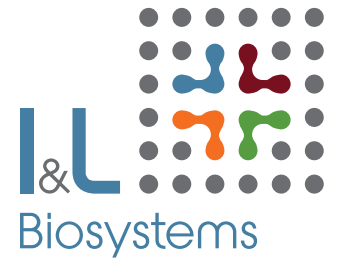


Microbiology Cell Biology Biotechnology Process Control



Sepragen QuantaSep[®]

Chromatography Instruments



In 1995 Sepragen® Corporation released a series of instruments for biochromatography. The goal was clear from the start, design a reliable and robust instrument then develop the sophistication to deliver a feature rich product that still has the reliability and performance expected from research and pharmaceutical cGMP applications.

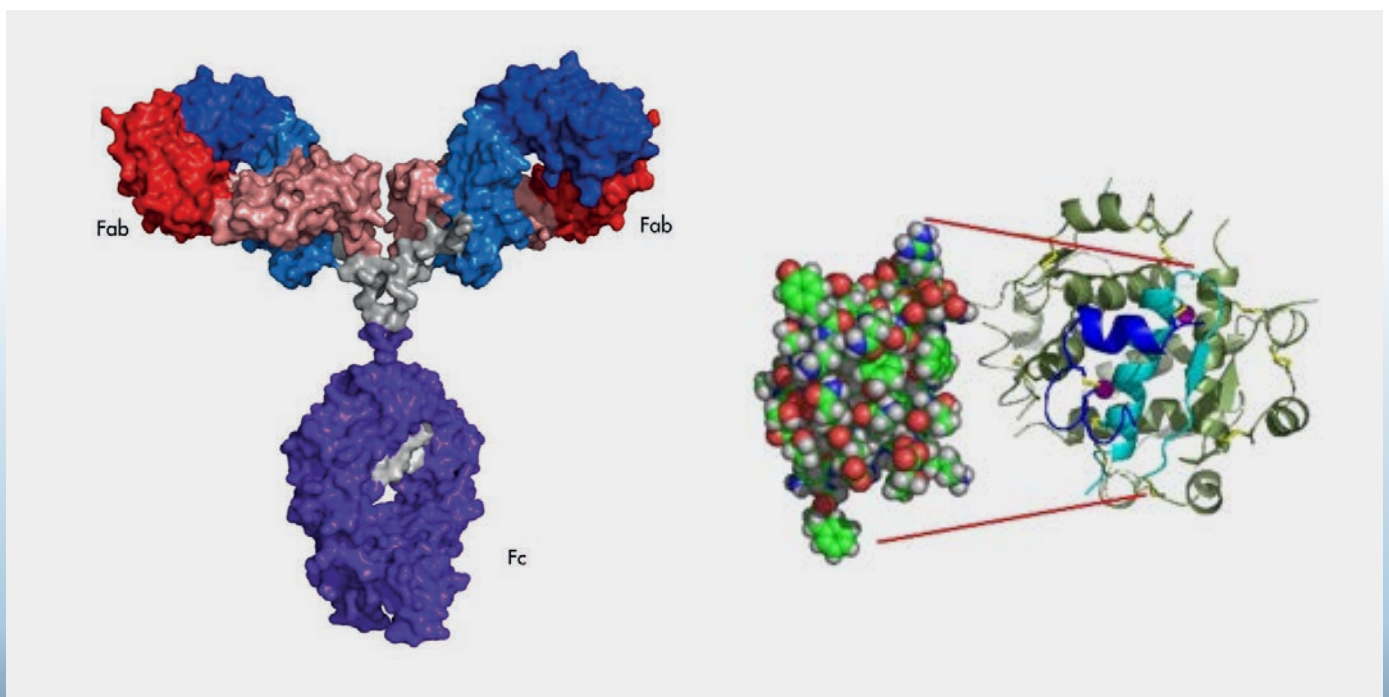
Over time Sepragen® developed a range of different benchtop instruments with flow rates up to 3000 mL/min that can perform complex time and event based tasks utilising all of its unique features.

Seven benchtop models are available from small R&D to pilot and small production scale, all featuring the QuantaSep® software platform.

