BIOVANIX

PRODUCT BROCHURE

Professional Solutions For Your Laboratory's Needs

From Chromatography Expertise to Integrated Solutions

Based in the scenic and economically vibrant city of Wuxi, Jiangsu Province, **Biovanix Technology Co., Ltd.** is a high-tech enterprise dedicated to the biotechnology and chemical analysis sectors. Initially established on a foundation of expertise in **Liquid Chromatography (LC) products**—including high-quality LC columns, chromatographic packing materials, and various LC consumables—our business scope has undergone a strategic and professional expansion.

We have successfully leveraged the deep technical acumen and industry experience of our original core team to transition into providing **integrated analytical and synthesis solutions**.

Core Expertise & Strategic Expansion

Our expansion is a direct reflection of our team's specialized knowledge and commitment to addressing the evolving needs of the pharmaceutical and chemical industries.

1. **Compound/Pharmaceutical Synthesis Equipment:** Supplying advanced equipment necessary for the efficient and scalable synthesis of various compounds and pharmaceutical intermediates.
2. **Automated Sample Preparation Systems:** Introducing high-throughput automation to critical laboratory workflows, ensuring precision, reproducibility, and efficiency in sample handling.
3. **Automated Filtration Systems:** Providing specialized systems to streamline processes, particularly in high-volume production or critical quality control environments.
4. **Liquid Chromatography (LC) Solutions:** Maintaining and advancing our legacy in providing premium LC columns, packing materials, and consumables, which remain the foundation of our analytical support.

Professional Team & Unique Value Proposition

Biovanix team is composed of industry veterans and technical elites whose profound professional knowledge and extensive experience underpin this strategic expansion. Our ability to seamlessly integrate the supply of core analytical tools (LC products) with complex operational equipment (Synthesis, Automated Sample Prep, and Filtration) distinguishes us in the market.

We are not merely a supplier; we are a specialized technical partner. Our team's in-depth understanding of the entire workflow—from synthesis and purification to quality control and final analysis—enables us to deliver comprehensive, high-quality solutions that transition seamlessly from the **research bench to the production line**.

Adhering to the business philosophy of "Quality First, Customer Supreme," Biovanix Technology Co., Ltd. is committed to becoming a leader in providing **integrated solutions** that enhance experimental efficiency, optimize product quality, and ensure the accuracy and reliability of results for our global clientele.

Product List

Prepacked HPLC Columns & Resins & Packer & Consumables

Bio-Separation & Media

Hardware & Components

Intelligent Systems & Equipment

Prepacked HPLC Column

Biovanix prepacked columns are versatile HPLC columns based on the silica-gel for reversed-phase/normal phase chromatography. Biovanix columns are made of spherical silica-gel particles which has low metal-ion content (<20 ppm) in total, high specific surface area and high mechanical strength. With unique chemical bonding technique, our products have excellent stability and reproducibility. They can meet the highest requirements for analysis and preparative applications.

Advantages

- Low silanol activity
- Uniform ligand binding
- Low metal content
- Narrow particle size
- Excellent stability

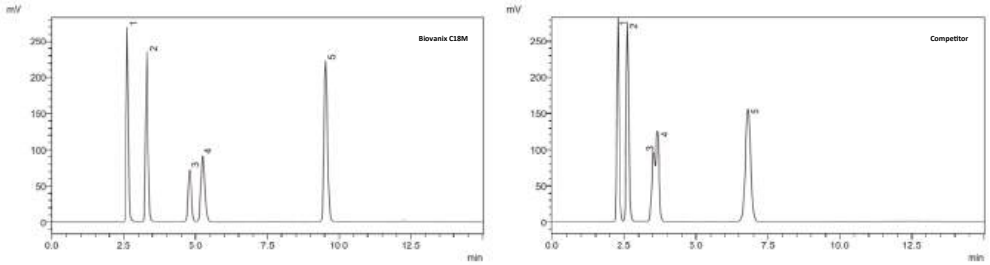
Products	Particle Size	Pore Size	Surface Area	Carbon Content	pH Range
C18	3/5/10 um	100Å	300m^2/g	16%	2-8
C18H	5/10 um	100Å	300m^2/g	18%	2-8
C18 AQ	5/10 um	100Å	300m^2/g	13%	2-8
C8	3/5/10 um	100Å	300m^2/g	12%	2-8
C4-300	5/10um	300Å	100m^2/g	3%	2-8
C8-300	5/10um	300Å	100m^2/g	5%	2-8
C18-300	5/10 um	300Å	100m^2/g	8%	2-8
Phenyl	3/5/10 um	100Å	300m^2/g	8%	2-8
SiO2	3/5/10 um	100Å	300m^2/g	-	2-8
NH_2	3/5/10 um	100Å	300m^2/g	4%	2-8
Amide	5/10 um	100Å	300m^2/g	4%	2-8
CN	3/5/10 um	100Å	300m^2/g	7%	2-8
Diol	5/10 um	100Å	300m^2/g	8%	2-8

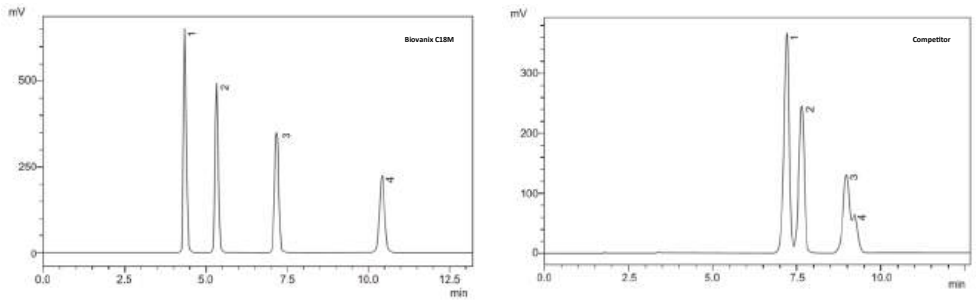
C18 Column

Parameters

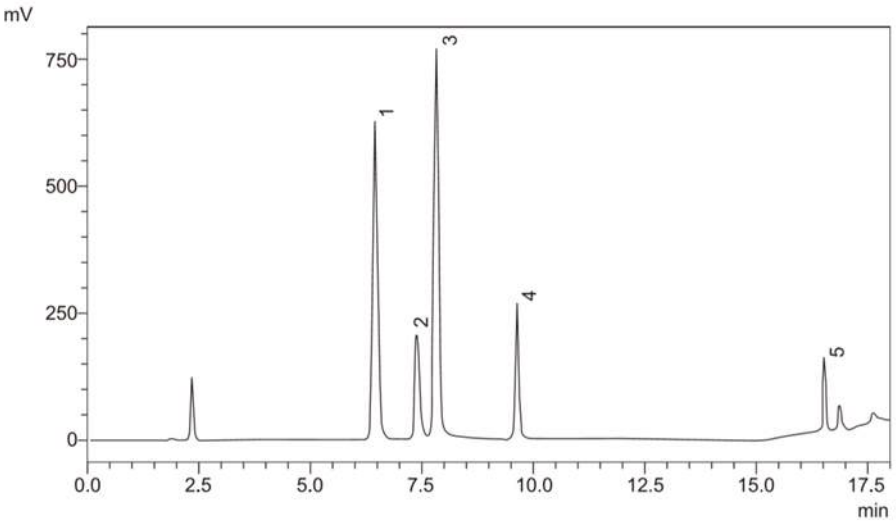
Particle Size	Pore Size	Surface Area	Carbon Content	pH Range
3/5/10um	100Å	300m²/g	16%	2-8

Application





Paraben
Column: C18 5μm
4.6×150mm
Competitor ODS 5μm
4.6×150mm
Mobile Phase: Water / methyl alcohol
Flow Rate: 1ml/min
Wavelength: 254nm
Temp.: 25℃
1 Methyl ester; 2 Ethyl ester;
3 Propyl ester; 4 Butyl ester



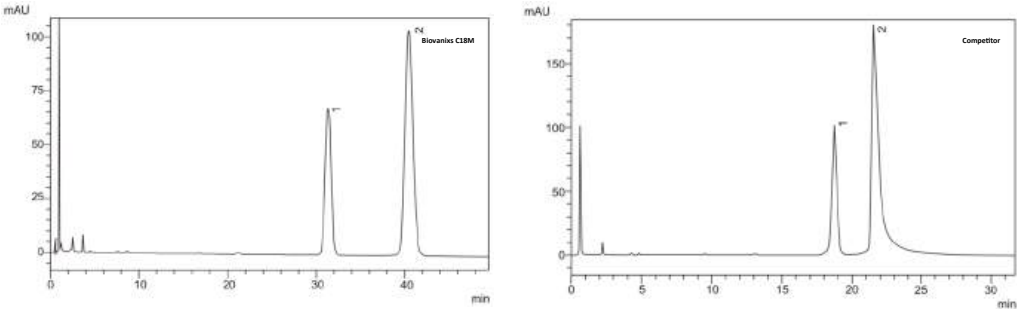
Water-soluble multivitamin
Column: C18 5μm
4.6×150mm
Mobile Phase:
phosphoric acid buffer / acetonitrile
Flow Rate: 1ml/min
Wavelength: 210nm
Temp.: 25℃
1 Pyridoxine;
2 VB1;
3 Nicotinamide;
4 Folic acid;
5 VB2

C18H Column

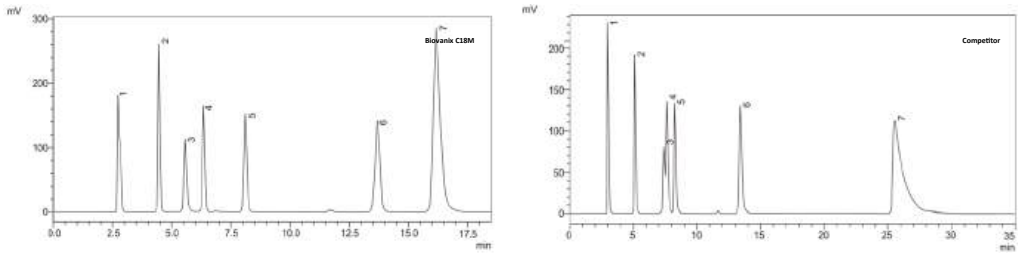
Parameters

Particle Size	Pore Size	Surface Area	Carbon Content	pH Range
5/10um	100Å	330m²/g	18%	2-8

Application



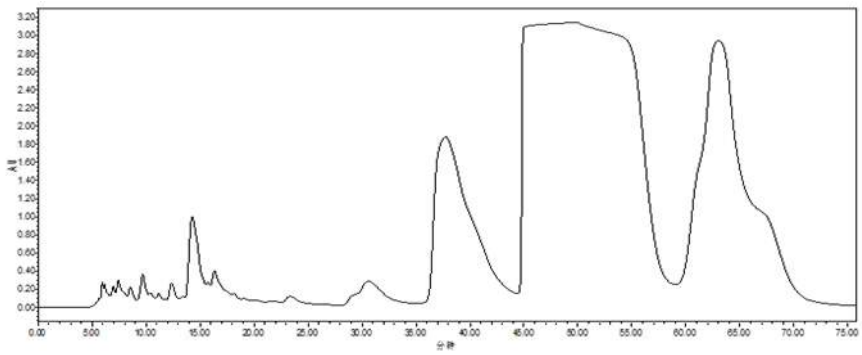
Ibuprofen/Benzene ketone
Column: C18H 5μm 4.6×150mm
Competitor 5μm 4.6×150mm
Mobile Phase:
phosphoric acid buffer / acetonitrile
Flow Rate: 2ml/min
Wavelength: 214nm
Temp.: 30℃



Polar/Nonpolar/ Neutral/Alkali Compounds
Column: C18H 5μm 4.6×250mm
Competitor 5μm 4.6×250mm
Mobile Phase:
phosphoric acid buffer / methyl alcohol
Flow Rate: 1ml/min
Wavelength: 254nm
Temp.: 30℃

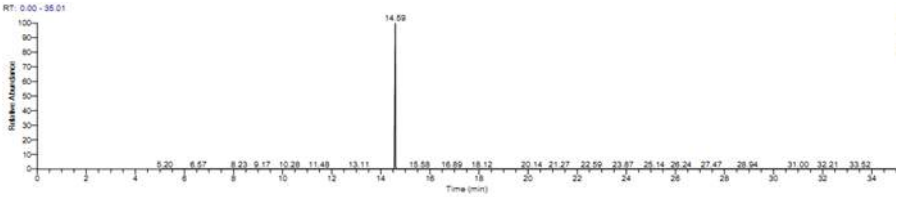
1 Uracil; 2 Butyl p-hydroxybenzoate;
3 Propranolol;
4 Di-propyl ortho-phthalate;
5 Naphthalene; 6 Acenaphthene;
7 Amitriptyline

The purification of EPA in fish oil



EPA in fish oil
Column: C18H 8μm
20×250mm
Sample: 90% EPA material

Finished sample
Purification: 99.7%

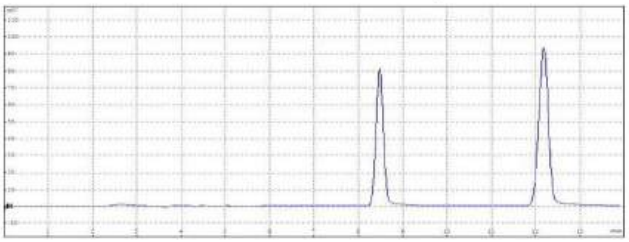


Peptides Purification Test

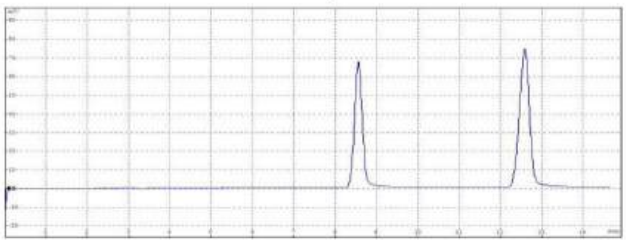
Biovanix C18H and word-leading competitive product in a peptides purification study. The results show that the Biovanix C18H is similar to the competitive product.

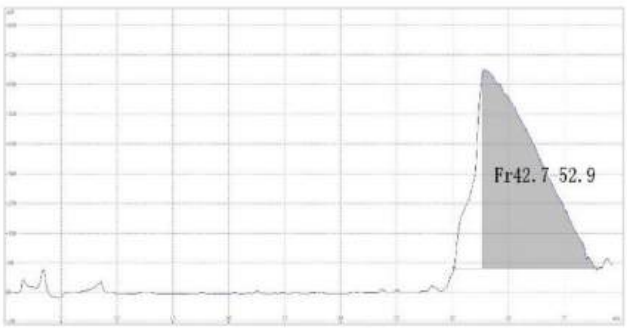
		Biovanix C18	Competitor
Performance	Column Height (cm)	21.3	21.1
	Column Efficiency (TP)	70457	56935
Peptides	Injection Sample (g)	2.5	2.5
	Recovery (%)	89.3	90.0
	Purity(%)	95.5	95.5
	Freeze-dried product (g)	1.1302	1.1317

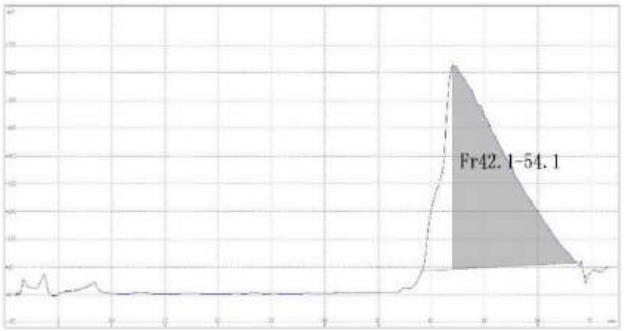
BV C18 10um

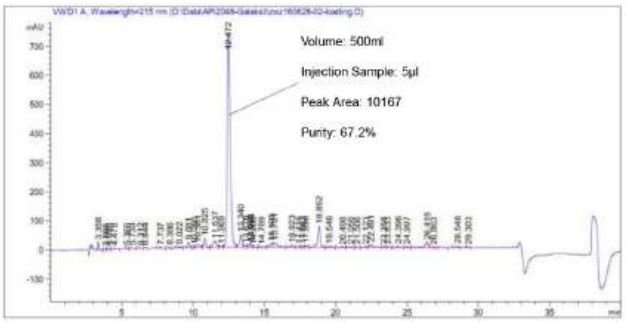


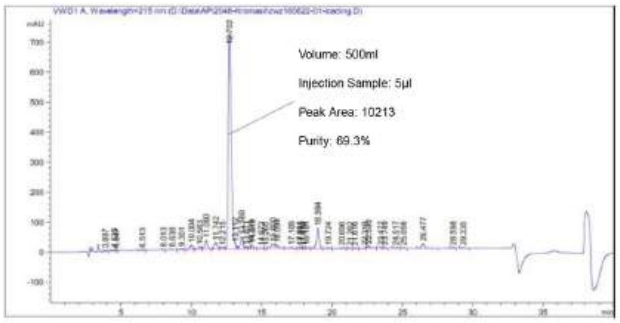
Competitor

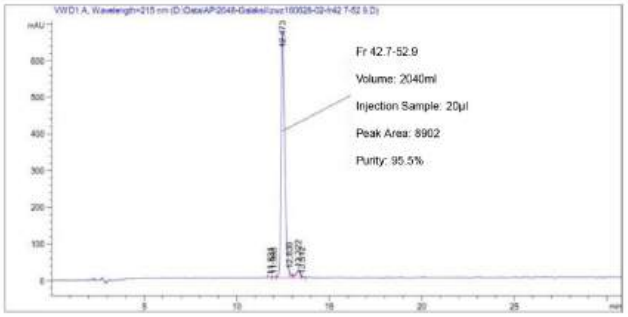


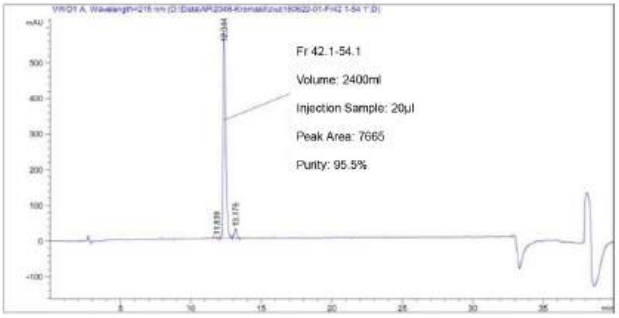








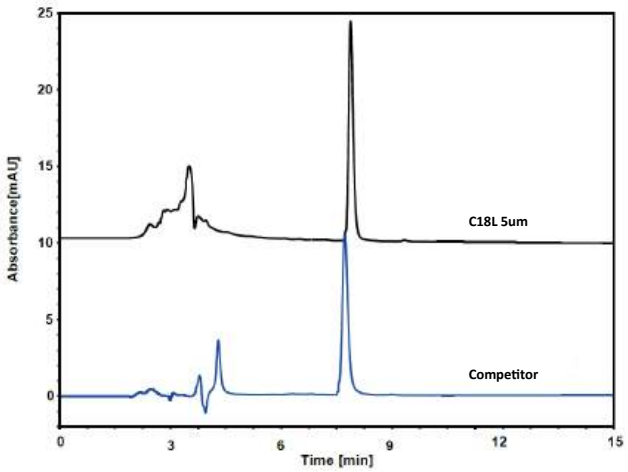




C18 AQ Column

Parameters

Particle Size	Pore Size	Surface Area	Carbon Content	pH Range
5um	100Å	300m²/g	13%	2-8



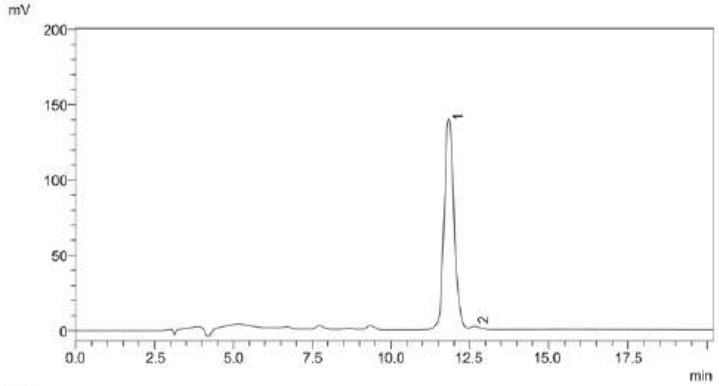
Tripeptide (5ppm)
Column: C18AQ 5μm 4.6×250mm
Mobile Phase: 70/30 v/v Water/MeCN
Injection: 25μL
Flow Rate: 1ml/min
Wavelength: 220nm
Temp.: 25℃

C8 Column

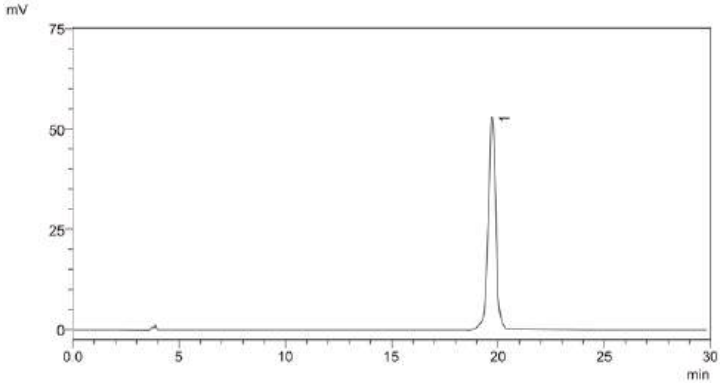
Parameters

Particle Size	Pore Size	Surface Area	Carbon Content	pH Range
3/5/10um	100Å	300m²/g	12%	2-8

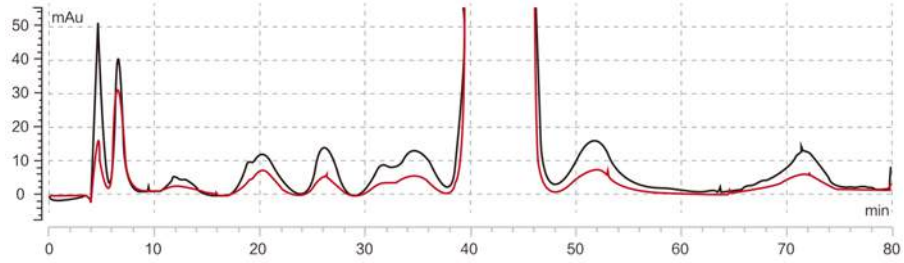
Application

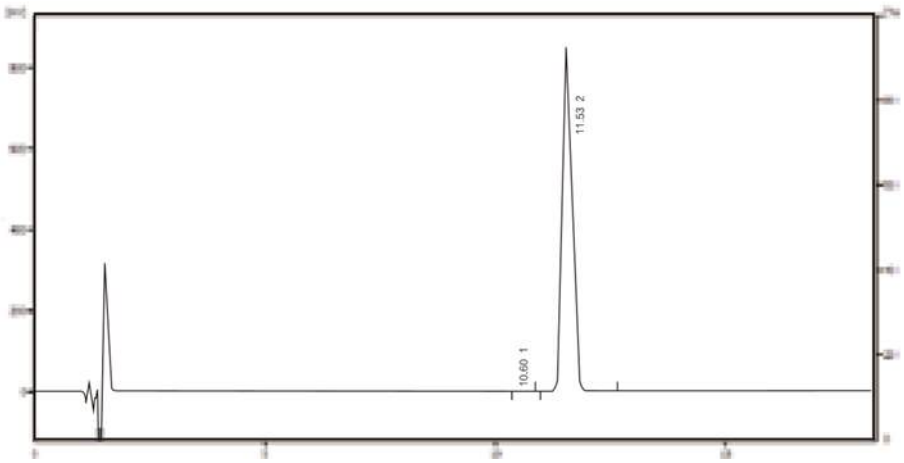


Orlistat
Column: C8 5μm 4.6×250mm
Mobile Phase: water / EtOH
Flow Rate: 1ml/min
Wavelength: 203nm
Temp.: 25℃



Omeprazole enteric-coated tablets
Column: C8 5μm 4.6×250mm
Mobile Phase: water / EtOH
Flow Rate: 1ml/min
Wavelength: 203nm
Temp.: 25 ℃



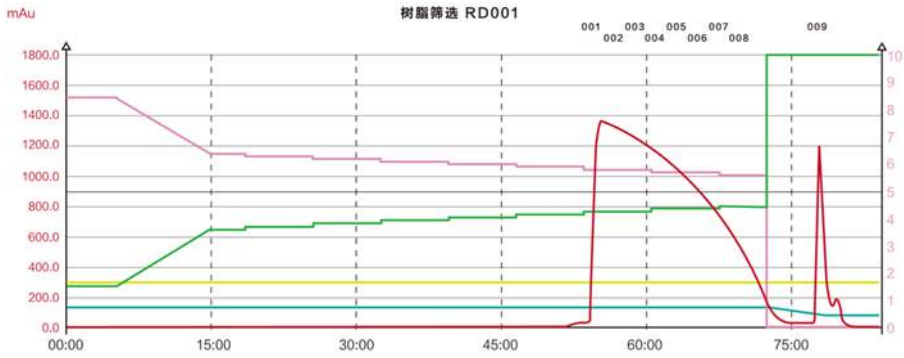


Orlistat

Column: C8 10μm 10×250mm
Mobile Phase: EtOH solution
Flow Rate: 4ml/min
Wavelength: 195nm

Sample:
Dissolved raw material with methyl alcohol
Concentration: 50-60mg/ml

Finished sample
Purification: 99.8%
Single impurity < 0.1%
Recovery: ≥90%



Insulin

Column: C8 8μm 10×250mm

Time	A	B
0	85%	15%
5min	85%	15%
15min	64%	36%
225min	34%	66%

	Cycle	Injection	Purification	P1	P1c	P2
Biovanix C8	1	100ml	99.76%	0.21%	0.02%	0.01%
		50ml	99.74%	0.22%	0.02%	0.02%
	2	50ml	99.75%	0.22%	0.02%	0.01%
	3	50ml	99.74%	0.22%	0.02%	0.01%
	4	50ml	99.74%	0.22%	0.02%	0.01%
	5	50ml	99.76%	0.21%	0.02%	0.01%
	6	50ml	99.75%	0.22%	0.02%	0.02%
	7	50ml	99.76%	0.21%	0.02%	0.02%
	8	50ml	99.74%	0.22%	0.02%	0.01%
	9	50ml	99.74%	0.22%	0.02%	0.02%

C4-300 Column

Parameters

Particle Size	Pore Size	Surface Area	Carbon Content	pH Range
5/10um	300Å	100m^2/g	3%	2-8

C8-300 Column

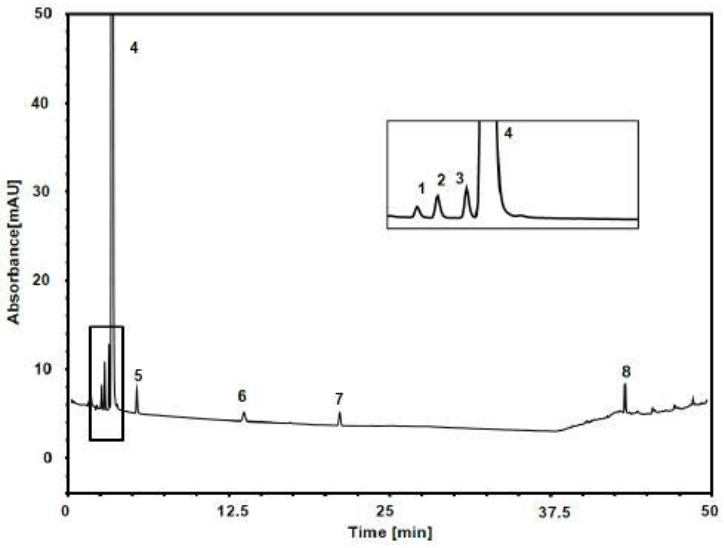
Parameters

Particle Size	Pore Size	Surface Area	Carbon Content	pH Range
5/10um	300Å	100m^2/g	5%	2-8

C18-300 Column

Parameters

Particle Size	Pore Size	Surface Area	Carbon Content	pH Range
5/10um	300Å	100m^2/g	8%	2-8



Riboviron

Column: C18Bio, 5 μm 4.6×150 mm

Mobile Phase:

A) Na_2SO_4, pH2.5;

B) 40/60 v/v MeCN/Na_2SO_4, pH2.5

Gradient:

t (min)	%A	%B
0	100	0
15	100	0
25	87	13
35	87	13
50	0	100

Flow Rate: 1.0 mL/min

Temperature: 30℃

Injection: 10 μL

Detection: UV 220 nm

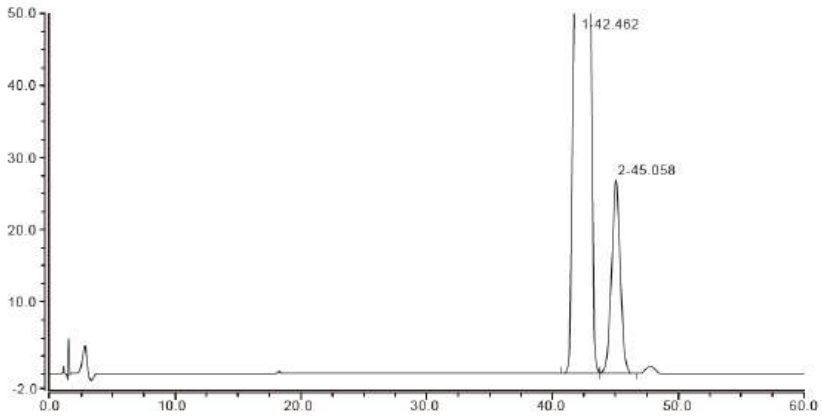
Peaks:

1. triazolinic acid;
2. Triazolamide;
3. Ribavirin acid;
4. Ribavirin;
5. Ribavirin 5 isomers;
6. Ribavirin methyl ester;
7. Ribavirin 5' - acetyl;
8. Ribavirin 5' - benzoyl

Phenyl Column

Parameters

Particle Size	Pore Size	Surface Area	Carbon Content	pH Range
5/10um	100Å	300m^2/g	8%	2-8

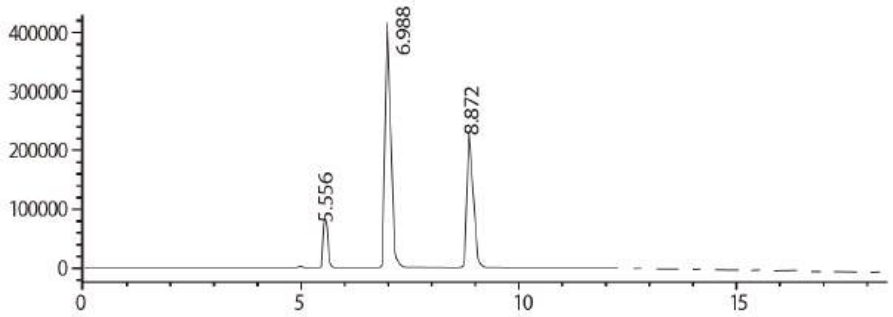


Roflumilast
Column: Phenyl 5μm 4.6×250mm
Mobile Phase: 60/40 v/v Water/MeCN
Injection: 10μL
Flow Rate: 1ml/min
Wavelength: 215nm
Temp.: 30℃

SiO_2 Column

Parameters

Particle Size	Pore Size	Surface Area	pH Range
3/5/10um	100Å	300m^2/g	2-8



Maleic Maleic Fumaric Acid
Column: SiO2 5μm 4.6×250mm
Mobile Phase: N-hexane/THF/Trifluoroacetic acid = 650/350/1.2
Injection: 20μl
Flow Rate: 0.8ml/min
Wavelength: 255nm
Temp.: 30℃

Diol Column

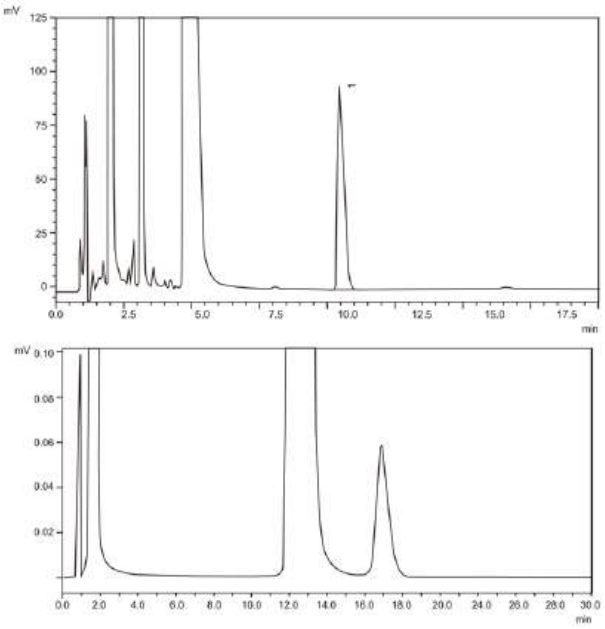
Parameters

Particle Size	Pore Size	Surface Area	Carbon Content	pH Range
5/10um	100Å	300m^2/g	8%	2-8

