

Biopharmaceutical Filtration Solutions



Customer Service Quality First

Hangzhou Eternalwater Filtration Equipment Co.,Ltd

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ABOUT Eternalwater

Micropore Filtration Solutions

Eternalwater®



Professional

Professional only for filtration



Quality

Quality is above all else



Technology

Technology continues to innovate



Service

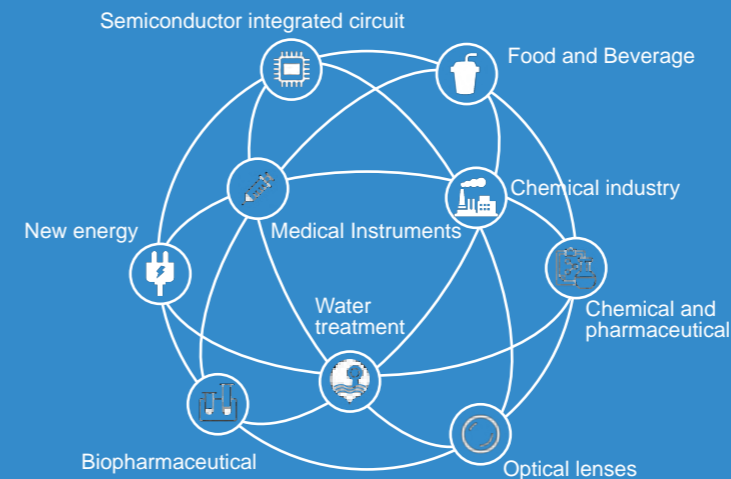
Service throughout

Hangzhou Eternalwater Filtration Equipment Co., Ltd. was established in 2011. It is a high-tech enterprise specializing in different kinds of filter, filter cartridge and stainless steel housing production, research and development. Focus on customers requirements and provide high-quality filtration products, as well as filtration process development and verification services.

Our company has a 100,000-level clean and dust-free workshop that meets the production requirements for pharmaceutical-grade filter cartridges, and for electronic-grade filter cartridges. We have a membrane R&D laboratory, a filter R&D laboratory, a process development laboratory, and a verification center. Our products and technologies are widely used in pharmaceutical industry, chemical industry, food and beverages, medical equipment, semiconductor, new energy and other industries.

Our company adheres to the philosophy of "Quality first, creating value for customers". And try our best to provide filtration solutions to the customers around the world.

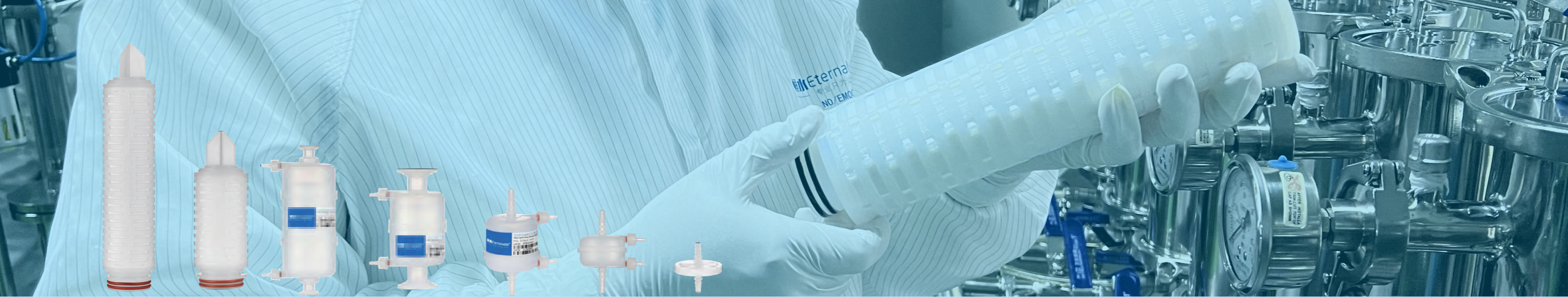
• Business scope



2011 Incorporation

1000 Serving thousands of enterprises





Membrane pleated filter cartridge

EAPSH Series	High bubble point and long life polyethersulfone sterilization grade filter cartridge	P01
EHPSH Series	Low diffusion flow polyethersulfone sterilization grade filter cartridge	P02
EDPSH Series	Double-layer polyethersulfone severe terminal sterilization grade filter cartridge	P03
EFT Series	Strong hydrophobic PTFE membrane sterilization grade filter cartridge	P04
ELT Series	Hydrophilic PTFE sterilization grade filter cartridge	P05
ELV Series	High protein permeation low adsorption sterilizing grade filter cartridge	P06
EKT Series	Gas sterilization grade PTFE filter cartridge	P07
EST Series	Hydrophobic gas sterilization polyethersulfone (PES) filter cartridge	P08
EPM Series	Mixed cellulose membrane (MCE) sterilizing grade filter cartridge	P09
EYNN Series	Nylon 66 sterilizing grade filter cartridge	P10
EBG Series	High-efficiency clarification glass fiber membrane filter cartridge	P11
EJA Series	Strong adsorption capacity activated carbon fiber filter cartridge	P12
EAP Series	High-removal rating polypropylene pleated filter cartridge	P13
EDP Series	Ultra-high dirt holding capacity multi-layer gradient pleated filter cartridge	P14
EHP Series	Relative removal rating polypropylene fiber membrane pleated filter cartridge	P15-P16
E56X Series	Small size diameter 56mm filter cartridge	P17-P18

EBT Series	Titanium metal filter cartridge	P19
EWK Series	Metal filter cartridge	P20

Capsule filter

KC Series	Sterilizing grade capsule filter	P21-P22
KMH Series	Sterilizing grade capsule filter	P23-P24
KMT Series	Sterilizing grade capsule filter	P25-P26
KMX Series	Sterilizing grade capsule filter	P27-P28
KB Series	Sterilizing grade capsule filter	P29-P30
KS Series	Disposable disc filter	P31-P32
KZ Series	Syringe filter	P33-P34
ML Series	Microporous membrane	P35-P36

Stainless steel filter housings

HY1 Series	Single core sanitary liquid filter	P37-P38
HYD Series	Multi-core sanitary liquid filter	P39-P40
HTB Series	Flip-over titanium rod filter	P41-P42
HQ Series	Stainless steel gas filter	P43-P44
HG Series	Sanitary grade pipe filter	P45-P46
HV Series	Tank breathers	P47-P48
EW-F48 Series	Automated Filter Integrity Test Instruments	P49-P50

High bubble point and long life polyethersulfone (PES) sterilization grade filter cartridge EAPSH Series

Eternalwater EAPSH Series--Polyethersulfone membrane pleated filter cartridges adopt imported asymmetrical unsupported PES membrane, its pore size gradually decreases with depth, this structure maintains a certain Consistent porosity and retention. All elements of the filter cartridge comply with FDA regulations for food contact use. It has high retention rate and super hydrophilicity. The good heat resistance of the filter cartridge can be steam sterilized many times, suitable for most of the terminal sterilization filtration in the bio-pharmaceutical industry.



Product Features

- Asymmetric membrane structure, high dirt holding capacity, low protein adsorption
- High flux, long life, super hydrophilic
- 100% Integrity Tested Ensures Absolute Bacteria Removal
- Widely chemical compatibility
- PH working range 1-14

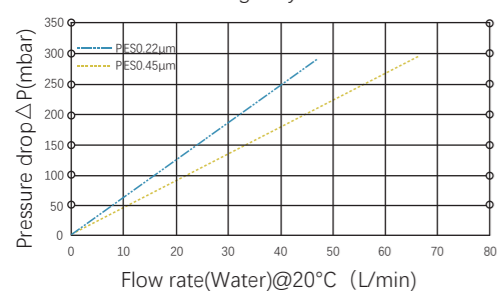
Typical Application

- Filtration of biological vaccines, plasma, serum
- Sterilization and filtration of buffer solution, culture media
- Sterilization and filtration of large volume parenteral (LVP)
- Filtration of eye drop
- Filtration of aqueous antibiotic liquid
- Sterilization and filtration of cleaning solution and disinfectant

Product Specification

Filter Material	Asymmetrical Polyethersulfone Membrane
Center core / Housing / End cap Material	Polypropylene
Cage material	Polypropylene
Vent O-ring Material	Silicone/ EPDM/ Viton
Filtration area	≥0.6m ² /10inch
Maximum working temperature	80°C
Maximum working differential pressure	4.2bar@23°C (forward direction) 2.4bar@80°C (forward direction)
Sterilization	126°C/30min; high pressure steam sterilization; ≤30 times
Endotoxin	< 0.25EU/mL
Extractables	< 30mg/10inch
Biocompatibility	All materials comply with bio-safety evaluation of plastic USP<88>, ClassVI-70°C level
Integrity Test Method	Bubble point, diffusion flow; for detailed parameters, please consult the sales engineer of Eternalwater Company

Flow characteristics of single layer 10" PES filter cartridge



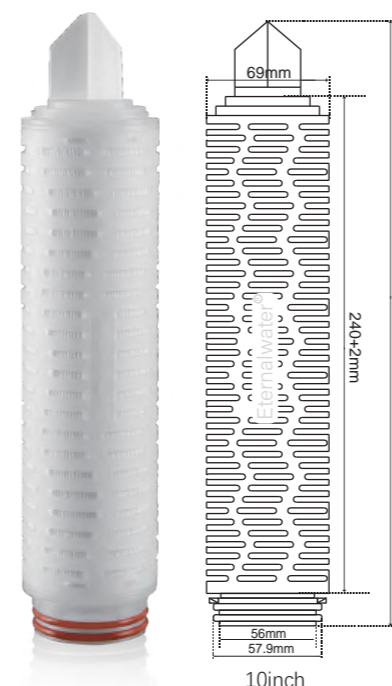
Ordering Information

EAPSH 1 2 3 4 5

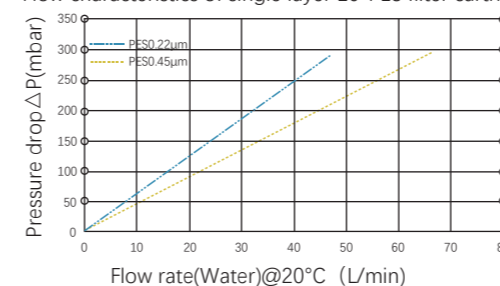
Block 1		Block 2		Block 3		Block 4		Block 5	
Code	Removal Rating	Code	End Cap Type	Length	Code	O-ring Seal Material	Code	Cage Material	
005	0.05μm	J1	222/Fin	05inch	S	Silicone	A	Polypropylene	
010	0.1μm	J2	222/Flat	10inch	E	EPDM			
020	0.2μm	J3	226/Fin	20inch	V	Viton			
045	0.45μm	J4	226/Flat	30inch					
050	0.5μm	J5	DOE	40inch					
060	0.6μm								
080	0.8μm								
100	1.0μm								
500	5.0μm								

Low diffusion flow polyethersulfone (PES) sterilization grade filter cartridge EHPSH Series

Eternalwater EHPSH Series--Filter cartridges use a highly asymmetric single-layer polyethersulfone (PES) membrane. With extremely high flow rate and load capacity, it is suitable for high-viscosity pharmaceutical sterile filtration. It has the properties of ultra-low diffusion flow, low protein adsorption and high retention rate. The good heat resistance of the filter cartridge can be steam sterilized many times, and the integrity test before leaving the factory ensures the high quality of the product.



Flow characteristics of single layer 10" PES filter cartridge



Product Features

- Low diffusion flow, low protein adsorption, high flux rate, long lifetime, high hydrophilic
- 100% integrity tested ensures sterilization absolutely
- Widely chemical compatibility
- PH working range 1-14

Typical Application

- Sterilization and filtration of large volume parenteral (LVP)
- Sterilization and filtration of small volume parenteral (SVP)
- Sterilization and filtration of large batches of liquid medicine
- Filtration of aqueous antibiotic solution
- Sterilization and filtration of cleaning solution and disinfectant

Product Specification

Filter Material	Imported Polyethersulfone Membrane
Center core / Housing / End cap Material	Polypropylene
Cage material	Polypropylene
Vent O-ring Material	Silicone/ EPDM/ Viton
Filtration area	≥0.6m ² /10inch
Maximum working temperature	80°C
Maximum working differential pressure	4.2bar@23°C ((forward direction) 2.4bar@80°C ((forward direction)
Sterilization	126°C/30min; high pressure steam sterilization; ≤30 times
Endotoxin	< 0.25EU/mL
Extractables	< 30mg/10inch
Biocompatibility	All materials comply with biosafety evaluation of plastic USP<88>, ClassVI-70°C level
Integrity Test Method	Bubble point, diffusion flow; for detailed parameters, please consult the sales engineer of Eternalwater Company

Ordering Information

EHPSH 1 2 3 4 5

Block 1		Block 2		Block 3		Block 4		Block 5	
Code	Removal Rating	Code	End Cap Type	Length	Code	O-ring Seal Material	Code	Cage Material	
020	0.2μm	J1	222/Fin	05inch	S	Silicone	A	Polypropylene	
		J2	222/Flat	10inch	E	EPDM			
		J3	226/Fin	20inch	V	Viton			
		J4	226/Flat	30inch					
		J5	DOE	40inch					

Double-layer polyethersulfone (PES) severe terminal sterilization grade filter cartridge

EDPSH Series



Eternalwater EDPSH series--Filter cartridges adopt a combination of double-layer membranes with different pore sizes or the same pore size, and a highly asymmetric pore structure polyethersulfone membrane, which makes the filter cartridge have excellent filtration performance and reliable bacterial retention capacity. It can be widely used in severe terminal sterilization and filtration in industries such as bio-pharmaceutical industry.

Product Features

- Double-layer combination design make sterilization effect safer and more reliable
- Super hydrophilic, high dirt holding capacity, ensure long life of the filter cartridge
- 100% integrity tested ensures sterilization absolutely
- Very good PH compatibility (1-14)
- Low protein adsorption function
- Structurally stable and withstands 30 sterilization cycles

Typical Application

- Sterilization and filtration of biological vaccines and blood products
- Sterilization and filtration of sterile raw materials
- Sterile filtration of large volume parenteral (LVP) and small volume parenteral (SVP)
- Sterilization and filtration of eye drops
- Sterilization and filtration of physiological saline, buffer solution and reagent water

Product Specification

Filter Material	Imported double-layer asymmetric polyethersulfone membrane
Center core / Housing / End cap Material	Polypropylene
Cage material	Polypropylene
Vent O-ring Material	Silicone/ EPDM/ Viton
Filtration area	≥0.6m ² /10inch
Maximum working temperature	80°C
Maximum working differential pressure	4.2bar@23°C ((forward direction) 2.4bar@80°C ((forward direction)
Sterilization	126°C/30min; high pressure steam sterilization; ≤30times
Endotoxin	< 0.25EU/mL
Extractables	< 30mg/10inch
Biocompatibility	All materials comply with biosafety evaluation of plastic USP<88>, ClassVI-70°C level
Integrity Test Method	Bubble point, diffusion flow; for detailed parameters, please consult the sales engineer of Eternalwater Company

Ordering Information

EDPSH 1 2 3 4 5

Block 1	Block 2	Block 3	Block 4	Block 5
Code	Removal Rating	Code	End Cap Type	Length
010010	0.1+0.1μm	J1	222/Fin	05inch
020020	0.2+0.2μm	J2	222/Flat	10inch
045045	0.45+0.45μm	J3	226/Fin	20inch
020010	0.2+0.1μm	J4	226/Flat	30inch
045020	0.45+0.2μm	J5	DOE	40inch
065020	0.65+0.2μm			

Code	O-ring Seal Material
S	Silicone
E	EPDM
V	Viton

Code	Cage Material
A	Polypropylene

Strong hydrophobic (PTFE) membrane sterilization grade filter cartridge

EFT Series

Eternalwater EFT Series--Sterilizing filter cartridges adopt natural strong hydrophobic polytetrafluoroethylene (PTFE) membrane, which is resistant to corrosion, oxidation and organic solvents. It is suitable for sterilizing and filtering of highly corrosive liquids and strong oxidizing liquids.

