

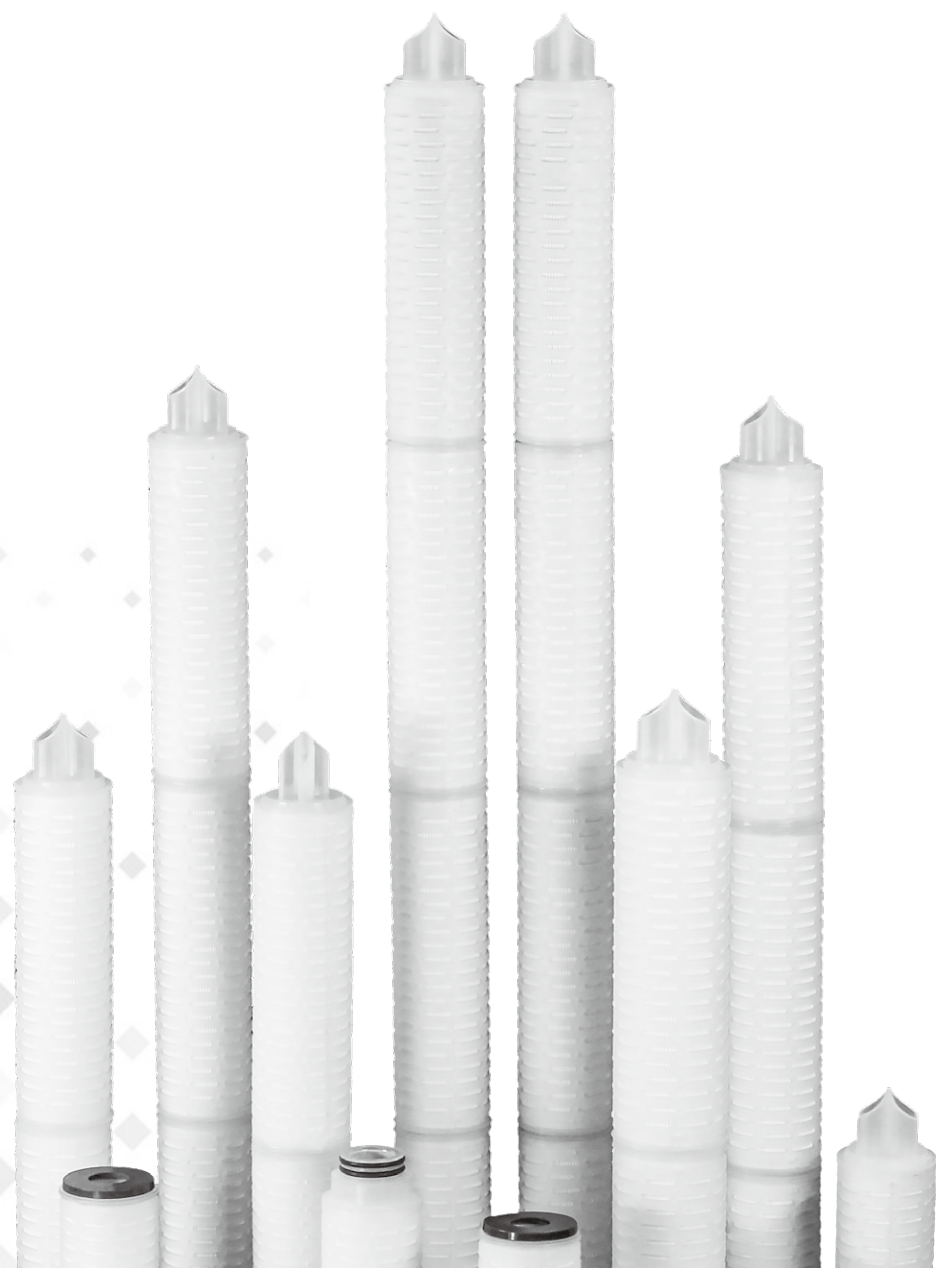
Pleated Filter Cartridge

Advanced pleated filter technology



LENGE PURIFICATION

LENGE Purification is a high-tech enterprise integrating R & D, production, sales and testing, specializing in purification and filtration equipment manufacturing for more than 20 years.



Since 2016, LENGE has set up project team, who developed PES filter membrane core technology with huge investment. The independent production of microporous filter membrane has made a great breakthrough, break the monopoly of foreign filtering giants in domestic high-end filtering market.

LENGE has a complete production process control system and quality assurance system.

- ISO9001 Quality Management System
- ISO14001 Environmental Management System Certification
- The Honorary Titles of High-tech Enterprises
- Wuxi End-filtration Equipment Engineering Technology Research Center
- Jiangsu Ultrafine Filtration Engineering Technology Research Center
- Jiangsu Private Technology Enterprise
- Samsung Digital Chemical Enterprises
- Technological Innovation Enterprises

LENGE purification high-tech products are widely used in pharmaceuticals, food and beverage, microelectronics, medical, environmental protection and other industries. Product quality and after-sales service are widely recognized and affirmed by worldwide customers. With long-term cooperation with many famous companies, it has been rated as "Excellent Supplier" by many top enterprises.

LENGE has always adhered to the brand commitment to the market and customers, driven by science and technology, based on quality and service, and is committed to building a Century Brand of purification industry.



ISO 45001:2018
Occupational Health and Safety
Management System
Certification



Halal Foundation Center
Halal Certification



Introduction of Pleated Filter Cartridges



Advanced Filter Cartridge Production Level

Conformed to the trend of high-tech development, LENGE increased investment in R & D and technological innovation of pleated filter cartridges. Through the cooperation with foreign specialists and provincial university laboratories, LENGE has mastered the core technology of micro-pore membrane, developed micro-pore membrane and related components, promoted technological innovation and product upgrading in filter cartridge industry.

The mass production of the micro-pore filtration membrane and related products will greatly improve the technical level of the domestic micro-pore filtration membrane industry, break the monopoly situation of foreign enterprises in filtration industry, and improve the market share and international competitiveness in filtration industry.

Strict Selection of Filter Cartridge Materials

All the materials of filter cartridge components are purchased from international famous suppliers and have been screened and verified repeatedly. The materials used in pharmaceuticals, food and beverage are all FDA approved, which meets the requirements of the new USP on the bio safety test of vi-121c plastics in vivo.

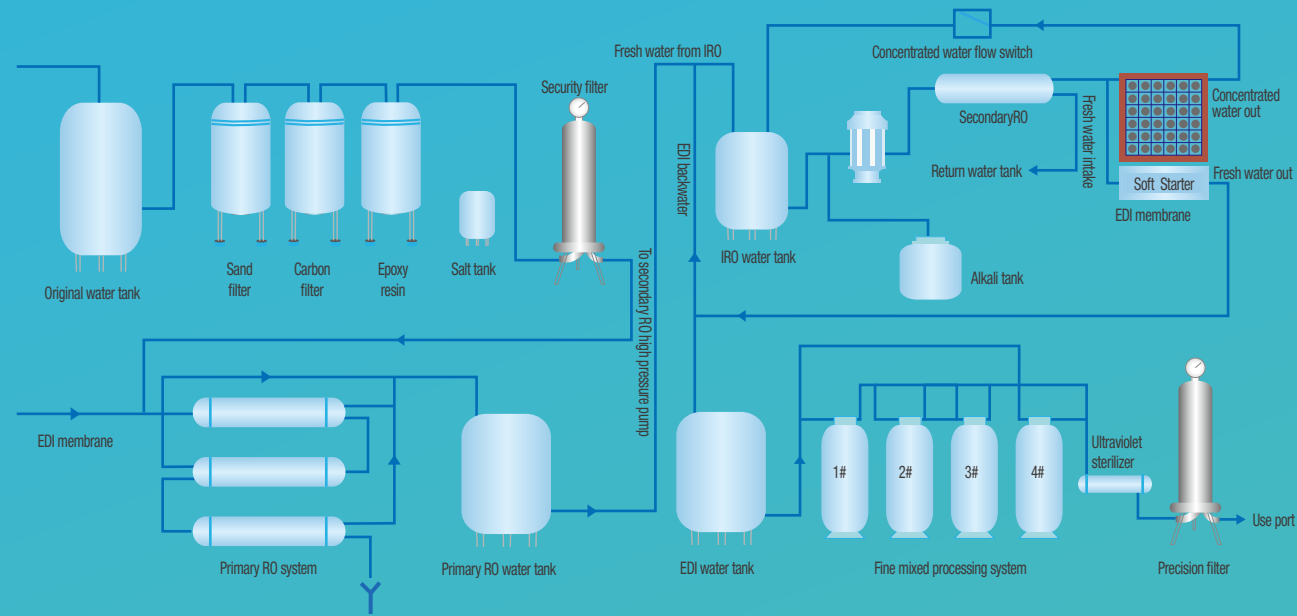
Strict Production Quality Control Standard


LENGE implements ISO9001 quality management standard in production strictly. Relevant filter cartridges of LENGE comply with relevant international standards, as well as the technical requirements of GB / T 34244-2017 liquid sterilization filter cartridge, and the requirements of GB / T 36118-2018 PTFE micro-pore membrane. Each filter cartridge has passed the integrity test, can be traced all the way, and has complete quality assurance certificate and test report.