CN Column

Parameters

Particle Size	Pore Size	Surface Area	Carbon Content	pH Range
3/5/10um	100Å	300m²/g	7%	2-8



Benzalkonium Chloride

Column: BV CN 5μm 4.6×150mm

Competitor CN 5μm 4.6×150mm

Mobile Phase:

phosphate buffer / acetonitrile

Flow Rate: 2.0ml/min

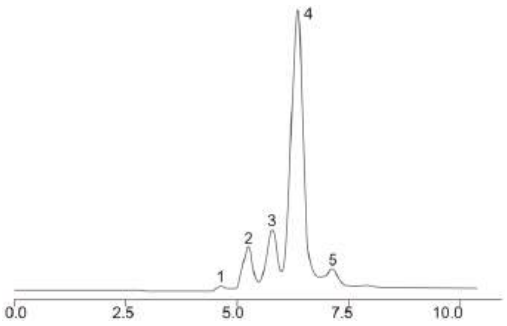
Wavelength: 214nm

Temp.: 35℃

NH_2 Column

Parameters

Particle Size	Pore Size	Surface Area	Carbon Content	pH Range
3/5/10um	100Å	300m²/g	4%	2-8



Oligomaltose

Column: BV NH_2 5μm 4.6×150mm

Mobile Phase: water/ acetonitrile

Flow Rate: 1ml/min

Detector: RID

Temp.: 40℃

Peak

1 glucose; 2 maltose; 3 maltodextrin;
4 maltotetraose; 5 maltopentaose

Amide Column

Parameters

Particle Size	Pore Size	Surface Area	Carbon Content	pH Range
5/10um	100Å	300m²/g	4%	2-8

Order Information

	2.1-50mm	2.1-150mm	4.6-50mm	4.6-150mm
C18 3um	721-03010-002105	721-03010-002115	721-03010-004605	721-03010-004615
Phenyl 3um	706-03010-002105	706-03010-002115	706-03010-004605	706-03010-004615
SiO2 3um	720-03010-002105	720-03010-002115	720-03010-004605	720-03010-004615
NH2 3um	705-03010-002105	705-03010-002115	705-03010-004605	705-03010-004615
CN 3um	704-03010-002105	704-03010-002115	704-03010-004605	704-03010-004615

	4.6-150mm	4.6-250mm	10-250mm	20-250mm	30-250mm
C18 5um	721-05010-004615	721-05010-004625	721-05010-010025	721-05010-020025	721-05010-030025
C18H 5um	722-05010-004615	722-05010-004625	722-05010-010025	722-05010-020025	722-05010-030025
C18 AQ 5um	723-05010-004615	723-05010-004625	723-05010-010025	723-05010-020025	723-05010-030025
C8 5um	725-05010-004615	725-05010-004625	725-05010-010025	725-05010-020025	725-05010-030025
C4-300 5um	730-05010-004615	730-05010-004625	730-05010-010025	730-05010-020025	730-05010-030025
C8Bio 5um	729-05010-004615	729-05010-004625	729-05010-010025	729-05010-020025	729-05010-030025
C18Bio 5um	728-05010-004615	728-05010-004625	728-05010-010025	728-05010-020025	728-05010-030025
Phenyl 5um	706-05010-004615	706-05010-004625	706-05010-010025	706-05010-020025	706-05010-030025
SiO2 5um	720-05010-004615	720-05010-004625	720-05010-010025	720-05010-020025	720-05010-030025
NH2 5um	705-05010-004615	705-05010-004625	705-05010-010025	705-05010-020025	705-05010-030025
CN 5um	704-05010-004615	704-05010-004625	704-05010-010025	704-05010-020025	704-05010-030025
Phenyl 5um	706-05010-004615	706-05010-004625	706-05010-010025	706-05010-020025	706-05010-030025
Diol 5um	707-05010-004615	707-05010-004625	707-05010-010025	707-05010-020025	707-05010-030025
Amide 5um	708-05010-004615	708-05010-004625	708-05010-010025	708-05010-020025	708-05010-030025

	4.6-250mm	10-250mm	20-250mm	30-250mm	50-250mm
C18 10um	721-10010-004625	721-10010-010025	721-10010-020025	721-10010-030025	721-10010-050025
C18H 10um	722-10010-004625	722-10010-010025	722-10010-020025	722-10010-030025	722-10010-050025
C8 10um	725-10010-004625	725-10010-010025	725-10010-020025	725-10010-030025	725-10010-050025
C4-300 10um	730-10010-004625	730-10010-010025	730-10010-020025	730-10010-030025	730-10010-050025
C8-300 10um	729-10010-004625	729-10010-010025	729-10010-020025	729-10010-030025	729-10010-050025
C18-300 10um	728-10010-004625	728-10010-010025	728-10010-020025	728-10010-030025	728-10010-050025
SiO2 10um	720-10010-004625	720-10010-010025	720-10010-020025	720-10010-030025	720-10010-050025

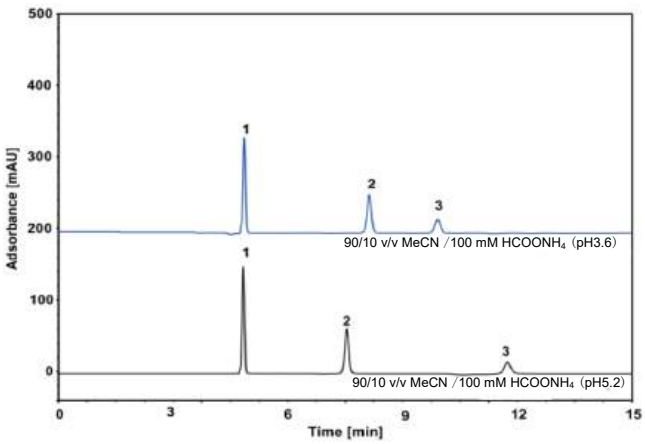
HILIC Column

Hydrophilic interaction liquid chromatography (HILIC) is a chromatographic technique used to improve retention of very polar substances under reversed-phase chromatography conditions. HILIC has a wide variety of stationary phases, and in principle, any stationary phase with the polar surface can be used in HILIC mode. Therefore, stationary phases such as silica, amino (NH2), diol, amide (AM) and cyanogen (CN) packing materials can also be used as stationary phases for HILIC.

HILIC-Diol Column

Parameters

Particle Size	Pore Size	Surface Area	Carbon Content	pH Range
3/5/10um	120Å	330m²/g	10%	2-8

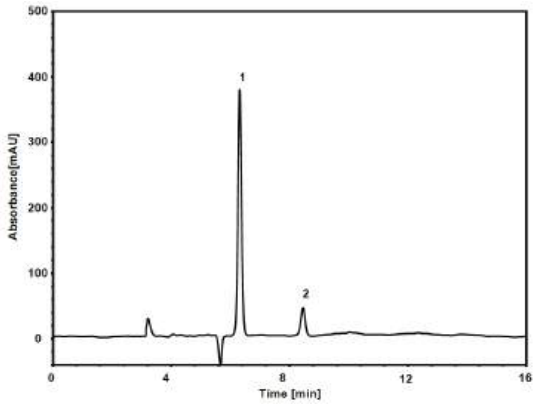


Column: HILIC-Diol 5 μm
Dimension: 4.6×250mm
Mobile phase:
Blue: 90/10 v/v MeCN /100 mM $HCOONH_4$ (pH3.6)
Black: 90/10 v/v MeCN /100 mM $HCOONH_4$ (pH5.2)
Flow rate: 1 mL/min
Temperature: 30℃
Injection: 5 μL
Detection: 218 nm
Peaks: 1. DICY
2. MET
3. Melamine

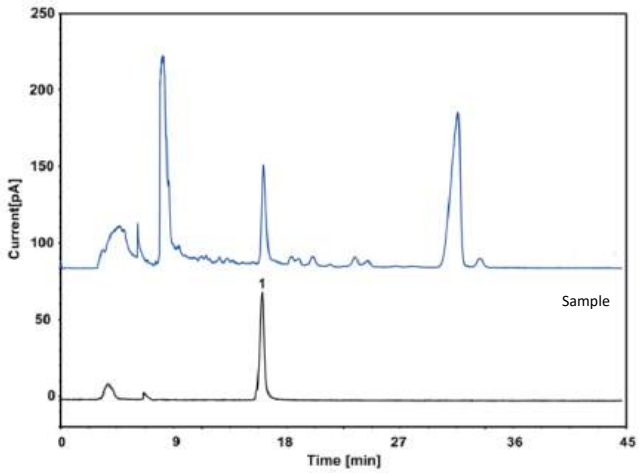
HILIC-Amide Column

Parameters

Particle Size	Pore Size	Surface Area	Carbon Content	pH Range
3/5um	120Å	300m²/g	7.5%	2-7



Glycine & Methionine
Column: HILIC-Amide, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 75/25 v/v AcCN / 25 mM MSP, pH5.5
Flow Rate: 1.0 mL/min
Temperature: 35 ℃
Injection: 10 μL
Detection: UV 210 nm
Peaks: 1. Glycine
2. Methionine



Column: HILIC-Amide 5 μm
Dimension: 4.6×250mm
Mobile phase:
80/10 v/v MeCN /100 mM CH_3COOH
Flow rate: 0.5 mL/min
Temperature: 20℃
Injection: 10 μL
Detection: CDA
Peaks: 1. Stachydrine

HILIC-Imidazole Column

Parameters

Particle Size	Pore Size	Surface Area	Carbon Content	pH Range
3/5um	120Å	300m^2/g	5.5%	2-7

Order Information

Particle Size (μm)	Column I.D. (mm)	Length (mm)	Product Name		
			HILIC-Diol	HILIC-Amide	HILIC-Imidazole
5	4.6	250	A020-050012-04625	A068-050012-04625	A208-050012-04625
		150	A020-050012-04615	A068-050012-04615	A208-050012-04615
		100	A020-050012-04610	A068-050012-04610	A208-050012-04610
		50	A020-050012-04605	A068-050012-04605	A208-050012-04605
3	4.6	150	A020-030012-04615	A068-030012-04615	A208-030012-04615
		100	A020-030012-04610	A068-030012-04610	A208-030012-04610
		50	A020-030012-04605	A068-030012-04605	A208-030012-04605
		30	A020-030012-04603	A068-030012-04603	A208-030012-04603
5	4.6	10	A020-030012-04601	A068-030012-04601	A208-030012-04601
3	4.6	10	A020-030012-04601	A068-030012-04601	A208-030012-04601

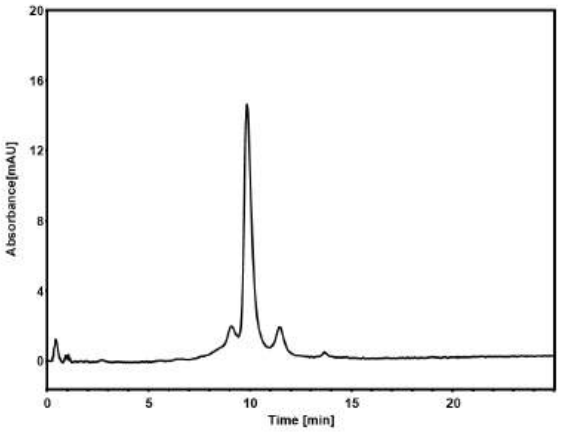
Ion Exchange Column

Biovanix ion exchange IEX columns are based on modified silica particles and include weak cation exchange (WCX), strong cation exchange (SCX) and strong anion exchange (SAX) columns.
WCX columns are carboxylic acid modified silica particles that designed for separating charged variants in proteins, including monoclonal antibodies (mAbs) and related substances.
SCX columns are based on sulfonate-modified silica particles. These columns feature a strong cation exchange property and are suitable for cationic analytes.
SAX columns are based on quaternary ammonium modified silica particles that feature a strong anion exchange property and are suitable for separating anionic analytes.

Main Features

- Optimal selectivity for separating antibody charged variants
- Good peak shape and low carryover
- High column efficiency and mechanical strength
- Excellent tolerance to acids, bases and organic solvents
- Good column-to-column consistency

Product Name	WCX Column	SCX Column	SAX Column
Functional Group	Carboxylic Acid	Sulfonic Acid	Quaternary Ammonium
Substrate	Monodispersed spherical PS/DVB particles		
Particle Size	5 & 10 μm		
Pore Size	Nonporous		
Pressure Limit	4500 psi for 10 μm 5000 psi for 5 μm		
Temperature Limit	60℃		
pH Range	2-12		



mAb

Column: WCX, 10 µm
Dimension: 4.6×150 mm
Mobile Phase: A) 20 mM ACES, pH7.0
B) 300 mM NaCl in 20 mM ACES
Gradient:

t (min)	%A	%B
-20	80	20
0	80	20
5	80	20
25	60	40
25.1	0	100
30	0	100

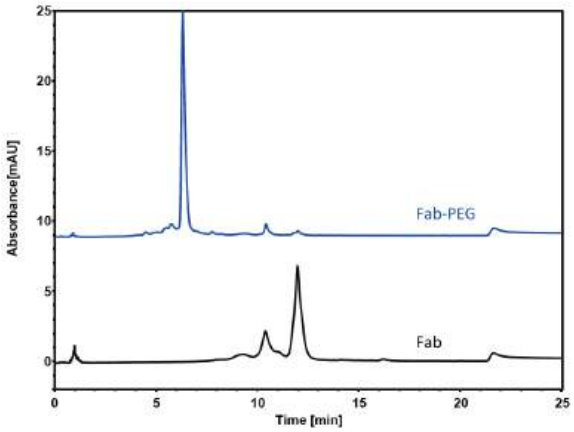
Flow Rate: 1.0 mL/min
Temperature: 30℃
Injection: 2 µL
Detection: UV 280 nm
Sample: mAb (5.0 mg/mL in mobile phase A)

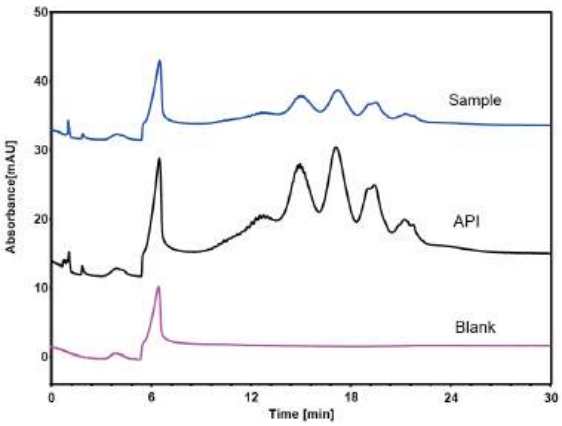
Fab and Fab-PEG

Column: SCX, 10 µm
Dimension: 4.6×150 mm
Mobile Phase: A) 20 mM MES, pH5.5
B) 300mM NaCl in 20 mM MES, pH5.5
Gradient:

t(min)	%A	%B
-10	100	0
0	100	0
20	60	40
20.1	0	100
25	0	100

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 2 µL
Detection: UV 280 nm
Sample: Fab-PEG (3 mg/mL in 50mM sodium acetate solution)
Fab (5 mg/mL in 50mM phosphate buffer)





Glycoprotein

Column: SAX, 10 µm
Dimension: 4.6×250 mm
Mobile Phase: A) 20 mM phosphate buffer, pH3.0
B) 300 mM NaCl in 20 mM phosphate buffer, pH3.0
Gradient:

t(min)	%A	%B
-15	100	0
0	100	0
20	0	100
23	0	100

Flow Rate: 1.0 mL/min
Injection: 5 µL
Temperature: 30 ℃
Detection: UV 280 nm
Sample: API (40 mg/mL in mobile phase A)
Injection sample (10 mg/mL)

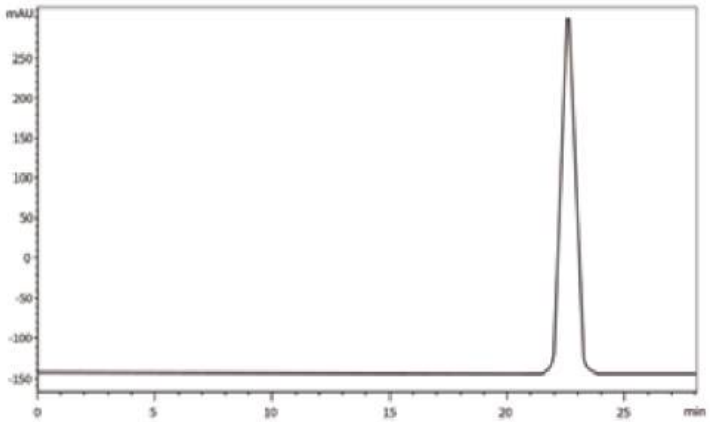
Order Information

	Particle Size	4.6-50mm	4.6-100mm	4.6-150mm	4.6-250mm
WCX	5um	B311-050000-004605	B311-050000-004610	B311-050000-004615	B311-050000-004625
	10um	B311-100000-004605	B311-100000-004610	B311-100000-004615	B311-100000-004625
SCX	5um	B411-050000-004605	B411-050000-004610	B411-050000-004615	B411-050000-004625
	10um	B411-100000-004605	B411-100000-004610	B411-100000-004615	B411-100000-004625
SAX	5um	B611-050000-004605	B611-050000-004610	B611-050000-004615	B611-050000-004625
	10um	B611-100000-004605	B611-100000-004610	B611-100000-004615	B611-100000-004625

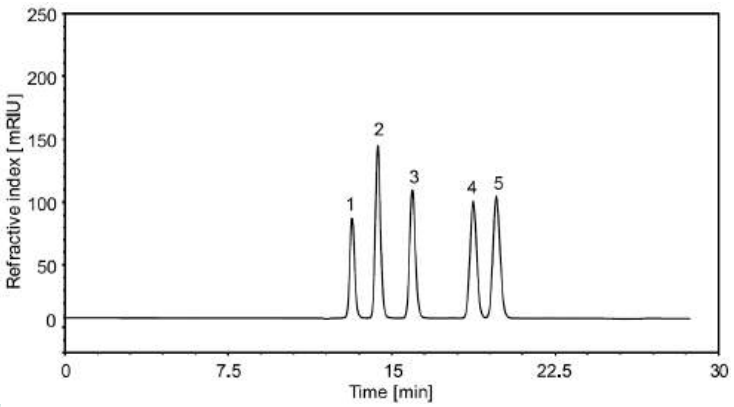
Sugar Analysis Column

Biovanixsil Sugar analysis column can meet the analysis requirements of different types of polysaccharides, sugar alcohols and organic acids. These columns are produced with two kinds of PS-DVB monodisperse microsphere with different degree of cross-linking. Hydrogen-type, sodium-type and calcium-type were formed through a unique sulfonation bonding process based on coordination exchange principle., they shows different selectivity in the analysis.

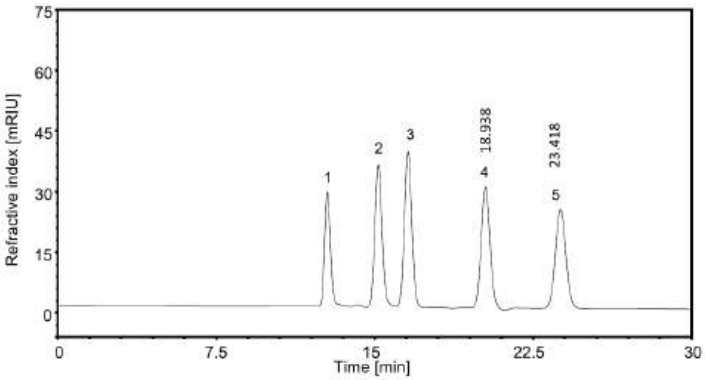
	Sugar-10H	Sugar-10Ca	Sugar-10Na
Ligand	$-SO_3H$	$-SO_3Ca$	$-SO_3Na$
Substrate	Monodisperse PS-DVB substrate		
Particle Size	6um/8um		
Degree of crosslinking	0.1		
pH Range	1-3	5-9	5-9
Temperature	<95℃		
Pressure	1200psi		
Application	Organic acids and alcohols mixer	honey and oligosaccharides	sugars and mannitols



Riboviron, RBV
Column: Sugar-10H, 8um
Dimension: 7.8×300mm
Mobile phase: H2SO4 H2O, pH2.5
Flow rate: 0.5mL/min
Temperature: 30℃
Detection: UV207nm



Column: Sugar-10H, 6um
Dimension: 7.8x300mm
Mobile phase: 9mM H2SO4
Flow rate: 0.5mL/min
Temperature: 65℃
Injection: 5μL
Detector: RID
Samples:
1. Citric acid; 2. Malic acid; 3. Succinic acid; 4. Formic acid; 5. Acetic acid.



Mannitol

Column: Sugar-10Ca, 6um
Dimension: 7.8x300mm
Mobile phase: H2O
Flow rate: 0.5mL/min
Temperature: 80℃
Injection: 5uL
Detection: RID
Sample:
1. Sucrose; 2. Galactose;
3. Fructose; 4. Mannito; 5. Sorbitol

Order Information

Particle Size	Column Size	Sugar-10H	Sugar-10Na	Sugar-10Ca
6um	4.6*250mm	017-06010-04625	058-06010-04625	019-06010-04625
	7.8*250mm	017-06010-07825	058-06010-07825	019-06010-07825
8um	4.6*250mm	017-08010-04625	058-08010-04625	019-08010-04625
	7.8*250mm	017-08010-07825	058-08010-07825	019-08010-07825

SEC Column

Biovanix SEC columns are a family of high performance, size exclusion chromatography (SEC) columns for separating a broad range of biomolecules based on the size of analytes. The column technology involves creation of a neutral hydrophilic layer on the surface of specially designed high-strength monodispered silica particles followed by well established production process. Therefore, Biovanix SEC columns can be used in pharmaceutical, biopharmaceutical and academic research applications.

Features

High column efficiency, high resolution;

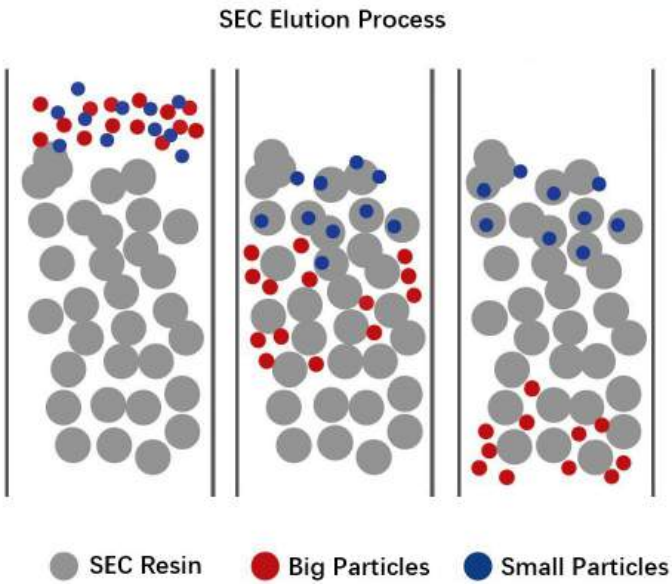
Minimal undesired interactions between stationary phase and analytes, resulting in good peak shape and recovery;

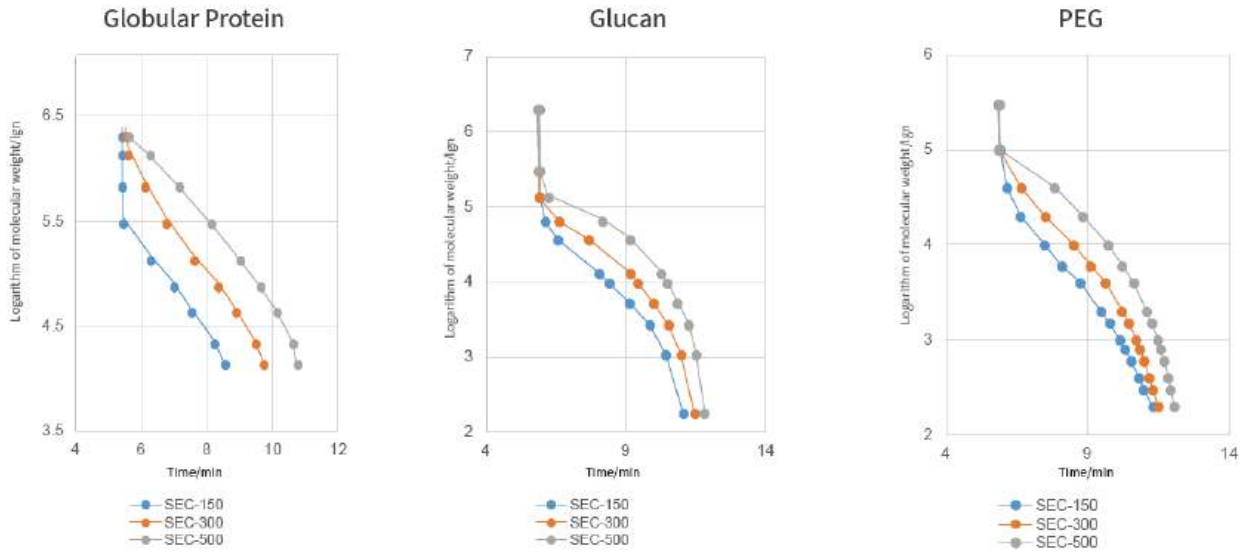
High physical strength for better column lifetime;

Broad range of applications, including small molecule drugs, peptides, proteins, oligos, glycans, etc.

Types

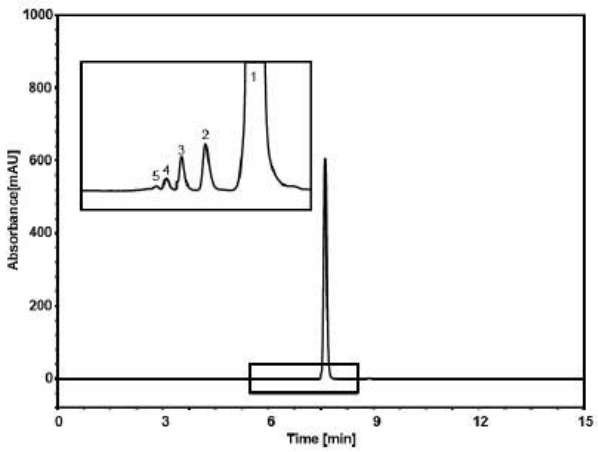
- SEC-120 - designed for mall-molecule, drugs, peptides, glycans, small oligos.
- SEC-150 - designed for separating peptides, glycans, small oligos, small proteins.
- SEC-300 - designed for mAb aggregate determination.
- SEC-500 - designed for separating larger proteins and oligos.





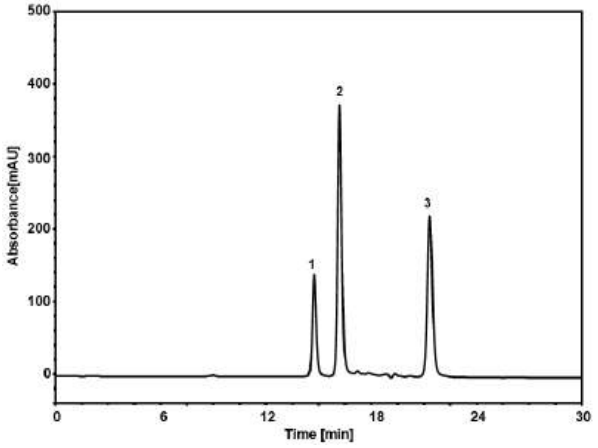
Parameter

	SEC-150	SEC-300	SEC-500
Ligand	Diol		
Substrate	Monodisperse High-pure Silica Particle		
Particle Size	5um		
Pore Size	150A	300A	500A
pH Range	2-8		
Temperature	<40℃		
Pressure	6000psi		
Ligand Range (PEG)	200-15,000	1.000-100,000	5,000-200,000
Ligand Range (Glucan)	1,000-50,000	5,000-150,000	20,000-500,000
Ligand Range (Globular Protein)	5,000-150,000	10,000-1,000,000	20,000-2,000,000



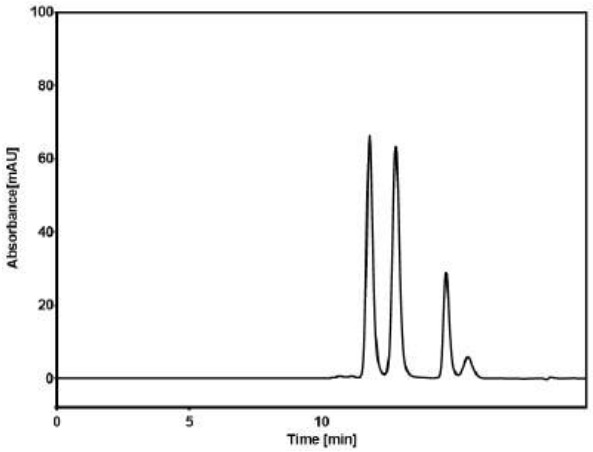
Cetiriaxone Sodium

Column: SEC-120, 5 μm
Dimension: 7.8×300 mm
Mobile Phase: 5mM phosphate buffer, pH7.0
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 2 μL
Detection: UV 231 nm
Peaks: 1. Ceftriaxone
2~5. Polymers of Ceftriaxone



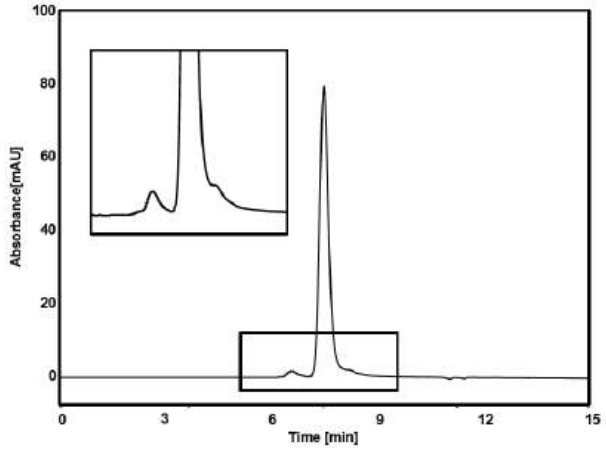
Peptide

Column: SEC-150, 5 μm
Dimension: 7.8×300 mm
Mobile Phase: 90/10 v/v 300 mM NaCl in 50 mM phosphate buffer/MeCN
Flow Rate: 0.6 mL/min
Temperature: 25 ℃
Injection: 10 μL
Detection: UV 215 nm
Peaks: 1. P-3000 2. P-2000 3. P-1000



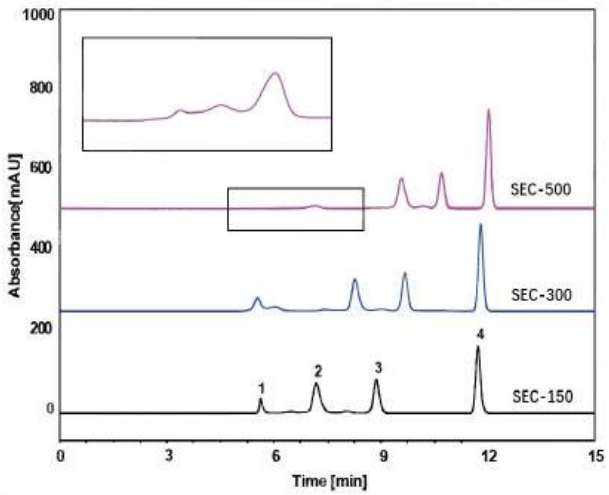
Trispecific Antibody

Column: SEC-300, 3 μm
Dimension: 4.6×300 mm
Mobile Phase: 90/10 v/v 300 mM NaCl in 50 mM phosphate buffer, pH6.8 / MeCN
Flow Rate: 0.21 mL/min
Temperature: 30 ℃
Injection: 2 μL
Detection: UV 280 nm
Sample: Trispecific Antibody (5 mg/mL)



Fusion Protein

Column: SEC-500, 5 μm
Dimension: 4.6×300 mm
Mobile Phase: 150 mM phosphate buffer, pH6.8
Flow Rate: 0.35 mL/min
Temperature: 30 ℃
Injection: 5 μL
Detection: UV 280 nm
Sample: Fusion Protein (1 mg/mL in H2O)



Column Black: SEC-150, 5μm
Column Blue: SEC-300, 5μm
Column Red: SEC-500, 5μm
Dimension: 4.6×300mm
Mobile phase: 150 mM Phosphate Buffered Saline (pH 6.8)
Flow rate: 0.35 mL/min
Temperature: 30 ℃
Injection: 5μL
Detection: UV 280 nm
Peaks:
1. Thyroglobulin (0.5mg/mL) -669,000Da
2. Conalbumin (1mg/mL) -75,000Da
3. Ribonuclease A (1mg/mL) -13,700Da
4. Uracil (0.1mg/mL) –112Da

Order Information

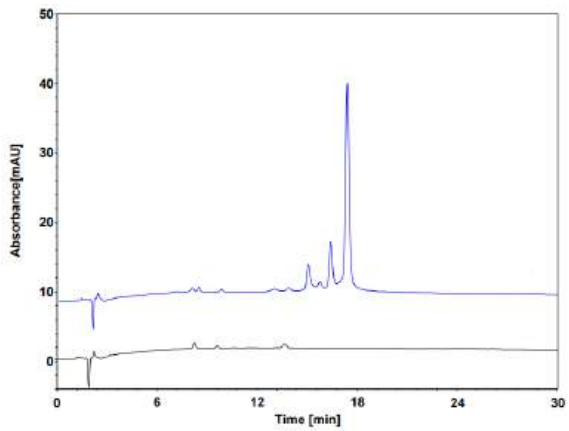
	5um 7.8×300mm	5um 4.6×300mm	5um 4.6×50mm	5um 4.6×10mm
SEC-150	213-05015-07830	213-05015-04630	213-05015-04605	213-05015-04601
SEC-300	213-05030-07830	213-05030-04630	213-05030-04605	213-05030-04601
SEC-500	213-05050-07830	213-05050-04630	213-05050-04605	213-05050-04601

DNA Analysis Columns

DNA columns are based on the most advanced column technology and designed for highly efficient separation and precise characterization of oligonucleotides including DNA/RNA, mRNA and plasmid by liquid chromatography and LC-MS.

