



Sepure Instruments Inc.

Product Brochures



Suzhou.China



About Sepure

Suzhou Sepure Instrument Inc (Sepure Instrument), established in 2011 by world-class famous automatic control and analysis instrument experts, is a high-tech company with integrated functions in Research & Development, Production, Marketing & Sales, and Global Customer Support. Sepure Instrument began its operation early 2012 in Wujiang Science and Technology Innovation Park.

The company is committed to developing precision instruments and systems for the Biomedical field, with focus in biological separation and purification. After completed the early developmental phase of its system in Delaware high-tech Park in the United States, the company launched a variety of configurations purification systems, from laboratory research to industrial production, offers our customers from equipment to complete solutions for their biological purification needs. With customers in the center of its focus, Sepure instrument has established a good relationship and strategical cooperation with many of well-known domestic and foreign partners in the industrial and academia to achieve bested suited systems with top quality, highly practical, and cost effective.

With high respect to intellectual property right, Sepure Instrument has obtained many of patents and software copyrights for our products. Our company has also been promoted by the Science and Technology Support- Social Development Program of Jiangsu Province.



Our Products

To meet the overall market needs of the global development for biological separation and purification, Sepure Instrument has developed the SCG biological purification system suitable for many biological separation and purification applications such as protein, antibody, vaccine, peptides, etc. With their independent intellectual property rights, our products are offers our customers with top quality, practical function, stable performance, user-friendly interface, and cost-effective solutions for their purification needs. Based on the customer's needs, we can provide them with solutions from just instruments to a total package of "Instrument + consumable + method".

The company has also developed the Relianx high-pressure Preparative systems to meet our customers high-pressure preparative needs

Meet Our Founder

Dr. Nie Dalin, founders of our company, is a well-known world-class expert in laboratory automation and automation systems. He obtained his bachelor degree from Nanjing University of Information Science and Technology in 1982. After graduation, he went to the United States in 1984 and got his MS degree at Iowa State University and Ph.D. from Kansas State University. During his enriched career, Dr. Nie has:

- Led and participated in many important and major scientific research projects of the National Aeronautics and Space Administration (NASA, US), the Department of Energy (DOE, US) and the Environmental Protection Agency (EPA, US).
- Served as senior automation engineer of Eli Lilly and the automation senior researcher of Bristol Myers Squibb Company from 1996 to 2000.
- Joined AstraZeneca in the end of 2000 as head of compound management and automation, design and established the automated compound management facility in Wilmington Delaware, and oversaw the operations of the center;
- Won many awards in research innovation. Published more than dozens of papers and the relevant monographs in measuring instruments design and automation system.
- Elected and re-elected as Chairman of the Laboratory Robotic Interest Group United States (LRIG, The Philadelphia Chapter),
- Established Suzhou Sepure Instrument Inc. in 2011 at Wujiang as Part of the Wujiang Science and Technology Leading Talent Program.

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SCG Biological Purification System

The SCG biological purification system is a chromatography system designed for protein, antibodies, vaccines and other biological samples purification. The system is modular, functional, intelligent designed, easy operation, and convenient for the customers to select the most suitable purification system based on their actual needs.

SCG Biological Purification System can be used for:
Purification of protein, monoclonal antibody and blood products.

Peptide purification, gene therapy.

Purification of natural drug and polysaccharide.

Characteristics of the system

All major components of the system are selected and co-developed with high reputable manufacturers in the US and Europe, ensure their top quality with superior performance and high reliability.

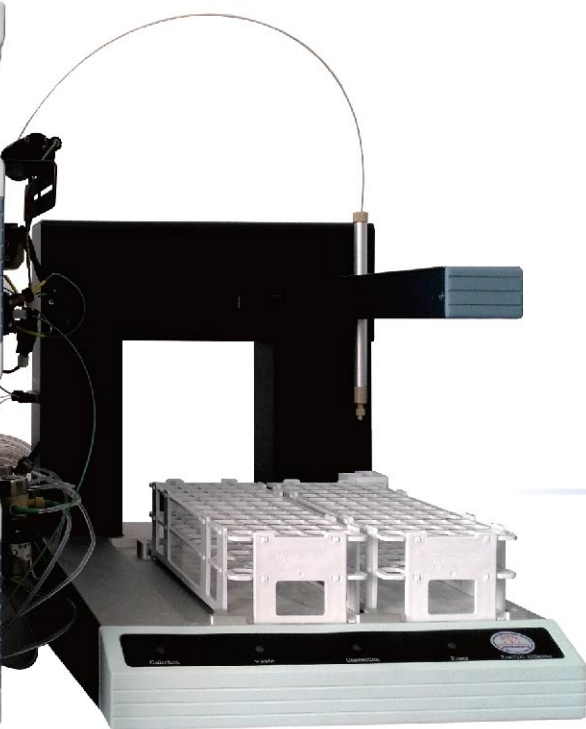
All parts in-contact with samples are imported from the US, and are made of PEEK, sapphire, ruby or other bio-inert materials, have good biological compatibility.

The two dual-piston pumps is manufactured in the United States. The pump head is made of bio-compatible materials such as PEEK.

The pump head with self-cleaning function avoids the equipment damage and pollution due to the precipitation of salts in the pump head when purify biological samples.



Infusion pump with electronic pressure pulsation suppression technique for protein chromatography system provides the excellent accuracy of gradient and repeatability, ensures the reproducibility of the purification result.



The imported DAD UV detector provides the choice of multiple wavelengths of signal output at the same time, convenient for real-time monitoring the purity of the isolated fractions.

pH/ conductivity detector offers the accurate real-time monitoring of pH and conductivity. Temperature compensation is available for pH and conductivity detection according to the customers' needs

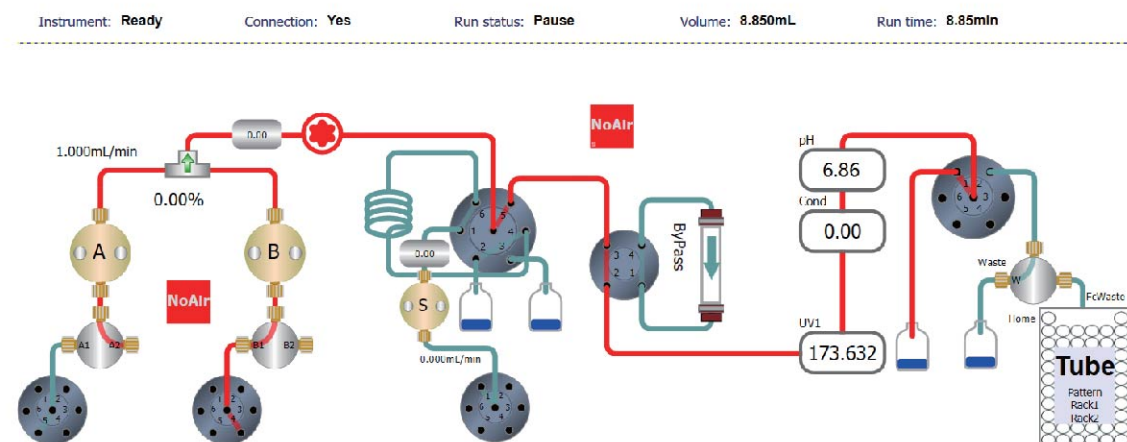
The new fraction collector which accommodates a wide variety of collecting tubes/containers to facilitate collecting the target fractions.