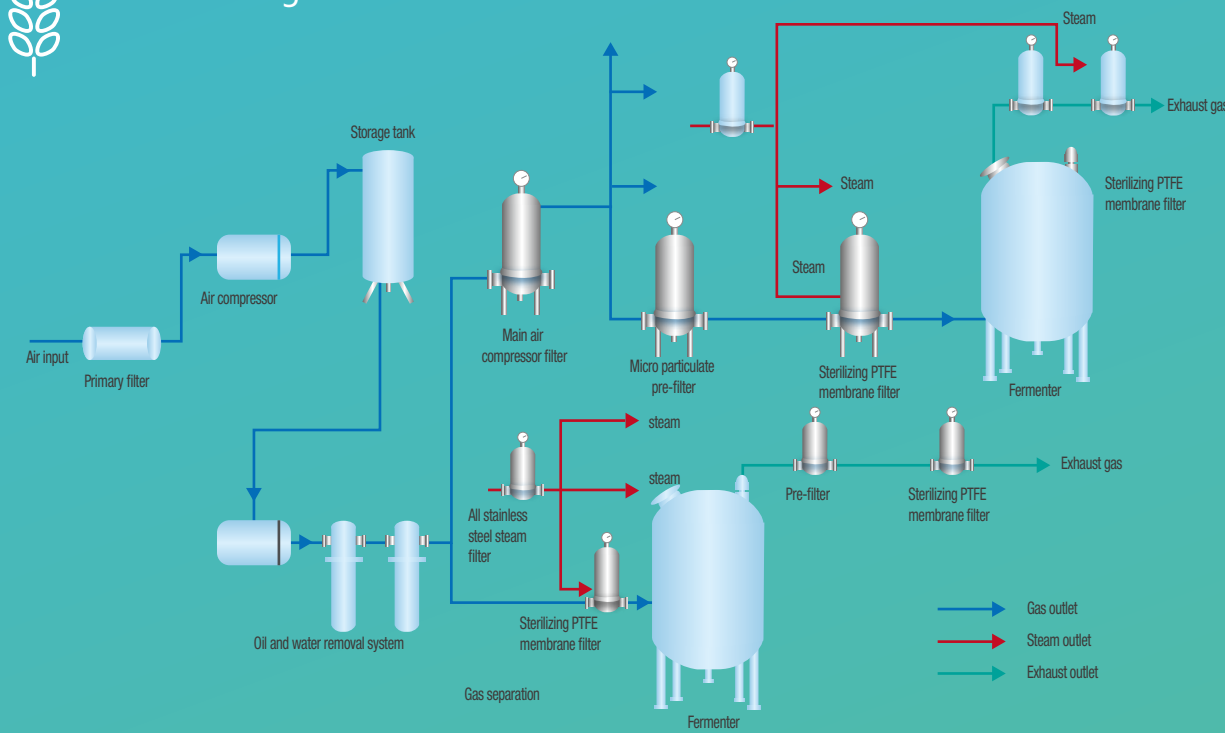


Application of Pleated Filter Cartridges

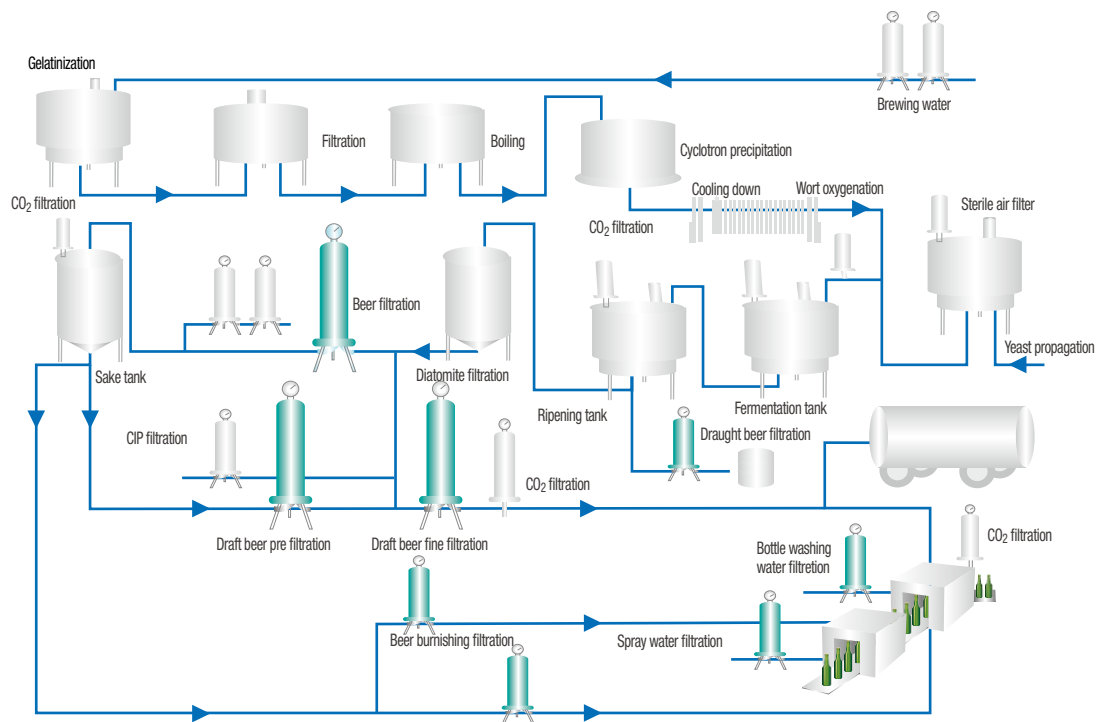
 Flow diagram of pure water



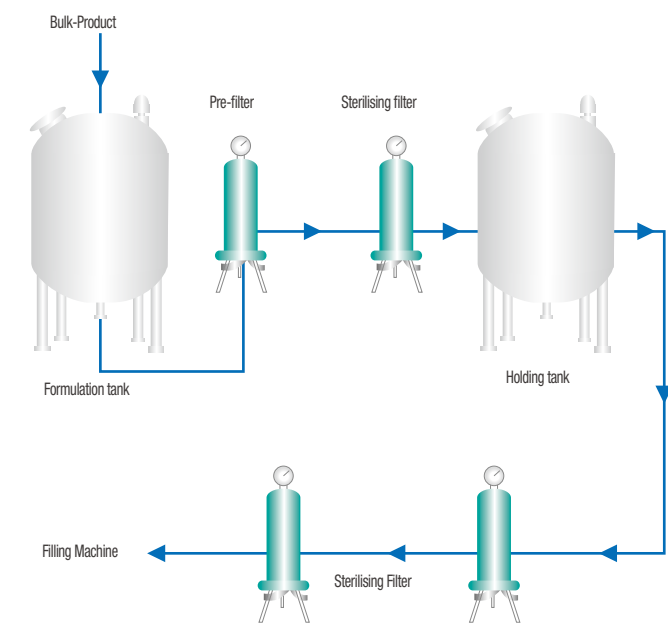
 Flow diagram of fermentation



 Flow diagram of beer



 Flow diagram of Large Infusion



Wide applications of filter cartridges

LENGE high-tech filter products are widely used in biopharmaceutical, food and beverage, microelectronics, medical, chemical, water treatment, environmental protection and other industries. LENGE provides technical scheme and product combination for the filtration, separation and purification needs in different fields, ensure the safety and quality of food and beverage, improve the production efficiency for customers, reduce the production cost and achieve sustainable development.

