

# Pharmaceutical Filtration Solutions

*Our Membrane  
For Your Solutions*

Membrane Solutions

## Pharmaceutical Filtration Solutions

Validation Service Center

Patent Pleated Technology

Clean Workshop

Series Products

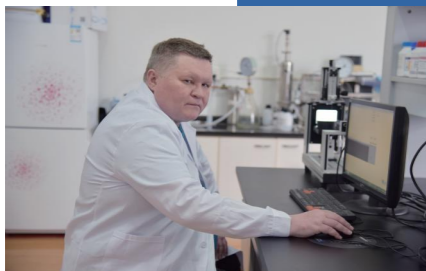
Membrane Solutions

## INTRODUCTION

Membrane Solutions, founded in 2006, is a world-renowned supplier of membrane filtration products. It is a high-tech enterprise integrating R&D, production and sales.

Membrane Solutions owns the American patent technology of independent research and development of filter membrane, independently researches and develops and produces Nylon, PVDF, PTFE, PES, etc. (membrane pore size is 0.02-10µm) microporous membrane and membrane filter cartridge. The corresponding products have obtained ISO9001 and CE certification. And in 2013 passed the US FDA and NSF certification.

The company specializes in the development, production and manufacture of various applied membrane filtration products, such as microfiltration membrane products, membrane pleated filter cartridges, small filters, capsule filters and other products. Membrane Solutions provides professional overall filtration solutions for applications in the global biopharmaceutical field, such as purification and filtration of active pharmaceutical ingredients/reagents, blood products or vaccine products. At the same time, it also provides the most professional fluid filtration and purification solutions for customers in the fields of medical equipment, food and beverage, laboratory analysis, microelectronics industry, etc.



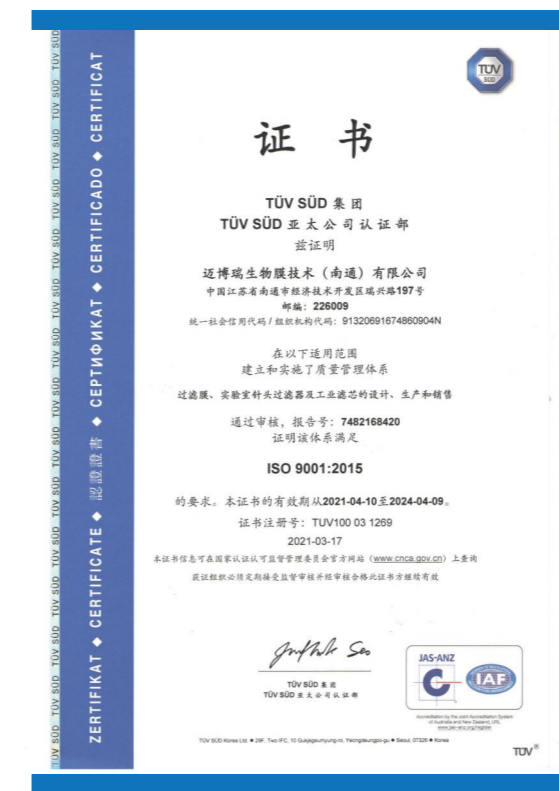
NSF Certification



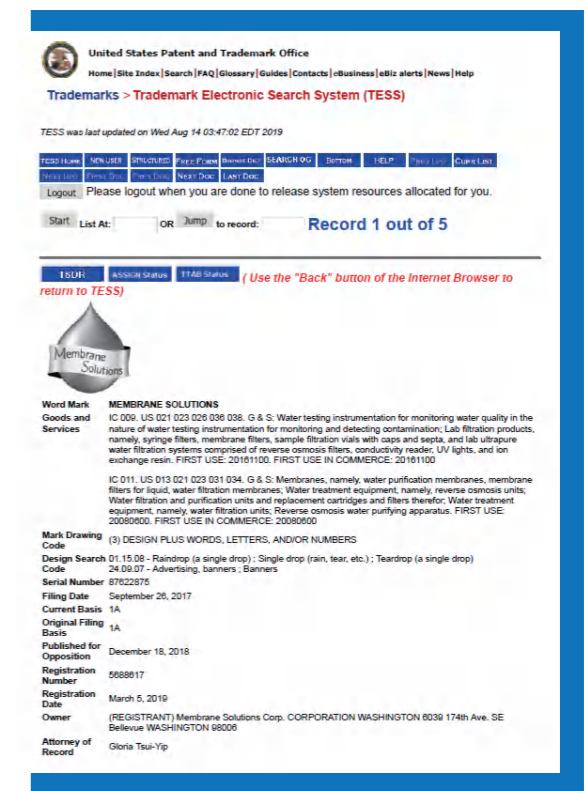
CE Certification



FDA Certification



ISO Certification



Registered Trademark Certification



# Validation Service Center

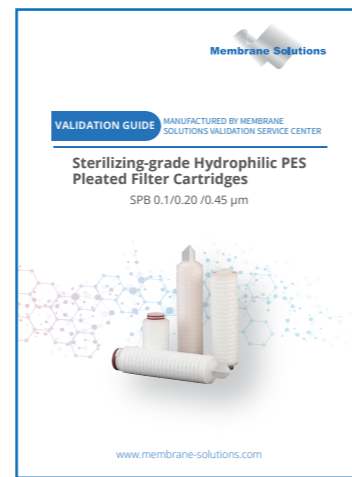
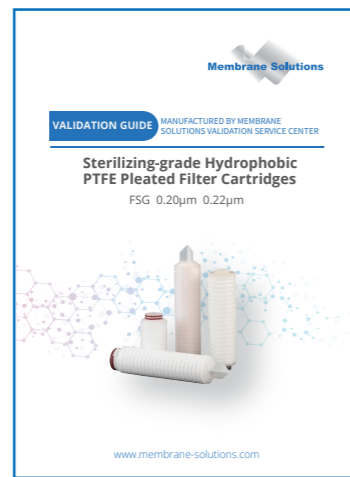
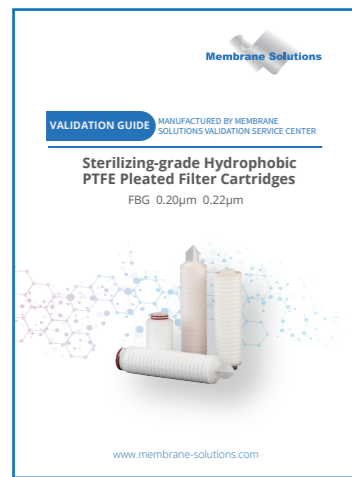
As a means of reducing or removing microorganisms (bacteria, mycoplasmas, bacteriophages, endotoxins, etc.) in sterile pharmaceuticals, filtration technology plays a pivotal role in the quality of pharmaceuticals. Membrane Solutions provides products and services that help pharmaceutical manufacturers better comply with industry regulations (GMP) and their stringent standards. The validation support service simplifies the validation process for customers in terms of filter regulations, helping customers reduce system costs. Membrane Solutions validation center has perfect management procedures, standard validation process and operating specifications, operates in accordance with the company's ISO 9001 quality system requirements, and establishes the management system and technical requirements of the validation center in accordance with CNAS-CL 01:2018 "Accreditation Standard for Testing and Calibration Laboratory Competence". The validation center consists of comprehensive microbial analysis laboratory, comprehensive chemical analysis laboratory, filtration performance laboratory and electron microscope analysis room, which provides complete testing and validation services for food and beverage, pharmaceutical companies and filter manufacturers.



## Membrane Solutions Process Validation

### Validation Service Scope (Including but not limited to):

1. Bacteria Survival Test (Non-final Sterilized Products are required)
2. Bacteria Challenge Test (Non-final Sterilized Products are required)
3. Product Wettability/Integrity Test
4. Chemical Compatibility Test (Non-final Sterilized Products are required)
5. Dissolution Test (Non-final Sterilized Products are required)
6. Adsorption Test
7. Filterability



### Membrane Solutions Validation Guide

# Chemical Compatibility

**R** resistance    **LR** limited resistance    **NR** not resistance    **-** no data at present

Species	Chemical Name	Nylon6,6	PVDF	PTFE	PES	PP	Silicone	EPDM	Viton	PS/PV
Acid	Glacial Acetic Acid	NR	R	R	NR	R	LR	R	NR	R
	Concentrated Hydrochloric Acid	NR	R	R	R	R	NR	NR	NR	R
	Hydrochloric Acid (6N)	NR	R	R	R	R	NR	NR	R	R
	Concentrated Nitric Acid	NR	R	R	-	R	NR	NR	R	R
	Nitric Acid (6N)	NR	R	R	-	R	LR	NR	R	R
	Concentrated Phosphoric Acid	NR	R	R	-	R	NR	R	R	R
	Concentrated Sulfuric Acid	NR	R	R	NR	R	NR	NR	R	R
Alkali	Hydrofluoric Acid (6N)	NR	R	R	-	NR	NR	NR	-	R
	Ammonium Hydroxide (1N)	R	LR	R	R	R	R	R	R	R
	Ammonium Hydroxide (3N)	R	NR	R	R	R	R	LR	LR	R
	Potassium Hydroxide (3N)	R	LR	R	R	R	LR	R	R	R
Alcohols	Sodium Hydroxide (3N)	R	LR	R	R	R	R	R	R	R
	Sodium Hydroxide (6N)	R	NR	R	R	R	R	R	R	R
	Amyl Alcohol	R	R	R	R	R	NR	R	R	R
	Benzyl Alcohol	R	R	R	R	R	LR	R	R	R
Ketone	Butanol	R	R	R	R	R	R	R	LR	R
	Isopropyl Alcohol	R	R	R	R	R	R	R	R	R
	Methanol	LR	R	R	R	R	R	R	NR	R
	Acetone	R	LR	R	NR	R	NR	R	NR	R
Oil	Cyclohexanone	-	LR	R	NR	R	NR	NR	NR	R
	Methyl Ethyl Ketone	LR	LR	R	-	R	NR	R	NR	R
	Methyl Isobutyl Ketone	LR	LR	R	NR	R	NR	R	NR	R
Aromatic Hydrocarbon	Cottonseed Oil	R	R	R	-	R	R	R	R	R
	Lubricating Oil	R	R	R	NR	R	R	R	R	R
	Peanut Oil	R	R	R	-	R	R	R	R	R
	Sesame Oil	R	R	R	R	R	R	R	R	R
Halogenated Hydrocarbon	Benzene	LR	LR	R	LR	NR	NR	NR	R	R
	Toluene	NR	LR	R	NR	NR	NR	NR	R	R
	Xylene	LR	LR	R	NR	NR	NR	NR	R	R
	Carbon Tetrachloride	LR	LR	R	LR	LR	NR	NR	R	R
	Chloroform	LR	LR	R	NR	LR	NR	NR	R	R
	Ethylene Dichloride	LR	LR	R	NR	LR	NR	NR	LR	R
	Freon TF	R	R	R	R	LR	NR	NR	R	R
Ether	Freon TMC	LR	LR	R	NR	LR	NR	NR	LR	R
	Methylene Chloride	NR	LR	R	NR	LR	NR	NR	LR	R
	Perchloroethylene	-	LR	R	LR	LR	NR	NR	R	R
	Trichloroethylene	LR	NR	R	LR	LR	NR	NR	R	R
Esters	Ethylene Glycol	R	R	R	LR	R	R	R	R	R
	Glycerin	R	R	R	LR	R	R	R	R	R
	Propylene Glycol	R	R	R	LR	R	R	R	R	R
Other	Ether	NR	R	R	R	LR	LR	NR	NR	R
	Isopropyl Ether	-	R	R	-	R	NR	NR	NR	R
	Two 4-dioxane	R	R	R	-	R	NR	NR	NR	R
	Tetrahydrofuran	NR	LR	R	NR	LR	NR	NR	NR	R
Other	Amyl Acetate	LR	R	R	-	R	NR	R	NR	R
	Butyl Acetate	LR	R	R	-	R	NR	R	R	R
	Cellulose Acetate	-	R	R	R	R	NR	R	NR	R
	Ethyl Acetate	LR	R	R	LR	LR	R	R	R	R
	Methyl Acetate	LR	R	R	NR	R	-	R	R	R
	Isopropyl Acetate	-	R	R	R	R	LR	R	NR	R
	Aniline	LR	R	R	NR	LR	NR	R	R	R
	Dimethylformamide	R	NR	R	NR	R	R	R	NR	R
	Formaldehyde 37%	R	R	R	R	R	R	R	NR	R
	Gasoline	LR	LR	LR	R	R	NR	R	R	LR
	Hexane (no water)	-	LR	LR	LR	LR	NR	NR	R	LR
	Kerosene	-	R	R	R	R	NR	NR	R	R
	Phenol	R	R	R	NR	R	NR	NR	R	R
	Pyridine	LR	R	R	NR	LR	NR	R	NR	R
Turpentine Oil	-	R	R	R	LR	NR	NR	R	R	
Water	R	R	R	R	R	LR	R	R	R	
Acetonitrile	LR	R	R	R	LR	-	R	NR	R	
Nickel Sulfate Solution	R	R	R	-	R	R	R	-	R	

