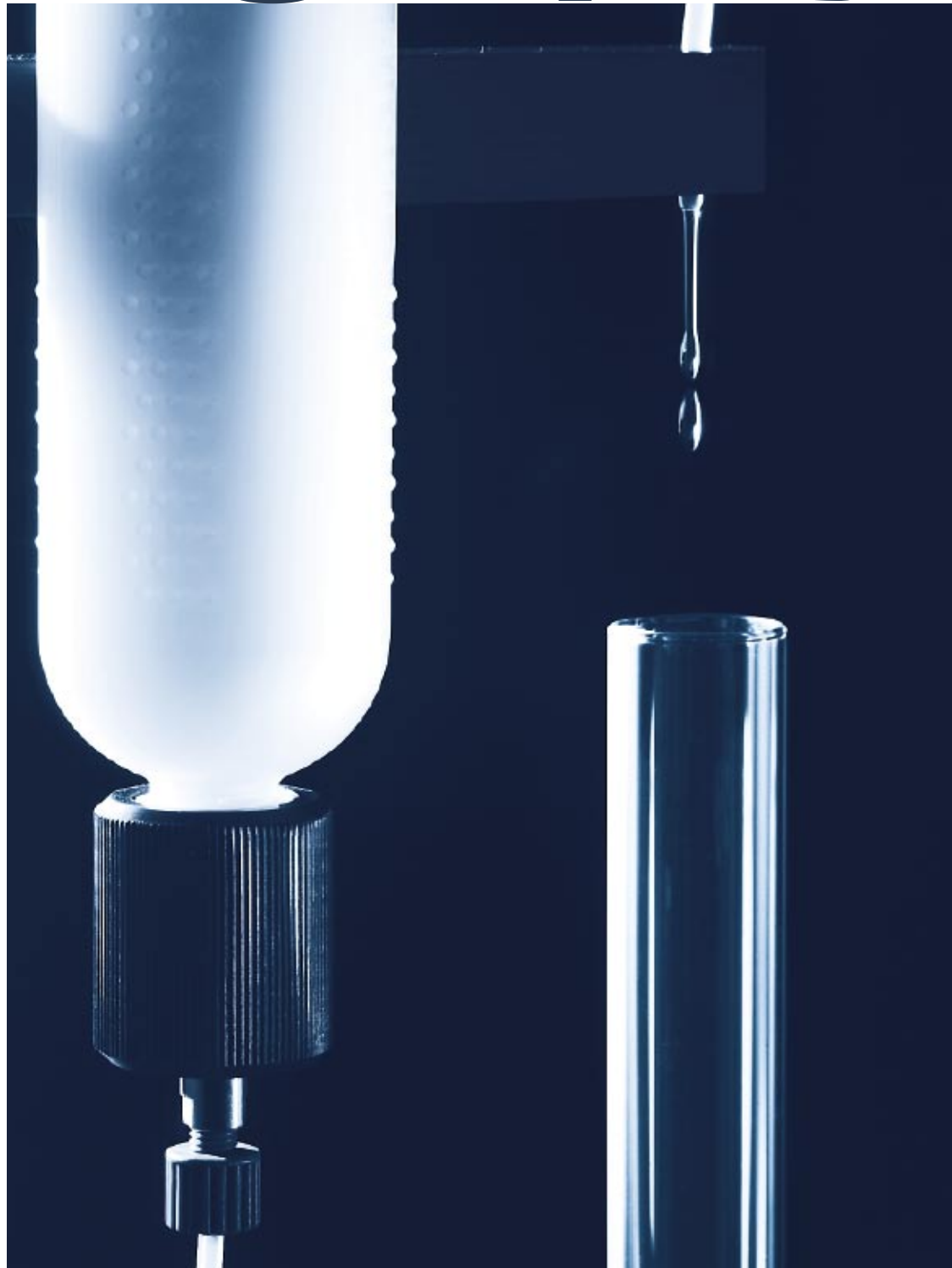


Preparative Chroma- tography



Sepacore® – Easy to use and efficient preparative chromatography

Buchi is a leading world-wide supplier of core technologies in the areas evaporation, purification and separation. Whether working with a simple flash purification system or with a complete preparative chromatography system dealing with all aspects of separation and purification – Sepacore® offers the optimal solution.



Sepacore® from Buchi is a complete system for preparative chromatography with normal phase or reversed phase silica gel columns and cartridges. The modular system can be adapted and extended at any time to accommodate a wide variety of both applications and sample sizes. Easy and intuitive operation and the new SepacoreControl software make Sepacore® exceptionally user friendly.

The variable, modular structure offers the following advantages:

- Self-explanatory and clear operation. Easy control, monitoring and documentation of results using the new SepacoreControl software package.
- Robust, maintenance-free three piston pump for smooth solvent delivery up to either 10 bar or 50 bar
- High flow rate at high pressure resulting in fast and reproducible separations
- Injections systems for quick and safe sample loading from 100 µl to 1000 ml
- Glass columns, PP cartridges and the Cartridge for packing cartridges provide maximum flexibility
- Detectors for the precise analysis and controlling of the separation peaks
- Fraction collector for sample collection according to time, volume or peak. The metal arm on the fraction collector prevents electrostatic charging and provides maximum safety
- Accessories supporting and extending the functionality of the system components



Sepacore® – choose your system according to your needs



Pump Systems and Components

Page 6, 7

Powerful, chemically resistant pump modules ensure quick, reliable separation.



Sample Injection Systems

Page 8, 9

Different kind of injection systems for fast and safe sample loading.



Cartridger & Cartridges

Page 10, 11

Pack your cartridge with the unique Cartridger C-670.



Prepacked Cartridges

Page 12

A fast and reliable separation is guaranteed by either Normal or Reversed Phase preppacked Cartridges.



Glass Columns, Filling Sets & Column Valves

Page 13, 14

A wide range of columns, filling sets and valves offer maximum flexibility for every separation.



Sequential Modules

Page 15

For the automated, sequential separation of several samples.



Fraction Collector & Chromatography Table

Page 16–18

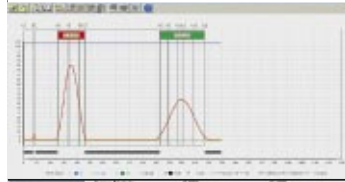
The easy to use Fraction Collector offers a great level of automation.



Detectors and Recorders

Page 19

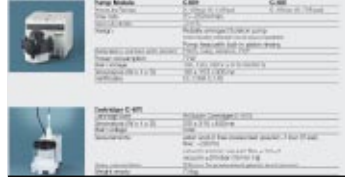
UV, Vis or Refractometer detectors are used for a reliable sample detection.



Chromatographic Software

Page 19–23

The SepacoreControl Software controls binary Flash systems as well as complex Preparative Chromatography systems.



Technical Data

Page 24–26



Modular and flexible – from manual to fully automated



Gradient Flash System

The convenient gradient system allows you to program gradients and run solvent mixtures in a simple and intuitive way.



PC-independent System

The chromatography system for both flash and preparative chromatography makes it possible to quickly and easily separate sample mixtures.



Automated System

The fully automated chromatography system including UV-detection, fraction collector, column valves and software amongst many more features can be built up according to your specific separation needs.



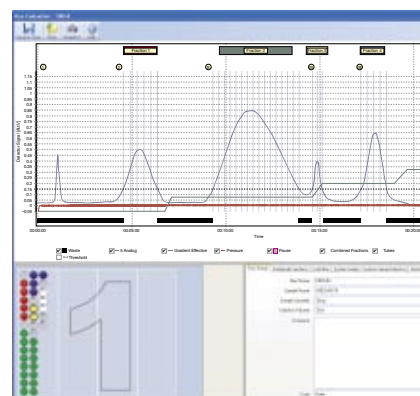
Wide range of chromatography columns

A wide range of prepacked and self packed columns allows you to perform both normal and reversed phase chromatography in the simplest and most convenient way.



Unique Cartridge packing system Cartridger

The Cartridger is used for safe, fast and reliable packing of high performance PP or glass cartridges.



SepacoreControl Software

Chromatography software providing complete control of the Sepacore system. Simple and intuitive, it requires little to no training.

