



Our Membrane for your solutions

## MEMBRANE SOLUTIONS

Address: 4530 B STREET NW #A, AUBURN WA 98001, USA

Phone: 1-866-528-4572

Email: [info@membrane-solutions.com](mailto:info@membrane-solutions.com)

Web: [www.membrane-solutions.com](http://www.membrane-solutions.com)



MS-TM-E-0002-EN A/1



# PHARMACEUTICAL CAPSULE FILTER

Filtration Solutions



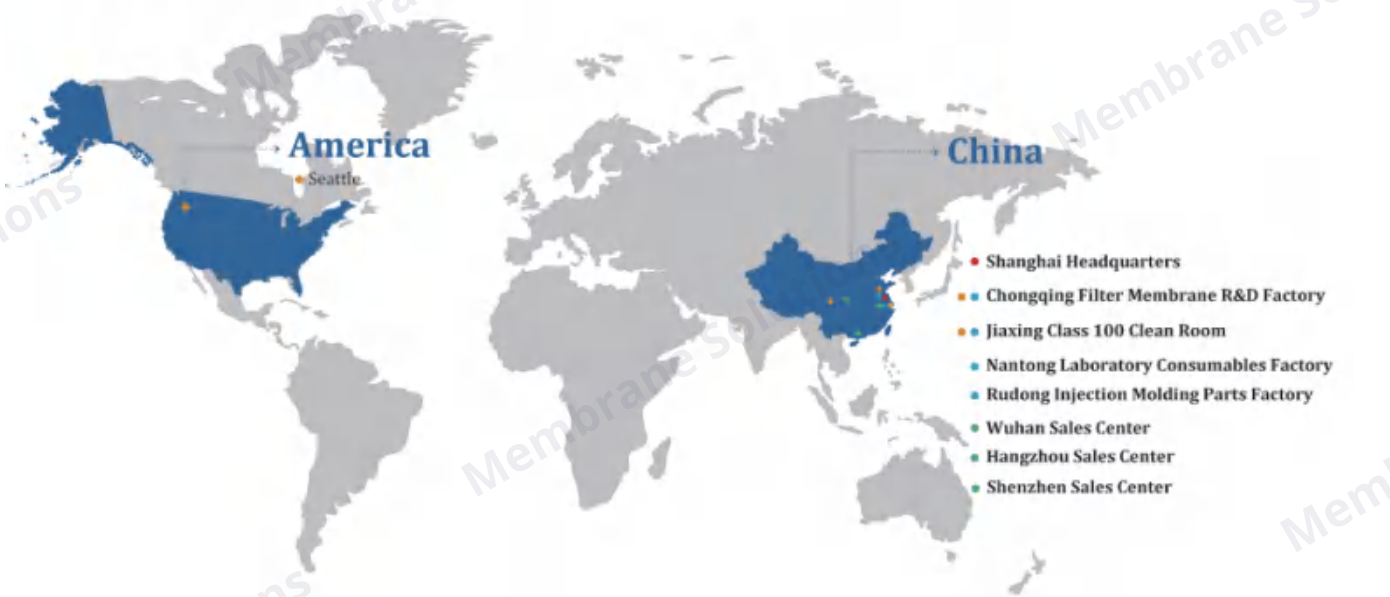
MEMBRANE SOLUTIONS

[www.membrane-solutions.com](http://www.membrane-solutions.com)

# ABOUT US

Membrane Solutions is a high tech company, headquartered in the US with 4 production plants and 4 R&D based in China, specializing in patented filtration and purification technology for more than 17 years. MS has been the OEM service of choice of many top brands. Meanwhile, MS works with about 200 distributors in 80 countries covering 20 product categories. We can provide OEM & ODM service. We have ISO9001, ISO13485, CNAS, FCC, ETL, UL, SGS, AHAM, CARB, RoHS, CE certification, and passed the US FDA and NSF certification. Membrane Solutions provides professional overall filtration solutions for applications in the global biopharmaceutical field, such as purification and filtration of active pharmaceutical ingredient/reagents, blood products or vaccine products. Membrane Solutions can provide a full range of filtration products from pre-filters to terminal filters. Products include compact capsule filters and capsule filters with high flux, available in different sizes and connections to meet your different application needs.

## Company Distribution



# WHY WE ARE DIFFERENT



## MEMBRANE CORE TECHNOLOGE

With expertise in industrial and medical-grade filtration, Membrane Solutions independently develops and integrates advanced American purification technology, combining precision and innovation to enhance life aesthetics.



## AUTHORIZED CERTIFICATION

Safety and reliability are always the priorities, besides the FDA Registration and NSF certification we gained in 2023, MS also invested on the validation and finished CNAS certified validation center in 2023.



## LABORATORY VERIFICATION

Our validation laboratory, operating in accordance with ISO 9001 and CNAS-CL 01:2018, ensures reliable production through microbial, chemical, filtration performance, and electron microscope analysis.



## GUARDIAN THE EARTH

For decades, MS has focused on wastewater treatment, surface water filtration, and providing clean water through advanced membrane technologies. We envision a world with universal access to clean drinking water, free from single-use plastics.

200+ RD  
Engineers  
Including 40+ PHD

Seattle  
40000+m<sup>2</sup>  
Operation  
Warehouse

Trust Plus  
Validation Center

GMP  
Production  
Quality System

Trust Plus  
Validation Center

Cost  
Sensitive

OEM  
& Private Label  
Specialist



VALIDATION SERVICES

Membrane Solutions TrustPlus Validation Center is an independently operated organization with CNAS certification and a total area of 2,000 square meters. From our CNAS accredited laboratories, we’re able to perform the microbial testing, physical and chemical analysis and filtration performance testing as specified by the validation programs for new product development projects. In addition, we also provide the validation services for the production-control purpose on request. MS TrustPlus Validation Center offers quick-response, professional and comprehensive services of validation as well as the regulatory & technical consulting. We’re dedicated to support our clients throughout the entire life circle of products from process development to production and market launch.