Validation Lab

“ The technical support team of LENGE is composed of domestic and foreign experts with strong professional technical background and extensive experience in filtration application. LENGE can provide technical support and technical consultation for customers with different needs in different industries and solve various problems in filtration application. ”

LENGE is equipped with filter verification laboratory, various advanced instruments and equipment, which can provide filter verification services, as well as analysis and test related to filter technology. At the same time, The laboratory has perfect management procedures, standard experimental procedures, standard experimental operation specifications and perfect security and confidentiality management system.



Japan Hitachi Scanning Electron Microscope



America Millipore Filter Cartridge Integrity Tester



Japan Hitachi UV Spectrophotometer



Online Particle Counter Instrument



Japan Hitachi Shimadzu HPLC



Colony Counter



America Thermo Infrared Spectrometer



Bacterial Intercept Test Unit

Main contents of filter verification

- Microbial survival test
- Challenge test of bacteria and other microorganisms
- Chemical compatibility test of filter components
- Filter cartridge dissolution test
- Product wet integrity test
- Flow-differential pressure test
- Autoclave resistance test
- Test and analysis of various indexes of filter fluid

Development of filtration process

- Analysis of physicochemical properties of feed liquid
- Filterability test and accuracy optimization
- Pilot test at site

Troubleshooting and consultation

- Problems related to filter integrity test
- Analysis on the types, sources and forms of pollutants
- Analysis and optimization of filtration process

Technical training and lectures

- Interpretation of policies and regulations
- Introduction of industry development
- New technology, new product promotion
- Practical installation and operation training

Customer assistance

- SOP preparation of filtration process
- Provide relevant product and technical documents
- Advice on filter configuration and use



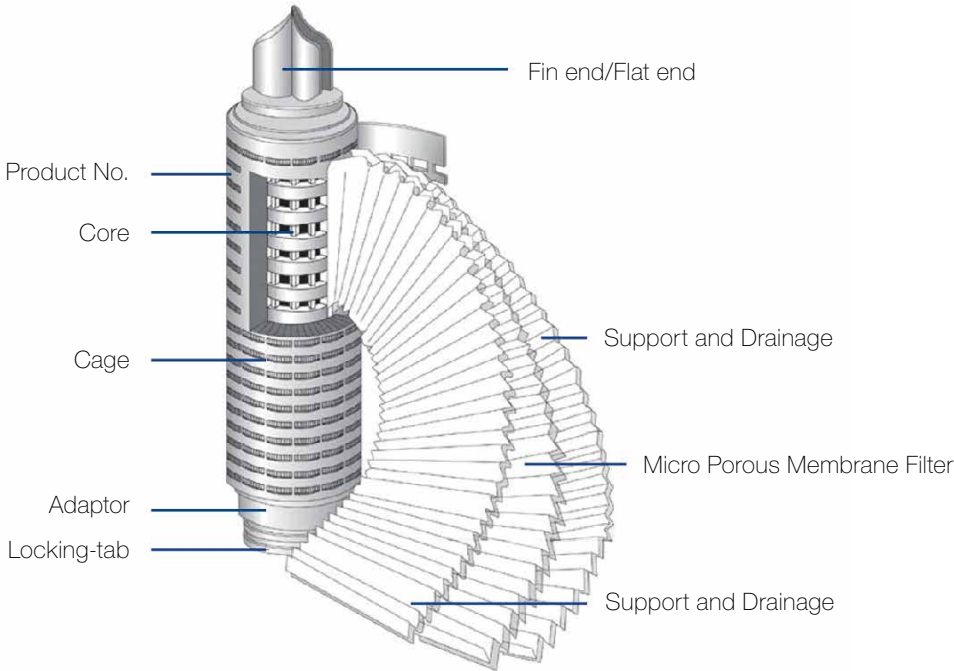
Validation of Sterilization Filter Cartridge



Validation Items	Sterilization and filtration of non final sterilization products	Sterilization and filtration of final sterilization products
Bacteria Rejection	Required	Optional
Dissolution	Required	Required
Chemical Compatibility	Required	Optional
Integrity	Optional	Optional
Adsorbability	Evaluable	Evaluable
Reusability	Optional	Optional

Introduction of Pleated Filter Cartridges

Introduction of Pleated Filter Cartridges



Model description

PES

Membrane

0.22

Pore size
0.04 μm
0.1 μm
0.22 μm
0.45 μm

—

10

Length
2.5"
5"
10"
20"
30"
40"

A

S

Gasket Material
S: Silicon rubber
E: EPDM rubber
F: Fluorine rubber
FF: Encapsulated fluoroelastomer

P

Application
Pharmaceutical grade for bio-pharmaceutical & food and beverage industry

—X

Special Specification Remarks
Standard Specification Default

Adaptor

A—Spear+222

AA—Spear+222adapter with encapsulated reinforcing stainless steel ring

B—Flat+222

BB—Flat+222adapter with encapsulated reinforcing stainless steel ring

C—Spear+226

CC—Spear+226adapter with encapsulated reinforcing stainless steel ring

D—Flat+Flat

E—Flat+226

EE—Flat+226adapter with encapsulated reinforcing stainless steel ring

F—Flat+215

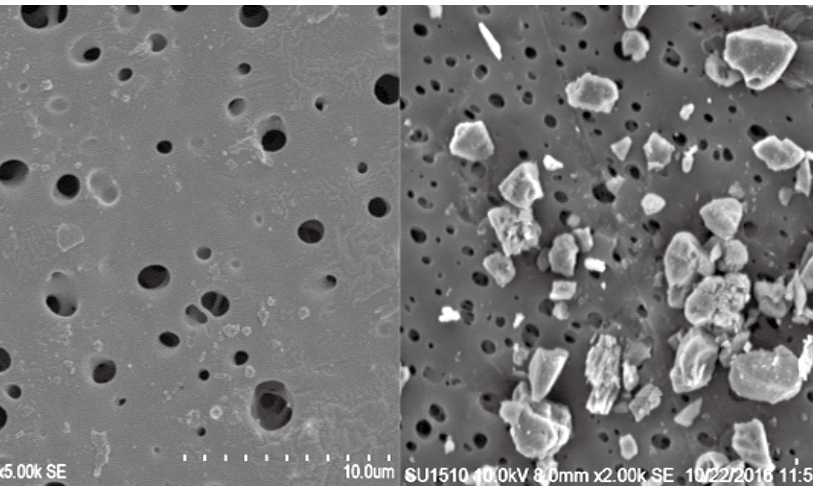
PES

—Polyethersulfone

Pleated Filter Cartridge

Product Introduction

PES pleated filter cartridge is made by asymmetric gradient aperture membrane and PP components through advanced thermal bonding technology under Class 100 environment. The filter cartridge meets the technical requirements of GB/T34244-2017 of the People's Republic of China and without any adhesives or surfactants.










Characteristics and Features

- Excellent high-tem resistance and extensive chemical compatibility.
- All the compositions meet the requirement of the biological testing characteristics of USP Class 6 plastic products at 121°C and the food contact materials listed in the relevant regulations of Chapter 21 of the Federal Regulations of the United States (CFR). They also conform to the requirements of Chinese "Standard for Hygienic Safety Evaluation of Equipment and Protective Materials in Drinking Water" (2001) for drinking water transport and distribution equipment.
- The samples of filter cartridges successfully passed the bacterial challenge test required by regulations, LRV≥7. Integrity can be maintained after repeated high-pressure disinfection.
- Each filter cartridge should pass the integrity test before leaving the factory. The limitations of integrity testing were correlated with the results of bacterial challenge experiments.
- It is manufactured under ISO 9001 and ISO 14001 systems and Class 100 environment.
- Low protein adsorption to make sure the maximum recovery of target active ingredients.
- The filter membrane has a gradient aperture structure for pre-filtration with large flow rate ,low pressure difference and long service life.
- Production and usage are traceable.