Note: This table is for reference only

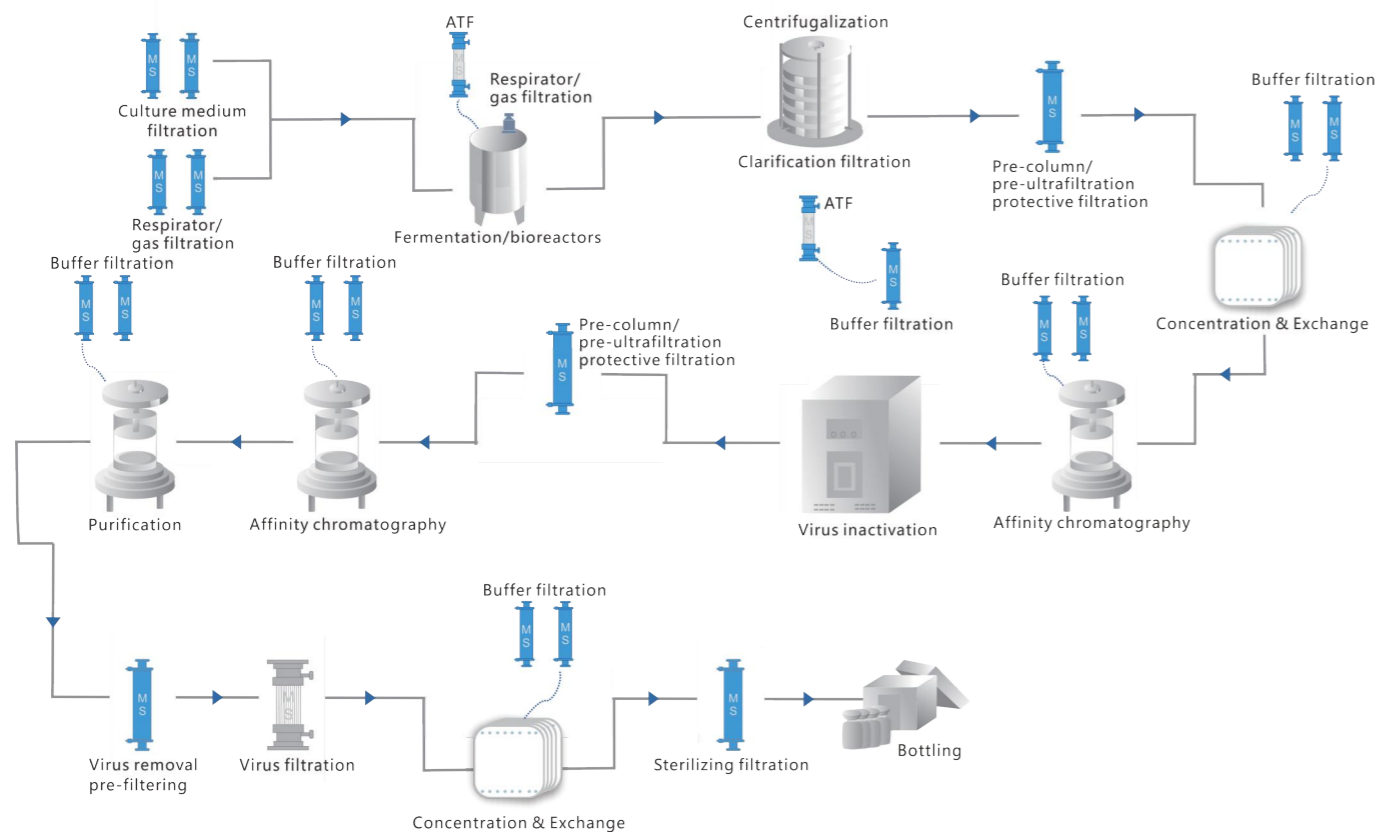
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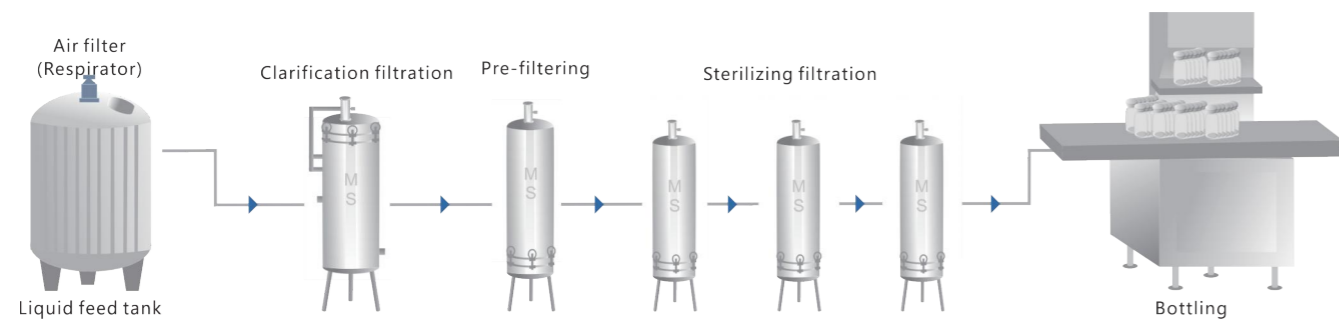
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# Flow Diagram of Filtration Process in Biopharmaceutical Industry

## Antibody preparation process

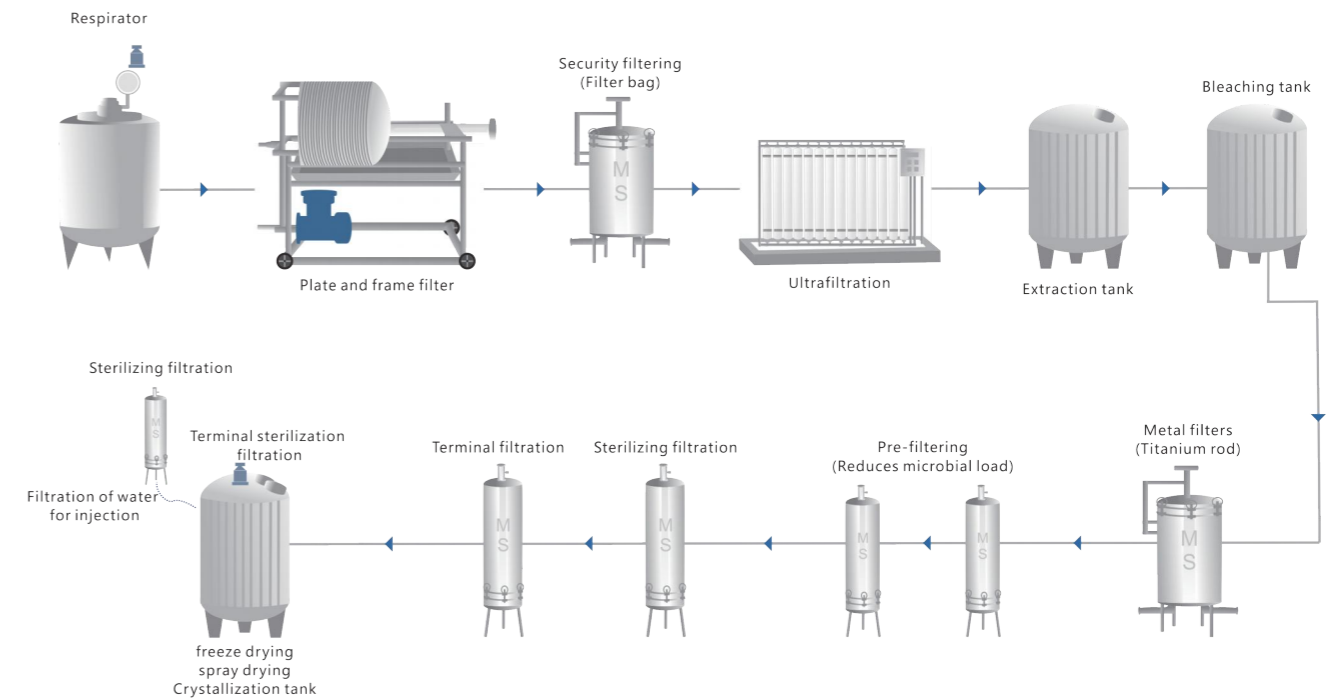


## Serological process

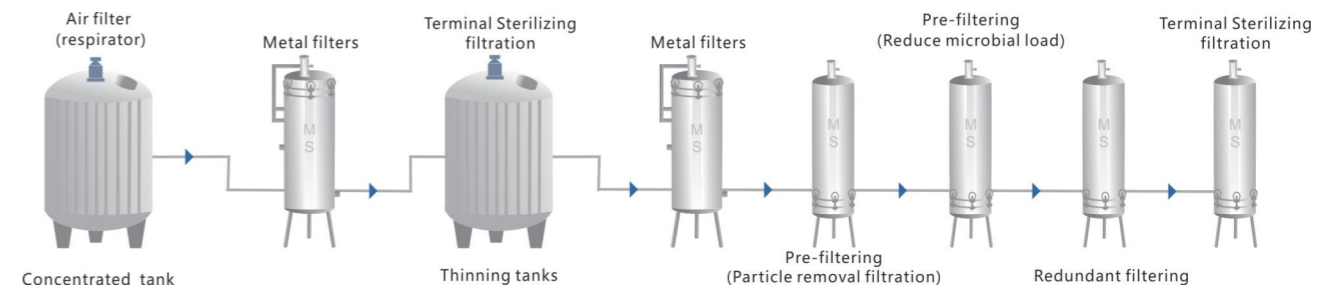


# Flow Diagram of Filtration Process in Biopharmaceutical Industry

## Antibiotic processes



## Injection process





# PFA All Fluorine Filter Cartridge with Strong Chemical Compatibility

## ACG Series

ACG series all fluorine filter cartridge is welded and sealed by ultra-pure PFA resin with high chemical compatibility and high cleanliness PTFE membrane by high-temperature hot-melt technology. The ACG all fluorine filter cartridge does not contain any adhesive. It is washed with 18.2MΩ.cm ultra-pure water after production and is available for pre-wetting packaging to ensure very low precipitation levels in harsh use environment, providing good retention efficiency and service life while minimizing the impact on the filtrate.

### Technical Parameters

Materials of Construction	Filter Membrane	Hydrophobic PTFE
	Support/Drainage	PFA
	Cage/End Cap	PFA
	Core	PFA
	Adaptor	PFA
	O-rings	PS/PV
Sealed by hot melt welding, no adhesive		
Filter Dimensions	Outer Diameter	68mm
	Inner Diameter	33mm
	Length	2.5-40inches
	Filtration Area	≥0.62m <sup>2</sup> /10inches
Operating Conditions	Maximum Differential Pressure (Reverse)	4.3 bar @ 25°C, 0.5 bar @ 170°C
	Maximum Differential Pressure (Forward)	3.0 bar @ 25°C

### Pure Water Flow Rate

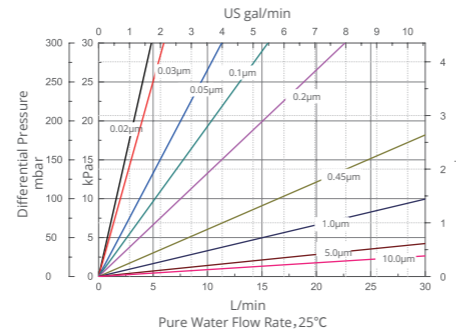
- Filtration of strong acid and alkali solutions
- Filtration of strong oxidizing solutions
- Filtration of ultra-pure chemicals
- Filtration of high temperature chemicals
- Sterilization filtration of cleaning solutions and disinfectants

### Ordering Information

	Length	Pore Size	Adaptor	Seal Material
CRACG	002 = 2.5"	002 = 0.02µm	0=DOE	PS=FEP Encapsulated Silicone PV==FEP Encapsulated FPM/FKM
	004 = 4"	003 = 0.03µm	2=222/Flat	
	005 = 5"	005 = 0.05µm	3=222/Fin	
	010 = 10"	010 = 0.10µm	6=226/Fin	
	020 = 20"	020 = 0.20µm	7=226/Flat	
	030 = 30"	045 = 0.45µm		
	040 = 40"	100 = 1.0µm		
		500 = 5.0µm		
		H10 = 10.0µm		



### Typical Liquid Flow Rates



### Features

- All fluorine structure, strong chemical compatibility
- High cleanliness, pre-wetting packaging is available
- High flow rate, long service life
- High retention efficiency

# Hydrophobic All Fluorine Filter Cartridge with PVDF Cage

## FEV Series

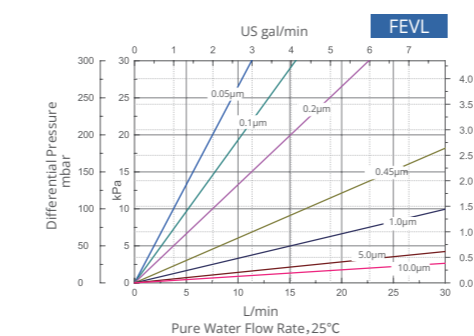
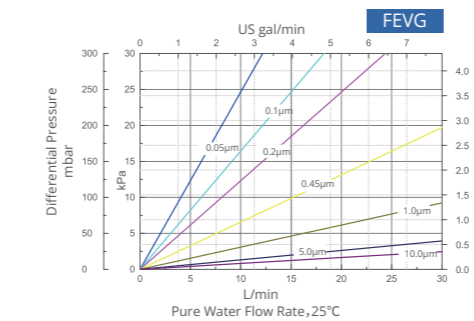
FEV series all fluorine filter cartridge adopts PVDF cage and ECTFE support, and the high porosity PTFE membrane is welded and sealed by high-temperature hot-melt technology. The all fluorine structure provides this product with excellent chemical compatibility and cleanliness. FEVG series can be widely used in the filtration and purification of a variety of strong corrosive solutions. The hydrophilic type can be widely used in the filtration and purification of a wide range of high surface tension and strong corrosive solutions. The hydrophilic filter medium can be used without pre-wetting, which greatly improves the convenience of use.