Product Features

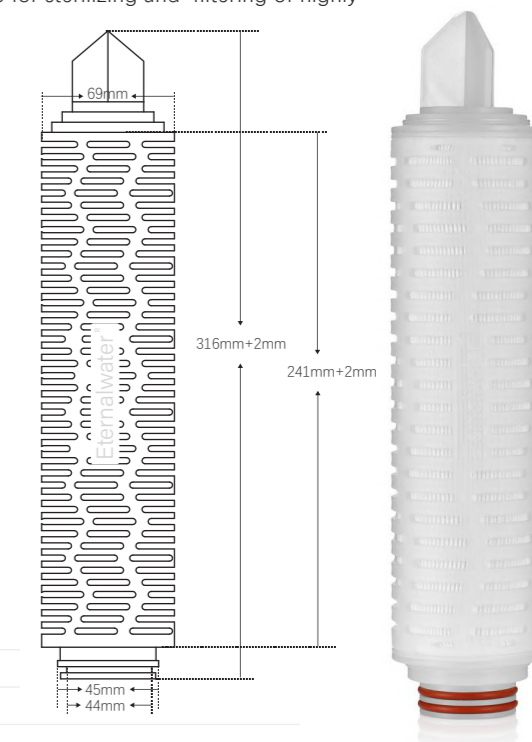
- Natural strong hydrophobic
- Resistant to strong oxidation and strong corrosive solutions
- low precipitation
- Widely chemical compatibility
- Ultra-low extractables

Typical Application

- Sterilization and filtration of strong oxidizing and corrosive liquids
- Filtration of solvent material

Product Specification

Filter Material	Strongly hydrophobic PTFE membrane
Center core / Housing / End cap Material	Polypropylene
Cage material	Polypropylene
Vent O-ring Material	Silicone/ EPDM/ Viton
Filtration area	≥0.6m ² /10inch
Maximum working temperature	80°C
Maximum working differential pressure	4.2bar@23°C ((forward direction) 2.4bar@80°C ((forward direction)
Sterilization	126°C/30min; high pressure steam sterilization; ≤30times
Endotoxin	< 0.25EU/mL
Extractables	< 30mg/10inch
Biocompatibility	All materials comply with biosafety evaluation of plastic USP<88>, ClassVI-70°C level
Integrity Test Method	Bubble point, diffusion flow; for detailed parameters, please consult the sales engineer of Eternalwater Company



Ordering Information

EFT 1 2 3 4 5

Block 1	Block 2	Block 3	Block 4	Block 5
Code	Removal Rating	Code	End Cap Type	Length
010	0.1um	J1	222/Fin	05inch
020	0.2um	J2	222/Flat	10inch
045	0.45um	J3	226/Fin	20inch
050	0.5um	J4	226/Flat	30inch
060	0.6um	J5	DOE	40inch
080	0.8um			
100	1.0um			
500	5.0um			

Code	O-ring Seal Material
S	Silicone
E	EPDM
V	Viton
D	E-FKM

Code	Cage Material
A	Polypropylene

Gas sterilization grade PTFE filter cartridge EKT Series

Eternalwater EKT Series--Gas sterilizing filter cartridges adopt hydrophobic (PTFE) membrane, which has superior performance of high flux, low differential pressure, high temperature resistance and high retention rate. Mainly used in gas sterilization and filtration of biological fermentation, pharmaceutical industry.

Product Features

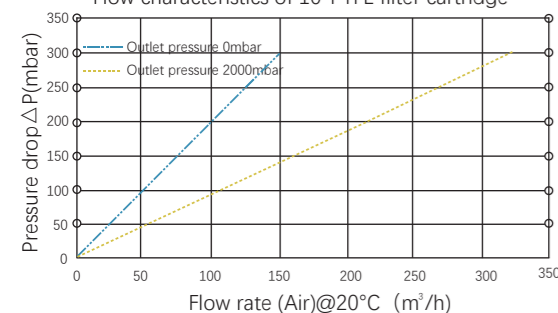
- Natural strong Hydrophobic
- Resistant to strong oxidation and strong corrosive solutions
- Low precipitation
- Widely chemical compatibility
- Ultra-low extractables

Typical Application

- Sterilization and filtration of compressed air and nitrogen
- Intake and exhaust filtration of water for injection storage tank respirator
- Sterilization and filtration of gas for aseptic packaging
- Sterilization and filtration of fermentation gas
- Sterilization and filtration of corrosive gas



Flow characteristics of 10"PTFE filter cartridge



Product Specification

Filter Material	Imported hydrophobic PTFE membrane
Center core / Housing / End cap Material	Stainless Steel/Polypropylene/Lined Stainless Steel
Cage material	Polypropylene
Vent O-ring Material	Silicone/ EPDM/Viton
Filtration area	≥ 0.6m²/10inch
Maximum working temperature	80°C
Maximum working differential pressure	4.2bar@23°C (forward direction) 2.4bar@80°C (forward direction)
Sterilization	126°C/30min; high pressure steam sterilization; ≤30times
Endotoxin	< 0.25EU/mL
Extractables	< 30mg/10inch
Biocompatibility	All materials comply with biosafety evaluation of plastic USP<88>, ClassVI-70°C level
Integrity Test Method	Bubble point, diffusion flow; for detailed parameters, please consult the sales engineer of Eternalwater Company

Ordering Information

EKT 1 2 3 4 5

Block 1		Block 2		Block 3		Block 4	
Code	Removal Rating	Code	End Cap Type	Length	Code	O-ring Seal Material	
020	0.2µm	J1	222/Fin	05inch	S	Silicone	
020020	0.2+0.2µm	J2	222/Flat	10inch	E	EPDM	
		J3	226/Fin	20inch	V	Viton	
		J4	226/Flat	30inch	D	E-FKM	
		J5	DOE	40inch			

Block 5	
Code	Cage Material
A	Polypropylene
B	PP Cage material + End cap lined with stainless steel
C	PP Cage material + stainless steel lining

Hydrophobic gas sterilization polyethersulfone (PES) filter cartridge EST Series

Eternalwater EST Series--Gas sterilization polyethersulfone filter cartridges adopt hydrophobic polyethersulfone membrane, which has superior performance of high flow rate, low pressure drop, high temperature resistance and high retention rate. Mainly used in gas sterilization and filtration of biological fermentation, pharmaceutical industry.

Product Features

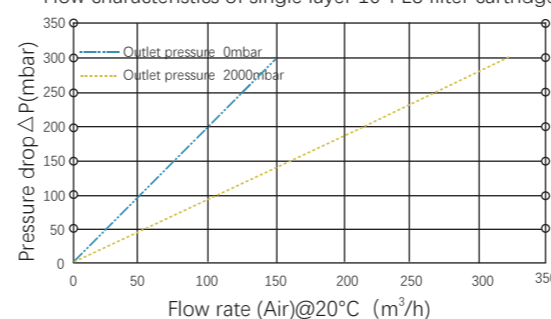
- Resistant to radiation sterilization
- Resistant to strong oxidation and strong corrosive solutions
- Low precipitation
- Widely chemical compatibility
- Ultra-low extractables

Typical Application

- Sterilization and filtration of compressed air and nitrogen
- Intake and exhaust filtration of water for injection storage tank respirator
- Sterilization and filtration of gas for aseptic packaging
- Sterilization and filtration of fermentation gas
- Sterilization and filtration of corrosive gas



Flow characteristics of single layer 10"PES filter cartridge



Product Specification

Filter Material	Hydrophobic polyethersulfone membrane
Center core / Housing / End cap Material	Stainless Steel/Polypropylene/Lined Stainless Steel
Cage material	Polypropylene
Vent O-ring Material	Silicone/ EPDM/ Viton
Filtration area	≥ 0.6m²/10inch
Maximum working temperature	80°C
Maximum working differential pressure	4.2bar@23°C (forward direction) 2.4bar@80°C (forward direction)
Sterilization	126°C/30min; high pressure steam sterilization; ≤30times
Endotoxin	< 0.25EU/mL
Extractables	< 30mg/10inch
Biocompatibility	All materials comply with biosafety evaluation of plastic USP<88>, ClassVI-70°C level
Integrity Test Method	Bubble point, diffusion flow; for detailed parameters, please consult the sales engineer of Eternalwater Company

Ordering Information

EST 1 2 3 4 5

Block 1		Block 2		Block 3		Block 4	
Code	Removal Rating	Code	End Cap Type	Length	Code	O-ring Seal Material	
020	0.2µm	J1	222Fin	05inch	S	Silicone	
020020	0.2+0.2µm	J2	222/Flat	10inch	E	EPDM	
		J3	226/Fin	20inch	V	Viton	
		J4	226/Flat	30inch	D	E-FKM	
		J5	DOE	40inch			

Block 5	
Code	Cage Material
A	Polypropylene
B	PP Cage material + End cap lined with stainless steel
C	PP Cage material + stainless steel lining

Mixed cellulose membrane (MCE) sterilizing grade filter cartridge

EPM Series

Eternalwater EPM series--Liquid sterilization filter cartridge, made of hydrophilic mixed cellulose membrane (MCE), has advantages of low adsorption and high protein recovery rate, and can be used for filtering materials with high protein concentration in bio-pharmaceutical industry.

Product Features

- Very low protein adsorption performance
- Low precipitation
- Tolerant to PH1-14
- Good sterilization performance
- Each filter cartridge corresponds to a unique serial number, which can be tracked throughout the process

Typical Application

- Filtration of blood product
- Filtration of culture media
- Filtration of vaccine
- Filtration of buffer solution

Product Specification

Filter Material	Mixed Cellulose Membrane
Center core / Housing / End cap Material	Polypropylene
Cage material	Polypropylene
Vent O-ring Material	Silicone/ EPDM/ Viton
Filtration area	≥0.6m²/10inch
Maximum working temperature	80°C
Maximum working differential pressure	4.2bar@23°C (forward direction) 2.4bar@80°C (forward direction)
Sterilization	126°C/30min; high pressure steam sterilization; ≤30times
Endotoxin	< 0.25EU/mL
Extractables	< 30mg/10inch
Biocompatibility	All materials comply with biosafety evaluation of plastic USP<88>, ClassVI-70°C level
Integrity Test Method	Bubble point, diffusion flow; for detailed parameters, please consult the sales engineer of Eternalwater Company

Ordering Information

EPM 1 2 3 4 5

Block 1		Block 2		Block 3		Block 4	
Code	Removal Rating	Code	End Cap Type	Length	Code	O-ring Seal Material	
020	0.2µm	J1	222/Fin	05inch	S	Silicone	
045	0.45µm	J2	222/Flat	10inch	E	EPDM	
		J3	226/Fin	20inch	V	Viton	
		J4	226/Flat	30inch			
		J5	DOE	40inch			

Block 5	
Code	Cage Material
A	Polypropylene
B	PP Cage material + End cap lined with stainless steel
C	PP Cage material + stainless steel lining

Nylon 66 sterilizing grade filter cartridge

EYNN Series

Eternalwater EYNN Series--Filter cartridges are made of natural hydrophilic nylon (Nylon) 66 membrane, which can absorb and remove particles, bacteria and endotoxin smaller than the filtration precision. High porosity and high flux are suitable for alkaline liquid filtration.

Product Features

- Naturally hydrophilic, easy to wet
- Positively charged, removes endotoxin
- Low pressure loss, high flux, long life
- 100% integrity tested

Typical Application

- Sterilization and filtration of large volume parenteral (LVP)
- Sterilization and filtration of small volume parenteral (SVP)
- Sterilization and filtration of antibiotic solutions
- Sterilization of pharmaceutical water and filtration of depyrogenation
- Sterilization and filtration of physiological saline

Product Specification

Filter Material	Nylon 66 membrane
Center core / Housing / End cap Material	Polypropylene
Cage material	Polypropylene
Vent O-ring Material	Silicone/ EPDM/ Viton
Filtration area	≥0.6m²/10inch
Maximum working temperature	80°C
Maximum working differential pressure	4.2bar@23°C (forward direction) 2.4bar@80°C ((forward direction)
Sterilization	126°C/30min; high pressure steam sterilization; ≤30times
Endotoxin	< 0.25EU/mL
Extractables	< 30mg/10inch
Biocompatibility	All materials comply with biosafety evaluation of plastic USP<88>, ClassVI-70°C level
Integrity Test Method	Bubble point, diffusion flow; for detailed parameters, please consult the sales engineer of Eternalwater Company

Ordering Information

EYNN 1 2 3 4 5

Block 1		Block 2		Block 3		Block 4	
Code	Removal Rating	Code	End Cap Type	Length	Code	O-ring Seal Material	
010	0.1µm	J1	222/Fin	05inch	S	Silicone	
020	0.2µm	J2	222/Flat	10inch	E	EPDM	
045	0.45µm	J3	226/Fin	20inch	V	Viton	
100	1.0µm	J4	226/Flat	30inch			
500	5.0µm	J5	DOE	40inch			

Block 5	
Code	Cage Material
A	Polypropylene
B	PP Cage material + End cap lined with stainless steel
C	PP Cage material + stainless steel lining



High-efficiency clarification **glass fiber** membrane filter cartridge

EBG Series

Eternalwater EBG Series--Glass fiber membrane filter cartridge, GF membrane is made of 100% borosilicate ultrafine glass fiber, capillary fiber structure, non-hygroscopic and biologically inert. Suitable for gas pre-filtration, liquid filtration containing colloid, oil and protein materials.

