QINGDAO SHINE CHROMATOGRAPH TECHNOLOGY CO., LTD.

Add：No.151 Zhuzhou Road, Laoshan District, Qingdao, China

Tel：+86-532-68069317

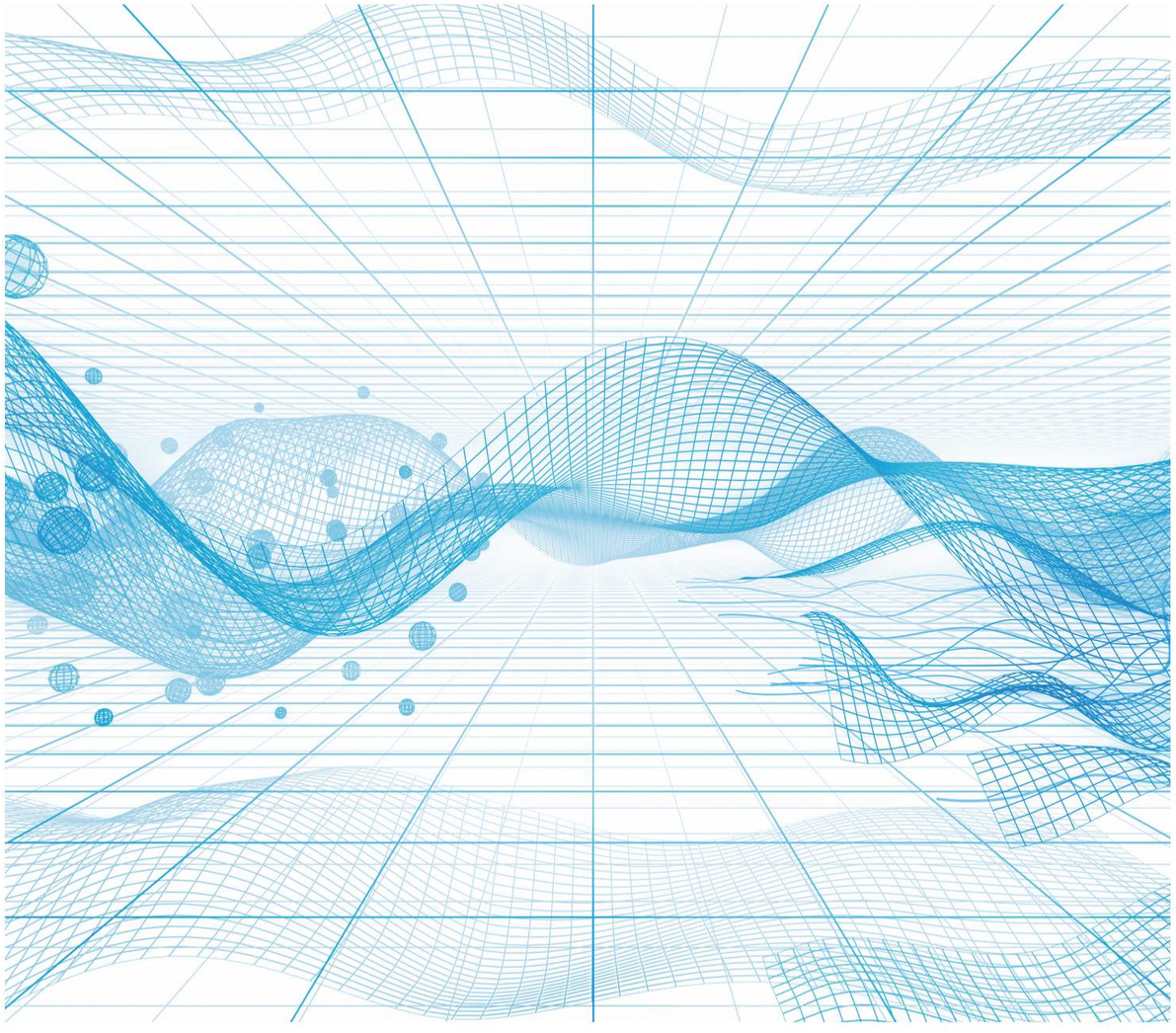
FAX：+86-532-68069838

E-mail：inquiry@quenda.cn

Web:http://en.sheng-han.com

Information in this brochure is for reference only. Sales are not binding. Please consult in detail when ordering.
Any changes are not notified. Edition: EN-202510

SHINE盛瀚



ION CHROMATOGRAPHY CONSUMABLES

ISO 9001

CE

ION CHROMATOGRAPHY COMSUMABLES

SHINE is a technology service company providing ion chromatography technology. Focusing on customers, market-oriented, technology-driven, SHINE commits to providing customers with comprehensive technical services.

At present, SHINE has a comprehensive range of ion chromatography related products, including ion chromatographic column, general components , sample pretreatment equipment and other consumables.The ion chromatographic column has reached the international leading level. SH chromatographic column is one of the two major hydroxide system chromatographic columns in the world.
We provide one-stop service of ion chromatograph to make your work simpler, the operation of ion chromatograph system more reliable and the analysis results more accurate.



07-Anion chromatographic column
13-Cation chromatographic column
15-Suger analysis column

PART 1
ION CHROMATOGRAPHIC COLUMN

16-Conductivity detector
16-Electrochemical detector
16-UV/VIS detector
17-Suppressor

PART 2
DETECTION UNIT

18-Autosampler
19-Injection valve
20-Eluent generator
21-Infusion pump
22-On-line degassing device
22-Post-column derivatization