All our valves (collection valve, column position valve, injection valve, column selection valve, solenoid valve, etc.) are made by the international well-known manufacturers. The customers can select according to their actual needs.

SCG Biological Purification System Module

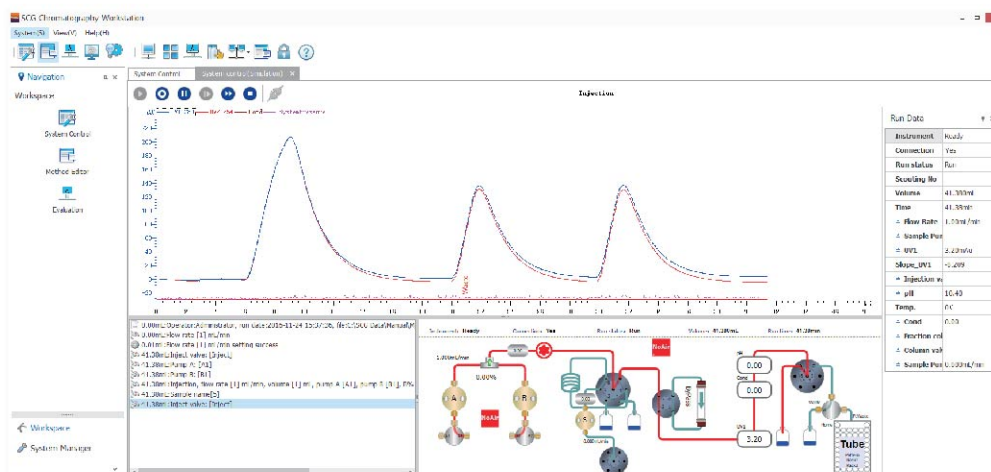


Interactive Graphical Interface



The interactive graphical interface displays the status of each components in real time, with current flow pathways highlighted in red color. This provides an intuitive view of what the system is doing, especially in manual control.

SCG Chromatography Workstation



The software is humanized designed. User can choose a GUI of English or Chinese. Simple, direct, intuitive, easy to learn and use, yet full of functions.

Real-time display of system status as well as various parameters such as time, flow rate, UV, pH, conductivity, etc.

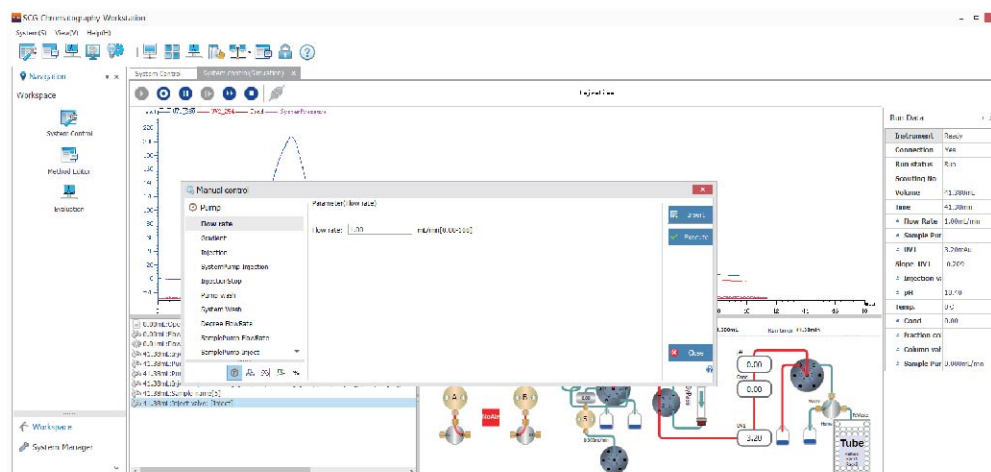
A LOGBOOK records everything in the entire running process, ensures that all the historical operations and the operational status of the instrument can be viewed at any time.

Data are automatic saving in real time to prevent data loss in case of unexpected event such as power outage.

The unique SCG APP enables remote monitoring and controlling via smart phone or tablet. This function allows the users to monitor the running status, view data and perform simple operations when needed in their office area while system is running in the lab.

System meets the GMP/GLP specification requirements and is in compliance with the FDA and CFDA related regulatory requirements. The system has the user rights control, operation records track, digital signatures and other functions, which ensure the reliability and safety of the data.

Manual control



Fast manual operation mode provides convenient, easy and quick manual control when necessary;

Real-time method editing function allows the user to modify the various parameters such as the flow velocity and the gradient on-line. It is convenient to modify and optimize the experimental conditions real-time.

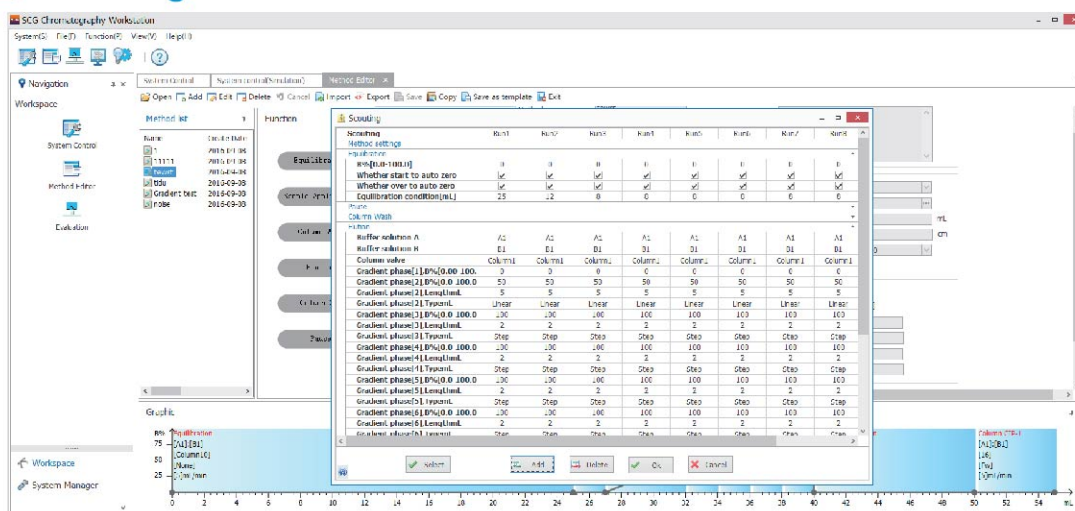
SCG Chromatography Workstation

Method editor



Modular design allows method editing simple, straightforward and flexible. This can make the user to develop a reliable chromatography method quick and easy. Once start, the system can run unattended, achieving automatic purification.