- DNA RP columns are based on macroporous PS/DB microspheres with high crosslinking degree and they are suitable for the separation of large DNA and RNA molecules.
- DNA 200-C18, based on monodispersed C18 bonded silica gel, is used for the separation of smaller oligonucleotides.
- DNA 1000-C18 is based on monodispersed C18 bonded silica gel for the separation of large oligonucleotides, DNAs and RNAs.

Product	DNA RP	DNA 120-C18	DNA 1000-C18
Functional Group	Quaternary Ammonium	Octadecyl	Octadecyl
Substrate	PS-DVB	Spherical Silica	Spherical Silica
Particle Size	5um	3um/5um	3um/5um
Pore Size	-	200A	1000A
Pressure Limit	5000 psi	5000psi for 5μm 6000psi for 3μm	5000psi for 5μm 6000psi for 3μm
Temperature Limit	80℃	50℃	50℃
pH Range	2-12	2-11	2-11



RNA in Vaccines

Column: DNA1000 C18, 5 μm
Dimension: 4.6×150 mm
Mobile Phase: A) 0.1 M CH3COOH-Et3N solution, pH7.0
B) 25/75 v/v MeCN/ 0.1 M CH3COOH-Et3N solution, pH7.0

Gradient:

t (min)	%A	%B
0	60	40
30	35	65
31	60	40
40	60	40

Flow Rate: 1.0 mL/min
Temperature: 60 ℃
Injection: 10 μL
Detection: UV 254 nm
Sample: Long strands of RNA in vaccines (1000~2000 nt)

Order Information

	4.6×250mm	4.6×150mm	2.1×150mm	2.1×50mm
DNA RP	D301-050000-04625	D301-050000-04615	-	-
DNA 120-C18	D003-030020-04625	D003-030020-04615	D003-030020-02115	D003-030020-02105
DNA 1000-C18	D003-050100-04625	D003-050100-04615	D003-050100-02115	D003-050100-02105

Prosep Protein A Analysis Column

Biovanix Prosep Protein A Analysis column is designed for fast analysis of monoclonal antibody (mAb) concentration (titer) with protein A affinity chromatography. Alkali resistant recombinant Protein A (rProtein A) ligand used in this product has specific binding ability to the Fc region of immunoglobulins. The matrix of Protein A column is PS-DVB (Polystyrene Divinylbenzene) particles, which are highly cross-linked for enhanced mechanical stability and particle strength. Compared to agarose base, hydrophilic PS-DVB particles have higher pressure stability, dynamic binding capacity (DBC) and longer lifetime. Hence, Protein A column is an excellent choice for mAbs titer analysis.

Advantages

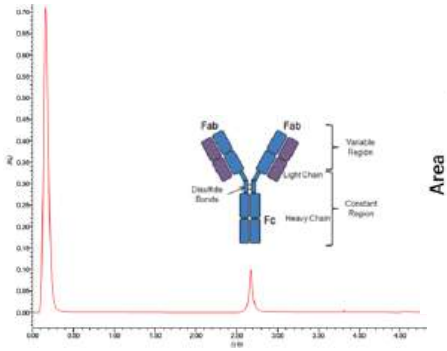
- Direct use on HPLC instruments
- High dynamic binding capacity, quick mass transfer
- Minimum nonspecific absorption, accurate determination
- Fast analysis cycle time: 2-5 minutes
- Satisfactory linearity in wide concentration range: 0.02-10 mg/ml
- Long lifetime
- Alkali resistance: 0.1-0.5 M NaOH cleaning conditions

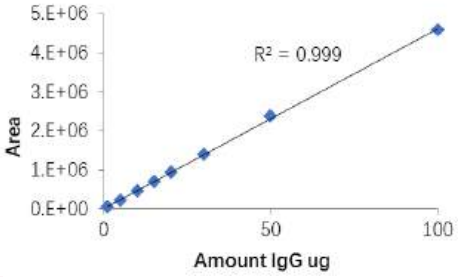
Parameter

	Prosep Protein A Column	Prosep Protein A Plus Column
Column Size	2.1mm ID × 30mm L; 4.6mm ID × 50mm L	
Column Tube Material	316L Stainless steel, PEEK	
Support Matrix	Polystyrene Divinylbenzene (PS-DVB)	
Ligand	Recombinant Protein A	
Particle Size	30μm	20μm
Shipping Solution	0.02 M sodium phosphate, pH 7.0, 0.02% sodium azide	
pH range	pH 2-10	
Maximum Pressure	1000 psi	
Cleaning Agents	0.1-0.5M NaOH	
Cycle Time	2-5 minutes	
Temperature Stability	4-40 °C	

Excellent Linearity

Quantitative analysis for antibody fermentation broth by Prosep Protein A column.





Column: Prosep A 2.1×30mm

Eluent A: 20mM PB, 150mM NaCl, pH7.4

Eluent B: 0.1%HCl, 150mM NaCl

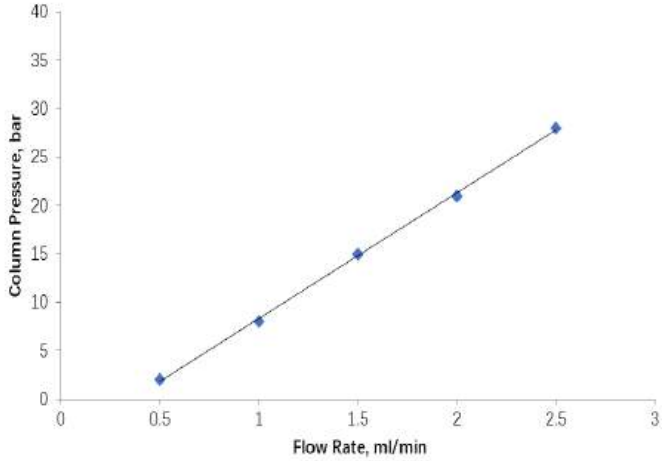
Gradient: 0% B for 1.0 min, 100% B for 2.0 min, 0% B for 2.0 min

Flow rate: 1ml/min

Sample: mAb

Flow Rate and Pressure

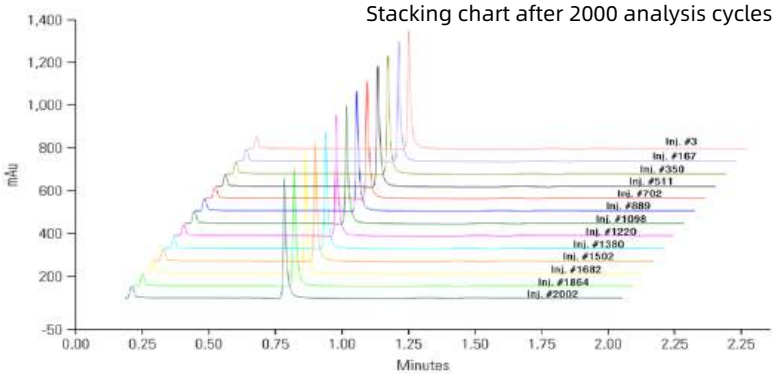
The operating flow rate is 0.5-3 ml/min as recommended for HPLC system.



Column: Prosep A, 2.1×30mm
Eluent A: 20mM PB, 150mM NaCl, pH7.4
Eluent B: 0.1%HCl, 150mM NaCl
Temp: 25 ℃
System: Waters 1525 pump

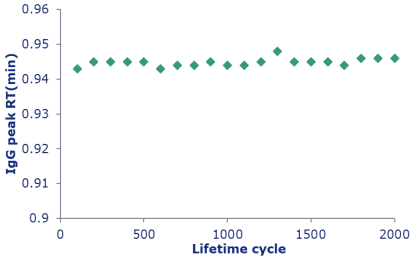
Long Lifetime

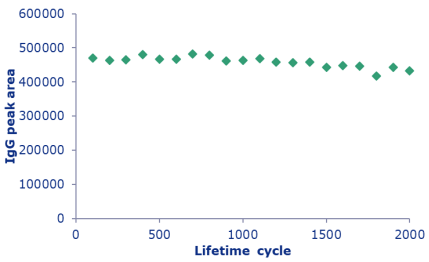
Stacking chart after 2000 analysis cycles

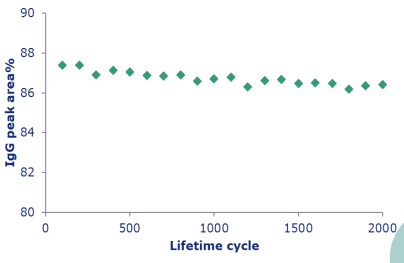


Column	Prosep A, 2.1×30 mm
Eluent A	50 mM Sodium Phosphate, 150 mM NaCl, pH 7.0
Eluent B	0.1% HCl, 150 mM NaCl, pH 1.9
Flow Rate	2.0 ml/min
Gradient	0% B for 0.2 min, 100% B for 0.60 min, 0% B for 1.20 min
Temperature	25℃
Detection	280 nm
Injection volume	10 uL
Sample	hIgG, 1 mg/mL

Statistical analysis of data demonstrates



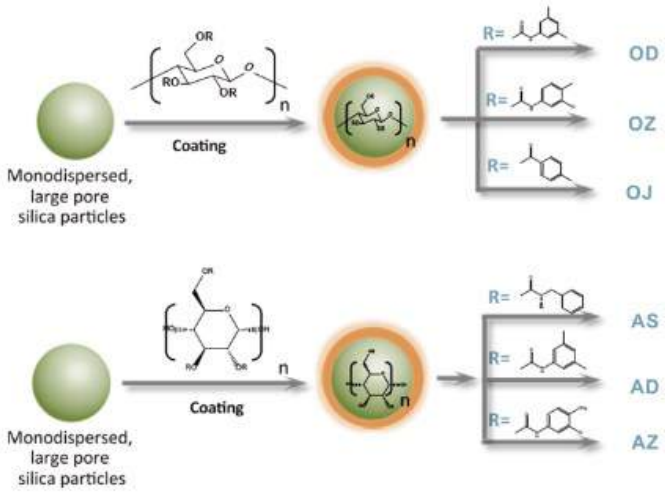


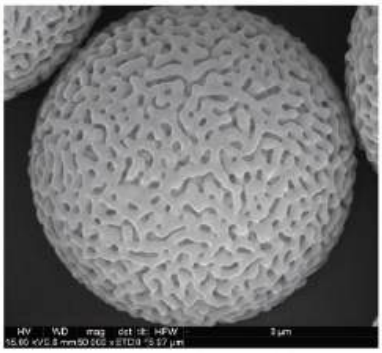


Chiral Column

Biovanix Chiral Columns are designed for chiral separation. Unichiral® is polysaccharide derivative bond with microporous silica-gel substrate which has the advantages of high capacity of cellulose/amylose derivative, good stability and high chiral separation ability.

Biovanix Chiral Columns include OD, OJ, OZ, AS and AD series. 5um columns are for analysis, 10um columns are for preparation. OD and AD columns are the most widely used for HPLC analysis, semipreparative, SFC of chiral compound.





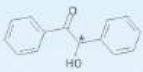
SEM of Chiral particles

Specification

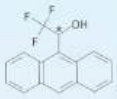
Product Name	Surface Functional Groups	Column Specification
Chiral OD	Cellulosetris(3,5-dimethylphenylcarbamate)	5 μm, 4.6×50 mm 5 μm, 4.6×100 mm 5 μm, 4.6×150 mm 5 μm, 4.6×250 mm
Chiral OJ	Cellulosetris(4-methylbenzoate)	
Chiral OZ	Cellulosetris(3-chloro-4-methylbenzylcarbamate)	
Chiral AS	Amylosetris[(S)-α-methylbenzylcarbamate)	
Chiral AD	Amylosetris(3,5-dimethylphenylcarbamate)	
Chiral AZ	Amylosetris(3-chloro-4-methylbenzylcarbamate)	

Compare with famous Chiral Column

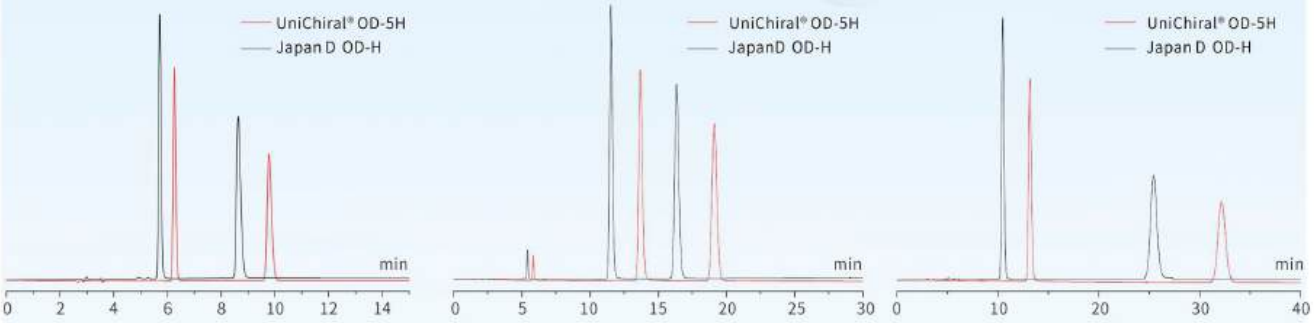
Sample: Trans-Stilbene oxide
Column: UniChiral OD-5H
4.6×250mm
Mobile Phase: Hexane/IPA=9:1
Flow Rate: 1mL/min
Wavelength: UV 254nm
Temp.: 25°C



Sample: Benzoin
Column: UniChiral OD-5H
4.6×250mm
Mobile Phase: Hexane/IPA=9:1
Flow Rate: 1mL/min
Wavelength: UV 254nm
Temp.: 25°C



Sample: 2,2,2-Trifliuoro-1
(9-anthryl)ethanol
Column: UniChiral OD-5H
4.6×250mm
Mobile Phase: Hexane/IPA=9:1
Flow Rate: 1mL/min
Wavelength: UV 254nm
Temp.: 25°C

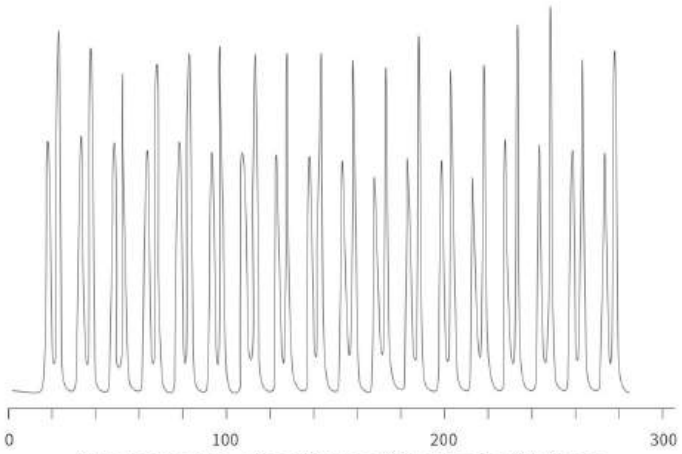


Theoretical Plates		Tailing Factor		α	
UniChiral	Japan D	UniChiral	Japan D	UniChiral	Japan D
16222	15267	1.149	1.214	2.07	2.07
14779	13740	1.345	1.437		

Theoretical Plates		Tailing Factor		α	
UniChiral	Japan D	UniChiral	Japan D	UniChiral	Japan D
11899	12219	1.167	1.197	1.50	1.56
12707	12150	1.114	1.154		

Theoretical Plates		Tailing Factor		α	
UniChiral	Japan D	UniChiral	Japan D	UniChiral	Japan D
9138	8300	1.101	1.090	2.85	2.99
8287	7205	1.066	1.058		

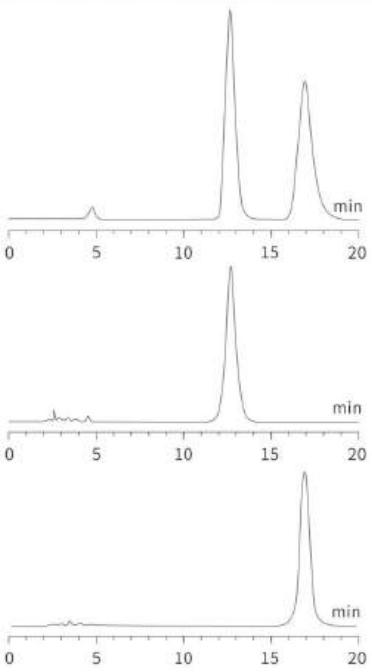
Compare with Japan products, UniChiral® chiral column media has similar selective, higher column efficiency, and better peak type symmetry.



Chromatogram of continuous injection for 20 times

Chiral Column Application

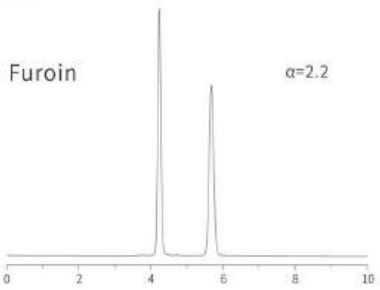
Column: UniChiral® OD-5H
50×250mm
Injection: 100mg every time
ee Value: >99
Yield: ~90%
Flow Rate: 80mL/min
Column Pressure: 2MPa



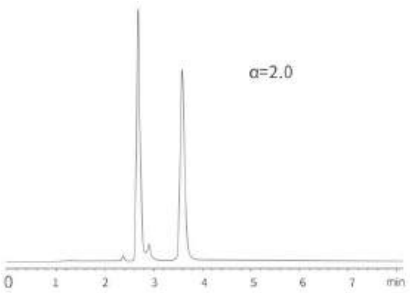
Analysis of compounds before and after resolution

UniChiral® chiral column has lower pressure and satisfied separation ability.

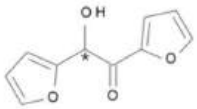
Furoin



UniChiral AD-5H 4.6×250mm

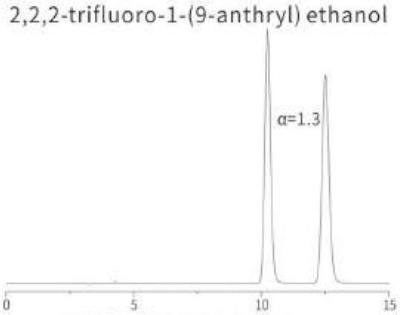


Japan D AD-H 4.6×250mm

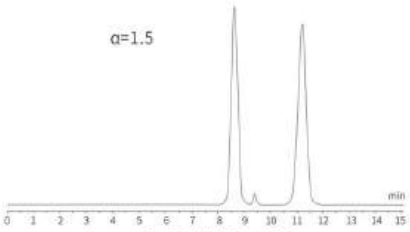


Mobile Phase: EtOH
Flow Rate: 1mL/min
Wavelength: UV 270nm
Temp.: 25°C

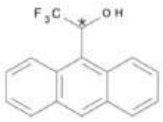
2,2,2-trifluoro-1-(9-anthryl) ethanol



UniChiral AD-5H 4.6×250mm

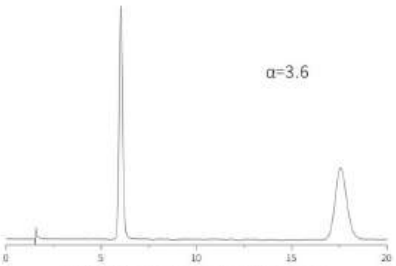


Japan D AD-H 4.6×250mm

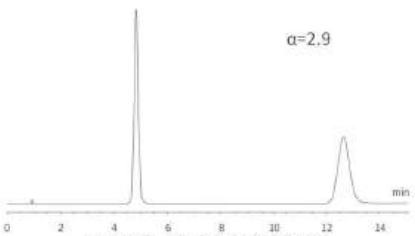


Mobile Phase: Hexane/IPA=90:10
Flow Rate: 1mL/min
Wavelength: UV 254nm
Temp.: 25°C

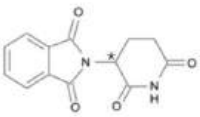
Thalidomide



UniChiral AD-5H 4.6×250mm

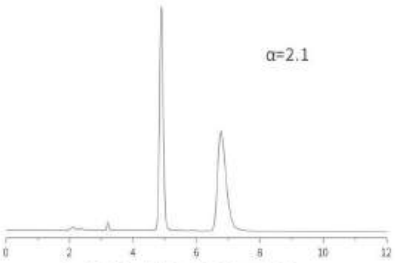


Japan D AD-3 4.6×150mm

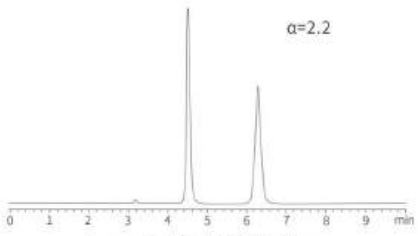


Mobile Phase: MeOH
Flow Rate: 2mL/min
Wavelength: UV 220nm
Temp.: 25°C

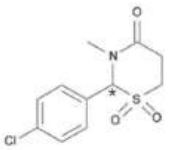
Chlormezanoneh



UniChiral AS-5H 4.6×250mm

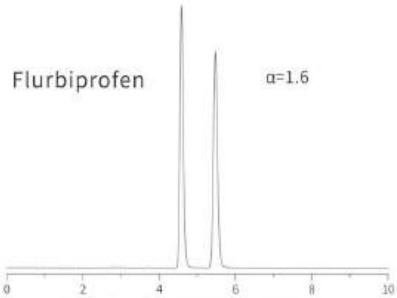


Japan D AS-H 4.6×250mm

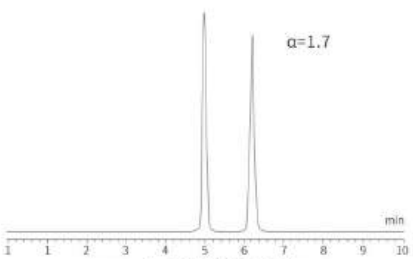


Mobile Phase: MeOH
Flow Rate: 1mL/min
Wavelength: UV 210nm
Temp.: 30°C

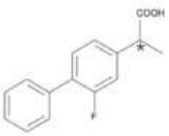
Flurbiprofen



UniChiral AD-5H 4.6×250mm

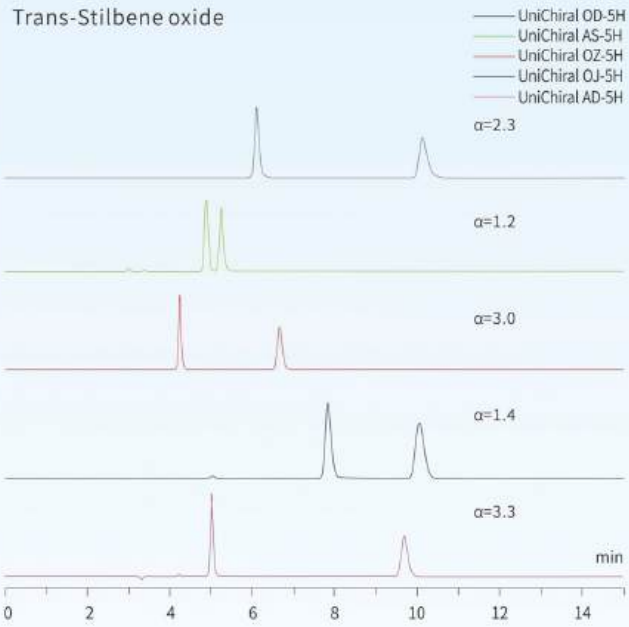


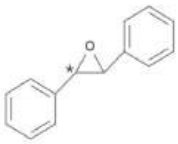
Japan D AD-H 4.6×250mm



Mobile Phase:
Hexane/IPA/TFA=80:20:0.1
Flow Rate: 1mL/min
Wavelength: UV 254nm
Temp.: 25°C

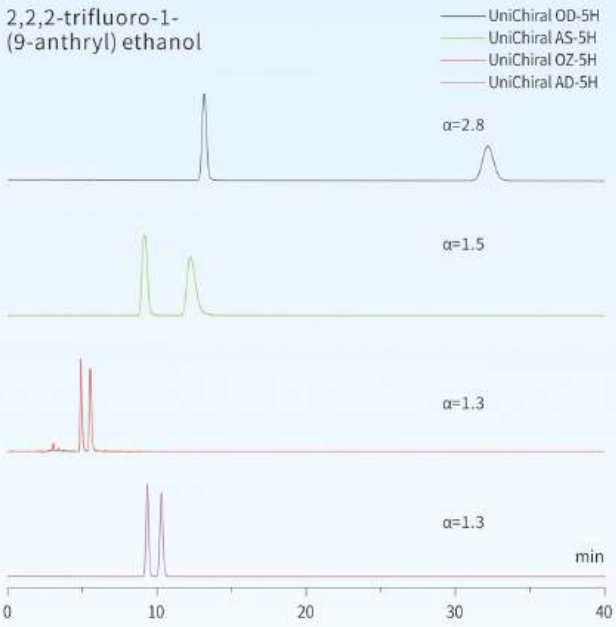
Trans-Stilbene oxide

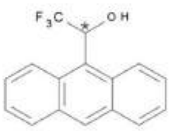




Column: 4.6×250mm, 5μm
Mobile Phase: Hexane/IPA=90:10
Flow Rate: 1mL/min
Wavelength: UV 254nm
Temp.: 25°C

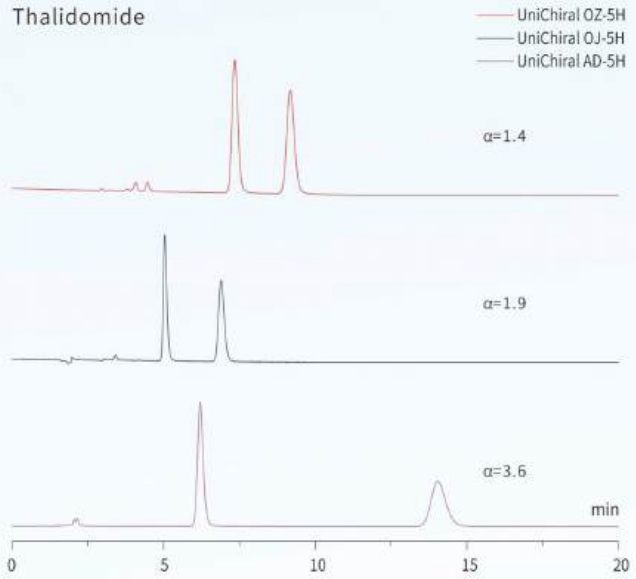
2,2,2-trifluoro-1-(9-anthryl) ethanol

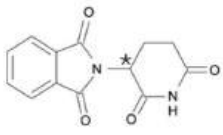




Column: 4.6×250mm, 5μm
Mobile Phase: Hexane/IPA=90:10
Flow Rate: 1mL/min
Wavelength: UV 254nm
Temp.: 25°C

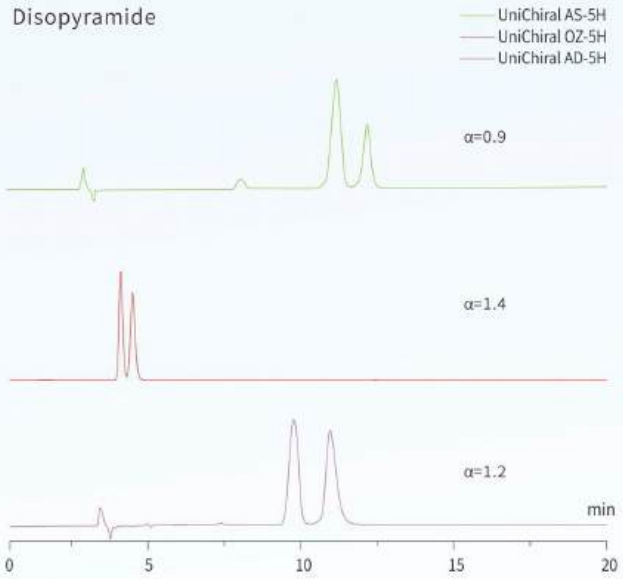
Thalidomide

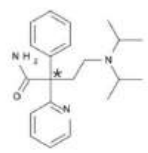




Column: 4.6×250mm, 5μm
Mobile Phase: MeOH
Flow Rate: 2mL/min
Wavelength: UV 220nm
Temp.: 25°C

Disopyramide





Column: 4.6×250mm, 5μm
Mobile Phase: EtOH/DEA=99.9:0.01
Flow Rate: 1mL/min
Wavelength: UV 254nm
Temp.: 25°C

Packing Material

Silica-gel For HPLC Column

Biovanix prepacked columns are versatile HPLC columns based on the silica-gel for reversed-phase/normal phase chromatography. Biovanix columns are made of spherical silica-gel particles which has low metal-ion content (<20 ppm) in total, high specific surface area and high mechanical strength. With unique chemical bonding technique, our products have excellent stability and reproducibility. They can meet the highest requirements for analysis and preparative applications.

Advantages

- Low silanol activity
- Uniform ligand binding
- Low metal content
- Narrow particle size
- Excellent stability

Products	Particle Size	Pore Size	Surface Area	Carbon Content	pH Range
C18	5/10/20/30/50um	100Å	300m^2/g	16%	2-8
C8	5/10 um	100Å	300m^2/g	12%	2-8
Phenyl	5/10 um	100Å	300m^2/g	8%	2-8
SiO2	5/10/30/50 um	100Å	300m^2/g	-	2-8
NH_2	5/10 um	100Å	300m^2/g	4%	2-8
CN	5/10 um	100Å	300m^2/g	7%	2-8
Diol	5/10 um	100Å	300m^2/g	8%	2-8

Customized Service

Biovanix provide customized service for silica matrix packing materials for liquid chromatography. We also provide technical support for biochemical separation with liquid chromatography method.

Instruments & Parts

HPLC Column Packer

Biovanix HPLC Column Packer is designed for packing analysis, semi-preparative and preparative columns, with higher pressure and power, are designed for both analytical and preparative columns with inner diameter 2.0mm~50mm.
Homogenate tanks is suitable for homogenate during the packing process.