PART 3
FUNCTIONAL COMPONENTS

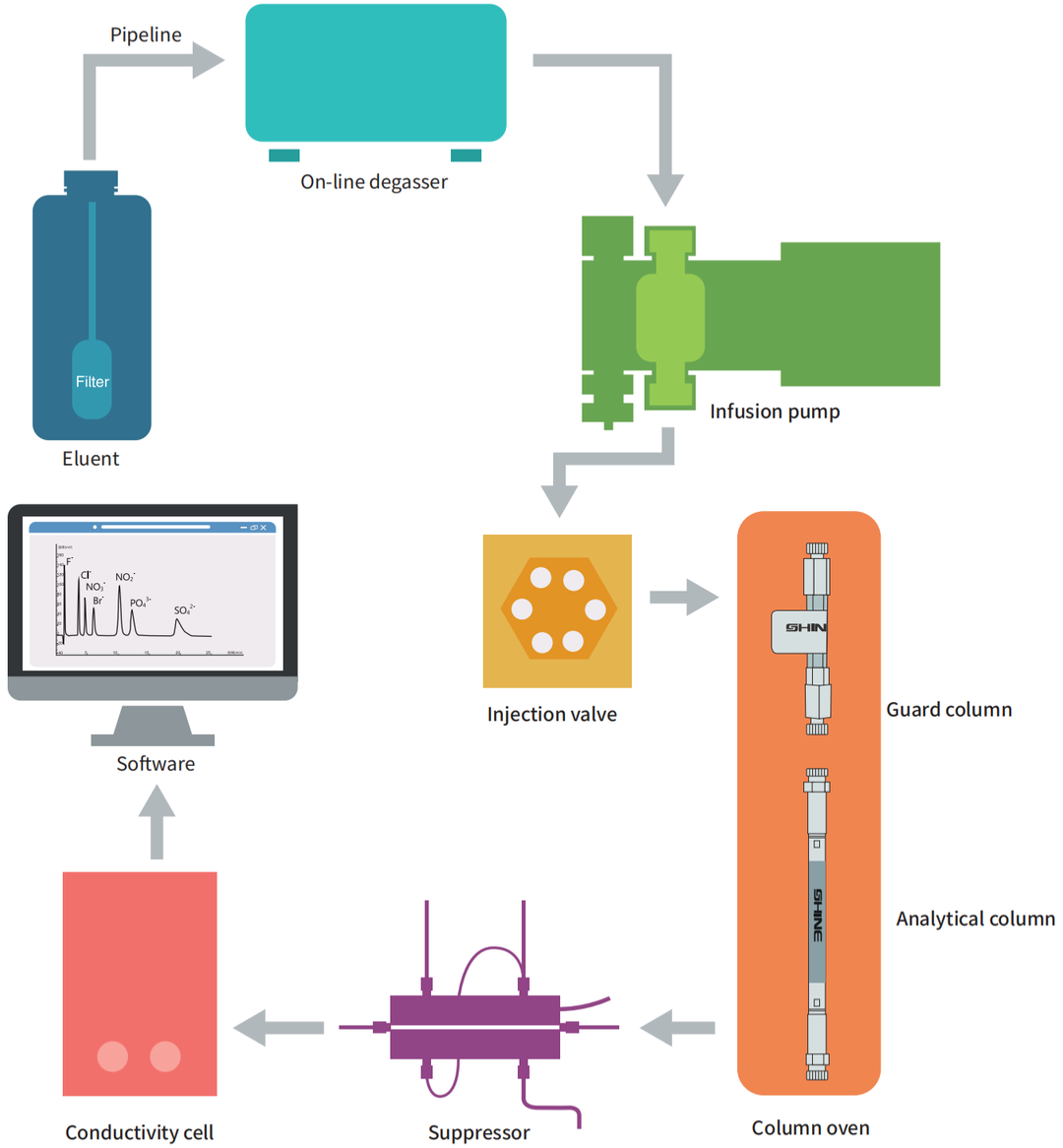
23-SH series OnGuard cartridge
24-External column oven
25-Carbon dioxide removal device
25-Sand core filtration device
25-Ultra-pure ion purifier

PART 4
SAMPLE PRETREATMENT

26-Universal consumables

Part 5
UNIVERSAL CONSUMABLES

You can purchase products through this manual.



THE ONLY COMPANY IN CHINA THAT CAN BE ADOPTED IN MASS-PRODUCE OF ION CHROMATOGRAPHIC COLUMNS

SHINE has been developing ion chromatographic column since 2008. As the only enterprise in China, it can realize mass production of IC column. Professional R&D team and advanced production technology ensure that you can get IC column with good reproducibility and separation effect at any time. At present, the excellent performance of SHINE SH series columns can provide different choices for users' daily detection and method development, and can reduce users' operation and maintenance costs by about 35%.

SHINE is the second company in the world that has successfully developed and mass-produced hydroxide system columns,currently sold in more than 80 countries and regions around the world.

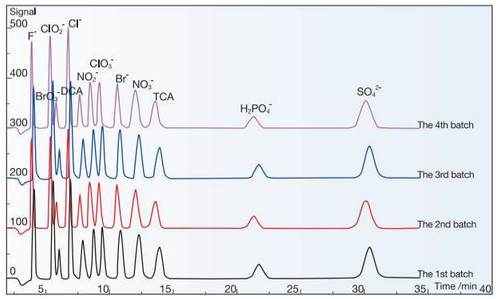
SH series columns using polymer-based spheres as matrix, our company's unique stationary phase bonding technology and polymer-based sphere surface treatment technology. The peak shape, separation, stability and reproducibility of SH series chromatographic columns are excellent.

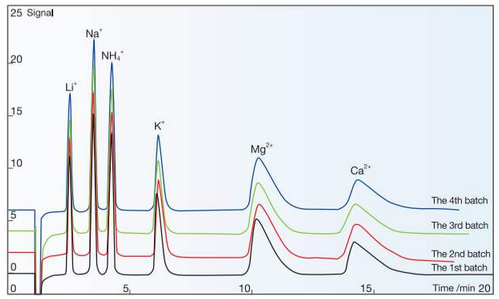
SH SERIES ION CHROMATOGRAPHIC COLUMN

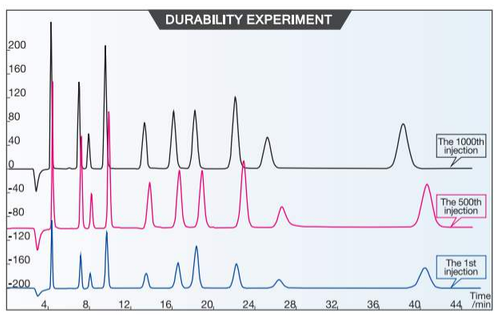
THE MOST UNIVERSAL CHROMATOGRAPHIC COLUMN /

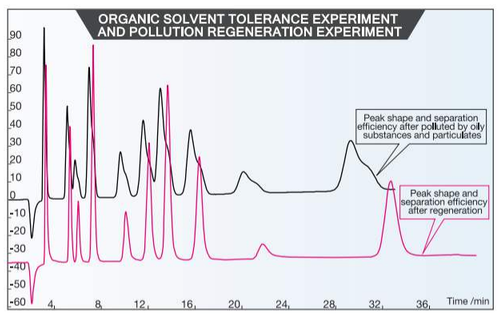
- The first choice for developing or improving IC methods;
- Excellent performance and stable polymer stationary phase;
- Complete batch tracking and reproducibility;
- The only mass-produced IC column in China;
- It has wide applicability and can be widely applied to domestic and imported brand IC.