Sepacore® Configurator



Application support

Buchi has developed the column chromatography about 30 years ago and offers you a strong application support. Discover all about preparative chromatography in the outstanding Laboratory Chromatography Guide or contact us for personal assistance.



Order no.

94175

Pump Systems – Powerful and chemical resistant

A robust and pulse free pump system is at the heart of Buchi Sepacore®. A pressure range up to either 10 bar or 50 bar gives optimum separation results for a broad range of applications. The pump modules can be controlled by three different units. The Pump Controller C-610 (for isocratic separation up to 10bar), the Pump Manager C-615 (for isocratic and gradient separation up to 50bar) and the Control Unit C-620 as the interface between the PC and all components in the Sepacore® system.

Pump Controller



The **Pump Controller C-610** for one Pump Module C-601 is designed for isocratic separations. The flow rate can be easily adjusted by turning a knob and is indicated by a large illuminated LCD-display. Delivered with a overpressure sensor for maximum safety.



The **Pump Manager C-615** is designed for both isocratic and gradient separations. Fast operation, easy programming and a large graphical display allows a quick and easy set up. Running time, solvent consumption and actual pressure are shown during a separation for maximum optimization. The unit has Input/Outputs for 2 solvent valves and level sensors and includes a pressure sensor and mixing chamber.



The **Control Unit C-620** in combination with SepacoreControl provides precise control of the chromatography system. The following components can be connected to the Control Unit C-620:

- 2 to 4 Pump Modules C-601 or C-605
 - Up to 2 Fraction Collectors
 - Up to 8 Detectors e.g. UV, RI
 - Sequential Modules C-623 or C-625 for automatic sequential chromatography on up to 5 columns or cartridges
- The Control Unit C-620 is included in the SepacoreControl package.

Order no. 44200

Order no. 44210

Order no. 54600

Pump Modules



Pump Module C-601, 10 bar

Silent operating 3-piston Pump Module C-601 for flash chromatography. The pump module provides a constant, pulse-free flow from 2.5 to 250 ml/min and ensures reproducible, fast separation at a maximum working pressure of 10 bar/145 psi.

For sample sizes of up to 5 g, pre-packed PP cartridges can be used for the quick, safe implementation of normal phase and reversed phase applications.

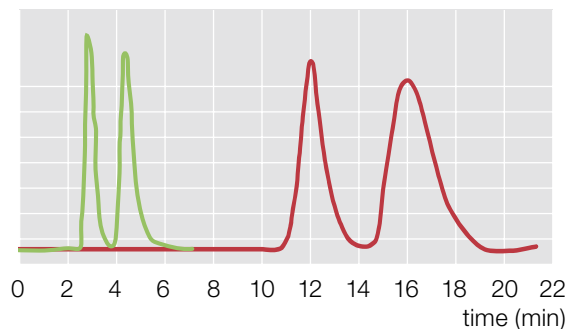
Pump Module C-601, 10 bar
Order no. 44100

Pump Module C-605, 50 bar

Similar to the Pump Module C-601 but with a maximum working pressure of 50 bar/725 psi. Using the Pump Module C-605, fast separation with reversed phase and separations can be performed with sample sizes up to 100 g. Ideal for use with glass and plunger columns and silica gel particle sizes < 40 µm.

Pump Module C-605, 50 bar
Order no. 44105

Sepacore® significantly speeds up the isolation of chemical compounds



■ Separation with a 12 x 150 mm Sepacore Flash Cartridge. Flow rate of 10 ml/min.

■ Separation with a classic hydrostatic 12 x 150 mm glass column. Resulting flow rate of 2.8 ml/min.

Pump Systems



The Pump Controller C-610 with a Pump Module C-601 is used for fast isocratic Flash separations. No programming is needed. The system can be run by two buttons and one knob.

	Order no.
Pump Controller C-610	44200
Pump Module C-601	44100



The Pump Manager C-615 with a Pump Module C-601/C-605 is used for isocratic Flash separations. This combination allows exploration into the features of the Pump Manager C-615 for solvent selection, timed runs and solvent level control.

Max. pressure 10 bar	Order no.
Pump Manager C-615	44210
Pump Module C-601	44100

Max. pressure 50 bar	
Pump Manager C-615	44210
Pump Module C-605	44105



The Pump Manager C-615 with two Pump Modules C-601/C-605 for binary solvent gradients. The efficient solvent mixing under pressure and the pulsation free solvent flow eliminate vapour bubbles and result in maximum separation performance.

Max. pressure 10 bar	Order no.
Pump Manager C-615	44210
Pump Module C-601	44100
Pump Module C-601	44100

Max. pressure 50 bar	
Pump Manager C-615	44210
Pump Module C-605	44105
Pump Module C-605	44105

Pump System Accessories



Solvent level sensor Float type for organic solvents.

Order no.	45285
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Column Module

The column module provides enough space for fastening cartridges, injection systems and 2 pump modules.

Order no.	54293
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Tubing Fitting set – Consists of 10 x 1/4 UNF-28 Fitting D:1/8"; 20 x Ferrules 1/8"; 10 x Fitting 1/16"; 5 x 1/4 UNF-28 Fittings D:1/16"; 2 x Adapter 1/4 UNF-28 (female) – M6 (male); 5 x Union 1/4 UNF-28 to 1/4 UNF-28 (female/male); 1 x Tube Cutter; wrench for all fittings.

Order no.	44021
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Sample Injection Systems – Easy-to-use and reliable

Sepacore®'s injection systems are designed to facilitate column and cartridge loading with liquids and low solubility oils and solids. Regardless of the nature or quantity of the material you want to separate – Sepacore® can offer the right sample injection system.



Injection Valve for the sample injection of 0–5 ml

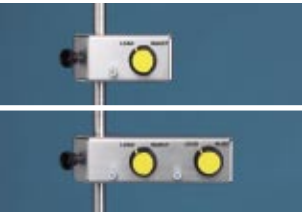
Order no. 44850



4 Way Injection/Purge Device

- As either single or twin design for the safe, fast injection of up to 10 ml with a syringe.
- Easy and reliable purging of the pump and the tubing

	Order no.
Single	45256
Twin	54297



Injection Unit

6 way valve for safe and fast sample loading. For the connection of a Sample

Loop, a Sample Chamber or a Prep Elut Column.

	Order no.
Single	44851
Twin	54294

Sample Loop



For use in combination with the Injection Unit for convenient sample loading up to 20 ml.

	Order no.
0–5 ml	45222
0–20 ml	44852

Prep Elut Glass Column



For use in combination with the Injection Unit for loading dry or barely soluble samples up to either 18 ml or 53 ml. Pressure Range of up to 50 bar or 40 bar.

	Order no.
0–18 ml	44030
0–53 ml	44035

Prep Elut Adapter 12 mm



For use in combination with the Injection Unit for loading dry or barely soluble samples up to 8 ml or 17 ml by using disposable polypropylene cartridges.

Order no. 44877

Sample Chamber 100 ml

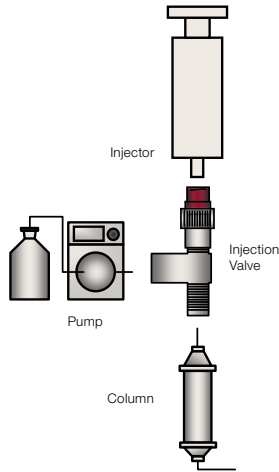


For use in combination with the Injection Unit for loading sample volumes of 10–100 ml including N₂ gas valve (on/off).