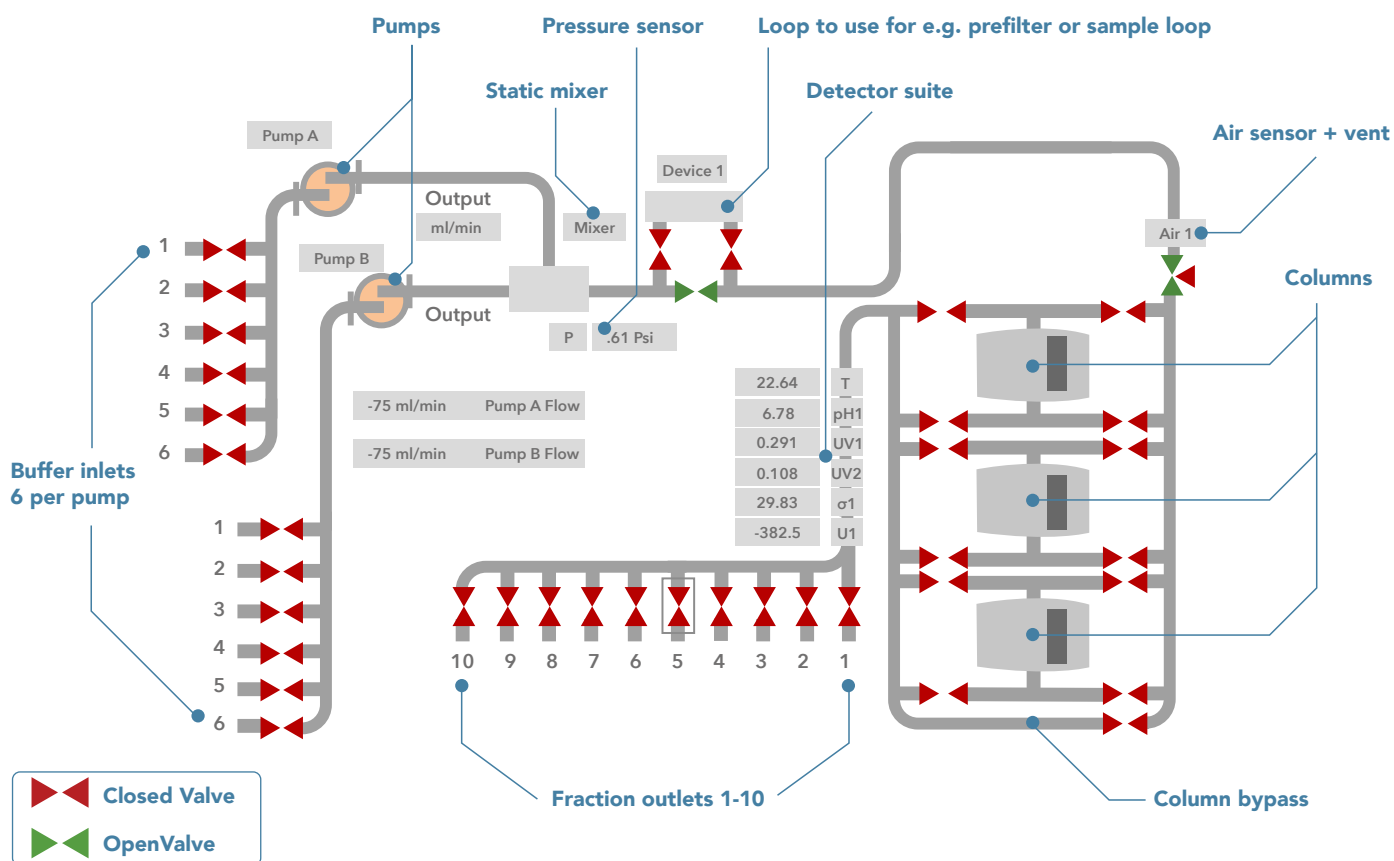
From the ground up the QuantaSep® software was designed to fulfil the end users real world requirements of being an intuitive and simple software that can program complex time and event based methods and is fully FDA 21 CFR chapter 11 compliant, automatically generating cGMP reports covering all the necessary data and events from the run.

Changing machines has never been easier! QuantaSep® is a universal software platforms, so jumping from one process to another requires no retraining due to the identical structure and logic.

All systems are designed as binary gradient systems, constantly monitoring the relevant parameters including, temperature, pressure, pH, conductivity and UV (254 nm/280 nm).



Fluidic pathway of the QuantaSep 100, 1000, 1000 LX and 1800



The Standard QuantaSep® has 6 user selectable buffer inlets per pump, all controlled by solenoid actuated membrane valves delivering into a static mixer equipped with a pressure sensor.

The user has the option to add an additional device for added flexibility, before the column an air sensor can detect bubbles and remove them before they enter the column via an air vent line which improves the reproducibility of the gradient and protects the columns integrity, maintaining performance and ultimately eliminating the need for a classic bubble trap.

The user has a choice of up to three columns all with divert valves so all columns can be run forward and backwards and run in multiples if required.

After the columns a series of detectors monitor the temperature, pH, UV (254 nm & 280 nm) and conductivity of the eluent ready for collection.

The user has a wide choice of up to 10 outlets for sample and waste collection with the option of an additional fraction collector which can be integrated into the hardware and controlled by the QuantaSep® software.

QuantaSep® Specifications

Description and specifications covering QuantaSep 100, 1000, 1000 LX, 1800.