### Technical Parameters

Materials of Construction	Filter Membrane	PTFE
	Support/Drainage	ECTFE
	Cage/End Cap	PVDF
	Core	PVDF
	Adaptor	PVDF
	O-rings	PS/PV
Sealed by hot melt welding, no adhesive		
Filter Dimensions	Outer Diameter	68mm
	Inner Diameter	33mm
	Length	10-40inches
	Filtration Area	≥0.70m <sup>2</sup> /10inches
Operating Conditions	Maximum Differential Pressure (Reverse)	5.2 bar @ 25°C, 1.9 bar @ 120°C
	Maximum Differential Pressure (Forward)	3.4 bar @ 25°C
Quality Control	<ul style="list-style-type: none"> <li>• ISO 9001:2015 quality management system</li> <li>• 100% integrity test</li> <li>• Filter cartridge is fully traceable</li> <li>• All materials comply with relevant requirements of CFR21</li> <li>• Proven particle retention efficiency and bacteria retention efficiency</li> <li>• High cleanliness raw materials</li> </ul>	



### Typical Liquid Flow Rates



### Features

- Structure with all fluorine materials
- High cleanliness, pre-wetting packaging is available
- High flow rate, long service life
- High retention efficiency

### Ordering Information

	Length	Pore Size	Adaptor	Seal Material
CRPTEV	G=Hydrophobic L=Hydrophilic	010 = 10"	0=DOE	PS=FEP Encapsulated Silicone PV==FEP Encapsulated FPM/FKM
		020 = 20"	2=222/Flat	
		030 = 30"	3=222/Fin	
		040 = 40"	6=226/Fin	
			7=226/Flat	

### Typical Applications

- Filtration of strong acid solutions
- Filtration of strong oxidizing solutions
- Filtration of ultra-pure chemicals
- Filtration of high temperature chemicals
- Sterilization filtration of cleaning solutions and disinfectants

# Hydrophobic PTFE Pleated Filter Cartridge with Extremely Strong Chemical Compatibility

## FG Series

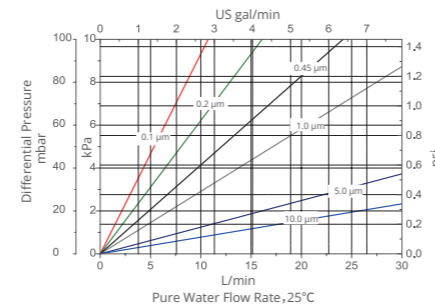
FG series PTFE pleated filter cartridge is made of high porosity hydrophobic PTFE membrane, which has the characteristics of high flux and long service life. Its broad chemical resistance makes the FG series filter cartridge particularly suitable for the filtration of a wide variety of low surface tension chemicals and gases.



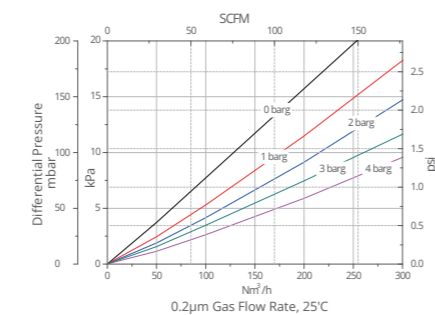
### Technical Parameters

Materials of Construction	Filter Membrane	Hydrophobic PTFE
	Support/Drainage	PP
	Cage/End Cap	PP
	Core	PP/316L Stainless Steel
	Adaptor	PP/PP+Stainless Steel
	O-rings	S/E/N/F
Sealed by hot melt welding, no adhesive		
Filter Dimensions	Outer Diameter	69mm
	Inner Diameter	33mm
	Length	5-40inches
	Filtration Area	≥0.36m <sup>2</sup> (5inches), ≥0.74m <sup>2</sup> /10inches
Operating Conditions	Maximum Differential Pressure (Reverse)	5.2 bar @ 25°C, 1.9 bar @ 82°C
	Maximum Differential Pressure (Forward)	2.1 bar @ 25°C
Biological Safety	Endotoxins	<0.25 EU/mL
	Extractables(WFI)	<15 mg/10 inches
Sterilizable	Steam In-place	140°C 30min differential pressure<0.3 bar
	Autoclave	121°C 30min
Quality Control	<ul style="list-style-type: none"> <li>ISO 9001:2015 quality management system</li> <li>100% integrity test</li> <li>Filter cartridge is fully traceable</li> <li>All materials comply with relevant requirements of CFR21</li> <li>Bacteria (Pseudomonas diminuta) Aerosol Challenge Test <math>Tr \geq 10^8</math></li> <li>Retention Efficiency for Monodisperse PSL particles ≥99.99%</li> </ul>	

### Typical Liquid Flow Rates



### Typical Air Flow Rates



### Typical Applications

- Filtration of low surface tension solvents
- Filtration of strong acid and alkali liquid
- Filtration of strong oxidizing liquid
- Sterilization filtration of compressed air and nitrogen
- Sterilization filtration of fermentation tank, storage tank, batching tank
- Filtration of solvents and disinfectants

### Features

- Extensive chemical compatibility
- High porosity PTFE membrane
- High flux, low pressure difference
- Very high cost performance

### Ordering Information

	Length	Pore Size	Adaptor	Seal Material	Core
CRPTFEG	005 = 5"	G10=0.01μm(gas)	0=DOE	S=Silicone	Blank=PP
	010 = 10"	010=0.10μm	1=222/Flat with 316L SS insert	E=EPDM	R=Reinforced PP
	020 = 20"	020=0.20μm	2=222/Flat	N=Nitrile	S=316L Stainless Steel
	030 = 30"	045=0.45μm	3=222/Fin	F=FKM	
	040 = 40"	100=1.0μm	4=222/Fin with 316L SS insert		
		500=5.0μm	5=226/Fin with 316L SS insert		
		H10=10.0μm	6=226/Fin		
			7=226/Flat		
			8=226/Flat with 316L SS insert		

# Cost-effective PTFE Pleated Filter Cartridge for GMP Gas Sterilizing Filtration Requirements

## FBG Series

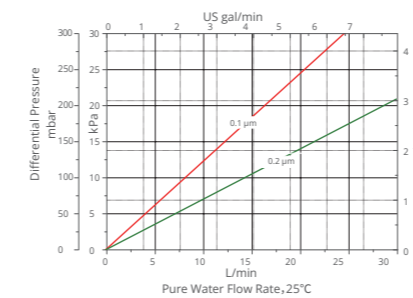
FBG series PTFE pleated filter cartridge is made of naturally hydrophobic sterilizing-grade PTFE membrane, which has excellent uniformity of pore and proven sterilization efficiency, and can provide reliable sterility guarantee for high humidity gas.



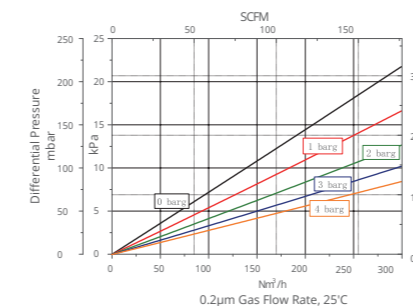
### Technical Parameters

Materials of Construction	Filter Membrane	Hydrophobic PTFE
	Support/Drainage	PP
	Cage/End Cap	PP
	Core	PP/316L Stainless Steel
	Adaptor	PP/PP+Stainless Steel
	O-rings	S/E/N/F
Sealed by hot melt welding, no adhesive		
Filter Dimensions	Outer Diameter	69mm
	Inner Diameter	33mm
	Length	5-40inches
	Filtration Area	≥0.36m <sup>2</sup> (5inches), ≥0.74m <sup>2</sup> /10inches
Operating Conditions	Maximum Differential Pressure (Reverse)	5.2 bar @ 25°C, 1.9 bar @ 82°C
	Maximum Differential Pressure (Forward)	2.1 bar @ 25°C
Biological Safety	Endotoxins	<0.25 EU/mL
	Extractables	<15 mg/10 inches
Sterilizable	Steam In-place	140°C 30min differential pressure<0.3 bar
	Autoclave	121°C 30min
Quality Control	<ul style="list-style-type: none"> <li>ISO 9001:2015 quality management system</li> <li>100% integrity test</li> <li>Filter cartridge is fully traceable</li> <li>All materials comply with relevant requirements of CFR21</li> <li>Bacteria (Pseudomonas diminuta) Aerosol Challenge Test <math>Tr \geq 10^8</math></li> <li>Bacteria (Pseudomonas diminuta) Liquid Challenge Test <math>Tr \geq 10^{11}</math></li> </ul>	

### Typical Liquid Flow Rates



### Typical Air Flow Rates



### Typical Applications

- Filtration of low surface tension solvents/disinfectants
- Sterilization filtration of fermentation tank, storage tank, batching tank
- Filtration of strong acid and alkali/oxidizing liquid
- Sterilization filtration of compressed air/nitrogen

### Features

- Extensive chemical compatibility
- Proven sterilization efficiency
- High flux, low precipitation
- Water intrusion test can be used

### Ordering Information

	Length	Pore Size	Adaptor	Seal Material	Core
CRPTFEBG	005 = 5"	G10 = 0.01μm(gas)	0=DOE	S=Silicone	Blank=PP
	010 = 10"	010 = 0.10μm	1=222/Flat with 316L SS insert	E=EPDM	R=Reinforced PP
	020 = 20"	020 = 0.20μm	2=222/Flat	N=Nitrile	S=316L Stainless Steel
	030 = 30"		3=222/Fin	F=FKM	
	040 = 40"		4=222/Fin with 316L SS insert		
			5=226/Fin with 316L SS insert		
			6=226/Fin		
			7=226/Flat		
			8=226/Flat with 316L SS insert		

# PTFE Pleated Filter Cartridge for GMP Gas Sterilizing Filtration Requirements

## FSG Series

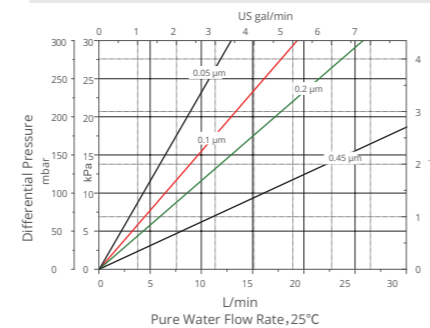
FSG series PTFE pleated filter cartridge is made of strong hydrophobic and uniformly distributed pore size PTFE membrane. Its proven sterilization ability and stable chemical properties enable the filter to provide excellent sterility protection for high humidity gas and low surface tension liquid even after 150 times of moist heat sterilization at 121°C.



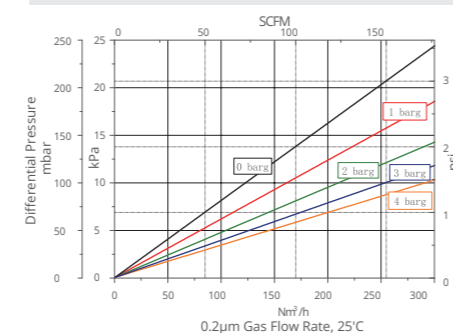
### Technical Parameters

Materials of Construction	Filter Membrane	Hydrophobic PTFE
	Support/Drainage	PP
	Cage/End Cap	PP
	Core	PP/316L Stainless Steel
	Adaptor	PP/PP+Stainless Steel
	O-rings	S/E/N/F
Sealed by hot melt welding, no adhesive		
Filter Dimensions	Outer Diameter	69mm
	Inner Diameter	33mm
	Length	5-40inches
	Filtration Area	≥0.36m <sup>2</sup> (5inches), ≥0.74m <sup>2</sup> /10inches
Operating Conditions	Maximum Differential Pressure (Reverse)	5.2 bar @ 25°C, 1.9 bar @ 82°C
	Maximum Differential Pressure (Forward)	2.1 bar @ 25°C
Biological Safety	Outer Diameter	<0.25 EU/mL
	Inner Diameter	<15 mg/10 inches
Sterilizable	Length	140°C 30min differential pressure <0.3 bar
	Filtration Area	121°C 30min
Quality Control	<ul style="list-style-type: none"> <li>ISO 9001:2015 quality management system</li> <li>100% integrity test</li> <li>Filter cartridge is fully traceable</li> <li>All materials comply with relevant requirements of CFR21</li> <li>Bacteria (Pseudomonas diminuta) Aerosol Challenge Test <math>Tr \geq 10^8</math></li> <li>Bacteria Liquid Challenge Test <math>Tr \geq 10^{11}</math></li> </ul>	

### Typical Liquid Flow Rates



### Typical Air Flow Rates



### Typical Applications

- Sterilization filtration of compressed air/nitrogen
- Sterilization of fermentation tank, batching tank and breathing filter
- Filtration of aseptic packaging air
- Sterilization filtration of solvents/disinfectants

### Features

- Extensive chemical compatibility
- Proven sterilization efficiency
- High reliability
- Water intrusion test can be used

### Ordering Information

	Length	Pore Size	Adaptor	Seal Material	Core
CRPTFESG	005 = 5"	G10 = 0.01 μm (gas)	0=DOE	S=Silicone	Blank=PP
	010 = 10"	005 = 0.05 μm	1=222/Flat with 316L SS insert	E=EPDM	R=Reinforced PP
	020 = 20"	010 = 0.10 μm	2=222/Flat	N=Nitrile	S=316L Stainless Steel
	030 = 30"	020 = 0.20 μm	3=222/Fin	F=Fluorine Rubber	
	040 = 40"	045 = 0.45 μm	4=222/Fin with 316L SS insert		
			5=226/Fin with 316L SS insert		
			6=226/Fin		
			7=226/Flat		
			8=226/Flat with 316L SS insert		

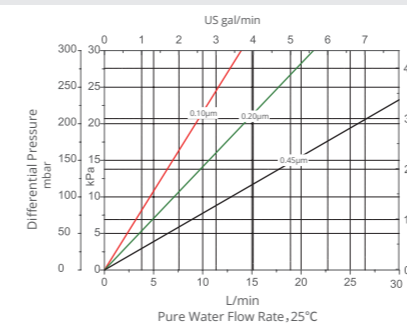
# Double-layer PTFE Pleated Filter Cartridge for GMP Gas Sterilizing Filtration Requirements

## FDG Series

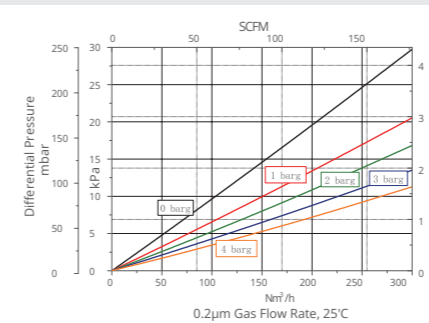
FDG series PTFE pleated filter cartridge is made of double-layer Sterilizing-grade PTFE membrane, which has higher retention efficiency and can meet the requirements of phage retention and other harsh conditions to provide extremely reliable sterility guarantee for gases.