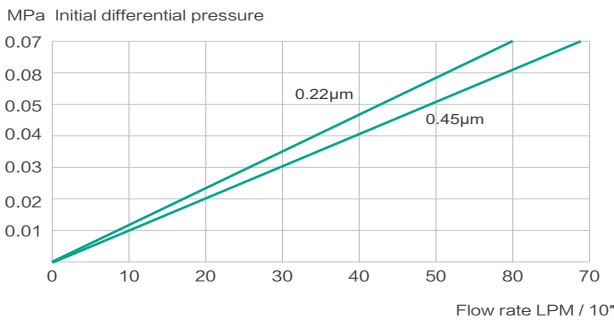
Material of Filter Cartridge components

Filter membrane	Hydrophilic PES membrane
Support/Drainage	PP
Core/Cover/End cover/End caps	PP
Sealed leads/Fins	PP with stainless steel inside
O-rings	222,226 silicon rubber etc.
Sealing technology	Thermal bonding without adhesives

Technical Specifications and Operating Parameters

- **Size**
Diameter: 2.75" (69 mm)
Length: 5"/10"/20"/30"/40" etc.
- **Filtration Area**
0.65 m² for single 10" filter cartridge
- **Dissolution (20°C)**
Testing The filters without pre-washing
After 24 hours immersion in water, the dissolution was less than 30 mg/10" filters.
- **Minimum Bubble Point of Integrity Test Data**
0.1 μm: > 0.38 MPa in Water
0.22 μm: > 0.32 MPa in Water
0.45 μm: > 0.24 MPa in Water
- **Conditions of Steam Sterilization and Hot Water Sterilization**
hot water 85°C Steam 121°C/
30 min, more than 15 times
- **Maximum Operating Differential Pressure and Temperature**
85°C/0.2 MPa; 25°C/0.4 MPa
- **Typical Flow Rate (Water, 20°C)**
0.1 μm: 4 lpm/0.01 MPa/10"
0.22 μm: 10 lpm/0.01 MPa/10"
0.45 μm: 15 lpm/0.01 MPa/10"

Flow Characteristics



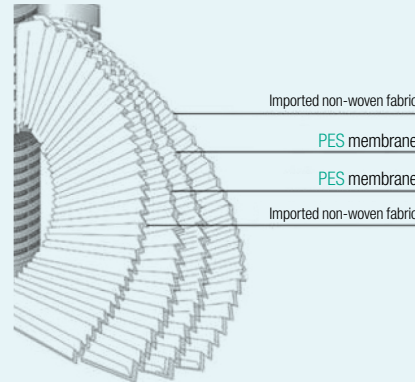
Ordering Information

PES	0.22	—	10	A	S	P	—X
Membrane	Pore size		Length	Adaptor	Gasket Material	Application	Special Specification Remarks

Typical Application

- Sterilization filtration of LVP, fine needle, freeze-dried and spray dried drug.
- Sterilization filtration and Mycoplasma removal filtration of animal serum, liquid medium, buffer solution, supplement water, etc.
- Sterilization filtration of vaccines and genetically engineered products.
- Sterilization filtration of eye drops, diagnostic reagents, etc.
- Sterilization filtration of various process water and pharmaceutical water.
- Terminal filtration of bottled water, draft beer, wine, yellow wine, soft drinks, syrups, etc. in the food and beverage industry.

Double membrane structure



- Asymmetric double membrane structure
- Increase of service life
- Infallible bacterial retention

Integrity test data minimum boiling points

0.1 μm+0.1 μm: > 0.4 MPa in Water
0.22 μm+0.22 μm: > 0.35 MPa in Water

Integrity test data diffusion flow

≤30 ml/min@2.8bar

Precision of model selection

0.1 μm+0.22 μm
0.22 μm+0.22 μm
0.45 μm+0.22 μm
0.45 μm+0.45 μm
0.65 μm+0.45 μm

PES

—Polyethersulfone

Microfiltration Membrane

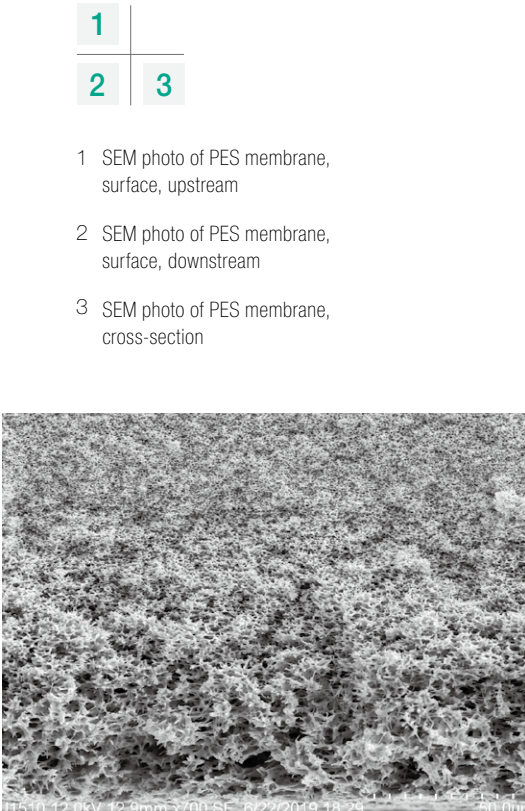
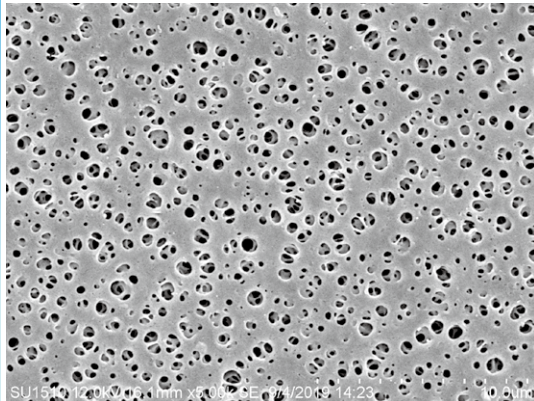
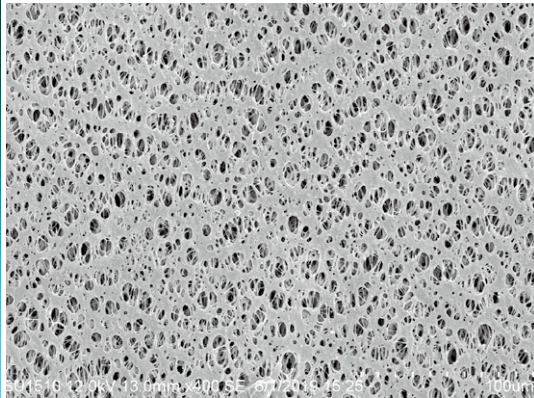
Product Introduction

The PES membranes at LENGE were developed and commercialized using its owned proprietary membrane manufacturing technologies in clean rooms with a state-of-the-art facility.

All raw materials used for membrane production meet the pharmaceutical standards, regulations and requirements, the production lines were designed and manufactured by world-class membrane machine manufacturers. All the operating conditions and procedures were computer controlled so that the membranes produced have precisely controlled pore sizes, desired mechanical and filtration performance properties.

The validation of bacterial B. diminuta retention for 0.22 µm membranes lot samples was performed in accordance with American Society of Testing and Materials (ASTM) method F838-05. Using this test methodology, 0.22 µm rated membranes retained greater than 1 x 10⁷ CFU of B. diminuta(ATCC 19146) per cm² of effective filter surface area.

The bubble point integrity test value of 0.22 µm rated membranes is validated and correlated with the bacterial retention results.



1	
2	3

- 1 SEM photo of PES membrane, surface, upstream
- 2 SEM photo of PES membrane, surface, downstream
- 3 SEM photo of PES membrane, cross-section



Features and Benefits

- Complies with United States Pharmacopeia (USP) Biological Reactivity Test, In Vivo <88> for biosafety, cytotoxicity, and hemolysis testing.
- For 0.22µm membrane, lot samples retain a minimum of 10E7 cfu/cm² of Brevundimonas diminuta(ATCC19146) per latest ASTM F838, current revision.
- The optimized built-in highly asymmetric prefiltration layer for maximum flow and throughput performance.
- Hydrophilic membrane that wets out quickly and completely resulting in fast filtration with superior flow rates and high throughputs. Easily wet for reliable integrity testing.
- Very high compatibility over the whole pH range plus very low protein binding to ensure the maximum transmission of the active ingredients.
- Compatible with EtO, gamma irradiation, and SIP/autoclave methods of sterilization.