Order no. 44853

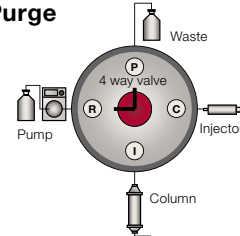
Sample Injection Systems – Example of connection

Injection Valve

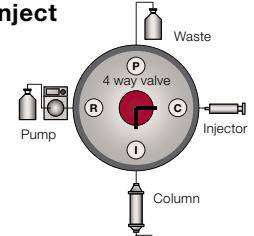


4 Way Injection/Purge Device

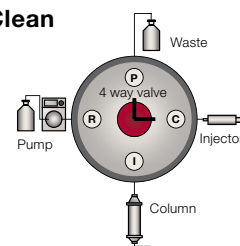
Purge



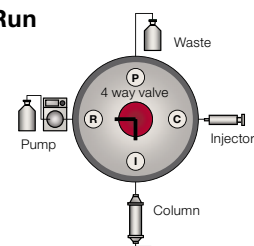
Inject



Clean

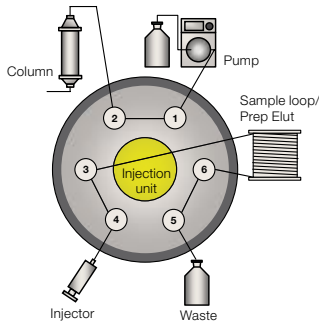


Run

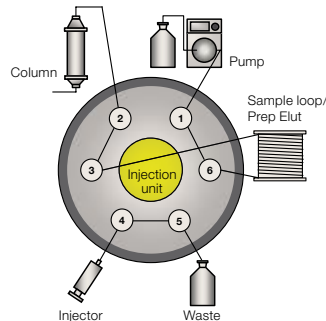


Injection Unit with Sample Loop or Prep Elut

Position Load

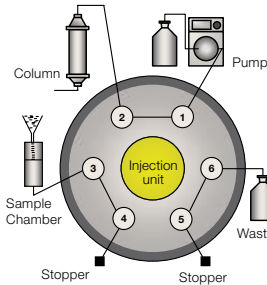


Position Inject

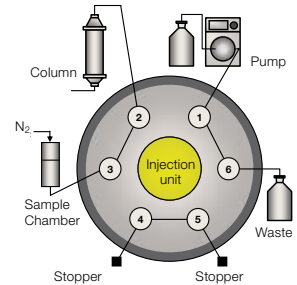


Injection Unit with Sample Chamber

Position Load



Position Inject

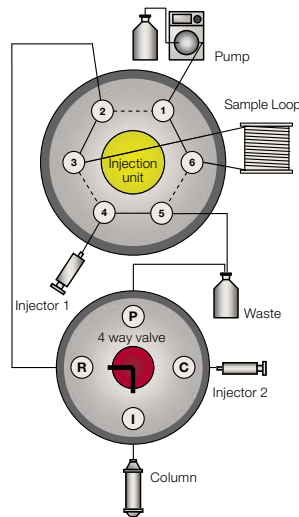


Combination 1:

Two injector installation

Injector 1 can be used for loading up to 20 ml using the sample loop.

Injector 2 can be used for loading up to 5 ml injecting directly to the column.

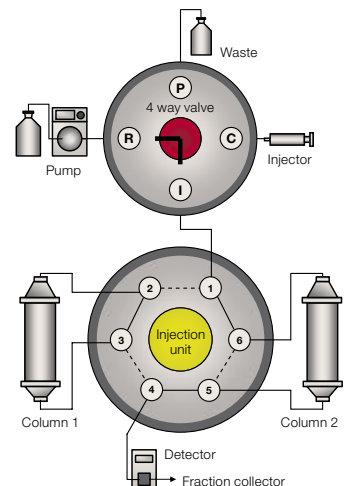


Combination 2:

Two column installation

Two columns are connected to the system by using the Injection unit as a column switch valve.

Position Load: Column 1
Position Inject: Column 2



Cartridger® – Unique and high performing

The patented Cartridger® C-670 allows you to produce quickly and simply, high performance cartridges for reliable preparative chromatography. Pack your cartridge as and when you need to avoid both storage and transport damage.



Cartridger with small or large fluidization vessel for standard silica gels.

Pack your cartridge in less than one minute!

The method is very simple:

- Fill the fluidization vessel with your choice of silica gel
- Connect the Cartridger to a vacuum (< 20 mbar) and compressed air and pack your cartridge

Glass or disposable cartridges with diameters of 12, 25 and 40 mm and a max. length of 150 mm can be used for common column materials such as silica gel or RP materials.

High performance cartridges – Thanks to a homogenous packing

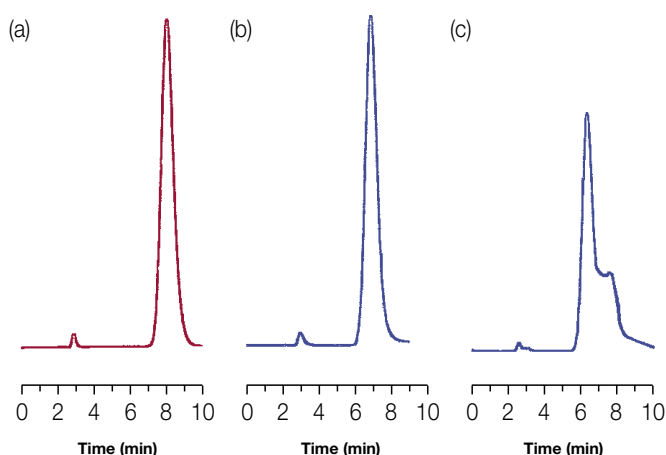
Outstanding reproducibility – No compromise needed between separation performance and transport stability

Cost savings of up to 50% compared to prepacked cartridges – The economical solution for your separations

High flexibility – For stationary phases with a particle size of 30–200 μm

Various cartridge options – 5 sizes of glass or disposable cartridges for sample amounts between 1 mg and 5 g

Two size of fluidization vessel according to the amount of medium used



High separation performance and reproducibility due to homogenous packing

The number of theoretical plates (N) are significant higher by using self packed cartridges with the Cartridger (N = 486) compared with competitor prepacked cartridges (N = 398)

The graph shows:

(a) self packed Buchi cartridge, (b) intact competitor prepacked cartridge, (c) irregularities in a damaged competitor prepacked cartridge due to vibrations during transportation or storage.

Source: LCGC Supplement, February 2003

Cartridger with small vessel

minimum amount of silica gel: ~ 170 g	Order no.
with Cover for 12 and 40 mm PP Cartridges	44977
with Cover for 25 mm Glass Cartridges	54000

Cartridger with large vessel

minimum amount of silica gel: ~ 650 g	Order no.
with Cover for 12 and 40 mm PP Cartridges	44500
with Cover for 25 mm Glass Cartridges	45280

Empty Cartridges – Flexible and cost saving

Sepacore® offers a range of empty cartridges for quick packing with the Cartridger. Packing of the cartridges in the lab not only offers a considerable cost reduction, but also enables packing with the silica quality of your choice.



PP-Cartridges

The highly resistant PP cartridges withstand a maximum pressure of 10 bar (145 psi). They are suitable for fast separations on normal phase and on modified silica gels generating a high back pressure.

Cartridge Length	Cartridge Diameter (ID)	Packing weight	Sample range	Set of*	Order no.
75 mm	Ø 12 mm	4 g	Up to 200 mg	50	44880
150 mm	Ø 12 mm	8 g	Up to 400 mg	50	44881
75 mm	Ø 40 mm	40 g	Up to 1000 mg	50	44882
150 mm	Ø 40 mm	90 g	Up to 5000 mg	50	44883

* Incl. frits



Glass Cartridges

The reusable glass cartridge supplements the range of cartridges. For packing modified silica gels that are generally used for more than one separation. Developed for separation with chemically modified silica gels, e.g. reversed phase RP18ec or amino-modified silica gels.

The glass cartridge is specified for a maximum working pressure of up to 10 bar (145 psi).

Cartridge Length	Cartridge Diameter (ID)	Packing weight	Sample range	Order no.
150 mm	Ø 25 mm	40 g	up to 1000 mg	45274
Set of frits for 25 mm Glass Cartridge (50 pcs.)				45272

Accessories for Cartridger



Cover Tool Set for packing either PP cartridges 12 mm/40 mm or 25 mm Glass Cartridges.

	Order no.
12 & 40 mm cover tools	45275
25 mm cover tools	45276

Fluidization Vessel for the packing of a second type of silica gel. The Fluidization Vessel includes cover tools and a lid for closing and storage. The Fluidization Vessel can be easily exchanged on the Cartridger and cross contamination can be avoided.