Product Features

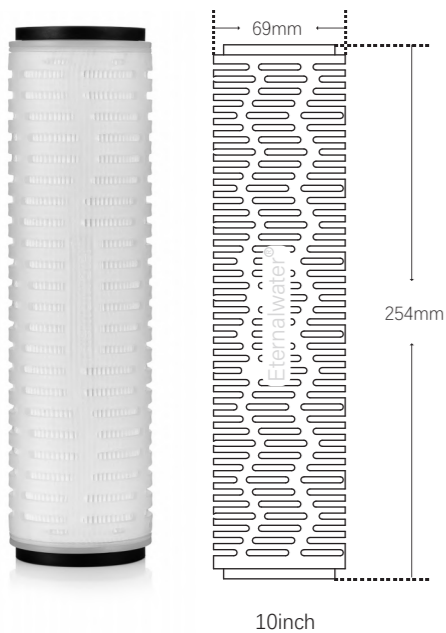
- High porosity, high dirt holding capacity
- High flow rate, low pressure drop
- Long-life, economical pre-filtration
- With adsorption, high filtration efficiency

Typical Application

- Filtration of compressed air of degreasing and removing particle.
- Air pre-filtration of bio-engineering fermentation
- Filtration of cell culture media and buffer solution
- Pre-filtration of serum and blood products
- Clarification and filtration of highly viscous, colloidal liquids

Product Specification

Filter Material	Glass Fiber Membrane (GF)
Center core / Housing / End cap Material	Polypropylene
Cage material	Polypropylene
Vent O-ring Material	Silicone/ EPDM/ Viton
Filtration area	≥0.4m ² /10inch
Maximum working temperature	80°C
Maximum working differential pressure	4.2bar@23°C(forward direction) 2.4bar@80°C (forward direction)
Sterilization	126°C/30min; high pressure steam sterilization; ≤30times
Endotoxin	< 0.25EU/mL
Extractables	< 30mg/10inch
Biocompatibility	All materials comply with biosafety evaluation of plastic USP<88>, ClassVI-70°C level



Strong adsorption capacity **activated carbon** fiber filter cartridge

EJA Series

Eternalwater EJA Series--High-performance purification grade activated carbon fiber filter cartridges adopt ACF material, which has high high flux and high retention rate performance, and is used for purification, deodorization, decolorization, and organic matter removal. Effectively filter out residual chlorine in liquid and gas.

Product Features

- High adsorption performance
- Filtration and adsorption integration
- Effectively remove residual chlorine,deodorization, decolorization, and organic matter removal
- Large dirt holding capacity and long service life

Typical Application

- Water treatment purification, deodorization, decolorization, organic matter removal, etc.
- Removal of residual chlorine

Product Specification

Filter Material	Activated carbon fiber
Center core / Housing / End cap Material	Polypropylene
Cage material	Polypropylene
Vent O-ring Material	Silicone/ EPDM/ Viton
Maximum working temperature	60°C
Maximum working differential pressure	4.2bar@23°C (forward direction) 2.4bar@80°C (forward direction)
Filtration area	≥0.4m ² /10inch
Sterilization	126°C/30min; high pressure steam sterilization; ≤30times
Endotoxin	< 0.25EU/mL
Extractables	< 30mg/10inch
Biocompatibility	All materials comply with biosafety evaluation of plastic USP<88>, ClassVI-70°C level



Ordering Information

EBG 1 2 3 4 5

Block 1		Block 2		Block 3		Block 4	
Code	Removal Rating	Code	End Cap Type	Length	Code	O-ring Seal Material	
045	0.45µm	J1	222/Fin	05inch	S	Silicone	
065	0.65µm	J2	222/Flat	10inch	E	EPDM	
100	1.0µm	J3	226/Fin	20inch	V	Viton	
500	5.0µm	J4	226/Flat	30inch			
		J5	DOE	40inch			

Block 5	
Code	Cage Material
A	Polypropylene
B	PP Cage material + End cap lined with stainless steel
C	PP Cage material + stainless steel lining

Ordering Information

EJA 1 2 3 4 5

Block 1		Block 2		Block 3		Block 4	
Code	Removal Rating	Code	End Cap Type	Length	Code	O-ring Seal Material	
045	0.45µm	J1	222/Fin	05inch	S	Silicone	
100	1.0µm	J2	222/Flat	10inch	E	EPDM	
500	5.0µm	J3	226/Fin	20inch	V	Viton	
		J4	226/Flat	30inch			
		J5	DOE	40inch			

Block 5	
Code	Cage Material
A	Polypropylene
B	PP Cage material + End cap lined with stainless steel
C	PP Cage material + stainless steel lining

High-removal rating polypropylene (PP) pleated filter cartridge

EAP Series

Eternalwater EAP Series--Polypropylene fiber membrane is adopted, and the microfiber membrane has high removal rating and high retention rate. Pre-filtration cartridges widely used in the bio-pharmaceutical industry.

Product Features

- High removal rating, high retention rate of 98%
- No fiber shedding
- Pure polypropylene material, widely chemical compatibility
- high flux, low pressure drop

Typical Application

- Pre-filtration of bio-pharmaceutical water
- Pre-filtration of colloidal material
- Pre-filtration of API
- Filtration of fermentation solution
- Pre-filtration of preparing solution system

Product Specification

Filter Material	Polypropylene fiber membrane
Center core / Housing / End cap Material	Polypropylene
Cage material	Polypropylene
Vent O-ring Material	Silicone/ EPDM/ Viton
Filtration area	≥0.55m²/10inch
Maximum working temperature	80°C
Maximum working differential pressure	4.2bar@23°C (forward direction) 2.4bar@80°C (forward direction)
Sterilization	126°C/30min; high pressure steam sterilization; ≤30times
Endotoxin	< 0.25EU/mL
Extractables	< 30mg/10inch
Biocompatibility	All materials comply with biosafety evaluation of plastic USP<88>, ClassVI-70°C level

Ordering Information

EAP 1 2 3 4 5

Block 1		Block 2		Block 3		Block 4	
Code	Removal Rating	Code	End Cap Type	Length	Code	O-ring Seal Material	
010	0.1µm	J1	222/Fin	05inch	S	Silicone	
020	0.2µm	J2	222/Flat	10inch	E	EPDM	
045	0.45µm	J3	226/Fin	20inch	V	Viton	
065	0.65µm	J4	226/Flat	30inch			
100	1.0µm	J5	DOE	40inch			
500	5.0µm						

Block 5	
Code	Cage Material
A	Polypropylene
B	PP Cage material + End cap linedwith stainless steel



Ultra-high dirt holding capacity multi-layer gradient

pleated filter cartridge (PP) EDP Series

Eternalwater EDP Series--adopts multi-layer ultra-fine polypropylene fiber membrane structure, and the polypropylene fiber membrane has characteristic of gradient pore size. Particles can be intercepted step by step to achieve deep filtration. At the same time, the dirt holding capacity is greatly improved, which is suitable for the filtration of high suspended particles, colloidal substances, and high viscosity liquids.

Product Features

- High dirt holding capacity and long service life
- Gradient pore size, gradient retention
- Efficient particle interception rate, protection of terminal sterilizing filter cartridges
- Pure polypropylene material, widely chemical compatibility
- No fiber shedding, economical and practical

Typical Application

- Pre-filtration of Colloidal material
- Liquid filtration of high viscosity
- Filtration of culture media
- Filtration of fermentation solution
- Pre-filtration of blood products

Product Specification

Filter Material	Polypropylene fiber membrane
Center core / Housing / End cap Material	Polypropylene
Cage material	Polypropylene
Vent O-ring Material	Silicone/ EPDM/ Viton
Filtration area	≥0.5m²/10inch
Maximum working temperature	80°C
Maximum working differential pressure	4.2bar@23°C (forward direction) 2.4bar@80°C (forward direction)
Sterilization	126°C/30min; high pressure steam sterilization; ≤30times
Endotoxin	< 0.25EU/mL
Extractables	< 30mg/10inch
Biocompatibility	All materials comply with biosafety evaluation of plastic USP<88>, ClassVI-70°C level

Ordering Information

EDP 1 2 3 4 5

Block 1		Block 2		Block 3		Block 4	
Code	Removal Rating	Code	End Cap Type	Length	Code	O-ring Seal Material	
010	0.1µm	J1	222/Fin	05inch	S	Silicone	
020	0.2µm	J2	222/Flat	10inch	E	EPDM	
045	0.45µm	J3	226/Fin	20inch	V	Viton	
065	0.65µm	J4	226/Flat	30inch			
100	1.0µm	J5	DOE	40inch			
500	5.0µm						

Block 5	
Code	Cage Material
A	Polypropylene
B	PP Cage material + End cap type lined with stainless steel

Relative removal rating polypropylene (PP) fiber membrane pleated filter cartridge EHP Series

Eternalwater EHP Series--adopts ultra-fine polypropylene fiber membrane structure, high flow rate and low pressure drop. No fiber shedding, continuous and reliable filtration efficiency, it is a more economical pre-filtration product.

Product Features

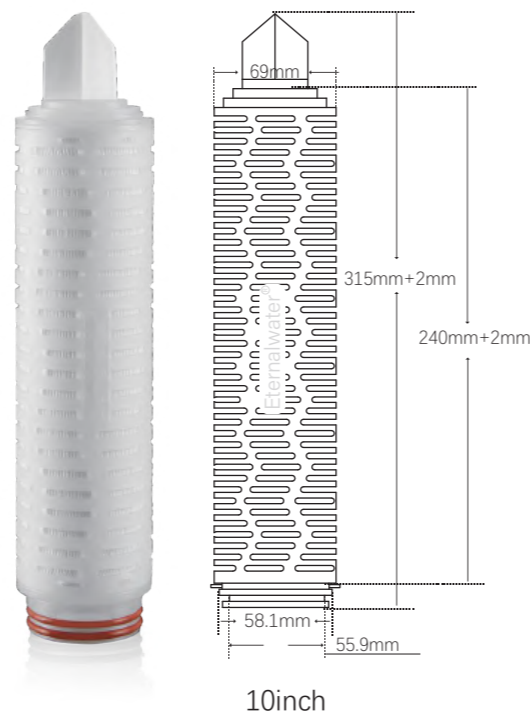
- No fiber shedding, economical and practical
- Washable under proper conditions, prolong service life
- Pure PP material, wide chemical compatibility
- A variety of removal ratings to meet different filtration needs

Typical Application

- Pre-filtration of pharmaceutical water
- Pre-filtration of Sterile API
- Pre-filtration of Infusion, biological products, fermentation solution.
- Pre-filtration of Separation and purification process

Product Specification

Filter Material	Ultrafine polypropylene fiber membrane
Center core / Housing / End cap Material	Polypropylene
Cage material	Polypropylene
Vent O-ring Material	Silicone/ EPDM/ Viton
Filtration area	≥0.55m²/10inch
Maximum working temperature	80°C
Maximum working differential pressure	4.2bar@23°C (forward direction) 2.4bar@80°C (forward direction)
Sterilization	126°C/30min; high pressure steam sterilization; ≤30times
Endotoxin	< 0.25EU/mL
Extractables	< 30mg/10inch
Biocompatibility	All materials comply with biosafety evaluation of plastic USP<88>, ClassVI-70°C level



Ordering Information

EHP 1 2 3 4 5

Block 1

Code	Removal Rating
010	0.1µm
020	0.2µm
045	0.45µm
065	0.65µm
100	1.0µm
500	5.0µm

Block 2

Code	End Cap Type
J1	222/Fin
J2	222/Flat
J3	226/Fin
J4	226/Flat
J5	DOE

Block 3

Length
05inch
10inch
20inch
30inch
40inch

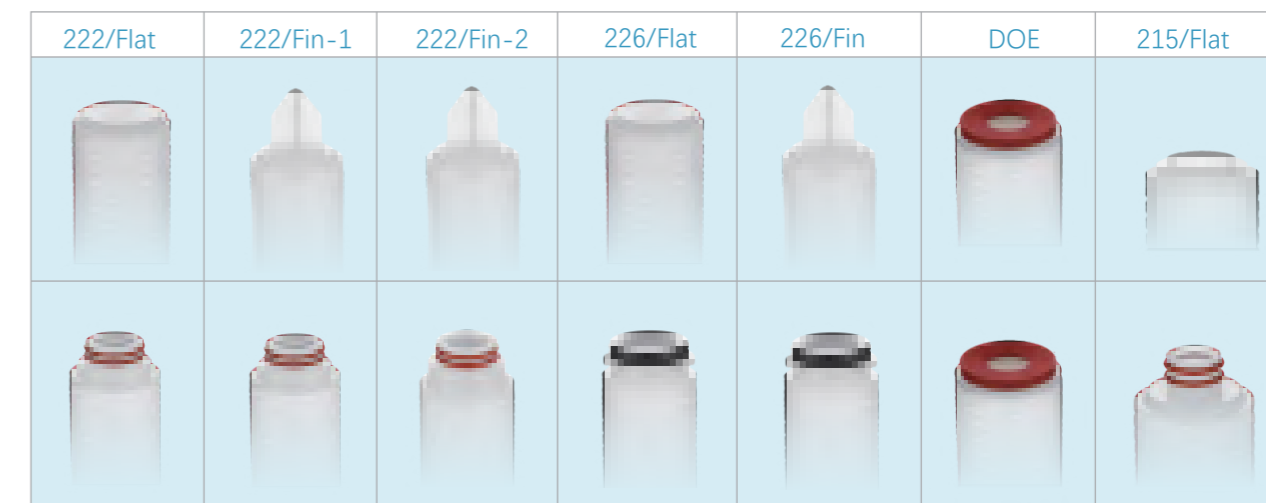
Block 4

Code	O-ring Seal Material
S	Silicone
E	EPDM
V	Viton

Block 5

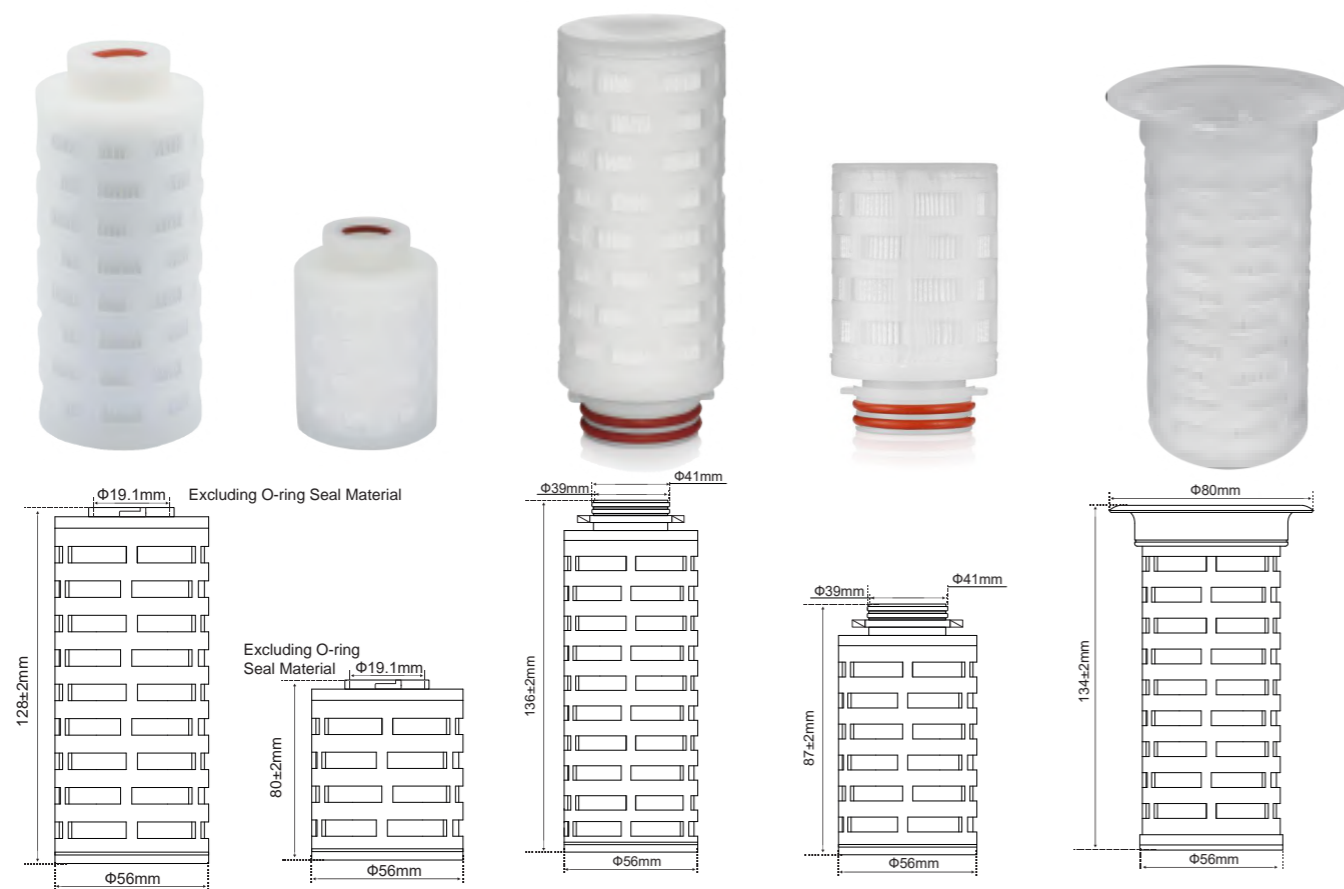
Code	Cage Material
A	Polypropylene
B	PP Cage material + End cap lined with stainless steel

End Cap Type



Small size diameter 56mm filter cartridge E56X Series

Eternalwater E56X series--filter cartridges have characteristics of compact structure, small volume, and less loss of filter media. Designed for small-volume gas and liquid filtration, widely used in laboratory small-volume filtration.



