FlowSyn™ *Automated Loop Filling (Auto-LF II)*

UNISIS
Accessible flow chemistry

Uniqsis Automated Loop Filling Upgrade (UQ1092)

What does the Auto-LF II™ do?

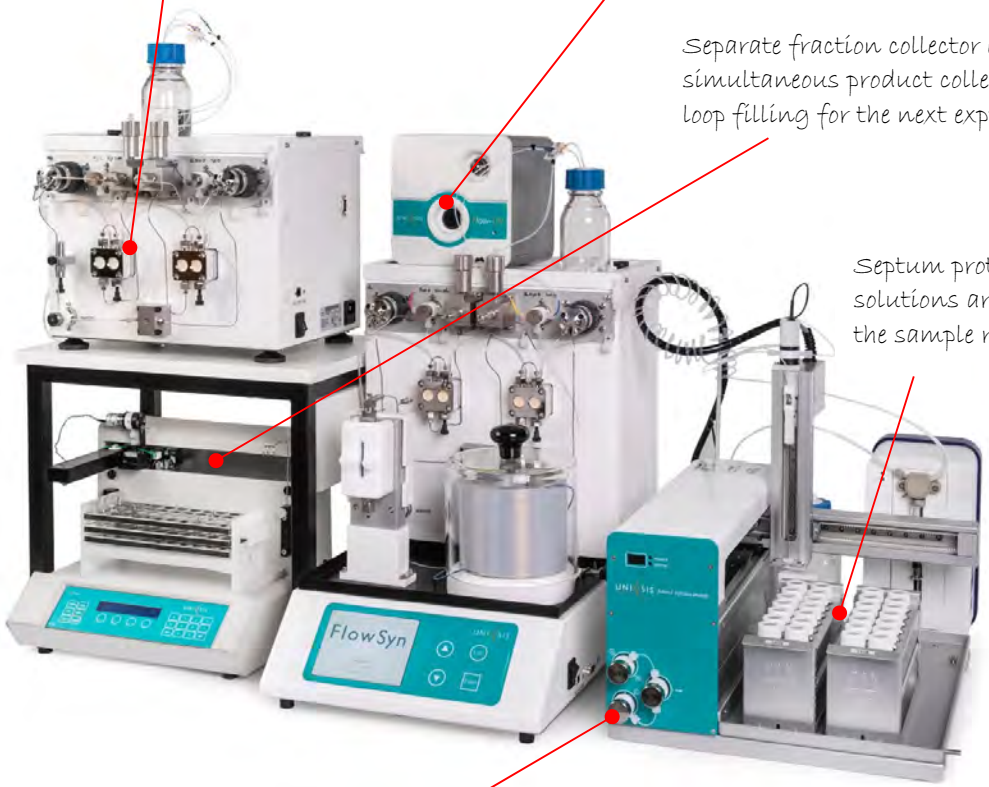
- Automatically fills sample loops with reagent solutions
- Automates the preparation of combinatorial libraries in flow.
- Runs automated reagent scans and optimise reaction conditions in flow.
- Reduces processing time by intercollating loop filling & fraction collection.
- Plots reactor pressures, temperatures and shows event markers in real-time.
- Captures detailed experimental reports.
- Visualises system and inline UV-vis data in real-time

Auto-LF II is compatible with both 2 and 4 channel Uniqsis FlowSyn and FlowLab *Plus* flow chemistry systems

Compatible with Flow-UV inline UV/Vis diode array spectrophotometer

Separate fraction collector enables simultaneous product collection and loop filling for the next expt.

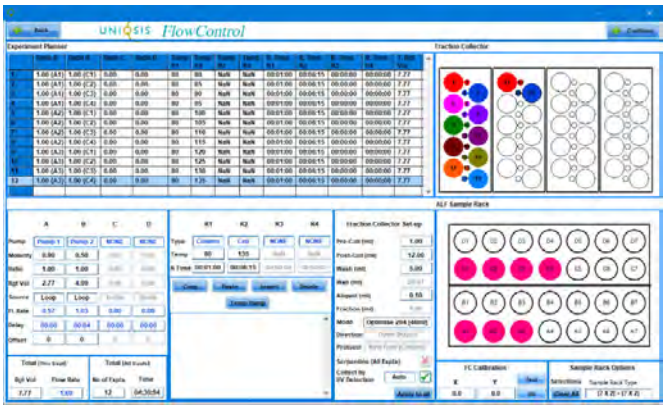
Septum protected reagent solutions are placed in the sample rack.