Large vessel with:	Order no.
12 & 40 mm tools	44800
25 mm tools	44206

Small vessel with:	
12 & 40 mm tools	54006
25 mm tools	54001

Prepacked Cartridges – Convenient and reliable

Sepacore® offers a range of prepacked cartridges for maximum flexibility. Simply take a prepacked cartridge either with Normal Phase (NP) or with Reversed Phase (RP18ec) silica gel and run your separation.



The highly resistant PP cartridges withstand a maximum pressure of 10 bar (145 psi) and are designed to run reversed phase applications as well as normal phase separations safely at high pressures.

A reliable separation is guaranteed by:

- **Application oriented design** – excellent flow characteristics combined with a leak-free connection system

- **Quality Control** – Lot.-Nr. and quality certificate for clear quality tracing of each cartridge

- **Individually sealed cartridges** – for extended storage and optimal handling

- **Robust and shock absorbing transport case** – reduction of shipping damages



Normal Phase silica gel NP 40–63 µm particle size and 60 Å pore size (Si60)

Length	Inner Diameter (ID)	Packing weight	Sample range	Set of	Order no.
75 mm	Ø 12 mm	4 g	Up to 200 mg	20	44884
150 mm	Ø 12 mm	8 g	Up to 400 mg	20	44885
75 mm	Ø 40 mm	40 g	Up to 1000 mg	10	44886
150 mm	Ø 40 mm	90 g	Up to 5000 mg	10	44887

Reversed Phase silica gel RP18 end capped

75 mm	Ø 12 mm	4 g	Up to 200 mg	10	54860
150 mm	Ø 12 mm	8 g	Up to 400 mg	10	54861
75 mm	Ø 40 mm	40 g	Up to 1000 mg	5	54862
150 mm	Ø 40 mm	90 g	Up to 5000 mg	5	54863



Cartridge Adapter Sets for the fast installation of Polypropylene and Glass Cartridges into a Chromatography system. Holder for fixing onto a support rod included.

	Order no.
12 mm for PP Cartridges	44814
40 mm for PP Cartridges	44815
25 mm for Glass Cartridges	45235



Prep Elut Adapter 12 mm used with Polypropylene cartridges for loading dry or barely soluble samples up to 8 ml or 17 ml depending on the cartridge size.

	Order no.
12 mm for PP Cartridges	44877



Adapter for the easy integration of Buchi Cartridges in other chromatography systems.

	Order no.
A: Biotage adapter	44027
B: Isco adapter	45251
C: Jones adapter	45250

A wide range of columns offer maximum flexibility for every situation. Depending on the nature and the quantity of the sample Buchi offers a series of column types which vary in form, size and performance.



Glass Column C-690

Plastic+Glas-coated Glass Columns are available for larger sample amounts and higher pressure applications on a high safety level. The columns are designed for sample amounts from

1–100 g and pressures up to 50 bar during preparative separations. Easy fixation on a support rod by using the corresponding pivoting clamp.

Inner Diameter (mm)	Pressure range (bar/psi)*	Sample range (g)	Column Length (mm)*				Pivoting Clamp**
			100 mm	230 mm	460 mm	920 mm	
ID 15	0–50/725	1	44030	44031	44032	44033	44857
ID 26	0–40/580	4	44035	44036	44037	44038	44858
ID 36	0–30/435	10	*	44040	44041	44042	44859
ID 49	0–20/290	20	*	44044	44045	44046	44860
ID 70	0–15/218	50	*	44048	44049	44050	44861
ID 100	0–10/145	100	*	44052	44053	44054	44862

* Only for unsealed, undamaged glass columns

** Cross sleeve 27344



Precolumns are minimizing dead volumes and enhance the life time of the main column by trapping contaminants.

The small Precolumn, fits to Glass Columns of inner diameter of ID 15, 26, 36 and 49 mm.

The large Precolumn, fits to Glass Columns of ID 70 and 100 mm inner diameter.

Size (mm)	Pressure range (bar/psi)	Order no.
Small	0–50 bar/725 psi	44026
Large	0–20 bar/290 psi	44028



Plunger Column C-695

Robust, chemically resistant and bio-compatible plunger columns are designed for optimum operational performance and safety. Volume changes in soft gel can be equalized and dead volume will be avoided.

An integrated cooling jacket allows separations under constant conditions at a high quality level. Column Length 460 mm.

Inner Diameter (mm)	Pressure range (bar/psi)*	Column Length (mm)	Order no.	Pivoting Clamp**
ID 26	0–20/290	460	44062	44017
ID 36	0–16/232	460	44063	44018
ID 49	0–10/145	460	44064	44019

* Only for unsealed, undamaged glass columns

** Cross sleeve 2734

Filling Sets for Glass Columns

A homogeneously packed column is essential to obtain a neat and reproducible separation.

Sepacore® offers a dry filling and a slurry filling set for packing all columns fast, safe and in a reproducible, high quality way.



The **Dry Filling Set** is employed for filling glass columns with silica gel using compressed gas. Silica gel in the size range of 25–200 μm can be packed with this method.

Set for glass columns with ID 15–49 mm
Order no. 44058

Adapter for the dry filling set to enable filling of glass columns with ID 70 mm or 100 mm.

Order no. 44059



The **Slurry Filling Set** is used for wet filling and conditioning of glass columns with silica gel particles smaller than 25 μm .

Set for glass columns with ID 15 mm or 26 mm
Order no. 44057

Set for glass columns with ID 36 mm or 49 mm
Order no. 44060

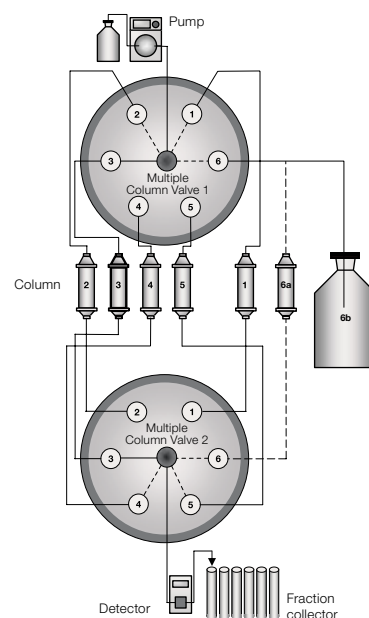
Multiple Column Valves

One single column can not solve all the separation problems. In most laboratories different column lengths and diameters, stationary phases and specially conditioned columns are used during any one working day.



Manual Multiple Column Valve Set for the integration of up to six different columns (varying diameter, length and/or stationary phase) permanently into a chromatography system.

Order no. 45259



Automated sequential separation – not just a dream

Connect up to five pre-loaded cartridges or columns with a sequential module and expand your chromatography system into an efficient automated sequential workstation.



The Sequential Modules C-623/625 are designed to allow either a higher throughput, by running up to 5 columns in an automated sequential way, or for selecting the ideal column for a particular separation by direct access to the installed columns.

- speed up your chromatography
- share the instrument with colleagues
- easy purge function for full flexibility in exchanging solvents
- choose from five different cartridges or column types
- Load up to five samples and run them overnight

High Flexibility

Up to five different cartridges or columns can be connected to the system and automatically selected, meaning there is no need to connect or disconnect columns between runs. Quick and simple changes between normal phase and reversed phase runs become possible by choosing with one click between e.g. small normal phase cartridge, large reversed phase glass column, disposable small reversed phase cartridge etc.

Sequential Workflow

The sequential module allows the preparation of a run whilst another separation is in progress. All parameters can be programmed including a purge step for cleaning the tubing before running the next column under newly defined conditions or different solvents. This makes it possible to share the instrument with colleagues without time and quality loss.