Validation Service(Including but not limited to)

Bacteria Challenge Test

Extractables and Leachable Test

Product Adsorption Test

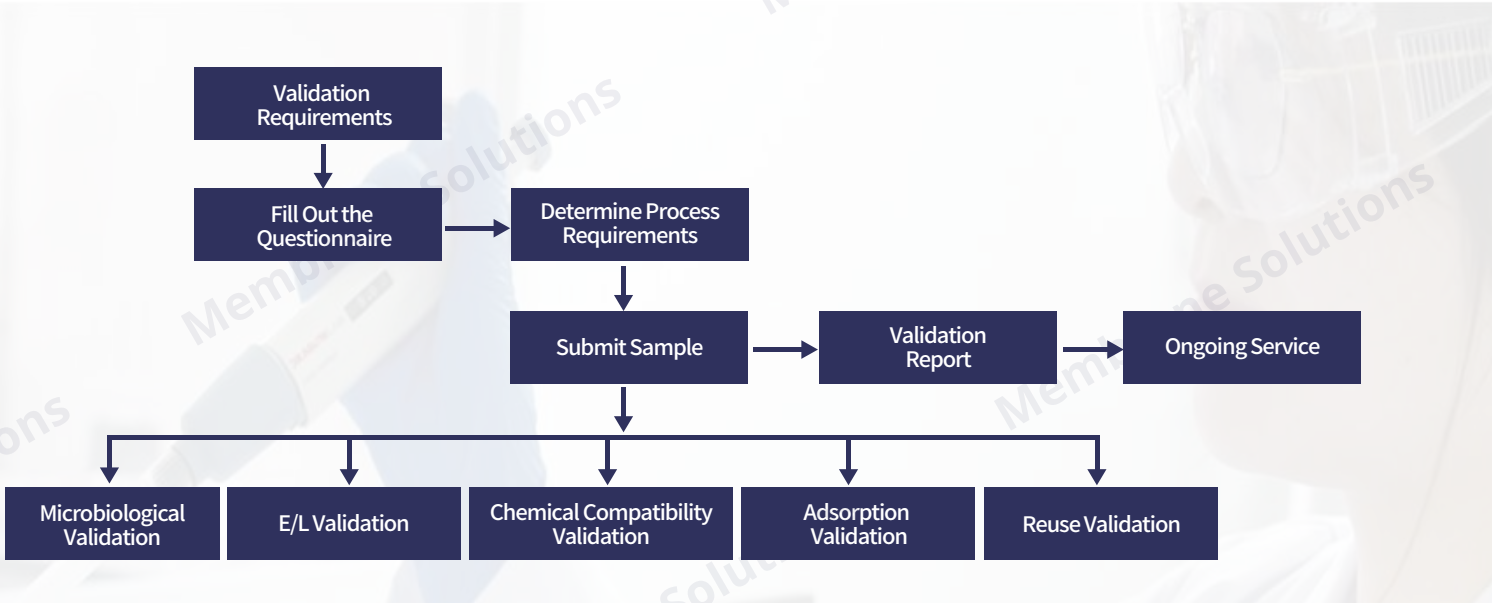
Chemical Compatibility Test

Based on Product Integrity Test

Reuse Filter Cartridge Test

Customized Testing (Biosafety Assessment)

Validation Flow



MEMBRANE 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     |
|                         | Sodium Hydroxide (3N)          | R        | LR   | R    | R   | R  | R        | R    | R     | R     |
|                         | Sodium Hydroxide (6N)          | R        | NR   | R    | R   | R  | R        | R    | R     | R     |
| Alcohols                | Ammonia Aqueous                | R        | LR   | R    | R   | R  | LR       | R    | NR    | R     |
|                         | Ethanol                        | R        | R    | 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     |
|                         | Butanol                        | R        | R    | R    | R   | R  | R        | R    | LR    | R     |
| Ketone                  | 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     |
|                         | Cyclohexanone                  | -        | LR   | R    | NR  | R  | NR       | NR   | NR    | R     |
|                         | Methyl Ethyl Ketone            | LR       | LR   | R    | -   | R  | NR       | R    | NR    | R     |
| Oil                     | Methyl Isobutyl Ketone         | LR       | LR   | R    | NR  | R  | NR       | R    | NR    | R     |
|                         | 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     |
| Aromatic 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     |
| Halogenated Hydrocarbon | 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     |
|                         | 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     |
| Ethylene Glycols        | Trichloroethylene              | LR       | NR   | R    | LR  | LR | NR       | NR   | R     | R     |
|                         | 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     |
| Ether                   | 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     |
| Esters                  | Amyl Acetate                   | LR       | R    | R    | -   | R  | NR       | R    | NR    | R     |
|                         | Butyl Acetate                  | LR       | R    | R    | -   | LR | 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     |
| Other                   | 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   | LR | 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

# CATALOG

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# CLARIFICATION FILTRATION SERIES

## PPA High Flow-rate Capsule Filter

### Description

PPA series PP pleated capsule filter is made of polypropylene microfiber. It has a gradient pore size and a high strength support, which makes the filter has the characteristics of high retention efficiency and high flow rates, and is especially suitable for clarification filtration of liquid and pre-filtration of gas.