Service:

1. One year warranty
2. Free replacement parts
3. Free online training for operation and maintenance
4. Recovery of old equipment

Parameters:

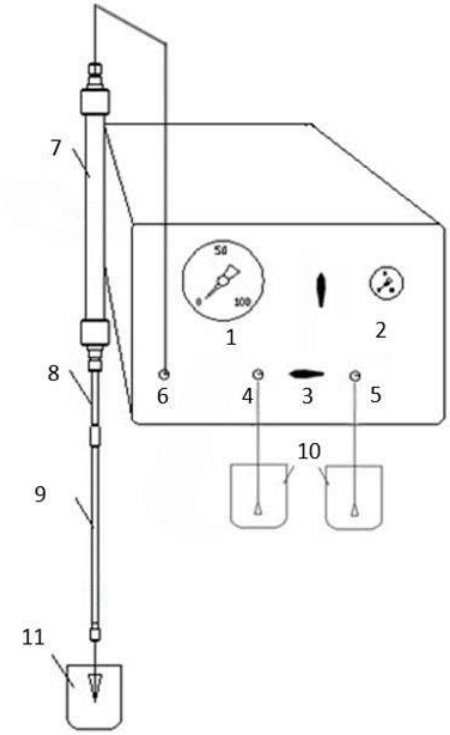
	Biovanix HPLC Column Packer
Column ID	2.0/3.0/4.0/4.6/10/20/30/50 mm
Output Pressure	19000 psi
Flow Rate	3.3L/min
Output Power	2hp
Air Cylinder	Double

Hardware:

Standard Parts	Optional Parts
Operation instruction	Air compressor
Pneumatic booster pump	Air purification system
Control panel	Homogenate tanks
Homogenate tank support	Column connection (ID 10-50mm)
Stainless steel connections	Empty HPLC column (ID 2.0-50mm)
	Packing materials

Control Panel Introduction

1 Pressure gauge
2 Pressure regulator
3 Liquid inlet
4 Inlet A
5 Inlet B
6 Liquid outlets
7 Homogenate tank
8 Connector
9 SS HPLC column
10 Solvent tank
11 Waste liquid



Column Consumables

Column Tubings

- Inner diameter: 2.1mm, 3.0mm, 4.0mm, 4.6mm, 7.8mm, 10mm, 20mm, 21.2mm, 30mm, 50mm
- Length: 25mm, 30mm, 50mm, 100mm, 150mm, 250mm, 300mm, 500mm
- Material: 316 L stainless steel
- OEM is available



PEEK Columns

Biovanix PEEK Column use high quality PEEK materials to make the PEEK columns. The frits are using PE materials to eliminate the effects of metal ions to your testing.

Type

- Inner diameter: 2.1mm, 4.6mm
- Length: 25mm, 30mm, 50mm, 100mm, 150mm
- Material: PEEK
- OEM is available


In-filters for HPLC

The in-filters for the HPLC are based on the HPLC systems. We provide appearance customization based on customers' requirements.

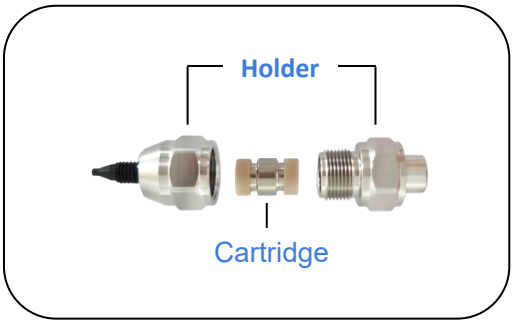
Innerdiameter Type:

10mm; 20mm; 30mm; 50mm; 68mm

Guard Columns

Cartridge + Holder

Size: 4.6-10mm, 10-10mm, 20-10mm



Precolumns

Size: 4.6-50mm, 10-30mm, 10-50mm, 20-30mm, 20-50mm, 30-50mm, 50-50mm

Packing material: matched with prepacked columns

Joint & Gasket & Plugs

USP Listing	Packing	Products
L1	Octadecyl silane chemically bonded to porous or non-porous silica or ceramic micro-particles, 1.5 to 10 µm in diameter, or a monolithic rod	C18
L3	Porous silica particles, 1.5 to 10 µm in diameter, or a monolithic silica rod	Silica
L7	Octylsilane chemically bonded to totally or superficially porous silica particles, 1.5 to 10 µm in diameter, or a monolithic silica rod	C8
L8	An essentially monomolecular layer of aminopropylsilane chemically bonded to totally porous silica gel support, 1.5 to 10 µm in diameter, or a monolithic silica rod	NH2
L9	Irregular or spherical, totally porous silica gel having a chemically bonded, strongly acidic cation-exchange coating, 3 to 10 µm in diameter	SCX
L10	Nitrile groups chemically bonded to porous silica particles, 1.5 to 10 µm in diameter, or a monolithic silica rod	CN
L11	Phenyl groups chemically bonded to porous silica particles, 1.5 to 10 µm in diameter, or a monolithic silica rod	Phenyl
L14	Silica gel having a chemically bonded strongly basic quaternary ammonium anion-exchange coating, 5 to 10 µm in diameter	SAX
L17	Strong cation-exchange resin consisting of sulfonated cross-linked styrene- divinylbenzene copolymer in the hydrogen form, 6 to 12 µm in diameter	Sugar-10H
L19	Strong cation-exchange resin consisting of sulfonated cross-linked styrene- divinylbenzene copolymer in the calcium form, 5 – 15 µm in diameter	Sugar-10Ca
L20	Dihydroxypropane groups chemically bonded to porous silica or hybrid particles, 1.5 to 10 µm in diameter, or a monolithic silica rod	HILIC-Diol SEC
L26	Butyl silane chemically bonded to totally porous or superficially porous silica particles, 1.5 to 10 µm in diameter	C4
L40	Cellulose tris-3,5-dimethylphenylcarbamate coated porous silica particles, 3 µm to 20 µm in diameter	Chiral CND
L43	Pentafluorophenyl groups chemically bonded to silica particles by a propyl spacer, 1.5 to 10 µm in diameter	PFP
L51	Amylose tris-3,5-dimethylphenylcarbamate-coated, porous, spherical, silica particles, 3 to 10 µm in diameter	Chiral CMD
L58	Strong cation-exchange resin consisting of sulfonated cross-linked styrene- divinylbenzene copolymer in the sodium form, about 6 to 30 µm diameter	Sugar-10Na
L60	Spherical, porous silica gel, 10 µm or less in diameter, the surface of which has been covalently modified with alkyl amide groups and endcapped	Polar C18
L62	C30 silane bonded phase on a fully porous spherical silica, 3 to 15 µm in diameter	C30
L68	Spherical, porous silica, 10 µm or less in diameter, the surface of which has been covalently modified with alkyl amide groups and not endcapped	HILIC-Amide Glycan
L78	A silane ligand that consists of both reversed-phase (an alkyl chain longer than C8) and anion-exchange (primary, secondary, tertiary, or quartenary amino groups) functional groups chemically bonded to porous or non-porous silica or ceramic micro-particles, 1.0 to 50 µm in diameter, or a monolithic rod	SAA
L80	Cellulose tris(4-methylbenzoate)-coated, porous, spherical, silica particles, 5 - 20 µin diameter	Chiral CNJ
L90	Amylose tris-[(S)-alpha-methylbenzylcarbamate] coated on porous, spherical silica particles, 3 to 10 µm in diameter	Chiral CMS
L118	Aqueous polymerized C18 groups on silica particles, 1.2 to 5 µm in diameter	PAH

Bio-Separation & Media

Agarose Chromatography Media

Biovanix Agarose media is designed based on Cytive Sepharose series, it offer the high specificity and selectivity for biomolecular separations and purifications. Affinity separation can often remove contaminants difficult to eliminate using other chromatographic procedures. Purifications up to several orders of magnitude can be achieved in a single step.

Ion-exchange Chromatography Media

Product	Dynamic Binding Capacity	Application
DEAE 6 FF	50 mg BSA/mL	Weak anion exchange medium: High Applicability (FF) High Resolution (HP)
DEAE 6 HP	50 mg BSA/mL	
DEAE 6 XL	100 mg BSA/mL	
Q 6 FF	60 mg BSA/mL	Strong anion exchange media: High Applicability (FF) High Resolution (HP)
Q 6 HP	60 mg BSA/mL	
Q 6 XL	160 mg BSA/mL	
CM 6 FF	100 mg lysozyme/mL	Weak cation exchange medium: High Applicability (FF) High Resolution (HP)
CM 6 HP	100 mg lysozyme/mL	
CM 6 XL	120 mg lysozyme/mL	
SP 6 FF	130 m lysozyme/mL	Strong cation exchange medium: High Applicability (FF) High Resolution (HP)
SP 6 HP	130 mg lysozyme/mL	
SP 6 XL	200 mg lysozyme/mL	

Hydrophobic Chromatography Media

Product	Dynamic Binding Capacity	Application
Butyl 4 FF	20 mg BSA/mL	Weak hydrophobic Suitable for the separation and purification of aliphatic proteins
Butyl 6 HP	30 mg BSA/mL	
Phenyl 6 FF	35 mg BSA/mL	Strong hydrophobicity Suitable for the separation and purification of aromatic proteins (such as monoclonal antibodies)
Phenyl 6 FF LS	20 mg BSA/mL	
Phenyl 6 HP	30 mg BSA/mL	
Octyl 4 FF	22 mg BSA/mL	Medium hydrophobicity Suitable for purification of proteins with strong lipophilic properties
Octyl 6 HP	28 mg BSA/mL	

Affinity Chromatography Media

Product	Dynamic Binding Capacity	Application
Ni-IDA 6FF	40 mg His/mL	High load capacity Isolation and purification of recombinant histidine labeled (His-Tag) proteins
Ni-IDA 6HP	40 mg His/mL	
Ni-NTA 6FF	50 mg His/mL	Low Ni^{2+} leakage Isolation and purification of recombinant histidine labeled (His-Tag) proteins
Ni-NTA 6HP	50 mg His/mL	
Ni-TED 6FF	25 mg His/mL	Mainly used for the separation and purification of histidine labeled (His-Tag) genetic engineering proteins containing EDTA or DTT and other components
Ni-TED 6HP	25 mg His/mL	
Protein G 4FF	35 mg IgG/mL	Affinity purification of various polyclonal and monoclonal antibodies
Protein A 4FF	50 mg IgG/mL	Alkaline resistance, easy elution Affinity purification of various polyclonal and monoclonal antibodies
GSH 4FF	10 mg GST/mL	Isolation and purification of glutathione transferase labeled protein (GST fusion protein), glutathione transferase and glutathione dependent protein
Heparin 6FF	1.5 mg AT Ⅲ/mL	Isolation and purification of AT Ⅲ, coagulation factor, lipoprotein, lipase and polysaccharide
Heparin 6HP	1.5 mg AT Ⅲ/mL	
Benzamidine 4FF	20 mg Trypsin/mL (High Sub) 10 mg Trypsin/mL(Low Sub)	Isolation and purification of Trypsin, thrombin, urokinase, kallikrein, prekallikrein and other serine proteases
MMA 6FF	25 mg BSA/mL	Widely used in the separation and purification of proteins, especially the removal of protein A from the monoclonal antibodies that have been shed through the protein A affinity medium, as well as antibody dimers, host proteins, nucleic acids, viruses.
MMC 6FF	60 mg BSA/mL	Widely used in the separation and purification of proteins

Affinity Chromatography Media

Product	Coupling	Application
Bromohydrin 4FF	5 - 20 mg/mL	Covalent fixation of various proteins
Epoxy 4FF	2 - 10 mg/mL	
NHS 4FF	3 - 20 mg/mL	
EAH 4 FF	/	
ECH 4FF	/	

Ion-exchange Agarose Chromatography Resin

Biovanix ion exchange chromatography (IEC) is a very effective method for the separation and purification of biomolecule. IEX resin is divided into strong anion (Q), weak anion (DEAE), strong cation (SP) and weak cation (CM) exchanger. These products retain the excellent hydrophilicity and large grid structure of natural polysaccharide compounds. They have good compatibility with bioactive macromolecules, have characteristics of high ion exchange capacity.

Strong Cation Media

	SP 6FF	SP 6HP	SP 6XL
Matrix	6% cross-linked Agarose		6% cross-linked Agarose, glucan grafting
Average Particle Size	90μm	34μm	90μm
Changed Group	$-CH_2CH_2CH_2SO_3^-$		
Dynamic Binding Capacity	130 mg lysozyme/mL	130 mg lysozyme/mL	200 mg lysozyme/mL
Ionic Capacity	0.20 - 0.26 mmol/mL	0.18 - 0.24 mmol/mL	0.18 - 0.25 mmol/mL
pH Stability, operational	4-13		
pH Stability, CIP	3-14		
Pressure	≤0.3MPa		
Temperature, operational	4-40℃		
Heat-resisting	121℃，20min		
Max Flow Rate	600 cm/h	130 cm/h	600 cm/h
Chemical Stability	All common buffer, 1.0m sodium hydroxide, 8.0m urea, 6.0m guanidine hydrochloride, 70% ethanol Avoid using oxidant, cationic detergent, cationic buffer		
Storage	20% EtOH in0.2M NaAc, 4-30℃		

Strong Anion Media

	Q 6FF	Q 6HP	Q 6XL
Matrix	6% cross-linked Agarose		6% cross-linked Agarose, glucan grafting
Average Particle Size	90μm	34μm	90μm
Changed Group	$-O-CH_2CHOHCH_2N^+(CH_3)_3$		
Dynamic Binding Capacity	60 mg BSA/mL	60 mg BSA/mL	160 mg BSA/mL
Ionic Capacity	0.20 - 0.26 mmol/mL	0.18 - 0.24 mmol/mL	0.18 - 0.25 mmol/mL
pH Stability, operational	4-13		
pH Stability, CIP	3-14		
Pressure	≤0.3MPa		
Temperature, operational	4-40℃		
Heat-resisting	121℃，20min		
Max Flow Rate	600 cm/h	150 cm/h	600 cm/h
Chemical Stability	All common buffer, 1.0M sodium hydroxide, 8.0M urea, 6.0M guanidine hydrochloride, 70% ethanol Avoid using oxidant, cationic detergent, cationic buffer		
Storage	0.2M NaAc, 20% EtOH, 4-30℃		

Weak Cation Media

	CM 6FF	CM 6HP	CM 6XL
Matrix	6% cross-linked Agarose		6% cross-linked Agarose, glucan grafting
Average Particle Size	90μm	34μm	90μm
Changed Group	$-O-CH_2COO^-$		
Dynamic Binding Capacity	100 mg lysozyme/mL	100 mg lysozyme/mL	120 mg lysozyme/mL
Ionic Capacity	0.14 - 0.18 mmol/mL	0.14 - 0.18 mmol/mL	0.10 - 0.18 mmol/mL
pH Stability, operational	4-13		
pH Stability, CIP	3-14		
Pressure	≤0.3MPa		
Temperature, operational	4-40℃		
Heat-resisting	121℃，20min		
Max Flow Rate	600 cm/h	150 cm/h	600 cm/h
Chemical Stability	All common buffer, 1.0M sodium hydroxide, 8.0M urea, 6.0M guanidine hydrochloride, 70% ethanol Avoid Oxidizing agents, anionic detergents (Q/DEAE), cationic detergents (SP/CM)		
Storage	20% EtOH, 4-30℃		

Weak Anion Media

	DEAE 6FF	DEAE 6HP	DEAE 6XL
Matrix	6% cross-linked Agarose		6% cross-linked agarose, glucan grafting
Average Particle Size	90μm	34μm	90μm
Changed Group	$-O-CH_2CH2-N^+(C_2H_5)_2H$		
Dynamic Binding Capacity	50 mg BSA/mL	50 mg BSA/mL	100 mg BSA/mL
Ionic Capacity	0.14 - 0.18 mmol/mL	0.14 - 0.18 mmol/mL	0.22 - 0.30 mmol/mL
pH Stability, operational	4-13		
pH Stability, CIP	3-14		
Pressure	≤0.3MPa		
Temperature, operational	4-40℃		
Heat-resisting	121℃，20min		
Max Flow Rate	600 cm/h	150 cm/h	600 cm/h
Chemical Stability	All common buffer, 1.0M sodium hydroxide, 8.0M urea, 6.0M guanidine hydrochloride, 30% isopropyl alcohol, 70% ethanol Avoid Oxidizing agents, anionic detergents (Q/DEAE), cationic detergents (SP/CM)		
Storage	20% EtOH, 4-30℃		

Hydrophobic Agarose Chromatography Resin

Biovanix hydrophobic chromatography is a very effective method for the separation and purification of biomolecule. They have good compatibility with bioactive macromolecules, have characteristics of high ion exchange capacity.

	Butyl 4FF	Butyl 6HP
Matrix	4% cross-linked Agarose	6% cross-linked Agarose
Average Particle Size	90μm	34μm
Changed Group	$-O-CH_2CHOHCH_2-(CH_2)_3CH_3$	
Dynamic Binding Capacity	20 mg BSA/mL Or 8mg IgG/mL	30 mg BSA/mL
Ligand Concentration	40 μmol/mL resin	60 μmol Butyl/mL resin
pH Stability, operational	3-13	
pH Stability, CIP	2-14	
Pressure	≤0.3MPa	
Temperature, operational	4-40℃	
Thermostability	120℃，30min, pH 7	
Flow Rate	500 cm/h	150 cm/h
Chemical Stability	All common buffer, 1.0M sodium hydroxide, 8.0M urea, 6.0M guanidine hydrochloride, 30% isopropyl alcohol, 70% ethanol	
Storage	20% EtOH, 4-30℃	

	Octyl 4FF	Octyl 6HP
Matrix	4% cross-linked Agarose	6% cross-linked Agarose
Average Particle Size	90μm	34μm
Changed Group	$-O-CH_2CHOHCH_2-(CH_2)_3CH_3$	
Dynamic Binding Capacity	8 mg BSA/mL Or 25mg IgG/mL	30 mg BSA/mL
Ligand Concentration	20 μmol/mL resin	0.14 - 0.18 mmol/mL
pH Stability, operational	3-13	
pH Stability, CIP	2-14	
Pressure	≤0.3MPa	
Temperature, operational	4-40℃	
Thermostability	120℃，30min, pH 7	
Flow Rate	500 cm/h	150 cm/h
Chemical Stability	All common buffer, 1.0M sodium hydroxide, 8.0M urea, 6.0M guanidine hydrochloride, 30% isopropyl alcohol, 70% ethanol	
Storage	20% EtOH, 4-30℃	

	Phenyl 6FF HS	Phenyl 6FF LS	Phenyl 6HP
Matrix	6% cross-linked Agarose		
Average Particle Size	90μm	90μm	90μm
Changed Group	-O-$CH_2CHOHCH_2$-O-C_6H_5		
Dynamic Binding Capacity	35 mg BSA/ mL Or 25 mg IgG/mL	15 mg BSA/mL Or 16 mg IgG/mL	30 mg BSA/mL
pH Stability, operational	4-13		
pH Stability, CIP	3-14		
Pressure	≤0.3MPa		
Temperature, operational	4-40℃		
Heat-resisting	121℃，20min		
Max Flow Rate	600 cm/h	600 cm/h	150 cm/h
Chemical Stability	All common buffer, 1.0M sodium hydroxide, 8.0M urea, 6.0M guanidine hydrochloride, 30% isopropyl alcohol, 70% ethanol		
Storage	20% EtOH, 4-30℃		

Affinity Agarose Chromatography Resin

Biovanix Ni affinity media are a nickel metal chelating chromatography media with IDA/NTA/TED ion high cross-linked agarose. BV gel Ni Affinity Media have advantages of excellent stability, biocompatibility, solvent compatibility, large capacity, good selectivity, high resolution natural generation and low cost.

	Ni-IDA 6FF	Ni-IDA 6HP
Matrix	6% cross-linked Agarose	6% cross-linked Agarose
Average Particle Size	90μm	34μm
Changed Group	-$N(CH_2COOH)_2Ni^{2+}$	
Dynamic Binding Capacity	40 mg His/mL	40 mg His/mL
Ligand Concentration	15 μmol/mL resin	30 μmol/mL resin
pH Stability, operational	3-13	
pH Stability, CIP	2-14	
Pressure	≤0.3MPa	
Temperature, operational	4-40℃	
Thermostability	120℃，30min, pH 7	
Flow Rate	600 cm/h	150 cm/h
Chemical Stability	All common buffer, 1.0M sodium hydroxide, 8.0M urea, 6.0M guanidine hydrochloride, 30% isopropyl alcohol, 70% ethanol	
Storage	20% EtOH, 4-30℃	

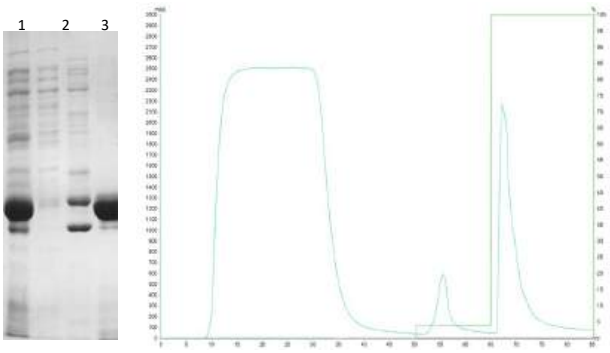
	Ni-NTA 6FF	Ni-NTA 6HP
Matrix	6% cross-linked Agarose	
Average Particle Size	90μm	34μm
Changed Group	-NTA Ni^{2+}	
Dynamic Binding Capacity	40 mg His/mL	50 mg His/mL
Ligand Concentration	25 μmol/mL resin	40 μmol/mL resin
pH Stability, operational	3-13	
pH Stability, CIP	2-14	
Pressure	≤0.3MPa	
Temperature, operational	4-40℃	
Thermostability	120℃，30min, pH 7	
Flow Rate	600 cm/h	150 cm/h
Chemical Stability	All common buffer, 1.0M sodium hydroxide, 8.0M urea, 6.0M guanidine hydrochloride, 30% isopropyl alcohol, 70% ethanol	
Storage	20% EtOH, 4-30℃	

	Ni-TED 6FF	Ni-TED 6HP
Matrix	6% cross-linked Agarose	
Average Particle Size	90μm	34μm
Changed Group	-NTA Ni^{2+}	
Dynamic Binding Capacity	25 mg His/mL	25 mg His/mL
Ligand Concentration	90-130 μmol/mL resin	90-120 μmol/mL resin
pH Stability, operational	2-12	
pH Stability, CIP	2-14	
Pressure	≤0.3MPa	
Temperature, operational	4-40℃	
Thermostability	120℃，30min, pH 7	
Flow Rate	600 cm/h	150 cm/h
Chemical Stability	Aqueous buffer, 0.01M NaOH, 0.01M HCl (1 week); 10 mM EDTA, 5 mM DTT, 5 mM TCEP, 20 mM β-mercaptoethanol, 1 M NaOH, 6 M guanidine hydrochloride (24 hours); 500 mM imidazole, 100 mM EDTA (2 hours); 30% isopropyl alcohol (20 minutes)	
Storage	20% EtOH, 4-30℃	

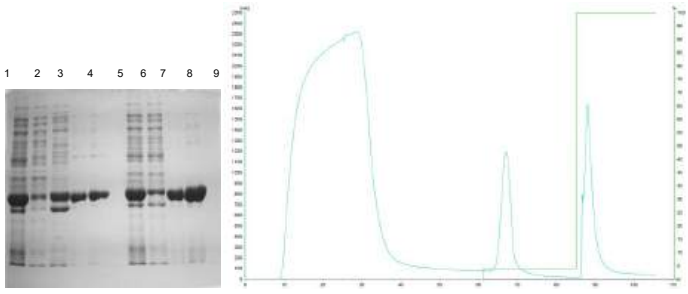
Application Case

His tag Protein Purification

Column: 1ml
Sample: E. coli cracking supernatant (His tag protein)
Equilibrium liquid: 0.02MPB、0.5MNaCl，pH 7.4
Elution: 0.02MPB, 0.5M NaCl, Imidazole, pH 7.4
Flow Rate: 1ml/min
1. Original; 2. Breakthough; 3. Elution(4%B); 4. Elution(100%B)



Column: 1ml
Sample: E. coli cracking supernatant (His tag protein)
Equilibrium liquid: 0.02MPB、0.5MNaC1，pH 7.4
Elution: 0.02MPB、0. M NaCl、 Imidazole, pH 7.4
Flow Rate: 1ml/min
1. Original; 2. Breakthough; 3. Elution(4%B); 4. Elution (100%B); 5. Elution(100%B); 7. Original; 8. Breakthough; 9. Elution(4%B); 10. Elution(100%B)
No imidazole in 1-5. 0.02M imidazole in 7-10.

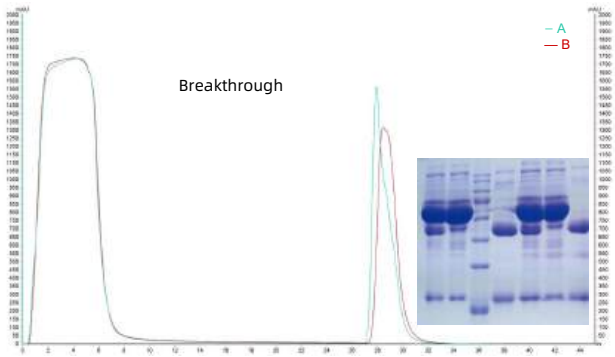


	Pr A 4FF	Pr G 4FF
Substrate	4% cross-linked agarose	
Ligand	rProtein A	rProtein G
Particle Size	90μm (45-165μm)	
Dynamic Binding Capacity	50mg hIgG/ml	35mg hIgG/ml
pH Stability, operational	2-9	
pH Stability, CIP	2-10	
Max. Pressure	0.3MPa	
Temperature, operational	4-40℃	
Flow Rate	500cm/h	500cm/h
Chemical Stability	Commonly used aqueous buffer, 6 M guanidine hydrochloride, 1% SDS, 70% ethanol, 8 M urea	
Storage	4-8 °C, 20% EtOH	

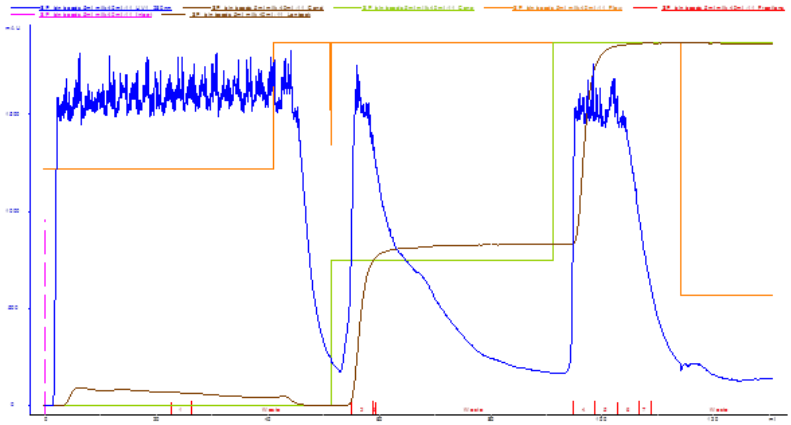
Application Case

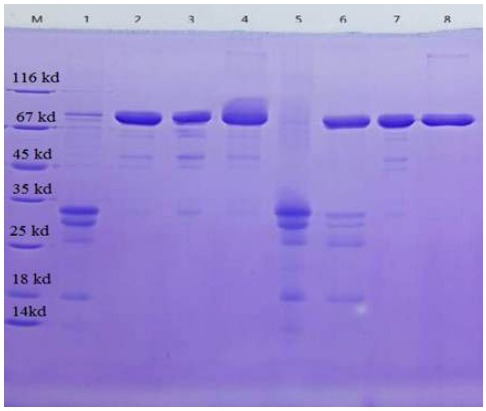
Purification of IgG in human serum

Sample: 5ml human serum with five times dilution (different buffers)
Column: HT01 1.0ml Protein G 4FF
Balance: A 0.02 M PB pH7.0;
B 0.02M PB, 0. 3M NaCl pH 7.0
Elution: 0.1 M Glycine-HCl pH2.7
Flow Rate: 0.25m/min (sampling), 1ml/min



Protein Purification





	GSH 4FF	Benzamidine 4FF
Substrate	4% cross-linked agarose	
Ligand	Glutathione	Benzamidine
Particle Size	90μm (45-165μm)	
Dynamic Binding Capacity	10mg GST/ml	20 mg trypsin/mL (High Sub) 10 mg trypsin/mL (Low Sub)
pH Stability, operational	3-11	2-8
pH Stability, CIP	3-12	1-9
Max. Pressure	0.3MPa	
Temperature, operational	4-40℃	
Flow Rate	500cm/h	500cm/h
Chemical Stability	Commonly used aqueous buffer, 1 M HAc (pH 4.0), 6 M guanidine hydro-chloride, 8 M urea	Commonly used aqueous buffer, 8 M urea, 6 M guanidine hydrochlo-ride, 30% isopropyl alcohol
Storage	20% EtOH	20% EtOH with 0.05M sodium ace-tate, pH 4.0

	Heparin 6FF	Heparin 6HP
Substrate	6% cross-linked agarose	
Ligand	Heparin	
Particle Size	90μm	34μm
Dynamic Binding Capacity	1.5 mg AT III/mL	
pH Stability, operational	4-12	
pH Stability, CIP	4-13	
Max. Pressure	0.3MPa	
Temperature, operational	4-40℃	
Flow Rate	600cm/h	150cm/h
Chemical Stability	Commonly used aqueous buffer, 0.1 M NaOH, 4 M NaCl, 6 M guanidine hy-	
Storage	20% EtOH with 0.05M sodium acetate, pH 4.0	

	MMA 6FF	MMC 6FF
Substrate	6% cross-linked agarose	
Ligand	MMA	MMC
Particle Size	90μm (45-165μm)	
Ionic Capacity	0.12-0.16 mmol/mL	
pH Stability, operational	3-12	
pH Stability, CIP	2-14	
Max. Pressure	0.3MPa	
Temperature, operational	4-40℃	
Flow Rate	600cm/h	600cm/h
Chemical Stability	Commonly used aqueous buffer, 2 M sodium chloride, 5% 1-propanol, 30% isopropanol, 70% ethanol, 1 M sodium hydroxide, 1 M acetic acid	
Storage	20% EtOH	

Prosep Agarose Chromatography Media

Biovanix Prosep series is based on the Cytiva Capto series. It is a bioseparation medium developed for near-rigid cross-linked agarose microspheres. Prosep has nearly rigid physical properties, narrower microsphere distribution, more reasonable average particle size, and more protein adsorption space, which reflects higher adsorption capacity, lower chromatographic back pressure, higher operating flow rate and higher resolution in the chromatography process, and is a new generation of high-performance and cost-effective chromatography media. The ion exchange medium based on Prosep matrix has excellent performance and is widely used in laboratory scale preparation of biological macromolecules such as proteins, nucleic acids, peptides and polysaccharides, and large-scale industrial preparation of biopharmaceuticals and bioengineering.