### Typical Liquid Flow Rates



### Typical Air Flow Rates



### Typical Applications

- Sterilization filtration of compressed air/nitrogen
- Sterilization of fermentation tank, batching tank and breathing filter
- Filtration of aseptic packaging air
- Sterilization filtration of solvents/disinfectants

### Features

- Extensive chemical compatibility
- High sterilization efficiency
- High flux, low pressure difference
- Water intrusion test can be used

### Ordering Information

	Length	Pore Size	Adaptor	Seal Material	Core
CRPTFEDG	005 = 5"	G03 = 0.003 μm (gas)	0=DOE	S=Silicone	Blank=PP
	010 = 10"	010 = 0.10 μm	1=222/Flat with 316L SS insert	E=EPDM	R=Reinforced PP
	020 = 20"	020 = 0.20 μm	2=222/Flat	N=Nitrile	S=316L Stainless Steel
	030 = 30"		3=222/Fin	F=FKM	
	040 = 40"		4=222/Fin with 316L SS insert		
			5=226/Fin with 316L SS insert		
			6=226/Fin		
			7=226/Flat		
			8=226/Flat with 316L SS insert		

### Technical Parameters

Materials of Construction	Filter Membrane	Hydrophobic PTFE
	Support/Drainage	PP
	Cage/End Cap	PP
	Core	PP/316L Stainless Steel
	Adaptor	PP/PP+Stainless Steel
	O-rings	S/E/N/F
Sealed by hot melt welding, no adhesive		
Filter Dimensions	Outer Diameter	69mm
	Inner Diameter	33mm
	Length	5-40inches
	Filtration Area	≥0.36m <sup>2</sup> (5inches), ≥0.74m <sup>2</sup> /10inches
Operating Conditions	Maximum Differential Pressure (Reverse)	5.2 bar @ 25°C, 1.9 bar @ 82°C
	Maximum Differential Pressure (Forward)	2.1 bar @ 25°C
Biological Safety	Endotoxins	<0.25 EU/mL
	Extractables	<15 mg/10 inches
Sterilizable	Steam In-place	140°C 30min differential pressure <0.3 bar
	Autoclave	121°C 30min
Quality Control	<ul style="list-style-type: none"> <li>ISO 9001:2015 quality management system</li> <li>100% integrity test</li> <li>Filter cartridge is fully traceable</li> <li>All materials comply with relevant requirements of CFR21</li> <li>Bacteria (Pseudomonas diminuta) Aerosol Challenge Test <math>Tr \geq 10^8</math></li> <li>Bacteria (Pseudomonas diminuta) Liquid Challenge Test <math>Tr \geq 10^{11}</math></li> </ul>	



# Hydrophilic PTFE Pleated Filter Cartridge with High Flow Rate and Strong Chemical Compatibility

## FL Series

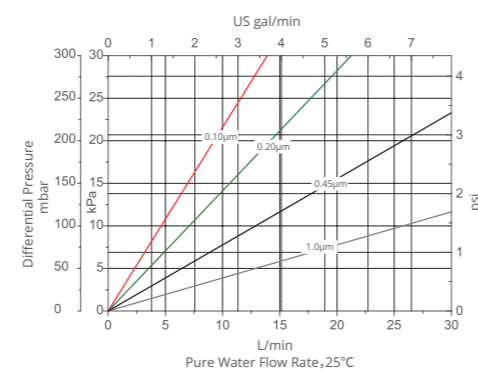
FL series PTFE pleated filter cartridge is made of hydrophilic PTFE membrane, which can be used for filtration of various strong acid and alkali and oxidizing solutions without pre-wetting.

### Technical Parameters

Materials of Construction	Filter Membrane	Hydrophobic PTFE
	Support/Drainage	PP
	Cage/End Cap	PP
	Core	PP/316L Stainless Steel
	Adaptor	PP/PP+Stainless Steel
	O-rings	S/E/N/F
Sealed by hot melt welding, no adhesive		
Filter Dimensions	Outer Diameter	69mm
	Inner Diameter	33mm
	Length	5-40inches
	Filtration Area	≥0.36m <sup>2</sup> (5inches), ≥0.74m <sup>2</sup> /10inches
Operating Conditions	Maximum Differential Pressure (Reverse)	5.2 bar @ 25°C, 1.9 bar @ 82°C
	Maximum Differential Pressure (Forward)	2.1 bar @ 25°C
Biological Safety	Endotoxins	<0.25 EU/mL
	Extractables	<15 mg/10 inches
Sterilizable	Steam In-place	140°C 30min differential pressure <0.3 bar
	Autoclave	121°C 30min
Quality Control	<ul style="list-style-type: none"> <li>ISO 9001:2015 quality management system</li> <li>100% integrity test</li> <li>Filter cartridge is fully traceable</li> <li>All materials comply with relevant requirements of CFR21</li> <li>Retention Efficiency for Monodisperse PSL particles ≥99.99%</li> </ul>	



### Typical Liquid Flow Rates



### Features

- Extensive chemical compatibility
- Good corrosion resistance, oxidation resistance, heat resistance
- High porosity PTFE membrane, no pre-wetting required
- High flux, low precipitation, low pressure difference
- 100% integrity test ensures the effect of sterilization

### Typical Applications

- Filtration of high temperature and high viscosity solvents
- Filtration of strong acid liquid
- Filtration of strong oxidizing liquid
- Filtration of high-purity chemicals
- Filtration of LVP
- Filtration of biological reagents

### Ordering Information

	Length	Pore Size	Adaptor	Seal Material	Core
CRPTFEL	005 = 5" 010 = 10" 020 = 20" 030 = 30" 040 = 40"	010 = 0.10µm 020 = 0.20µm 045 = 0.45µm 100 = 1.0µm	0=DOE 1=222/Flat with 316L SS insert 2=222/Flat 3=222/Fin 4=222/Fin with 316L SS insert 5=226/Fin with 316L SS insert 6=226/Fin 7=226/Flat 8=226/Flat with 316L SS insert	S=Silicone E=EPDM N=Nitrile F=FKM	Blank=PP R=Reinforced PP S=316L Stainless Steel

# Nylon66 Pleated Filter Cartridge with High Strength and High Temperature Resistance

## PN Series

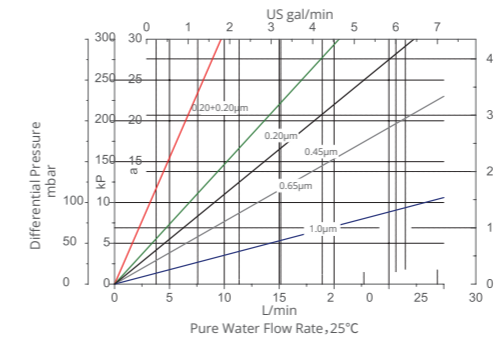
PN Series Nylon pleated filter cartridge is made of hydrophilic nylon66 membrane with lining, which has excellent chemical compatibility and mechanical strength. After special cleaning steps, the filter membrane has low precipitation and no shedding. It can be widely used in the filtration of strong alkali, weak acid and organic solvents.

### Technical Parameters

Materials of Construction	Filter Membrane	Nylon66PP
	Support/Drainage	PP
	Cage/End Cap	PP/316L Stainless Steel
	Core	PP/PP+Stainless Steel
	Adaptor	S/E/N/F
	O-rings	
Sealed by hot melt welding, no adhesive		
Filter Dimensions	Outer Diameter	69mm
	Inner Diameter	33mm
	Length	5-40inches
	Filtration Area	≥0.33m <sup>2</sup> (5inches), ≥0.62m <sup>2</sup> /10inches
Operating Conditions	Maximum Differential Pressure (Reverse)	5.2 bar @ 25°C, 1.9 bar @ 82°C
	Maximum Differential Pressure (Forward)	2.1 bar @ 25°C
Biological Safety	Endotoxins	<0.25 EU/mL
	Extractables	<40 mg/10 inches
Sterilizable	Steam In-place	121°C 30min differential pressure <0.3 bar
	Autoclave	121°C 30min
Quality Control	<ul style="list-style-type: none"> <li>ISO 9001:2015 quality management system</li> <li>100% integrity test</li> <li>Filter cartridge is fully traceable</li> <li>All materials comply with relevant requirements of CFR21</li> <li>Bacteria (Pseudomonas diminuta) Liquid Challenge Test Tr<sub>2</sub> ≥10<sup>11</sup></li> <li>Retention Efficiency for Monodisperse PSL particles ≥99.99%</li> </ul>	



### Typical Liquid Flow Rates



### Features

- Naturally hydrophilic, easy to wet
- Extensive chemical compatibility, resistant to organic solvents
- Good integrity to ensure the filter sterile-grade particle retention efficiency
- Low pressure difference, high flux, long service life

### Typical Applications

- Sterilization filtration of sterile APIs, antibiotic solutions, etc.
- Filtration of alcohol, soft drinks, pure water, etc.
- Filtration of high-purity chemicals and organic solvents
- Sterilization filtration of physiological saline and reagent water
- Sterilization filtration of SVP and LVP

### Ordering Information

	Length	Pore Size	Adaptor	Seal Material	Core
CRNY	005 = 5" 010 = 10" 020 = 20" 030 = 30" 040 = 40"	02X = 0.20µm + 0.20µm 020 = 0.20µm 045 = 0.45µm 065 = 0.65µm 100 = 1.0µm	0=DOE 1=222/Flat with 316L SS insert 2=222/Flat 3=222/Fin 4=222/Fin with 316L SS insert 5=226/Fin with 316L SS insert 6=226/Fin 7=226/Flat 8=226/Flat with 316L SS inser	S=Silicone E=EPDM N=Nitrile F=FKM	Blank=PP R=Reinforced PP S=316L Stainless Steel

# Positively Charged Modified Nylon 66 Pleated Filter Cartridge

## MZ Series

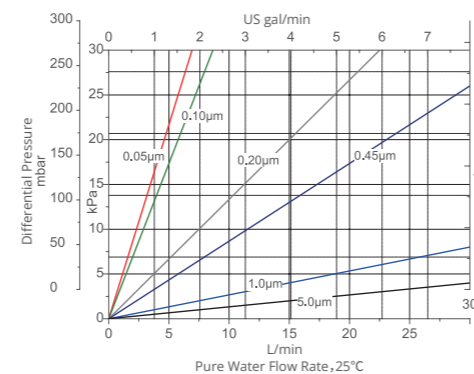
The positively charged modified nylon membrane used in the MZ series has a stable positive charge point in water-based solutions. The positive charge of the nylon membrane loaded with high specific surface area can efficiently adsorb negatively charged impurities, whose size is much smaller than the pore size of the filter



### Technical Parameters

Materials of Construction	Filter Membrane	Nylon66PP
	Support/Drainage	PP
	Cage/End Cap	PP/316L Stainless Steel
	Core	PP/PP+Stainless Steel
	Adaptor	S/E/N/F
	O-rings	
Sealed by hot melt welding, no adhesive		
Filter Dimensions	Outer Diameter	69mm
	Inner Diameter	33mm
	Length	5-40inches
	Filtration Area	≥0.33m <sup>2</sup> (5inches), ≥0.62m <sup>2</sup> /10inches
Operating Conditions	Maximum Differential Pressure (Reverse)	5.2 bar @ 25°C, 1.9 bar @ 82°C
	Maximum Differential Pressure (Forward)	2.1 bar @ 25°C
Biological Safety	Endotoxins	<0.25 EU/mL
	Extractables	<40 mg/10 inches
Sterilizable	Steam In-place	121°C 30min differential pressure <0.3 bar
	Autoclave	121°C 30min
Quality Control	<ul style="list-style-type: none"> <li>ISO 9001:2015 quality management system</li> <li>100% integrity test</li> <li>Filter cartridge is fully traceable</li> <li>All materials comply with relevant requirements of CFR21</li> <li>Bacteria Liquid Challenge Test TR≥10<sup>11</sup></li> <li>Escherichia coli Endotoxin Challenge η≥99.999%</li> </ul>	

### Typical Liquid Flow Rates



### Features

- Highly hydrophilic, easy to wet
- Positive charge on membrane surface
- Good integrity to ensure the filter sterile-grade particle retention efficiency
- No fiber shedding

### Typical Applications

- Sterilization filtration of sterile APIs, antibiotic solutions, etc.
- Sterilization filtration of intermediates, soft drinks, pure water, etc.
- Filtration of high-purity chemicals and organic solvents
- Sterilization filtration of physiological saline, reagents and water for injection
- Sterilization filtration of SVP and LVP

### Ordering Information

	Length	Pore Size	Adaptor	Seal Material	Core
CRNYZ	005 = 5"	005 = 0.05µm	0=DOE	S=Silicone	Blank=PP
	010 = 10"	010 = 0.10µm	1=222/Flat with 316L SS insert	E=EPDM	R=Reinforced PP
	020 = 20"	020 = 0.20µm	2=222/Flat	N=Nitrile	S=316L Stainless Steel
	030 = 30"	045 = 0.45µm	3=222/Fin	F=Fluorine Rubber	
	100 = 1.0µm		4=222/Fin with 316L SS insert		
	040 = 40"	500 = 5.0µm	5=226/Fin with 316L SS insert		
		6=226/Fin			
		7=226/Flat			
		8=226/Flat with 316L SS insert			

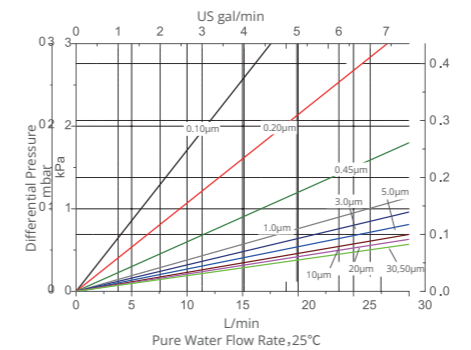
# PP Pleated Filter Cartridge with High Flux and High Flow Rate

## PPC Series

PPC series PP pleated filter cartridge is made of high fluffy polypropylene filter material, which has the characteristics of high flow rate and high dirt holding capacity. It has excellent cost performance as clarification filter and pre-filter. The full PP structure enables the filter cartridge to be applied to the filtration of various acid and alkali and organic solvents.