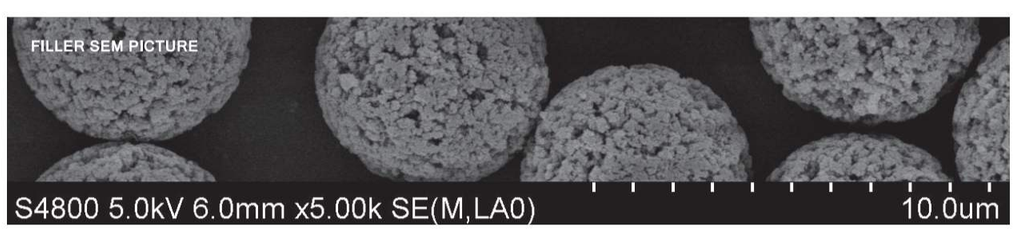
EXCELLENT BATCH REPRODUCIBILITY /













COLUMN DETAILS PICTURE

HARDWARE /

- Very low diffusion hardware;
- Innovative technic of sieve plate.

FILLER /

- High mechanical strength particles;
- Advanced particle Sieving Technology;
- Selectivity between batches remains stable;
- Innovation of porous base ball manufacturing technology to provide super high exchange capacity;
- Unique surface treatment technology for packing.



PRODUCTION TECHNIC /

- The mechanical stability and pressure resistance of the column bed are up to 300 bar;
- Advanced packing technology and equipment for column.



ANION CHROMATOGRAPHIC COLUMN

SH-G-1 COLUMN /4.6*50mm/

> A universal guard column. It can filter the insoluble solid particles in mobile phase and sample, prevent column from being polluted and prolong the life of column.



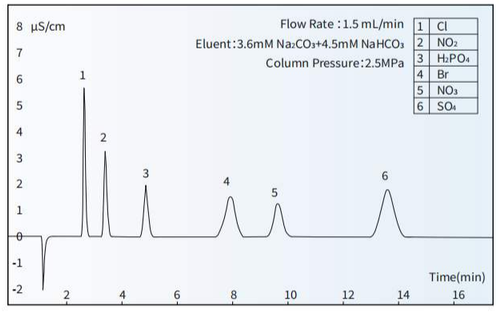
SH-GP-2 COLUMN/4.0*50 mm/

> A universal guard column with PEEK tube .It can filter the insoluble solid particles in mobile phase and sample, prevent column from being polluted and prolong the life of column.



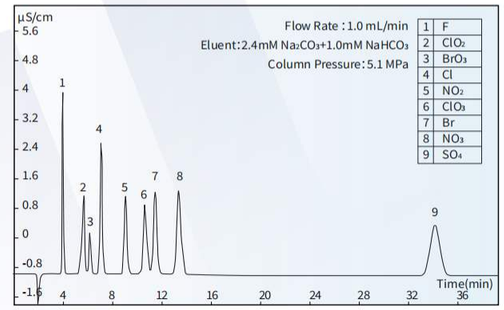
SH-AC-1 COLUMN/ 4.6*250 mm/

> A basic anion column, using carbonate system eluent, can simultaneously analyze 6 kinds of common anions: Cl^-, Br^-, NO_2^-, NO_3^-, $H_2PO_4^-$, SO_4^{2-}. With fast analysis speed and high cost performance, it is suitable for environmental protection, cement and other industries.



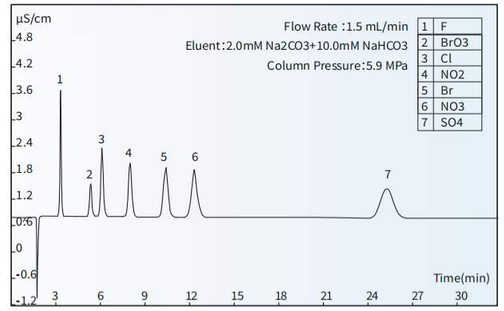
SH-AC-3 COLUMN/ 4.0*250 mm/

> An anion column with high efficiency, using carbonate system eluent. It can simultaneously analyze 7 kinds of common anions (F^-, Cl^-, Br^-, NO_2^-, NO_3^-, $H_2PO_4^-$, SO_4^{2-}), disinfection by-products (BrO_3^-, ClO_2^-, ClO_3^-, dichloroacetic acid DCA, trichloroacetic acid TCA) and other anions, especially for the analysis of halogenates containing oxygen and is suitable for various industries such as disease control, food, environment, metallurgy, geology and so on.



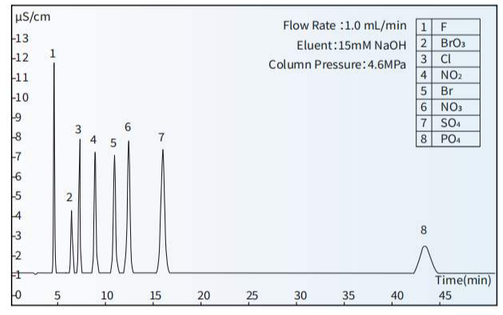
SH-AC-4 COLUMN/ 4.6*250 mm/

> A universal anion column, using carbonate system eluent, can simultaneously analyze F^-, Cl^-, Br^-, NO_2^-, NO_3^-, $H_2PO_4^-$, SO_3^{2-}, SO_4^{2-}, BrO_3^-. With low pressure and fast analysis speed, it is suitable for food, environment, metallurgy, geology and other industries.



SH-AC-11 COLUMN /4.6*250 mm/

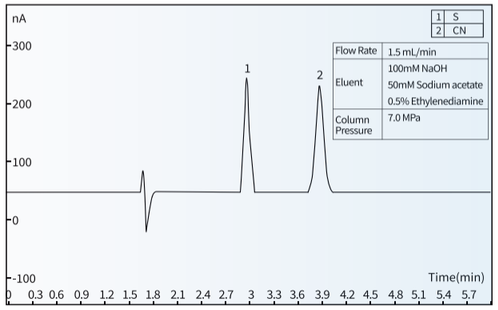
> An anion column with high efficiency, using hydroxide system eluent. It can simultaneously analyze 7 kinds of common anions (F^-, Cl^-, Br^-, NO_2^-, NO_3^-, PO_4^{3-}, SO_4^{2-}), disinfection by-products (BrO_3^-, ClO_2^-, ClO_3^-, dichloroacetic acid DCA, trichloroacetic acid TCA) and other anions. With good peak shape, gradient elution, higher sensitivity and wider application scope, it is suitable for drinking natural mineral water, packaging drinking water, drinking water and other industries.



ANION CHROMATOGRAPHIC COLUMN

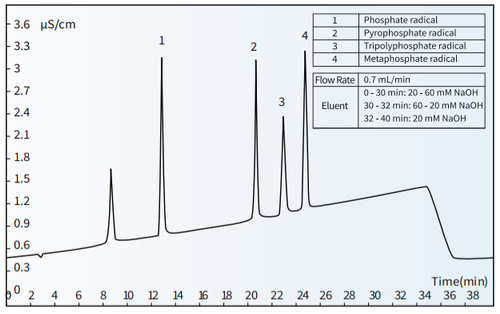
SH-AC-14 COLUMN/4.0*250mm/

> An special anion columns with PEEK tube.It is usually equipped with DC ampere detectors to detect $S^{2-}$and CN^-.