Advantages:

- Faster operating flow rate
- Faster mass transfer
- Higher dynamic load
- Higher resolution
- Higher voltage resistance
- Low operating pressure

Product	Dynamic Binding Capacity	Application
Prosep DEAE	90 mg BSA/mL	High rigidity High flow rate High resolution Quick loading
Prosep Q	120 mg BSA/mL	
Prosep SP	120 mg lysozyme/mL	
Prosep DEAE HPR	35 mg BSA/mL	
Prosep Q HPR	45 mg BSA/mL	
Prosep CM HPR	75 mg lysozyme/mL	
Prosep SP HPR	70 mg lysozyme/mL	
Prosep MMA	20 mg BSA/mL	
Prosep MabPure A LX	60 mg lgG/mL	

	Prosep DEAE	Prosep DEAE HPR
Matrix	Highly rigid graft agarose	
Average Particle Size	90μm	34μm
Changed Group	$-N^+H(C_2H_5)_2$	
Dynamic Binding Capacity	90 mg BSA/mL	35 mg His/mL
Ionic Capacity	0.28-0.35mmol/mL	0.16-0.23mmol/mL
pH Stability, operational	2-12	
pH Stability, CIP	2-14	
Pressure	≤0.5MPa	
Temperature, operational	4-40℃	
Thermostability	120℃，30min, pH 7	
Flow Rate	700 cm/h	150 cm/h
Chemical Stability	Commonly used aqueous buffer, 1 M sodium hydroxide, 8 M urea, 6 M guanidine hydrochloride, 70% ethanol, 30% isopropyl alcohol	
Storage	20% EtOH, 4-30℃	

	Prosep Q	Prosep Q HPR
Matrix	Highly rigid graft agarose	
Average Particle Size	90μm	40μm
Changed Group	$-N^+(CH_3)_3$	
Dynamic Binding Capacity	120 mg BSA/mL	45 mg His/mL
Ionic Capacity	016-0.22mmol/mL	0.18-0.23mmol/mL
pH Stability, operational	2-12	
pH Stability, CIP	2-14	
Pressure	≤0.5MPa	
Temperature, operational	4-40℃	
Thermostability	120℃，30min, pH 7	
Flow Rate	700 cm/h	300 cm/h
Chemical Stability	Commonly used aqueous buffer, 1 M sodium hydroxide, 8 M urea, 6 M guanidine hydrochloride, 70% ethanol, 30% isopropyl alcohol	
Storage	20% EtOH, 4-30℃	

	Prosep SP	Prosep SP HPR
Matrix	Highly rigid graft agarose	
Average Particle Size	90μm	40μm
Changed Group	$-SO_3^-$	
Dynamic Binding Capacity	120 mg lysozyme/mL	70 mg lysozyme/mL
Ionic Capacity	0.16-0.20mmol/mL	0.18-0.23mmol/mL
pH Stability, operational	4-12	
pH Stability, CIP	3-14	
Pressure	≤0.5MPa	
Temperature, operational	4-40℃	
Thermostability	120℃，30min, pH 7	
Flow Rate	700 cm/h	300 cm/h
Chemical Stability	Commonly used aqueous buffer, 1 M sodium hydroxide, 8 M urea, 6 M guanidine hydrochloride, 70% ethanol, 30% isopropyl alcohol	
Storage	20% EtOH with 0.2M NaAc, 4-30℃	

	Prosep CM HPR
Matrix	Highly rigid graft agarose
Average Particle Size	40μm
Changed Group	-O-CH_2COO^-
Dynamic Binding Capacity	75 mg lysozyme/mL
Ionic Capacity	0.16-0.23mmol/mL
pH Stability, operational	4-13
pH Stability, CIP	2-14
Pressure	≤0.5MPa
Temperature, operational	4-40℃
Thermostability	120℃，30min, pH 7
Flow Rate	300 cm/h
Chemical Stability	Commonly used aqueous buffer, 1 M sodium hydroxide, 8 M urea, 6 M guanidine hydrochloride, 70% ethanol, 30% isopropyl alcohol
Storage	20% EtOH, 4-30℃

	Prosep MMA HPR
Matrix	Highly rigid graft agarose
Average Particle Size	40μm
Changed Group	MMA
Dynamic Binding Capacity	35 mg His/mL
Ionic Capacity	0.13-0.17mmol/mL
pH Stability, operational	3-12
pH Stability, CIP	2-14
Pressure	≤0.5MPa
Temperature, operational	4-40℃
Thermostability	120℃，30min, pH 7
Flow Rate	300 cm/h
Chemical Stability	Commonly used aqueous buffers.2 M NaCl, 1 M acetic acid, 1 M NaOH,70% ethanol, 5% 1-propanol, 30% isopropanol
Storage	20% EtOH, 4-30℃

	Prosep MabPure A LX
Matrix	Highly rigid graft agarose
Average Particle Size	85μm
Changed Group	Alkali-tolerant, protein A-derived
Dynamic Binding Capacity	60 mg IgG/mL resin
pH Stability, operational	3-12
Pressure	≤0.5MPa
Temperature, operational	4-40℃
Flow Rate	500 cm/h
Chemical Stability	Stable to commonly used aqueous buffers. 6 M guanidine hydrochloride, 70% ethanol, 8 M urea, 30% isopropanol
Storage	20% EtOH, 4-30℃

Gel Filtration Chromatography Media

The gel filter medium is a gel filter medium developed on the basis of dextran and agarose microspheres. This series of products not only retains the high resolution characteristics of dextran, but also introduces the high mechanical strength of cross-linked agarose, fast flow rate, reverse pressure, and smaller particle size ensures higher resolution, which is suitable for industrial large-scale protein refining gel filtration separation.

	G-10	G-15	G-25
Appearance	White powder		
Matrix	cross-linked glucan		
Particle Size	55-165μm	60-180μm	Corase: 180-400; Fine: 34-121 Medium: 77-200; Superfine: 25-77
Expansion Factor	2 - 3 mL/g	2.5 - 3.5 mL/g	Corase: ≤500; Fine: ≤100 Medium: : ≤300; Superfine: ≤60
Globulin Separation Range (M_T)	<700	<1500	1000-5000
Glucan Separation Range (M_P)	<700	<1500	100-5000
pH Stability, operational	2-13		
pH Stability, CIP	2-13		
Pressure	≤0.5MPa		
Temperature, operational	4-40℃		
Heat-resisting	121℃，20min		
Chemical Stability	Common aqueous buffer, 0.2 M NaOH, 6 M guanidine hydrochloride, 8 M urea, 20 mM HCl		
Storage	20% EtOH, 4-30℃		

	30 PG	75 PG	200 PG
Appearance	Opalescent translucent globular particles		
Matrix	cross-linked glucan		
Average Particle Size	34μm		
Globulin Separation Range (M_r)	<10,000	3000-70,000	10,000-600,000
Glucan Separation Range (M_P)	-	500-30,000	1000-100,000
Flow Rate	10-50 cm/h		
pH Stability, operational	3-12		
pH Stability, CIP	2-14		
Heat-resisting	121℃，20min		
Chemical Stability	Commonly used aqueous buffer; 8 M urea; 6 M guanidine hydrochloride; 30% isopropyl alcohol; 30% acetonitrile; 1% SDS		
Storage	20% EtOH with 0.2M NaAc, 4-30℃		

Agarose Magnetic Beads Chromatography Media

Agarose magnetic beads are magnetic separation media composed of high-purity agarose and superparamagnetic particles. They can move directionally under magnetic field and magnetic force, and directly separate target molecules from complex components in one step through the force between ligand and target molecules, which has a wide range of applications in rapid and large-scale protein purification and high-throughput protein screening.

Product	Dynamic Binding Capacity	Application
Mag DEAE	50 mg BSA/mL	High load, high stability
Mag Q	60 mg BSA/mL	
Mag CM	100 mg lysozyme/mL	
Mag SP	130 mg lysozyme/mL	

Customized Service

Biovanix provide customized service for agarose and glucan matrix for low pressure liquid chromatography. The development products are totally based on customers' needs and technical requirement.
We also provide pre-packed chromatography column with specific packing materials.

Package Size

	Package
Small Package	25ml
	50ml
	100ml
	200ml
	500ml
	1L
Production Package	10L
	25L

Supermacroporous Polymer Microsphere

In order to address key issues in the purification of viruses and viral particles, Biovanix has always been bold in its exploration of process technology and product development. Its research and production of supermacroporous ion exchange chromatography media have achieved precise control over the pore size of the chromatography media. Compared to conventional chromatography media, it has better performance in terms of load capacity and processing speed and is more conducive to maintaining the structure of viral vectors and viral-like particles.

Advantages

- Large molecules or viral particles can easily enter the pores for binding;
- The load capacity is more than 10 times that of conventional agarose media and twice that of conventional polymer media;
- It can maintain the integrity of the structure of large molecular proteins, obtain- ing high yield and high activity of the target protein;
- After hydrophilic modification of the microsphere surface and the bonding of ion exchange groups, non-specific adsorption is low and the degree of mechaniza- tion is high;
- The molecular mass transfer rate is fast, and better separation can be achieved at higher flow rates.

PSDVB Microsphere

Product	Poly15 SP	Poly15 Q	Poly30 SP	Poly30 Q
Matrix	Monodisperse PS-DVB			
Particle Size	15um		30um	
Function Group	(-CH2)SO3-	-CH2N+(CH3)3	(-CH2)SO3-	-CH2N+(CH3)3
Ligand Density	0.22 meq/mL	0.24meq/mL	0.15meq/mL	0.18meq/mL
Capacity	80mg Lys/mL	45mg BSA/mL	60mg Lys/mL	30mg BSA/mL
Flow Rate	150~800cm/h		250~1000cm/h	
Max. Pressure	8.0MPa		5.0MPa	
pH Stability	2-12			
Chemical Stability	All commonly used buffers,1M acetic acid,1M sodium oxychloride,1M hydrochloric ac- id,70% ethanol 30% isopropyl alcohol,30% acetoni- trile,1%SDS, 6M guanidine hydrochlo- ride, 8M urea and other commonly used organic solvents; Avoid exposure to strong oxidants.			
Usage Temperature	4~30°C			
Storage	2~30°C, 20% ethanol			

Product	Poly 50M			
Matrix	SP	Q	CM	DEAE
Particle Size	PS-DVB			
Function Group	50um			
Pore Size	100-150nm			
Ligand Density	0.15meq/mL	0.16meq/mL	0.15meq/mL	0.16meq/mL
Capacity	＞80mg Lys	＞100mg BSA	＞80mg Lys	＞90mg BSA
Flow Rate	300~1200cm/h			
Max. Pressure	3.0MPa			
pH Stability	1-12			
Chemical Stability	All commonly used buffers,1M acetic acid,1M sodium oxychloride,1M hydro-chloric acid,70% ethanol 30% isopropyl alcohol,30% acetonitrile,1%SDS, 6M guanidine hydrochloride, 8M urea and other commonly used organic sol- vents; Avoid exposure to strong oxidants.			
Usage Temperature	4~30°C			
Storage	2~30°C, 20% ethanol			

Product	Poly 50G			
Matrix	SP	Q	CM	DEAE
Function Group	PS-DVB			
Particle Size	50um			
Pore Size	150-300nm			
Ligand Density	0.14meq/mL	0.15meq/mL	0.14meq/mL	0.15meq/mL
Capacity	＞70mg Lys	＞90mg BSA	＞70mg Lys	＞ 65mg BSA
Flow Rate	300~1200cm/h			
Max. Pressure	2.0MPa			
pH Stability	1-12			
Chemical Stability	All commonly used buffers,1M acetic acid,1M sodium oxychloride,1M hydrochlo-ric acid,70% ethanol 30% isopropyl alcohol,30% acetonitrile,1%SDS, 6M guanidine hydrochloride, 8M urea and other com- monly used organic solvents; Avoid expo - sure to strong oxidants.			
Usage Temperature	4~30°C			
Storage	2~30°C, 20% ethanol			

Product	Poly 50V			
Matrix	SP	Q	CM	DEAE
Particle Size	PS-DVB			
Function Group	50um			
Pore Size	300-400nm			
Ligand Density	0.12meq/mL	0.13meq/mL	0.12meq/mL	0.133meq/mL
Capacity	＞70mg Lys	＞ 90mg BSA	＞ 70mg Lys	＞65mg BSA
Flow Rate	300~1200cm/h			
Max. Pressure	1.0MPa			
pH Stability	1-12			
Chemical Stability	All commonly used buffers,1M acetic acid,1M sodium oxychloride,1M hydro-chloric acid,70% ethanol 30% isopropyl alcohol,30% acetonitrile,1%SDS, 6M guanidine hydrochloride, 8M urea and other commonly used organic solvents; Avoid exposure to strong oxidants.			
Usage Temperature	4~30°C			
Storage	2~30°C, 20% ethanol			

Product	PM 50S			
Matrix	SP	Q	CM	DEAE
Particle Size	PMMA			
Function Group	50um			
Pore Size	100nm			
Ligand Density	0.18 meq/mL	0.19meq/mL	0.20meq/mL	0.18meq/mL
Capacity	115mg Lys	80mg BSA	105mg Lys	80mg BSA
Flow Rate	50~300cm/h			
Max. Pressure	1.0MPa			
pH Stability	2-12			
Chemical Stability	All commonly used buffers,1M acetic acid,1M sodium oxychloride,1M hydrochloric acid,70% ethanol 30% isopropyl alcohol,30% acetonitrile,1%SDS, 6M guanidine hydrochloride, 8M urea and other commonly used organic solvents; Avoid exposure to strong oxidants.			
Usage Temperature	4~30℃			
Storage	2~30℃, 20% ethanol			

Product	PM 50M			
Matrix	SP	Q	CM	DEAE
Particle Size	PMMA			
Function Group	50um			
Pore Size	100-150nm			
Ligand Density	0.11meq/mL	0.17m eq/mL	0.16meq/mL	0.15meq/mL
Capacity	115mg Lys	80mg BSA	105mg Lys	80mg BSA
Flow Rate	50~300cm/h			
Max. Pressure	0.8MPa			
pH Stability	2-12			
Chemical Stability	All commonly used buffers,1M acetic acid,1M sodium oxychloride,1M hydrochloric acid,70% ethanol 30% isopropyl alcohol,30% acetonitrile,1%SDS, 6M guanidine hydrochloride, 8M urea and other commonly used organic solvents; Avoid exposure to strong oxidants.			
Usage Temperature	4~30℃			
Storage	2~30℃, 20% ethanol			

Product	PM 50G			
Matrix	SP	Q	CM	DEAE
Particle Size	PMMA			
Function Group	50um			
Pore Size	150-300nm			
Ligand Density	0.11meq/mL	0.09meq/mL	0.08meq/ mL	0.09meq/mL
Capacity	＞ 70mg Lys	＞ 75mg BSA	＞ 70mg Lys	＞ 60mg BSA
Flow Rate	50~300cm/h			
Max. Pressure	0.5MPa			
pH Stability	2-12			
Chemical Stability	All commonly used buffers,1M acetic acid,1M sodium oxychloride,1M hydrochloric acid,70% ethanol 30% isopropyl alcohol,30% acetonitrile,1%SDS, 6M guanidine hydrochloride, 8M urea and other commonly used organic solvents; Avoid exposure to strong oxidants.			
Usage Temperature	4~30℃			
Storage	2~30℃, 20% ethanol			

Product	PM 50V			
Matrix	SP	Q	CM	DEAE
Particle Size	PMMA			
Function Group	50um			
Pore Size	300-400nm			
Ligand Density	0.11meq/mL	0.09meq/mL	0.08meq/mL	0.09meq/mL
Capacity	> 70mg Lys	> 75mg BSA	> 70mg Lys	> 60mg BSA
Flow Rate	50~300cm/h			
Max. Pressure	0.5MPa			
pH Stability	2-12			
Chemical Stability	All commonly used buffers,1M acetic acid,1M sodium oxychloride,1M hydrochloric acid,70% ethanol 30% isopropyl alcohol,30% acetonitrile,1%SDS, 6M guanidine hydrochloride, 8M urea and other commonly used organic solvents; Avoid exposure to strong oxidants.			
Usage Temperature	4~30°C			
Storage	2~30°C, 20% ethanol			

Product	PM 50G			
Matrix	SP	Q	CM	DEAE
Particle Size	PMMA			
Function Group	50um			
Pore Size	150-300nm			
Ligand Density	0.11meq/mL	0.09meq/mL	0.08meq/ mL	0.09meq/mL
Capacity	> 70mg Lys	> 75mg BSA	> 70mg Lys	> 60mg BSA
Flow Rate	50~300cm/h			
Max. Pressure	0.5MPa			
pH Stability	2-12			
Chemical Stability	All commonly used buffers,1M acetic acid,1M sodium oxychloride,1M hydrochloric acid,70% ethanol 30% isopropyl alcohol,30% acetonitrile,1%SDS, 6M guanidine hydrochloride, 8M urea and other commonly used organic solvents; Avoid exposure to strong oxidants.			
Usage Temperature	4~30°C			
Storage	2~30°C, 20% ethanol			

Product	PM 50V			
Matrix	SP	Q	CM	DEAE
Particle Size	PMMA			
Function Group	50um			
Pore Size	300-400nm			
Ligand Density	0.11meq/mL	0.09meq/mL	0.08meq/mL	0.09meq/mL
Capacity	> 70mg Lys	> 75mg BSA	> 70mg Lys	> 60mg BSA
Flow Rate	50~300cm/h			
Max. Pressure	0.5MPa			
pH Stability	2-12			
Chemical Stability	All commonly used buffers,1M acetic acid,1M sodium oxychloride,1M hydrochloric acid,70% ethanol 30% isopropyl alcohol,30% acetonitrile,1%SDS, 6M guanidine hydrochloride, 8M urea and other commonly used organic solvents; Avoid exposure to strong oxidants.			
Usage Temperature	4~30°C			
Storage	2~30°C, 20% ethanol			

Biopure AF / Q Media

Virus purification often used in producing virus type vaccines, and also provides an important tool for the study of virus fine morphological structure. Isolation and purification of virus antigen protein are detailed studies of virus chemical composition and genetic material.

Biopure AF is an affinity chromatography media designed for the capture and moderate purification stages of capsular virus purification. Specific adsorption of Biopure AF media and target occurs by simulating the affinity between ligands and virus particles with capsular membranes. With unique high loading capacity, high flow rate and low back pressure, Biopure AF reduces the process cycle time and increases the yield, fully meeting the requirements of large-scale vaccine production processes. Biopure Q on the other hand is a strong anionic exchange packing material that is capable of capturing virus type vaccine.

	Biopure AF	Biopure Q
Substrate	Hydrophilic PS-DVB (Polystyrene/divinylbenzene) Microspheres	
Particle Size	50um, 70um	
Function Group	Sulfate Ester	$-CH_2-CH_2-CH_2-N+(CH_3)_3$
Dynamic Binding	lysozyme 30mg/ml	BSA >90 mg/ml
Flow Rate	1000cm/h (20□, buffer solution viscosity same as water， pressure < 3 bar / 43.5psi, column bed height 20cm)	
Column Bed Height	20-40cm	
pH Stability	1-14	
Working Temperature	4-30℃	
CIP Condition	0.5-1M NaOH	
Storage	2-8℃ 20% EtOH	

Biopre AF media Application

Viruses		Viral/Microbial Antigens
Rabies	Feline Calicivirus	Herpes Simplex gA and gB Glycoprotein Subunits
Influenza	Respiratory Syncytial Virus	Hepatitis B Surface Antigen
Japanese Enchephalitis	Human Herpes Simplex	Filamentous Hemagglutinin from B. pertussis
Feline Leukemia	Human Measles	Leucocytosis Promoting Factor Hemagglutinin
Feline Herpes	Human Parainfluenza	

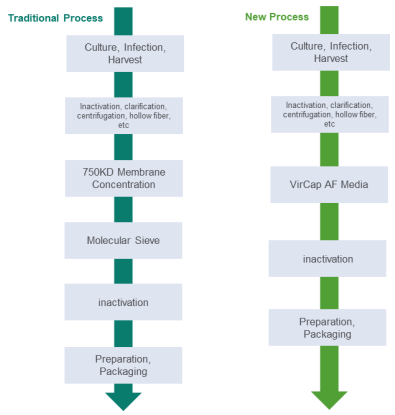
One-step Porcine Pseudorabies Virus Purification

Porcine pseudorabies virus (PRV) causes fever, itchiness (except in pigs) and encephalomyelitis as the main symptoms in a variety of domestic and wild animals. Immunization is the main strategy for the prevention of pseudorabies, and a weakened vaccine with the Bartha-K61 strain is currently used in China.

The use of such inactivated virus vaccines is considered an effective way to prevent pseudorabies in pig farms, improving reproduction rate of sows and control piglet mortality.

The loading volume of Biopure AF70 affinity chromatography is large (up to 5-10 column volumes). And it does not require concentration, which also avoids the loss of antigen from concentration and improves production efficiency. Therefore it is suitable to process scale-up.

The results of serum antibody detection showed that the antibody level after vaccination of purified vaccine - high dose group and medium dose group was close to that of commercial vaccine group, and the immunization effect was satisfactory.

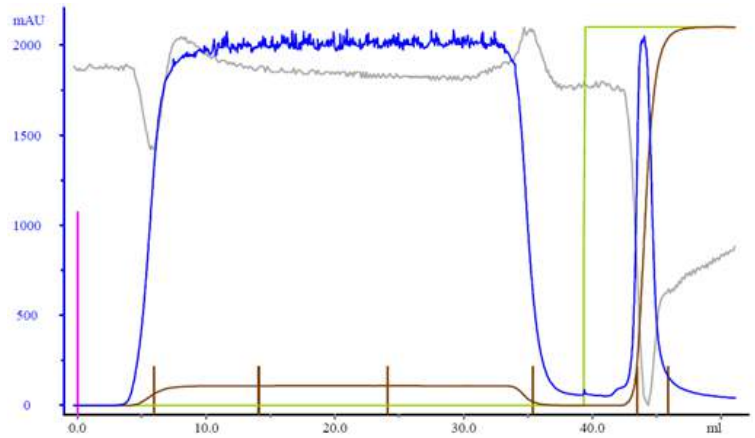


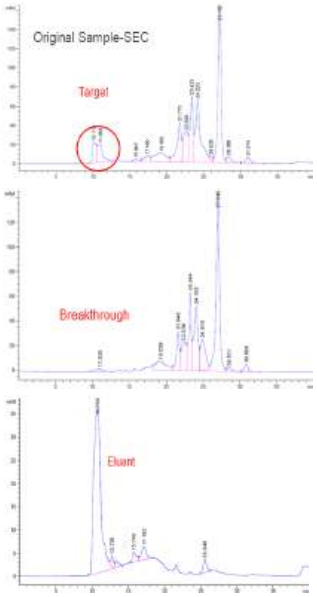
Advantages

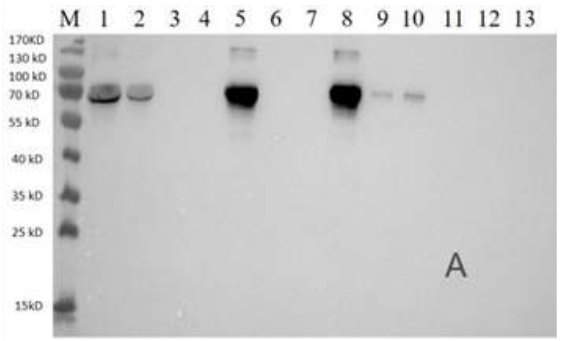
1. Samples are pre-treated and directly sampled after VirCap one-step chromatography target yield greater than 70%; very low back pressure at higher flow rates.

2. Samples are loaded under neutral conditions with the vast majority of proteins, nucleases, HCP, endotoxins, DNA flow-through in the sample, and data provided by users indicate that the removal of miscellaneous proteins, HCP, nucleases, DNA, etc. is greater than 90%.

3. Mild adsorption and elution conditions, reducing downstream







1. Unprocessed original sample
2. Original sample centrifuged at 3000rpm
3. FT6
4. W6
5. ET6-1
6. FT7
7. W7

Oligo dT(25) Affinity Chromatography Resin

Biovanix Oligo dT(25) Affinity Resin is a cutting-edge solution designed for the purification and isolation of mRNA from in vitro transcription (IVT) manufacturing processes. This advanced resin selectively captures mRNA via its polyadenylated (polyA) tail, effectively separating it from other components of the transcription reaction, such as enzymes and plasmid DNA.

Perfectly suited for large-scale downstream purification, Biovanix Oligo dT(25) Affinity Resin is a key enabler for vaccine and gene therapy applications, offering unmatched selectivity and capacity to meet the demands of modern biopharmaceutical manufacturing.

Specification

Characteristic	Description
Support Matrix	Cross-linked poly(styrene-divinylbenzene)
Average Particle Size	50 um
Average Pore Size	200 nm
Surface Functionality	poly(dT) 25mer with proprietary linker
Ligand Density	0.3 umol/ml
Mechanical Resistance	70 bar (1,000 psi; 7 MPa)
Thermal Stability	allows sample denaturing at 65°C if needed
pH Range	2-13
Ionic Strength Range	0 to 5 M, all common salts
Chemical Resistance	Common agents for mRNA purification, include 0.5 M NaOH, 2 M MgCl2, 20 mM EDTA. Water, 0 to 100% alcohol, acetonitrile, 2 M acetic acid, 1 M HCl, and other common organic solvents
Storage	18-20% ethanol

Chemical & Thermal Resistance

pH Range	2–13
Ionic Strength Range	0 to 5 M, all common salts
Buffer Additives	Common agents for mRNA purification, include 0.5 M NaOH, 2 MMgCl2, 20 mM EDTA. Do not expose to strong oxidizers (such as hypochlorite), oxidizing acids (such as nitric), strong reducing agents (such as sulfite), acetone, THF, or benzyl alcohol.
Solvents	Water, 0 to 100% alcohol, acetonitrile, 2 M acetic acid, 1 M HCl, and other common organic solvents. Do not expose to strong oxidizers (such as hypochlorite), oxidizing acids (such as nitric), strong reducing agents (such as sulfite), acetone, benzyl alcohol, or THF.
Flow rate	Adjust flow rate depending on performance. Do not exceed upper-pressure limitations.

InertShell Core-Shell Chromatography Resin

Biovanix InertShell Chromatography Resin is a revolutionary core-shell technology-based resin designed for the purification of viruses and large biomolecules. Combining size-exclusion separation with binding chromatography, this advanced resin efficiently captures and isolates large biomolecules while allowing smaller contaminants to pass through and bind within the core. This dual functionality ensures high-purity outcomes in downstream processing.

Advantages

1. Core-Shell Technology: Dual Functionality & Efficient Separation & Optimized Design
2. Advanced Material Composition: Polymer Base & Active Ligand & Porous Structure
3. High Purity and Efficiency: Selective Capture & High Capacity
4. Compliance and Safety: Non-Animal Derived & Stable Performance

Specification

Biovanix Inert Shell	Competitor 700	
Matrix	Polyacrylate	Highly cross□linked agarose
Ligand	Octylamine	Octylamine
Average particle size	50-150 μm	50-150 μm
Density of ligand	0.10-0.20 mmol/mL	0.04-0.085 mmol/mL
Binding capacity[1]	20 mg BSA/mL resin	12 mg BSA/mL resin
Operational pressure	⩽1.0 MPa	⩽0.3 MPa
Operational flow rate	100-600 cm/h	100-600 cm/h
pH stability	3-13	3-13
Temperature	4-30℃	4-30℃
Chemical stability	All commonly used aqueous buffers, 1 M sodium hydroxide (NaOH)[2], 6 M guanidine hydrochloride, 30% isopropanol, and 70% ethanol.	All commonly used aqueous buffers, 1 M sodium hydroxide (NaOH)[2], 6 M guanidine hydrochloride, 30% isopropanol, and 70% ethanol.
Storage	20% ethanol at 4℃ to 25 ℃	20% ethanol at 4℃ to 25℃

1. Dynamic binding capacity measured at 5% breakthrough with 76 cm/h on φ10×13 mm, 1 mL columns. The buffer was 1.0 mg/mL BSA 50 mM NaCl, pH 0.
2. No significant changes in ionic capacity and carbon content after storage 1 week in 1 M NaOH at 25°C.

Compared with Competitor 700, the thickness of the core in Biovanix Inert Shell (0.5-1.0 μm) is smaller than Competitor 700 (5 μm). Biovanix Inert Shell is conducive to the rapid mass transfer of impure proteins to the medium core for capture, like cell proteins of the host, DNA fragments, endotoxin, serum. Biovanix Inert Shell has a higher yield amount of miscellaneous protein. With the macroporous structure (200-500 nm) of the core in Biovanix Inert Shell can quickly remove the miscellaneous protein in CIP. Biovanix Inert Shell also has a longer service life in the purification process. In animal vaccine studies, the performance of Biovnanix Inert Shell can be repeated use more than 30 times with less change in its properties.

Single-layer Glass Column

- Pressure-resistant borosilicate glass, visualization and stability
- Supporting foot, adjustable level, convenient for users to use
- Reasonable price, high cost performance
- Reproducibility, excellent column efficiency and reliable results
- Zero dead volume structural connections

Working Temperature	4-40℃
pH Range	1-14
Chemical Stability	Tolerant to salt, acid, alkali, and a small number of organic solvents alcohols, ketones, phenols.
Column Material	Borosilicate glass
Column Head Material	PTFE
Thread-end Material	PEEK
Seal Ring Material	PTFE/EPDM
Tubing Material	1/16&1/8
Connector Material	PEEK 1/16&1/8

No.	Internal Diameter (mm)	Length (mm)	One-side Adjustable Type		Double-side Adjustable Type		Pressure (bar)
			Volume (mL)	Bed Height (cm)	Volume (mL)	Bed Height (cm)	
YS16/200	16	200	4-30	2-14.5	0-30	0-14.5	7
YS16/400	16	400	46-72	22-34.5	17-72	8.5-34.5	7
YS16/700	16	700	109-136	52-64.5	81-136	38.5-64.5	7
YS16/1000	16	1000	173-199	82-94.5	144-199	68.5-94.5	7
YS26/200	26	200	10-73	2-14.5	0-73	0-14.5	7
YS26/400	26	400	111-174	22-34.5	43-174	8.5-34.5	7
YS26/700	26	700	263-326	52-64.5	195-326	38.5-64.5	7
YS26/1000	26	1000	415-479	82-94.5	347-479	68.5-94.5	7
YS50/200	50	200	19-275	1-14	0-275	0-14	5
YS50/400	50	400	215-471	11-24	0-471	0-24	5
YS50/600	50	600	804-1060	41-54	549-1060	28-54	5
YS50/1000	50	1000	1589-1845	81-94	1334-1845	68-94	5

BSXK Double-layer Glass Column

BSXK glass columns are made of borosilicate glass. They allow visual inspection of media bed and exhibit excellent chemical resistance. Column packing can be performed using either a packing reservoir or extra column tube attached with a packing connector. QuickLock of the adapter shaft facilitates rapid and easy movement of the adapter, simplifying adjustments of the bed height and cleaning. Adapter plunger gives a uniform flow which maintains the integrity of the packed bed during operations.

Working Temperature	4-40℃
pH Range	1-14
Chemical Stability	Tolerant to salt, acid, alkali, and a small number of organic solvents alcohols, ketones, phenols.
Column Material	Borosilicate glass
Column Head Material	PTFE
Thread-end Material	PEEK
Seal Ring Material	PTFE/EPDM
Tubing Material	1/16&1/8
Connector Material	PEEK 1/16&1/8
Max. Pressure	20 bar (10/16mm I.D.); 10 bar (26mm I.D.); 7 bar (50mm I.D.)

No.	Internal Diameter (mm)	Length (mm)	One-side Adjustable Type		Double-side Adjustable Type	
			Volume (mL)	Bed Height (cm)	Volume (mL)	Bed Height (cm)
BSXK10/100	10	100	4-7.5	0-9	0-7	0-8
BSXK10/150	10	150	7.5-12	9-12	4.7-12	5-13
BSXK16/200	16	200	4-30	2-14.5	0-30	0-14.5
BSXK16/400	16	400	46-72	22-34.5	17-72	8.5-34.5
BSXK16/700	16	700	109-136	52-64.5	81-136	38.5-64.5
BSXK16/1000	16	1000	173-199	82-94.5	144-199	68.5-94.5
BSXK26/200	26	200	10-73	2-14.5	0-73	0-14.5
BSXK26/400	26	400	111-174	22-34.5	43-174	8.5-34.5
BSXK26/700	26	700	263-326	54-64.5	195-326	38.5-64.5
BSXK26/1000	26	1000	415-479	82-94.5	347-479	68.5-94.5
BSXK50/200	50	200	19-275	1-14	0-275	0-14
BSXK50/300	50	300	215-471	11-24	0-471	0-24
BSXK50/600	50	600	804-1060	41-54	549-1060	28-54
BSXK50/1000	50	1000	1589-1849	81-94	1334-845	68-94

Single-layer Fixed Glass Column

HT series chromatographic columns have unique flared cylinder design for more even fluid distribution. The columns are equipped with a unique nozzle instead of the sieve plate, which is especially suitable for solid sample loading and dry sample mixing. It effectively prevents the destruction of the column bed caused by high mobile phase line velocity. HT chromatographic column has a large volume of sample loading. It can be pumped to eliminate the blocking of the inlet valve interface caused by high concentration of samples.

HT series chromatography columns are suitable for reverse-phase, ion-exchange, gel-permeation and affinity chromatography. Compared with ordinary open glass columns purification time is shortened 2-10 times with higher purification efficiency and less solvent usage. The column tube is convenient to disassemble and wash, which saves time for the researchers.