### Typical Liquid Flow Rates



### Features

- Extensive chemical compatibility
- High efficiency, high flux, low pressure difference, long service life
- High efficiency particle retention rate to protect terminal filter sterilization safety
- No fiber shedding

### Typical Applications

- Filtration of colloidal products
- Filtration of fermentation broth and high viscosity materials
- Prefiltration of culture media and blood products
- Filtration of chemical intermediates, organic solvents, pure water

### Technical Parameters

Materials of Construction	Filter Membrane	PP
	Support/Drainage	PP
	Cage/End Cap	PP
	Core	PP/316L Stainless Steel
	Adaptor	PP/PP+Stainless Steel
	O-rings	S/E/N/F
Sealed by hot melt welding, no adhesive		
Filter Dimensions	Outer Diameter	69mm
	Inner Diameter	33mm
	Length	5-40inches
	Filtration Area	≥0.25m <sup>2</sup> (5inches), ≥0.52m <sup>2</sup> /10inches
Operating Conditions	Maximum Differential Pressure (Reverse)	5.2 bar @ 25°C, 1.9 bar @ 82°C
	Maximum Differential Pressure (Forward)	2.1 bar @ 25°C
Biological Safety	Endotoxins	<0.25 EU/mL
	Extractables	<40 mg/10 inches
Sterilizable	Steam In-place	121°C 30min differential pressure <0.3 bar
	Autoclave	121°C 30min
Quality Control	<ul style="list-style-type: none"> <li>ISO 9001:2015 quality management system</li> <li>Filter cartridge is fully traceable</li> <li>All materials comply with relevant requirements of CFR21</li> </ul>	

### Ordering Information

	Length	Pore Size	Adaptor	Seal Material	Core
CRPP	005 = 5"	010 = 0.10µm	0=DOE	S=Silicone	Blank=PP
	010 = 10"	020 = 0.20µm	1=222/Flat with 316L SS insert	E=EPDM	R=Reinforced PP
	020 = 20"	045 = 0.45µm	2=222/Flat	N=Nitrile	S=316L Stainless Steel
	030 = 30"	100 = 1.0µm	3=222/Fin	F=FKM	
	040 = 40"	300 = 3.0µm	4=222/Fin with 316L SS insert		
		500 = 5.0µm	5=226/Fin with 316L SS insert		
		6=226/Fin			
		7=226/Flat			
		8=226/Flat with 316L SS insert			

# Multi-layer PP Pleated Filter Cartridge with Long Service Life

## PPD Series

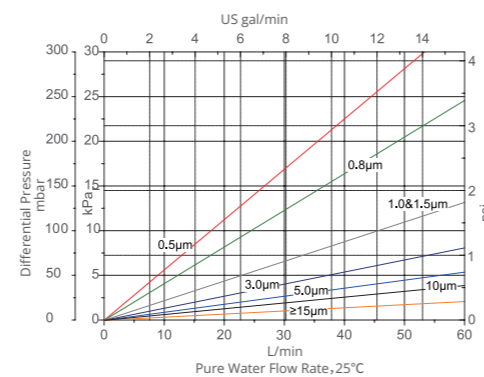
PPD adopts multi-layer gradient PP fiber material, which combines the advantages of depth filtration and pleated filtration, so that the filter cartridge has high dirt holding capacity and high retention efficiency. The full PP structure makes PPD series pleated filter cartridge suitable for clarification and filtration of various high-load chemicals.



### Technical Parameters

Materials of Construction	Filter Membrane	PP
	Support/Drainage	PP
	Cage/End Cap	PP
	Core	PP/316L Stainless Steel
	Adaptor	PP/PP+Stainless Steel
	O-rings	S/E/N/F
Sealed by hot melt welding, no adhesive		
Filter Dimensions	Outer Diameter	69mm
	Inner Diameter	33mm
	Length	5-40inches
	Filtration Area	≥0.15m <sup>2</sup> (5inches), ≥0.30m <sup>2</sup> /10inches
Operating Conditions	Maximum Differential Pressure (Reverse)	5.2 bar @ 25°C, 1.9 bar @ 82°C
	Maximum Differential Pressure (Forward)	2.1 bar @ 25°C
Biological Safety	Endotoxins	<0.25 EU/mL
	Extractables	<40 mg/10 inches
Sterilizable	Steam In-place	121°C 30min differential pressure <0.3 bar
	Autoclave	121°C 30min
Quality Control	<ul style="list-style-type: none"> <li>ISO 9001:2015 quality management system</li> <li>Filter cartridge is fully traceable</li> <li>All materials comply with relevant requirements of CFR21</li> </ul>	

### Typical Liquid Flow Rates



### Features

- Multi-layer pore size gradient filter medium, extensive chemical compatibility
- Combination of depth filter and pleated filter
- High efficiency, high flux, low pressure difference, long service life
- No fiber shedding

### Typical Applications

- Filtration of glue, dyestuff, grinding fluid, high-load filtrate
- Filtration of colloidal products
- Filtration of fermentation broth and high viscosity materials
- Prefiltration of culture media, blood products

### Ordering Information

	Length	Pore Size	Adaptor	Seal Material	Core
CRPPD	005 = 5"	050 = 0.50µm	0=DOE	S=Silicone	Blank=PP
	010 = 10"	080 = 0.80µm	1=222/Flat with 316L SS insert	E=EPDM	R=Reinforced PP
	020 = 20"	100 = 1.0µm	2=222/Flat	N=Nitrile	S=316L Stainless Steel
	030 = 30"	150 = 1.5µm	3=222/Fin	F=FKM	
	040 = 40"	300 = 3.0µm	4=222/Fin with 316L SS insert		
		500 = 5.0µm	5=226/Fin with 316L SS insert		
		H10 = 10µm	6=226/Fin		
		H15 = 15µm	7=226/Flat		
		H20 = 20µm	8=226/Flat with 316L SS insert		
		H30 = 30µm			

# PP Pleated Filter Cartridge with Higher Removal Efficiency

## PPA Series

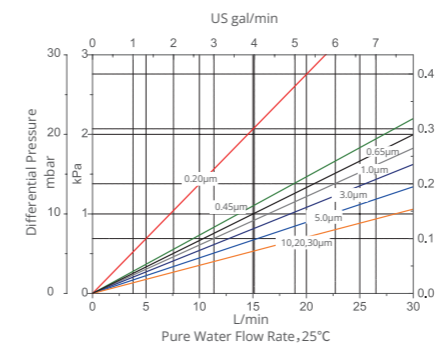
PPA series PP pleated filter cartridge is made of multi-layer PP microfiber. With gradient pore size and high strength support, the filter cartridge has high retention efficiency and high flow rate. The full PP structure enables the filter cartridge to be applied to the filtration of various acid and alkali and organic solvents.



### Technical Parameters

Materials of Construction	Filter Membrane	PP
	Support/Drainage	PP
	Cage/End Cap	PP
	Core	PP/316L Stainless Steel
	Adaptor	PP/PP+Stainless Steel
	O-rings	S/E/N/F
Sealed by hot melt welding, no adhesive		
Filter Dimensions	Outer Diameter	69mm
	Inner Diameter	33mm
	Length	5-40inches
	Filtration Area	≥0.25m <sup>2</sup> (5inches), ≥0.52m <sup>2</sup> /10inches
Operating Conditions	Maximum Differential Pressure (Reverse)	5.2 bar @ 25°C, 1.9 bar @ 82°C
	Maximum Differential Pressure (Forward)	2.1 bar @ 25°C
Biological Safety	Endotoxins	<0.25 EU/mL
	Extractables	<40 mg/10 inches
Sterilizable	Steam In-place	121°C 30min differential pressure <0.3 bar
	Autoclave	121°C 30min
Quality Control	<ul style="list-style-type: none"> <li>ISO 9001:2015 quality management system</li> <li>Filter cartridge is fully traceable</li> <li>All materials comply with relevant requirements of CFR21</li> <li>Proven microbial and particle retention efficiency</li> </ul>	

### Typical Liquid Flow Rates



### Features

- Extensive chemical compatibility
- Gradient pore size design
- High efficiency particle retention rate to protect terminal filter sterilization safety
- No fiber shedding

### Typical Applications

- Filtration of colloidal products
- Filtration of fermentation broth and high viscosity materials
- Prefiltration of culture media, blood products
- Filtration of chemical intermediates, organic solvents, pure water

### Ordering Information

	Length	Pore Size	Adaptor	Seal Material	Core
CRPPA	005 = 5"	020 = 0.20µm	0=DOE	S=Silicone	Blank=PP
	010 = 10"	045 = 0.45µm	1=222/Flat with 316L SS insert	E=EPDM	R=Reinforced PP
	020 = 20"	065 = 0.65µm	2=222/Flat	N=Nitrile	S=316L Stainless Steel
	030 = 30"	100 = 1.0µm	3=222/Fin	F=FKM	
	040 = 40"	300 = 3.0µm	4=222/Fin with 316L SS insert		
		500 = 5.0µm	5=226/Fin with 316L SS insert		
		H10 = 10µm	6=226/Fin		
			7=226/Flat		
			8=226/Flat with 316L SS insert		



# Activated Carbon Fiber Filter Cartridge

## ACR Series

The food-grade activated carbon fiber used in the ACR series activated carbon fiber winding filter cartridge has extremely high surface area and high porosity. It has the characteristics of fast adsorption rate and high adsorption capacity and can provide ideal retention efficiency.

### Technical Parameters

Materials of Construction	Filter Membrane	Activated Carbon Fiber
	Support/Drainage	PP
	Cage/End Cap	PP
	Core	PP/316L Stainless Steel
	Adaptor	PP/PP+Stainless Steel
	O-rings	S/E/N/F
	Sealed by hot melt welding, no adhesive	
Filter Dimensions	Outer Diameter	69 mm
	Inner Diameter	33 mm
	Length	5-40inches
Operating Conditions	Maximum Differential Pressure (Reverse)	5.2 bar @ 25°C, 1.9 bar @ 82°C
	Maximum Differential Pressure (Forward)	2.1 bar @ 25°C
Quality Control	<ul style="list-style-type: none"> <li>ISO 9001:2015 quality management system</li> <li>Filter cartridge is fully traceable</li> <li>All materials comply with relevant requirements of CFR21</li> </ul>	



### Features

- Activated carbon with high iodine value
- Fast adsorption
- Depth filter
- Long service life

### Typical Applications

- Decolorization of material liquid
- Deodorization of material liquid
- Clarification and filtration
- Dechlorination of material liquid

### Ordering Information

	Length	Pore Size	Adaptor	Seal Material	Core
CRACR	005 = 5"	050 = 0.50µm	0=DOE	S=Silicone	Blank=PP
	010 = 10"	100 = 1.0µm	1=222/Flat with 316L SS insert	E=EPDM	R=Reinforced PP
	020 = 20"	150 = 1.5µm	2=222/Flat	N=Nitrile	S=316L Stainless Steel
	030 = 30"	300 = 3.0µm	3=222/Fin	F=FKM	
	040 = 40"	500 = 5.0µm	4=222/Fin with 316L SS insert		
			H10 = 10µm	5=226/Fin with 316L SS insert	
		H15 = 15µm	6=226/Fin		
		H30 = 30µm	7=226/Flat		
		H50 = 50µm	8=226/Flat with 316L SS insert		
		T10 = 100µm			

# Hydrophilic PVDF Pleated Filter Cartridge with Broad Chemical Compatibility

## PVL Series

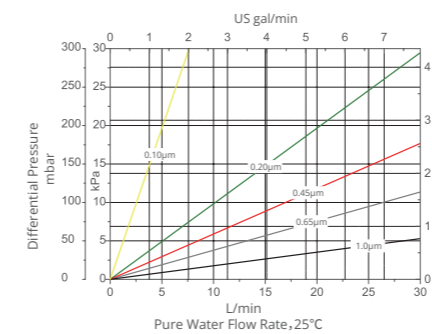
PVL series PVDF pleated filter cartridge is made of unlined hydrophilic PVDF membrane. The filter membrane has the characteristics of symmetrical pore type, uniform hydrophilicity, high porosity and extremely low protein binding, which make the filter cartridge easy to use without pre-wetting. The filter cartridge is suitable for the sterilization filtration of various biological products.