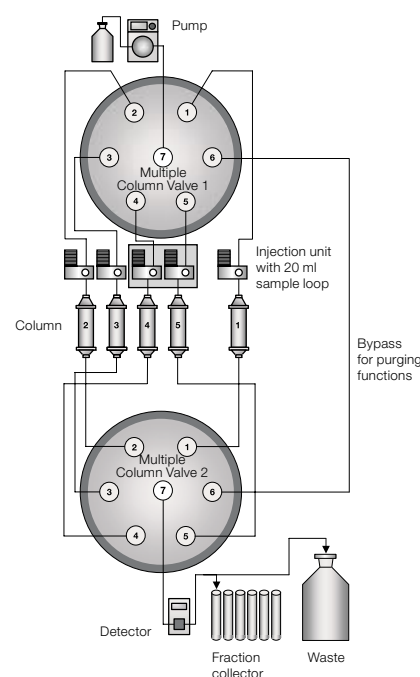


Sequential Module C-623 for the automatic sequential processing of up to 3 different columns. Includes 2 automatic motorised valves, 3 injection units, each with 20 ml sample loop.

Order no. 54623

Sequential Module C-625 for the automatic sequential processing of up to 5 different columns. Includes 2 automatic motorised valves, 5 injection units, each with 20 ml sample loop.

Order no. 54625



Fraction Collector – Intelligent and precise

For simple separations a column, pump and pump controller may be enough. For a greater level of automation with precision, performance and ease of use the Fraction Collector can be incorporated into most setups.



Fraction Collector C-660

The intelligent, height-adjustable Fraction Collector with dialogue language options for preparative chromatography. The C-660 collects the separated substances according to time, volume or peak. During each run, up to 12 litres can be collected in a maximum of 240 glass tubes. With the Teach-In function customer designed racks can be programmed and checked by using the Show mode.

- Sample collection according to time, volume or peak
- Total capacity of 12 litres in max. 240 glass tubes
- Integrated peak collection for 2 detector signals
- Teach-In function for customer specific programming
- RS-232 interface for transferring data to a PC
- 2 Detector inlets, 2 Recorder outlets
- Compatibility with Syncore Racks
- Optional: Waste Diverter valve and Level sensor

Order no. 44900



The collecting module can be lifted to a higher level depending on the glass tube size and height. This guarantees an optimum integration of the fraction collector in your workflow.

The new Chromatography Table – Functionality with attractive integration

The compact Chromatography Table is suitable for all Sepacore® systems. Designed for a wide range of applications from small cartridges to large columns for maximum flexibility.



The Chromatography Table is a functional solution for the convenient arrangement of all Sepacore system components. The table comprises housing for Control Unit C-620, pump modules, detectors, fraction collector, PC and monitor. The chromatography table can be expanded with one or two column modules. The column modules provide sufficient space for fastening cartridges, injection systems, Sequential Module C-623/625 and up to 2 pump modules.

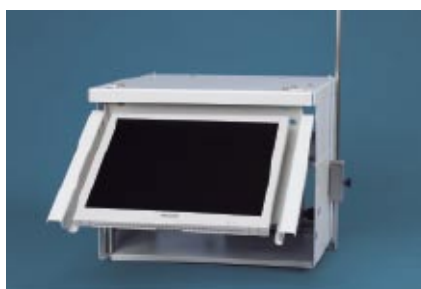
The pivoting feature of the chromatography table and the column modules allows easy access to all chromatography components. The clearly visible tubing guides also ensure safe operation.



Chromatography Table

Pivoting table for the integration of two pump modules, detectors, fraction collector including support rod holder.

Order no. 54290



Chromatography Table with monitor holder

Pivoting table for the compact integration of Control Unit C-620, two pump modules, detectors, fraction collector and PC including monitor.

Easy access and safe working due to clearly visible tubing guides. PC and monitor are not included.

Order no. 54292



Column Module

The column modules provide sufficient space for fastening cartridges, injection systems, Sequential Module C-623/625 and up to 2 pump modules.

Order no. 54293

Large collecting volumes in a small footprint

The Fraction Collector C-660 is designed to handle a huge variation of sample holders (both regular and irregular) and glass tubes to suit in your individual workflow.



Rack Collection

- Rack FC12 for 4 x 12 = 48 Tubes with a volume of 250 ml each.
- Rack FC30 for 4 x 30 = 120 Tubes with a volume of 50 ml each.
- Rack FC60 for 4 x 60 = 240 Tubes with a volume of 20 ml each.

	Order no.
Set of 4 Racks FC12 without tubes, Diameter 40 mm	44957
Set of 4 Racks FC30 without tubes, Diameter 26 mm	44958
Set of 4 Racks FC60 without tubes, Diameter 17 mm	44959
10 Glass tubes 250 ml for FC12, Diameter 39 mm, height 300 mm	44960
20 Glass tubes 50 ml for FC30, Diameter 25 mm, height 185 mm	44961
100 Glass tubes 20 ml for FC60, Diameter 16 mm, height 160 mm	44962

Accessories for Fraction Collector FC-660



Waste Diverter Valve

Waste Valve for the Fraction Collector C-660 to divert flow during tube change and to close the outlet after the run. Needed for flow rates above 10 ml/min.



Dishwasher Box

for fraction collector racks for cleaning of the glass tubes within the racks. One size for all racks.



Waste level sensor

for organic solvents. Not for use with corrosive solvents as acids, bases or concentrated salt solutions.

Order no. 44964

Order no. 54002

Order no. 45288

Detectors and Recorders/Software

Sensitive and Robust

Sepacore® offers 3 detectors delivering a very precise analysis of the separation results. For most applications one of the robust UV/Vis detectors would be sufficient for the systems detection needs. Both detectors are delivered in combination with a preparative flow cell. In the absence of adequate UV/Vis absorption, likely for sugars or polymers, a Differential Refractometer (RI Detector) in combination with a UV/Vis detector is the preferred setup.

UV Monitor C-630



Filter Photometer with four standard built in filters at 200 nm, 220 nm, 254 nm and 280 nm. Delivered with built in Deuterium Lamp and a preparative flow cell.

	Order no.
115 V 50/60 Hz	28063
230 V 50/60 Hz	28062

UV Photometer C-635



Spectral Photometer with a wavelength range between 190 nm and 740 nm. Delivered with built in Deuterium Lamp and a preparative flow cell.

	Order no.
115 V 50/60 Hz	28068
230 V 50/60 Hz	28067

Differential Refractometer



Mostly used in combination with a UV/Vis detector for the analysis of low UV/Vis absorbing substances. Delivered with a preparative cell. For a maximal flow rate of **100 ml/min.**

	Order no.
115 V 50/60 Hz	44079
230 V 50/60 Hz	44080

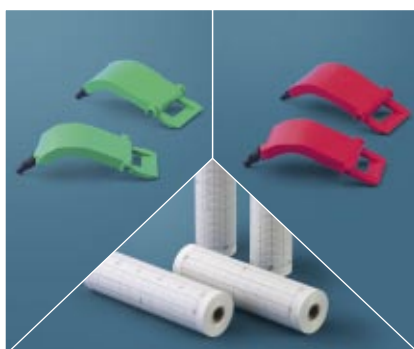
Single/Dual Channel Recorder



Chart Recorder for the recording of one or two analogue detector signal against time. Analogue signals in the range 0–1 Volt can be recorded.

	Order no.
1 Channel 115 V 50/60 Hz	44076
1 Channel 230 V 50/60 Hz	44095
2 Channel 115 V 50/60 Hz	44077
2 Channel 230 V 50/60 Hz	44096

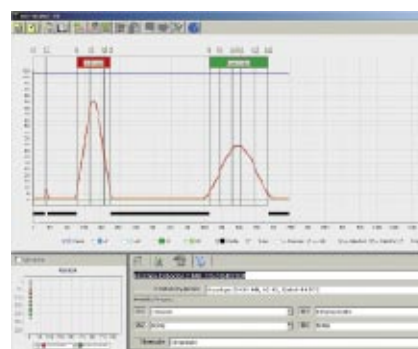
Accessories for Chart Recorders



For a continuous workflow a suitable amount of chart paper and pens should be kept in stock.

	Order no.
5 x Chart paper rolls	44097
5 x Red pens	44099
5 x Green pens	44098

SepacoreRecord Software



The flexible and easy to use chromatographic software package allows the electronic data acquisition of chromatography separations. (Please see page 23.)

SepacoreControl – the simple way to perform chromatography

SepacoreControl software is able to control any Buchi Sepacore® chromatography system from simple Flash systems through to advanced preparative Chromatography workstations.