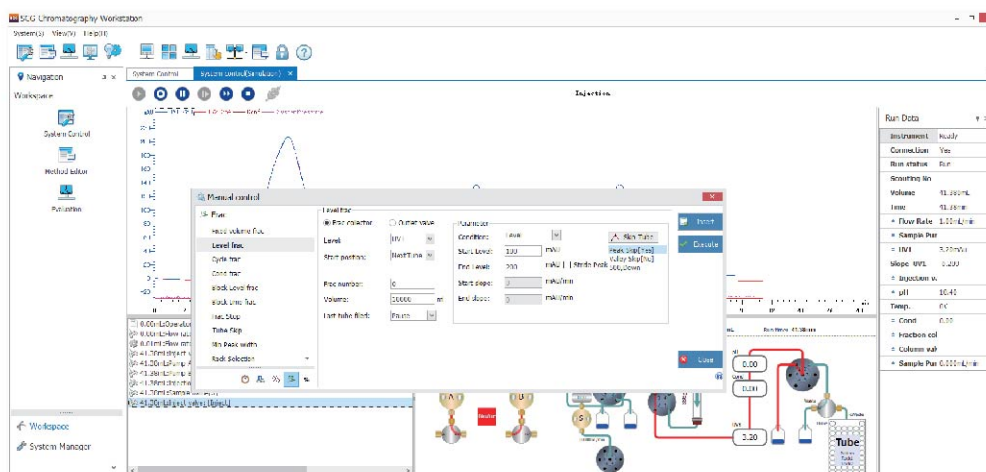
Scouting function



User can set up the system to run different methods at multiple times. One or multiple samples can be handled by different methods using different columns and buffers. This enables the system to run unattended overnight, shortens project cycle and improves the efficiency.

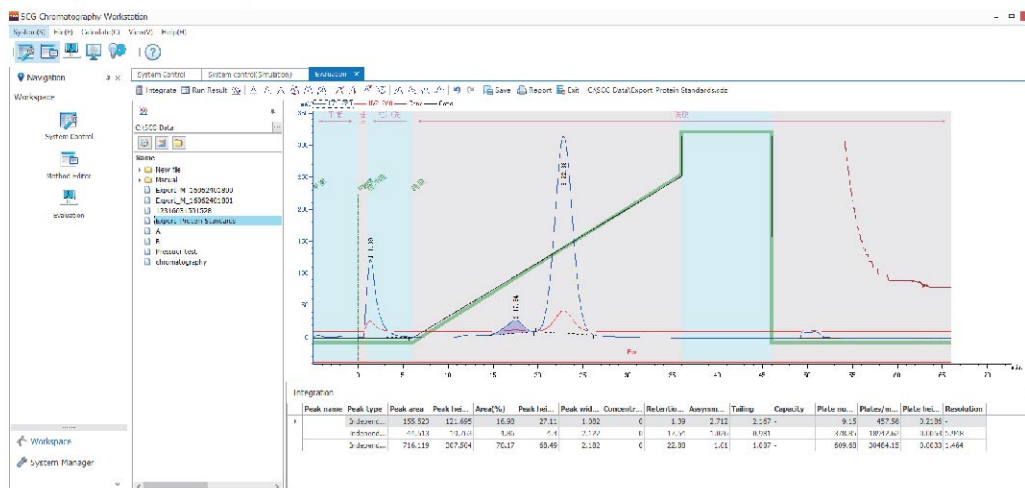
SCG Chromatography Workstation

- Collection function



The fraction collector support a wide range of collecting methods for sample collection. The user can choose the collection mode based on time, volume, signal of UV or conductivity, etc., You can also set repeated collection. It can be automatically switched to the next tube between the peak summit or peak valley.

- Data processing



Powerful functions of data processing can performing curve integration, curve comparison, calculating the concentration of the sample, evaluating the column efficiency and verifying the process.

In the results documents, the proper user can view the operation method used, prepare reports, tracing operation records, perform electronic signatures, and other functions.

Basic Configurations of SCG Series



module	SCG-030	SCG-100	SCG-300
SCG Dual piston pump	Imported low pressure PEEK pump, bio-inert material, can provide a continuous stable and accurate flow rate		
Flow rate range	0.001~36 mL/min	0.01~100mL/min	0.1~300mL/min
Maximum pressure	4000psi (27MPa)	1500psi (10MPa)	1000psi(6.8Mpa)
Dynamic mixer	2ml	2ml	5ml
Flow rate accuracy	± 1.2%	± 1.2%	± 2%
Gradient type	Linear, Equal Degree and Step Gradient. Gradient ratio can be modified online.		
DAD 400EX UV-detector	wavelength range: 200~400nm, Simultaneous detection of two wavelengths. Using imported deuterium lamp as light source. An external flow cell and 2 mm optical path length.		
Wavelength accuracy and repeatability	± 1nm、± 0.5nm		
Drift and noise	1 × 10 ⁻³ AU/Hr、± 4 × 10 ⁻⁵ AU (1s)		
Sample injection valve	Auto-injection. Software controls the switch of the functions of Load, Inject and Waste. Supporting for the sample quantitative ring and the quantitative cup injection.		
Conductivity detector	Range: 0.001~999.99mS/cm. Accuracy: ± 2%. The detection cell volume: 20ul		
Temperature sensor	Range: 0~100 °C. Accuracy: ± 1 °C. Temperature compensation can be carried out on the conductivity and pH.		
Chromatography workstation	SCG Chromatography workstation (Including the workstation software, Name-brand computers and genuine Win7 operating system)		
kit	SCG start package (Including PEEK/PTFE pipe, installation manuals, user manuals, pipe joints, common tools, etc.)		
pH detector (Recommend)	Range : 0~14. Accuracy : ± 0.1		
Solvent tray (Recommend)	Solvent placement is more convenient and save space		

SCG Series Option List

UV-detector

DF1 Single wavelength detector	280nm, monitor 1 wavelength, 2mm path length
DF2EX UV-detector	280&260nm, simultaneous monitoring the 2 wavelength, 2mm path length
DAD 600EX UV-detector	200-600nm, simultaneous monitoring 4 wavelengths, 2mm path length
DAD 800EX UV-detector	190-840nm, simultaneous monitoring 4 wavelengths, 2mm path length
Ultraviolet flow cell	standard configuration: 2mm, optional: 5mm or 10mm path length

Refractive index detector

RI050 refractive index detector	2.5-5120uRIU (flow rate range: 1-50ml/min)
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Sample pumps

Pump type	High precision plunger rod pump with good biological compatibility	
Flow rate range	0.001-36ml/min	0.01-100ml/min
Maximum pressure	4000psi (27MPa)	1500psi (10MPa)
Inlet	standard configuration: 1 entrance optional: 6 entrances (samples selection valve)	

Dynamic mixer

Mixed mode	Magnetic stirring
Mixing chamber volume	SCG-030: standard: 2ml, optional: 0.6ml or 5ml SCG-100: standard: 2ml, optional: 5ml or 10ml SCG-300: standard: 5ml, optional: 10ml or 15ml

System pump inlet

A pump inlet	1 (standard), 2 * (A1/A2), 6, 10
B pump inlet	1 (standard), 2 * (B1/B2), 6, 10
Bubble sensor	When bubbles are detected, the system will be suspended or go into the next method.