### Technical Parameters

Materials of Construction	Filter Membrane	Hydrophilic PVDF
	Support/Drainage	PP
	Cage/End Cap	PP/316L Stainless Steel
	Core	PP/PP+Stainless Steel
	Adaptor	S/E/N/F
	O-rings	
	Sealed by hot melt welding, no adhesive	
Filter Dimensions	Outer Diameter	69mm
	Inner Diameter	33mm
	Length	5-40inches
	Filtration Area	≥0.32m <sup>2</sup> (5inches), ≥0.65m <sup>2</sup> /10inches
Operating Conditions	Maximum Differential Pressure (Reverse)	5.2 bar @ 25°C, 1.9 bar @ 82°C
	Maximum Differential Pressure (Forward)	2.1 bar @ 25°C
Biological Safety	Endotoxins	<0.25 EU/mL
	Extractables	<40 mg/10 inches
Sterilizable	Steam In-place	121°C 30min differential pressure <0.5 bar
	Autoclave	121°C 30min
Quality Control	<ul style="list-style-type: none"> <li>ISO 9001:2015 quality management system</li> <li>100% integrity test</li> <li>Filter cartridge is fully traceable</li> <li>All materials comply with relevant requirements of CFR21</li> <li>Proven bacteria retention efficiency</li> </ul>	



### Typical Liquid Flow Rates



### Features

- Low precipitation and have extensive chemical compatibility
- High porosity, very low protein binding
- 100% integrity test ensures the effect of germ removal
- No pre-wetting required

### Typical Applications

- Filtration of high-purity chemicals, chemical intermediates, strong acid and oxidizing liquid
- Filtration of SVP and LVP
- Filtration of sterile APIs and ophthalmic preparations
- Filtration of vaccines, biological products, blood products and other high protein content materials

### Ordering Information

	Length	Pore Size	Adaptor	Seal Material	Core
CRPVDFL	005 = 5"	010 = 0.10µm	0=DOE	S=Silicone	Blank=PP
	010 = 10"	020 = 0.20µm	1=222/Flat with 316L SS insert	E=EPDM	R=Reinforced PP
	020 = 20"	045 = 0.45µm	2=222/Flat	N=Nitrile	S=316L Stainless Steel
	030 = 30"	065 = 0.65µm	3=222/Fin	F=FKM	
	040 = 40"	100 = 1.0µm	4=222/Fin with 316L SS insert		
			5=226/Fin with 316L SS insert		
		6=226/Fin			
		7=226/Flat			
		8=226/Flat with 316L SS insert			

# Hydrophobic PVDF Pleated Filter Cartridge with High Flow Rate and Long Service Life

## PVG Series

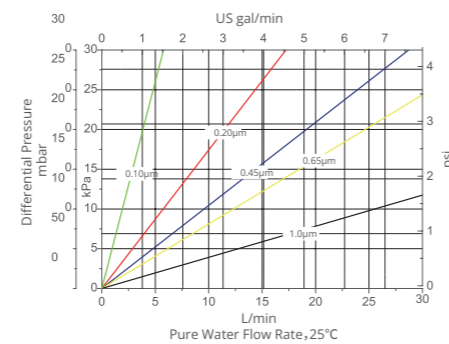
PVG series PVDF pleated filter cartridge is made of unlined hydrophobic PVDF membrane. The filter membrane has the characteristics of symmetrical pore type, high porosity and extremely low protein binding, which make the filter cartridge has high initial flow rate and longer service life. The filter cartridge is suitable for the filtration of various chemical solvents and biological products.



### Technical Parameters

Materials of Construction	Filter Membrane	Hydrophobic PVDF
	Support/Drainage	PP
	Cage/End Cap	PP
	Core	PP/316L Stainless Steel
	Adaptor	PP/PP+Stainless Steel
	O-rings	S/E/N/F
Sealed by hot melt welding, no adhesive		
Filter Dimensions	Outer Diameter	69mm
	Inner Diameter	33mm
	Length	5-40inches
	Filtration Area	≥0.32m <sup>2</sup> (5inches), ≥0.65m <sup>2</sup> /10inches
Operating Conditions	Maximum Differential Pressure (Reverse)	5.2 bar @ 25°C, 1.9 bar @ 82°C
	Maximum Differential Pressure (Forward)	2.1 bar @ 25°C
Biological Safety	Endotoxins	<0.25 EU/mL
	Extractables	<40 mg/10 inches
Sterilizable	Steam In-place	121°C 30min differential pressure<0.5 bar
	Autoclave	121°C 30min
Quality Control	<ul style="list-style-type: none"> <li>ISO 9001:2015 quality management system</li> <li>100% integrity test</li> <li>Filter cartridge is fully traceable</li> <li>All materials comply with relevant requirements of CFR21</li> <li>Proven bacteria retention efficiency</li> </ul>	

### Typical Liquid Flow Rates



### Features

- Low precipitation, very low protein binding
- Extensive chemical compatibility
- 100% integrity test ensures the effect of germ removal
- High porosity, long service life

### Typical Applications

- Filtration of high-purity chemicals, chemical intermediates, strong acid and oxidizing liquid
- Filtration of SVP and LVP
- Filtration of sterile APIs and ophthalmic preparations
- Filtration of vaccines, biological products, blood products and other high protein content materials

### Ordering Information

	Length	Pore Size	Adaptor	Seal Material	Core
CRPVDFG	005 = 5"	010 = 0.10µm	0=DOE	S=Silicone	Blank=PP
	010 = 10"	020 = 0.20µm	1=222/Flat with 316L SS insert	E=EPDM	R=Reinforced PP
	020 = 20"	045 = 0.45µm	2=222/Flat	N=Nitrile	S=316L Stainless Steel
	030 = 30"	065 = 0.65µm	3=222/Fin	F=FKM	
	040 = 40"	100 = 1.0µm	4=222/Fin with 316L SS insert		
			5=226/Fin with 316L SS insert		
		6=226/Fin			
		7=226/Flat			
		8=226/Flat with 316L SS insert			

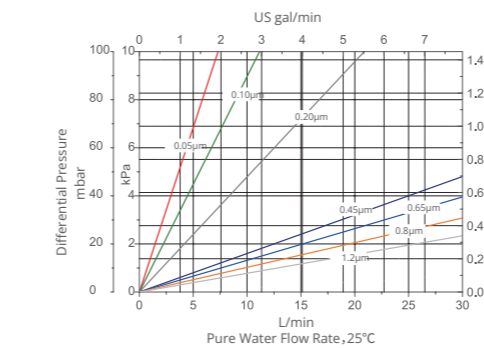
# PES Pleated Filter Cartridge with High Flow Rate and Long Service Life

## SP Series

SP series PES pleated filter cartridge is made of naturally hydrophilic highly asymmetric PES membrane. It has good heat resistance and can withstand hot water sterilization and steam sterilization for a long time. The removal rate of the filter cartridge to typical bacteria in industry passes bath validation. Longer flux can be provided while effectively reducing the load.



### Typical Liquid Flow Rates



### Features

- Strong chemical compatibility
- High flux, low protein binding
- 100% integrity test
- Long service life

### Typical Applications

- Filtration of water for injection, cleaning solutions, purified water, deionized water
- Filtration of LVP, APIs, buffers, eye drops, disinfectants, etc.
- Filtration of vaccines, serums, biological products, antibiotic water-based liquid, etc.
- Filtration of red wine, beer, juice, purified water, etc.

### Ordering Information

	Length	Pore Size	Adaptor	Seal Material	Core
CRPES	005 = 5"	002 = 0.02µm	0=DOE	S=Silicone	Blank=PP
	010 = 10"	005 = 0.05µm	1=222/Flat with 316L SS insert	E=EPDM	R=Reinforced PP
	020 = 20"	010 = 0.10µm	2=222/Flat	N=Nitrile	S=316L Stainless Steel
	030 = 30"	020 = 0.20µm	3=222/Fin	F=FKM	
	040 = 40"	045 = 0.45µm	4=222/Fin with 316L SS insert		
		065 = 0.65µm	5=226/Fin with 316L SS insert		
		080 = 0.80µm	6=226/Fin		
		120 = 1.20µm	7=226/Flat		
			8=226/Flat with 316L SS insert		

# Sterilizing-grade PES Pleated Filter Cartridge with High Flow Rate and High Efficiency

## SPB Series

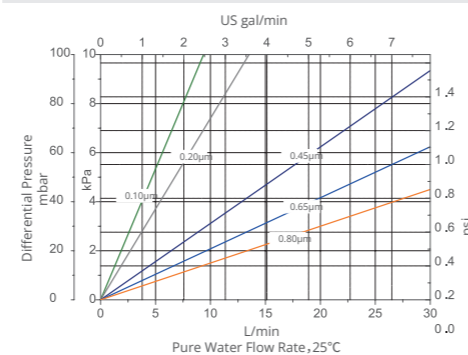
SPB series PES pleated filter cartridge is made of imported asymmetric PES membrane, which has ultra-low protein binding and dissolution/precipitation level. Its good heat resistance enables the filter cartridge to withstand multiple moist heat sterilization. Batch bacteria challenge guarantees the stable bacteria removal ability of the filter cartridge.

### Technical Parameters

Materials of Construction	Filter Membrane	PES
	Support/Drainage	PP
	Cage/End Cap	PP/316L Stainless Steel
	Core	PP/PP+Stainless Steel
	Adaptor	S/E/N/F
	O-rings	
	Sealed by hot melt welding, no adhesive	
Filter Dimensions	Outer Diameter	69mm
	Inner Diameter	33mm
	Length	5-40inches
	Filtration Area	≥0.32m <sup>2</sup> (5inches), ≥0.65m <sup>2</sup> /10inches
Operating Conditions	Maximum Differential Pressure (Reverse)	5.2 bar @ 25°C, 1.9 bar @ 82°C
	Maximum Differential Pressure (Forward)	2.1 bar @ 25°C
Biological Safety	Endotoxins	<0.25 EU/mL
	Extractables	<40 mg/10 inches
Sterilizable	Steam In-place	121°C 30min differential pressure <0.5 bar
	Autoclave	121°C 30min
Quality Control	<ul style="list-style-type: none"> <li>ISO 9001:2015 quality management system</li> <li>100% integrity test</li> <li>Filter cartridge is fully traceable</li> <li>All materials comply with relevant requirements of CFR21</li> <li>Bacteria Liquid Challenge Test <math>T_R \geq 10^{11}</math></li> </ul>	



### Typical Liquid Flow Rates



### Features

- Strong chemical compatibility
- High flux, low protein binding
- Proven sterile-grade filter cartridge
- Ultra-low dissolved/precipitated materials

### Typical Applications

- Sterilization filtration of water for injection, cleaning solutions, purified water, deionized water, etc.
- Sterilization filtration of LVP, APIs, buffers, eye drops, disinfectants, etc.
- Sterilization filtration of vaccines, serums, biological products, antibiotic water-based liquid, etc.
- Filtration of red wine, beer, juice, purified water, etc.

### Ordering Information

	Length	Pore Size	Adaptor	Seal Material	Core
CRPESB	005 = 5"	010 = 0.10µm	0=DOE	S=Silicone	Blank=PP
	010 = 10"	020 = 0.20µm	1=222/Flat with 316L SS insert	E=EPDM	R=Reinforced PP
	020 = 20"	045 = 0.45µm	2=222/Flat	N=Nitrile	S=316L Stainless Steel
	030 = 30"	065 = 0.65µm	3=222/Fin	F=FKM	
	040 = 40"	080 = 0.80µm	4=222/Fin with 316L SS insert		
			5=226/Fin with 316L SS insert		
			6=226/Fin		
			7=226/Flat		
			8=226/Flat with 316L SS insert		

# Sterilizing-grade Double-layer PES Pleated Filter Cartridge with Higher Removal Efficiency

## SPD Series

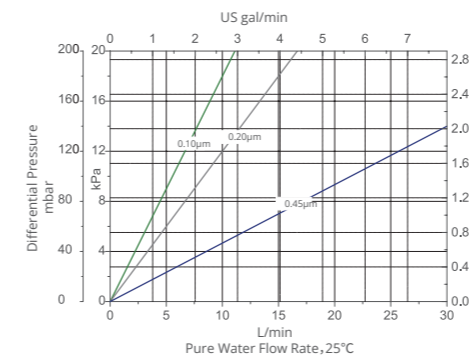
SPD series PES pleated filter cartridge is made of double-layer imported asymmetric PES membrane. The double-layer Sterilizing-grade membrane provides a higher level of sterilization protection. It is suitable for harsh sterile terminal filtration.