Pore Size Rated

LENGE offers the following pore size rated PES membrane currently available:

- 0.04 µm
- 0.1 µm
- 0.22 µm (bacteria retention validated)
- 0.45 µm
- 0.65 µm
- 0.8 µm

Distinguished Characteristics

The LENGE PES membranes are highly asymmetric with a distinct uniform integral retention layer. The membranes have a high surface porosity and gradually increased pore size distribution in the direction facing upstream of filtration. Therefore, the membranes have a capability of retaining various sized particulates and microorganisms. The LENGE PES membrane filters have the following distinguished characteristics:

- Highly asymmetric structure
- Easily wet with water
- High flux
- High dirt capacity
- Low differential pressure
- High mechanical strength
- High porosity
- Low protein binding and adsorption
- Low extractables

Typical Application

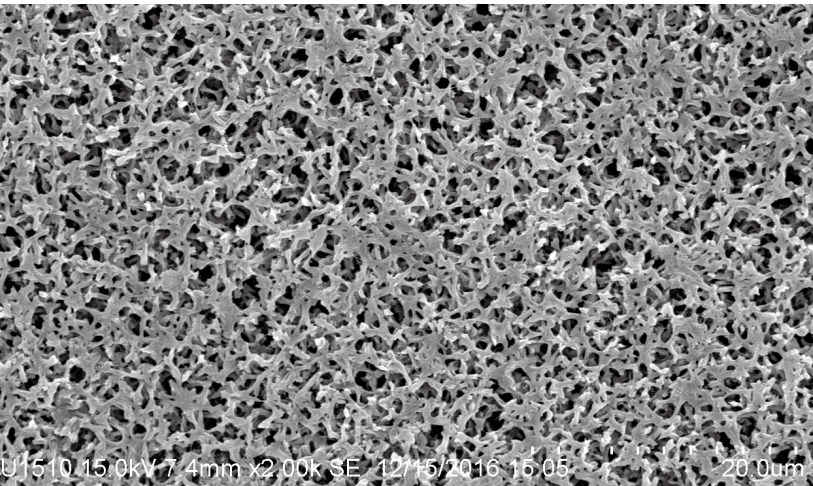
Besides the wide applications in the pharmaceutical and biotechnology industry, LENGE PES membranes are also suitable for use in other fields, such as medical, food and beverage, drinking water, microelectronics, fine chemicals, etc. We will offer a great deal of assistance and cooperation to ensure our membranes meet technical and regulatory needs in your industrial applications and operations.

Nylon

Nylon pleated filter element

Product Introduction








Nylon pleated filter element is made by natural hydrophilic nylon membrane and PP components through advanced hot melt sealing technology under Class-100 environment . The filter element meets the technical requirements of GB/T34244-2017 of the People's Republic of China and without any adhesives or surfactants.



Material of Filter Cartridge Components

Filter material	Nylon membrane
Supports/Diversion	PP
Core/Cover/End cover/End caps	PP
Sealed leads/Fins	PP, Built in stainless steel
O-Ring	222,226 silicon rubber etc.
Sealing technology	Hot melt without adhesives

Technical Specifications and Operating Parameters

	Size Diameter: 2.75" (69 mm) Length: 5"/10"/20"/30"/40" etc.		Conditions of Steam Sterilization and Hot Water Sterilization Sterilization temperature: hot water 85°C Steam in place 121°C/30 min, more than 15 times
	Filtration Area Single 10" filter element is about 0.65 m²		Maximum Operating Differential Pressure and Temperature 85°C/0.2 MPa; 25°C (≥ 0.4 MPa)
	Dissolution (20) Testing The filters without pre-washing. After 24 hours immersion in water, the dissolution was less than 30 mg/10" filters.		Typical Flow Rate (Water, 20C) 0.1 µm:5 lpm/0.02 MPa/10" 0.22 µm:8.3 lpm/0.02 MPa/10" 0.45 µm:10 lpm/0.02 MPa/10" 0.65 µm:33 lpm/0.02 MPa/10"
	Minimum Bubble Point of Integrity Test Data 0.22 µm: > 0.25 MPa in Water 0.45 µm: > 0.18 MPa in Water Other options: 0.1 µm,0.65 µm		

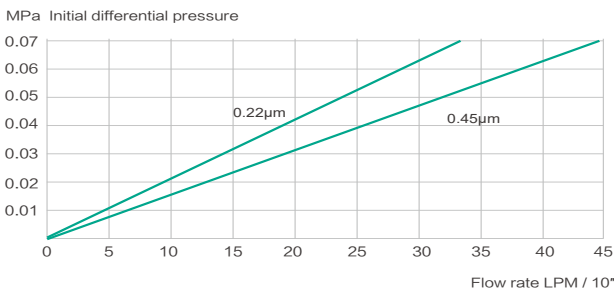
Typical Application

- Sterilization filtration of LVP, fine needle, freeze-dried and spray dried drug.
- Sterilization filtration and Mycoplasma removal filtration of animal serum, liquid medium, buffer solution, supplement water, etc.
- Sterilization filtration of various solvents in pharmaceutical industry.
- Sterilization filtration of various process water and pharmaceutical water.
- Terminal filtration of bottled water, draft beer, wine, yellow wine, soft drinks, syrups, etc. in the food and beverage industry.

Characteristics and Features

- Excellent high-tem resistance and alkali resistance.
- All the compositions reach up to the requirement of the biological testing characteristics of USP Class 6 plastic products at 121°C and the food contact materials listed in the relevant regulations of Chapter 21 of the Federal Regulations of the United States (CFR). They also conform to the requirements of Chinese "Standard for Hygienic Safety Evaluation of Equipment and Protective Materials in Drinking Water" (2001) for drinking water transport and distribution equipment.
- The sampling of filter element successfully passed the bacterial challenge test required by regulations, LRV≥7. Integrity can be maintained after repeated high-pressure disinfection.
- Each filter element should pass the integrity test before leaving the factory. The limitations of integrity testing were correlated with the results of bacterial challenge experiments.
- It is manufactured under ISO 9001 and ISO 14001 systems and Class 100 environment.
- Natural hydrophilicity, easy to wet and fast to test integrity.
- High tensile strength, suitable for applications with high impurity content and high viscosity.
- Production and usage are traceable.

Flow Characteristics



Ordering Information

NL	0.22	—	10	A	S	P	—X
Membrane	Pore size		Length	Adaptor	Gasket Material	Application	Special Specification Remarks

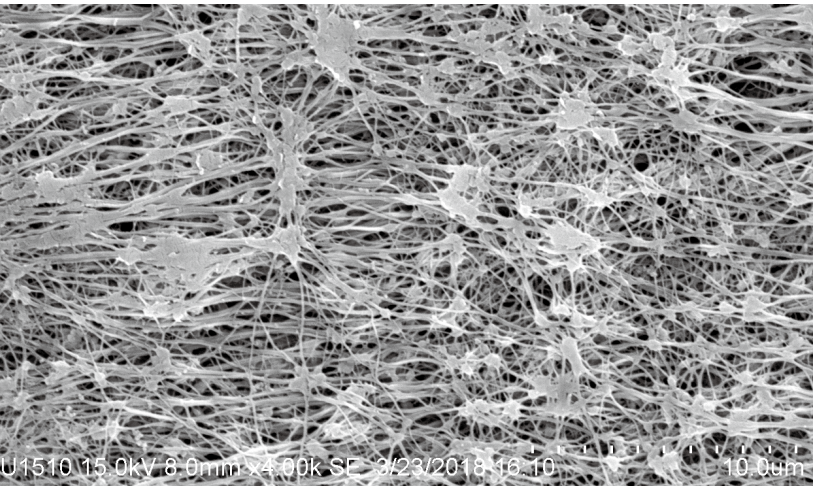
PTFE

—polytetrafluoroethylene

Microporous membrane pleated filter element

Product Introduction

PTFE microporous membrane pleated filter element is made of natural hydrophobic polytetrafluoroethylene (PTFE) membrane and polypropylene material parts by advanced hot-melt sealing technology in a controlled Class-100 clean environment without any adhesive and surfactant, and meets the technical requirements of the national standard of the people's Republic of China GB / T 34244-2017 filter cartridge for liquid sterilization.