PPA series capsule filter is available in a wide range of removal ratings and in a wide range of cages and connections to meet the needs of different applications.



### Features

- Excellent chemical compatibility
- High particle retention efficiency
- Longer service life and lower cost
- Various cages and connections are available

### Applications

- Clarification filtration of cell culture medium
- Clarification filtration of fermentation broth/cell culture medium
- Pre-filtration of serums/blood products
- Pre-filtration of gas sterilization
- Filtration of colloidal products

## Technical Parameters

|                           |                                    |                                                                                                                                      |                      |
|---------------------------|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| Materials of Construction | Filter Membrane                    | PP                                                                                                                                   |                      |
|                           | Support/Drainage                   | PP                                                                                                                                   |                      |
|                           | Core/Cage/End Cap                  | PP                                                                                                                                   |                      |
|                           | Capsule Shell                      | PP                                                                                                                                   |                      |
| Filtration Area           | C80 / C150 / C300                  | 500cm <sup>2</sup> / 1000cm <sup>2</sup> /2100cm <sup>2</sup>                                                                        |                      |
|                           | C605 / C610 / C620 / C630          | 2500cm <sup>2</sup> /5300cm <sup>2</sup> /10600cm <sup>2</sup> /15900cm <sup>2</sup>                                                 |                      |
| Filter Dimensions         | Length of Inner Filter Cartridge   | C80 / C150 / C300                                                                                                                    | 1.5" / 2.5" / 5"     |
|                           |                                    | C605 / C610 / C620 / C630                                                                                                            | 5" / 10" / 20" / 30" |
|                           | Diameter of Inner Filter Cartridge | C80 / C150 / C300                                                                                                                    | 56mm                 |
|                           |                                    | C605 / C610 / C620 / C630                                                                                                            | 68mm                 |
|                           | Diameter of the Shell              | C80 / C150 / C300                                                                                                                    | 72±2mm               |
|                           |                                    | C605 / C610 / C620 / C630                                                                                                            | 108±2mm              |
| Sterilization             | Autoclave                          | 124°C,30min, 5cycles                                                                                                                 |                      |
|                           |                                    | 134°C,20min, 5cycles                                                                                                                 |                      |
| Biological Safety         | Bio-compatibility                  | Meet USP <87> in vitro Cytotoxicity Test<br>Meet the criteria of the USP <88> Biological Reactivity Test for Class VI-121°C plastics |                      |
|                           | Endotoxins                         | <0.25EU/ml                                                                                                                           |                      |

## Ordering Information

|                      | Capsule Filter Size          | Inlet/Outlet                                                                                                                                                                                                                  | Material           | Removal Ratings                                                                                                                                                                             | Sterilization                                                    | Grade                           |
|----------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|---------------------------------|
| FilterPod PPA Series | C80                          | N2                                                                                                                                                                                                                            | PPA                | 020                                                                                                                                                                                         | Blank=Non-sterile (Autoclavable)<br>-O=Sterile (Ethylene Oxide)* | PR= Pharmaceutical requirements |
|                      | C80<br>C150<br>C300          | H2M=1/4" Multiple Hosebarb<br>H3M=3/8" Multiple Hosebarb<br>H3=3/8" Hosebarb<br>H4=1/2" Hosebarb<br>HC=1/4"-3/8" Stepped Hosebarb<br>HS=1/4"-1/2" Stepped Hosebarb<br>TCA=1" Tri-clamp (50.5mm)<br>TCB=1/2" Tri-clamp(25.4mm) | PPA= Polypropylene | 020=0.20µm<br>030=0.30µm<br>045=0.45µm<br>050=0.50µm<br>060=0.60µm<br>065=0.65µm<br>100=1.0µm<br>300=3.0µm<br>500=5.0µm<br>H10=10.0µm<br>H20=20.0µm<br>H30=30.0µm<br>H50=50.0µm<br>H70=70µm |                                                                  |                                 |
| MedCap PPA Series    | C605<br>C610<br>C620<br>C630 | TCA =1 1/2" Tri-clamp(50.5mm)<br>H4=1/2" Hosebarb                                                                                                                                                                             |                    |                                                                                                                                                                                             |                                                                  |                                 |

\*EO sterilization will incur the cost of residual validation

# CLARIFICATION FILTRATION SERIES

## GF High Retention Efficiency Capsule Filter

### Description

GF series pleated capsule filter is designed to provide good protection for downstream filters. The glass microfiber layer has a unique three-dimensional structure, which can provide high dirt holding capacity and high retention efficiency. GF filter is suitable for intercepting colloidal substances from high-load and high-viscosity fluids and intercepting impurity particles in gases.

GF series capsule filter is available in a wide range of removal ratings and in a wide range of cages and connections to meet the needs of different applications.