SepacoreControl with Sepacore Flash System: including two pump modules, UV detector and fraction collector

Designed and developed in conjunction with and for research laboratories, the software is intuitive, easy to use and guarantees a safe and reliable operation in any separation procedure.

The SepacoreControl software features the following advantages:

- Easy and intuitive operation
- Both PC and Laptop compatible
- Quick method set up
- Changing gradient profiles on the fly
- Manual control of the solvent pumps
- Easily and adaptable column, rack and solvent management
- Detailed and complete data recording
- Comprehensive yet simple run evaluations
- User specific adjustment of the operation panels
- User interface configurable for touch screen operation



SepacoreControl with Sepacore preparative chromatography workstation: incorporating four pump modules, UV and RI detectors, two fraction collectors and a sequential module.

SepacoreControl supports scale up possibilities for industrial separation:

- Total flow rate up to 1000 ml/min with 4 pump modules
- Total collection volume up to 24 liters with 2 fraction collectors
- Data collection with 8 different detectors e. g. UV, RI...
- A sequential module for automatic sequential workflow of up to five cartridges or columns.
- Optional 21CFR Part11 data management

SepacoreControl package includes the Control Unit C-620 and standard licence

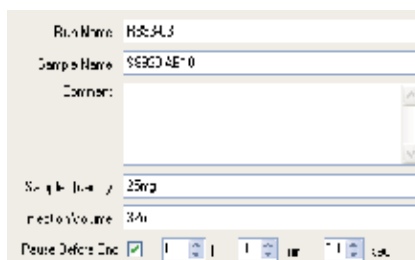
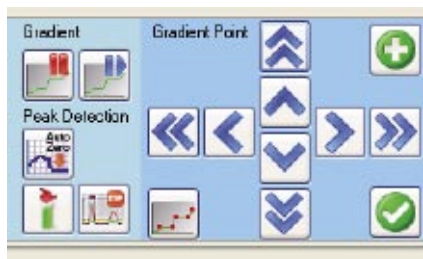
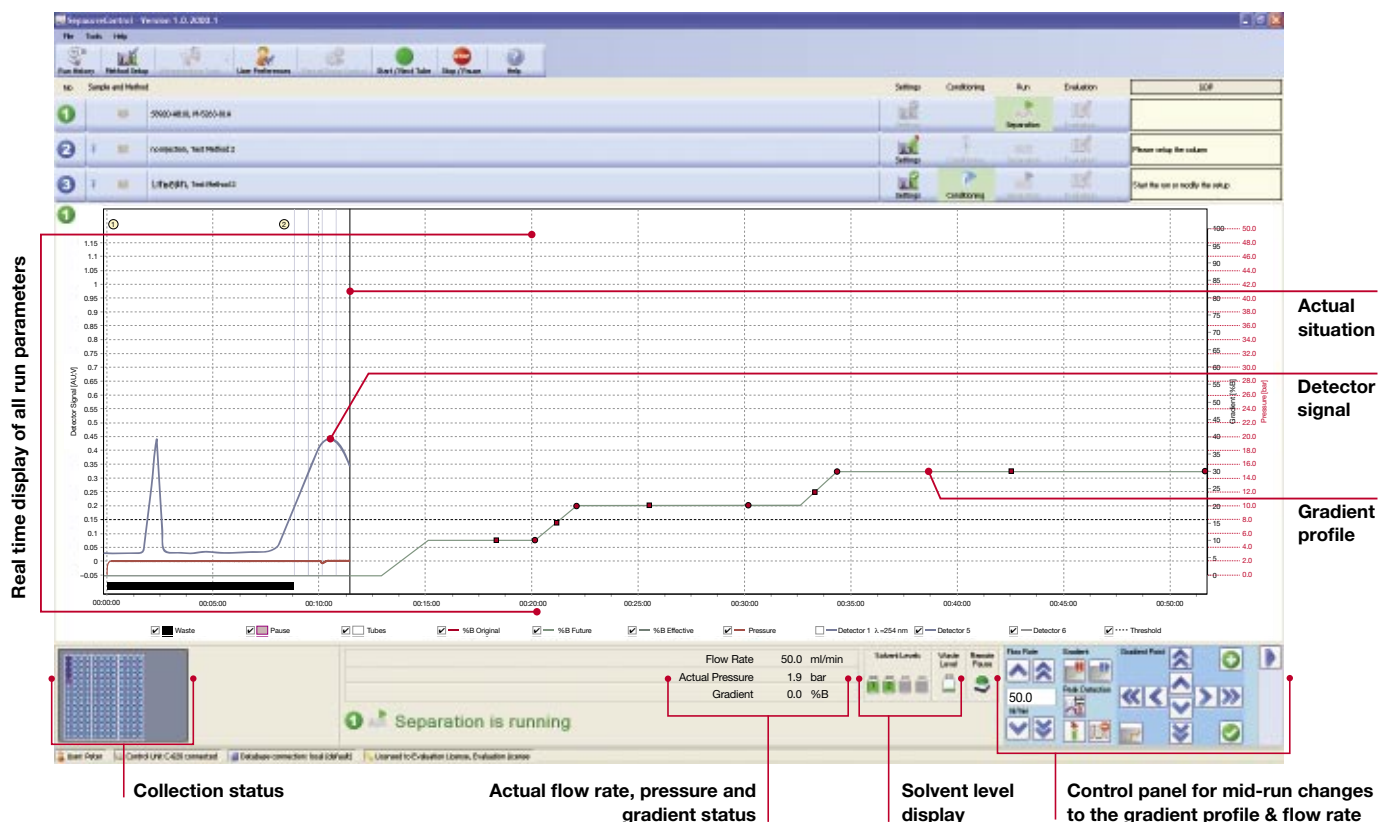
Order no. 54600

SepacoreControl 21CFR Part 11

Order no. 54695

Everything at a glance – the cockpit for direct interaction

User-friendly operation, maximum flexibility and reliability are the strengths of SepacoreControl – an intuitive software package that's so easy to use you don't need any training.



Change gradient profile on the fly

All future segments of the solvent gradient and the flow rate can be changed during a run. Unique functions such as maintaining the current solvent mixture for a certain length of time or adding new gradient segments can be achieved with just a few clicks.

Pause before end

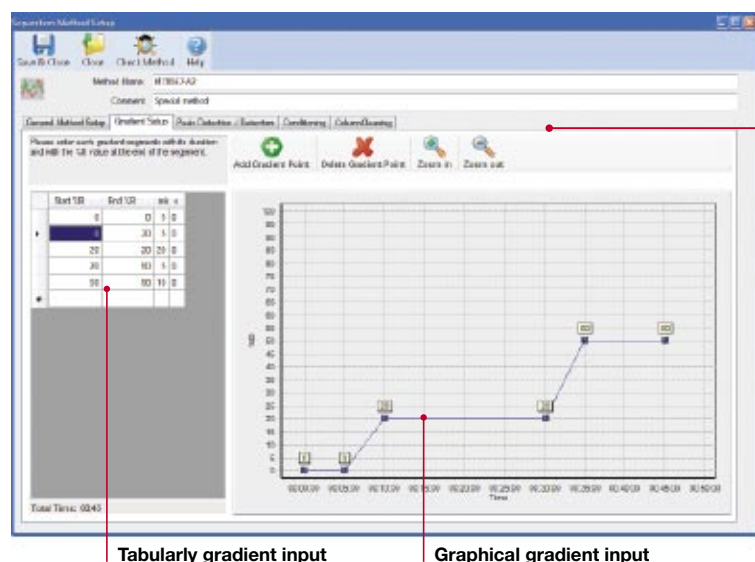
Activating this function pauses the system before the end of the separation step. This allows the end user to check the separation profile and either continue with the separation or change to the next step e.g. cleaning of the column.

Manual pump control

The pumps of the Sepacore system can be controlled manually without programming a method. This helps to condition the system ready for a run e.g. by removing air or fast solvent exchanges.

SepacoreControl – the pilot for separation

SepacoreControl – designed for chemical, pharmaceutical or biochemical research laboratories, for kilo laboratories and pilot plants. All application-relevant functions can be precisely amended with just one click.