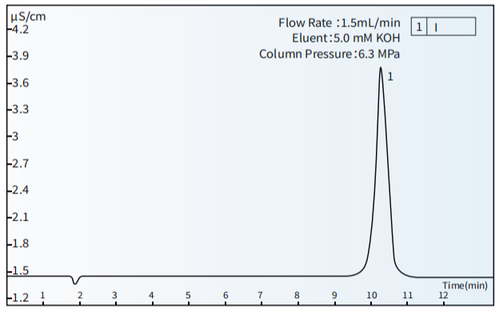
SH-AC-16 COLUMN /4.6*250mm/

> A special anion column for polyphosphates, using hydroxide system eluent, mainly used to analyze polyphosphates in aquatic products.



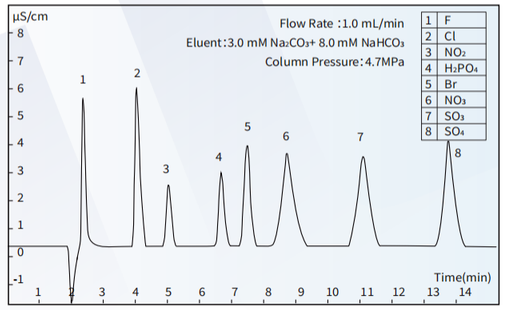
SH-AC-17 COLUMN /4.6*250 mm/

> A special anion column for I^- with conductivity method, using hydroxide system eluent. It is mainly applicable to the analysis of I^-, SCN^- and $S_2O_3^{2-}$ in the environment, solid waste and other industries.



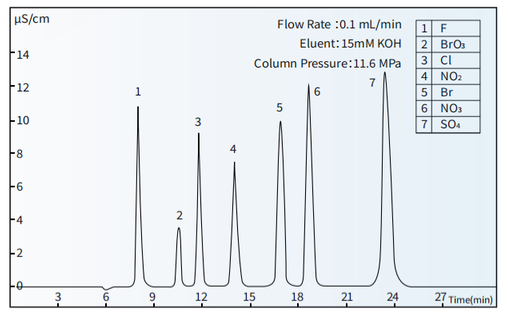
SH-AC-18 COLUMN/4.6*250mm/

> SH-AC-18 carbonate system chromatographic column is mainly suitable for the separation and detection of common anions in environmental protection systems, such as the eight anions required by environmental standards: F^-, Cl^-, NO_2^-, $H_2PO_4^-$, Br^-, NO_3^-, SO_3^{2-}, SO_4^{2-}. Proficient in the analysis of sulfite (SO_3^{2-}).



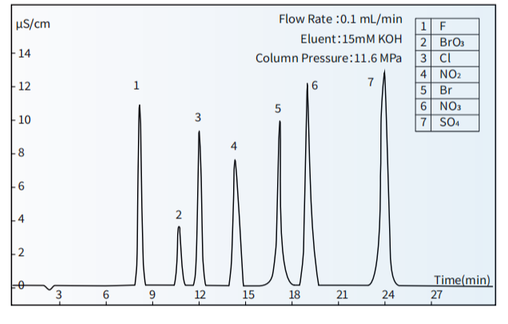
SH-AC-19 COLUMN /2.1*200mm/

> A microbore anion column, using hydroxide system eluent . With fine particle diameter, low flow rate and high signal response value,it can simultaneously analyze 8 kinds of anions: F^-,BrO_3^-,Cl^-,NO_2^-,Br^-,NO_3^-,PO_4^{3-}.



SH-AC-20 COLUMN /2.1*200mm/

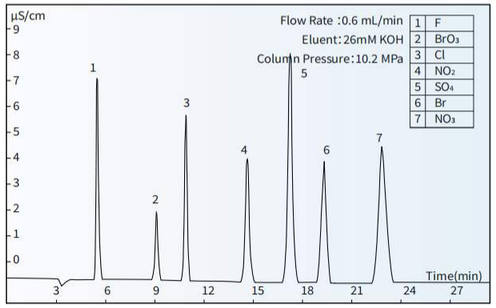
> A microbore anion column, using carbonate system eluent With fine particle diameter, low flow rate and high signal response value,it can simultaneously analyze 8 kinds of anions :F^-,BrO_3^-,Cl^-,NO_2^-,Br^-,NO_3^-, $H_2PO_4^-$,SO_4^{2-}.



ANION CHROMATOGRAPHIC COLUMN

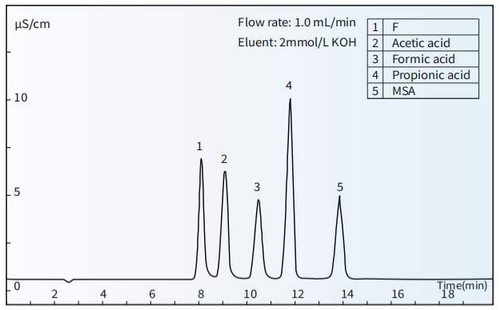
SH-AC-22 COLUMN/4.0*250mm/

> An anion column with large capacity and high resolution,using hydroxide system eluent. It is suitable for high resolution analysis of conventional anions and analysis of disinfection by-products. With the use of the eluent generator, the detection and analysis of fluoride in complex matrix such as fruit juice or tea, the analysis of some weakly retained small molecular organic acids in the complex matrix, and the analysis of nitrite in nitrite injection in the pharmacopoeia can be completed.



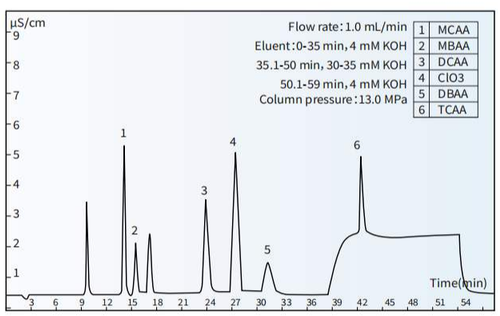
SH-AC-23 COLUMN/4.0*250mm/

> An anion column using hydroxide system ,characterized by large column capacity, high columneffi-ciency, and high resolution of various ions. It can be used for the simultaneous separation of 7 kinds of conventional anions and SO_3^{2-},as well as for the analysis of small molecule organic acids and high concentration sample analysis(Cl^- : NO_2^-concentration can reach 10000:1).