* SCG300 does not support two inlets

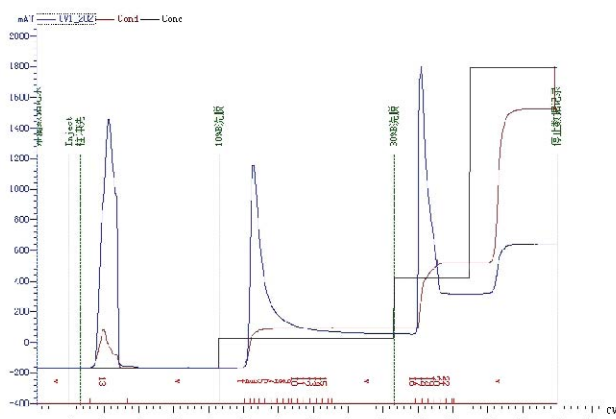
Column selection

Column position valve	supporting Column, Bypass, and the reverse flow path of the column switching
Column selection	supporting the connection of 5 columns, the software control automatic switching
Column pressure	supporting to detect the pressure change of the column before and after the column, calculating the pressure difference to protect the fillers.

Collection module

Collection valve	two channels, large volume collection valve (1 waste liquid, 1 outlet) six channels, large volume collection valve (1 waste liquid, 5 outlets) ten channels, large volume collection valve (1 waste liquid, 9 outlets)
Collector type	SCG FC-S2, compact size, two of the same or different collection shelves can be placed.
Collection rack type	13mm collection rack, can be placed 5ml centrifuge tubes (90/rack) 16mm collection rack, can be placed 15ml centrifuge tubes (60/rack) 28mm collection rack, can be placed 50ml centrifuge tubes (21/rack) deep well plate collection rack, can be placed 96-wells microplates (up to 4plates total)
Column support	independent column supporting shelf, suitable for ID: 6.6-50mm diameter of the column and 1ml or 5ml pre loaded column
Wifi module	Wireless monitoring. Suitable for Android mobile phone or tablet

Application cases



Case 1 Protein purification

Instrument: SCG-030

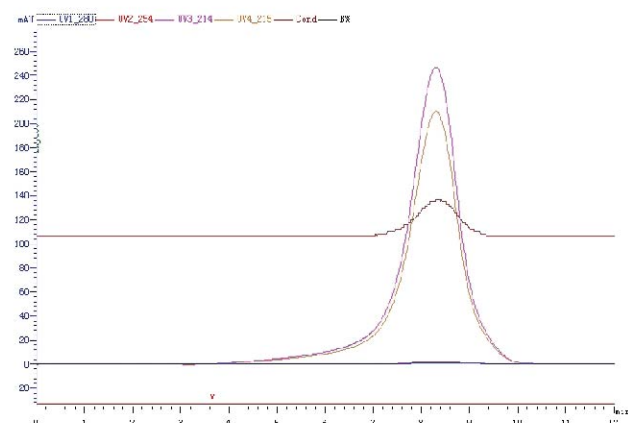
Buffer: Buffer A: 50mM Tris, pH7.3

Buffer B: A+1M NaCl

Detection wavelength: 202nm

Flow rate: 5ml/min

Target protein: The second peak.



Case 2 Biomacromolecule desalination

Biomacromolecule desalination

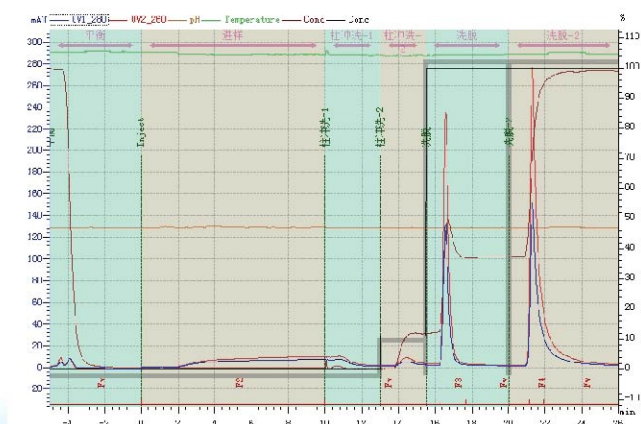
Instrument: SCG-100

Buffer: Pure water

Detection wavelength: 254nm

Flow rate: 30ml/min

Target fraction: The peak of 6–10mins



Case 3 Macromolecule desalination

Instrument: SCG-030

Buffer: Buffer A: Pure water

Buffer B: 1M NaCl

Detection wavelength: 280nm, 260nm

Flow rate: 10ml/min

Target fraction: The peak of 16–18mins

Relianx Separation and Purification System

Relianx series purification systems are mainly used in separation and purification of small molecule drugs, natural products, polysaccharide and other biochemical drugs. It truly realizes the preliminary separation in low pressure and the fine purification in high pressure to obtain pure target monomer in one instrument.

Modular, functional, intelligent design and easy operation make the customers convenient to select the most suitable purification system according to their own actual needs.

The systems meet the GMP/GLP specification requirements and fit in with the FDA and CFDA related regulatory requirements. Through user rights control, operation records track, digital signatures and other functions ensure the reliability and safety of the data.

Characteristics of the system:

The system is equipped with imported high-pressure stainless steel pumps, not only have resistance to high pressure and organic reagents, but also have good stability under low pressure.

It is convenient for infusion system maintenance through the design of the preposed pump head.

Pump body adopts double plunger rod structure which effectively reduce the impulse.

Double pumps design effectively improves the accuracy of gradient change.

There is a control panel in front of the pump that lead to manual control directly.

Various models of high sensitivity detectors can be selected.

Collection valve or automatic fractions collector can be selected. Supporting different collection ways. It is convenient to purify and collect the target fraction.

Humanized software design can modify the gradient, flow rate, etc. online.

Basic Configurations of Relianx Series



Modules	Relianx-030	Relianx-100	Relianx-300
Relianx two element gradient pump	imported high pressure stainless steel pump, high precision, high pressure, long life		
Flow rate range	0.001~36 mL/min	0.01~100ml/min	1~300ml/min
Maximum pressure	5000psi(34MPa)	4000psi (27Mpa)	1000psi (6.8Mpa)
Flow rate accuracy	± 1.2%	± 1.2%	± 2%
Sample amount	10mg~10g	100mg~80g	100mg~100g
Sample method	Solid or Liquid		
Gradient type	Linear, Equal Degree and Step Gradient. Gradient ratio can be modified online.		
DAD400EX UV detector	wavelength range: 200~400nm. Simultaneous detection two wavelengths. Using imported deuterium lamp as light source. This detector can Simultaneous detect two wavelengths. An external flow cell and 2 mm optical path length.		
Wavelength accuracy	± 1nm、 ± 0.5nm		
repeatability Drift noise	1 × 10 ⁻³ AU/Hr、 ± 4 × 10 ⁻⁵ AU (1s)		
Sample injection valve	Manual injection, standard: one of 1ml or 5ml quantitative ring		
Chromatogram workstation	Relianx Chromatogram workstation (including Relianx chromatography workstation software, computer, genuine win7 system)		
Kit	Relianx start package (including PEEK/PTFE piping, installation manuals, user manuals, pipe fittings, common tools, etc.)		
Solvent tray (Recommend)	Solvent placement is more convenient and save space		