No.	Inner diameter (mm)	Length (mm)	Max. Pressure (bar)	Silica Resin (40-60um) (g)	Sampling (g)	Flow Rate (mL/min)
HT10/110	10	110	40	Protective column, on-column injector.		
HT-15/310	15	310	40	45	0.45-4.5	5-20
HT-15/460	15	460	40	70	0.7-7.00	5-20
HT-15/920	15	920	40	140	1.4-14.00	5-20
HT26/100	26	100	40	Protective column, on-column injector.		
HT-26/310	26	310	40	130	1.30-13.00	20-70
HT-26/460	26	460	40	200	2.00-20.00	20-70
HT-26/920	26	920	40	400	4.00-40.00	20-70
HT-36/310	36	310	30	240	2.40-24.00	45-135
HT-36/460	36	460	30	350	3.50-35.00	45-135
HT-36/920	36	920	30	700	7.00-70.00	45-135
HT-49/100	49	100	20	Protective column, on-column injector.		
HT-49/310	49	310	20	450	4.50-45.00	80-200
HT-49/460	49	460	20	650	6.50-65.00	80-200
HT-49/920	49	920	20	1300	13.00-130.00	80-200
HT-70/310	70	310	10	880	8.80-88.00	170-250
HT-70/460	70	460	10	1300	13.00-130.00	170-250
HT-70/920	70	920	10	2600	26.00-260.00	170-250
HT-100/310	100	310	10	1900	19.00-190.00	200-250
HT-100/460	100	460	10	2750	27.50-275.00	170-250
HT-100/920	100	920	10	5500	55.00-550.00	200-250
HT-150/300	150	300	5	3180	36.50-365.00	500-800
HT-150/600	150	600	5	6360	55.00-550.00	500-800
HT-150/900	150	900	5	9540	110.00-1100.00	500-800

Low-pressure Glass Chromatography Column

Low-pressure chromatography columns are pressure compressible glass columns designed for hygienic operation and simple, efficient loading, primarily for process development or biopharmaceutical production.

Patent column head sealing technology

The lever-pressing sealing structure was used with high reliability, which prevents the problem that the pneumatic mechanism easy to leak and invalid.

- The expansion structure of pressurizing-down style gasket ring prevents column head departing from bed caused by the pull-up structure.
- Minimized Hold-up Volumes, Easy to clean and change the seal.

Patent column head rotating structure

- The column head rotates by the rotating screw of the column pipe, which is on the upper surface of the flange plate. After rotating in place, the second screw needs to be inserted. Media packing can be done after rotating the column head. It is easy to operate, without carrying out the column head.

Predictable linear scale-up

- Fix condition: Linear flow rate, buffer, packing material, bed height, sample concentration, pH, sample volume, and bed volume ratio.
- Scale-up condition: Column I.D., volume flow rate, sample volume.

Advantages

- Finished tubes, which cost 3-4 times more than standard tubes. This chromatographic column adopts SCHOTT G3.3 medical finished glass column barrel. The end face of this column barrel is smooth, and the inner wall is processed twice, without bubbles and scratches, so that there is no real residue. And high dimensional accuracy, good consistency. And printed with the original factory "SCHOTT" and "DURAN" logo. DWK Life Sciences Co., LTD., the manufacturer of Schott finished barrel, issued a statement.
- The liquid material and screen plate are made of high standard 316L stainless steel. All joints and seals are made of high standard materials. Ensure the use of the column effect. There is no leakage in long-term use.
- The column is easy to install, complete accessories configuration. Perfect after sale.

Product Details

Product	Column Inner Diameter (mm)	Sectional Area (cm^2)	Column Height (mm)	Column Bed Height (cm)		Column Bed Volume (L)		Max. Pressure (bar)	Net Wight (Kg)
				Min	Max	Min	Max		
MPC100/500	70	38.5	500	0	35	0	1.4	8	14
MPC100/750	70	38.5	950	40	80	1.5	3.1	8	14
MPC100/500	100	78.5	500	0	35	0	2.7	8	18
MPC100/750	100	78.5	750	20	60	1.6	4.7	8	20
MPC100/950	100	78.5	950	40	80	3.1	6.3	8	21
MPC140/500	140	154	500	0	35	0	5.4	6	30
MPC140/750	140	154	750	20	60	3.1	9.2	6	33
MPC140/950	140	154	950	40	80	6.2	12.3	6	35
MPC200/500	200	314	500	0	35	0	11	6	36
MPC200/750	200	314	750	20	60	6.3	18.8	6	39
MPC200/950	200	314	950	40	80	12.6	25.1	6	42
MPC300/500	300	706.5	500	0	35	0	24.7	4	58
MPC300/750	300	706.5	750	20	60	14.1	42.4	4	63
MPC300/950	300	706.5	95	40	80	28.2	56.5	4	67
MPC450/500	450	1560	50	0	35	0	55.6	3	230

Injection Loop

BioVanix injection loop is designed for low-pressure chromatography systems. It can be incorporated into a pressurized packing device for large-volume samples and used with the sampling valve.

Type

- 10mL 2MPa
- 50mL 4MPa
- 150mL 2MPa

Oligo Synthesis Column

Small Oligo Synthesis Column

Small stainless steel synthesis columns are designed as fixed volume synthesis column reactors (equipped with filters and seals) for oligonucleotide synthesis.

- Synthetic columns are manufactured to high standards to withstand the harsh organic conditions of oligonucleotide synthesis
- Made of 316L stainless steel

Product	Volume	Inner Diameter	Height
Oligo1.2	1.2ml	10mm	15mm
Oligo6.3	6.3ml	20mm	20mm
Oligo12	12ml	27mm	21mm
Oligo24	24ml	35mm	25mm
Oligo48	48ml	44mm	32mm

Oligo Synthesis Column

Designed for the synthesis of oligonucleotides, Biovanix oligo synthesis columns are engineered to endure the demanding organic conditions typical in the synthesis process.

- Adjustable column bed height, ideally set between 3 to 10 cm for optimal performance.
- A 35mm column diameter with a capacity ranging from 10mL to 100mL.
- Built to endure the stringent organic conditions prevalent in oligonucleotide synthesis.
- User-friendly operation with an efficient solid-phase carrier packing process.

Customization options available, including sizes with diameters of 70mm, 100mm, 200mm, and 350mm.

Product	Inner Diameter	Packing Length	Pressure Resistance	Weight (kg)
Oligo35 Column	35mm	0-150mm	2Mpa	2
Oligo50 Column	50mm	30-150mm	2Mpa	4
Oligo70 Column	70mm	30-150mm	2Mpa	10
Oligo100 Column	100mm	30-150mm	2Mpa	17
Oligo200 Column	200mm	30-150mm	2Mpa	68
Oligo350 Column	350mm	30-150mm	2Mpa	250
Oligo70L Column	70mm	50-300mm	2Mpa	13
Oligo100L Column	100mm	50-300mm	2Mpa	21
Oligo200L Column	200mm	50-300mm	2Mpa	83
Oligo350L Column	350mm	50-300mm	2Mpa	270
Oligo140 Column	140mm	30-150mm	2Mpa	31
Oligo140L Column	140mm	50-300mm	2Mpa	36

Hardware Components

High-pressure Precision Plunger Pump

Eldex Optos Injection Pump

Eldex's Optos Series is designing and manufacturing reciprocating piston pumps for a wide variety of applications, while integrating the latest technology and electronics.

With upgrade to Plus Version

- Pressure monitoring with high and low pressure limits
- Integrated low volume pulse damper

Model 1

	Flow Rate (mL/min)	Max. Pressure (psi)	Piston Diameter (in.)	Piston Stroke (in.)	Model
316 stainless steel	0.002 - 2.5	6000	3/32	.125	1LM
	0.003 - 5	6000	1/8	.125	1SM
	0.01 - 20	3000	1/4	.125	1HM
	Flow Rate (mL/min)	Max. Pressure (psi)	Piston Diameter (in.)	Piston Stroke (in.)	Model
PEEK	0.002 - 2.5	4000	3/32	.125	1LI
	0.003 - 5	4000	1/8	.125	1SI
	0.01 - 20	3000	1/4	.125	1HI

Model 2

	Flow Rate (mL/min)	Max. Pressure (psi)	Piston Diameter (in.)	Piston Stroke (in.)	Model
316 stainless steel	0.003 - 5	6000	3/32	.250	2LM
	0.01 - 10	6000	1/8	.250	2SM
	0.02 - 40	1500	1/4	.250	2HM
	Flow Rate (mL/min)	Max. Pressure (psi)	Piston Diameter (in.)	Piston Stroke (in.)	Model
PEEK	0.003 - 5	4000	3/32	.250	2LI
	0.01 - 10	4000	1/8	.250	2SI
	0.02 - 40	1500	1/4	.250	2HI

Model 3

	Flow Rate (mL/min)	Max. Pressure (psi)	Piston Diameter (in.)	Piston Stroke (in.)	Model
316 stainless steel	0.01 - 10	3000	3/32	.500	3LM
	0.01 - 20	1500	1/8	.500	3SM
	0.04 - 80	750	1/4	.500	3HM
PEEK	Flow Rate (mL/min)	Max. Pressure (psi)	Piston Diameter (in.)	Piston Stroke (in.)	Model
	0.01 - 10	3000	3/32	.500	3LI
	0.01 - 20	1500	1/8	.500	3SI
	0.04 - 80	750	1/4	.500	3HI

Optos Plus Model: Minimize Pulsation, Monitor Pressure

Add Plus to your Optos Series pump to integrate a pulse damper to further reduce pulsation and have the ability to monitor pressure and set high and low pressure limits. Plus is available on L and S piston pumps.

	Flow Rate* (mL/min)	Max. Pressure (psi)	Piston Diameter (in.)	Piston Stroke (in.)	Model
316 stainless steel	0.002 - 2.5	6000	3/32	.125	1LMP
	0.003 - 5	6000	1/8	.125	1SMP
PEEK	Flow Rate* (mL/min)	Max. Pressure (psi)	Piston Diameter (in.)	Piston Stroke (in.)	Model
	0.002 - 2.5	4000	3/32	.125	1LIP
	0.003 - 5	4000	1/8	.125	1SIP

Double Plunger Pump

BioVanix Double Plunger Pumps are engineered to address the critical need for highly accurate and stable liquid transfer in demanding analytical and industrial environments. This system integrates advanced mechanics with intelligent software, setting a new standard for precision, reliability, and user interaction.

High-Precision Liquid Handling

The core double plunger design inherently minimizes pulsation, ensuring a smooth and consistent flow stream. This mechanical advantage is further enhanced by the multi-point flow correction feature, which guarantees exceptional volumetric accuracy and stability across the operational flow range, crucial for demanding applications like chromatography and quantitative dosing.

Intuitive and Modern Interface

Touchscreen Design: The pump features an intuitive touchscreen design and a humanized interface, streamlining setup, monitoring, and parameter adjustment. This modern approach reduces the learning curve and improves operational efficiency.

Enhanced Connectivity and Data Integrity

Stable Data Transfer: Equipped with RS232 and LAN connections, the system facilitates robust and stable data transfer. This capability is essential for seamless integration into Laboratory Information Management Systems (LIMS) and for reliable remote control.

Firmware Updates: The system supports firmware program updates, ensuring that the device benefits from the latest performance optimizations, security enhancements, and new features throughout its lifespan.

Safety and Reliability Protocols

Power-Off Protection: Integrated power-off protection safeguards crucial operational settings and data in the event of an unexpected power interruption, ensuring process continuity and data integrity.

Intelligent Alert System: The pump is equipped to alarm in time according to set procedures. In critical situations, this protocol mandates an automatic pump stop, thereby preventing potential damage to the system or compromising the integrity of the ongoing process.

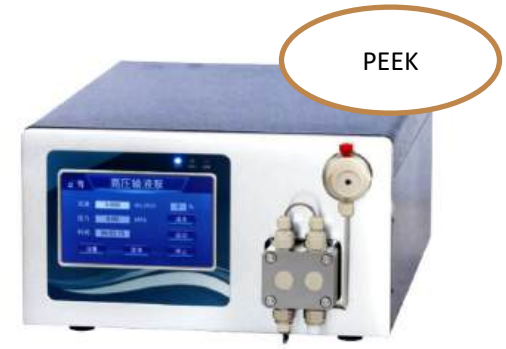
Pump Selection

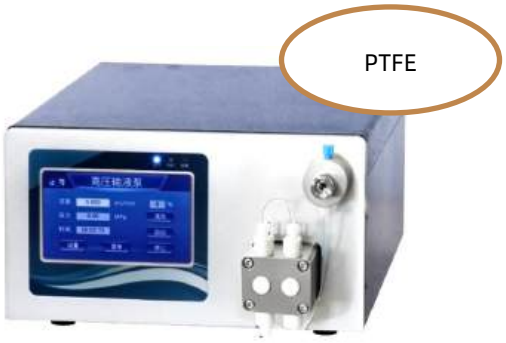
	Stainless Steel Head	Hastelloy C Head	PEEK Head	PTFE Head
10ml/min	√	√	√	√
50ml/min	√	√	√	√
100ml/min	√		√	√
200ml/min	√		√	√
500ml/min	√			
1000ml/min	√			
3000ml/min	√			

10-50ml

Pump

Type	PUP0010	PUP0010-C	PUP0010-PEEK	PUP0010-PTFE
Pump Material	Stainless Steel 316L	Hastelloy C	PEEK	PTFE
Mode	dual plunger series	dual plunger series	dual plunger series	dual plunger series
Inlet Connector	1/8"	1/8"	1/8"	1/8"
Outlet connector	1/16"	1/16"	1/16"	1/16"
Increment	0.001ml / min	0.001ml / min	0.001ml / min	0.001ml / min
Flow rate range	(0 ~ 9.999)mL/min	(0 ~ 9.999)mL/min	(0 ~ 9.999)mL/min	(0 ~ 9.999)mL/min
Max. Pressure	42Mpa	42Mpa	20Mpa	4Mpa
Pulsation	0.5%, at 10Mpa , 1ml/min	0.5%, at 10Mpa , 1ml/min	0.5%, at 10Mpa , 1ml/min	0.5%, at 10Mpa , 1ml/min
Accuracy	±0.15%	±0.15%	±0.5%	±0.5%
Precision (RSD)	0.1%	0.1%	0.1%	0.1%
Control	RS232 or LAN	RS232 or LAN	RS232 or LAN	RS232 or LAN
Display	5.0-inch Touch screen	5.0-inch Touch screen	5.0-inch Touch screen	5.0-inch Touch screen
Power	75W	75W	75W	75W
Dimension (L*W*H)	368*260*140mm	368*260*140mm	368*260*140mm	368*260*140mm
Net Weight	6.9kg	6.9kg	6.9kg	6.9kg

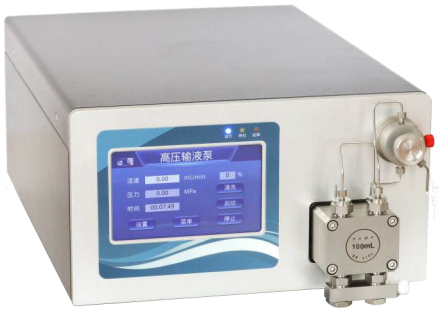




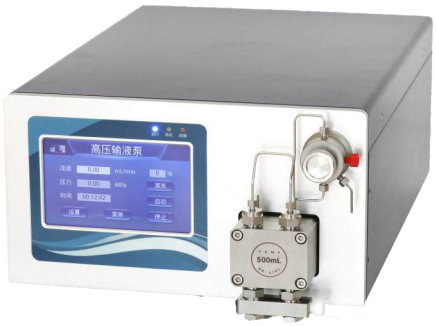
Type	PUP0050	PUP0050-C	PUP0050-PEEK	PUP0050-PTFE
Pump Material	Stainless Steel 316L	Hastelloy C	PEEK	PTFE
Mode	dual plunger series	dual plunger series	dual plunger series	dual plunger series
Inlet Connector	1/8"	1/8"	1/8"	1/8"
Outlet connector	1/16"	1/16"	1/16"	1/16"
Increment	0.001ml / min	0.001ml / min	0.001ml / min	0.001ml / min
Flow rate range	(0 ~ 49.999)mL/min	(0 ~ 49.999)mL/min	(0 ~ 49.999)mL/min	(0 ~ 49.999)mL/min
Max. Pressure	30Mpa	30Mpa	15Mpa	4Mpa
Pulsation	0.5%, at 10Mpa	0.5%, at 10Mpa	0.5%, at 10Mpa	0.5%, at 10Mpa
Accuracy	±0.15%	±0.15%	±0.5%	±0.5%
Precision (RSD)	0.1%	0.1%	0.5%	0.5%
Control	RS232 or LAN	RS232 or LAN	RS232 or LAN	RS232 or LAN
Display	5.0-inch Touch screen	5.0-inch Touch screen	5.0-inch Touch screen	5.0-inch Touch screen
Power	150W	150W	150W	150W
Dimension (L*W*H)	368*260*140mm	368*260*140mm	368*260*140mm	368*260*140mm
Net Weight	6.9kg	6.9kg	6.9kg	6.9kg

100-3000ml

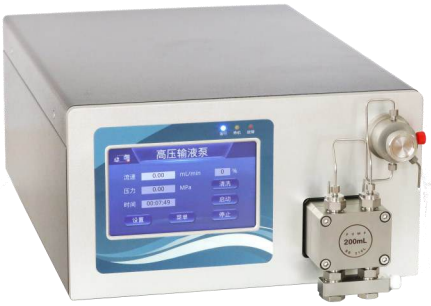
Pump



100mL



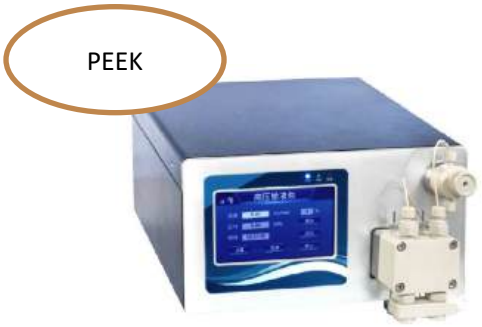
500mL



200mL

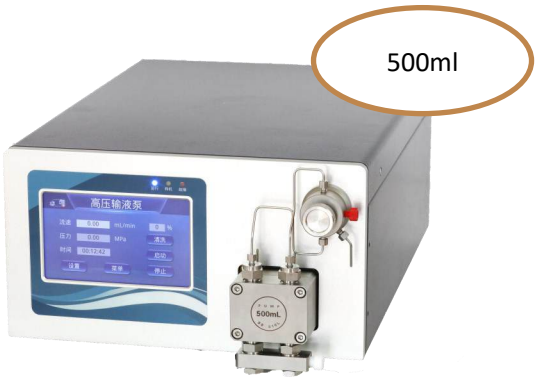
1000mL

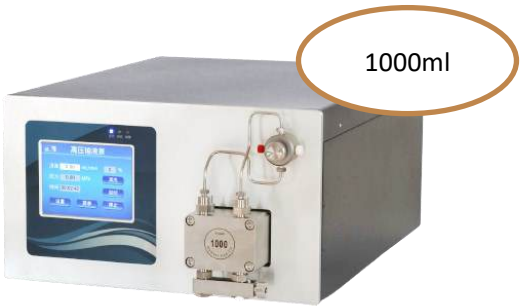
3000mL



Type	PUP0100	PUP0100-PEEK	PUP0100-PTFE
Pump Material	Stainless Steel 316L	PEEK	PTFE
Mode	dual plunger series	dual plunger series	dual plunger series
Inlet Connector	4mm	4mm	4.76mm
Outlet connector	1/16"	1/16"	1/8"
Increment	0.01ml / min	0.01ml / min	0.01ml / min
Flow rate range	(0 ~ 99.99)mL/min	(0 ~ 99.99)mL/min	(0.01 ~ 100)mL/min
Max. Pressure	25Mpa	10Mpa	4Mpa
Pulsation	1%	1%	1%
Accuracy	±0.5%	±0.5%	±0.5%
Precision (RSD)	0.2%	0.5%	0.5%
Control	RS232 or LAN	RS232 or LAN	RS-232/485/LAN interface, 3 communication interfaces, 4 communication protocols, can be switched
Display	5.0-inch Touch screen	5.0-inch Touch screen	LCD 2×8 screen
Power	150W	150W	150W
Dimension (L*W*H)	368*260*140mm	368*260*140mm	180*140*260mm
Net Weight	8.5kg	8.5kg	3.2kg

Type	PUP0200	PUP0200-PEEK	PUP0200-PTFE
Pump Material	Stainless Steel 316L	PEEK	PTFE
Mode	dual plunger series	dual plunger series	dual plunger series
Inlet Connector	4mm	4mm	4.76mm
Outlet connector	1/16”	1/16”	1/8”
Increment	0.01ml / min	0.01ml / min	0.01ml / min
Flow rate range	(0 ~ 199.99)mL/min	(0 ~ 199.99)mL/min	(0.01 ~ 200)mL/min
Max. Pressure	20Mpa	10Mpa	4Mpa
Pulsation	1%	1%	1%
Accuracy	±0.5%	±0.5%	±0.5%
Precision (RSD)	0.2%	0.5%	0.5%
Control	RS232 or LAN	RS232 or LAN	RS-232/485/LAN interface, 3 communication interfaces, 4 communication protocols, can be switched
Display	5.0-inch Touch screen	5.0-inch Touch screen	LCD 2×8 screen
Power	150W	150W	150W
Dimension (L*W*H)	368*260*140mm	368*260*140mm	180*140*260mm
Net Weight	8.5kg	8.5kg	3.2kg





Type	PUP0500	PUP1000	PUP3000
Pump Material	Stainless Steel 316L	Stainless Steel 316L	Stainless Steel 316L
Mode	dual plunger series	dual plunger series	dual plunger series
Inlet Connector	1/4”	10mm	10mm
Outlet connector	1/8”	1/8”	6mm
Increment	0.01ml / min	0.01ml / min	0.1ml / min
Flow rate range	(0 ~ 499.99)mL/min	(0 ~ 999.99)mL/min	(0 ~ 2999.9)mL/min
Max. Pressure	15Mpa	15Mpa	10Mpa
Accuracy	±0.5%	±0.5%	±1%
Precision (RSD)	0.3%	0.3%	0.3%
Control	RS232 or LAN	RS232 or LAN	RS232 or LAN
Display	5.6-inch Touch screen	5.6-inch Touch screen	5.6-inch Touch screen
Power	750W	1000W	1500W
Dimension (L*W*H)	488*380*215mm	488*380*215mm	610*460*275mm
Net Weight	27.2kg	27.2kg	73kg

High-Precision Quaternary Diaphragm Pump

Biovanix quaternary diaphragm pump is designed with a hygienic type, featuring low shear force and minimal pulsation. It finds extensive application in industries such as monomers, recombinant proteins, vaccines, CGTs (cell and gene therapy), and blood products.

The materials that come into contact with the fluid are made of 316L stainless steel and EPDM, ensuring material compatibility and corrosion resistance. The manufacturing process strictly adheres to pharmaceutical industry standards, guaranteeing high product quality and reliability.

Biovanix intelligent quaternary diaphragm pump integrates a PLC program control system, allowing flexible expansion of devices such as pressure sensors and flow meters to meet the needs of various production processes. This integrated design simplifies operation while enhancing production efficiency and accuracy.

Advantage

- Low Shear Force: Protects the integrity of sensitive biologics, preventing loss of bioactivity.
- Low Pulsation: Ensures linear correlation between speed and flow rate across varying pressures.
- Sanitary Design: Compatible with CIP (Clean-in-Place) and SIP (Sterilize-in-Place) processes.

Technical Highlights

- Wetted Materials: 316L stainless steel, EPDM.
- Smart Integration: PLC-controlled, expandable with pressure and flow sensors.
- Data Management: Real-time data storage and graphical analysis capabilities.

Parameter	QDP150	QDP600	QDP1200
Flow Velocity Range	5-180L/H	30-600L/H	60-1200L/H
Flow Velocity Accuracy	±5%		
Max. Working Pressure	6 bar		
Pump Body Material	Pump chamber SS: 1.4435; Check valve: EPDM; Membrane: PTFE/PP mixed material		
Connection Size	1/4in TC25	1/2in TC25	3/4in TC25
Optional Pressure & Flow Meter	(1) Pressure P1, (2) Pressure P2, (3) Pressure P3, (4) Electromagnetic flowmeter		
Screen	7-inch embedded touch screen		
Power Source	220V 50Hz		
weight	20kg	23kg	23kg
Power Consumption	220V/45W	220V/700W	220V/700W
Equipment Size (mm)	430*310*290	430*320*290	430*320*290

Precision Back Pressure Valve

BPV Precision Back Pressure Valve is a pneumatically actuated back pressure valve designed for simplified operation. By applying a pressure equivalent to the target back pressure value to the pilot port, the valve is instantly set. This pressure forces the flexible diaphragm downward onto the orifice plate, creating a seal. Rising inlet pressure lifts the diaphragm to release excess pressure through the outlet, while a drop in inlet pressure pushes the diaphragm closer to the orifice, restricting flow and restoring pressure equilibrium.

Advantage

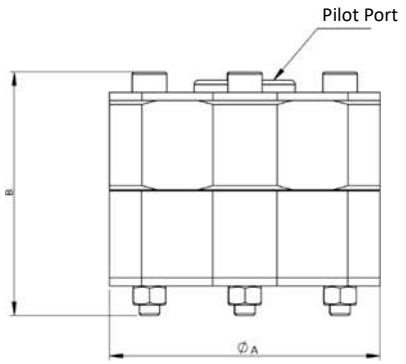
- Frictionless diaphragm eliminates hysteresis, achieves 3x higher accuracy and <10ms response.
- Stable pilot pressure (<0.05% FS fluctuation) and diaphragm deformation algorithm ensure ≤±0.1% setpoint deviation.
- Typical Use: Microfluidic chip pressure supply, mRNA vaccine chromatography column control.

BPV-10	BPV-20	BPV-40/60/80
Construction: Monolithic PTFE/PEEK hybrid body eliminates metal contact, resistant to mixed acids (e.g., HNO3/ H2SO4/HCl blends), halogens, and aggressive oxidizers. **Performance**: Flow range 0.1 -50 mL/min, pressure rating 1000 bar, ±0.2% FS control accuracy for dynamic pressure stabilization in microreactors and nitration/ chlorination sampling. **Applications**: Corrosive gas chromatography injection pressure buffering Overpressure protection in lithium battery electrolyte synthesis	**Key Features**: Optimized flow path enables 0.5-200 mL/min flow control with 800 bar rating, 316L stainless steel/ PCTFE seals compliant with ISO 17025. **Innovation**: Integrated temperature compensation maintains ±0.5% setpoint stability from -20°C to 150°C, eliminating thermal drift in exothermic reactions. **Typical Applications**: H2 circuit pressure regulation in fuel cell test stands Closed-loop pressure control for pharmaceutical CSTR	**Revolutionary Design**: Springless/actuator-free static pneumatic control: 0.2-10 bar air signal regulates 0-600 bar with ±0.1% FS linearity Optional I/P transducer expands signal range (4-20mA/0-10V) for SCADA integration **Cost Efficiency**: Modular design reduces maintenance (MTBF >100,000 hrs) Compatible with manual fine-tuning (0.01 bar resolution) and automated modes **Industrial Applications**: Flare gas pressure balancing in petrochemical plants Exhaust backpressure management in semiconductor vacuum chambers

BPV-10

	Cv Value	Presssure	Inlet/Outlet Port Size	Pilot Port Size	A (mm)	B (mm)
BPV-10	0.01	35 bar	1/4“-28 UNF	1/4” -28 UNF	70	49
	0.06	16 bar	1/4” G	1/4” G	70	43

Parameter	
Material	PTFE/PEEK
Safety Pressure	1.2 × Design Pressure
Inlet/Outlet Port	1/4”G (standard)
Backpressure	16Bar ; 35bar
Discharge Coefficient	Cv 0.01; Cv0.06
Temperature	-40 to 80℃



Material Temperature Resistance			
Membrane		**O Ring**	
PEEK	100℃	EPDM	100℃
PTFE,EPTFE	150℃	PTFE,FKM	200℃
Polyimide	300℃	FFKM	300℃
Metal	400℃	Grafoil	400℃

BPV10-P E S 0Z U 035 N

Valve Material
P PTFE
K PEEK
X SS/PTFE

Membrane Material
P PTFE
E EPTFE
S 316SS
H Hastelloy
Q PEEK
I Polyimide

O Ring
E EPDM
P PTFE
F FKM
S FFKM
G Grafoil
V SIL

Flow Coefficient (CV value)
0Z 0.01
0A 0.06

Other
N No
Y Oxygen clean

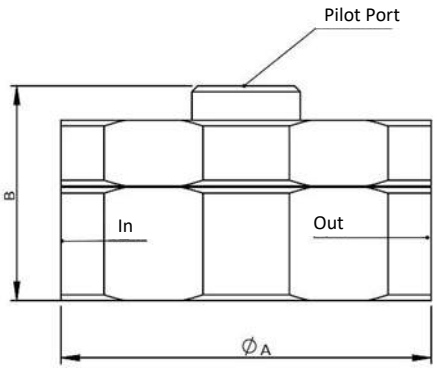
Valve Range
001 0-1bar Max.16bar
004 0-4bar Max.16bar
010 0-10bar Max.16bar
016 0-16bar Max.16bar
020 0-20bar Max.35bar
035 0-35bar Max.35bar
X Customization

Port
G G
N NPT
P PT
T 1/4“ cartriadge
V VCR,VCO
U UNF/UNC
D Customization

BPV-20

	Cv Value	Presssure	Inlet/Outlet Port Size	Pilot Port Size	A (mm)	B (mm)
BPV-20	0.06	70 bar	1/4”	1/8” FNPT	65	38
		200 bar			70	42
		400 bar			70	42
	0.40	70 bar			65	38
		200 bar			70	42
		400 bar			70	42

Parameter	
Material	316L (standard, optional Hastel-loy, titanium alloy, Monel
Safety Pressure	1.5 × Design Pressure
Inlet/Outlet Port	1/4”FNPT (standard)
Backpressure	70Bar; 200bar; 400bar;
Discharge Coefficient	Cv0.06; Cv0.4;
Temperature	-40 to 400℃



Material Temperature Resistance			
Membrane		**O Ring**	
PEEK	100℃	EPDM	100℃
PTFE,EPTFE	150℃	PTFE,FKM	200℃
Polyimide	300℃	FFKM	300℃
Metal	400℃	Grafoil	400℃

BPV20-S E F 0A N 004 N

Valve Material
S 316SS(Standard)
L 316L
H Hastelloy
M Monel
T Tanium

Membrane Material
P PTFE
E EPTFE
S 316SS
H Hastelloy
Q PEEK
I Polyimide

O Ring
E EPDM
P PTFE
F FKM
S FFKM
G Grafoil
V SIL

Flow Coefficient (CV value)
0Z 0.01
0A 0.06
0B 0.40

Other
N No
Y Oxygen clean

Valve Range

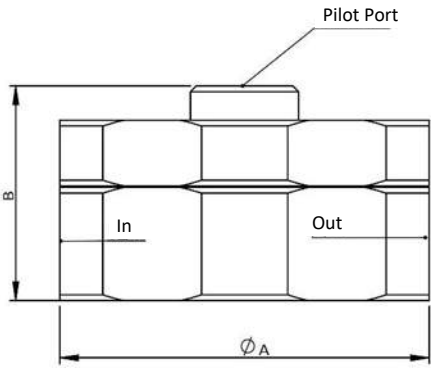
001	0-1bar	Max.70bar
004	0-4bar	Max.70bar
010	0-10bar	Max.70bar
020	0-20bar	Max.70bar
035	0-35bar	Max.70bar
050	0-50bar	Max.70bar
070	0-70bar	Max.70bar
100	0-100bar	Max.200bar
200	0-200bar	Max.200bar
400	0-400bar	Max.400bar
X	Customization	

Port
N NPT（Standard）
P PT
T Cartridge
V VCR, VCO
U UNC
D Customization

BPV-40

	Cv Value	Presssure	Inlet/Outlet Port Size	Pilot Port Size	A (mm)	B (mm)
BPV-40	1.2	20	1/4”	1/8” FNPT	80	38
		100			80	38
		20			90	39
	1.8	100			90	39
		20			115	43
		100			115	43

Parameter	
Material	316L (standard) Optional Hastelloy, titanium, Monel
Safety Pressure	1.5 × Design Pressure
Inlet/Outlet Port	1/4”FNPT; 3/8”FNPT; 1/2”FNPT (standard)
Backpressure	25Bar(standard); 50bar; 100bar
Discharge Coefficient	Cv1.2; Cv1.8; Cv3.2
Temperature	-40 to 400℃



Material Temperature Resistance			
Membrane		**O Ring**	
PEEK	100℃	EPDM	100℃
PTFE,EPTFE	150℃	PTFE,FKM	200℃
PI Metal	300℃	FFKM	300℃