Characteristics and Features


- Excellent high-tem resistance and extensive chemical compatibility
- All the compositions reach up to the requirement of the biological testing characteristics of USP Class 6 plastic products at 121°C and the food contact materials listed in the relevant regulations of Chapter 21 of the Federal Regulations of the United States (CFR). They also conform to the requirements of Chinese "Standard for Hygienic Safety Evaluation of Equipment and Protective Materials in Drinking Water" (2001) for drinking water transport and distribution equipment.
- 99.99995% bacteria retention in gas and liquid. 99.99995% of all kinds of phages, bacteria and particles above 0.01µm were retained during gas filtration
- The sampling of filter element successfully passed the bacterial challenge test required by regulations, LRV≥7. Integrity can be maintained after repeated high-pressure disinfection.
- Each filter element should pass the integrity test before leaving the factory. The limitations of integrity testing were correlated with the results of bacterial challenge experiments.
- It is manufactured under ISO 9001 and ISO 14001 systems and Class 100 environment.
- Production and usage are traceable.
- Resistant to repeated steam sterilization
- large air flow, high efficiency and small volume.


Material of Filter Cartridge Components


Filter material	Natural hydrophobic PTFE membrane
Supports/Division	PP
Core/Cover/End cover/End caps	PP
Sealed leads/Fins	PP, Built in stainless steel
O-Ring	222,226 silicon rubber etc.
Sealing technology	Hot melt without adhesives


Technical Specifications and Operating Parameters


**Size**
Diameter: 2.75" (69 mm)
Length: 5"/10"/20"/30"/40" etc.


**Filtration Area**
Single 10" filter element is about 0.65m²

**Minimum Bubble Point of Integrity Test Data**
0.22µm: ≥ 0.13MPa (Import)
 ≥ 0.1MPa (Chinese)
0.45µm: ≥ 0.06MPa 23°C
 60:40IPA: water(V:V)

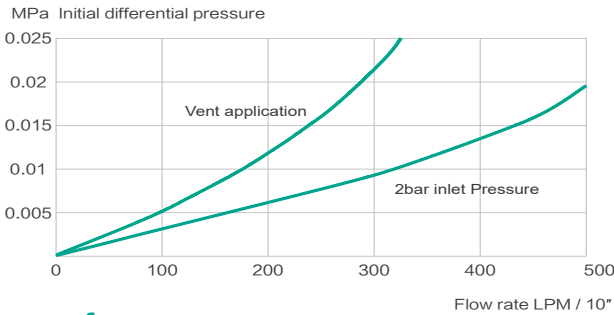
**Typical Flow Aate**
0.1µm≥180Nm³/h
0.22µm≥330Nm³/h
0.45µm≥400Nm³/h,
(P=0.2MPa, ΔP=0.01MPa, 20°C, 10" length)

**Accumulated Steam Sterilization Time**
121°C, 100 hours
140°C, 40 hours
Under experimental conditions

**Maximum Differential Pressure**
Positive:0.4MPa
Negative:0.2MPa

**Recommended Service Life for Air Filtration**
12 months for 60°C compressed air filtration
6 months for 80°C breathing port filtration

Flow Characteristics



Ordering Information

PTFE	0.22	—	10	A	S	P	—X
Membrane	Pore size		Length	Adaptor	Gasket Material	Application	Special Specification Remarks

Typical Application

- Breathing port filtration of WFI storage tank.
- Air inlet and exhaust filtration of large scale fermentation tank.
- Breathing port filtration of medical intermediate storage tank.
- Filtration of instrument gas in pharmaceutical industry.
- Vacuum barrier of autoclave.
- Transmission and filtration of air and other gases.
- Gas filtration for aseptic packaging.
- Sterilization and filtration of compressed air and CO₂ in food and beverage industry.
- Filtration of corrosive chemicals.

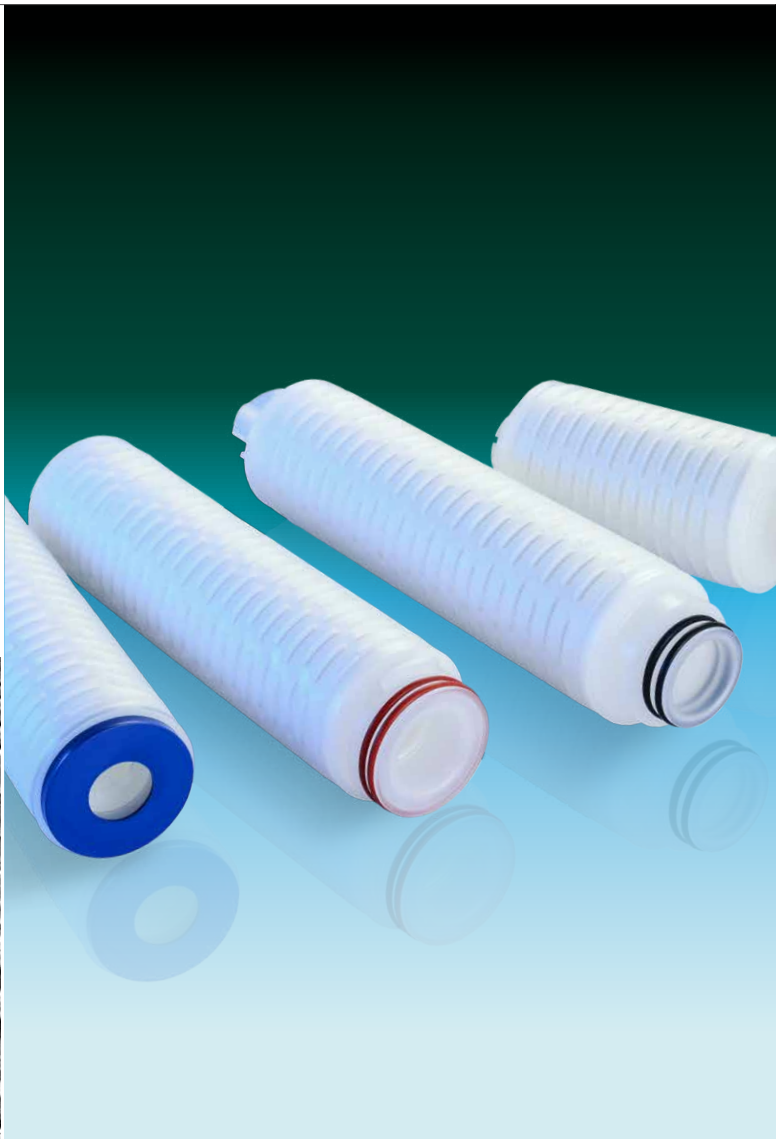
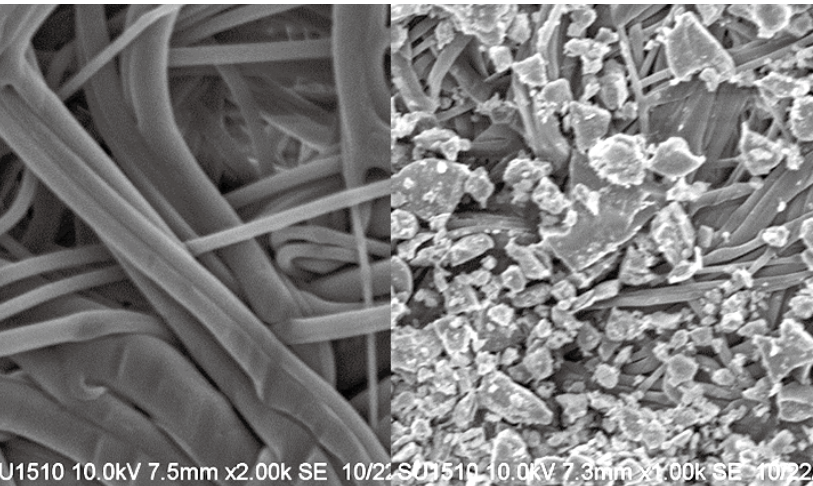
PP

—PolyproPylene

Pleated filter element

Product Introduction

PP pleated filter element is made by asymmetric gradual aperture polypropylene (PP) plated filter and PP components through advanced hot melt sealing technology under Class100 environment and without any adhesives or surfactants.