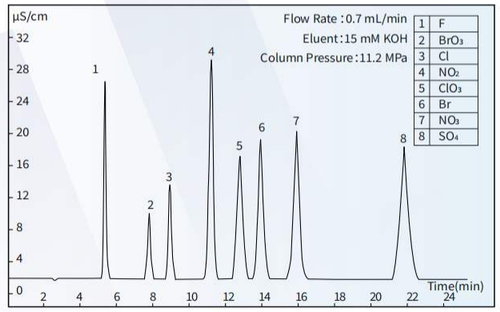
SH-AC-25 COLUMN/4.0*250mm/

> ASH-AC-25 chromatographic column, with excellent performance, can be applied to multiple industries such as drinking water environment and environment. It uses hydroxide leaching solution for gradient analysis, effectively separating small molecule organic acids and conventional anions.



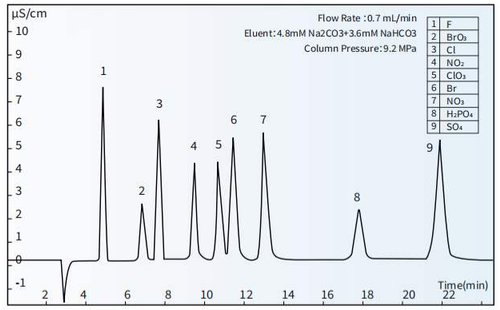
SH-AP-1 COLUMN /4.0*250mm/

> An anion columns with PEEK tube.Using hydroxide system eluent , it can be equipped with eluent generator to analysis 7 kinds of common anions (F^-,Cl^-,NO_2^-,Br^-,NO_3^-,$H_2PO_4^-$,SO_4^{2-}.) and some disinfection by-products.



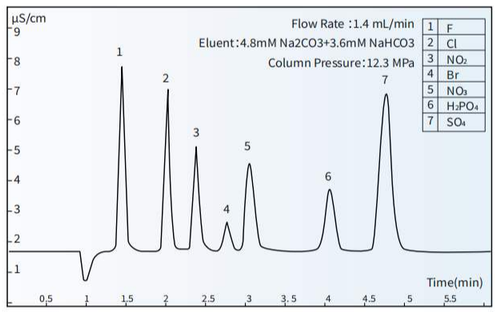
SH-AP-2 COLUMN/4.0*250mm/

> An anion columns with PEEK tube.Using carbonate system eluent , it can analysis 7 common anions: F^-,Cl^-,NO_2^-,Br^-,NO_3^-,$H_2PO_4^-$,SO_4^{2-},and some disinfection by-products.



SH-AP-3 COLUMN/4.0*150mm/

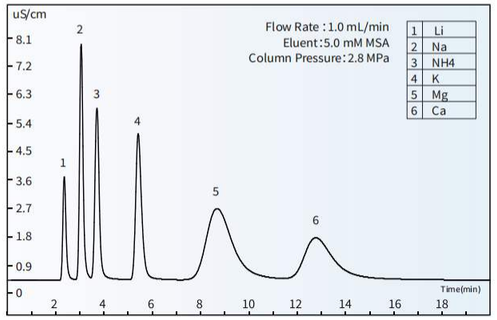
> A rapid anion columns with PEEK tube.Using carbonate system eluent , it can analyze 7 common anions(F^-,Cl^-,NO_2^-,Br^-,NO_3^-,$H_2PO_4^-$,SO_4^{2-}) rapidly.



CATION CHROMATOGRAPHIC COLUMN

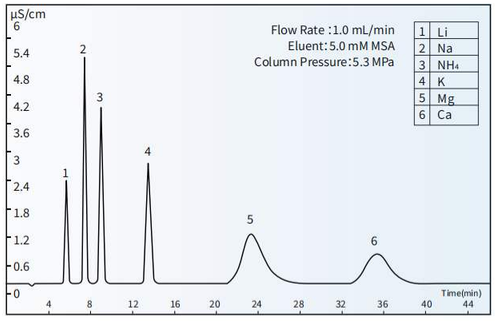
SH-CC-3 Analysis Report /4.6*100mm/

> Customized short chromatographic column for rapid analysis of 6 common cations



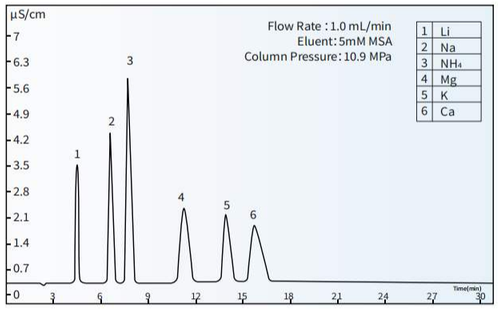
SH-CC-3L COLUMN /4.6*100mm/

> A universal cation column, is mainly used to analyze 6 kinds of common cations (Li^+, Na^+, NH_4^+, K^+, Mg^{2+}, Ca^{2+}). With well separability of Na^+ and NH_4^+ and low tailing factor of Mg^{2+} and Ca^{2+}, it is suitable for environmental, water quality, medical, food and other industries.



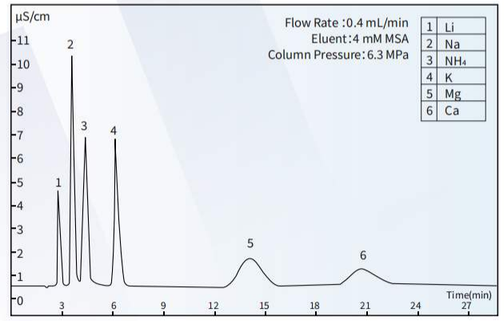
SH-CC-9 COLUMN/4.6*250mm/

> A universal column, which is sensitive to the concentration change of eluent. It can complete the rapid analysis of 6 kinds of common cations and a variety of organic amines. It is also suitable for the analysis of sodium ammonium samples with high concentration difference ratio.



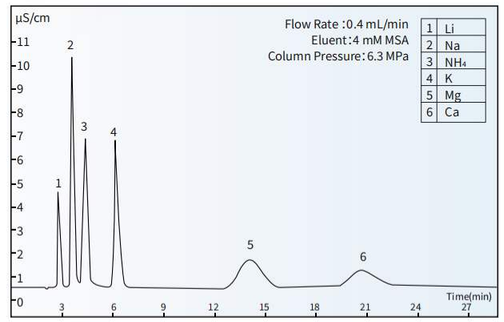
SH-CC-10 COLUMN/2.0*200mm/

> SH-CC-10 type chromatograph column can realize the low concentration detection of conventional cations at low flow rate by non-suppressed or suppressed conductivity method, which saves reagents and has high column efficiency. Six common cations can be analyzed simultaneously by one injection: Li^+, Na^+, $NH4^+$, K^+, Mg^{2+}, Ca^{2+}. Under specific conditions, partial transition metal cations can be directly analyzed by conductivity.