BPV40-S E F 02 N 004 N

Valve Material
S 316SS(Standard)
L 316L
H Hastelloy
M Monel
T Tanium

Membrane Material
P PTFE
E EPTFE
S 316SS
H Hastelloy
Q PEEK
I Polyimide

O Ring
E EPDM
P PTFE
F FKM
S FFKM
G Grafoil
V SIL

Flow Coefficient (CV value)
02 1/4”1.2
03 3/8”1.8
04 1/2”3.2

Other
N No
Y Oxygen clean

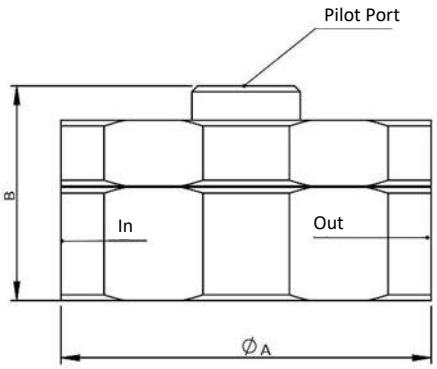
Valve Range
001 0-1bar Max.20bar
004 0-4bar Max.20bar
010 0-10bar Max.20bar
020 0-20bar Max.20bar
035 0-35bar Max.100bar
050 0-50bar Max.100bar
070 0-70bar Max.100bar
100 0-100bar Max.100bar
X Customization

Port
N NPT（Standard）
F Flange
T Cartridge
V VCR, VCO
U UNC
D Customization

BPV-60

	Cv Value	Presssure	Inlet/Outlet Port Size	Pilot Port Size	A (mm)	B (mm)
BPV-60	5.5	10	3/4”	1/8” FNPT	155	56
		100			165	78
		10			180	66
	8.5	100			200	88
		200 bar			70	42
		400 bar			70	42

Parameter	
Material	316L (standard, optional Hastel-loy, titanium alloy, Monel
Safety Pressure	1.5 × Design Pressure
Inlet/Outlet Port	3/4”FNPT; 1”FNPT (standard)
Backpressure	10Bar(standard); 50bar; 100bar
Discharge Coefficient	Cv5.5; Cv8.5
Temperature	-40 to 300℃



Material Temperature Resistance			
Membrane		**O Ring**	
PEEK	100℃	EPDM	100℃
PTFE,EPTFE	150℃	PTFE,FKM	200℃
PI Metal	300℃	FFKM	300℃

BPV60-S E F 06 N 004 N

Valve Material
S 316SS(Standard)
L 316L
H Hastelloy
M Monel
T Tanium

Membrane Material
P PTFE
E EPTFE
S 316SS
H Hastelloy
Q PEEK
I Polyimide

O Ring
E EPDM
P PTFE
F FKM
S FFKM
G Grafoil
V SIL

Flow Coefficient (CV value)
0Z 0.01
0A 0.06
0B 0.40

Other
N No
Y Oxygen clean

Valve Range

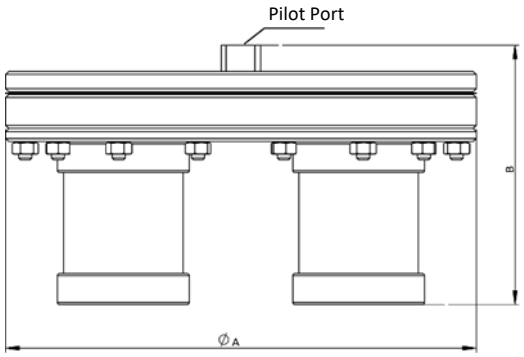
001	0-1bar	Max.10bar
004	0-4bar	Max.10bar
010	0-10bar	Max.10bar
020	0-20bar	Max.100bar
035	0-35bar	Max.100bar
050	0-50bar	Max.100bar
070	0-70bar	Max.100bar
100	0-100bar	Max.100bar
X	Customization	

Port
N NPT
F Flange
T Cartridge
C Chuck (Standard)
D Customization

BPV-80

	Cv Value	Presssure	Inlet/Outlet Port Size	Pilot Port Size	A (mm)	B (mm)
BPV-80	14	4	1.5”	1/4” FNPT	230	110
		10			230	110
		4			280	112
	30	10			280	112
		3.5			385	220
		3.5			385	220

Parameter	
Material	316L (standard) Optional Hastelloy, titanium, Monel
Safety Pressure	1.5 × Design Pressure
Inlet/Outlet Port	1.5"chuck; 2"chuck; 3"chuck; 4"chuck (standard)
Backpressure	4Bar(standard); 10bar
Discharge Coefficient	Cv14; Cv30; Cv60; Cv100; Cv130
Temperature	-40 to 300℃



Material Temperature Resistance			
Membrane		**O Ring**	
PEEK	100℃	EPDM	100℃
PTFE,EPTFE	150℃	PTFE,FKM	200℃
PI Metal	300℃	FFKM	300℃

BPV80-S E F 12 C 004 N

Valve Material
S 316SS(Standard)
L 316L
H Hastelloy
M Monel
T Tanium

Membrane Material
P PTFE
E EPTFE
S 316SS
H Hastelloy
Q PEEK
I Polyimide

O Ring
E EPDM
P PTFE
F FKM
S FFKM
G Grafoil
V SIL

Flow Coefficient (CV value)

12	1.5”	14
16	2”	30
24	3”	60
25	3”	100

Other
N No
Y Oxygen clean

Valve Range

001	0-1bar	Max.4bar
004	0-4bar	Max.4bar
010	0-10bar	Max.10bar
X	Customization	

Port
N NPT
F Flange
T Cartridge
C Chuck (Standard)
D Customization

Needle Valve Component

BVC-70 N N

Pressure Gauge Range	
001	0-1bar
004	0-4bar
010	0-10bar
020	0-20bar
035	0-35bar
050	0-50bar
070	0-70bar
100	0-100bar
200	0-200bar
400	0-400bar
V	No pressure
W	No gauge

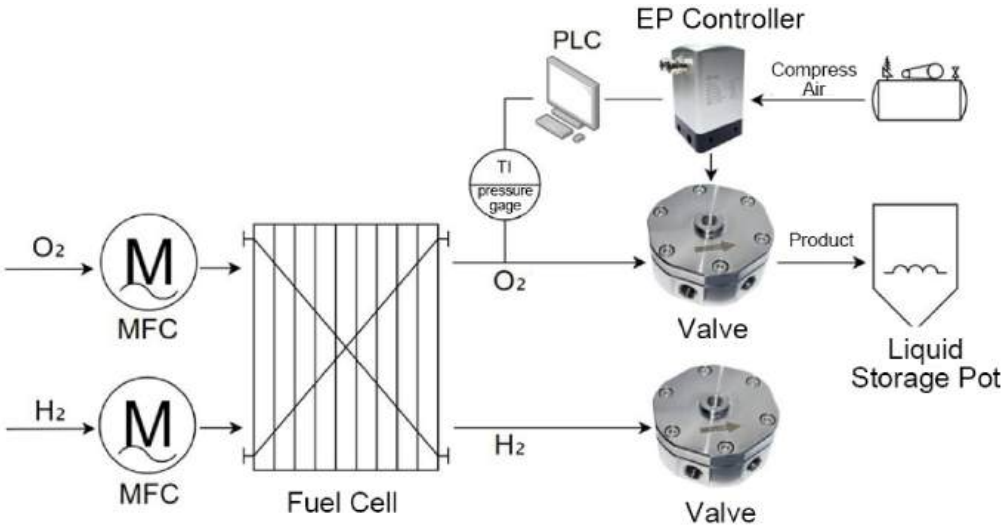
Port
N 1/8 "FNPT (standard)
M 1/4" FNPT

Tee-connector Port
N 1/8 "NPT (standard)
M 1/4" NPT

Application

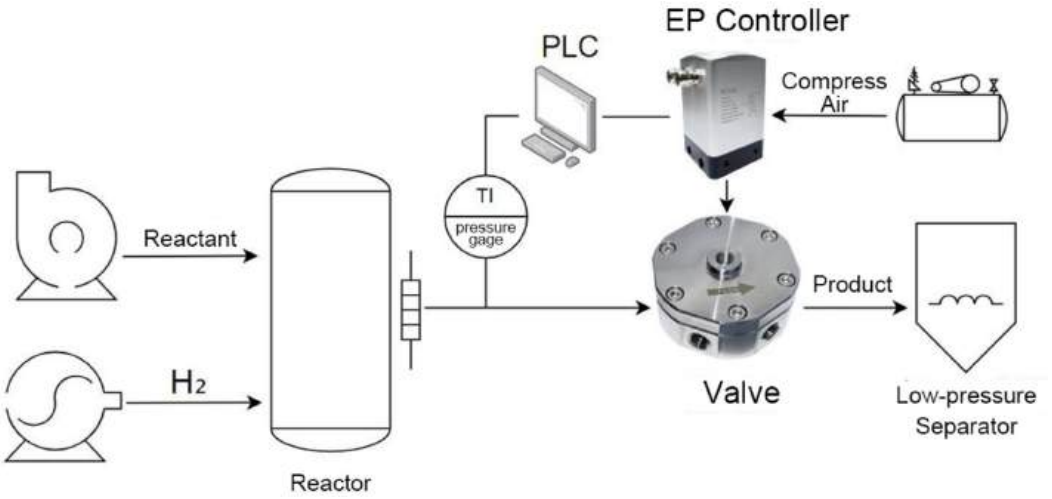
Fuel Cell Test Bench

- Extra wide adjustable back pressure valve ratio up to 1000:1.
- Handles two-phase gas-liquid media with stable pressure fluctuations.
- The controller outputs a set value to the backpressure valve, providing high-precision pressure control of the gas system.
- The back pressure valve can accurately control the outlet pressure of the power reactor by open-loop control.
- The pressure regulator can provide low pressure high precision control pressure for fuel cell test system, the accuracy can be higher than 0.5kpa.



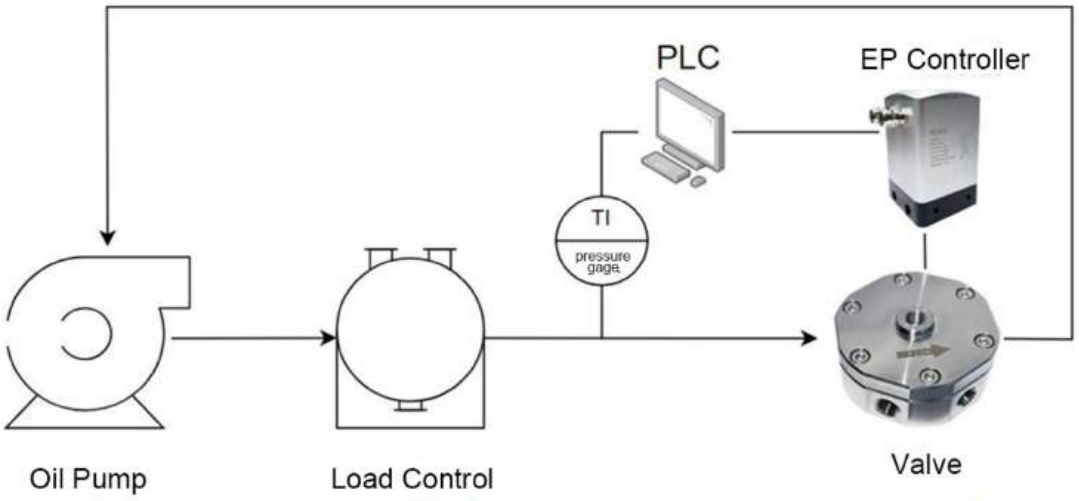
Hydrogenation Reactor

- Hydrogenation plants typically operate at high temperatures and pressures, and back pressure valves can be used up to 400 bar and 300°C. The pressure regulator sets the 1:1 pilot pressure for the back pressure valve.
- Pressure regulators set the pilot pressure for 1:1 backpressure valves.
- The structure of the back pressure valve is porous and diaphragm, no need for high-pressure gas-liquid separator, can be used directly for gas-liquid two-phase flow media, in the product back end to do the low-pressure separator tank or liquid storage tank can be.
- Diaphragm control pressure, can instantly adjust the pressure, timely to avoid overpressure, large adjustable ratio, can adapt to different flow conditions, compact appearance and gas pressure control, can do the whole back pressure valve insulation treatment to maintain accurate temperature control.



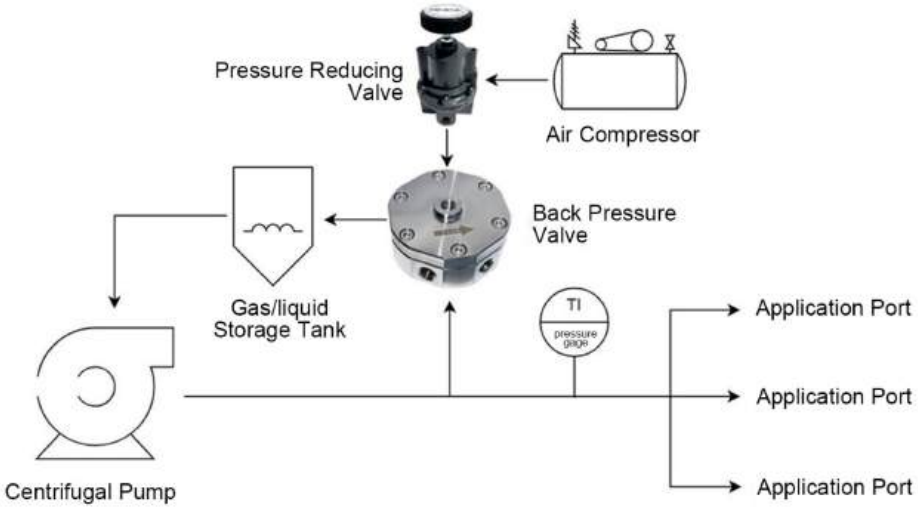
Oil Pump/Injector Load Test System

- In-line load development and quality testing.
- Ultra-wide 1000:1 adjustable back pressure valve ratio provides constant and continuously varying back pressure.
- The controller outputs setpoints to the backpressure valves for high-precision gas system pressure control.
- With constantly changing system speeds during testing, the backpressure valve can be quickly adjusted for short periods of high cycle time.



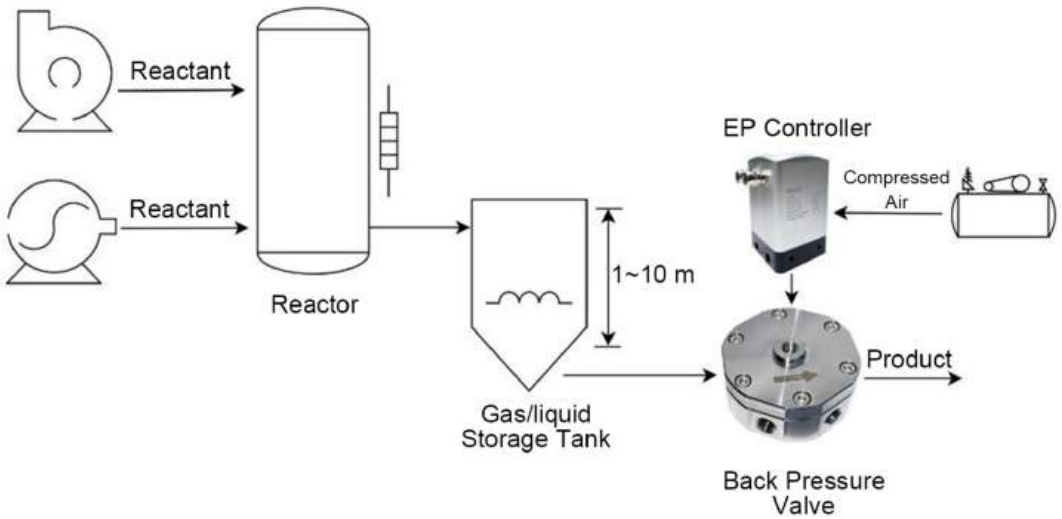
Pump Discharge Pressure Stabilization Control

- Centrifugal pumps, turbine pumps, etc., can have backflow or air intake problems in the discharge piping and pressure fluctuations can be large.
- The Back Pressure Valve creates a bypass in the piping to precisely control the pressure discharge from the pump by 1:1 pilot air control.
- The back pressure valve takes the fluctuating pressure in the piping and returns the excess pressure gas or liquid phase to the storage tank and back to the control pump via pilot air control.



Liquid Level Control

- It can provide open loop level control without complex PID loop and level sensor, sensitive and space saving.
- Closed loop PID control with level sensor is possible.
- Under low flow conditions, Mome back pressure valves can achieve an adjustable ratio of 1000:1, which is higher than traditional control valves.
- Resistant to corrosive media and high temperature up to 300℃.



Intelligent Systems & Equipment

Chromatography System

★ Dual plunger series mode, floating plunger design.
★ Advanced pump drive system, higher precision, better stability.
★ Electronic pulse compensation technology, multi-point flow correction, ensure accuracy, the range of flow velocity is more accurate, more stable operation and reliable performance, cost-effective

Character

◎ New touch screen design and humanized interface design.
◎ Multi-point flow correction.
◎ Firmware program updated online.
◎ Power-off protection.
◎ LAN connection, stable data transfer.
◎ Alarm in time and according to set procedures, automatic pump stop.

Smart Technology

◎ Time-programmed human-machine communication function;
◎ Status detection, fault warning, online help.

BV10 HPLC System

Isocratic System		Gradient System	
high-pressure pump, 10ml pump head	1set	high-pressure pump, 10ml pump head	2 set
Analysis variable dual wavelength UV/VIS detector	1 set	Analysis variable dual wavelength UV/VIS detector	1 set
Flow cell 10ml	1 set	Flow cell 10ml	1 set
Manual injection valve 7725i	1 set	Manual injection valve 7725i	1 set
Workstation (SuperDog)	1 set	Workstation (SuperDog)	1 set
Solvent tank	1 set	Solvent tank	1set
Tool kits	1 set	Tool kits	1 set

Optional:
Oscillometric refractive detector (Knauer/Shimadzu, software with digital-to-analogue converter)
Evaporative light photodetector (Unimicro, software requires additional digital to analogue converter)
Fluorescence detector (Shimadzu, software requires additional analogue-to-digital converter)
Autosampler (optional Dutch Spark)
C18 5um 4.6-250mm HPLC column

Hardware:
Analytical High Pressure Seals
Analytical Low Pressure Seal Ring
Double pump head analyzing finished plunger 3.175×42
Check valve (Switzerland)
Detector deuterium lamp

BV50 HPLC System

Isocratic System		Gradient System	
high-pressure pump, 50ml pump head	1set	high-pressure pump, 50ml pump head	2 set
Analysis variable dual wavelength UV/VIS detector	1 set	Analysis variable dual wavelength UV/VIS detector	1 set
Flow cell 50ml	1 set	Flow cell 50ml	1 set
Manual injection valve 7725i	1 set	Manual injection valve 7725i	1 set
Workstation (SuperDog)	1 set	Workstation (SuperDog)	1 set
Solvent tank	1 set	Solvent tank	1set
Tool kits	1 set	Tool kits	1 set

Options:
Oscillometric refractive detector (Knauer/Shimadzu, software with digital-to-analogue converter)
Injection loop (1ml/2ml/5ml/10ml)
10-250mm HPLC column (including analytical flow cell, backpressure tube)
20-250mm HPLC column
30-250mm HPLC column

Hardware:
Seal ring 6.35
Plunger 6.35 x 43
Low pressure seal 6.35
Detector deuterium lamp

BV100 HPLC System

Isocratic System		Gradient System	
high-pressure pump, 100ml pump head	1 set	high-pressure pump, 100ml pump head	2 set
Preparative variable dual wavelength UV/ VIS detector	1 set	Preparative variable dual wavelength UV/VIS detector	1 set
Flow cell 100ml	1 set	Flow cell 100ml	1 set
Workstation (SuperDog)	1 set	Workstation (SuperDog)	1 set
Tool kits	1 set	Dynamic mixer	1set
		Tool kits	1set

Optional:

Injector pump: High-pressure pump 100ml / High-pressure pump 50ml

Preparation manual injection valve

Injection loop (1ml/2ml/5ml/10ml/20ml)

20-250mm HPLC column

30-250mm HPLC column

50-250mm HPLC column

Hardware:
Seal ring 6.35
Plunger 6.35 x 43
Low pressure seal 6.35
Detector deuterium lamp

BV200 HPLC System

Isocratic System		Gradient System	
high-pressure pump, 200ml pump head	1 set	high-pressure pump, 200ml pump head	2 set
Preparative variable dual wavelength UV/ VIS detector	1 set	Preparative variable dual wavelength UV/VIS detector	1 set
Flow cell 200ml	1 set	Flow cell 200ml	1 set
Workstation (SuperDog)	1 set	Workstation (SuperDog)	1 set
Tool kits	1 set	Dynamic mixer	1set
		Tool kits	1set

Optional:

Injector pump: High-pressure pump 200ml / High-pressure pump 100ml / High-pressure pump 50ml

Preparation manual injection valve

Injection loop (1ml/2ml/5ml/10ml/20ml)

20-250mm HPLC column

30-250mm HPLC column

50-250mm HPLC column

DAC-50 System

DAC-80 System

Hardware:
High pressure seal / Low pressure seal for 200mL pump
200ml one-way valve
Detector deuterium lamp

BV500 HPLC System

Isocratic System		Gradient System	
high-pressure pump, 500ml pump head	1 set	high-pressure pump, 500ml pump head	2 set
Preparative variable dual wavelength UV/ VIS detector	1 set	Preparative variable dual wavelength UV/VIS detector	1 set
Flow cell 500ml	1 set	Flow cell 500ml	1 set
Workstation (SuperDog)	1 set	Workstation (SuperDog)	1 set
Tool kits	1 set	Dynamic mixer	1set
		Tool kits	1set

Optional:

Injector pump: High-pressure pump 500ml / High-pressure pump 200ml / High-pressure pump 100ml

Preparation manual injection valve

Injection loop (1ml/2ml/5ml/10ml/20ml)

DAC-100 System

Hardware:

High pressure seal / Low pressure seal for 500mL pump

500ml one-way valve

Detector deuterium lamp

BV1000 HPLC System

Isocratic System		Gradient System	
high-pressure pump, 1000ml pump head	1 set	high-pressure pump, 1000ml pump head	3 set
Preparative variable dual wavelength UV/ VIS detector	1 set	Preparative variable dual wavelength UV/VIS detector	1 set
Flow cell 1000ml	1 set	Flow cell 1000ml	1 set
Workstation (SuperDog)	1 set	Workstation (SuperDog)	1 set
Three-way ball valve, 6mm I.D. (sample injection	1 set	Dynamic mixer	1set
Tool kits	1 set	Tool kits	1set

Optional:

Injector pump: High-pressure pump 1000ml / High-pressure pump 500ml / High-pressure pump 200ml

Preparation manual injection valve

DAC-100 System

DAC-150 System

Hardware:

High pressure seal / Low pressure seal for 1000mL pumps

1000ml one-way valve

Detector deuterium lamp

BV3000 HPLC System			
Isocratic System		**Gradient System**	
high-pressure pump, 3000ml pump head	1 set	high-pressure pump, 3000ml pump head	3 set
Preparative variable dual wavelength UV/VIS detector	1 set	Preparative variable dual wavelength UV/VIS detector	1 set
Flow cell 3000ml	1 set	Flow cell 3000ml	1 set
Workstation (SuperDog)	1 set	Workstation (SuperDog)	1 set
Tool kits	1 set	Static Mixer	1set
		Tool kits	1set
Optional: Injector pump: High-pressure pump 3000ml / High-pressure pump 1000ml / High-pressure pump 500ml Preparation manual injection valve DAC-200 System DAC-300 System			
Hardware: High pressure seal / Low pressure seal for 3000mL pumps 3000ml one-way valve Detector deuterium lamp			

Core Components

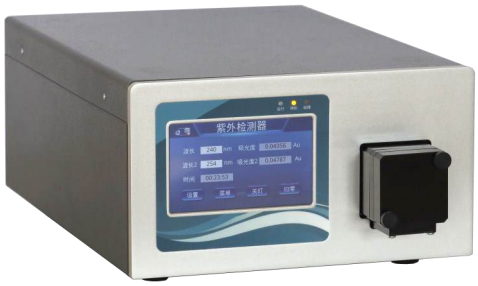
Variable Dual Wavelength UV/VIS Detector

PUD dual wavelength UV/VIS detectors are an essential part of a high performance liquid phase purification system. The detector is digitized for data processing and control, reducing baseline noise and drift to a new limit. The digital output function allows the detector to be connected directly to a computer via a serial port without the need for a data acquisition unit.

The detector system uses different flow cell units for different flow rates. It is possible to detect the flow directly without diverting the flow.

Features

- ◎ Deuterium lamp with stable signal and high energy output.
- ◎ Flow cell selection according to different flow rates, different sizes of flow cells that can be directly detected
- ◎ Built-in digital signal processing and control system
- ◎ Integrated power supply, make the power supply more stable, suitable for explosion-proof use
- ◎ Latest ARM system program control, higher accuracy



Type	PUD0010	PUD0100 / PUD0200	PUD0500 / PUD1000	PUD3000
Flow Cell	Analysis flow cell, SST or PEEK 10mm optical range	Preparative flow cells, variable optical range in SST or PEEK		
Connector	1/16	1/16 / 1/8	1/8	6mm
Wavelength Range & Light Source	190-400nm deuterium lamp, 400-700nm tungsten lamp			
Bandwidth	8nm			
Wavelength Accuracy	±0.75nm		±1nm	
Wavelength Repeatability	0.2nm	0.3nm		
Baseline Noise (Static)	1*10-5 AU			
Baseline Drift (Static)	1*10-4 AU/h	1*10-4 AU/h	1*10-4 AU/h	1*10-4 AU/h
Detection Range	(0~5) AU			
Min detection limit	≤4*10^{-9}g/mL	≤4*10^{-8}g/mL	≤4*10^{-7}g/mL	≤4*10^{-5}g/mL
Control Mode	RS232 or LAN			
Display	5.0-inch touch screen			
Size	368*260*140(LWH)			
Wattage	75W			
Weight	6.9kg			

Optical fiber detector and optical fiber flow cells are also available.
Optical fiber detector: 190 - 700 nm, variable dual wavelength UV/VIS detector with fiber optic

	Optical Fiber Detector	Optical Fiber Flow Cells
PUD0010	190 - 700 nm optical fiber detector	10 mm path length, 1/16", 10 µl volume stainless steel
PUD0050	190 - 700 nm optical fiber detector	3 mm path length, 1/16", 2 µl volume
PUD0100	190 - 700 nm optical fiber detector	3 mm path length, 1/16", 2 µl volume
PUD0200	190 - 700 nm optical fiber detector	3 mm path length, 1/16", 2 µl volume
PUD0500	190 - 700 nm optical fiber detector	3 mm path length, 1/8", 1.9 µl volume
PUD1000	190 - 700 nm optical fiber detector	3 mm path length, 1/8", 1.9 µl volume
PUD3000	190 - 700 nm optical fiber detector	2 mm path length, 1/16", 6.28 µl volume

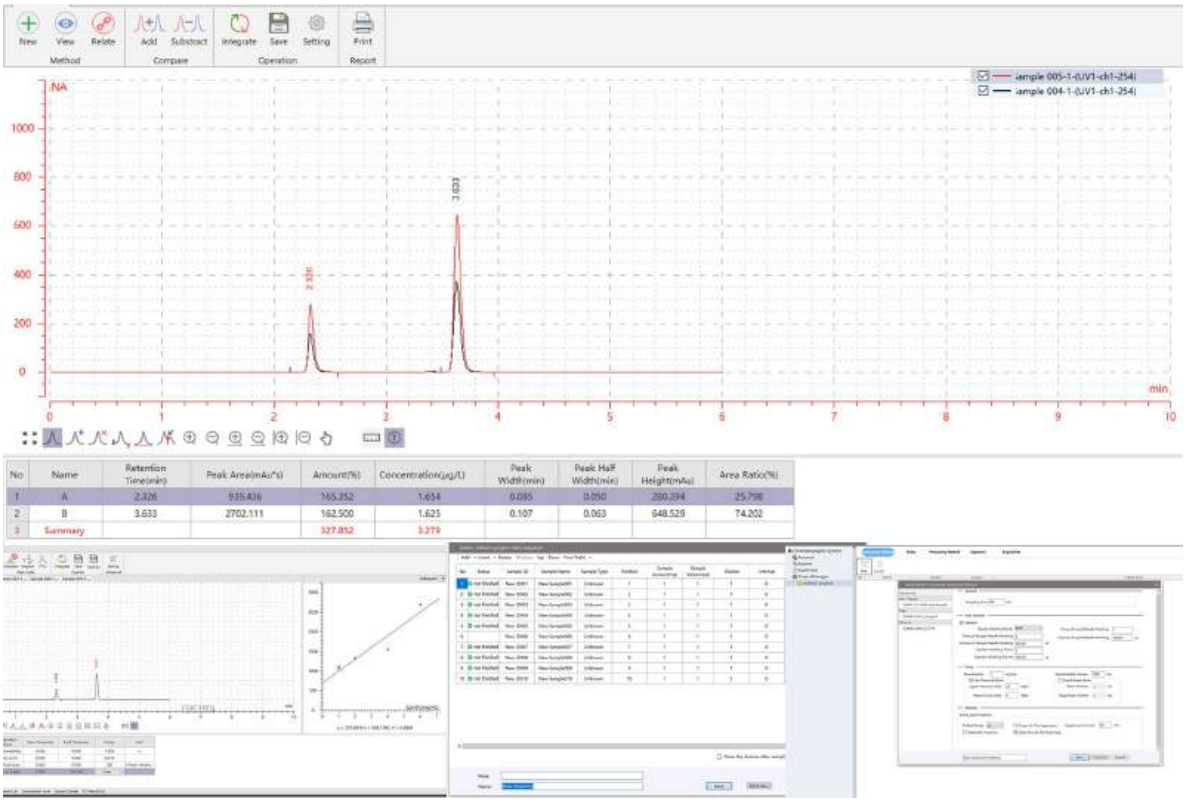
Distillate Collector

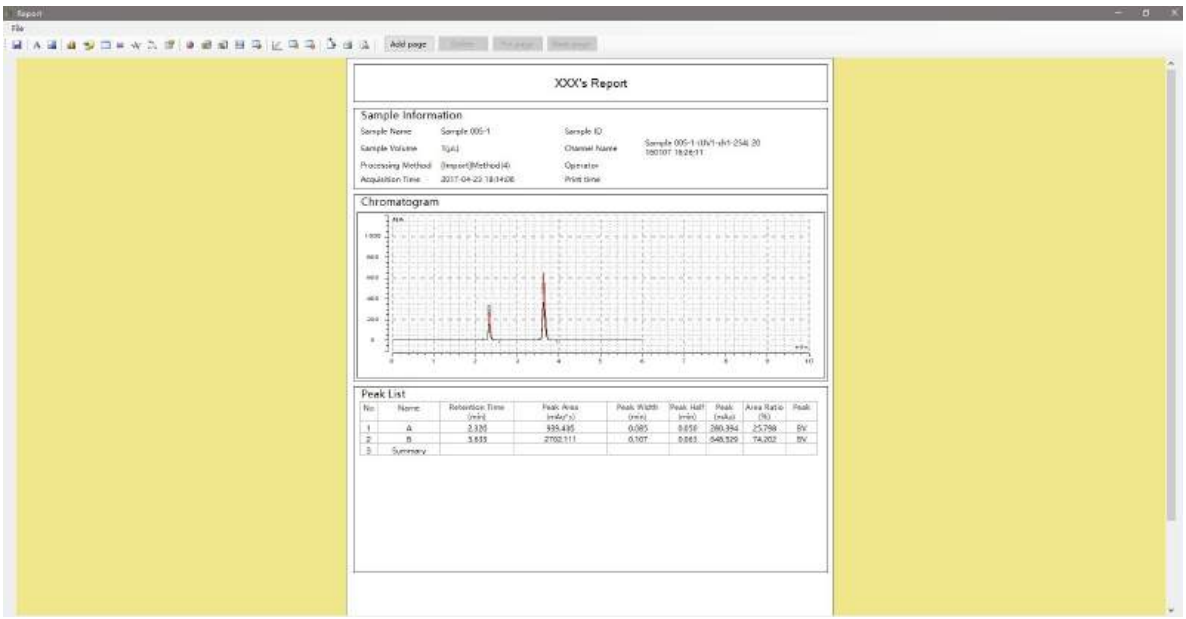
Type	**FC200 Distillate Collector**
Flow Ranges	0-3000 ml/min
Sample Channel	8 channels (1 for waste liquid, 7 for collection)
Collection Method	Time/Peak/Slope
Size (LWH)	488*380*215mm
Control Mode	RS232 or LAN
Power	75W
Weight	10Kg

Type	**FC100 Distillate Collector**
Flow Ranges	0.001-200 ml/min
Collection Mode	Automatic/Semi-Automatic
Collection Condition	Time/Volume/Slope/Peak
Sample Volume (1 as standard)	120 positions (Φ15x150mm, 15mL glass test tube) 88 position (Φ17x120mm, 15mL centrifuge tube) 42 bits (Φ28x115mm, 50mL centrifuge tube)
Control Mode	RS232 or LAN
Size (LWH)	260*240*350 mm (W*H*D)
Power	150W
Weight	7.6kg

LabChrom Chromatography Software

LabChrom is a chromatographic data analysis software based on the latest architecture and supports database management. Powerful, advanced performance, high stability, integrated instrument control and maintenance, method editing, data analysis, sample management, report editing, user rights management, audit tracking, digital signature, database and other functions. In full compliance with cGMP, FDA 21 CFR Part 11 certification specifications.