Reagent solutions are transferred directly to the sample loops using electrically operated selection valves avoiding the need for unreliable injection ports.

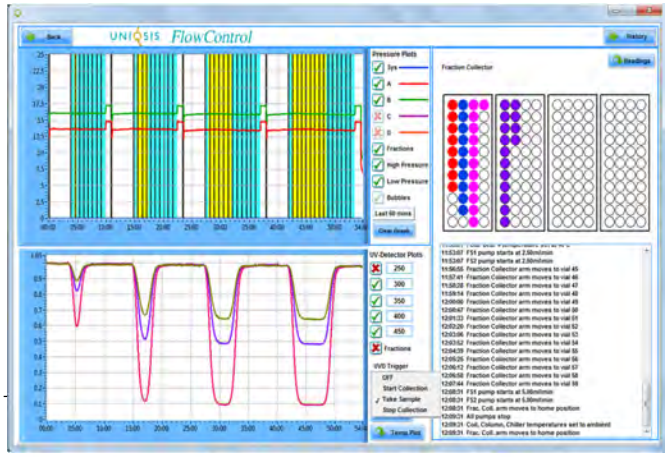
Straightforward FlowControl II Software.

Auto-LF™ is programmed using FlowControl II software that connects either by Wi-Fi or using an ethernet cable. The user interface is organised as a series of screens that guide the user step-wise through the process of setting up automated experiments.



Experiment Setup: The Experiment Setup screen is used to allocate reagents (from either sample loops are stock bottles) and reaction conditions to each experiment.
All experiments are completely independent.

The fraction collection protocol is also defined and, where applicable, the UV-directed mode selected.



Data Logging: Pressure and temperature plots are available in real time during an experiment.
Event markers and fraction collector vial allocations are also shown and inline UV data (either passive or active) can be visualized to display dispersion and concentration changes.

All experimental data is archived and available for subsequent reload or reprocessing.

" Why does it take so long to fill sample loops? This can add a lot of down time to a series of flow experiments."

To avoid wasting precious material, the most economical method for filling sample loops is to fill the loop with a reagent 'plug' that is both preceeded and followed by an air bubble. This effectively prevents dispersion that would otherwise result in the sample being diluted by the system solvent. However, to avoid air bubble 'break up' and subsequent fragmentation of the sample plug this must be done *slowly*. Over a series of experiments this can add a considerable amount of time!
By utilising a separate Sampler and Fraction Collector, as shown below, FlowSyn can begin to fill the sample loops for the next experiment before finishing the current experiment!

OK, so what's really good about Auto-LF?

Flexible! Each reaction can have a different set of conditions (stoichiometries, residence times, temperatures, concentrations

Saves time! A separate Sampler and Fraction Collector ensures that process times for an automated series of experiments can be kept to a minimum. This is because filling of the sample loops for the next experiment can begin before the current experiment has finished.

Reliable! No injection port to leak or block; fully integrated robust wash protocols to minimise the risk of cross-contamination.

Versatile! Auto-LF is compatible with both 2 and 4 channel systems. The system can be upgraded further by the addition of the Flow-UV inline spectrophotometer to enable automatic, UV-directed product collection.

Compact! Fume cupboard space is valuable; the use of the latest dual rack compact XYZ autosampler with a capacity of up to 96 samples minimizes the footprint required.

Easy to use! The FlowControl user interface builds on the well proven format used for the standard FlowSyn. Multiple experiments can be quickly programmed and then monitored in real-time.

Backward compatible! The Auto-LF package has been designed to offer an upgrade path for existing FlowSyn and FlowLab *Plus* (BPM) users and is therefore compatible with most existing FlowSyns.

UQ-1092 FlowSyn Auto-LF™ Package (with FC203B Fraction Collector)

Gilson 241X Autosampler with integral PTFE selection valve, wash station and sample racks. Dimensions: 330 mm (w) x 465 mm (d) x 230 mm (h).
Gilson Verity 4020 Single Syringe Pump with 10 mL syringe. Dimensions: 170 mm (w) x 200 mm (d) x 240 mm (h).
FC203B Fraction collector. Dimensions : 324 mm (w) x 292 mm (d) x 267 mm (h)
Laptop with FlowControl II™software and supporting utilities installed.
Calibrated connecting tubing integration kit and sample racks.

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