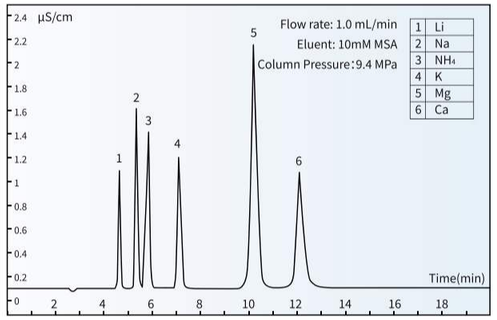
SH-CP-1 COLUMN/4.6*250mm/

> SH-CP-1 chromatograph column can be used for conventional cation analysis using either non-suppressed or suppressed conductivity methods, can simultaneously analyze 6 common cations: Li^+, Na^+, $NH4^+$, K^+, Mg^{2+}, Ca^{2+}, Under specific conditions, direct conductivity analysis of some transition metal cations.



SH-CP-2 COLUMN/4.6*250mm/

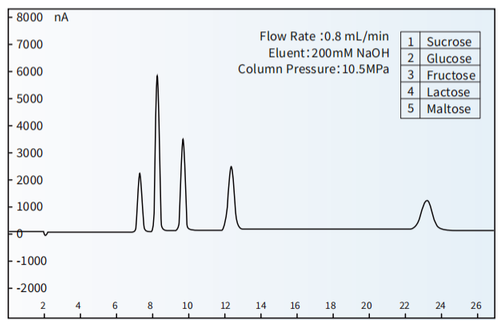
> SH-CP-2 chromatograph column characterized by high capacity, fast analysis, and good peak shape, can simultaneously analyze 6 common cations: Li^+, Na^+, $NH4^+$, K^+, Mg^{2+}, Ca^{2+}, Under specific conditions, direct conductivity analysis of some transition metal cations.



SUGER ANALYSIS COLUMN

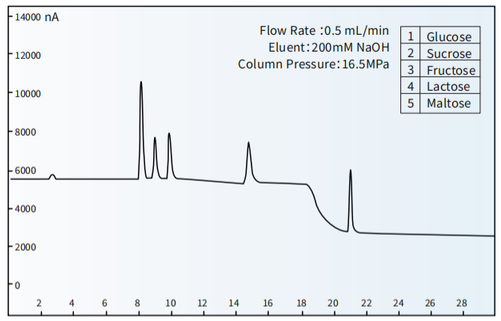
SH-CAC-1 COLUMN/4.0*250mm/

SH-CAC-1 type column coupled with a pulse electro-chemical detector can be used for the separation of monosaccharides and disaccharides. Suitable to the food safety industry "determination of fructose, glucose, sucrose, maltose, lactose in food".



SH-CAC-2 COLUMN/4.0*250mm/

SH-CAC-2 type column coupled with a pulse electro-chemical detector can be used for the separation of monosaccharides and disaccharides.



CONDUCTIVITY DETECTOR

The conductivity detector continuously detects the conductivity of the eluate by loading voltage on the two electrodes in solution. The patented design of constant temperature conductivity detector can reduce the influence of temperature change, shield electromagnetic interference, increase signal response, and reduce baseline fluctuation and drift. The communication connection is carried out through COM port which is convenient for disassembly.



Model	Detection Range	Detection Resolution	Constant Temperature Range	Channel
SHCD-3	0-50000μs/cm	0.0020ns/cm	Ambient Temperature +5℃～60℃	Single/Dual

ELECTROCHEMICAL DETECTOR

The electrochemical detector detects the change of current caused by the redox reaction of the substance to be measured on the electrode surface. It is often used to analyse ions with low dissociation, which are difficult to detect with conductivity detectors and have electrical activity .

- With DC ,PULSE and SCAN mode to meet the needs of different samples
- Full plastic flow path to reduce ion pollution
- High sensitivity, very low detection limit



Model	Working electrodes	Signal range	Set potential	Number of potentials	Setting precision	Reference electrode type
SHE-6	Gold, Silver	10nA - 200μA	-2 to 2V	5	0.01V	Palladium

UV-VIS DETECTOR

The UV-Vis detector adopts high-speed signal processing technology, has high sampling rate and excellent resolution, advanced optical path design, multi-color filter and grating, and the test wavelength is more stable, ensuring a better linear range. The wavelength is easy to disassemble, clean and maintain the flow cell, effectively extending the service life of the detector.

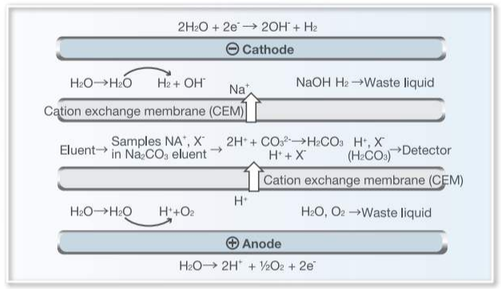


Model	Wavelength Range	Drift	Noise	Wavelength Repeatability	Wavelength Indicated Error
SHUV-10	190 nm -740 nm	1×10-4AU/HR	±0.5×10-5AU	0.2 nm	±1 nm

SUPPRESSOR

PRINCIPLE /

> Suppressor produces H^+ and OH^- through electrolysis of water at the electrode, and under the combined action of electric field and ion exchange membrane,it can realize the directional migration and exchange of ions. It reduces the background conductance, improves the sensitivity of ions to be measured, and makes the "counter ion" in the sample enter the waste liquid.



Principle diagram of anion suppressor

SELF-REGENERATING ELECTROLYTIC MICRO-MEMBRANE SUPPRESSOR /

> With advanced continuous regenerative membrane electric suppression technology, it doesn't need add acid or alkali to regenerate;
> High suppression capacity, low background conductance, low noise, stable baseline and maintenance free;
> Anti pollution, high pressure resistance and long life;
> It is suitable for microbore and low flow column, with small dead volume;
> It can match various types of ion chromatography products;
> The signal line is connected by aeronautical connector, which is convenient for disassembly and assembly.



Model	Type	Current	Eluent	Pressure Resistance	PH Range	Dead Volume
SHY-A-7	Anion	0-300mA	CO_3^{2-} /HCO_3^- /OH^-	6MPa	0-14	< 40μL
SHY-C-series	Cation	0-300mA	MSA	6MPa	0-14	< 40μL
SHY-A-6S	Anion	0-300mA	CO_3^{2-} /HCO_3^- /OH^-	4MPa	0-14	< 30μL
SHY-C-6S	Cation	0-300mA	MSA	4MPa	0-14	< 30μL

CHEMICAL SUPPRESSOR /

> Superior suppression efficiency
> Outstanding chemical compatibility
> Long service life & low maintenance
> Fast equilibration & stable performance

Model	Void Volume	Maximum Pressure
SHZY-1	<100μL	5 Mpa



AUTOSAMPLER

> With the continuous development of ion chromatography, its application field is expanding, and the number of samples to be tested is also increasing rapidly. Ion chromatograph with autosampler can realize sampling automation without manual duty, greatly improve work efficiency, and greatly avoid the interference of human errors on the results.