Gradient setup

Tabularly gradient input

Graphical gradient input

Method management

SepacoreControl allows simple method programming and management.

A typical method would be set up by combining the following steps:

- column conditioning
- separation
- column cleaning
- purge

The purge step allows an automated solvent exchange within all the tubing e.g. when needed for changes from normal phase to reversed phase runs.

Column management

A database of column specifications, suggested flow rates and maximum pressure ratings for the extensive wide range of Buchi cartridges and columns. Other cartridges or columns can easily be added to the database.

Solvent management

A database of common chromatographic solvents and their parameters such as boiling point, UV limitations and abbreviations. Easily expandable with new solvents and solvent mixtures.

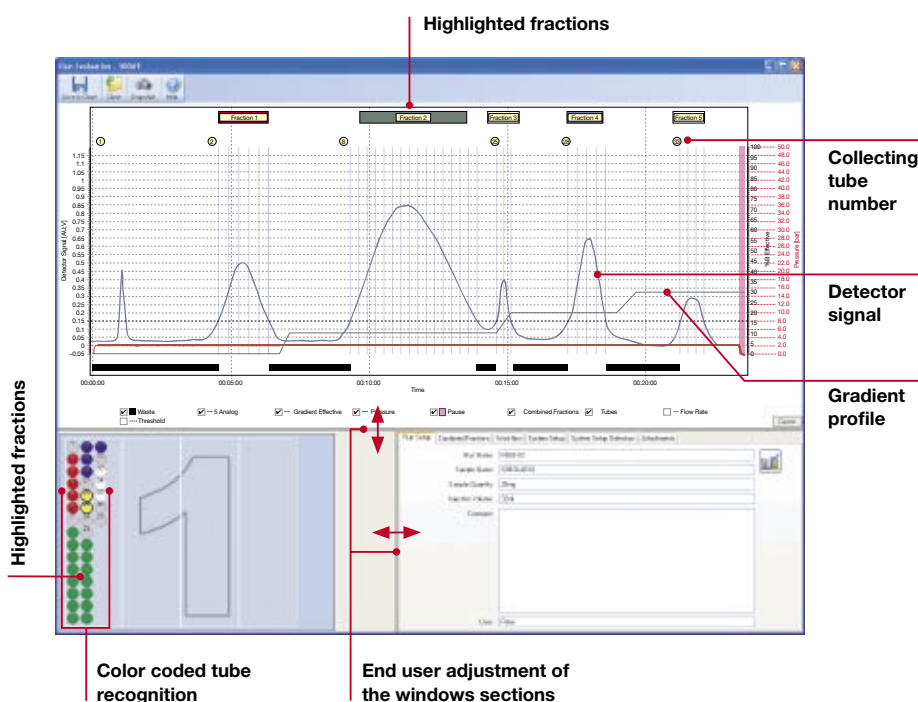
Run evaluation

SepacoreControl offers multiple user definable features such as peak tracking, the ability to highlight fractions of interest and to add comments. User-specific flow charts and records can be exported as PDF files.

Color coded tube recognition and tube numbering for quick location of the desired fraction.

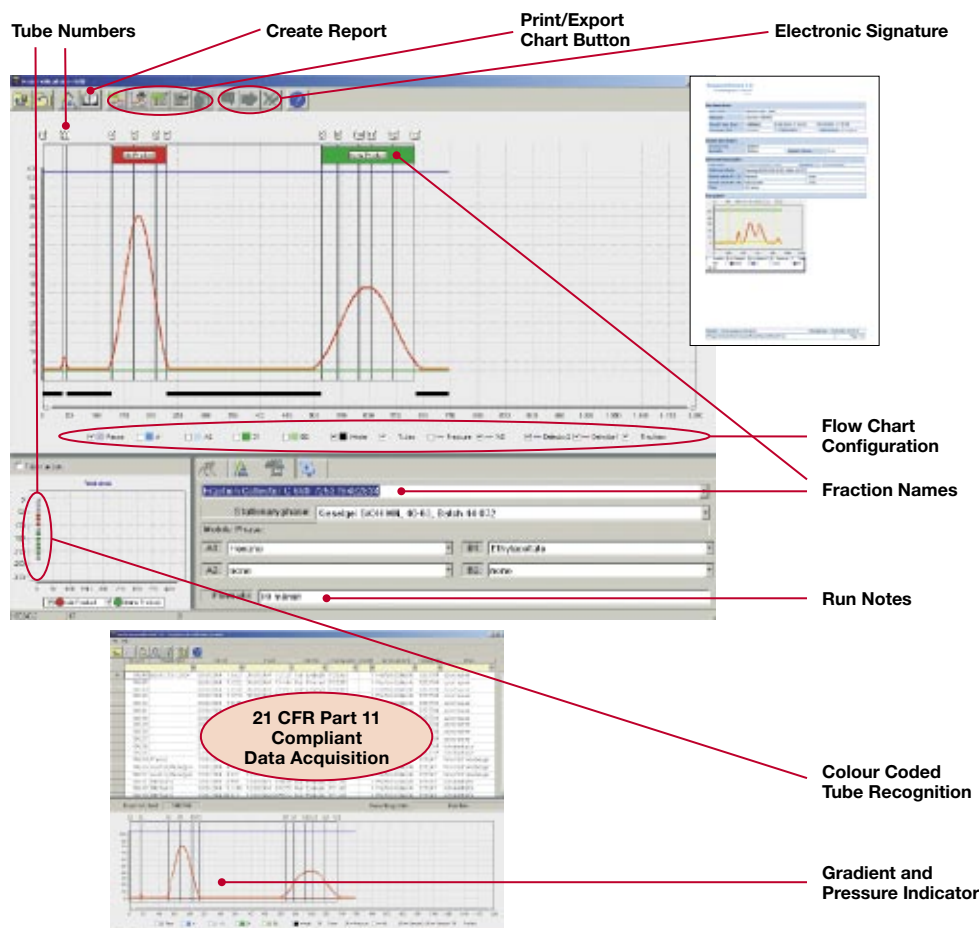
Zoom in and out as well as taking snap shots to highlight important sections for professional reports.

A 21CFR Part11 licence for data acquisition compliant to FDA regulation is optionally available.



SepacoreRecord for straightforward electronic data acquisition

SepacoreRecord Software — a flexible and easy to use software package for the electronic data acquisition of chromatography separations.



SepacoreRecord for straightforward data acquisition

All appropriate parameters for a chromatography run are saved automatically in a database. The software has various user-definable functions such as peak tracking, the ability to combine fractions and add comments. Custom diagrams and reports can also be configured with the aid of SepacoreRecord. A 21CFR Part 11 licence for data acquisition in accordance with FDA regulations is also an available option.

SepacoreRecord standard licence

This licence is required for working with one PC and one fraction collector.

Order no. 16422

SepacoreRecord data acquisition licence for additional PC

Order no. 13875

SepacoreRecord fraction collector licence for additional PC

Order no. 23871

Licences

SepacoreRecord enables the connection of up to 4 Sepacore systems to one data acquisition PC. The database can be installed on a local PC (see standard licence) or on an external server (see network licences). For complete company solutions, several PCs can be connected in parallel to the database.

SepacoreRecord 21CFR Part 11 licence for 1 PC

This licence is required for data acquisition according to 21CFR Part 11 of the FDA regulations with 1 PC.