### Features

- Composed of super-fine glass fiber media
- High dirt holding capacity and high retention efficiency
- Low initial pressure, high flow rates, long service life
- Various cages and connections are available

### Applications

- Clarification filtration of fermentation broth/cell culture medium
- Pre-filtration of serums/blood products
- Pre-filtration of gas sterilization
- Filtration of colloidal products

## Technical Parameters

|                           |                                    |                                                                                                                                      |                   |
|---------------------------|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| Materials of Construction | Filter Membrane                    | GF                                                                                                                                   |                   |
|                           | Support/Drainage                   | PP                                                                                                                                   |                   |
|                           | Core/Cage/End Cap                  | PP                                                                                                                                   |                   |
|                           | Capsule Shell                      | PP                                                                                                                                   |                   |
| Filtration Area           | C80 / C150 / C300                  | 400cm <sup>2</sup> / 850cm <sup>2</sup> /1750cm <sup>2</sup>                                                                         |                   |
|                           | C605 / C610 / C620 / C630          | 1800cm <sup>2</sup> /4200cm <sup>2</sup> /8400cm <sup>2</sup> /12600cm <sup>2</sup>                                                  |                   |
| Filter Dimensions         | Length of Inner Filter Cartridge   | C80/ C150 / C300                                                                                                                     | 1.5"/ 2.5"/ 5"    |
|                           |                                    | C605 / C610 / C620 / C630                                                                                                            | 5"/ 10"/ 20"/ 30" |
|                           | Diameter of Inner Filter Cartridge | C80/ C150 / C300                                                                                                                     | 56mm              |
|                           |                                    | C605 / C610 / C620 / C630                                                                                                            | 68mm              |
|                           | Diameter of the Shell              | C80/ C150 / C300                                                                                                                     | 72±2mm            |
| Sterilization             |                                    | C605 / C610 / C620 / C630                                                                                                            | 108±2mm           |
|                           | Autoclave                          | 124°C,30min, 5cycles<br>134°C,20min, 5cycles                                                                                         |                   |
| Biological Safety         | Bio-compatibility                  | Meet USP <87> in vitro Cytotoxicity Test<br>Meet the criteria of the USP <88> Biological Reactivity Test for Class VI-121°C plastics |                   |
|                           | Endotoxins                         | <0.25EU/ml                                                                                                                           |                   |

## Ordering Information

|                        | Capsule Filter Size          | Inlet/Outlet                                                                                                                                                                                                                  | Material       | Removal Ratings                                                               | Sterilization                                                        | Grade                           |
|------------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------------------------------------------------------------------|----------------------------------------------------------------------|---------------------------------|
| FilterPod<br>GF Series | C80                          | N2                                                                                                                                                                                                                            | GF             | 045                                                                           |                                                                      |                                 |
|                        | C80<br>C150<br>C300          | H2M=1/4" Multiple Hosebarb<br>H3M=3/8" Multiple Hosebarb<br>H3=3/8" Hosebarb<br>H4=1/2" Hosebarb<br>HC=1/4"-3/8" Stepped Hosebarb<br>HS=1/4"-1/2" Stepped Hosebarb<br>TCA=1" Tri-clamp (50.5mm)<br>TCB=1/2" Tri-clamp(25.4mm) | GF=Glass Fibre | 045=0.45µm<br>100=1.0µm<br>300=3.0µm<br>500=5.0µm<br>H10=10.0µm<br>H20=20.0µm | Blank=Non-sterile (Autoclavable)<br><br>-O=Sterile (Ethylene Oxide)* | PR= Pharmaceutical requirements |
| MedCap<br>GF Series    | C605<br>C610<br>C620<br>C630 | TCA =1 1/2" Tri-clamp(50.5mm)<br>H4=1/2" Hosebarb                                                                                                                                                                             |                |                                                                               |                                                                      |                                 |

\*EO sterilization will incur the cost of residual validation

# PREFILTRATION AND BIOBURDEN REDUCTION SERIES

## PN Hydrophilic Capsule Filter

### Description

PN series capsule filter is made of hydrophilic nylon66 membrane, which has excellent chemical compatibility and mechanical strength, and can provide stable and reliable filtration performance of particle removal. Its removal ratings for typical bacteria in the industry have been verified by batches and can effectively reduce the microbial load level of the filtrate.

PN series capsule filter is available in a wide range of cages and connections to meet the needs of different applications.



### Features

- Inherently hydrophilic, easy to wet
- Extensive chemical compatibility, tolerance of organic solvents
- Low differential pressure, high flux, long service life
- Various cages and connections are available

### Applications

- Filtration of APIs and antibiotic solutions, etc.
- Filtration of high purity chemicals and organic solvents
- Filtration of physiological saline, reagent water, etc.
- Filtration of SVP, LVP, etc.

## Technical Parameters

|                           |                                    |                                                                                          |                      |
|---------------------------|------------------------------------|------------------------------------------------------------------------------------------|----------------------|
| Materials of Construction | Filter Membrane                    | Nylon 66                                                                                 |                      |
|                           | Support/Drainage                   | PP                                                                                       |                      |
|                           | Core/Cage/End Cap                  | PP                                                                                       |                      |
|                           | Capsule Shell                      | PP                                                                                       |                      |
| Filtration Area           | C80 / C150 / C300                  | 500cm <sup>2</sup> / 1000cm <sup>2</sup> /2100cm <sup>2</sup>                            |                      |
|                           | C605 / C610 / C620/C630            | 3200cm <sup>2</sup> /6400cm <sup>2</sup> /12800cm <sup>2</sup> /19200cm <sup>2</sup>     |                      |
| Filter Dimensions         | Length of Inner Filter Cartridge   | C80 / C150 / C300                                                                        | 1.5" / 2.5" / 5"     |
|                           |                                    | C605 / C610 / C620 / C630                                                                | 5" / 10" / 20" / 30" |
|                           | Diameter of Inner Filter Cartridge | C80 / C150 / C300                                                                        | 56mm                 |
|                           |                                    | C605 / C610 / C620 / C630                                                                | 68mm                 |
| Sterilization             | Autoclave                          | C80 / C150 / C300                                                                        | 72±2mm               |
|                           |                                    | C605 / C610 / C620 / C630                                                                | 108±2mm              |
|                           | Gamma Irradiation                  | 124°C,30min, 5cycles                                                                     |                      |
|                           |                                    | 134°C,20min, 5cycles                                                                     |                      |
| Biological Safety         | Bio-compatibility                  | Meet USP <87> in vitro Cytotoxicity Test                                                 |                      |
|                           |                                    | Meet the criteria of the USP <88> Biological Reactivity Test for Class VI-121°C plastics |                      |
|                           | Endotoxins                         | <0.25EU/ml                                                                               |                      |