Relianx Series Selection List

UV-detector

DF1 Single wavelength detector	280nm, monitor 1 wavelength, 2mm path length
DF2EX UV-detector	280&260nm, simultaneous monitoring the 2 wavelengths, 2mm path length
DAD 600EX UV-detector	200-600nm, simultaneous monitoring 4 wavelengths, 2mm path length
DAD 800EX UV-detector	190-840nm, simultaneous monitoring 4 wavelengths, 2mm path length
Ultraviolet circulation pool	standard configuration: 2mm, optional: 5mm or 10mm path length

Refractive index detector

RI050 refractive index detector	2.5-5120uRIU (flow rate range: 1-50ml/min)
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Sample pump

Pump type	High precision plunger rod pump
Flow rate range	0.001~36ml/min 0.01~100ml/min
Maximum pressure	5000psi (34MPa) 4000psi (27MPa)
Inlet	standard: 1 entrance optional: 6 entrances (sample selection valve)

Dynamic mixer

Mixed mode	Magnetic stirring
Mixing chamber volume	Relianx-030: standard 2ml, optional: 0.6ml or 5ml Relianx-100: standard 2ml, optional: 5ml or 10ml Relianx-300: standard 5ml, optional: 10ml or 15ml

System pump inlet

A pump inlet	1 (standard), 2 * (A1/A2), 6, 10
B pump inlet	1 (standard), 2 * (B1/B2), 6, 10
Bubble sensor	When bubbles are detected, the system will be suspended or go into the next method.

* Relianx300 does not support the 2 inlets

Collection module

Collecting valve	two channel, large volume collecting valve (1 waste liquid, 1collecting outlet) six channel, large volume collection valve (1 waste liquid, 5 collection outlets) ten channel, large volume collection valve (1 waste liquid, 9 collection outlets)
Collector type	SCG FC-S2, compact size, two of the same or different collection shelves can be placed.
Collection rack type	13mm collection rack, can be placed 5ml centrifuge tubes (90/rack) 16mm collection rack, can be placed 15ml centrifuge tubes (60/rack) 28mm collection rack, can be placed 50ml centrifuge tubes (21/rack) deep well plate collection rack, can be placed 96-wells microplates (up to 4plates total)

Column support

independent column support, suitable for ID: 6.6-50mm diameter of the column and 1ml, 5ml pre loaded column

chromatography column

Pilot scale and production scale

Easy-Axi low pressure chromatography column is designed for the purification of biological products. It is suitable for medium scale and large-scale production. It can be used for chromatography packing in almost all biological pharmaceutical industry. Its advanced design conception can easily be used with any chromatography system, especially with the iBio chromatography system to provide customers with great convenience in the pilot to enlarge and produce. The column with a diameter of 300 mm or more contains a fully automatic packing column, which is controlled by the software of the column loading station to realize the automatic packing, which is simple and fast.

Advantages

- Innovative design, intuitive, efficient and economical
- Installation, filling, unloading, maintenance is simple and convenient
- Easy to obtain accurate, high repeatability of the column
- Three-column valve is pioneering, even column loading, unloading column quickly
- Key parts are imported brands, reliable and durable
- The parts of contact with the liquid are in accordance with VI USP or FDA

Design performance

Chromatography column

- The column diameter is linearly scaled from 50 mm to 800 mm and can be enlarged up to 1600 mm in the future
- The column pressure is 3 bar and 6 bar, which can meet almost all low-pressure packing
- All materials that are in contact with the material liquid are biocompatible materials, and can provide proof of material.
- All connections are hygienic T-piece clamps
- More than 300 mm column sealed with imported gas seal, which makes the operation more convenient
- Piston distribution system and the export of diversion slot structure using hygienic design to ensure sealing and complete cleaning, no dead ends, and has a self-drain function

Column valve

- More than 300 mm column using a special column valve packing. Filler can quickly enter the column or spin off valve through the lower part of the cylinder, which greatly improves the convenience of the above 300 mm column loading and unloading column.
- Sanitary design so that the entire assembly line after the completion of the installation of the valve pipe can be cleaned without cleaning dead ends, there will be no residue in the packing column valve
- Unique three-column valve design, so that the formation of a very uniform packing column to ensure the column efficiency, demolition of columns more quickly

Column material and tolerance

Components for contact with the material

Component	ID: 100–300mm	ID: 450–800mm
Pipeline	316 L stainless steel	SS 316 L
Allocator	PP (FDA)	PP (FDA)
Screen cloth	PP (FDA) /SS 316 L	SS 316 L
Seal ring	EPDM (FDA)	EPDM (FDA)
Cylinder wall	Borosilicate glass (FDA) /SS 316 L	Organic glass (FDA) /SS 316 L
Column valve	PEEK (FDA)	PEEK (FDA)



Appearance of chromatographic column
(Φ100 mm 、 Φ600 mm)



Chromatography system and chromatography column



Automatic chromatography column

Type	Diameter (mm)	Column length (cm)	Bed Height (cm)	Volume (L)	Pressure (bar)	Size D × W × H	Weight (kg)	Power (Kw)
A-300	296	50	5-46	3.44-31.6	3	72×72×170	210	0.75
A-450	450	60	5-51	7.95-81.0	3	93×89×196	420	2.4
A-600	600	60	5-51	14.1-144.1	3	101×94×209	688	2.9
A-800	800	60	5-51	25.1-256.2	3	110×110×214	1200	4

Manual chromatography column

Type	Diameter (mm)	Column length (cm)	Bed Height (cm)	Volume (L)	Pressure (bar)	Size D × W × H	Weight (kg)	Valve (↑)
M-50	50	50	2.6-44	0.05-0.86	6	40×40×127	10	0
M-50	50	75	27.6-69	0.54-1.35	6	40×40×152	11	0
M-50	50	95	47.6-89	0.93-1.74	6	40×40×172	12	0
M-100	100	50	2.6-44	0.20-3.45	6	48×48×127	15	0
M-100	100	75	27.6-69	2.16-5.41	6	48×48×152	16	0
M-100	100	95	47.6-89	3.73-6.98	6	48×48×172	17	0
M-140	140	50	2.6-44	0.4-6.77	6	59×59×127	19	0
M-140	140	75	27.6-69	4.25-10.6	6	59×59×152	20	0
M-140	140	95	47.6-89	7.33-13.7	6	59×59×172	21	0
M-200	200	50	2.6-44	0.81-13.8	6	59×59×127	24	0
M-200	200	75	27.6-69	8.66-21.6	6	59×59×152	27	0
M-200	200	95	47.6-89	14.9-27.9	6	59×59×172	30	0
M-300	296	50	5-46	3.44-31.6	3	66×66×163	98	3
M-300	296	75	30-71	20.6-48.8	3	66×66×188	103	3
M-300	296	95	50-91	34.4-62.6	3	66×66×208	108	3
M-450	450	60	5-51	7.95-81.0	3	72×72×173	200	3
M-450	450	75	20-66	31.8-105	3	72×72×198	215	3
M-450	450	95	40-86	63.6-136	3	72×72×218	230	3

FPLC chromatographic column

Medium and low pressure FPLC liquid chromatography column is designed for the purification of biological products of scientific research workers to meet the laboratory level of small test and amplification. The maximum tolerated pressure can reach 900 psi (60 bar), break the normal procedure glass column's limit of 5 bar. The column can be filled with soft filler and hard filler, with faster velocity and higher efficiency of chromatography gives user a better experience. The column tube from 6.6mm to 50mm, and the end of the column height adjustable, convenient design makes the bed height adjustment more convenient.