Product Features

- Compact structure, small volume, easy operation
- Double sealing rings snap to ensure the tightness
- A variety of filter materials and removal ratings can be selected
- Less loss of filter media

Typical Application

- Filtration of blood products
- Sterilization and filtration of fermentation gas
- Filtration of small volume of liquid

Product Specification

Filter Material	PES, PTFE, PVDF, PP, Nylon
Center core / Housing / End cap Material	Polypropylene
Cage material	Polypropylene
Vent O-ring Material	Silicone/ EPDM/ Viton
Filtration area	≥0.11 m ² / 0.22m ²
Maximum working temperature	80°C
Maximum working pressure difference	4.2bar@23°C (forward direction) 2.4bar@80°C (forward direction)
Sterilization	126°C/30min; high pressure steam sterilization; ≤30 times
Endotoxin	< 0.25EU/mL
Biocompatibility	All materials comply with biosafety evaluation of plastic USP<88>, ClassVI-70°C level

Ordering Information

E56X 1 2 3 4

Block 1

Code	Membrane Material
S	Hydrophilic PES
ST	Hydrophobic PES
T	Hydrophobic PTFE
LT	Hydrophilic PTFE
V	Hydrophobic PVDF
LV	Hydrophilic PVDF
M	MCE
N	Nylon
P	PP

Block 2

Code	Removal Rating
010	0.1µm
020	0.2µm
045	0.45µm
100	1.0µm
500	5.0µm

Block 3

Code	End Cap Type
N	Plug-in
K	Snap-in
D	Skirt style

Block 4

Code	Length
025	2.5inch
050	5inch

Titanium metal filter cartridge EBT Series

Eternalwater EBT series--adopt high-purity titanium powder (99.6%), which be sintered at high temperature. The surface particles are not easy to fall off, with average pore size and strong resistance of acid , alkali, high temperature, high pressure, anti-oxidation. widely used in various industries for purification, separation and filtration of the liquid and gas that containing rigid particles.



Product Specification

Filter cartridge material	Titanium metal
Removal rating	0.2µm、0.45µm、1.0µm、3.0µm、5.0µm、10µm、30µm、50µm、80µm
Operating temperature	≤200°C

Ordering Information

EBT 1 2 3 4

Code	Removal Rating
020	0.2µm
045	0.45µm
100	1.0µm
300	3.0µm
500	5.0µm
1000	10µm
3000	30µm
5000	50µm
8000	80µm

Code	End Cap Type
J1	222/Fin
J2	222/Flat
J3	226/Fin
J4	226/Flat
J5	M20 Threaded
J6	M30 Threaded

Length
05inch
10inch
20inch
30inch
40inch

Code	O-ring Seal Material
S	Silicone
E	EPDM
V	Viton
D	E-FKM

Metal filter cartridge EWK Series

Eternalwater EWK series--metal filter cartridges are made of five layers of 316L or 304 stainless steel sintered mesh by vacuum sintering or stainless steel dense mesh by folding and welding. It has the properties of high pressure resistance, high temperature resistance, corrosion resistance, good mechanical properties and easy regeneration. Suitable for liquid filtration under high temperature and high pressure conditions.



Product Specification

Filter cartridge material	316L/304
Removal rating	1.0µm、3.0µm、5.0µm、10µm、20µm、50µm、70µm
Operating temperature	≤480°C

Ordering Information

EWK 1 2 3 4 5 6

Code	Structure
Z	Pleated
S	Sintered

Code	Material
04	304
06	316L

Code	Removal Rating
100	1.0µm
300	3.0µm
500	5.0µm
1000	10µm
2000	20µm
5000	50µm
7000	70µm

Code	End Cap Type
J1	222/Fin
J2	222/Flat
J3	226/Fin
J4	226/Flat
J5	DOE
J6	Threaded

Code	Length
05	05inch
10	10inch
20	20inch
30	30inch
40	40inch

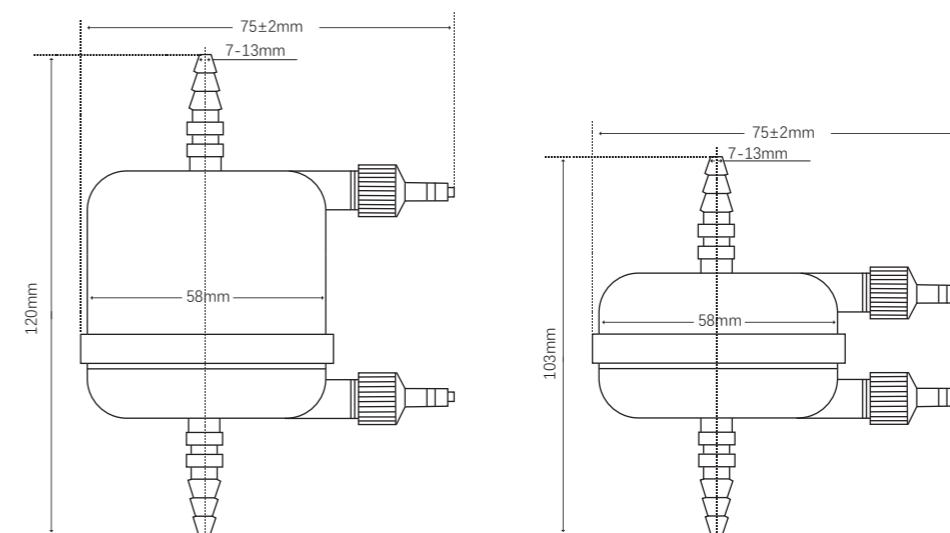
Code	O-ring Seal Material
S	Silicone
E	EPDM
V	Viton

Sterilizing grade capsule filter KC Series

Eternalwater KC series--of capsule filter products cover a variety of specifications and materials and can be applied to bioprocess filtration steps. They meet the requirements of applications from small-scale experiments to large-scale production, with superior filtration performance and reliable sterilization protection.

Typical Applications

- Sterile filtration for large and small volume infusions
- Sterile filtration for Vaccines, Biologicals and Antibiotics
- Sterile filtration for serum and plasma separation
- Sterile filtration for cell culture media
- Sterile filtration for diagnostic reagents and preparations containing proteins, vitamins and preservatives
- Disposable stock solution sterile filtration
- Buffer solution filtration



Product Specification

Nominal Size	0.5inch	1inch
Outer Diameter	58mm	
Total Length	103mm	120mm
Filtration Area	200cm ²	400cm ²
Housing Material	Polypropylene	
Center Pole Material	Polypropylene	
Support Layer Material	Polypropylene	
Vent O-ring Material	Silicone	
Vent /Drain Outlet Diameter	Φ4mm	
Maximum Operating Differential Pressure	4 bar (58 psi) at 25°C	
Housing Pressure	5.5 bar (80 psi) at 25°C	
Sterilization	Can be sterilized by Gamma radiation up to 45KGy Can be sterilized by high-pressure steam at 126°C for 30 minutes three times (in-line steam sterilization is not available)	
Bacterial Endotoxin	According to the bacterial endotoxin test method stipulated in the general rule (1143) of the Chinese Pharmacopoeia 2020 edition. As determined by Limulus reagent (LAL), the aqueous extract content is < 0.25 EU/mL	
Microbial Challenge Test	>10 ⁷ cuf/cm ² ; according to ASTM® test method passed Pseudomonas diminuta (B. diminuta) (ATCC® 19146)	
Biosecurity	All materials meet USP <88> Reaction Test Standards for Plastic Materials Class VI-70°C	
TOC/Conductivity	TOC value ≤0.5mg/L, conductivity value ≤1.3us/cm. According to the Chinese Pharmacopoeia 2020 Edition, the general rule (0682) the determination method of total organic carbon in pharmaceutical water and the general rule (0681) the determination method of the conductivity of pharmaceutical water	
Cleanliness	According to the light inspection method stipulated in the general rules (0904) of the Chinese Pharmacopoeia 2020 edition, no fibers and other visible foreign matter were detected in the filtrate	
Integrity Test	Bubble point, diffusion flow, water intrusion; please consult the sales engineer of Eternalwater Company for detailed parameters	

Order Information

KC 1 2 3 4 5 6

Block 1	Block 2	Block 3	Block 4
Membrane Material	Removal Rating	Length	End Cap Type
S=Hydrophilic PES	005=0.05µm	005=0.5inch	H=Φ7-13mm hose connection
ST=Hydrophobic PES	010=0.1µm	01=1inch	
T=Hydrophobic PTFE	020=0.2µm	Block 5	
LT=Hydrophilic PTFE	045=0.45µm	Sterilized Form	
V=Hydrophobic PVDF	065=0.65µm	G=Resistance to Gamma Irradiation Sterilization	
LV=Hydrophilic PVDF	080=0.8µm	Z=Autoclave only	
M=MCE	100=1.0µm	W=Sterile type	
N=Nylon	120=1.2µm	Block 6	
P=PP	020010=0.2+0.1µm	Packing	
	020020=0.2+0.2µm	1=1 Pcs/Box	
	045020=0.45+0.2µm	12=12 Pcs/Box	
	065020=0.65+0.2µm		
	065045=0.65+0.45µm		
	080020=0.8+0.2µm		
	120020=1.2+0.2µm		

Sterilizing grade capsule filter KMT Series

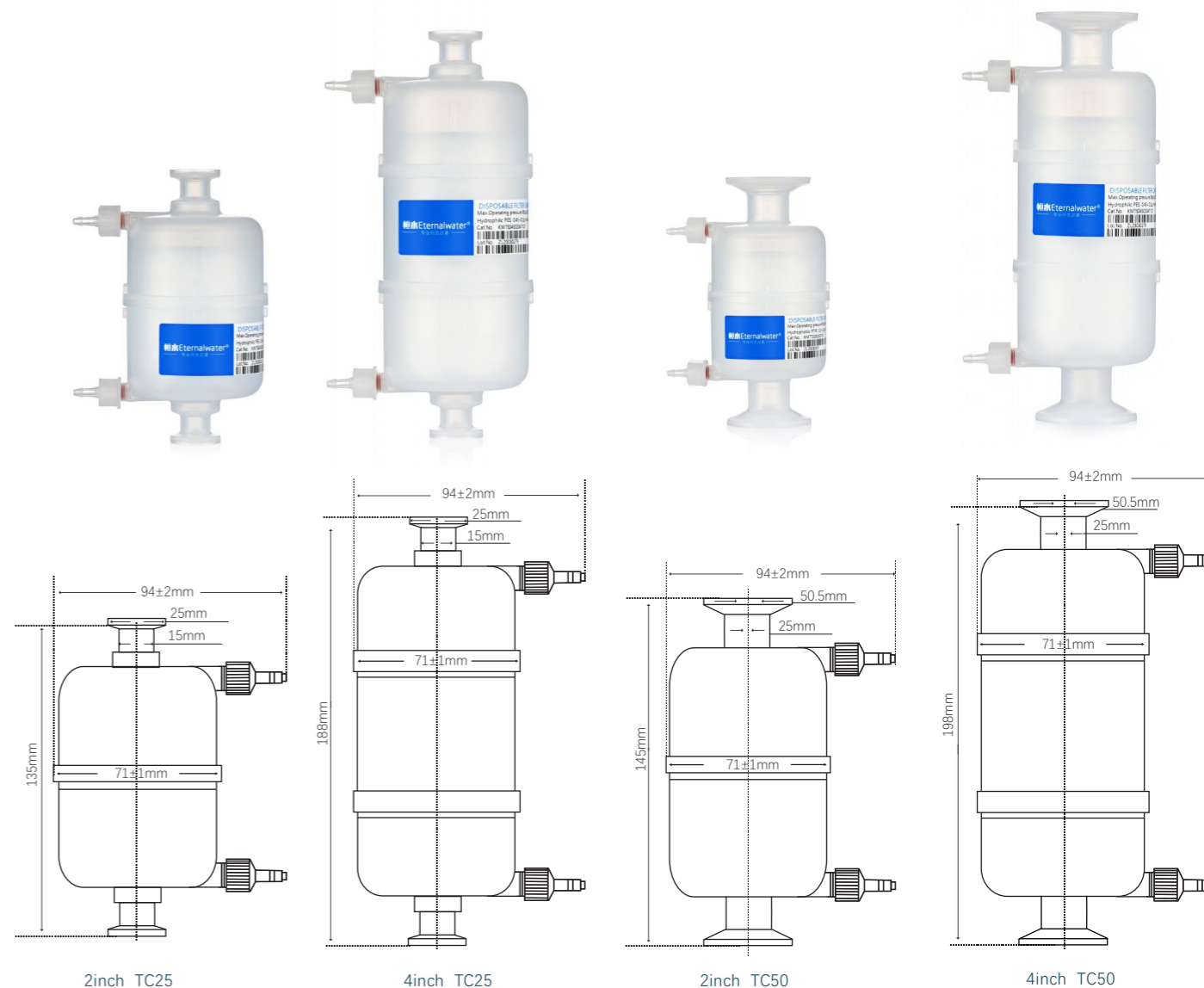
Eternalwater KMT series--of capsule filter products cover a variety of specifications and materials and can be applied to bioprocess filtration steps. They meet the requirements of applications from small-scale experiments to large-scale production, with superior filtration performance and reliable sterilization protection.