## Ordering Information

|                        | Capsule Filter Size          | Inlet/Outlet                                                                                                                                                                                                                                                                                                                  | Material    | Removal Ratings                                                                | Sterilization                                                                                                                                                                                                           | Grade                            |
|------------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
|                        | C80                          | N2                                                                                                                                                                                                                                                                                                                            | NY          | 010                                                                            |                                                                                                                                                                                                                         |                                  |
| FilterPod<br>PN Series | C80<br>C150<br>C300          | N2=1/4" NPT<br>N3=3/8" NPT<br>N4=1/2" NPT<br>NF2=1/4" FNPT<br>NF3=3/8" FNPT<br>NF4=1/2" FNPT<br>H2M=1/4" Multiple Hosebarb<br>H3M=3/8" Multiple Hosebarb<br>H3=3/8" Hosebarb<br>H4=1/2" Hosebarb<br>HC=1/4"-3/8" Stepped Hosebarb<br>HS=1/4"-1/2" Stepped Hosebarb<br>TCA=1" Tri-clamp (50.5mm)<br>TCB=1/2" Tri-clamp(25.4mm) | NY=Nylon 66 | 010=0.10µm<br>020=0.20µm<br>045=0.45µm<br>080=0.80µm<br>100=1.0µm<br>500=5.0µm | Blank=Non-sterile (Autoclavable)<br><br>-T=Non-sterile (γ-irradiated, Gamma irradiation maximum dosage: Up to 25 kGy)<br><br>-G=Sterile (γ-irradiated, Gamma-compatible to 25 kGy)<br><br>-O=Sterile (Ethylene Oxide)** | PR= Pharmaceuticals requirements |
| MedCap<br>PN Series    | C605<br>C610<br>C620<br>C630 | TCA =1 1/2" Tri-clamp(50.5mm)<br>H4=1/2" Hosebarb                                                                                                                                                                                                                                                                             |             |                                                                                |                                                                                                                                                                                                                         |                                  |

\*EO sterilization will incur the cost of residual validation

# PREFILTRATION AND BIOBURDEN REDUCTION SERIES

## SP High Flow-rate and Long Service Life Capsule Filter

### Description

SP series capsule filter is made of asymmetric PES membrane, which can provide stable and reliable filtration performance of sterilization and particle removal. Its removal ratings of typical bacteria in the industry have been verified by batches, which can effectively reduce the microbial load level of the filtrate, and is especially suitable for the filtration of biomedical liquid where the microbial limit needs to be controlled at a low level.

SP series capsule filter is available in a wide range of cages and connections to meet the needs of different applications, widely used in bio-pharmacy and food and beverage.



### Features

- Asymmetric PES membrane
- Very low protein non-specific binding
- Hot melt welding, without any adhesive
- Various cages and connections are available

### Applications

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

### Technical Parameters

|                           |                                    |                                                                                                                                      |                      |
|---------------------------|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| Materials of Construction | Filter Membrane                    | PES                                                                                                                                  |                      |
|                           | Support/Drainage                   | PP                                                                                                                                   |                      |
|                           | Core/Cage/End Cap                  | PP                                                                                                                                   |                      |
|                           | Capsule Shell                      | PP                                                                                                                                   |                      |
| Filtration Area           | C30 / C80/ C150 / C300             | 250cm <sup>2</sup> / 500cm <sup>2</sup> / 1000cm <sup>2</sup> /2100cm <sup>2</sup>                                                   |                      |
|                           | C605 / C610 / C620 / C630          | 3200cm <sup>2</sup> /6500cm <sup>2</sup> /13000cm <sup>2</sup> /19500cm <sup>2</sup>                                                 |                      |
| Filter Dimensions         | Length of Inner Filter Cartridge   | C30 / C80/ C150 / C300                                                                                                               | 1.5"/ 1.5"/ 2.5"/ 5" |
|                           |                                    | C605 / C610 / C620 / C630                                                                                                            | 5"/ 10"/ 20"/ 30"    |
|                           | Diameter of Inner Filter Cartridge | C30*/ C80 / C150 / C300                                                                                                              | 42mm*/56mm           |
|                           |                                    | C605 / C610 / C620 / C630                                                                                                            | 68mm                 |
|                           | Diameter of the Shell              | C30*/ C80 / C150 / C300                                                                                                              | 60±2mm*/72±2mm       |
|                           |                                    | C605 / C610 / C620 / C630                                                                                                            | 108±2mm              |
| Sterilization             | Autoclave                          | 124°C,30min, 5cycles<br>134°C,20min, 5cycles                                                                                         |                      |
|                           | Gamma Irradiation                  | 25 kGy(Recommended)                                                                                                                  |                      |
| Biological Safety         | Bio-compatibility                  | Meet USP <87> in vitro Cytotoxicity Test<br>Meet the criteria of the USP <88> Biological Reactivity Test for Class VI-121°C plastics |                      |
|                           | Endotoxins                         | <0.25EU/ml                                                                                                                           |                      |