Dynamic Axial Compression Column System

Dynamic axial compression column (DAC) system, is the most mature area of preparative chromatography using the technology of packing column. DAC column maintain their own pressure, discharge packing materials automatically, has the function of high-performance liquid chromatography and column packing column machine. Using DAC system can completely satisfy the continuity of the column bed, uniformity, stability and tightness requirements, eliminate the influence of the column bed collapse. DAC system is widely used in industrial purification process, like peptides purification, natural chemical purification.

- Manufacture with independent design team to meet your different equipment requirements.
- Liquid chromatography resins manufacture. Multiple liquid chromatography resins for different applications.
- Complete technical solution for biochemical isolation and purification.
- Best after-sale service. Installation, training, and spare parts provided.
- Support equipment and complete solution are available.

Advantages:

- Using truss grinding in the column tube, increase the service life of the high-pressure sealing ring.
- High-quality screen plate, provide the certificate.
- Large preparative column sieve plate is convenient for loading and unloading with good sealing performance forced distribution.
- The hydraulic cylinder is designed and manufactured by first-class manufacturers with quality guarantee.
- Multiple choices for the material contact with the fluid: 316 Stainless Steel/ PTFE / PEEK.

ID 50/650

Column Diameter	50mm
Column Length	650mm
Work Pressure	10MPa
Liquid Contact Material	316L/PTFE
Sieve	316L\3um
Sealing Ring	316L (Japan)
Working Temperature	5-60 ℃
Size	500*500*1825mm
Distribution Form	Forced Distribution

ID 80/650

Column Diameter	80mm
Column Length	650mm
Work Pressure	10MPa
Liquid Contact Material	316L/PTFE
Sieve	316L\3um
Sealing Ring	316L (Japan)
Working Temperature	5-60 ℃
Size	500*500*1825mm
Distribution Form	Forced Distribution

ID 100/650

Column Diameter	100mm
Column Length	650mm
Work Pressure	10MPa
Liquid Contact Material	316L/PTFE
Sieve	316L\3um
Sealing Ring	316L (Japan)
Working Temperature	5-60 ℃
Size	500*500*1825mm
Distribution Form	Forced Distribution

ID 150/650

Column Diameter	150mm
Column Length	650mm
Work Pressure	10MPa
Liquid Contact Material	316L/PTFE
Sieve	316L\3um
Sealing Ring	316L (Japan)
Working Temperature	5-60 ℃
Size	610*680*2400mm
Distribution Form	Forced Distribution

ID 200/650

Column Diameter	200mm
Column Length	650mm
Work Pressure	10MPa
Liquid Contact Material	316L/PTFE
Sieve	316L\3um
Sealing Ring	316L (Japan)
Working Temperature	5-60 ℃
Size	710*830*2500mm
Distribution Form	Forced Distribution

ID 300/650

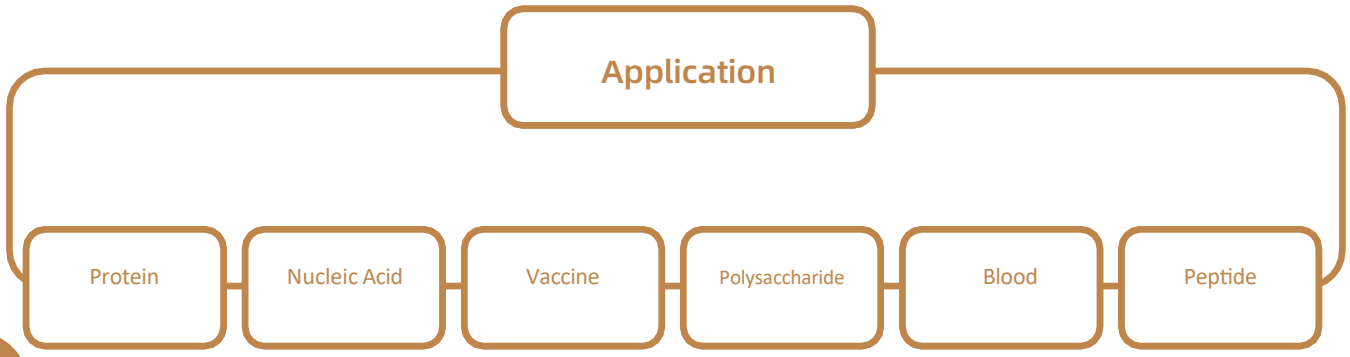
Column Diameter	300mm
Column Length	650mm
Work Pressure	10MPa
Liquid Contact Material	316L/PTFE
Sieve	316L\3um
Sealing Ring	316L (Japan)
Working Temperature	5-60 ℃
Size	880*924*2770mm
Distribution Form	Forced Distribution

AutoPro Protein Chromatography System

Biovanix AutoPro is a compact, modular protein chromatography system designed for the rapid purification of microgram to gram quantities of proteins, nucleic acids, vaccines, and polysaccharides. It features high performance and precision, utilizing core components from reputable manufacturers. All parts that come into contact with the samples are made of bio-inert materials, ensuring excellent biocompatibility. The CDS system operating system supports a variety of chromatographic techniques, meeting and providing the highest standards of purification automation. The system is flexible and can be upgraded at any time according to your needs, enhancing the automation performance of your products.

Component collector

- Enclosed design to prevent sample contamination.
- Stackable for space-saving storage.
- High operating speed with low vibration and noise, reducing sample loss.
- Unique closed-loop control technology ensures high positioning accuracy.



Equipment Configuration	Product Name	Technical Parameter		
Standard Configuration	AutoPro Infusion Pump	AutoPro25	AutoPro100	AutoPro150
		Dual pump system, Flow rate range: 0.001-25ml/min; Pressure range: 0-27.5MPa (4000psi); Flow accuracy. ±1.5%	Dual pump system, Flow rate range: 0.001-100ml/ min; Pressure range: 0-10MPa (1500psi); Flow accuracy. ±1.5%	Dual pump system, Flow rate range: 0.001-150ml/ min; Pressure range: 0-5MPa (725psi); Flow accuracy. ±1.5%
		Flow rate repeatability: RSD≤0.5% Gradient type: linear, equal degree, step gradient, gradient ratio can be modified online		
	Automatic Inlet Valve	Three-position seven-port valve, software reverse control, support quantitative sampling; Supports the Load, Inject, and Waste functions		
	Fixed Single Wavelength Detector	LED light source, fixed single wavelength, service life ≥8000 hours; The detection wavelength is 280nm, 260nm or 254nm. The wavelength accuracy is ±1nm, and the wavelength importance is ±0.5nm. Drift :1*10-3AU/Hr; Noise: 4*10-5AU (@254nm, 1S);		
	Temperature Sensor	Reading range: 0-100℃, precision soil ±1%； conductance, pH temperature compensation.		
	Back Pressure Valve	20-200psi adjustable, biocompatible		
	In-line Filter	20um titanium alloy filter		
	Dynamic Mixer	2ml mixing chamber		
	Chromatographic column clamp	Two sets		
	Starter	Includes pipes, connectors, maintenance tools, instructions, dongles		
	Control System	Control system (including computer, keyboard, mouse, Chinese or English operating software); Can achieve 24 hours uninterrupted operation;		
Optional Configuration	pH Detector	Detection range pH0-14, precision ±0.1; Dead volume of flow tank 76ul; Temperature compensation		
	Bubble Sensor	Used to monitor sample loading and the formation of bubbles in the system		
	Buffer Inlet Valve	Four channels, including A pump A1-A2, B pump B1-B2; Eleven channels, including A pump A1-A9, B pump B1-B2; Eighteen channels, including A pump A1-A9, B pump B1-B9;		
	UV Detector	L2 fixed dual wavelength, detection range 280nm and 260nm (or 200-600nm optional two fixed wavelengths).		
		DAD402 variable dual wavelength, detection range 200-400nm, full spectrum direct reading, can detect two arbitrary wavelengths at the same time.		
		DAD604 variable four-wavelength, detection range 200-600nm, full spectrum direct reading, can detect four arbitrary wavelengths at the same time.		
		DAD 804 Full wavelength detection, detection of Fantu 200-SOOnm, full spectrum direct reading, can simultaneously detect four arbitrary wavelengths.		
	Outlet Valve	Two channels, 1 large volume sample collection, 1 waste liquid outlet.		
		Nine channels, 8 channels for large sample collection, 1 channel for waste liquid outlet.		
	Component Collector	The Frac-01 supports 1-50 sample collection, with a collection rack as standard (96-well plate or centrifuge tube or test tube of different specifications can be selected).		
		Frac-02 supports 1-50 sample collection and comes standard with two collection racks (96-well plates or centrifuge tubes and test tubes of different specifications can be selected).		
		Frac-02P supports 1-50ml sample collection and comes standard with two collection racks (96-well plates or different sizes of centrifuge tubes and test tubes).		
		Frac-02C supports 1-50ml sample collection, with two collection racks as standard (96-well plates or centrifuge tubes and test tubes of different specifications can be selected).		
	Column Valve	Single-column valve supports forward, reverse, or Bypass.		
		Three-column valve can be connected to three chromatographic columns and Bypass at the same time, and each column supports forward thrust and recoil.		
	Pressure Monitoring	Pre-column pressure monitoring		
		Front column and back column pressure monitoring		
	Sample Pump	SP25D, flow rate range 0.001-25ml/min, pressure range 0-27.5MPa, flow rate accuracy of 1.5%.		
		SP100D, flow rate range 0.001-100ml /min, pressure range 0-10MPa, flow rate accuracy of 1.5%.		
		SP150D, flow rate range 0.001-150ml /min, pressure range 0-5MPa, flow rate accuracy of 15%.		
	Sample Inlet Valve	Two channels, 1 sample entrance, 1 buffer entrance.		
		Nine channels, 8 sample entrances, 1 buffer entrance.		

Versatile Tangential Flow Filtration System

Isoplex TFF versatile tangential flow filtration (TFF) system designed primarily for sample concentration and diafiltration (buffer exchange), as well as cell harvesting and clarification.

This system offers broad operational flexibility, supporting various filtration formats including:

- Cassette membrane packs
- Hollow fiber membrane modules
- Membrane adsorbers

Isoplex TFF system is engineered for fully automated operation, providing essential features such as:

- Endpoint control
- Automated fluid addition
- Constant retentate volume maintenance
- Comprehensive data logging

This full automation significantly reduces manual intervention and saves valuable time.

Key Features and Benefits

- **Intelligent Control & Flexibility:** Allows for the free combination of functions—including concentration, diafiltration, microfiltration, and cleaning—to meet a wide variety of application and sample requirements.
- **Advanced Process Control:** Process information is easily monitored and managed via a user-friendly touchscreen interface. The system is capable of handling samples with low working volumes and achieving various concentration factors.
- **Automatic Flow Regulation:** The system can automatically adjust the flow rate based on the transmembrane pressure (TMP), ensuring optimal filtration performance.
- **Intuitive Operation:** The easy-to-use operating interface makes system setup and operation straightforward and simple.

Operating Interface

The main operating screen allows for the real-time display and monitoring of key process parameters (flow rate, pressure, weight and the current status of the fluid path, as well as control over the device's operational status.

Constant Retentate Volume Control

To ensure effective buffer exchange during continuous diafiltration, the retentate reservoir volume must be held constant. The system achieves this by utilizing a **feed pump (or makeup pump)** to automatically introduce replacement fluid into the reservoir. This compensates for the volume reduction caused by permeate effluent, thereby maintaining the set **retentate volume**.

Permeate Flow Control

To prevent premature membrane fouling and ensure a stable flow rate during microfiltration operations, the system employs a **scale/balance on the permeate side** to maintain the permeate flow at a user-defined setpoint. Compared to uncontrolled permeate flow, this method typically guarantees **more stable flux**, leads to **higher protein yield**, and results in **shorter overall processing times**.

Transmembrane Pressure (TMP) Control

Filtration processes are generally optimized by maximizing flux (permeate flow rate per unit area) to achieve the shortest possible processing time. To maintain a stable flow rate during sample concentration and diafiltration, the INT TFF010 system automatically controls the **Transmembrane Pressure (TMP)**. This is accomplished by using an **electric proportional valve** to adjust the pressure at the retentate and/or permeate outlet. The TMP value is continuously displayed on the touchscreen and is available through the data logging function.

Endpoint Control

The Lab TFF system incorporates an alarm function that enables **automatic endpoint control** based on pre-set parameters, such as the **retentate reservoir level** and **Transmembrane Pressure (TMP)**. Endpoint control allows the system to run reliably in an **unattended mode**. Once an endpoint is reached, the pumps and the corresponding process will stop, prompting the user to take the appropriate action.

Adaptive Membrane Packaging	Membrane Packaging	hollow fiber
Area	0.1m	≤0.4m
Range	1KD，3KD，5KD，10KD，30KD，50KD，100KD300KD，500KD750KD 0.1um,0.2um，0.45um，0.65um，1um	

Silicone Tube Model	19# ID2.4mm * OD5.6mm	16# ID3.2mm * OD6.4mm
Feed Flow Rate	1-160ml/min	1-240ml/min
Replenishment Flow Rate	1-160ml/min	1-240ml/min
TMP Range	0.3-4bar	0.3-4bar

Dimension (L*W*H)	370mm*420mm*520mm	Pressure Measurement Range	0-4bar
Silicone Tube Model	19#、16#	Feed Pump Pressure	4bar Max.
Weight	25KG	Replenishment Pump Pressure	1bar Max.
Voltage	220V/50Hz	Flow Path Pipeline Pressure	0-4bar
Power	150W	Liquid Storage Tank Pressure	0-0.1bar
Volume of Liquid Storage Tank	500ml-5L	Working Temperature	2-40℃

Tangential Flow Filtration System

Isoplex TFF Tangential Flow Filtration System is designed for the separation and purification of high-value biologics, including monoclonal antibodies (mAbs), vaccines, plasma, and therapeutic proteins. It is ideally suited for both pilot and production-scale applications, facilitating rapid and seamless scale-up from small-scale laboratory work to large -scale manufacturing operations.

Isoplex TFF system is available in two series:

- **Manual Series:** Provides user convenience and operational simplicity.
- **Automated Series:** Offers full automation of tanks, detectors, and pumps for complex process control.

Isoplex TFF system features an extremely low hold-up volume to achieve maximum volume concentration and optimal product recovery, significantly enhancing overall process performance.

Product Features

- **Scalability & Modularity:** Minimizes initial investment through a modular, standardized design that allows for unique system configurations perfectly matched to process requirements, simplifying consistent production and adherence to cGMP standards.
- **Full Process Automation:** The complete automation suite allows for the design optimization and component integration of high-value drugs at pre-clinical and clinical scales. This integration results in a minimal dead volume and ensures maximum product recovery.
- **Maximized TFF Performance:** The system is designed to maximize TFF performance in various modes, including fed-batch, concentration, full recirculation, or single-pass operation.
- Multiple High-Sensitivity Detectors: Features highly sensitive in-line detectors, with options for monitoring pressure, UV absorbance, pH, and conductivity.
- **Regulatory-Compliant Software:** The intuitive software platform is FDA 21 CFR Part 11 compliant, featuring user-friendly operation, user-defined processes, and customizable alarm setpoints.
- Ergonomic Design: The ergonomic structural design ensures simple operation and easy maintenance.
- **Comprehensive Service:** Extensive service support guarantees rapid system implementation and performance optimization.

Customization

Based on the highly flexible Isoplex TFF membrane filtration system, the Isoplex system can be fully customized according to specific client requirements.

System Parameter	Manual TFF System	Automated TFF System
Membrane Type	Available: Hollow Fiber, Ultrafiltration Cassette, Ceramic Membrane, Nanofiltration Membrane	Available: Hollow Fiber, Ultrafiltration Cassette, Ceramic Membrane, Nanofiltration Membrane
Membrane Area Range	0.5 - 80 m^2	0.5 - 80 m^2
Feed Pump Type	Available: Peristaltic Pump, Diaphragm Pump, Centrifugal Pump	Available: Peristaltic Pump, Diaphragm Pump, Centrifugal Pump
Pressure Measurement	Pressure Gauge	Pressure Sensor
Flow Meter	Available (Optional)	Available (Optional)
Conductivity	Available (Optional)	Available (Optional)
pH	Available (Optional): pH 1-14	Available (Optional): pH 1-14
UV Detection	Available (Optional)	Available (Optional)
Integrity Test	Available (Optional)	Available (Optional)
Prefilter	Available (Optional)	Available (Optional)
CIP (Cleaning In Place)	Available (Optional)	
SIP (Sterilization In Place)	Available (Optional)	Available (Optional)
Ultrafiltration Tank	Available (Optional)	Available (Optional)
Makeup/Diafiltration Pump	Available: Peristaltic Pump, Diaphragm Pump, Centrifugal Pump	Available: Peristaltic Pump, Diaphragm Pump, Centrifugal Pump
Clamping Device	Available: 0.5 m^2 (holds 1-5 or 1-10 units), 2.5 m^2 (holds 1-5 or 1-10 units)	Available: 0.5 m^2 (holds 1-5 or 1-10 units), 2.5 m^2 (holds 1-5 or 1-10 units)

Membrane Filtration System

Isoplex TFF Membrane Filtration System is employed for the separation and purification of critical biologics, including monoclonal antibodies (mAbs), vaccines, plasma, and therapeutic proteins. It is ideally suited for both pilot-scale and production-scale applications, facilitating the rapid and efficient scale-up of operations from small to large volumes. The system is engineered with an exceptionally low hold-up volume to ensure maximum volume concentration and optimal product recovery, thereby significantly enhancing overall process performance.

Product Features

Scalability and Investment: Standardized modular options enable unique system configurations that precisely meet process requirements while minimizing upfront investment.

- **Compliance and Automation:** Full process automation facilitates consistent production of high-value pharmaceuticals at pre-clinical and clinical scales, making it easier to meet cGMP standards.
- **High Recovery Design:** Optimized design and component integration result in a minimal dead volume and ensure maximum product recovery.
- Flexible Operation Modes: The system's design maximizes TFF performance through various operational modes, including fed-batch, concentration, full recirculation, or single-pass filtration.
- **Advanced Monitoring:** Equipped with multiple high-sensitivity in-line detectors, offering options for monitoring parameters such as pressure, UV absorbance, pH, and conductivity.
- **Software Compliance:** The user-friendly software platform complies with FDA 21 CFR Part 11 regulations, featuring an intuitive operating interface, user-defined processes, and customizable alarm setpoints.
- **Ergonomics and Maintenance:** The ergonomic structural design ensures simple operation and easy maintenance.
- **Support:** Comprehensive service guarantees rapid equipment implementation and performance optimization.

Customization

Based on the high adaptability of the Isoplex TFF membrane filtration platform, the system can be highly customized to meet specific client requirements.

Product	Isoplex TFF 3	Isoplex TFF 5	Isoplex TFF 7	Isoplex TFF 10	Isoplex TFF 14	Isoplex TFF 20
Membrane Area	3m²	5m²	7m²	10m²	14m²	20m²

Automatic Liquid & Powder Sample Preparation System

Biovanix Automatic Liquid & Powder Sample Preparation System is a state-of-the-art automated device designed for laboratory use. It is dedicated to achieving precise automatic weighing and dispensing of powder and liquid samples. It integrates cutting-edge automation technology and high-precision control systems with a user-friendly interface to effectively mitigate human-induced operational errors and significantly enhance the repeatability and reliability of experimental results. It is currently widely adopted in experimental research across multiple fields, including chemical synthesis, biological sample preparation and pharmaceutical R&D, providing researchers with efficient, precise experimental support.
Biovanix Automatic Liquid & Powder Sample Preparation System has a scientifically optimised, compact structure with dimensions of 1400 mm × 750 mm × 750 mm and occupies a moderate amount of space, making it suitable for standard laboratory layouts. Its sleek, minimalist exterior design clearly delineates operational and functional zones, facilitating daily operation and maintenance.

Core Advantages

Ultra-High Precision, Reliable Data
Biovanix Automatic Liquid & Powder Sample Preparation System employs a high-precision motion arm, top-tier high-precision balance, and precision pipettes working in tandem. For powder dispensing, weighing resolution reaches 0.1mg with dispensing accuracy controlled within ± 0.1mg; liquid dispensing accuracy is ±1%, ensuring every dispensing operation is precise and error-free, laying a solid foundation for the reliability of experimental data.

High Automation, Doubled Efficiency
Supports fully automated, unattended dispensing operations. From sample retrieval and weighing to distribution, the entire process requires no manual intervention. This significantly reduces labor time, markedly enhances experimental efficiency, and frees researchers from tedious repetitive tasks.

Exceptional Flexibility, Wide Compatibility
Flexibly handles diverse sample sizes to meet varied experimental demands. Compatible with multiple container types: powder containers include 2ml, 8ml, and 20ml glass bottles; liquid containers encompass 6ml, 10ml, 15ml, and 20ml reagent tubes. The modular storage rack design allows users to expand capacity, accommodating experiments of different scales easily.

Application

- Chemistry: Precise weighing and distribution of samples in chemical synthesis experiments, enhancing reaction reproducibility.
- Biology: Batch processing of biological samples and reagent addition, ensuring consistency in sample handling.
- Pharmaceuticals: Weighing raw materials and formulation ratios in drug development, guaranteeing reliable experimental data.
- Other Research Fields: Sample pretreatment in experiments such as environmental testing and materials science, improving experimental efficiency.

Basic Information

Function	Specification
Dimension	1400mm*750mm*750mm (subject to actual measurements)
Tray Capacity	8 trays
Single Tray Capacity	6 / 12 / 24 containers (depending on container specifications)
Maximum Sample Processing Throughput	192 samples
Vibratory Feeder Stations	2 stations
Power Supply	220V 800W

Powder Treatment

Function	Specification
Number of Powder Materials	12 types
Material Hopper Volume	40ml
Compatible Target Container Types	2ml, 8ml, 20ml glass vials
Solid Sample Weight Range	1mg-20g
Weighing Resolution	0.1mg
Dosing Accuracy	±0.3mg

Liquid Treatment

Function	Specification
Number of liquid reagents	12 types
Reagent reservoir volume	40ml
Compatible target container types	6ml, 10ml, 15ml, 20ml reagent tubes
Liquid dispensing volume range	10μl-10ml
Liquid dispensing accuracy	±1%

Container Specification

Type	Specification (ml)	Outer Diameter (mm)	Height (mm)	Single Pallet Loading Capacity
Powder Container	2	16	34	24
	8	16	61	12
	20	27	57	6
Liquid Container	6	12	75	24
	10	12	100	24
	15	15	100	24
	20	15	150	12

Pharmaceutical & Chemical Synthesis System

Biovanix Technology offers an **end-to-end Laboratory Service Portfolio** encompassing five dedicated systems: the **Integrated Management System** provides strategic consulting, patent analysis, and technical exchange; the **Technical Management System** drives R&D, patent application, and industrial scale-up design; the **Service Management System** ensures operational safety and efficiency through equipment maintenance and specialized analysis; the **Equipment Management System** handles everything from initial selection and non-standard design to complex troubleshooting and procurement; and the **Operations & Maintenance Management System** provides essential logistical support, including consumable supply and facility modifications, ensuring continuous and reliable laboratory performance from planning to daily operation.

I. Integrated Management System (IMS)

Our IMS focuses on strategic planning, knowledge management, and collaborative exchange to optimize laboratory performance and project evaluation.
Laboratory Establishment Consulting: Providing expert guidance on setting up new laboratories.
Patent Data Collection: Systematic gathering and organization of relevant patent information.
Patent Information Analysis: In-depth analysis of collected patent data for strategic insights.
Organizational Technical Exchange: Facilitating communication and sharing of technical expertise within the organization.
Organizing Site Visits: Arranging and managing technical visits to laboratory facilities.
Exhibition Schedule Arrangement: Managing the calendar and logistics for exhibition participation.
Project Evaluation and Summary: Conducting thorough post-project evaluation and summarization.

II. Technical Management System (TMS)

The TMS is dedicated to advancing technological capabilities, protecting intellectual property, and facilitating the successful commercialization of research through design and scaling.
Technical Cooperation and R&D (Research and Development): Initiating and managing collaborative technical projects.
Patent Application: Assisting with the preparation and filing of patent applications.
Standardized Design: Developing designs that comply with established industry norms and standards.
Technology Promotion Consulting: Offering guidance on strategies for technological dissemination.
Technology Promotion: Actively promoting and disseminating new technologies.
Industrial Scale-up Design (Industrial Amplification Design): Designing processes for scaling laboratory results to industrial production.

III. Service Management System (SMS)

Our SMS ensures the optimal operational status and safety of laboratory assets through routine maintenance and specialized services.
Laboratory Equipment Preservation and Maintenance: Routine upkeep and scheduled maintenance of all laboratory equipment.
Laboratory Safety Patrol and Inspection: Regular inspections to ensure adherence to safety protocols.
Catalyst Loading and Unloading: Specialized services for managing catalysts within reaction systems.
Laboratory Equipment Operation: Providing expertise and support for the correct operation of complex equipment.
Laboratory Analysis: Offering comprehensive analytical services using specialized laboratory techniques.

IV. Equipment Management System (EMS)

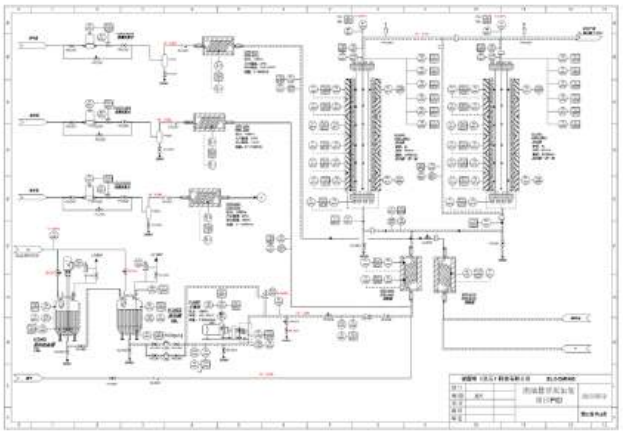
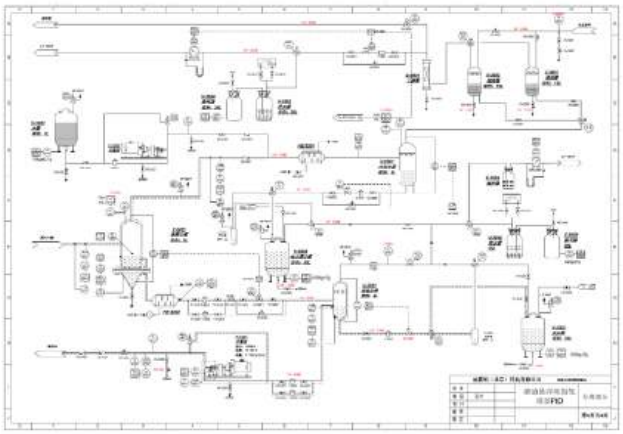
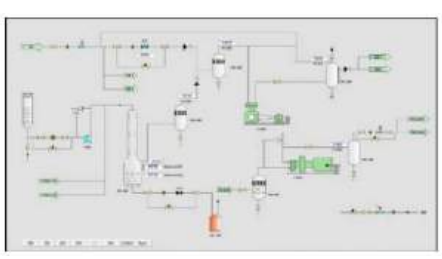
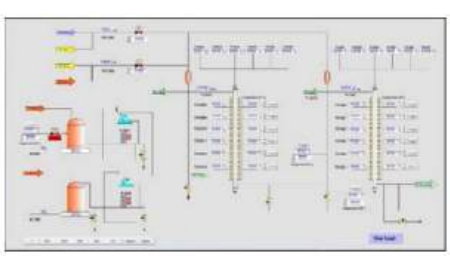
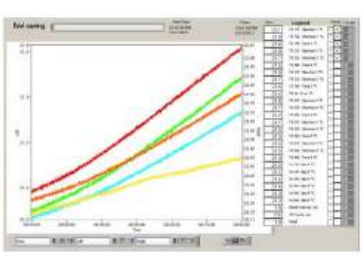
The EMS covers the entire lifecycle of laboratory and non-standard equipment, from initial selection and design to procurement and troubleshooting.
Initial Equipment Research and Survey: Conducting preliminary studies for new equipment procurement.
Process Flow Confirmation: Validating and documenting the standard operating procedures (SOPs).
Core Model Selection: Advising on the selection of critical, high-performance equipment models.
Non-Standard Equipment Design: Custom design and engineering for unique, specialized equipment.
Materials Consultation: Providing expert advice on material selection for various applications.
Corrosion Consultation: Offering specialized consulting to address and mitigate corrosion issues.
Troubleshooting of Difficult Issues (Difficult Challenges Resolution): Providing expert intervention to resolve complex technical or operational problems.
Procurement of Imported Equipment: Managing the purchasing and importation of foreign-manufactured laboratory instruments.

V. Operations and Maintenance Management System (O&M MS)

The O&M MS focuses on the ongoing logistical and engineering support required for the smooth and continuous operation of laboratory facilities.
Laboratory Supporting Engineering: Providing necessary infrastructure and utility engineering support.
Supply of Consumables and Easy-to-Replace Parts (Easily Consumable Supplies): Ensuring a reliable and timely supply of necessary operational materials.
Backup Inventory (Spare Parts Warehouse): Maintaining a strategic stock of critical spare parts.
On-site Modification (Field Transformation): Executing modifications and improvements to existing laboratory facilities.

Standard Process

- PID
- Process
- Process Technology
- Material
- Non-standardization
- Production
- Layout
- Design
- Standards
- Self-control
- Wiring
- Software
- Selection of models
- Purchasing
- Inventory
- Test
- Safety
- Document
- Packaging
- Transportation
- Information

Supercritical Polypropylene System

SCR & SO_2 Gas Purification System

SCR Denitrification Comparative Evaluation System

SCR Denitrification Comparative Evaluation System

Total gas path VOCs Evaluation System

Catalytic Cracking Catalyst Activity Evaluation System

5-150ml Catalytic Cracking Fluidized Bed Equipment

Intermittent Liquid-phase Oxidation Apparatus for Preparing 2.6-naphthalenedicarboxylic Acid

Toluene Alkylation + Olefin Hydrogenation Reaction

Suspension Bed Hydrogenation Reaction

Fix-bed Hydrogenation Equipment

Acetic-acid Hydrogenation to Ethanol System

Supercritical extraction and hydrogenation of coal tar

Hydrogenation Unit for Oil Processing

Floating Bed Hydrogenation Equipment

FCC Fixed Fluidized Bed Equipment

Toluene Alkylation + Olefin Hydrogenation Reaction

Suspension Bed Hydrogenation Reaction

Fix-bed Hydrogenation Equipment

Acetic-acid Hydrogenation to Ethanol System

Supercritical extraction and hydrogenation of coal tar

Hydrogenation Unit for Oil Processing

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FCC Fixed Fluidized Bed Equipment

Toluene Alkylation + Olefin Hydrogenation Reaction

Suspension Bed Hydrogenation Reaction

Fix-bed Hydrogenation Equipment

Acetic-acid Hydrogenation to Ethanol System

Supercritical extraction and hydrogenation of coal tar

Hydrogenation Unit for Oil Processing

Floating Bed Hydrogenation Equipment

FCC Fixed Fluidized Bed Equipment

Coal Slurry Supercritical Upgrading System

Four-channel Hydrogenation Equipment

Multi-channel Fischer-Tropsch Synthesis System

Five-channel Gasoline & Diesel Hydrofining System

Four-channel Hydrogenation System

MTA

MTP

MTO

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