Typical Applications

- Sterile filtration for large and small volume infusions
- Sterile filtration for Vaccines, Biologicals and Antibiotics
- Sterile filtration for serum and plasma separation
- Sterile filtration for cell culture media
- Sterile filtration for diagnostic reagents and preparations containing proteins, vitamins and preservatives
- Disposable stock solution sterile filtration
- Buffer solution filtration

Product Specification

Nominal Size	2inch	4inch
Outer Diameter	67mm	
Filtration Area	1200cm ²	2400cm ²
Housing Material	Polypropylene	
Center Pole Material	Polypropylene	
Housing Material	Polypropylene	
Vent O-ring Material	Silicone	
Vent /Drain Outlet Diameter	Φ4mm	
Maximum Operating Differential Pressure	4 bar (58 psi) at 25°C	
Housing Pressure	5.5 bar (80 psi) at 25°C	
Sterilization	Can be sterilized by Gamma radiation up to 45KGy Can be sterilized by high-pressure steam at 126°C for 30 minutes three times (in-line steam sterilization is not available)	
Bacterial Endotoxin	According to the bacterial endotoxin test method stipulated in the general rule (1143) of the Chinese Pharmacopoeia 2020 edition. As determined by Limulus reagent (LAL), the aqueous extract content is < 0.25 EU/mL	
Microbial Challenge Test	>10 ⁷ cuf/cm ² ; according to ASTM® test method passed Pseudomonas diminuta (B. diminuta) (ATCC® 19146)	
Biosecurity	All materials meet USP <88> Reaction Test Standards for Plastic Materials Class VI-70°C	
TOC/Conductivity	TOC value ≤0.5mg/L, conductivity value ≤1.3us/cm. According to the Chinese Pharmacopoeia 2020 Edition, the general rule (0682) the determination method of total organic carbon in pharmaceutical water and the general rule (0681) the determination method of the conductivity of pharmaceutical water	
Cleanliness	According to the light inspection method stipulated in the general rules (0904) of the Chinese Pharmacopoeia 2020 edition, no fibers and other visible foreign matter were detected in the filtrate	
Integrity Test	Bubble point, diffusion flow, water intrusion; please consult the sales engineer of Eternalwater Company for detailed parameters	



Order Information

KMT 1 2 3 4 5 6

Block 1	Block 2	Block 3	Block 4
Membrane material	Removal Rating	Length	End Cap Type
S=Hydrophilic PES	005=0.05µm	02=2inch	T1=TC50
ST=Hydrophobic PES	010=0.1µm	04=4inch	T2=TC25
T=Hydrophobic PTFE	020=0.2µm		
LT=Hydrophilic PTFE	045=0.45µm		
V=Hydrophobic PVDF	065=0.65µm		
LV=Hydrophilic PVDF	080=0.8µm		
M=MCE	100=1.0µm		
N=Nylon	120=1.2µm		
P=PP	020010=0.2+0.1µm		
	020020=0.2+0.2µm		
	045020=0.45+0.2µm		
	065020=0.65+0.2µm		
	065045=0.65+0.45µm		
	080020=0.8+0.2µm		
	120020=1.2+0.2µm		
		Block 5	
		Sterilized Form	
		G=Resistance to Gamma Irradiation Sterilization	
		Z=Autoclave only	
		W=Sterile type	
		Block 6	
		Packing	
		1=1 Pcs/Box	

Sterilizing grade capsule filter KMX Series

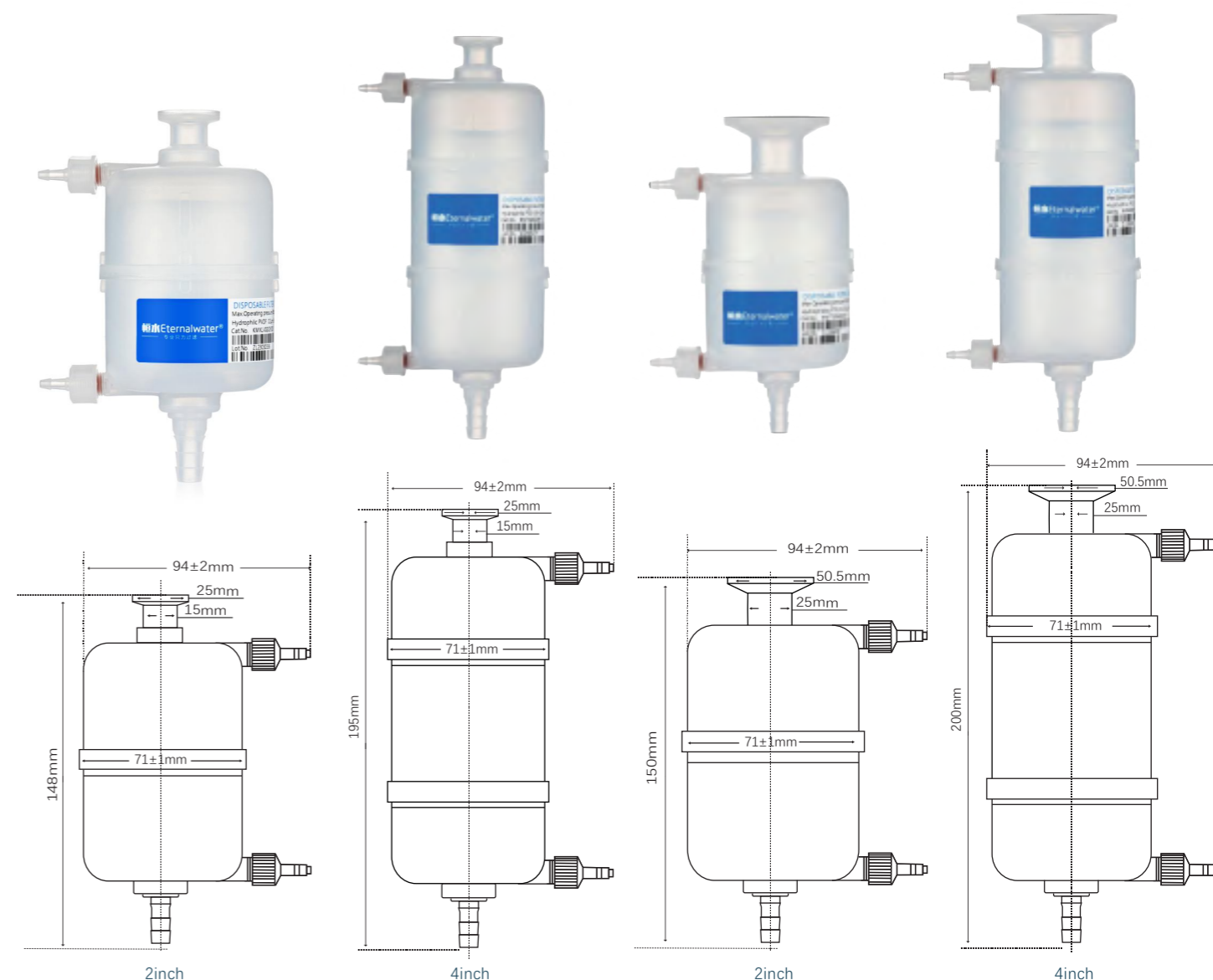
Eternalwater KMX series--of capsule filter products cover a variety of specifications and materials and can be applied to bioprocess filtration steps. They meet the requirements of applications from small-scale experiments to large-scale production, with superior filtration performance and reliable sterilization protection.

Typical Applications

- Sterile filtration for large and small volume infusions
- Sterile filtration for Vaccines, Biologicals and Antibiotics
- Sterile filtration for serum and plasma separation
- Sterile filtration for cell culture media
- Sterile filtration for diagnostic reagents and preparations containing proteins, vitamins and preservatives
- Disposable stock solution sterile filtration
- Buffer solution filtration

Product Specification

Nominal Size	2inch	4inch
Outer Diameter	67mm	
Filtration Area	1200cm ²	2400cm ²
Housing Material	Polypropylene	
Center Pole Material	Polypropylene	
Housing Material	Polypropylene	
Vent O-ring Material	Silicone	
Vent /Drain Outlet Diameter	Φ 4mm	
Maximum Operating Differential Pressure	4 bar (58 psi) at 25°C	
Housing Pressure	5.5 bar (80 psi) at 25°C	
Sterilization	Can be sterilized by Gamma radiation up to 45KGy Can be sterilized by high-pressure steam at 126°C for 30 minutes three times (in-line steam sterilization is not available)	
Bacterial Endotoxin	According to the bacterial endotoxin test method stipulated in the general rule (1143) of the Chinese Pharmacopoeia 2020 edition. As determined by Limulus reagent (LAL), the aqueous extract content is < 0.25 EU/mL	
Microbial Challenge Test	>10 ⁷ cuf/cm ² ; according to ASTM® test method passed Pseudomonas diminuta (B. diminuta) (ATCC® 19146)	
Biosecurity	All materials meet USP <88> Reaction Test Standards for Plastic Materials Class VI-70°C	
TOC/Conductivity	TOC value ≤0.5mg/L, conductivity value ≤1.3us/cm. According to the Chinese Pharmacopoeia 2020 Edition, the general rule (0682) the determination method of total organic carbon in pharmaceutical water and the general rule (0681) the determination method of the conductivity of pharmaceutical water	
Cleanliness	According to the light inspection method stipulated in the general rules (0904) of the Chinese Pharmacopoeia 2020 edition, no fibers and other visible foreign matter were detected in the filtrate	
Integrity Test	Bubble point, diffusion flow, water intrusion; please consult the sales engineer of Eternalwater Company for detailed parameters	



Order Information

KMX 1 2 3 4 5 6

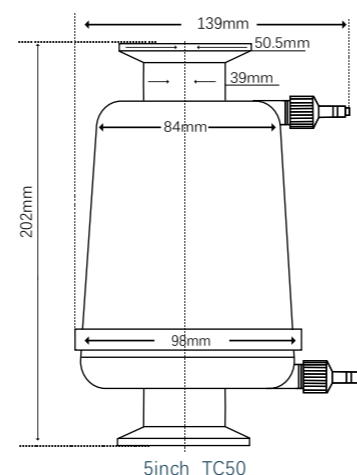
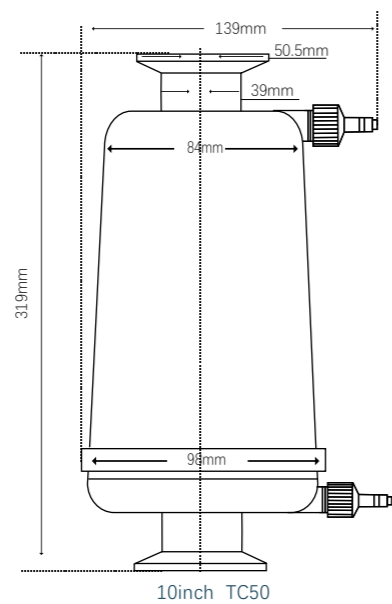
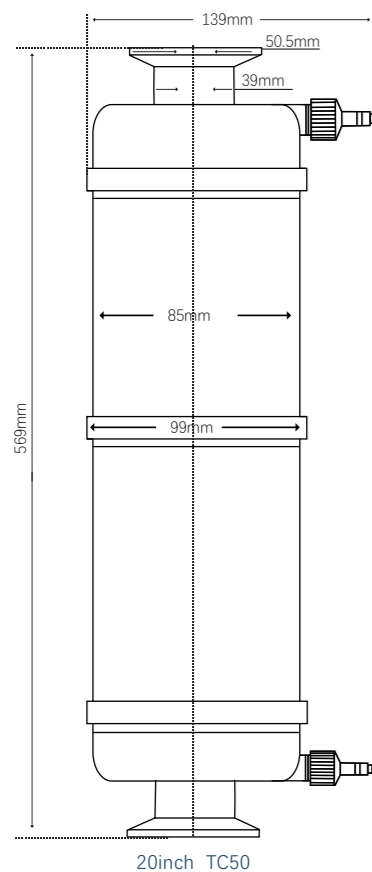
Block 1	Block 2	Block 3	Block 4
Membrane Material	Removal Rating	Length	Interface Form
S=Hydrophilic PES	005=0.05µm	02=2inch	Y1=TC50→3/8" hose connection
ST=Hydrophobic PES	010=0.1µm	04=4inch	Y2=TC25→3/8" hose connection
T=Hydrophobic PTFE	020=0.2µm		Y3=TC50→1/4" hose connection
LT=Hydrophilic PTFE	045=0.45µm		Y4=TC25→1/4" hose connection
V=Hydrophobic PVDF	065=0.65µm	Block 5	
LV=Hydrophilic PVDF	080=0.8µm	Sterilized Form	
M=MCE	100=1.0µm	G=Resistance to Gamma Irradiation Sterilization	
N=Nylon	120=1.2µm	Z=Autoclave only	
P=PP	020010=0.2+0.1µm	W=Sterile type	
	020020=0.2+0.2µm		
	045020=0.45+0.2µm	Block 6	
	065020=0.65+0.2µm	Packing	
	065045=0.65+0.45µm	1=1 Pcs/Box	
	080020=0.8+0.2µm		
	120020=1.2+0.2µm		

Sterilizing grade capsule filter KB Series

Eternalwater KB series--capsule filter products cover various specifications and materials, which can be applied in biological process steps. Satisfying the application from small experiment to large-scale production, it has excellent filtration performance and reliable sterilization guarantee.

Typical Applications

- Sterile filtration for large and small volume infusions
- Sterile filtration for Vaccines, Biologicals and Antibiotics
- Sterile filtration for serum and plasma separation
- Sterile filtration for cell culture media
- Sterile filtration for diagnostic reagents and preparations containing proteins, vitamins and preservatives
- Disposable stock solution sterile filtration
- Buffer solution filtration



Product Specification

Nominal Size	20inch	10inch	5inch
Outer Diameter	85mm	84mm	84mm
Total Length	569mm	319mm	202mm
Filtration Area	12000cm ²	6000cm ²	3000cm ²
Housing Material	Polypropylene		
Center Pole Material	Polypropylene		
Support Layer Material	Polypropylene		
Vent O-ring Material	Silicone		
Vent /Drain Outlet Diameter	Φ6mm		
Maximum Operating Differential Pressure	4 bar (58 psi) at 25°C		
Housing Pressure	5.5 bar (80 psi) at 25°C		
Sterilization	Can be sterilized by Gamma radiation up to 45KGy Can be sterilized by high-pressure steam at 126°C for 30 minutes three times (in-line steam sterilization is not available)		
Bacterial Endotoxin	According to the bacterial endotoxin test method stipulated in the general rule (1143) of the Chinese Pharmacopoeia 2020 edition. As determined by Limulus reagent (LAL), the aqueous extract content is < 0.25 EU/mL		
Microbial Challenge Test	>10 ⁷ cuf/cm ² ; according to ASTM® test method passed Pseudomonas diminuta (B. diminuta) (ATCC® 19146)		
Biosecurity	All materials meet USP <88> Reaction Test Standards for Plastic Materials Class VI-70°C		
TOC/Conductivity	TOC value ≤0.5mg/L, conductivity value ≤1.3us/cm. According to the Chinese Pharmacopoeia 2020 Edition, the general rule (0682) the determination method of total organic carbon in pharmaceutical water and the general rule (0681) the determination method of the conductivity of pharmaceutical water		
Cleanliness	According to the light inspection method stipulated in the general rules (0904) of the Chinese Pharmacopoeia 2020 edition, no fibers and other visible foreign matter were detected in the filtrate		
Integrity Test	Bubble point, diffusion flow, water intrusion; please consult the sales engineer of Eternalwater Company for detailed parameters		

Order Information

KB 1 2 3 4 5 6

Block 1

Membrane Material
S=Hydrophilic PES
ST=Hydrophobic PES
T=Hydrophobic PTFE
LT=Hydrophilic PTFE
V=Hydrophobic PVDF
LV=Hydrophilic PVDF
M=MCE
N=Nylon
P=PP

Block 2

Removal Rating
005=0.05µm
010=0.1µm
020=0.2µm
045=0.45µm
065=0.65µm
080=0.8µm
100=1.0µm
120=1.2µm
020010=0.2+0.1µm
020020=0.2+0.2µm
045020=0.45+0.2µm
065020=0.65+0.2µm
065045=0.65+0.45µm
080020=0.8+0.2µm
120020=1.2+0.2µm

Block 3

Length
05=5inch
10=10inch
20=20inch

Block 4

End Cap Type
T=TC50

Block 5

Sterilized Form
G=Resistance to Gamma Irradiation Sterilization
Z=Autoclave only
W=Sterile type

Block 6

Packing
1=1 Pcs/Box

Disposable disc filter KS Series

Eternalwater KS series--Disposable disc filters can be equipped with a variety of membrane materials, which are widely used in biopharmaceutical industry, laboratories and other processes. Suitable for small flow liquid and gas sterilization filtration, 100% integrity testing.