DISC AUTOSAMPLER /

> Disc autosampler is very simple to operate. The sample tray uses open design to be directly observed .The large-capacity sample tube can be cleaned sufficiently ,which improves the analysis accuracy.



Model	Sample Tray Style	Sample Number	Maximum Injection volume	Sampling Method	Injection Reproducibility
SHA-9D	Disc	13mL*96	1000μL	Full loop	RSD<0.25%

THREE DIMENSIONAL AUTOSAMPLER /

> The SHA-18i autosampler has three injection modes and three different sample tray specifications to choose from. It features liquid leakage detection, cleaning liquid level monitoring, and needle on and collision protection functions.



Model	Vials	Injection Volume	Injection Accuracy	Sampling Method	Sample Residue
SHA-18i	2ml*120 5mL*48(Optional) 10mL*30(Optional)	1uL-1000uL	± 1%	Full loop Partial Micro injection	0.01%

INJECTION VALVE

> The injection valve is the most ideal sampler for IC and HPLC. It is composed of a circular sealing pad (rotor) and a fixed base (stator). It has the characteristics of simple structure, convenient to use, long service life and no maintenance in daily life.

MANUAL SIX-WAY INJECTION VALVE /

> SHMV-P6-1 manual six-way injection valve is a universal injection valve which is widely used in IC and LC. Cutting valve continuous flow design is adopted to avoid the impact of instantaneous pressure on the system. With excellent performance and long life, it can ensure continuous injection of 30,000 times.



Model	Valve Switching Mode	Maximum Pressure	Outer Diameter of Tube	Rotor Sealing Material	Contact Material of Medium
SHMV-P6-1	Manual	35MPa	φ1/16”	peek /ceramic /stainless steel	peek

ELECTROMAGNETIC SIX-WAY INJECTION VALVE

> SH series injection valve is an electromagnetic injection valve independently developed by SHINE. It uses a stepping motor to control the valve position switch. It has good sealing performance, compact structure, excellent performance, and can be realized automatically and manually. Strong acid and alkali organic solvents have good resistance, ensuring 100000 cycle life.



Model	Valve Switching Mode	Maximum Pressure	Outer Diameter of Tube	Valve Head material	Tolerance	Drive Power Supply
SHEV-P6-1	Stepping motor	30MPa	φ1/16	PEEK	PH 1-14	24V DC
SHEV-S6-1	Stepping motor	42MPa	φ1/16	Stainless steel	Organic solvents	24V DC

ELUENT GENERATOR

> Eliminates manual eluent preparation, saving time and reducing human errors.
> Provides a continuous, stable supply of high-purity eluent, ensuring consistent chromatographic results.
> Minimizes eluent waste and storage needs, promoting more environmentally friendly and cost-effective operation.
> Enables easy adjustment of eluent concentration, gradient elution can be performed.
> Reduce the maintenance cost of infusion pumps.



ELUENT GENERATOR CARTRIDGE /

> The eluent generator cartridge is the replacement consumable of the eluent generator. The eluent is replaced with the electrode to prevent leakage. It is connected by aeronautical connector and peek connector, which is convenient for disassembly and assembly.



TRAP COLUMN /

> The Trap column can continuously remove the ionic contaminants in the eluent, thus achieving low drift during gradient operation.



INFUSION PUMP

HIGH PRESSURE INFUSION PUMP (PEEK) /

The high-performance pump independently developed by SHINE company has a flow path made of all plastic material and coated with stainless steel. Despite the increased pressure resistance, it still has the function of acid and alkali corrosion resistance. It adopts a new design to increase the maximum flow rate and reduce pressure pulsation.



Model	Material	Flow Range	Pressure Range	Flow Velocity Reproducibility	Transfusion Structure	Pipeline Specification	System Protection	Power Supply
SH-120	PEEK	0.001-12mL/min	0-42Mpa	<0.1%	Dual-piston tandem	1/16”	Maximum pressure setting protection	24V DC

QUATERNARY GRADIENT PUMP

- Equipped with a four channel vacuum degasser.
- Containing proportional valve and mixer.
- Instrument stability is maintained through a larger base area and a lower center of gravity.
- The leak tray at the front side collects the leaking liquid and protects the parts from damage.
- Have LED status indicator lamp. The user can directly see whether the pump, works properly or whether an error occurs.



Mode	Flow Range	Max. Pressure	Flow Rate Increment	Gradient accuracy	Gradient repeatability
SHP-10	0.01-9.99mL/min	42Mpa	0.01	±1%	≤0.5%

ON-LINE DEGASSING DEVICE

The bubbles are formed by dissolving or mixing air in the mobile phase solution, and noise peaks appear on the chromatogram when the bubbles enter the detector. When the bubbles enter the flow path or column, the flow velocity of the mobile phase becomes slower and unstable, resulting in fluctuation of the baseline. In the on-line degassing device, there is a transfusion tube made of porous synthetic resin film, which has a vacuum container outside. When the mobile phase passes through the transfusion tube, oxygen, nitrogen, carbon dioxide and so on will be removed from the inside of the membrane into the outside.



Model degassing	Vacuum Pressure	Maximum Flow	Internal Volume	Pressure Resistance of Degassing Channel
SHT-5	＜-85kPa	10mL/min	570μL	70PSI

POST-COLUMN DERIVATIZATION

Connected with HPLC and equipped with derivative reagent, it can detect glyphosate, aminomethylphosphonic acid, paraquat, amino acids, biological polyamines, streptomycin, carbamate insecticides, amino sugar antibiotics, aflatoxin, polyether antibiotics, formaldehyde, cholesterol and other samples.



Model	Maximum Pressure	Flow Range	Flow stability	Temperature Control Range	Protection Temperature	Cooling temperature	Mix Volume
SH-PCD-3	42 Mp	0.001-9.999 mL /min	≤ 1%	Room temperature + 5-200 ℃	230 ℃	4-40 ℃	0.1-2mL

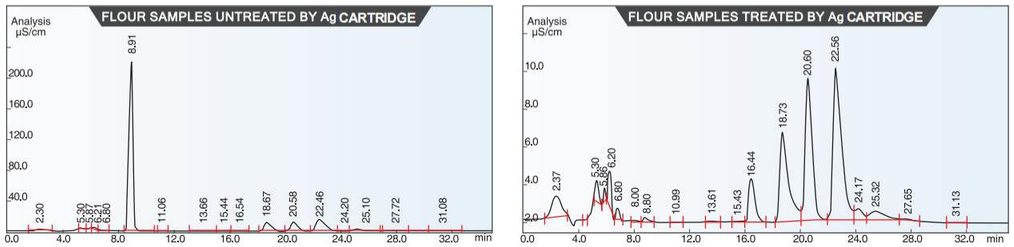
SH SERIES ONGUARD CARTRIDGE

WHY SHOULD SAMPLES BE PRETREATED?