Any column can give you the following functional experience:

1、Standard liquid phase design:

The columns are made of borosilicate glass and are equipped with 25 micron (PTFE or PE) filters for a wide range of applications;

2、Organic solvent tolerance:

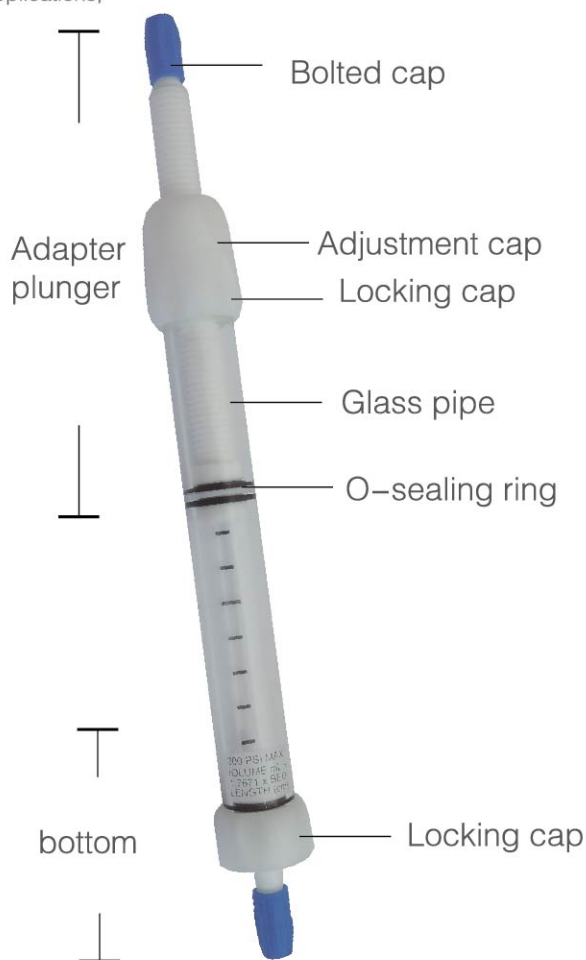
The user only needs to replace the PE filter, using the PTFE filter can make the entire liquid contact part of the PTFE channel, which is ideal for organic solvent applications;

3、Convenient connection of column:

All columns are equipped with one set of connectors (two 1/4"-28 UNF mounting fittings and washers) for connecting the ends of the column and the piping. We also provide M6 fittings to facilitate access to other M6 threaded fittings in the system.

4、Complete replacement parts:

We offer paid replaceable glass tube, tube end and all kinds of filter and O-ring. We also can supply paid filter replacement device, pipeline and fittings etc.



Technical specifications	
Operating parameter	
Operating temperature	4- 20℃
pH	1-14
Chemical durability	Tolerance to conventional aqueous solution and most organic solutions. Intolerance of acetone, ketones, chlorinated hydrocarbons, fatty esters, phenol, >10%naoh, 10%hcl, >5% acetic acid and strong inorganic acid.
Material	
Glass pipe	Borosilicate glass
Adapter plunger	PTFE, 8cm adjustment range
Sieve plate	Polyethylene
O-sealing ring	FKM/FPM (fluororubber)
Adjustment cap	Acetal (acetal)
Locking cap	Acetal (acetal)
Bolted cap	Glass filled polypropylene
Pipeline	Teflon
Tolerance pressure	
ID-6.6mm	900psi (60bar)
ID - 10mm	600psi (40bar)
ID - 15mm	300psi (20bar)
ID - 25mm	150psi (10bar)
ID - 35mm	150psi (10bar)
ID - 50mm	100psi (6.7bar)

■ Ordering Information

chromato bar	Specifications of column	AF		AA	
Art.No.	Inner diameter × length (mm)	Column height Cm	Column volume ml	Column height Cm	Column volume ml
0605-AF/AA	6.6×50	0.24-2	0.1-0.7	0.24-0.2	0.1-0.7
0610-AF/AA	6.6×100	0.24-7	0.1-2.4	0.24-7	0.1-2.4
0615-AF/AA	6.6×150	4-12	1.4-4.1	0.24-12	0.1-4.1
0625-AF/AA	6.6×250	14-22	4.8-7.5	6-22	2.1-7.5
0640-AF/AA	6.6×400	29-37	9.9-12.7	21-37	7.2-12.7
1010-AF/AA	10×100	0.24-7	0.2-5.5	0.24-7	0.2-5.5
1015-AF/AA	10×150	4-12	3.1-9.4	0.24-12	0.2-9.4
1025-AF/AA	10×250	14-22	11-17.3	6-22	3.1-17.3
1040-AF/AA	10×400	29-37	22.8-29.1	21-37	16.5-29.1
1050-AF/AA	10×500	39-47	30.6-36.9	31-47	24.3-36.9
1510-AF/AA	15×100	0.24-7	0.4-12.4	0.24-7	0.4-12.4
1515-AF/AA	15×150	4-12	7.1-21.2	0.24-12	0.4-21.2
1525-AF/AA	15×250	14-22	24.7-38.9	6-22	10.6-38.9
1540-AF/AA	15×400	29-37	51.2-65.4	21-37	37.1-65.4
1550-AF/AA	15×500	39-47	68.9-83.0	31-47	54.8-83.0
2510-AF/AA	25×100	0.24-7	1.2-34.4	0.24-7	1.2-34.4
2515-AF/AA	25×150	4-12	19.6-58.9	0.24-12	1.2-58.9
2525-AF/AA	25×250	14-22	68.7-108.0	6-22	29.4-108.0
2540-AF/AA	25×400	29-37	142.3-181.6	21-37	103.1-181.6
2550-AF/AA	25×500	39-47	191.4-230.7	31-47	152.1-230.7
3515-AF/AA	35×150	4-12	38.5-115.4	0.24-12	2.3-115.4
3525-AF/AA	35×250	14-22	134.7-211.6	6-22	57.7-211.6
3540-AF/AA	35×400	29-37	279.0-355.9	21-37	202.0-355.9
5025-AF/AA	50×250	14-22	280.4-440.6	6-22	120.2-440.6
5040-AF/AA	50×400	29-37	580.7-741.0	21-37	420.5-741.0
5050-AF/AA	50×500	39-47	781.0-941.2	31-47	620.8-941.2

Note:

AF: one end of the column pipe is fixed and the other end is adjustable;

AA: both ends of the column tube are adjustable, and the column height adjustment range is wider.