### Ordering Information

|                        | Capsule Filter Size          | Inlet/Outlet                                                                                                                                                                                                                  | Material                 | Removal Ratings                                                                                           | Sterilization                                                                                                                                                                                                           | Grade                           |
|------------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| FilterPod<br>SP Series | C80                          | N2                                                                                                                                                                                                                            | PES                      | 010                                                                                                       |                                                                                                                                                                                                                         |                                 |
|                        | C30*<br>C80<br>C150<br>C300  | H2M=1/4" Multiple Hosebarb<br>H3M=3/8" Multiple Hosebarb<br>H3=3/8" Hosebarb<br>H4=1/2" Hosebarb<br>HC=1/4"-3/8" Stepped Hosebarb<br>HS=1/4"-1/2" Stepped Hosebarb<br>TCA=1" Tri-clamp (50.5mm)<br>TCB=1/2" Tri-clamp(25.4mm) | PES= Polyether -sulphone | 010=0.10µm<br>020=0.20µm<br>045=0.45µm<br>065=0.65µm<br>080=0.80µm<br>100=1.0µm<br>300=3.0µm<br>500=5.0µm | Blank=Non-sterile (Autoclavable)<br><br>-T=Non-sterile (γ-irradiated, Gamma irradiation maximum dosage: Up to 25 kGy)<br><br>-G=Sterile (γ-irradiated, Gamma-compatible to 25 kGy)<br><br>-O=Sterile (Ethylene Oxide)** | PR= Pharmaceutical requirements |
| MedCap<br>SP Series    | C605<br>C610<br>C620<br>C630 | TCA =1 1/2" Tri-clamp(50.5mm)<br>H4=1/2" Hosebarb                                                                                                                                                                             |                          |                                                                                                           |                                                                                                                                                                                                                         |                                 |

\*C30 is only applicable to \*\*EO sterilization will incur the cost of residual validation

# PREFILTRATION AND BIOBURDEN REDUCTION SERIES

## FG Strong Chemical Resistance Capsule Filter

### Description

FG series capsule filter is made of high porosity hydrophobic PTFE membrane, which has a wide range of chemical tolerance and can provide stable and reliable filtration performance of sterilization and particle removal. Its removal ratings of typical bacteria in the industry have been verified by batches, which can effectively reduce the level of microbial load in liquid filtrate and gas, and is especially suitable for the filtration of various low surface tension chemicals and gases.

FG series capsule filter is available in a wide range of cages and connections, and at the same time have good heat tolerance, can with stand hot water disinfection and steam sterilization for a long time.

### Features

- High porosity PTFE membrane
- Pre-filtration of gas sterilization
- Broad chemical tolerance
- High particle retention efficiency
- Various cages and connections are available

### Applications

- Sterilization of bio-fermentation gas
- Filtration of aseptic packaging gas
- Sterilization of food fermentation gas
- Sterilization filtration of respirator
- Filtration of chemical solvents



### Technical Parameters

|                           |                                    |                                                                                          |                      |
|---------------------------|------------------------------------|------------------------------------------------------------------------------------------|----------------------|
| Materials of Construction | Filter Membrane                    | PTFE                                                                                     |                      |
|                           | Support/Drainage                   | PP                                                                                       |                      |
|                           | Core/Cage/End Cap                  | PP                                                                                       |                      |
|                           | Capsule Shell                      | PP                                                                                       |                      |
| Filtration Area           | C30 / C80/ C150 / C300             | 300cm²/ 500cm²/ 1000cm²/2100cm²                                                          |                      |
|                           | C605 / C610 / C620 / C630          | 3700cm²/7400cm²/14800cm²/22200cm²                                                        |                      |
| Filter Dimensions         | Length of Inner Filter Cartridge   | C30 / C80/ C150 / C300                                                                   | 1.5"/ 1.5"/ 2.5"/ 5" |
|                           |                                    | C605 / C610 / C620 / C630                                                                | 5"/ 10"/ 20"/ 30"    |
|                           | Diameter of Inner Filter Cartridge | C30*/ C80 / C150 / C300                                                                  | 42mm*/56mm           |
|                           |                                    | C605 / C610 / C620 / C630                                                                | 68mm                 |
|                           | Diameter of the Shell              | C30*/ C80 / C150 / C300                                                                  | 60±2mm*/72±2mm       |
|                           |                                    | C605 / C610 / C620 / C630                                                                | 108±2mm              |
| Sterilization             | Autoclave                          | 124°C,30min, 5cycles                                                                     |                      |
|                           |                                    | 134°C,20min, 5cycles                                                                     |                      |
| Biological Safety         | Bio-compatibility                  | Meet USP <87> in vitro Cytotoxicity Test                                                 |                      |
|                           |                                    | Meet the criteria of the USP <88> Biological Reactivity Test for Class VI-121°C plastics |                      |
|                           | Endotoxins                         | <0.25EU/ml                                                                               |                      |

### Ordering Information

|                     | Capsule Filter Size          | Inlet/Outlet                                                                                                                                                                                                                  | Material                       | Removal Ratings                                                                | Sterilization                                                    | Grade                           |
|---------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------------------------------------------------------|------------------------------------------------------------------|---------------------------------|
|                     | C80                          | N2                                                                                                                                                                                                                            | PTFEG                          | 010                                                                            |                                                                  |                                 |
| FilterPod FG Series | C30*<br>C80<br>C150<br>C300  | H2M=1/4" Multiple Hosebarb<br>H3M=3/8" Multiple Hosebarb<br>H3=3/8" Hosebarb<br>H4=1/2" Hosebarb<br>HC=1/4"-3/8" Stepped Hosebarb<br>HS=1/4"-1/2" Stepped Hosebarb<br>TCA=1" Tri-clamp (50.5mm)<br>TCB=1/2" Tri-clamp(25.4mm) | PTFEG= Polytetrafluoroethylene | 010=0.10µm<br>020=0.20µm<br>045=0.45µm<br>100=1.0µm<br>500=5.0µm<br>H10=10.0µm | Blank=Non-sterile (Autoclavable)<br>-O=Sterile (Ethylene Oxide)* | PR= Pharmaceutical requirements |
| MedCap FG Series    | C605<br>C610<br>C620<br>C630 | TCA =1 1/2" Tri-clamp(50.5mm)<br>H4=1/2" Hosebarb                                                                                                                                                                             |                                |                                                                                |                                                                  |                                 |