- Covering flow rates from 5 - 1,800 mL/min
- 12 user selectable buffers
- 3 user selectable columns forward/reverse/bypass mode
- 10 user selectable fractions with fraction collector capability
- Sanitary design
- Check valve free positive displacement pumps
- 5% -95% gradient capability
- Pressure rating Max: 50 psi/3.45 bar except QuantaSep 100: 100 psi/6.9 bar

QuantaSep® 1000LX

Integrates two systems in one, combining the features and benefits of the QuantaSep 100 and the QuantaSep® 1000 in one unit significantly reducing both capital cost and saving 50% bench space.



The QuantaSep® 100 has a maximum working pressure of 100 psi/6.9 bar and a hold volume of only 7 mL.

The QuantaSep® 100 also offers the possibility to inject samples via a HPLC style fixed volume loop.

In combination with the integrated QuantaSep 1000 the system offers the possibility to scale up by a factor of 10 in a unique system that enables low flow method development and high flow scale up in one compact benchtop unit.

With its powerful and easy to use Windows 10® based software, it allows the user to automatically change buffers, collect fractions and run gradients.

The user can control each step in the purification based on UV, pH, conductivity, time, volume, air sensors or any external user defined variable. All events, alarm, method and chromatography data is recorded for analysis or archiving and is available in real time via an OPC server.

When method development is complete, simply switch to the higher flow tubing and make clinical GMP batches ready for QC.

QuantaSep® 300/ 3000 SU

Historically preparative chromatography instruments making clinical or GMP batches have had to be product specific due to the in-depth validation and cleaning protocols. The QuantaSep SU® addresses this fundamental problem with a simple ideology: Replace the fluidic pathway when the run or campaign for one product is completed.

The QuantaSep® SU family is a chromatographic system with all features of the QuantaSep series with the addition of a completely interchangeable fluidic pathway.

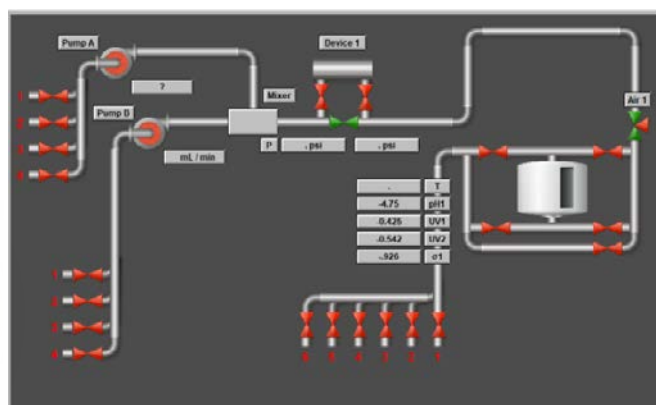
The single use sterile pathway eliminates the need for complex cleaning validation with the complete sensor suit (pressure, pH, temperature, conductivity and UV) and Peristaltic pump tubing integrated into the single use pathway, therefore completely eliminating the possibility of the carry over or contamination from run to run.

The QuantaSep® SU fluidic pathway is controlled by a series of pinch valves that completely eliminate the need for membrane valves and fluid manifolds. Gradient control is achieved by two Watson-Marlow® peristaltic pumps with a static mixer, two flow sensors and inline pressure sensor.

With all the QuantaSep® family, the SU user has the option to add their own pre column filters and has the QuantaSep® air sensor installed that can detect bubbles and remove them before they enter the column via an air vent line, improving the reproducibility of the gradient and protects the columns integrity maintaining performance, ultimately eliminating the need for a classic bubble trap.

The column has a dedicated divert line and can be run forward and backwards for back flushing and sanitisation, after the column a series of detectors monitor the temperature, pH, UV (254 nm & 280 nm) and conductivity of the eluent ready for collection.

The user has a choice of 6 outlets for sample fractions and waste collection with the option of an additional fraction collector which can be integrated into the hardware and controlled by the QuantaSep® software.





Easy to use, intuitive software

Compact instrument sizes

21 CFR chapter 11 compliant software

Reproducible gradient formation

Generates automated cGMP reports

OPC server for system integration

Systems with wide flow rate ranges available

Low internal volumes

Unique air sensor in combination with a vent valve replaces bubble trap

Single Use Systems with exchangeable sterile fluidics path available

Sanitary design

Price/ performance advantage

SuperFlo® lab and production columns

- Intrinsic design delivers higher flow rates with lower pressures
- Significant time saving from faster wash cycles
- Simple resin loading and unloading process
- Inherently compatible with all pumping systems
- Lab scale to production sizes available (50 mL - 500 L)
- Drastic cost saving via resin reduction
- Choice of 316L stainless steel and acrylic



Larger QuantaSep®

- Standard systems up to 15 L/min
- Easy to use intuitive software like on small QuantaSep systems
- Full cGMP reporting
- 21 CFR chapter 11 compliant software
- Sanitary design
- Customised systems build to your need
- With or without integrated buffer mixing systems



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