MabPurix™ – Protein A Affinity Media

Utilizing proprietary surface technologies, MabPurix resin is made of highly cross-linked 4% agarose beads with a particle size of 45–165 μm and a recombinant Protein A with the molecular weight of 46.7 kD. MabPurix Protein A affinity resin is designed to bind and elute monoclonal antibodies (Mabs) in affinity process chromatography for purification of recombinant proteins and Mabs.

MabPurix is applicable at laboratory discovery, process development, clinical and commercial manufacturing scale for processes producing a few milligrams to 10¹ s kilograms of protein. This resin is an excellent purification tool in the manufacturing of both therapeutic and diagnostic proteins.

Featured Characteristics

- High Mab binding capacity
- Lowest Protein A leakage
- Good caustic stability
- Excellent protease stability
- High lot-to-lot reproducibility
- Ideal High protein recovery with intact biological activity

High Dynamic Binding Capacity

Figure 1 shown MabPurix has similar dynamic binding capacity to that of MabSelect

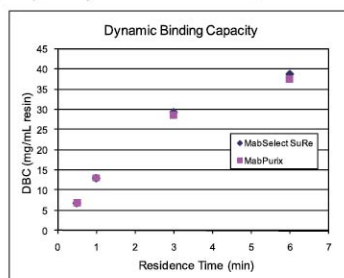


Figure 1. Experimental details: DBC was determined for human polyclonal IgG at 2% breakthrough. Residence times ranging from 0.5 to 6 minutes. A 5 x 50 mm MabPurix column was loaded with a 2 mg/mL hlgG solution in PBS, pH 7.4.

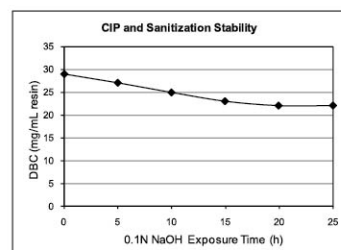
Packaging information:

Product	Packing Specifications (mL)	Pre – packed column specifications
MabPurix	5, 25, 100, 250, 1000	1, 5

Note: The table for the common specifications, please call for other specifications.

Good caustic stability

MabPurix may be cleaned and sanitized with a weak NaOH solution resulting in a moderate decrease in resin capacity over extended exposure times.



As shown in figure 2: A 5 x 50 mm column was loaded with a 2 mg/mL hlgG solution in PBS pH 7.4. The loading residence time was 3 minutes. Capacity was determined and reported at 2% breakthrough. An exposure time of 25 hours represents 100 x 15 minute CIP cycles in 0.1 N NaOH.

Technical Specifications

Matrix composition	4% Highly cross linked agarose
Ligand	Recombinant Protein A with the MW of 46.7 kD Animal free
Particle size	90 μm
Coupling chemistry	Proprietary
Binding capacity	Static: >40 mg human IgG/mL resin Dynamic: 33 mg/mL (3 min binding time)
Caustic stability	100 cycles (0.1 M NaOH)
Recommended working velocity	30 – 300 cm/hr
Temperature stability	2 – 40° C
Storage conditions	2 – 8° c, 20% ethanol
Recommended pH working range	3 – 10
Clean in place recommended pH	2 – 11
Regenerating Resin	After each separation cycle, regeneration the resin bed by washing with 3column volumes of 0.1 M citrate buffer, pH 3.0

Agarosix FF Ion exchange media

AgarosixFast Llow (Agarosix FF) designed for ion exchange chromatography. The matrix consists of agarose gels with a particle size of 50–150 μm (average 90 μm) and a cross-linking degree of 6% with high physicochemical stability. The high loading and stability in separation are unaffected by the mobile phase and cleaning methods commonly used in preparative purification chromatography. The high hydrophilicity of the filler surface minimizes nonspecific adsorption between the sample and the stationary phase. Proprietary chemical modification technology ensures high density and homogeneity of the surface ion exchange layer. Agarosix FF-SP、Q、CM、DEAE can be widely used in the separation and purification of biological samples.

Featured Characteristics

- High ion exchange capacity and high sample loading
- Filler of 6% cross-linking can be used for high flow separation and purification
- High resolution, high column efficiency and high recovery
- High lot-to-lot reproducibility
- Easy to enlarge
- Highly hydrophilic in the surface

Technical Specifications

Filler type	Agarosix FF-SP; Agarosix FF-Q Agarosix FF-CM; Agarosix FF-DEAE
specification	70% (v/v), store in 20% ethanol
Matrix composition	6% cross-linked agarose gel
Particle size	sphericity, 50–150 μm (average 90 μm)
Dynamic exchange load	Agarosix FF-SP: 90 mg RNase A /mL, Agarosix FF-Q: 120 mg HSA/mL Agarosix FF-CM: 50 mg RNase A /mL, Agarosix FF-DEAE: 100 mg HSA/mL
pH	pH working range: 2–12; In-place cleaning pH range in short time: 2–14 Agarosix FF-SP: 0.20 meq/mL, Agarosix FF-Q: 0.20 meq/mL
Ion capacity Operating temperature	Agarosix FF-CM: 0.11meq/mL, Agarosix FF-Q: 0.13meq/mL 4–40°C
Operating pressure	< 0.3Mpa (3bar)
Flow compatibility	Suitable for a variety of conventional organic phase / water and buffer salt system
Linear velocity range	Up to 300 cm/h
Long-term preservation	20% (v/v) ethanol (solvent for transportation), 2–30 ° C

Dynamic Exchange Load Measurement Method for Agarose FF-SP / CM: the flow rate was 75 cm/h, the mobile phase of 0.1 M acetate (pH 5), samples for RNase A (1 mg/mL), with 50% load flow through the meter. Dynamic Exchange Load Measurement Method for Agarosix FF-Q/DEAE: the flow rate was 75 cm/h, the mobile phase of 50 mMTris (pH 7.5), samples for 2.0 mg/mLHSA, with 50% load flow through the meter.

Packaging information

Filler	Particle size	Packing Specifications (L)	Pre-packed column specifications (mL) L)
Agarosix FF-SP	90 μm	0.1, 0.5, 1, 5, 10	1 and 5
Agarosix FF-CM	90 μm	0.1, 0.5, 1, 5, 10	1 and 5
Agarosix FF-Q	90 μm	0.1, 0.5, 1, 5, 10	1 and 5
Agarosix FF-DEAE	90 μm	0.1, 0.5, 1, 5, 10	1 and 5

Note: The table for the common specifications, please call for other specifications.

Polar MC high pressure ion exchange packing

Polar MC ion exchange packing is designed for the separation and purification of biological samples. Hydrophilic polymethacrylate is the matrix of the filler, with higher pressure and faster flow rates. Monodispersed 30 μm and 60 μm particle sizes result in higher resolution. Through surface modification technology proprietary, four kinds of chromatographic packing: strong positive (SP), strong negative (Q), weak positive (CM), and weakly negative (DEAE) are obtained by bonding different ion exchange functional groups on the surface of the hydrophilic substrate, which ensures high density and homogeneity of the surface ion exchange layer. Polar MC ion exchange packing can be widely used in the separation and purification of antibody, protein, nucleic acid, vaccine, heparin and other biological samples.