\*C30 is only applicable to HS

**STERILE  
-GRADE**



# EFFICIENT STERILE-GRADE SERIES

## SPB Sterile-Grade Capsule Filter with Low Protein Binding and High Flux

### Description

SPB series capsule filter is made of asymmetric PES membrane. With ultra-low protein binding and dissolution/precipitation levels, it can provide stable and reliable terminal sterilization filtration performance. It has passed the batch verification of typical bacterial removal ratings in the industry, and its sterilization ability  $LRV>7$ .

SPB series capsule filter is available in a wide range of cages and connections, and can be customized with double-layer PES filter membrane configurations according to customer needs, ensuring reliable sterilization ability and longer service life of the filter cartridge.



### Features

- Strong chemical compatibility
- High Flux, low protein binding
- Proven sterile-grade filter element
- Ultra-low dissolution/precipitation
- Customizable double layer membrane configuration
- Various cages and connections are available

### Applications

- Sterilization filtration of water for injection, cleaning solution, 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.

### Technical Parameters

|                           |                                    |                                                                                          |                      |
|---------------------------|------------------------------------|------------------------------------------------------------------------------------------|----------------------|
| Materials of Construction | Filter Membrane                    | PES                                                                                      |                      |
|                           | Support/Drainage                   | PP                                                                                       |                      |
|                           | Core/Cage/End Cap                  | PP                                                                                       |                      |
|                           | Capsule Shell                      | PP                                                                                       |                      |
| Filtration Area           | C30 / C80/ C150 / C300             | 250cm <sup>2</sup> / 500cm <sup>2</sup> / 1000cm <sup>2</sup> /2100cm <sup>2</sup>       |                      |
|                           | C605 / C610 / C620 / C630          | 3200cm <sup>2</sup> /6500cm <sup>2</sup> /13000cm <sup>2</sup> /19500cm <sup>2</sup>     |                      |
| Filter Dimensions         | Length of Inner Filter Cartridge   | C30 / C80/ C150 / C300                                                                   | 1.5"/ 1.5"/ 2.5"/ 5" |
|                           |                                    | C605 / C610 / C620 / C630                                                                | 5"/ 10"/ 20"/ 30"    |
|                           | Diameter of Inner Filter Cartridge | C30*/ C80 / C150 / C300                                                                  | 42mm*/56mm           |
|                           |                                    | C605 / C610 / C620 / C630                                                                | 68mm                 |
| Sterilization             | Autoclave                          | C30* / C80 / C150 / C300                                                                 | 60±2mm*/72±2mm       |
|                           |                                    | C605 / C610 / C620 / C630                                                                | 108±2mm              |
|                           | Gamma Irradiation                  | 25 kGy(Recommended)                                                                      |                      |
| Biological Safety         | Bio-compatibility                  | Meet USP <87> in vitro Cytotoxicity Test                                                 |                      |
|                           |                                    | Meet the criteria of the USP <88> Biological Reactivity Test for Class VI-121°C plastics |                      |
|                           | Endotoxins                         | <0.25EU/ml                                                                               |                      |

### Ordering Information

|                         | Capsule Filter Size          | Inlet/Outlet                                                                                                                                                                                                                  | Material                 | Removal Ratings                                                        | Sterilization                                                                                                                                                                                                           | Grade                           |
|-------------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| FilterPod<br>SPB Series | C80                          | N2                                                                                                                                                                                                                            | PESB                     | 010                                                                    |                                                                                                                                                                                                                         |                                 |
|                         | C30*<br>C80<br>C150<br>C300  | H2M=1/4" Multiple Hosebarb<br>H3M=3/8" Multiple Hosebarb<br>H3=3/8" Hosebarb<br>H4=1/2" Hosebarb<br>HC=1/4"-3/8" Stepped Hosebarb<br>HS=1/4"-1/2" Stepped Hosebarb<br>TCA=1" Tri-clamp (50.5mm)<br>TCB=1/2" Tri-clamp(25.4mm) | PESB= Polyether-sulphone | 010=0.10µm<br>020=0.20µm<br><br>045=0.45µm<br>065=0.65µm<br>080=0.80µm | Blank=Non-sterile (Autoclavable)<br><br>-T=Non-sterile (γ-irradiated, Gamma irradiation maximum dosage: Up to 25 kGy)<br><br>-G=Sterile (γ-irradiated, Gamma-compatible to 25 kGy)<br><br>-O=Sterile (Ethylene Oxide)** | PR= Pharmaceutical requirements |
| MedCap<br>SPB Series    | C605<br>C610<br>C620<br>C630 | TCA =1 1/2" Tri-clamp(50.5mm)<br>H4=1/2" Hosebarb                                                                                                                                                                             |                          |                                                                        |                                                                                                                                                                                                                         |                                 |

\*C30 is only applicable to HS  
\*\*EO sterilization will incur the cost of residual validation

# EFFICIENT STERILE-GRADE SERIES

## SPP Sterile-Grade Capsule Filter with Long Service Life and High Efficiency

### Description

SPP series capsule filters is made of double-layer asymmetric PES membrane, It have a built-in pre-filter membrane in front of the end-filter membrane. The unique anisotropic Polyethersulfone pre-filter membrane reduces the plugging rate of end-filter membrane effectively. Its removal ratings of typical bacteria in the industry have been verified by batches, and its sterilization ability LRV >7.