> In the process of analysis, the impurity interference, organic matter or metal ions in the sample will pollute the packings of column, reduce the separation ability and service life of the column, and the impurity ions will interfere with the separation of ions. So the OnGuard cartridge should be used. It can effectively remove the organic matter and impurity ions in the sample, avoid the contamination of impurities on the column and the influence on the separation effect, effectively prolong the service life of the column and improve the separation effect of the sample.



COMPARISON OF FLOUR SAMPLES BEFORE AND AFTER TREATED BY SH-Ag CARTRIDGE:



ORDERING INFORMATION/

Name	Specifications	Impurity Removal Mechanism	Application
SH IC-C18	1cc/2.5cc	Inverse adsorption mechanism	Remove hydrophobic compounds, which is not applicable to sample with too high or too low pH values
SH IC-RP	1cc/2.5cc	Inverse adsorption mechanism	Remove hydrophobic compounds, especially unsaturated compounds and aromatic compounds, which is applicable to sample with pH values ranging from 0 to 14.0
SH IC-P	1cc/2.5cc	Inverse adsorption mechanism	It has same function as RP and good selectivity for polar substances.
SH IC-H	1cc/2.5cc	Ion exchange	Remove alkali earth metal ions, transitional metal ions, and carbonate ions, and neutralize the strongly alkalinity of sample
SH IC-Na	1cc/2.5cc	Ion exchange	Remove alkali earth metal ions and transitional metal ions in sample
SH IC-Ag	1cc/2.5cc	Ion exchange	Remove Cl^-, Br^-, I^-, AsO_4^{3-}, CrO_4^{2-}, CN^-, MoO_4^{2-}, PO_4^{3-}, SeO_3^{2-}, SO_3^{2-}, $SeCN^-$, S^{2-}, SCN^-, WO_4^{2-} etc.
SH IC-Ba	1cc/2.5cc	Ion exchange	Remove SO_4^{2-}.If the anion concentration of the sample is low, it needs to be activated with Cl^- solution, and the pH value is stable at 1-14.
SH IC-HCO_3	1cc/2.5cc	Ion exchange	Remove anionic pollutants and neutralize strong acidity of sample
SH IC-Ag/H	2.5cc	Ion exchange	Function equivalent to series use of Ag and H columns
SH IC-Ag/Na	2.5cc	Ion exchange	Function equivalent to series use of Ag and Na columns
SH IC-Ba/H	2.5cc	Ion exchange	Function equivalent to series use of Ba and H columns
SH IC-M	1cc/2.5cc	Chelating mechanism	Remove alkali earth metal ions, alkali and transitional metal ions

OXYGEN BOMB COMBUSTION SAMPLE PROCESSING DEVICE

Oxygen bomb combustion sample processing device is a pretreatment device for the analysis of non-metallic elements in organic samples. The samples are burned in a airtight pure oxygen system. The components to be measured are released from the sample and absorbed by the absorbent liquid placed in the oxygen bottle. Then the absorbent liquid can be analyzed by IC. It is widely used in quantitative analysis of harmful halogen elements in electrical plastics products and circuit boards.



> Quantitative decomposition of halogen, S and volatile metals such as Hg, As and Cd;
> It can absorb flammable samples in liquid medium;
> Pressure vesse made of high grade special stainless steel.

Model	Withstand Pressure	Oxygen Bomb Airtight	Weight	Ignition Power Supply
YCY-4	20MPa	3.5MPa	2kg	0-3V AC safety voltage

EXTERNAL COLUMN OVEN



> The SHH-20 is an external column thermostat controlled by ShineLab software. It has four valves that can be optionally installed and can be made of PEEK or stainless steel material. It can do switch valves to complete multidimensional chromatographic analysis and is suitable for HPLC and IC. If choose SHINE column with chip, it can be used for column monitoring. It has heating and cooling functions and adopts a double door design to maintain column temperature stability.

Model	Temperature range	Precision	Six-way valve	Control
SHH-20	5℃ to 85℃	±0.3℃	1-4 (Optional)	ShineLab software

CARBON DIOXIDE REMOVAL DEVICE

> The carbon dioxide removal device is installed between the suppressor and conductivity detector. Carbonates from the sample in the hydroxide system can interfere with the analysis of anions, such as sulfates. Under these conditions, using a carbon dioxide removal device to minimize carbonates can improve the integration and quantification of target anion peaks .

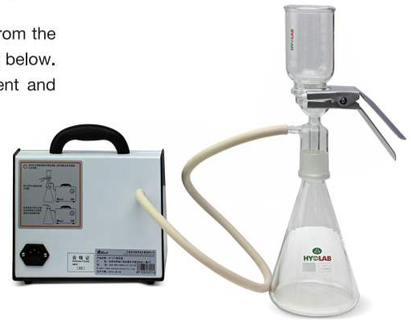


Model	Flow Range	Dead Volume	Pressure	Carbonate Removal Rate
SH-CRD-1	0.01-200mL/min	≤ 200uL	≤ 1MPa	>80%

SAND CORE FILTRATION DEVICE

Under the action of the vacuum pump, the sample is treated by flowing from the above glass through the sand core filter membrane into the conical bottle below. This is the ideal choice for vacuum filtration and degassing of IC solvent and mobile phase.

> The sand core filter is made of 100% borosilicate glass, which can resist the corrosive solvent;
> It can filter out solid particles and bacteria in the sample;



Material	Filter Cup Volume	Conical Bottle Capacity	Membrane	Vacuum Pressure
Borosilicate glass	250mL	1L	0.22μm/0.45μm	≥80kPa

ULTRA-PURE ION PURIFIER

> In the exchange layer of ultra-pure ion purifier, the dielectric ions in the water undergo directional movement under the action of a DC electric field, and the water is purified by the selective permeation of exchange membrane. Not only can the unqualified UP water prepared by reverse osmosis (RO water) and water purification machine (the ion content exceeds the standard) be further purified to meet the requirements of ion chromatography , but also the UP Water prepared by the water purification machine can be further purified to meet the detection requirements of ultra-trace ions in the semiconductor, nuclear power, and thermal power fields.



Model	Electric Current	Current	Inflow Resistivity
SHDI-10	Max 2mL/min	0-20mA	＞15MΩ*cm



Filter membrane



High pressure eluent bottle



Centrifuge



Sample vial



SPE cartridges



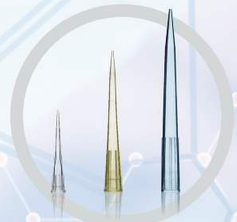
QuEChERS kits



Centrifuge tube



Sample storage bottle



Pipette tip



Injection needle



Pipette



Solid phase micro-extraction