Characteristics and Features


- All polypropylene structural materials, professional hot-melt sealing technology, no adhesive, no secondary pollution.
- Excellent high-tem resistance and extensive chemical compatibility.
- All the compositions reach up to the requirement of the biological testing characteristics of USP Class 6 plastic products at 121°C and the food contact materials listed in the relevant regulations of Chapter 21 of the Federal Regulations of the United States (CFR). They also conform to the requirements of Chinese "Standard for Hygienic Safety Evaluation of Equipment and Protective Materials in Drinking Water" (2001) for drinking water transport and distribution equipment.
- It is manufactured under ISO 9001 and ISO 14001 systems and Class 100 environment.
- The filter membrane has a gradient aperture structure for pre-filtration with large flow rate, low pressure difference and long service life.


Material of Filter Cartridge Components


Filter material	Asymmetric gradual aperture polypropylene (PP) plated filter
Supports/Diversion	PP
Core/Cover/End cover/End caps	PP
Sealed leads/Fins	PP, Built in stainless steel
O-Ring	222,226 silicon rubber etc.
Sealing technology	Hot melt without adhesives

Technical Specifications and Operating Parameters

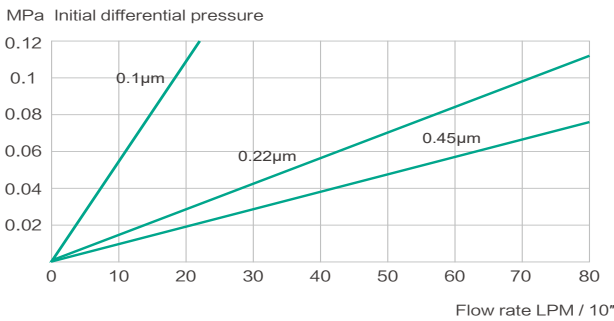
**Size**
Diameter: 2.75" (69 mm)
Length: 5"/10"/20"/30"/40" etc.

**Maximum Differential Pressure**
Positive:0.4 MPa
Negative:0.2 MPa

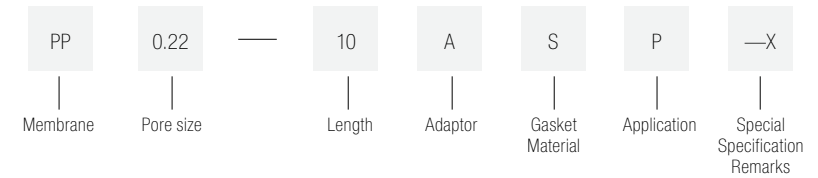
**Filtration Area**
Single 10" filter element is about 0.65 m²

**Maximum Pressure Difference and Temperature**
Maximum operating temperature: 85°C/0.2 MPa

Flow Characteristics



Ordering Information



Typical Application

- Prefilter as terminal sterilizing filter.
- Sterilization filtration of LVP, fine needle, freeze-dried and spray dried drug.
- Sterilization filtration and Mycoplasma removal filtration of animal serum, liquid medium, buffer solution, supplement water, etc.
- Sterilization filtration of vaccines and genetically engineered products.
- Sterilization filtration of eye drops, diagnostic reagents, etc.
- Sterilization filtration of various process water and pharmaceutical water.
- Sterilization filtration of various solvents in pharmaceutical industry.
- Pre filtration of draft beer before sterilization.
- Terminal filtration of bottled water, draft beer, wine, yellow wine, soft drinks, syrups, etc. in the food and beverage industry.
- Filtration of various gases.

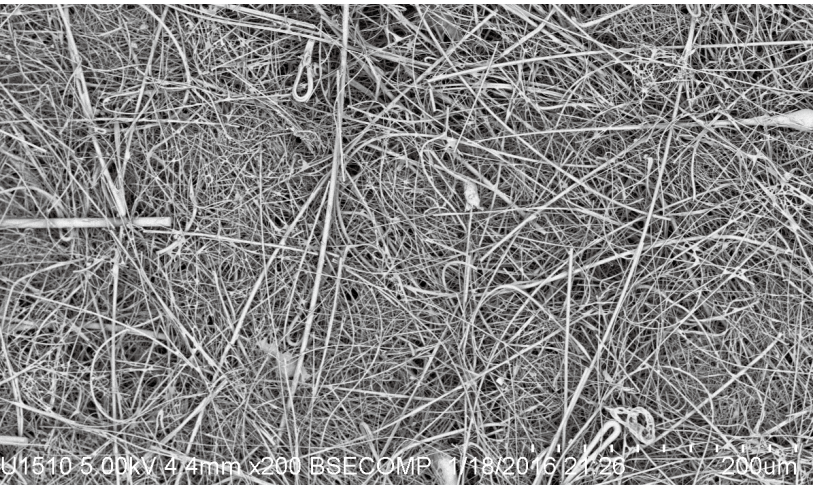
GF

—Glass Fibre

Pleated filter element

Product Introduction


PP pleated filter element is made by high porosity glass fiber (GF) flat filter material and PP components through advanced hot melt sealing technology under Class100 environment and without any adhesives or surfactants.





Material of Filter Cartridge Components


Filter material	Glass fiber (GF) flat filter material
Supports/Diversion	PP
Core/Cover/End cover/End caps	PP
Sealed leads/Fins	PP, Built in stainless steel
O-Ring	222,226 silicon rubber etc.
Sealing technology	Hot melt without adhesives

Technical Specifications and Operating Parameters

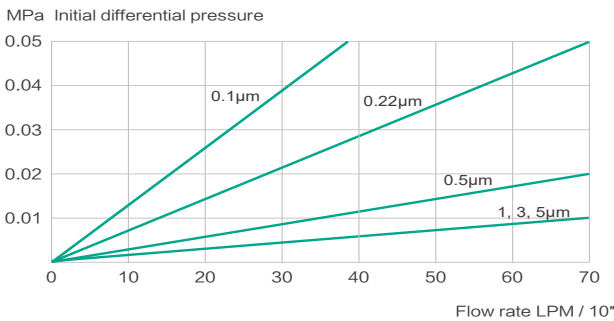
**Size**
Diameter: 2.75" (69 mm)
Length: 5"/10"/20"/30"/40" etc.

**Maximum Differential Pressure**
Positive:0.4 MPa
Negative:0.2 MPa

**Filtration Area**
Single 10" filter element is about 0.65 m²

**Maximum Pressure Difference and Temperature**
Maximum operating temperature: 85°C/0.2 MPa

Flow Characteristics



Ordering Information

GF	0.22	—	10	A	S	P	—X
Membrane	Pore size		Length	Adaptor	Gasket Material	Application	Special Specification Remarks

Typical Application

- Prefilter as terminal sterilizing filter.
- Sterilization filtration of LVP, fine needle, freeze-dried and spray dried drug.
- Sterilization filtration and Mycoplasma removal filtration of animal serum, liquid medium, buffer solution, supplement water, etc.
- Sterilization filtration of vaccines and genetically engineered products.
- Sterilization filtration of eye drops, diagnostic reagents, etc.
- Sterilization filtration of various process water and pharmaceutical water.
- Sterilization filtration of various solvents in pharmaceutical industry.
- Pre filtration of draft beer before sterilization
- Terminal filtration of bottled water, draft beer, wine, yellow wine, soft drinks, syrups, etc. in the food and beverage industry.
- Filtration of various gases.

Characteristics and Features

- The fixed hole structure can eliminate the defects of the unloading of the interceptor and the falling off of the filter material.
- All polypropylene structural materials, professional hot-melt sealing technology, no adhesive, no secondary pollution.
- Excellent high-tem resistance and extensive chemical compatibility.
- Pharmaceutical grade (P-grade) filter element is used in the biopharmaceutical industry, and all the constituent materials conform to the biological test characteristics of USP class VI 121 °C plastic products; conform to the food contact materials listed in the relevant provisions of Chapter 21 of the U.S. federal regulations (CFR); and conform to the requirements of Chinese "code for health and safety evaluation of drinking water transmission and distribution equipment and protective materials" (2001) for drinking water transmission and distribution equipment Requirements.
- It is manufactured under ISO 9001 and ISO 14001 systems and Class 100 environment.
- Large porosity of the filter material, sufficient interception space, large flow rate, low pressure difference and long service life.

Capsule filter ▶

CNE/CSE/CNE-D capsule filters are compact capsule assemblies. Less residue, reduce the waste of product liquid. Disposable design and easy to change-out. Different sizes meet the requirements of big or small volume liquid filtration.