### Technical Parameters

Materials of Construction	Filter Membrane	PES
	Support/Drainage	PP
	Cage/End Cap	PP/316L Stainless Steel
	Core	PP/PP+Stainless Steel
	Adaptor	S/E/N/F
	O-rings	
	Sealed by hot melt welding, no adhesive	
Filter Dimensions	Outer Diameter	69mm
	Inner Diameter	33mm
	Length	5-40inches
	Filtration Area	≥0.26m <sup>2</sup> (5inches), ≥0.55m <sup>2</sup> /10inches
Operating Conditions	Maximum Differential Pressure (Reverse)	5.2 bar @ 25°C, 1.9 bar @ 82°C
	Maximum Differential Pressure (Forward)	2.1 bar @ 25°C
Biological Safety	Endotoxins	<0.25 EU/mL
	Extractables	<40 mg/10 inches
Sterilizable	Steam In-place	121°C 30min differential pressure <0.5 bar
	Autoclave	121°C 30min
Quality Control	<ul style="list-style-type: none"> <li>ISO 9001:2015 quality management system</li> <li>100% integrity test</li> <li>Filter cartridge is fully traceable</li> <li>All materials comply with relevant requirements of CFR21</li> <li>Bacteria Liquid Challenge Test <math>T_R \geq 10^{11}</math></li> </ul>	



### Typical Liquid Flow Rates



### Features

- Strong chemical compatibility
- High flux, low protein binding
- Proven sterile-grade filter cartridge
- Higher protection ability of sterilization

### Typical Applications

- Sterilization filtration of water for injection, cleaning solutions, purified water, deionized water
- Sterilization filtration of LVP, APIs, buffers, eye drops, disinfectants, etc.
- Sterilization filtration of vaccines, serums, biological products, antibiotic water-based liquid, etc.
- Filtration of red wine, beer, juice, purified water

### Ordering Information

	Length	Pore Size	Adaptor	Seal Material	Core
CRPESD	005 = 5"	010 = 0.10µm + 0.10µm	0=DOE	S=Silicone	Blank=PP
	010 = 10"	020 = 0.20µm + 0.20µm	1=222/Flat with 316L SS insert	E=EPDM	R=Reinforced PP
	020 = 20"	045 = 0.45µm + 0.45µm	2=222/Flat	N=Nitrile	S=316L Stainless Steel
	030 = 30"		3=222/Fin	F=FKM	
	040 = 40"		4=222/Fin with 316L SS insert		
			5=226/Fin with 316L SS insert		
			6=226/Fin		
			7=226/Flat		
			8=226/Flat with 316L SS insert		



# Sterilizing-grade Double-layer PES Pleated Filter Cartridge with Long Service Life and High Efficiency

## SPP Series

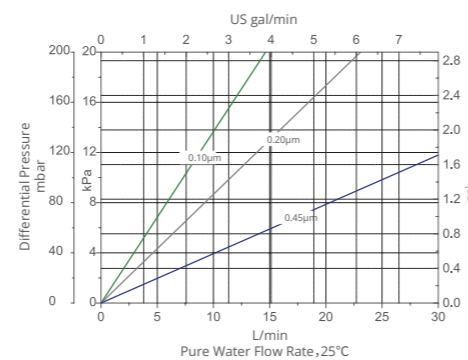
SPP series PES pleated filter cartridge is made of double-layer imported asymmetric PES membrane. The double-layer filter membrane is specially designed so that the filter cartridge has reliable sterilization ability and can provide longer flux.



### Technical Parameters

Materials of Construction	Filter Membrane	PES
	Support/Drainage	PP
	Cage/End Cap	PP/316L Stainless Steel
	Core	PP/PP+Stainless Steel
	Adaptor	S/E/N/F
	O-rings	
Sealed by hot melt welding, no adhesive		
Filter Dimensions	Outer Diameter	69mm
	Inner Diameter	33mm
	Length	5-40inches
	Filtration Area	≥0.26m <sup>2</sup> (5inches), ≥0.55m <sup>2</sup> /10inches
Operating Conditions	Maximum Differential Pressure (Reverse)	5.2 bar @ 25°C, 1.9 bar @ 82°C
	Maximum Differential Pressure (Forward)	2.1 bar @ 25°C
Biological Safety	Endotoxins	<0.25 EU/mL
	Extractables	<40 mg/10 inches
Sterilizable	Steam In-place	121°C 30min differential pressure <0.3 bar
	Autoclave	121°C 30min
Quality Control	<ul style="list-style-type: none"> <li>ISO 9001:2015 quality management system</li> <li>100% integrity test</li> <li>Filter cartridge is fully traceable</li> <li>All materials comply with relevant requirements of CFR21</li> <li>Bacteria Liquid Challenge Test <math>T_{R} \geq 10^{11}</math></li> </ul>	

### Typical Liquid Flow Rates



### Features

- Strong chemical compatibility
- High flux, low protein binding
- Proven sterile-grade filter cartridge
- Super long service life

### Typical Applications

- Sterilization filtration of water for injection, cleaning solutions, purified water, deionized water
- Sterilization filtration of LVP, APIs, buffers, eye drops, disinfectants, etc.
- Sterilization filtration of vaccines, serums, biological products, antibiotic water-based liquid, etc.
- Filtration of red wine, beer, juice, purified water

### Ordering Information

	Length	Pore Size	Adaptor	Seal Material	Core
CRPESP	005 = 5" 010 = 10" 020 = 20" 030 = 30" 040 = 40"	010=0.10µm+0.20µm 020=0.20µm+0.80µm 045=0.45µm+1.0µm	0=DOE 1=222/Flat with 316L SS insert 2=222/Flat 3=222/Fin 4=222/Fin with 316L SS insert 5=226/Fin with 316L SS insert 6=226/Fin 7=226/Flat 8=226/Flat with 316L SS insert	S=Silicone E=EPDM N=Nitrile F=FKM	Blank=PP R=Reinforced PP S=316L Stainless Steel

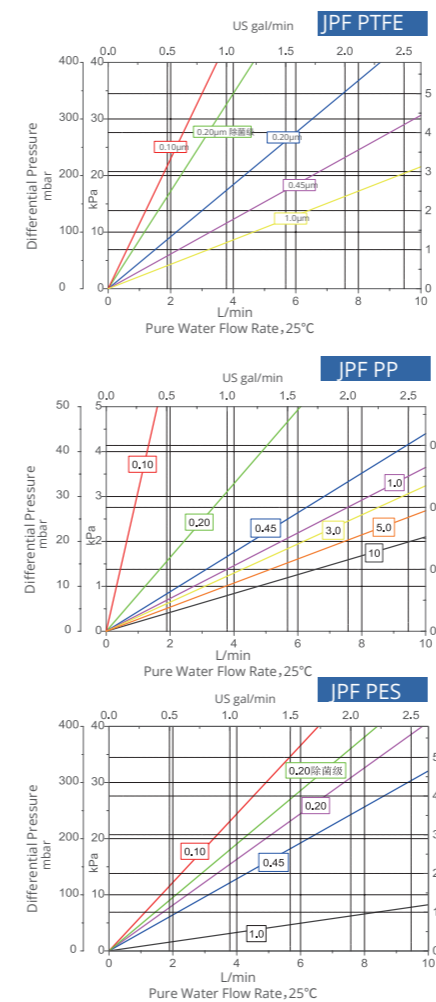
# Mini Pleated Filter Cartridge

## JPF Series

JPF series mini pleated filter cartridges are used for laboratory research, small-scale process validation in the pharmaceutical industry and other sterilization filtration, particle control, pre-filtration, etc. We can provide microporous membrane with different materials and removal ratings and product selection of different installation interface to meet various needs of customers.



### Typical Liquid Flow Rates



### Technical Parameters

Materials of Construction	Filter Membrane	Hydrophobic PTFE/PP/PES
	Support/Drainage	PP
	Cage/End Cap	PP
	Core	PP
	Adaptor	PP
	O-rings	S/E/F
Sealed by hot melt welding, no adhesive		
Filter Dimensions	Outer Diameter	J25/J50: 56mm F25:42mm
	Length	2.5inches, 5inches
	Filtration Area	J25≥0.1m <sup>2</sup> , J50≥0.2m <sup>2</sup> , F25≥0.045m <sup>2</sup>
Operating Conditions	Maximum Differential Pressure (Forward)	4.2 bar @ 25°C, 1.5 bar @ 82°C, 0.5 bar @ 95°C
	Maximum Differential Pressure (Reverse)	2.1 bar @ 25°C
	Steam In-place	121°C 30min differential pressure <0.3 bar
	Autoclave	121°C 30min

### Features

- Interpolation is compact and easy to use
- Proven sterilization efficiency
- High flow rate, long service life
- Withstand multiple moist heat sterilization

### Typical Applications

- Sterilization filtration of compressed air, nitrogen, etc.
- Filtration of aseptic packaging air
- Sterilization filtration of solvents, disinfectants, etc.
- Sterilization filtration of biological preparations, culture medium, sterile APIs, antibiotic liquid, etc.

### Ordering Information

	Filter Membrane	Length	Pore Size	Adaptor	Seal Material
CR	PP PTFEG=Hydrophobic PTFE PTFESG=Sterile-grade Hydrophobic PTFE PES PESB=Sterile-grade PES	F25=2.5" J25=2.5" J50=5"	010=0.10µm 020=0.20µm 045=0.45µm 100=1.00µm 300=3.00µm 500=5.00µm H10=10µm	M=Internal 116/Flat with bayonet MN= Internal 116/Flat no bayonet CK= 126/Flat with 2 bayonet PK= Special Flange CM : Only for F25	S=Silicone E=EPDM N=Nitrile F=FKM

# PP Melt Blown Filter Cartridge

## MicroPure Classic Series

PP melt blown filter cartridge is made of 100% pure PP particles without any adhesive, and is made by fiber hot-melt entanglement. The unique three-layer gradient pore size design forms a three-dimensional slag filtering effect, which has the characteristics of high porosity, high retention efficiency, high dirt holding capacity and low pressure difference. The pure PP structure makes it have extensive chemical compatibility and is suitable for the filtration of strong acid, strong alkali and organic solvents. The advanced fiber hot-melt technology can meet the various needs of customers for this product.



### Technical Parameters

Materials of Construction	Filter Membrane	PP
	Cage/End Cap	PP
	Core	PP
	Connection	DOE/222Flat/222Fin/226Fin/226Flat
	O-rings	S/F/N/E
	Surface Treatment	Flat/Orange/Embossing/Grooved
Filter Dimensions	Outer Diameter	63 / 114 mm
	Inner Diameter	28 / 30 mm
	Removal Rating	0.5µm/1µm/5µm/10µm/20µm/30µm 50µm/75µm/100µm/150µm
	Length	10"/20"/30"/40"/50"/60"/70"
Operating Conditions	Operating Temperature and pH	< 82°C, pH 1-13
	Maximum Differential Pressure (forward)	3.5 bar @ 20°C, 1.0 bar @ 82°C
	Recommended Replacement Differential Pressure	2.4 bar @ 20°C

### Features

- Gradient pore size structure, high dirt holding capacity
- High-purity PP material, extensive chemical resistance
- Uniform void distribution, high filtering effect, large area
- Double the service life and low replacement costs
- Inner ironing treatment and PP core structure to avoid fiber precipitation
- NFS certification

### Ordering Information

	Length	Pore Size	Adaptor	Seal Material	Appearance	Core
CRMPP	010=10"	0050=0.5µm	Blank=DOE	Blank=Non	B=Big and Fat (Conventional Surface)	P=PP
	020=20"	0100=1µm	2=222/Flat	S=Silicone	HG=Fluffy Surface (High Dirt Holding)	Blank=Non
	030=30"	0500=5µm	3=222/Fin	E=EPDM	G=Grooved Surface	
	040=40"	1000=10µm	6=226/Fin	N=Nitrile	E=Embossing Surface	
	050=50"	2000=20µm	7=226/Flat	F=FKM	O=Orange Surface	
	060=60"	3000=30µm			Blank=Conventional Surface	
	070=70"	5000=50µm 10000=100µm				

# String Wound Filter Cartridge

## AquaPure Series

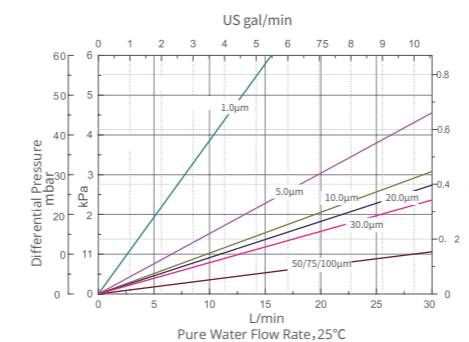
String wound filter cartridge is a kind of depth filter, which is used for the filtration of liquid with low viscosity and low impurity content. The string wound filter cartridge is made of PP yarn or absorbent cotton or glass fiber yarn precisely wound on the porous skeleton according to a specific density, which has a honeycomb structure with a sparse outside and a dense inside. It can effectively remove suspended matter, particles, rust and other impurities in the fluid, and has very excellent filtration performance.



### Technical Parameters

Materials of Construction	Filter Membrane	PP/Absorbent Cotton/Glass Fiber
	Cage/End Cap	PP
	Core	PP/304/316 Stainless Steel
	Connection	DOE/222Flat/222Fin/226Fin/226Flat
	O-rings	S/F/N/E
Filter Dimensions	Outer Diameter	63 / 114 mm
	Inner Diameter	28 / 30 mm
	Removal Rating	0.5µm/1µm/5µm/10µm/20µm/30µm 50µm/75µm/100µm/150µm
	Length	10"/20"/30"/40"/50"/60"/70"
Operating Conditions	Operating Temperature	PP < 82°C Absorbent Cotton/Glass Fiber < 120°C
	Maximum Differential Pressure (forward)	4.2 bar @ 20°C
	Recommended Replacement Differential Pressure	2.4 bar @ 20°C
	PH	1-13

### Typical Liquid Flow Rates



### Features

- Wide selection of filter materials and core materials ensure superior performance
- Gradient pore structure effectively removes particles of different size
- Long service life and save operating costs
- Extensive chemical resistance
- High dirt holding capacity

### Ordering Information

	Material	Length	Pore Size	Core	Adaptor	Seal Material
CRW	PP	010=10"	005 = 0.5µm	P=PP Skeleton	Blank=DOE	Blank=Non
	CT=Absorbent Cotton	020=20"	010 = 1µm	S=304SS Skeleton	2=222/Flat	S=Silicone
	GF=Glass Fiber	030=30"	050 = 5µm	L=316L Skeleton	3=222/Fin	E=EPDM
		040=40"	100 = 10µm		6=226/Fin	F=FKM
		050=50"	200 = 20µm		7=226/Flat	N=Nitrile
		060=60"	300 = 30µm			Rubber
		070=70"	500 = 50µm H10 = 100µm			

### Typical Applications

- Pretreatment of biopharmaceutical high-purity water/water for injection
- RO pretreatment
- Petrochemical/power plant filtration
- Filtration of industrial oils
- Filtration of microelectronics ultra-pure water
- Filtration of fine chemical acid and alkali or organic solutions

# High Flow PP Pleated Filter Cartridge

## 600 FlowPure-HF Series

600 FlowPure-HF high flow series pleated filter cartridge has a large diameter of 6inch(152mm), no core, and a single opening design. The large diameter ensures a larger filtration area and increases the flux, thereby reducing the number of filters and cartridges. Long service life and high flow rate reduce investment costs.