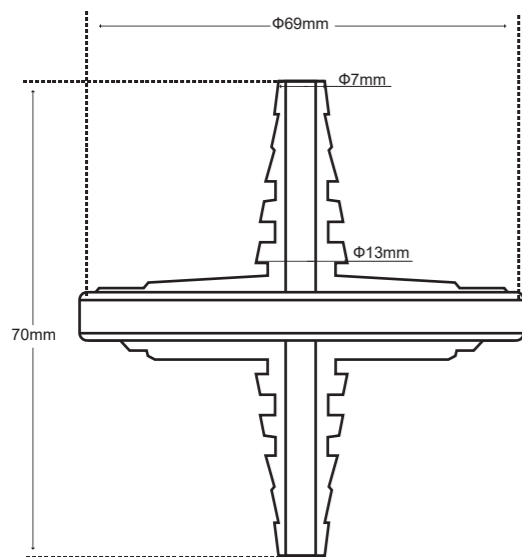


Typical Applications

- Sterile ventilation for small fermentation tanks and storage tanks
- Laboratory grade liquid sterilization filtration
- Sterile aeration of culture media
- Bioreactor Gas Sterilization Filtration
- Disposable stock solution sterile filtration
- Buffer solution filtration
- Sterile Filtration of Cell Culture Media



Dimensional Drawing



Product Specification

Nominal Size	Φ50mm
Outer Diameter	69mm
Total Length	70mm
Filtration Area	19.5cm ²
Inlet and Outlet	Trapezoidal hose interface (Φ 7-13mm), inner 6:100luer connector
Housing Material	Polypropylene
Maximum Operating Differential Pressure	3.5bar@23°C
Sealing Technology	Hot melt welding (without adhesive)
Sterilization	Can be sterilized by high-pressure steam at 126°C for 30 minutes and 3 times
	Can be sterilized by Gamma radiation up to 45KGy
Bacterial Endotoxin	According to the bacterial endotoxin test method stipulated in the general rule (1143) of the Chinese Pharmacopoeia 2020 edition. As determined by Limulus reagent (LAL), the aqueous extract content is < 0.25 EU/mL
Microbial Challenge Test	>10 ⁷ cfu/cm ² ; according to ASTM® test method passed Pseudomonas diminuta (B. diminuta) (ATCC® 19146)
Biosecurity	All materials meet USP <88> Reaction Test Standards for Plastic Materials Class VI-70°C
TOC/Conductivity	TOC value≤0.5mg/L, conductivity value≤1.3us/cm. According to the Chinese Pharmacopoeia 2020 Edition, the general rule (0682) the determination method of total organic carbon in pharmaceutical water and the general rule (0681) the determination method of the conductivity of pharmaceutical water
Cleanliness	According to the light inspection method stipulated in the general rules (0904) of the Chinese Pharmacopoeia 2020 edition, no fibers and other visible foreign matter were detected in the filtrate
Factory System	Strictly implement the ISO 9001:2015 quality management system

Order Information

KS 1 2 3 4 5 6

Block 1

Membrane Material
S=Hydrophilic PES
ST=Hydrophobic PES
T=Hydrophobic PTFE
LT=Hydrophilic PTFE
V=Hydrophobic PVDF
LV=Hydrophilic PVDF
M=MCE
N=Nylon
P=PP

Block 2

Removal Rating
005=0.05μm
010=0.1μm
020=0.2μm
045=0.45μm
065=0.65μm
080=0.8μm
100=1.0μm
120=1.2μm

Block 3

Diameter
50=50mm

Block 4

End Cap Type
L=Φ7-13mm hose connection

Block 5

Sterilized Form
G = Resistance to Gamma Irradiation Sterilization
Z = Autoclave only
W=Sterile type

Block 6

Packing
1=1 Pcs/Box
10=10 Pcs/Box

Syringe filter KZ Series

Eternalwater KZ series--syringe filters are suitable for prefiltration of small amount of samples in the laboratory, clarification and removal of particles, and sterilizing filtration of liquids and gases. Low adsorption to samples ensures maximum sample recovery. The housing is made of polypropylene (PP), which has excellent chemical stability. A variety of filter membranes and specifications are available.

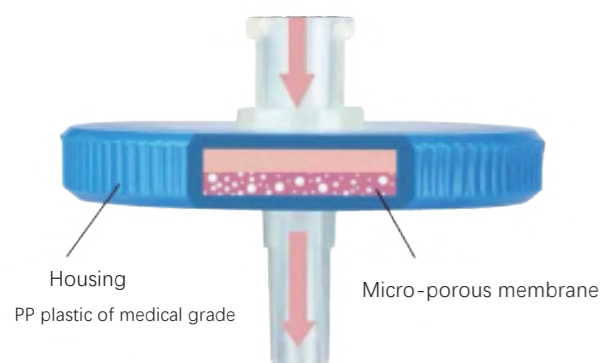
Product Features

Polyethersulfone (PES)	High flux, low precipitation
Mixed cellulose (MCE)	Not resistant to strong acid and alkali solutions and most organic solvents, and is suitable for filtration of aqueous solutions
Nylon (Nylon)	Good high temperature resistance, suitable for water and organic systems, not resistant to acid and alkali
Polytetrafluoroethylene (PTFE)	Good chemical resistance, high temperature resistance, strong acid and alkali resistance, and can be divided into hydrophilic membrane and hydrophobic membrane
Hydrophilic polyvinylidene fluoride (PVDF)	low protein binding and is compatible with aqueous and mild organic solutions

Typical Application

- Filtration of aqueous sample
- Sterile filtration of gas
- Sterile filtration of liquid
- Clarification and filtration of large particle
- Filtration of serum and culture media
- Sterile filtration of disposable stock solution
- Filtration of buffer solution
- Sterile filtration of cell culture media

Diagram



Product Specification

Nominal Size	Φ13mm	Φ25mm	Φ33mm
Selection	1-10ml	5-100ml	10-200ml
Effective Filtration Area	0.7cm ²	3.2cm ²	4.5cm ²
Connector (inlet / outlet)	Female Luer-Lok/Male Luer slip		
Housing Material	Polypropylene		
Maximum Operating Differential Pressure	3.5bar		
Seal Technique	Hot melt welding (without adhesive)		
Sterilization	Can be sterilized by 126° autoclave for 30 minutes 3 times		
Bacterial Endotoxin	According to the bacterial endotoxin test method stipulated in the general rule (1143)of the Chinese Pharmacopoeia 2020 edition. As determined by Limulus reagent (LAL), the aqueous extract content is < 0.25 EU/mL		
Microbial Challenge Test	>10 ⁷ cfu/cm ² ; according to ASTM® test method passed Pseudomonas diminuta (B. diminuta) (ATCC® 19146)		
Biosecurity	All materials meet USP <88> Reaction Test Standards for Plastic Materials Class VI-70°C		
TOC/Conductivity	TOC value ≤0.5mg/L, conductivity value ≤1.3us/cm. According to the Chinese Pharmacopoeia 2020 Edition, the general rule (0682) the determination method of total organic carbon in pharmaceutical water and the general rule (0681) the determination method of the conductivity of pharmaceutical water.		
Cleanliness	According to the light inspection method stipulated in the general rules (0904) of the Chinese Pharmacopoeia 2020 edition, no fibers and other visible foreign matter were detected in the filtrate.		
Factory System	Strictly implement the ISO9001:2015 quality management system		

Ordering Information

KZ 1 2 3 4 5 6

Block 1	Block 2	Block 3	Block 4	Block 5	Block 6
Membrane Material	Removal Rating	Diameter	Connector Type	Sterilized Form	Packing
S=Hydrophilic PES	020=0.20µm	130=Φ13mm	LT=Luer connector	Z=Autoclave only	1=1Pcs/Package
ST=Hydrophobic PES	045=0.45µm	250=Φ25mm		W=Sterile type	
T=Hydrophobic PTFE		330=Φ33mm			
LT=Hydrophilic PTFE					
V=Hydrophobic PVDF					
LV=Hydrophilic PVDF					
M=MCE					
N=Nylon					
P=PP					

Microporous membrane ML Series

Eternalwater microporous membranes ML series--can provide various materials and different pore sizes according to different filtration requirements. It is suitable for laboratory liquid analysis and filtration, etc.

Typical Application

- Filtration of aqueous sample
- Sterile filtration of gas
- Sterile filtration of liquid
- Clarification and filtration of large particle
- Filtration of serum and culture media
- Sterile filtration of disposable stock solution
- Filtration of buffer solution
- Sterile filtration of cell culture media



Product Specification

Nominal Size	Φ13mm、Φ25mm、Φ47mm、Φ50mm、Φ60mm、Φ90mm、Φ100mm、Φ110mm、Φ150mm			
Membrane Material	PES、PVDF、MCE、CA、PTFE、Nylon、GF、PP			
Removal Rating	0.10µm、0.20µm、0.45µm、0.80µm、1.20µm、3.00µm、5.00µm			
Product Features	Water-based filter membrane (Aqueous solution) \ Organic filter membrane (Organic solvent)			
Typical Application	PES	Serum and cell culture media	Hydrophobic PTFE	Organic Phase / Hydrophobic / Non-polar Gas Filtration
	CA	Buffer solution filtration	Hydrophilic PTFE	Polar or hydrophilic solvents
	MCE	Particle analysis, microbial retention	Hydrophobic PVDF	Regular filtration, low protein adsorption
	Hydrophilic PVDF	Regular filtration, low protein adsorption (CA membrane, PES membrane)	Hydrophilic PVDF	Hydrophilic solvent
	Hydrophilic PTFE	Solvent mixture, organic and aqueous	Nylon membrane	Polar or hydrophilic solvents
	Nylon membrane		PP membrane GF membrane	Viscous, cloudy solution
Water-based Membrane	Suitable for filtering neutral solutions with less impurities, not resistant to most organic solutions, and has poor strength			
Organic Membrane	It can not only filter aqueous solution, but also can withstand most organic solvents and has good strength			
Factory System	Strictly implement the ISO9001:2015 quality management system			

Ordering Information

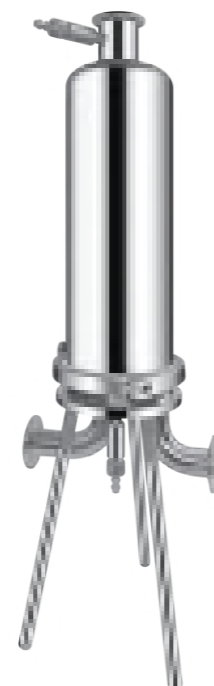
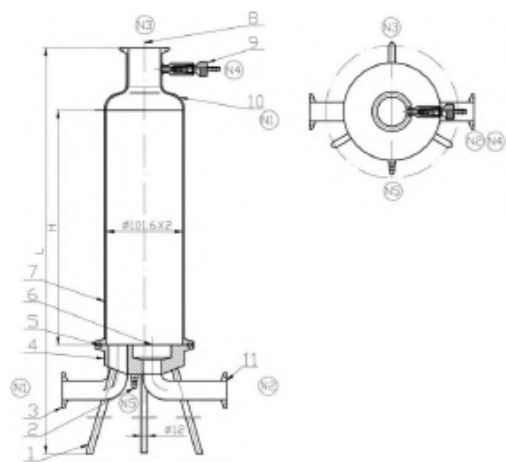
ML 1 2 3 4

Block 1	Block 2	Block 3	Block 4
Membrane Material	Removal rating	Diameter	Packing
S=Hydrophilic PES	010=0.10µm	130=Φ13mm	1=100 Pcs/Package
ST=Hydrophobic PES	020=0.20µm	250=Φ25mm	
T=Hydrophobic PTFE	045=0.45µm	470=Φ47mm	
LT=Hydrophilic PTFE	080=0.80µm	500=Φ50mm	
V=Hydrophobic PVDF	120=1.20µm	600=Φ60mm	
LV=Hydrophilic PVDF	300=3.00µm	900=Φ90mm	
M=MCE	500=5.00µm	1000=Φ100mm	
N=Nylon		1100=Φ110mm	
P=PP		1500=Φ150mm	
		2000=Φ200mm	

Single core sanitary liquid filter HY1 Series

Single core stainless steel liquid filter, made of SUS316L stainless steel, uses one filter cartridge as the filter element, and the design meets the requirements of sanitation and GMP. Mechanical polishing, no sanitary dead corners, small flow resistance, acid and alkali resistance, corrosion resistance, convenient cleaning and disinfection, etc. It is suitable for the filtration of small flow in the pharmaceutical and food industries.