Order no. 40545

SepacoreRecord 21CFR Part 11 network licence

Order no. 19133

Technical Data



Pump Controller C-610

Function	Pump Controller for isocratic separations with Pump Module C-601. Convenient settings and indication of the flow rate on LCD-display.
Gradient Function	–
Display	Backlit 3 x 7-segment-LC display
Dialog Languages	–
Power supply	24 V DC from the Pump Module C-601
Connectors	1 x RS-485 (system bus) 1 x Mini DIN (overpressure sensor)
Dimensions (W x H x D)	150 x 80 x 120 mm



Pump Manager C-615

Function	Pump Manager controls up to two Pump Modules C-601 or C-605 for the formation of precise binary gradients. Calculation of time and solvent consumption. Intuitive setting and programming. Large backlit graphical LCD-display. Various inputs/outputs for optional accessories like level sensors or solvent valves.
Gradient Function	With two Pump Modules C-601 or C-605 from 0–100% B
Display	Backlit graphic LC display, 128 x 64 pixels (58 x 29 mm)
Dialog Languages	E/D/F/I/ES/J
Power supply	24 V DC from Pump Module C-601/C-605
Connectors	1 x RS-485 (system bus) 1 x RS-232 (process data output) 1 x Mini-DIN (TTL in/out for alarm monitoring and/or ext. start) 1 x Mini-DIN (pressure sensor) 2 x Mini-DIN (optional level sensor) 2 x Mini-DIN (optional solvent valve)
Dimensions (W x H x D)	150 x 80 x 120 mm



Control Unit C-620

Function	The Control Unit C-620 is an interface between PC/laptop and the components of the Sepacore system. Safety options such as solvent and waste level sensors and the pause button for remote process interruption are controlled.
Dimensions (W x H x D)	456 x 118 x 110 mm
Weight	2.8 kg
Power consumption	30 W
Operating Voltage	100–240 VAC \pm 10 %
Frequency	50/60 Hz
Temperature	5–40 °C
Humidity	Maximum relative humidity 80% for temperatures to 31 °C, then linear reduction to 50% at 4 °C
Overvoltage category	II
Degree of protection	IP20



Pump Module

	C-601	C-605
Pressure Range	0–10 bar (0–145 psi)	0–50 bar (0–725 psi)
Flow rate	2.5–250 ml/min.	
Reproducibility	\pm 0.5 %	
Design	Radially arranged 3 piston pump Chemically resistant and biocompatible Pump head with built-in piston rinsing	
Materials in contact with solvent	PEEK, ruby, ceramic, FEP	
Power consumption	75 W	
Main Voltage	100, 120, 230 V \pm 15% 50/60 Hz	
Dimensions (W x H x D)	160 x 153 x 305 mm	
Certificates	CE	



Cartridge C-670

Cartridges Size	All Cartridges C-675
Dimensions (W x H x D)	220 x 315 x 450 mm
Main Voltage	none
Requirements	Water and oil-free compressed air/pressurised gas (~1 bar [15 psi], Flow: ~200 l/h) Vacuum source: capacity $\leq 1 \text{ m}^3/\text{h}$ Vacuum $\leq 20 \text{ mbar}$ (15 mm Hg)
Hose connections	ID 6 mm for pressurised gas/air and vacuum
Weight empty	7.5 kg



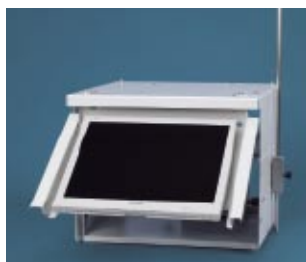
Fraction Collector C-660

Supported Racks	4x FC60: 4x (60 x 20 ml Tubes) 4x FC30: 4x (30 x 50 ml Tubes) 4x FC12: 4x (12 x 250 ml Tubes) Syncore Racks (R4, R6, R12, R24, R48, R96) Teach-in function for 10 customer specific racks
Collection Area	440 x 350 mm
Collection Height	Adjustable from 40 to 320 mm
Collection Modes	Time (internal Timer 1 s–100 h) Volume (only with Sepacore Pumps) Peak (only with Detector)
Peak Detection	Peak Slope and Peak Level
Display	Backlit graphical LC display 128 x 64 pixels (58 x 29 mm)
Dialog Languages	E/D/F/I/ES/J
Power consumption	25 W
Main Voltage	100, 120, 230 V $\pm 15\%$ 50/60 Hz
Connectors	2x RS-485 (system bus) 1x RS-232 (process data output) 1x Mini-DIN (waste valve control) 1x Mini-DIN (TTL In/Out (alarm line and/or ext. start)) 1x Mini-DIN (optional waste level sensor) 2x Cinch In (2 Detector Signal Inputs) 2x Cinch Out (2 Detector Signal + Event Mark Outputs)
Dimensions (WxD)	465 x 470 mm
Dimensions Height (H)	Adjustable from 370 to 460 mm
Certificates	CE



Chromatography Table

Dimensions (W x H x D)	550 mm x 300 mm x 550 mm
Weight without monitor	4.0 kg
Earthing	Spade connector on the rear of the device
Earthquake protection	Eye on rear of the device



Chromatography Table with monitor holder

Dimensions (W x H x D)	550 mm x 450 mm x 550 mm
Weight without monitor	8.7 kg
Earthing	Spade connector on the rear of the device
Earthquake protection	Eye on rear of the device
PC dimensions	450 mm x 260 mm x 120 mm
Monitor fixation	VESA standard fastening MIS-D75 or MIS-D100, max. weight 8 kg
Monitor dimensions (W x H x D)	395 mm x 350 mm x 80 mm (max.)



Column Module

Dimensions (W x H x D)	210 mm x 770 mm x 420 mm
Weight	6.5 kg
Earthing	Spade connector on the rear of the device
Earthquake protection	Eye on the rear of the device



UV Monitor C-630

Design	Single Lamp UV/Vis, Filter photometer
Wavelength	– 4 standard filters 200, 220, 254, 280 nm – 2 free positions for additional filters
Band Width	≤ 20 nm
Wavelength Accuracy	± 2 nm
Edge Filter	370 nm
Range of Measurement	0–2 AU
Lamp	Deuterium Lamp (190–740 nm), (Optional: Halogen Lamp for higher intensity in the range from 400–740 nm)
Display	Backlit 2 x 16-Segment LCD-display
Power consumption	75 W
Main Voltage	115 V 50/60 Hz or 230 V 50/60 Hz
Connections	1 x Cinch (Analogue Signal Output: ±1 V)
Dimensions (W x H x D)	106 x 185 x 395 mm
Certificates	CE



UV Photometer C-635

Design	Single Lamp UV/Vis, Spectral photometer
Wavelength	– from 190–740 nm in 1-nm steps – Spectrum scan function with stopped flow
Band Width	≤ 8 nm
Wavelength Accuracy	± 2 nm
Edge Filter	370 nm
Range of Measurement	0–2 AU
Lamp	Deuterium Lamp (190–740 nm), (Optional: Halogen Lamp for higher intensity in the range from 400–740 nm)
Display	Backlit 2 x 16-Segment LCD-display
Power consumption	75 W
Main Voltage	115 V 50/60 Hz or 230 V 50/60 Hz
Connections	1 x Cinch (Analogue Signal Output: ±1 V)
Dimensions (W x H x D)	106 x 185 x 395 mm
Certificates	CE

SepacoreControl system requirements

Processor	1 GHz 32-bit (x86) or 64-bit (x64) processor
Memory	2 GB system memory (RAM)
Hard disk	61 GB hard disk with at least 35 GB free space
Graphic	Graphics card with 256 MB graphics memory
Disc drive	CD/DVD-ROM drive
Monitor	Developed for SXGA with a resolution of 1280 x 1024 pixels
	USB connection
Output	Audio

SepacoreRecord system requirements

Processor	Pentium III PC (1 GHz or better recommended)
Memory	256 MB RAM (512 MB recommended)
Hard disk	2 GB free space
Graphic	Standard graphics card
Disc drive	CD/DVD-ROM drive
Monitor	Developed for SXGA with a resolution of 1280 x 1024 pixels
	RS-232
Output	–

Requirements on the operating system

Windows XP Professional SP2 or higher	Windows XP Professional SP2 or higher
Windows Vista Ultimate 32 Bit	Microsoft Internet Explorer 6.0 SP1 or higher
Windows Vista Business 32 Bit	

Minimum system

1 Fraction Collector	1 Fraction Collector
1 Digital or Analogue Detector	1 Analogue Detector
2 Pump Modules C-601/C-605	

Maximum system

2 Fraction Collectors	1 Fraction Collector
4 Digital Detectors	
4 Analogue Detectors	2 Analogue Detectors
4 Pump Modules C-601/C-605	2 Pump Modules C-601/C-605
2 Sequential Modules C-623/C-625	1 Pump Manager C-615
4 Solvent level sensors	2 Solvent level sensors
1 Waste level sensor	1 Waste level sensor

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