■ Featured Characteristics

- Highly stable matrix that can withstand high pressures and high flow rates
- High resolution, high column efficiency and high recovery
- High lot-to-lot reproducibility
- Easy to enlarge
- Highly hydrophilic surface
- Negligible non-specific adsorption
- Conventional conditions, the volume change < 1%

■ Technical Specifications

Filler type	Polar MC-Q	Polar MC-DEAE	Polar MC-SP	Polar MC-CM
Matrix composition	Hydrophilic polymethacrylate			
Functional group	$-\text{N}^+(\text{CH}_3)_3$	$-\text{N}(\text{C}_2\text{H}_5)_2$	$-\text{SO}_3\text{H}$	$-\text{CH}_2\text{COOH}$
Particle size (μm)	30 60	30 60	30 60	30 60
Dynamic load* (/mlfiller)	40~45mg BSA	40mg BSA	40~45 mg lysozyme	40 mg lysozyme
Pore size	800 Å			
Maximum operating pressure	100 bar			
Operating ph	2-12			
Maximum linear velocity	1800 cm/h			
Operating temperature	4°C~40°C			
Regeneration	1-2 M NaCl			
Cleaning	0.5M HCl; 0.5MNaOH			
Autoclaving (121° c)	Yes			
Storage Solvent	20% ethanol			
Mobile phase compatibility	Applicable to the buffer system (Tris, phosphate and acetate buffer etc.) Conventional organic / aqueous system (acetonitrile, ethanol etc.)			

Note: * Method for determination of dynamic load: Polar MC-Q, DEAE: the flow rate was 100 cm/h, the sample solution containing 2 mg/mL BSA 50 mMTris (pH 8.5); Polar MC-SP, CM: the flow rate was 360 cm/h, the sample solution was 50 mM sodium phosphate buffer containing 1 mg/mL lysozyme (pH 6).








■ Packaging information

Stationary phase	Partical size	Packing specifications (L)	Pre – packed column specifications (mL)
Polar MC30-SP	30 μm	0.1, 0.5, 1, 5, 10	1, 5
Polar MC30-CM	30 μm	0.1, 0.5, 1, 5, 10	1, 5
Polar MC30-Q	30 μm	0.1, 0.5, 1, 5, 10	1, 5
Polar MC30-DEAE	30 μm	0.1, 0.5, 1, 5, 10	1, 5
Polar MC60-SP	60 μm	0.1, 0.5, 1, 5, 10	1, 5
Polar MC60-CM	60 μm	0.1, 0.5, 1, 5, 10	1, 5
Polar MC60-Q	60 μm	0.1, 0.5, 1, 5, 10	1, 5
Polar MC60-DEAE	60 μm	0.1, 0.5, 1, 5, 10	1, 5

Note: The table for the common specifications, please call for other specifications.

Accessories

picture	Consumable Name	Serial Number	Description
	100 μ L Sample Loop	02-06-004-004	Imported Peek material, equipped with two 1/16" high-pressure connector, common with most of the HPLC
	1 mL Sample Loop	02-06-004-001	Imported Peek material, equipped with two 1/16" high-pressure connector, common with most of the HPLC
	2 mL Sample Loop	02-06-004-002	Imported Peek material, equipped with two 1/16" high-pressure connector, common with most of the HPLC
	5 mL Sample Loop	02-06-004-003	Imported Peek material, equipped with two 1/16" high-pressure connector, common with most of the HPLC
	1/16 Peek Tubes	01-06-001-011	Inner diameter: 0.03", outside diameter: 1/16", green, maximum pressure: 7000 psi
		01-06-001-002	Inner diameter: 0.04", outside diameter: 1/16", original color, maximum pressure: 5000 psi
		01-06-001-014	Inner diameter: 0.02", outside diameter: 1/16", brown, maximum pressure: 7000 psi
	1/8 PFA Tube	01-06-003-008	Inner diameter: 1/16", outside diameter: 1/8", maximum pressure: 500 psi
	1/16 PFA Tube	01-06-003-004	Inner diameter: 0.02", outside diameter: 1/16", maximum pressure: 500 psi
	1/16 PFA Tube	01-06-003-007	Inner diameter: 0.03", outside diameter: 1/16", maximum pressure: 500 psi
	Solvent filter head	01-03-003-001	Titanium alloy, bio-inert, suitable for the outside diameter of 1/8" buffer pipeline
	Solvent filter head mesh	01-05-010-019	10 μ m filter head mesh (including shelf)
	Connectors	01-07-006-005	1/16" high-pressure connector, high temperature resistance, good performance and reusable
		01-07-007-001	1/16" split joint (flat bottom), good performance and reusable
		01-07-006-001	1/16" PEEK joint (round), good performance
		01-07-006-002	1/16" PEEK joint (flat head), good performance
		01-07-007-002	1/8" split joint (flat bottom), good performance,
	Shoot-through connector	01-07-002-009	Peek at both ends of the 10-31/ female head, suitable for 1/16" pipeline
		01-07-006-016	10-32 (male head) to M6 (female head) through
	Back pressure valve	01-04-009-011	20 psi, recommended for flow rates below 20 mL/min, providing 20 psi back pressure
	Inline filter	02-09-001-003	Suitable for 1/16" pipeline, compatible with other brands of protein purification system
	Inline filter disc	01-05-010-021	Biocompatible filter, a variety of apertures for selection (call for details)
	Check valves	02-04-004-001	One in and one out of the two one-way valve, made of ruby and other materials for SCG030 or SCG100 type pump head
		01-04-009-015	One in and one out of the two one-way valve, made of ruby and other materials for SCG030 or SCG100 type pump self-washing system
	Infusion pump plunger rod	02-06-005-001	40 mL plunger rod for SCG100 pump
		02-06-005-002	21.2 mL plunger rod for SCG030 pump
	Deuterium lamp	01-10-003-001	High performance deuterium lamp for UV detector
	pH electrode	01-04-008-003	pH electrode, accuracy: ± 0.1 , range: 0-14

picture	Consumable Name	Serial Number	Description
	UV flow cells	02-06-002-004	External, the optical path of 2 mm
		01-05-014-009	External, the optical path of 5 mm
	Mixers	03-05-002-004	0.6 mL mixing chamber
		03-05-002-002	2 mL mixing chamber
		03-05-002-003	5 mL mixing chamber
		03-05-002-005	10 mL mixing chamber
	Flow selection valve	01-04-009-010	Dual-channel buffer selection valve subassembly
		02-04-001-004	Eight-channel buffer selection valve subassembly
	Injection valve	02-04-001-004	3-Position/7-port valve, software-controlled injection valve switching, support Load, Inject, Waste function
	Conductivity detector	01-04-008-006	Conductivity detector module, detection accuracy: $\pm 2\%$, range: 0.001-999.99mS / cm
	Collection valve	01-04-009-001	1 Channel for the waste liquid, 5 channels for large samples collection
	Column position valve	01-04-009-023	Support Column and ByPass functions



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