation or a computer.



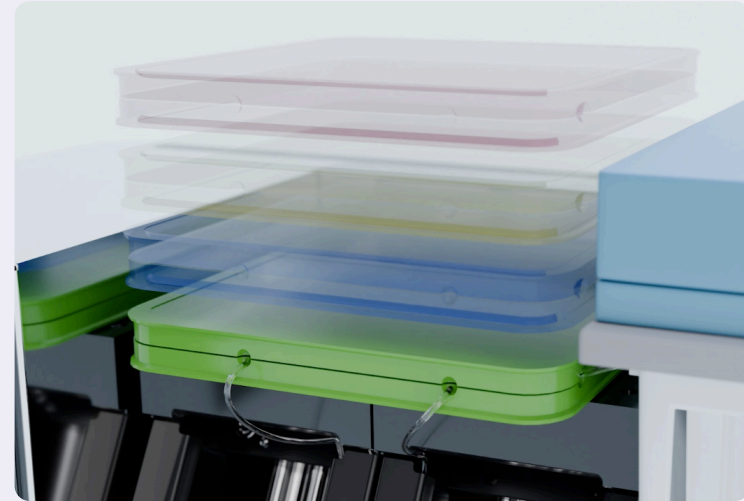
> Precise temperature control optimizing nucleation

SCT-LAB 2.0 is equipped with a heating element reaching up to 85°C for the solution, whereas the antisolvent syringe can be heated to the same temperature or even cooled down to 5°C.



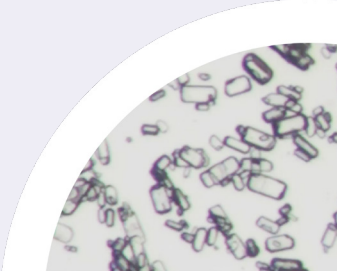
> Multiple mixer inserts enhancing versatility

Whether you want to perform cooling crystallization or antisolvent crystallization, the instrument seamlessly integrates several microfluidic mixers which are positioned right before the entry of the reactor.



> Ingenious conception coupled with an intuitive software

Performing a test is as easy as simply introducing the desired temperatures, flow rates and volumes and let the instrument reach and stabilize at these temperatures. Then, the tests follow very rapidly with the intuitive software.



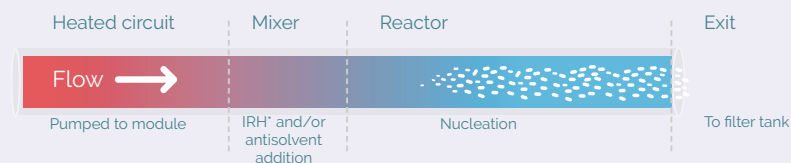
> Specifications

Instrument

Temperature antisolvent	from 5 to 85 °C (antisolvent precooled in fridge)
Temperature solution	from 25 to 85 °C
Temperature reactor	from 0 to 75 °C, agitated, standard from 0 to 45°C, up to 75°C in a specific reactor container
Volume stock solution	100 mL, agitated and heated in place
Volume stock antisolvent	250 mL, agitated and heated in place
Volume solution per test	from 1 to 20 mL, syringes are preheated and precooled
Flow rate solution and antisolvent	from 1 to 50 mL/min
6 mixing inserts for cooling and antisolvent crystallization	
7 different reactors for cooling and antisolvent crystallization	
Unit dimensions	45 x 45 x 45 cm (L x W x H)
Weight	28 kg

Technology

Preheated solution between 25 and 85°C
Precooled antisolvent addition between 5 and 85°C
Temperature controlled reactor container (0 to 60°C)
Single-use, easily connected inserts and reactors
Flow rates per line: 1 to 60 mL/min, independent operated pumps



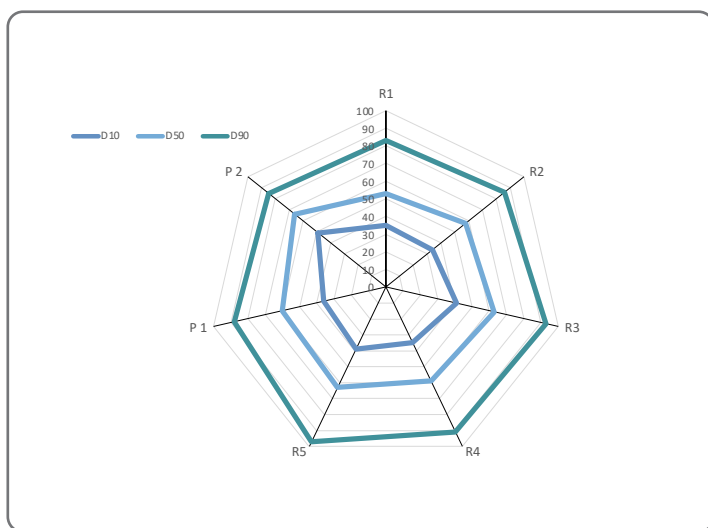
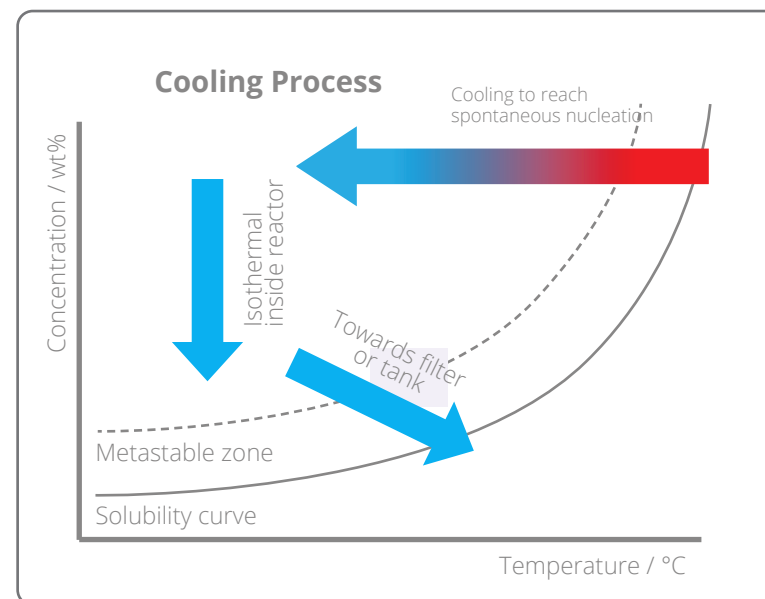
* Internal Resistive Hydrodynamics, see Rimez et al., Crystal Growth & Design (2018)



> About the Secoya Crystallization Technology

Unlike any alternative process, the Secoya crystallization technology is based on the precise control of spontaneous nucleation through the use of millifluidic tubular reactors upon cooling and different antisolvent addition possibilities. Using such capillaries, any parameter influencing the nucleation is ideally optimized and controlled.

Secoya's crystallization technology is unique, enabling crystallization of molecules in a single process step avoiding difficult work-up when performed with conventional batch systems.



> Seamless scale up from lab test to production validation

Thanks to the robustness of the crystallization technology, the parameter set is determined during the laboratory scale screening phase to achieve the desired particle size and distribution. This set is validated at pilot scale during kilogram testing before parallelization towards production scale.