Dimensional Drawing



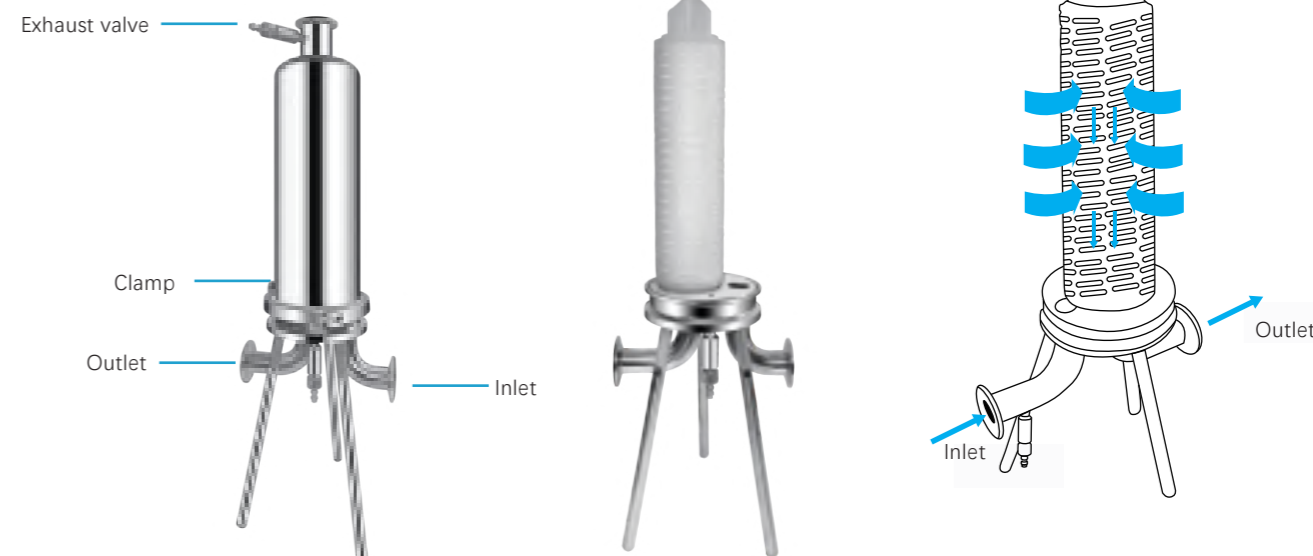
Product Specification

Housing Material	304,316L
Exhaust Valve / Drain Valve	304,316L
Clamp	304
Supporting Feet	304
Seal Ring / Gasket	Silicone , Viton, EPDM, E-FKMD
Design Pressure	0.80Mpa
Maximum Working Temperature	100°C
Cylinder Connection	Three-stage clamp, strong clamp
Inlet/outlet	Quick opening / Flange
Exhaust Valve / Drain Valve	1/4" Hose connector
Pressure Gauge	1.5" Quick opening
Polishing Type	Mechanical polishing/ Electrolytic polishing
Polishing Accuracy	Internal Ra <0.40 μm and external Ra <0.80 μm

Ordering Information

HY1 1 2 3 4 5 6 7

Block 1 Housing Material 04=304 06=316L	Block 2 End Cap Type (Filter cartridge) H=226 R=222 E=DOE	Block 3 Length (Filter cartridge) 05=5inch 10=10inch 20=20inch 30=30inch	Block 4 Cylinder Connector K=Quick opening F=Flange	Block 5 Inlet/outlet Connection K=Quick opening F=Flange
Block 6 O-ring Seal Material S=Silicone V=Viton E=EPDM D=E-FKMD	Block 8 Inlet/outlet Diameter K20=Φ20 K25=Φ25 K32=Φ32	Block 7 Surface Treatment (internal) A=Mechanical polishing B=Electrolytic polishing		



226 Connector Drain valve Exhaust valve Quick clamp

Multi-core sanitary liquid filter HYD Series

Cylinder, head, flange, connecting pipe, welding rod and other materials are strictly selected and processed finely. It can be designed according to the requirements of the flow rate and meets the requirements of sanitation and GMP. mechanical polished, no sanitary dead corners, easy to clean, no residue. Easy disassembly and installation, scientific structure and many types. Widely used in biopharmaceutical, food and beverage industries.

Product Features

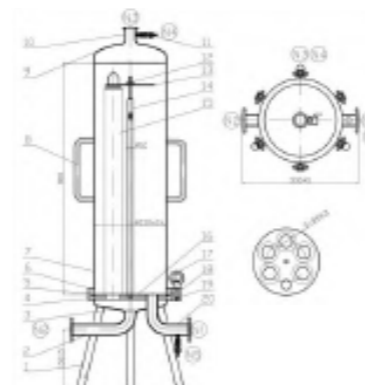
- Sanitary grade polishing, in compliance with the GMP specification requirements
- Easy to operate, easy to clean, no residue
- Optional electrolytic polishing
- Optional split flower plate, full Angle cleaning



Product Specification

Housing material	304,316L
Exhaust valve / Drain valve	304,316L
Clamp / eyebolt	304
Supporting feet	304
Seal ring / gasket	Silicone , Vilton, EPDM, PTFE
Design pressure	0.6-1.5Mpa (According to design requirements)
Maximum working temperature	80°C
Cylinder connection	Clamp / eyebolt
Input /output	Quick opening / Flange
Exhaust valve / Drain valve	1/4" Hose connector
Pressure gauge	1.5" Quick opening
Polishing type	Mechanical polishing、 Electrolytic polishing
Polishing accuracy	Internal Ra <0.40 μm and external Ra <0.80 μm

Dimensional Drawing



Ordering Information

HYD 1 2 3 4 5 6 7 8 9

Block 1 Material 04=304 06=316L	Block 2 Quantity Of Filter Cartridge 03=3Pcs 05=5Pcs 07=7Pcs 09=9Pcs 11=11Pcs	Block 3 End Cap Type (Filter cartridge) H=226 R=222 E=DOE	Block 4 Length (Filter cartridge) 05=5inch 10=10inch 20=20inch 30=30inch 40=40inch	Block 5 Cylinder Connector K=Quick opening F=Flange	Block 6 Inlet/outlet Connection K=Quick opening F=Flange	Block 7 O-ring Seal Material S=Silicone V=Viton E=EPDM D=E-FKM	Block 8 Inlet/outlet Diameter K38=Φ38 (3-5Pcs) K50=Φ50 (3-5Pcs) F32=Flange DN32 F40=Flange DN40 F50=Flange DN50 F65=Flange DN65 F80=Flange DN80	Block 9 Surface Treatment (internal) A=Mechanical polishing B=Electrolytic polishing
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Flip-over titanium rod filter HTB Series

The housing of the titanium rod filter is made of 304 or 316L stainless steel, and the titanium metal or stainless steel filter cartridge is used as the filter element, which can achieve a good solid-liquid separation effect by filtering the liquid with high solid content. It has the advantages of high temperature resistance, strong acid, strong alkali, corrosion resistance, and the filter cartridge can be regenerated repeatedly. It is widely used in decarbonization filtration in large infusion and injection production lines.

Product Features

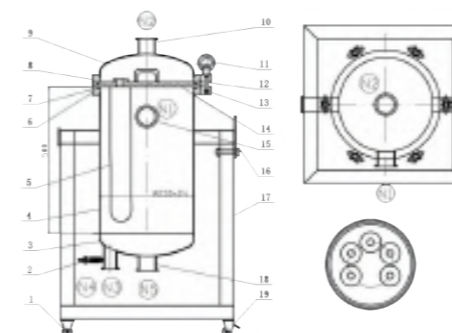
- Turn over 180° to drain the residual liquid
- The flower plate is detachable for easy cleaning
- With universal wheels, easy to move



Product Specification

Housing material	304,316L
Exhaust valve / Drain valve	304,316L
Clamp / eyebolt	304
Supporting feet	304
Seal ring / gasket	Silicone , Viton, EPDM, PTFE
Design pressure	0.8Mpa
Maximum working temperature	150°C
Cylinder connection	Clamp / eyebolt
Input /output	Quick opening / Flange
Exhaust valve / Drain valve	1/4" Hose connector
Pressure gauge	1.5" Quick opening
Polishing type	Mechanical polishing、Electrolytic polishing
Polishing accuracy	Internal Ra <0.40 μm and external Ra <0.80 μm

Dimensional Drawing



Ordering Information

HTB 1 2 3 4 5 6 7 8 9

Block 1

Material
04=304
06=316L

Block 2

Quantity Of Filter Cartridge
03=3Pcs
05=5Pcs
07=7Pcs
09=9Pcs
11=11Pcs

Block 3

End Cap Type (Filter cartridge)
M=20
M=30

Block 4

Length (Filter cartridge)
10=10inch
20=20inch
30=30inch
40=40inch

Block 5

Cylinder Connector
F=Eyebolt

Block 6

Input/output Connector Type
K=Quick opening
F=Flange

Block 7

O-ring Seal Material
S=Silicone
E=EPDM
V=Viton

Block 8

Input/output connector diameter
K38=Φ38 (3-5Pcs)
K50=Φ51 (3-5Pcs)
F32=Flange DN32
F40=Flange DN40
F50=Flange DN50
F65=Flange DN65
F80=Flange DN80

Block 9

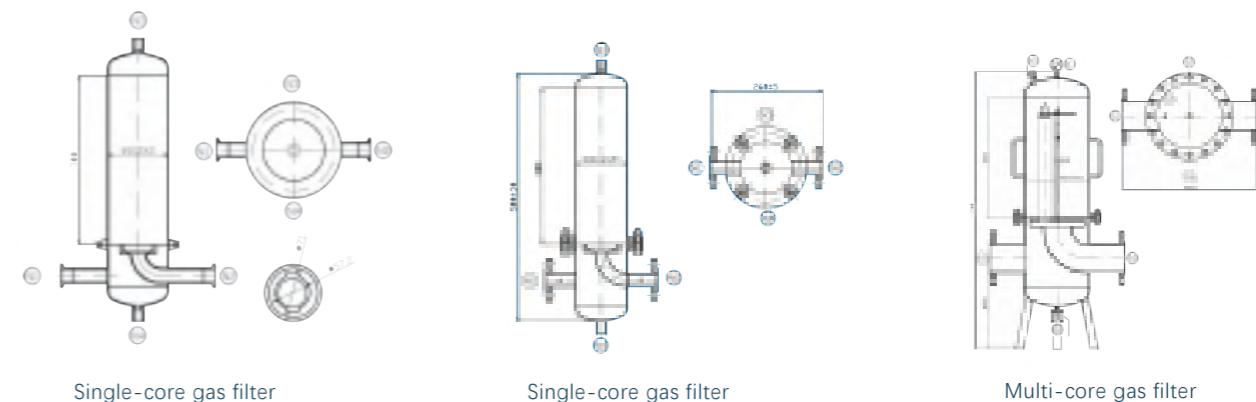
Surface Treatment (internal)
A=Mechanical polishing
B=Electrolytic polishing

Stainless steel gas filter HQ Series

The stainless steel gas filter is specially designed and manufactured for gas filtration. It can be used in sterile gas and fermentation gas filtration with PTFE gas sterilization filter cartridge or glass fiber filter cartridge. The filter cartridge is lined with stainless steel, which can withstand high temperature gas filtration, high accuracy, high flow to ensure filtration efficiency and cost of use.



Dimensional Drawing



Single-core gas filter

Single-core gas filter

Multi-core gas filter

Ordering Information

HQ1 HQD 1 2 3 4 5 6 7 8 9

Block 1	Block 2	Block 3	Block 4	Block 5
Material	Quantity of filter cartridge	End cap type (Filter cartridge)	Length (Filter cartridge)	Cylinder Connector
04=304	01=1Pcs	H=226	05=5inch	K=Quick opening
06=316L	03=3Pcs		10=10inch	F=Flange
	05=5Pcs		20=20inch	
	07=7Pcs		30=30inch	
	09=9Pcs			
	11=11Pcs			

Product Specification

Housing material	304,316L
Exhaust valve / Drain valve	304,316L
Clamp / Facing screw	304
Supporting feet	304
Seal ring / gasket	Silicone , Viton, EPDM, PTFE
Design pressure	0.6-1Mpa (According to the design requirements)
Maximum working temperature	80°C
Cylinder connection	Flange / Quick opening
Input /output	Quick opening / Flange
Exhaust valve / Drain valve	1" ball valve
Pressure gauge	M14*1.5"
Polishing type	Mechanical polishing、 Electrolytic polishing
Polishing accuracy	Internal Ra <0.60 μm and external Ra <0.80 μm



Block 6	Block 7	Block 8	Block 9
Input/output Connector Type	O-ring Seal Material	Input/output Connector Diameter	Surface Treatment (internal)
K=Quick opening	S=Silicone	K25=Φ25 (5-10inch)	A=Mechanical polishing
F=Flange	E=EPDM	F25=Flange DN25	B=Electrolytic polishing
	V=Viton	F32=Flange DN32	
	D=E-FKM	F40=Flange DN40	
		F50=Flange DN50	
		F65=Flange DN65	
		F80=Flange DN80	
		F100=Flange DN100	

Sanitary grade pipe filter HG Series

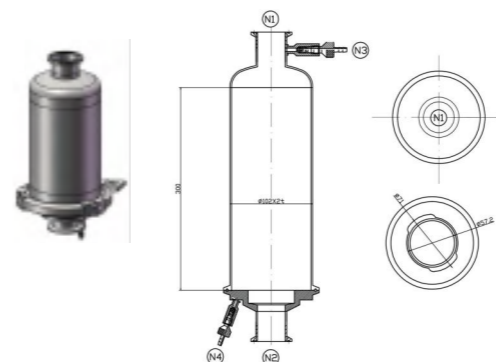
In-line pipeline filter, the cylinder body is made of high-quality 304 or 316L stainless steel, which has good corrosion resistance, and the design and manufacture meet the requirements of sanitary and GMP. Inlet on the top and outlet at the bottom, quick opening connection, equipped with exhaust and drain ports, can be used for filtration of gas and liquid.



Product Specification

Housing material	304,316L
Exhaust valve / Drain valve	304,316L
Clamp / eyebolt	304
Supporting feet	304
Seal ring / gasket	Silicone , Viton, EPDM, PTFE
Design pressure	0.6-1Mpa (According to the design requirements)
Maximum working temperature	80°C
Cylinder connection	Quick opening
Input /output	Quick opening
Exhaust valve / Drain valve	Inner hole 4mm, connected to 8mm pipe
Pressure gauge	M14*1.5"
Polishing type	Mechanical polishing、 Electrolytic polishing
Polishing accuracy	Internal Ra <0.60 μm and external Ra <0.80 μm

Dimensional Drawing



Ordering Information

HG 1 2 3 4 5 6 7 8 9

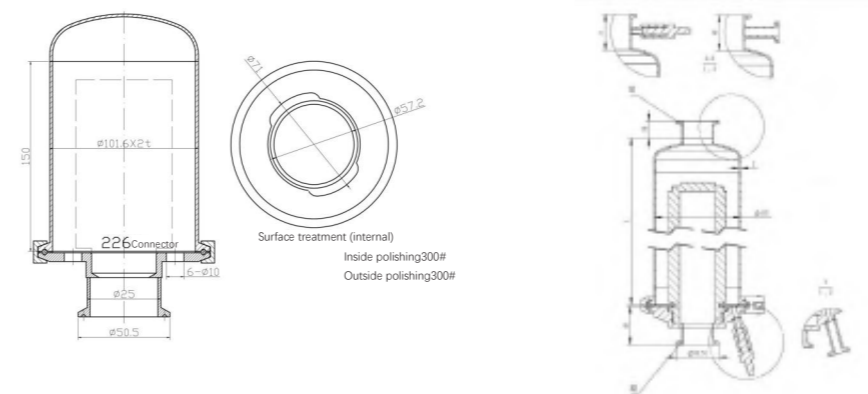
Block 1	Block 2	Block 3	Block 4	Block 5
Material	Quantity Of Filter Cartridge	End Cap Type (Filter cartridge)	Length (Filter cartridge)	Cylinder Connector
04=304 06=316L	01=1Pcs	H=226	05=5inch 10=10inch 20=20inch 30=30inch	K=Quick opening
Block 6	Block 7	Block 8	Block 9	
Input/output Connector Type	O-ring Seal Material	Input/output Connector Diameter	Surface Treatment (internal)	
K=Quick opening	S=Silicone E=EPDM V=Viton D=E-FKM	K20=Φ20 K25=Φ25 K32=Φ32 K40=Φ40	A=Mechanical polishing B=Electrolytic polishing	

Tank breathers HV Series

Breathing filter, installed on all kinds of storage tanks, pure water tanks, sterile and dry ventilation holes. Ensure that the gas is isolated from the outside world through the respirator, and the discharge is smooth. Prevent the storage tank from being polluted by bacteria and dust in the air when the tank is ventilated due to liquid level changes.