### Technical Parameters

Materials of Construction	Filter Membrane	PP/Glass Fiber
	Support/Shell	PP/GF Reinforced PP
	End Cap	Reinforced PP
	O-rings	S/E/N
	Welding Method	Hot-melt Welding(No Adhesive)
Filter Dimensions	Outer Diameter	152mm(6")
	Length	20"/40"/60"
	Connection	Carrying Handle Type
Operating Conditions	Operating Temperature	Ordinary PP Shell <80°C
		GF Reinforced PP Shell <120°C
	Maximum Differential Pressure	3.4 bar @ 82°C
	Recommended Replacement Differential Pressure	2.4 bar @ 20°C



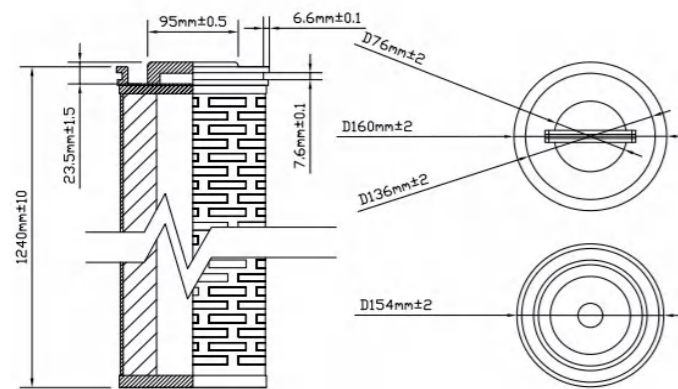
### Features

- Filter material has gradient pore structure
- Flow rate is 5 times that of ordinary pleated filter cartridge
- 50% less investment in the overall system
- Uses hot-melt welding technology

### Typical Applications

- RO prefiltration, desalination plants and industrial process water
- Filtration of power plants, condensed water
- Drinking water, food and beverage, edible oil, etc.
- Filtration of oilfield reinjection water
- High-purity water process pretreatment in biopharmaceutical industry

### High Flow Dimensional Drawing



### Ordering Information

	Filter Material	Length	Removal Rating	Seal Material	Appearance
CRHF	PP GF=Glass Fiber	020 = 20"	100 = 1µm	S=Silicone E=EPDM N=Nitrile Rubber	B=Bind Belt Type C=Shell Type
		040 = 40"	450 = 4.5µm		
		060 = 60"	600 = 6µm		
			1000 = 10µm 2000 = 20µm 5000 = 50µm 7000 = 70µm 10000 = 100µm		

# Nylon Monofilament Filter Bag

## NMO Series

Nylon monofilament filter bag is made of filter material woven by a single nylon fiber, and the structure is welded and fused or wire stitched. It has good compressive strength, smooth surface and is not easy to deform, easy to clean and can be used repeatedly. It is suitable for the fields with low removal rating requirements such as coarse filtration or prefiltration as well as liquid filtration with high impurity content.

### Technical Parameters

Materials of Construction	Filter Membrane	Nylon Monofilament cloth
	Connection Material	PP/Polyester/Stainless Steel
	Technique	Wire Stitching/Hot-melt
Filter Dimensions	Bag 1	Φ7"×17" L; 0.25 m <sup>2</sup>
	Bag 2	Φ7"×32" L; 0.50 m <sup>2</sup>
	Bag 3	Φ4"×9" L; 0.09 m <sup>2</sup>
	Bag 4	Φ4"×16" L; 0.16 m <sup>2</sup>
Operating Conditions	Operating Temperature	<160°C

### Features

- Fixed aperture, constant value filtration
- High tensile strength
- Easy to clean and reusable
- Can intercept all kinds of hard particle impurities
- Suitable for high viscosity materials

### Typical Applications

- Prefiltration of water treatment
- Petrochemical industry
- Light industry food and beverages
- Solid-liquid separation and treatment in metallurgy, electronics, pharmaceutical and other fields
- Water treatment for biopharmaceutical industry

### Ordering Information

	Material	Pore Size	Outer Filter Cloth	Dimension	Interface Ring Material
FB	NMO=Nylon Monofilament Cloth	025=25µm 050=50µm 075=75µm 100=100µm 200=200µm 300=300µm 400=400µm 600=600µm 800=800µm	P=Non N=Nylon Monofilament Cloth	01=Bag 1(Φ7"×17"L) 02=Bag 2(Φ7"×32"L) 03=Bag 3(Φ4"×9"L) 04=Bag 4(Φ4"×16"L)	P=PP Ring E=Polyester Ring S=Stainless Steel Ring



# Needle Felt Filter Bag

## PP/PE/PTFE Series

Needle felt filter bag is made of 100% ultra-fine pure fiber needle felt with three-dimensional deep filtration structure. It is highly fluffy, has a tortuous interior, and has super air permeability and high dirt holding capacity. It can effectively capture fine solid particles and colloidal particles, and is not easy to block. The surface of the felt cloth adopts high temperature heat treatment, singeing and calendering treatment to avoid pollution caused by fiber shedding, and to avoid the excessive blockage of the filter holes caused by the traditional rolling treatment and shorten the service life. The filter bag is available in different materials such as pure PP, polyester and PTFE to meet your different filtering needs.



### Technical Parameters

Materials of Construction	Filter Membrane	PP/PE/PTFE Needle Felt
	Connection Material	PP/Polyester/Stainless Steel
	Technique	Wire Stitching/Hot-melt
Filter Dimensions	Bag 1	Φ7"×17" L ; 0.25 m <sup>2</sup>
	Bag 2	Φ7"×32" L ; 0.50 m <sup>2</sup>
	Bag 3	Φ4"×9" L ; 0.09 m <sup>2</sup>
	Bag 4	Φ4"×16" L ; 0.16 m <sup>2</sup>
Operating Conditions	Operating Temperature	PP < 90°C PE < 160°C PTFE < 240°C

### Features

- High permeability and high dirt holding capacity
- No hair removal on the surface, no chemical release
- Hot-melt seamless welding
- Material does not contain silicone oil
- High flow rate, low pressure difference

### Typical Applications

- Prefiltration of water treatment
- Food and beverage industry
- Filtration of pretreatment precleaning, electrophoretic paint, spray water, circulating water, etc. in the automotive industry
- Solvent purification and treatment, resin and wastewater treatment, etc. in the paint industry
- Water treatment for biopharmaceutical industry

### Ordering Information

	Material	Pore Size	Outer Filter Cloth	Dimension	Interface Ring Material
FB	PO=PP Needle Felt PE=Polyester Needle Felt PTFE	025 = 25µm 050 = 50µm 075 = 75µm 100 = 100µm 200 = 200µm 300 = 300µm 400 = 400µm 600 = 600µm 800 = 800µm	P=Non PM=PP Multifilament Cloth EM=Polyester Multifilament Cloth	01=Bag 1(Φ7"×17"L) 02=Bag 2(Φ7"×32"L) 03=Bag 3(Φ4"×9"L) 04=Bag 4(Φ4"×16"L)	P=PP Ring E=Polyester Ring S=Stainless Steel Ring

# Depth Filter Sheets and Modules

## CRDS Series

CRDS series deep membrane stack filter cartridge compounded with high-purity lignocellulose and inorganic filter aids (diatomite, etc.). Its special three-dimensional space of channel makes each square meter filter area has thousands of square meters of internal surface area, and has a very high dirt holding capacity and filtration quality. Diatomite and resin can not only improve the permeability of the filter plate, but also improve the overall adsorption of the filter plate, and effectively filter the impurities and microorganisms in the liquid through mechanical interception, electrostatic adsorption, etc. The deep stacking technology effectively solves the problems of material and liquid loss, heavy workload and high investment cost of the traditional plate and frame filter.



### Technical Parameters

Materials of Construction	Filter Membrane	Cellulose/Diatomite/Resin, etc.
	Skeleton/Support Separation Plate	PP
	O-rings	See ordering information selection table
Operating Conditions	Maximum Operating Temperature	80°C 1.0 bar/80°C
	Maximum Differential Pressure	2.0 bar/25°C
Product Guarantee	<ul style="list-style-type: none"> <li>• The filter cartridges are all produced in 100,000 grade clean environment</li> <li>• Strictly implement ISO 9001:2015 quality management system</li> <li>• All filter cartridge materials and components are FDA certified materials</li> </ul>	

### Typical Applications

- Clarification and filtration of raw material liquid
- Filtration of vaccines
- Decarbonization filtration of LVP
- Filtration of blood products
- Sterilization filtration of Chinese medicine liquid
- Fine chemical industry
- Food and beverages

### Features

- Thermal disinfection or hot filter fluid has no adverse effect on the filter board
- The operation is simple and reliable, and the solid outer skeleton design makes the filter cartridge not damaged during installation and disassembly
- High-purity cellulose greatly reduce the ion precipitation grade and endotoxin content
- The three-dimensional space structure and the porous structure of diatomite greatly improve the dirt holding capacity and service life
- Flushable under certain conditions and extend the service life

### Ordering Information

	Pore Size	Connection	Outer Diameter	O-rings	Structural Unit
CRDS	002=0.2-0.4µm	D=Double Open End S=Single Open End (For 8"only)	08=8"	S=Silicone Rubber E=EPDM Rubber V=Fluorine Rubber	8=Layer 8 (8" DOE)
	004=0.4-0.6µm		12=12"		9=Layer 9 (12", 16")
	006=0.6-1µm		16=16"		12=Layer 12 (12", 16")
	010=1-3µm				15=Layer 15 (12", 16")
	020=2-5µm				16=Layer 16 (12", 16")
	030=3-7µm				
	100=10-15µm				
	250=25-30µm				
	400=40-50µm				
	500=50-60µm				

# Metal pleated Filter Cartridge

## CRPM Series

CRPM series metal pleated cartridge filter is pleated by special stainless steel wire mesh. The pleated process enables the filter cartridge to have a large filtration area, high dirt holding capacity and high flow rate. Each seal adopts the argon arc welding process without leakage. Under the high temperature and high pressure filtration environment, the stainless steel filter cartridge has excellent performance, and the filter cartridge can be repeatedly cleaned.



### Technical Parameters

Materials of Construction	Removal Rating	1 μm, 3 μm, 5 μm, 10 μm
	Length	10", 20", 30", 40"
	Filter Membrane	Stainless Steel Wire Mesh
	Cage/End Cap/Core	Stainless Steel
	O-rings	See filter cartridge selection table
Operating Conditions	Maximum Operating Temperature	200°C
	Maximum Differential Pressure	5 bar

### Typical Applications

- Filtration of steam
- Filtration of oxidizing liquid
- Filtration of high viscosity liquid
- Filtration of liquid and gases under high temperature and high pressure condition
- Decarbonization filtration of material liquid
- Filtration of strong acid and alkali liquid

### Features

- Pore distribution, good permeability
- Metal material has higher mechanical strength
- No media shedding
- Wide temperature range that can be used
- Strong corrosion resistance, not easy to damage
- Washable and long service life

### Ordering Information

	Material	Length	Removal Rating	End Cap	Seal Material
CRPM	4=304 Stainless Steel	005 = 5"	100 = 1 μm	2=222/Flat	S=Silicone
	6=316L Stainless Steel	010 = 10"	300 = 3 μm	3=222/Fin	E=EPDM
		020 = 20"	500 = 5 μm	6=226/Fin	F=Fluorine
		030 = 30"	H10 = 10 μm	7=226/Flat	N=Nitrile Rubber
		040 = 40"			

# Metal Titanium Rod Filter Cartridge

## CRST Series

CRST series metal titanium rod filter cartridge is a microporous filter cartridge formed by high-purity titanium powder and sintered at high temperature and high vacuum. It has high porosity, good mechanical properties, high corrosion resistance, good chemical compatibility, no media shedding, very low leachables, can be repeatedly cleaned and reused, and low operating costs.



### Technical Parameters

Materials of Construction	Removal Rating	1 μm/3 μm/5 μm/10 μm
	Length	5"/10"/20"
	Filter Membrane	Sintered Titanium Powder
	Cage/End Cap/Core	High-purity Titanium
	O-rings	See filter cartridge selection table
Operating Conditions	Maximum Operating Temperature	≤280°C
	Maximum Differential Pressure	3.0 bar

### Features

- Tubular porous structure
- High mechanical strength
- Good temperature resistance
- Can be repeatedly cleaned and reused

### Typical Applications

- Decarbonization filtration in concentration ratio of LVP, small injection and oral liquid
- Impurity removal and filtration of API production, sterilization filtration of fermentation broth
- Filtration of corrosive reagents
- Filtration of high temperature liquid and steam

### Ordering Information

	Material	Length	Removal Rating	End Cap	Seal Material
CRS	T = Titanium	005 = 5"	100 = 1 μm	2=222/Flat	S=Silicone
		010 = 10"	300 = 3 μm	7=226/Flat	E=EPDM
		020 = 20"	500 = 5 μm	N=M30 Threaded Connection	F=Fluorine
			H10 = 10 μm	L=M20 Threaded Connection	N=Nitrile Rubber