Features and Benefits

- Compact and rigid construction
- Good sealing performance
- High pressure resistance
- Low hold-up volume
- Disposable design, easy change-out



Material & Size

Filter Media	Inlet/Outlet	Length
PES/Nylon/Hydrophobic PTFE / Hydrophilic PTFE/Hydrophobic PVDF/ PP/Glass Fiber	CNE:1/4"MNPT CSE:1/4"SWG CNE-D:1/2"MNPT	CNE:2.5",5",10" CSE:2.5",5",10" CNE-D:132 mm
End Caps/Core/Housing/Support&Drainage/Cage	Vent/Drain	Outside Diameter
PP	CNE:1/8" MNPT CSE:1/4" SWG CNE-D:1/4" MNPT	68mm(2.67 in) CNE-D:1/4" MNPT

Performance Characteristics

Removal Ratings(μm) 0.01(Air&Gas),0.05, 0.1, 0.2, 0.45, 0.65, 0.8, 1.0, 3.0 Hydrophilic PTFE: 0.1, 0.2, 0.45, 1.0	Maximum Forward Differential Pressure Liquid: 5 bar@23°C (50.8 psid@73.4 °F) Air&Gas: 3.0 bar@23°C (43.5 psid@73.4°F)
Maximum Operating Temperature 60°C (140°F)	

WS filter cartridge ▶

WS wire wound filter element is made by winding polypropylene fiber bundle on the central column in a certain way, and the filtering fineness is controlled by winding density and form. The equivalent pore diameter of the wound filter element gradually decreases from the outside to the inside, so it has a good deep filtering effect.



PTFE Sintered Tube ▶

—Polytetrafluoroethylene

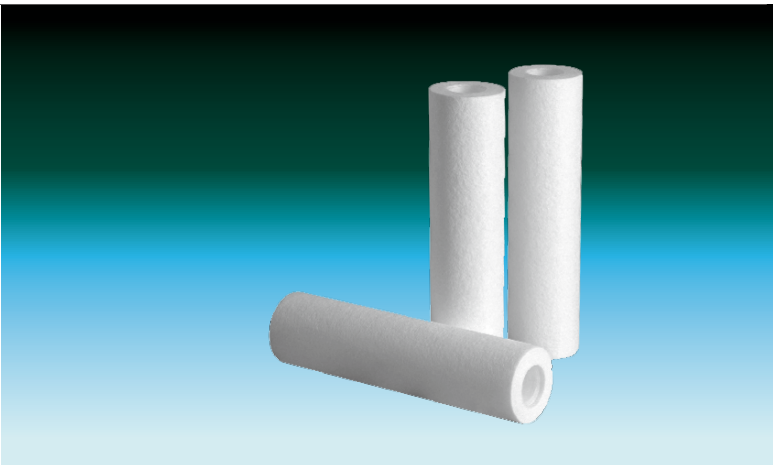
PTFE steam sintered tube is made under grinding, filtering, filling, sintering, stripping and other processes, and is used in together with steam filter housing.



MS series ▶

Melt blown filter cartridge

S series melt blown filter cartridge is manufactured by the melt blown process of the pure polypropylene resin. The filtration structure is formed by thermal bond without using any binders, adhesives. It has the Graded pore structure of depth filtration with fine fibers inner and coarse fibers outside. It can remove contaminant effectively, such as suspended substance, particulate and rust, providing efficient filtration and long service life.



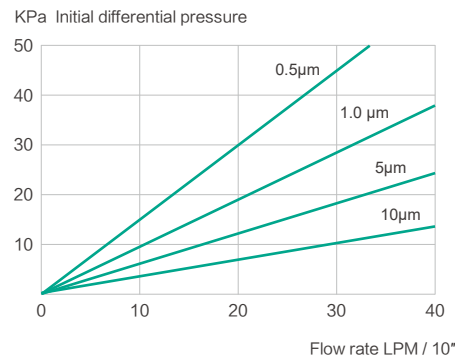
Features and Benefits

- Free of surfactants, lubricants, anti-static agents, binders and adhesives.
- 100% Pure Polypropylene will not cause any pollution to the fluids.
- Wide chemical compatibility.
- Consistent performance, no unloading of contaminants even at high differential pressures.
- High void volume for high dirt holding capacity.
- Can be used in a wide range of applications.
- All kinds of adaptors are available.

Specification

Dimensions (general)
Outside Diameter: 2 1/2 " (6.4 cm) Inside Diameter: 1" (2.5 cm)
Lengths
9 3/4 " to 50" (24.8 cm to 127 cm)

Flow Characteristics



Titanium alloy sintered tube ▶

Titanium alloy sintered tube is made of high-purity titanium or alloy titanium powder by special process and high temperature sintering. The particles on surface are well bonded, not easy to migrate. The advantages include uniform pore size, high dirt-holding capacity and easy regeneration, etc.



Filter bag ▶

The filter bags have excellent chemical stability and high-temp resistance. It is made of needle felt. The filter media come with fine removal ratings. The surface is burnt, pressed or covered with film so no fiber migrates from the media surface.



Liquid Filter Housing

The material selection for the liquid filter housing is strict, and the materials of the cylinder, head, flange, connecting pipe and welding rod are the same; and the inside and outside surfaces are polished by the mirror surface, with exquisite processing, reasonable structure, without residue and dead angle.

Item	Parameter
Housing material	Stainless steel 316 L/304
Working pressure	0.35 MPa/0.6 MPa
Water flux range	0.5~60 t/h
Air flux range	1-140 m³/min
Interface	222/226
Connecting	Clamp/Flange



Gas Filter Housing

This range of filter housings has been specifically designed and engineered for the filtration of air and gases. The design complements the high-flow capacities of the range of sterilizing gas filter cartridges to ensure reliable and cost efficient filtration.

Item	Parameter
Housing material	Stainless steel 316L/304
Working pressure	0.36 MPa/1.0 MPa
Air flux range	1-140 m³/min
Interface	226
Connecting	Clamp/Flange



In-Line Filter Housing

The cylinder of the in-line pipe filter is all made of high-quality 304 or 316L stainless steel, which can provide good corrosion resistance from heat and can meet the quality standard of preventing bacterial pollution.

Item	Parameter
Housing material	Stainless steel 316L/304
Working pressure	0.36 MPa/1.0 MPa
Air flux range	0.6-60 t/h
Interface	222/226
Connecting	Clamp/Flange



Bag Filter Housing

We selected SUS304 or SUS316L as the housing material of the bag filter. The inside and outside surfaces of the shell are passivated or polished, with reasonable structure, convenient installation and cleaning. The bag filter system consists of three parts: housing, filter bag and supporting basket.

Item	Parameter
Housing material	Reinforced polypropylene
Working pressure	0.6 MPa/1.0 MPa



Vent Filter Housing

The inside and outside surfaces of the filter housing are polished, with reasonable structure, convenient installation and cleaning. It is suitable for installation on all kinds of liquid storage tanks, pure water tanks, sterility dry air-vent to prevent the tank from being polluted by bacteria and dust in the atmosphere when tank level changes leading to the air exchanging.

Item	Parameter
Housing material	Stainless steel 316 L/304
Air flux range	1-12 m³/h
Interface	215/226



Titanium Rod Filter Housing

We selected SUS304 or SUS316L as the material of the titanium rod filter housing. The titanium rod is easy to backwash and discharge slag with two shapes of turnover type and hoisting type, of which the turnover type can turn 180 ° to drain the residual liquid.

Item	Parameter
Housing material	Stainless steel 316 L/304
Air flux range	1-12 m³/h
Interface	215/226



Please feel free to contact us for series of product catalogs.



LENGE PURIFICATION

LENGE Purification Equipment Co., Ltd.

Address: Block 1#, Shuangxin Economic Park,
Xuelang, Wuxi City, Jiangsu Province, P.R.China.

Tel: +86-510-85189266

Fax: +86-510-85189260

E-mail: export@wxljih.com

www.lengepurification.com

Due to improvement, all the recorded contents in the catalogue may change without notice. Please kindly understand that the products shown may vary slightly compared with actual products in terms of color, etc. due to printing and other factors. LENGE company reserves the final right for interpretation of the catalogue.

SN: PFC-EN-202005