Dimensional Drawing



Ordering Information

HV 1 2 3 4 5 6 7 8 9

Block 1	Block 2	Block 3	Block 4	Block 5
Material	Quantity Of Filter Cartridge	End Cap Type (Filter cartridge)	Length (Filter cartridge)	Cylinder Connector
04=304 06=316L	01=1Pcs	H=226 C=215	05=5inch 10=10inch 20=20inch	K=Quick opening
Block 6	Block 7	Block 8	Block 9	
Input/output Connector Type	O-ring Seal Material	Input/output Connector Diameter	Surface Treatment (internal)	
K=Quick opening	S=Silicone E=EPDM V=Viton D=E-FKM	K25= $\phi 25$ K32= $\phi 32$ K40= $\phi 40$	A=Mechanical polishing B=Electrolytic polishing	

Heat Insulation Gasket

It is composed of heating jacket, jacket protective layer, constant temperature electric control system, etc.
 Product Type: Digital / Basic
 Fixing method: snap button / Velcro fastening
 Heating Mantle Material: Silicone Compliant
 Working voltage: 220V, 50HZ
 Temperature setting range: 0-150°C

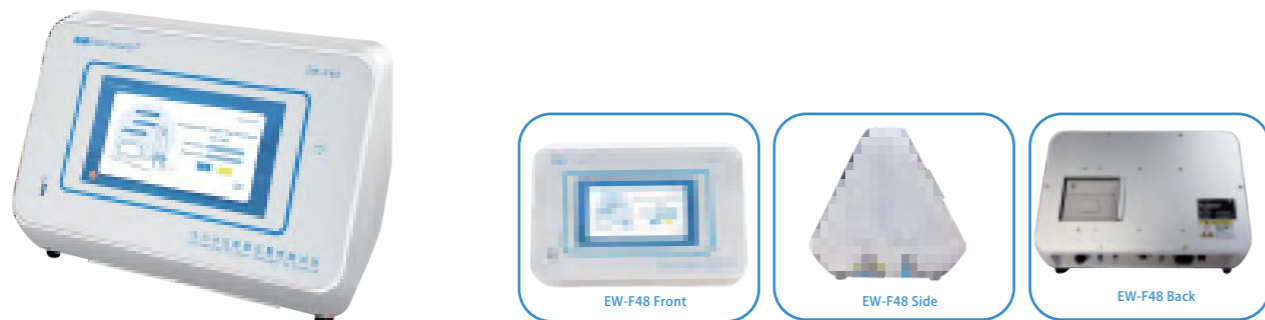


Product Specification

Housing material	304,316L
Exhaust valve / Drain valve	304,316L
Clamp / eyebolt	304
supporting feet	304
Seal ring / gasket	Silicone , Viton, EPDM, PTFE
Design pressure	0.6Mpa
Maximum working temperature	80°C
Cylinder connection	Quick opening
Input /output	Quick opening
Exhaust valve / Drain valve	Inner hole 4mm, connected to 8mm pipe
Polishing type	Mechanical polishing/ Electrolytic polishing
Polishing accuracy	Internal Ra <0.40 μm and external Ra <0.80 μm

Automated Filter Integrity Tester EW-F48 Series

The EW-F48 automated filter integrity tester is a microcomputerized, intelligent, and high-sensitivity precision analysis instrument independently developed by Hangzhou Eternalwater Filtration Equipment Co., Ltd. It is specially used to test the integrity of filter cartridges or membranes in filtration systems. The instrument enables a variety of standard functions, including forward flow test, bubble point test, water intrusion test, combined test of forward flow and bubble point, etc. At the same time of testing, the instrument can automatically perform self-test, automatically control the stabilization time and test time, store and print the current test results, etc.; historical data is displayed graphically to reflect changes in test time and gas flow rate more intuitively.



Features

- High-performance CPU, touch screen design, simple, fast and reliable operation.
- Powerful storage function, data can be queried at fixed points or under specific conditions, and the built-in printer can quickly print test results, historical data, and real-time data curves.
- The test speed is fast.
- Small size, light weight, low energy consumption and easy to carry.
- Splash-proof technology IP54 specially designed for production environments.

Typical Application

- Pharmaceutical industry: Integrity test of various hydrophilic and hydrophobic filters, including pleated filter cartridges, capsule filters, flat filter membranes, and membrane bags.
- Food industry: filters for alcohol, mineral water and drinking water.

Parameters

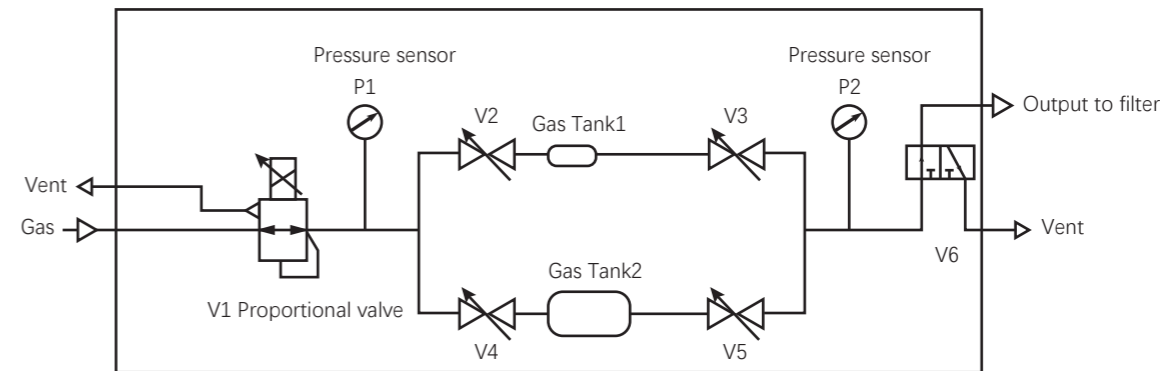
Input Voltage: (100-240) V AC	Test Accuracy (Forward Flow) : ±4% or 0.1mL/min, take the larger value
Input Frequency: 50/60Hz	Test Accuracy (Water Intrusion): ±4% or 0.02mL/min, take the larger value
Input Power: 160W	Test Accuracy (Bubble Point): ±50mbar
Sensitivity (Forward Flow): 0.01mL/min: 0.01mL/min	Test Range (Forward Flow): (0.1-600) mL/min
Sensitivity (Water Intrusion): 0.01mL/min: 0.01mL/min	Test Range (Water Intrusion): (0.01-100) mL/min
Sensitivity (Bubble Point): 1mbar: 1mbar	Test Range (Bubble Point): (100-8000) mbar
Repeatability: ≤3%	Test Range (Pressure Maintenance): (100-8000) mbar
Size: 42cm×30cm×28cm	

External Features

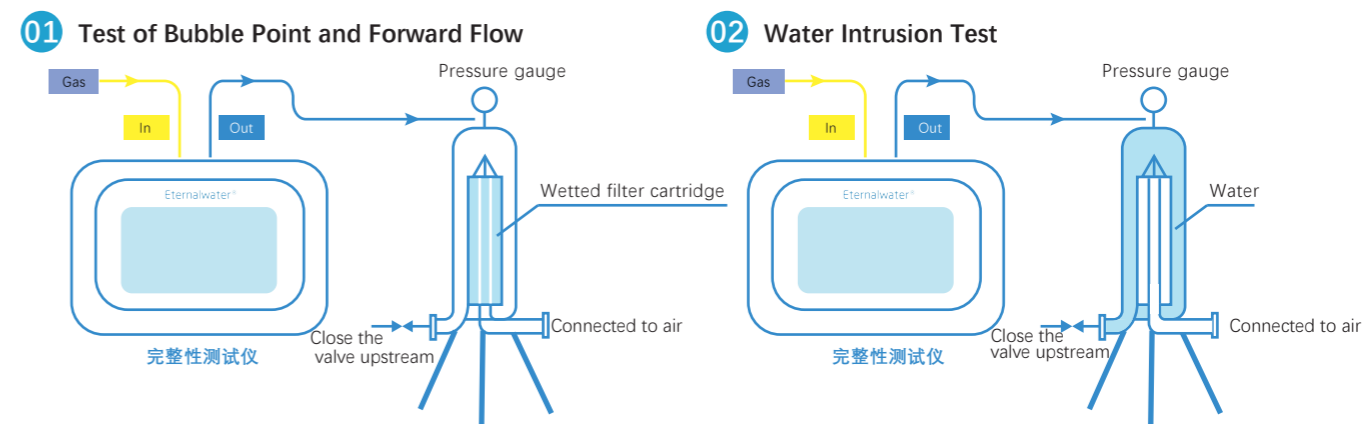
<p>Waterproof and Dustproof Design The protection level of IP54 prevents the short circuit of the instrument caused by sudden splashing of water during the test.</p>	<p>Anti-Backflow Design of Pipelines It can be quickly cleaned to prevent liquid backflow and prevent microbial pollution to the upstream of the filter.</p>	<p>Full Touch Screen Operation 10-inch large screen, high resolution, easy to click.</p>	<p>Dust-Free Hi-Fi Printing Technology Data results can be generated efficiently and quickly and stored for a long time, with a storage period of more than 10 years.</p>	<p>Offline Test Can be connected to wireless networks, local area networks, and support remote data management and synchronization.</p>	<p>Fully comply with data integrity requirements Fully comply with GMP and 21 CFR Part 11 requirements for electronic data integrity, 4 levels of password permissions, audit trail function, multiple forms of backup.</p>
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Schematic Diagram of Internal Gas Circuit

- There are two gas circuits running in parallel, and the appropriate gas circuit can be selected for testing according to the test environment.
- There are large and small reference tanks, which can be selected according to the testing needs.
- Four two-way solenoid valves ensure the control of gas, which is a guarantee for completing of the test.
- The closed loop control of two high-precision pressure sensors and proportional valve realizes the pressure control, so that the pressure or pressure difference can be used to calculate accurate values.
- The proportional valve realizes pressure regulation and is the main component.



Gas Circuit Connection Diagram of Integrity Tester



Integrity Tester Precautions

- The gas tightness of the instrument and system.
- The sealing of the filter cartridge end cap and filter socket.
- For bubble point and forward flow, please pay attention to whether the filter cartridge is completely wetted, and water intrusion requires that the filter cartridge is strongly hydrophobic and dry.
- Determine the type of filter cartridge. Only absolute membrane filter cartridges can be tested for integrity, such as PES, PTFE, PVDF, NY66, etc.
- The gas pressure needs to be at least 1000mbar higher than the test bubble point.

Validation Services



Process Verification Content

Bacterial retention test

Validation of sterilizing filter performance is a critical step in regulatory requirements for filter validation. Bacterial retention tests are performed under the worst-case process conditions of the end user to demonstrate the performance of critical sterilizing grade filters. To establish filter performance data, typically challenge *Pseudomonas diminuta* (B. diminuta) at 10^7 cfu/cm² according to the ASTM test method. Other strains can also be evaluated upon request.

Filter integrity test

Integrity testing with filters were wet with fluids to generate process-specific integrity test data. Integrity test specifications specified for filters wet with a surrogate standard liquid (water or alcohol).

Extractables and leachables

The extractables and leachables tests under specific process conditions are the substances that the filter migrates into the drug, and the purpose is to prove that these migrated substances are safe for the drug. After a comprehensive evaluation of the user's product prescription, the reasonable worst condition model solvent, the worst process condition, the most suitable test system and the best analysis method are established. Trials provide you with complete extractables data for risk assessment.

Chemical compatibility test

The purpose of this test is to confirm that all filters or disposable components used under the process conditions are suitable for use and compatible with the process. And there is no contact with the process materials Reactivity, additive and other adverse reactions.

Adsorption test

Tests that confirm that the drug components does not meet established standards for the concentration or quality of the product due to filter adsorption

Repeat practicality

Filters will be used in the production process of multiple batches of the same product, on the basis of a full understanding of the product and process. Based on the risk, whether the filter can be tested repeatedly or not.

Process validation content and project	Applied to the sterilization and filtration of non-terminal sterilization products	Applied to the sterilization and filtration of terminal sterilization products
Bacterial retention test	Need	Option
Extractables and Leachables	Need	Need
Chemical compatibility test	Need	Need
Filter integrity test	Need	Option
Adsorption test	Evaluating	Evaluating
Reusability	Option	Option

Flow Chart



Sanitary grade pipe filter

HG Series

AVAILABLE IN HEATED AND UNHEATED VERSIONS FOR A VARIETY OF INDUSTRIAL AND SANITARY APPLICATIONS

In-line pipeline filter, the cylinder body is made of high-quality SUS304 or 316L stainless steel, which has good corrosion resistance, and the design and manufacture meet the requirements of sanitary and GMP. Inlet on the top and outlet at the bottom, quick opening connection, equipped with exhaust and drain ports, can be used for filtration of gas and liquid.



HG - I
(unheated)

HG- II
(heated)

Parameters

Housing material	SUS304,316L
Exhaust valve / Drain valve	SUS304,316L
Clamp / eyebolt	SUS304
Supporting feet	SUS304
Seal ring / gasket	Silicone , Vilton, EPDM, PTFE
Design pressure	0.6-1Mpa (According to the design requirements)
Maximum working temperature	80°C
Cylinder connection	Quick opening
Input /output	Quick opening
Exhaust valve / Drain valve	Inner hole 4mm, connected to 8mm pipe
Pressure gauge	M14*1.5"
Polishing type	Mechanical polishing、 Electrolytic polishing
Polishing accuracy	Internal Ra <0.60 μm and external Ra <0.80 μm

Heater Cover

It is composed of heating jacket, jacket protective layer, constant temperature electric control system, etc.

Product Type: Digital / Basic

Fixing method: snap button / Velcro fastening

Heating Mantle Material: Silicone Compliant

Working voltage: 220V, 50HZ

Temperature setting range: 0-150°C

Ordering Information

HG- I 1 2 3 4 5 6 7 8 9

Block 1	Block 2	Block 3	Block 4	Block 5
Material	Quantity Of Filter Cartridge	End Cap Type (Filter cartridge)	Length (Filter cartridge)	Cylinder Connector
04=SUS304 06=316L	01=1Pcs	H=226	05=5inch 10=10inch 20=20inch 30=30inch	K=Quick opening
Block 6	Block 7	Block 8	Block 9	
Input/output Connector Type	O-ring Seal Material	Input/output Connector Diameter	Surface Treatment (internal)	
K=Quick opening	S=Silicone E=EPDM V=Viton D=E-FKM	K20=Φ20 K25=Φ25 K32=Φ32 K40=Φ40	A=Mechanical polishing B=Electrolytic polishing	

HG- II 1 2 3 4 5 6 7 8 9

Block 1	Block 2	Block 3	Block 4	Block 5
Material	Quantity Of Filter Cartridge	End Cap Type (Filter cartridge)	Length (Filter cartridge)	Cylinder Connector
04=SUS304 06=316L	01=1Pcs	H=226	05=5inch 10=10inch 20=20inch 30=30inch	K=Quick opening
Block 6	Block 7	Block 8	Block 9	
Input/output Connector Type	O-ring Seal Material	Input/output Connector Diameter	Surface Treatment (internal)	
K=Quick opening	S=Silicone E=EPDM V=Viton D=E-FKM	K20=Φ20 K25=Φ25 K32=Φ32 K40=Φ40	A=Mechanical polishing B=Electrolytic polishing	