SPP series capsule filter is available in a wide range of cages and connections, and can provide double-layer PES filter membrane. The double-layer filter membrane can provide a longer service life with reliable sterilization ability of the filter element through special design.



### Features

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

### Applications

- Sterilization filtration of water for injection, cleaning solution, 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.

## Technical Parameters

|                           |                                    |                                                                                          |                      |
|---------------------------|------------------------------------|------------------------------------------------------------------------------------------|----------------------|
| Materials of Construction | Filter Membrane                    | Double layer PES                                                                         |                      |
|                           | Support/Drainage                   | PP                                                                                       |                      |
|                           | Core/Cage/End Cap                  | PP                                                                                       |                      |
|                           | Capsule Shell                      | PP                                                                                       |                      |
| Filtration Area           | C30 / C80 / C150 / C300            | 230cm <sup>2</sup> / 500cm <sup>2</sup> / 1000cm <sup>2</sup> /2000cm <sup>2</sup>       |                      |
|                           | C605 / C610 / C620 / C630          | 2700cm <sup>2</sup> /5500cm <sup>2</sup> /11000cm <sup>2</sup> /16500cm <sup>2</sup>     |                      |
| Filter Dimensions         | Length of Inner Filter Cartridge   | C30 / C80 / C150 / C300                                                                  | 1.5"/ 1.5"/ 2.5"/ 5" |
|                           |                                    | C605 / C610 / C620 / C630                                                                | 5"/ 10"/ 20"/ 30"    |
|                           | Diameter of Inner Filter Cartridge | C30*/ C80 / C150 / C300                                                                  | 42mm*/56mm           |
|                           |                                    | C605 / C610 / C620 / C630                                                                | 68mm                 |
| Sterilization             | Autoclave                          | C30*/ C80 / C150 / C300                                                                  | 60±2mm*/72±2mm       |
|                           |                                    | C605 / C610 / C620 / C630                                                                | 108±2mm              |
|                           | Gamma Irradiation                  | 124°C,30min, 5cycles                                                                     |                      |
|                           |                                    | 134°C,20min, 5cycles                                                                     |                      |
| Biological Safety         | Bio-compatibility                  | Meet USP <87> in vitro Cytotoxicity Test                                                 |                      |
|                           |                                    | Meet the criteria of the USP <88> Biological Reactivity Test for Class VI-121°C plastics |                      |
|                           | Endotoxins                         | <0.25EU/ml                                                                               |                      |

## Ordering Information

|                      | Capsule Filter Size          | Inlet/Outlet                                                                                                                                                                                                                  | Material                 | Removal Ratings                                                                                                                                   | Sterilization                                                                                                                                                                                                           | Grade                           |
|----------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
|                      | C80                          | N2                                                                                                                                                                                                                            | PESP                     | 010                                                                                                                                               |                                                                                                                                                                                                                         |                                 |
| FilterPod SPP Series | C30*<br>C80<br>C150<br>C300  | H2M=1/4" Multiple Hosebarb<br>H3M=3/8" Multiple Hosebarb<br>H3=3/8" Hosebarb<br>H4=1/2" Hosebarb<br>HC=1/4"-3/8" Stepped Hosebarb<br>HS=1/4"-1/2" Stepped Hosebarb<br>TCA=1" Tri-clamp (50.5mm)<br>TCB=1/2" Tri-clamp(25.4mm) | PESP= Polyether-sulphone | 010=0.10+0.20µm<br>020=0.20+0.80µm<br>C20=0.20+0.45µm (Standart)<br>S20=0.20+0.45µm (High dirt holding)<br><br>D45=0.45+0.65µm<br>E45=0.45+0.80µm | Blank=Non-sterile (Autoclavable)<br><br>-T=Non-sterile (γ-irradiated, Gamma irradiation maximum dosage: Up to 25 kGy)<br><br>-G=Sterile (γ-irradiated, Gamma-compatible to 25 kGy)<br><br>-O=Sterile (Ethylene Oxide)** | PR= Pharmaceutical requirements |
| MedCap SPP Series    | C605<br>C610<br>C620<br>C630 | TCA=1 1/2" Tri-clamp(50.5mm)<br>H4=1/2"Hosebarb                                                                                                                                                                               |                          |                                                                                                                                                   |                                                                                                                                                                                                                         |                                 |

\*C30 is only applicable to HS  
\*\*EO sterilization will incur the cost of residual validation

# EFFICIENT STERILE-GRADE SERIES

## SPD Sterile-Grade Capsule Filter with Higher Removal Efficiency

### Description

SPD series is made of double-layer asymmetric PES membrane. The double-layer sterile-grade membrane provides a higher level of sterilization protection. It is suitable for harsh sterile terminal filtration. It has passed the batch verification of typical bacterial removal grade in the industry, and its sterilization ability  $LRV > 7$ .

SPD series capsule filter is available in a wide range of cages and connections, and can provide double-layer PES filter membrane. The double-layer filter membrane can provide a higher removal efficiency with reliable sterilization ability of the filter cartridge through special design.



### Features

- Strong chemical compatibility
- High flux, low protein binding
- Proven sterile-grade filter cartridge
- Higher protection ability of sterilization
- Various cages and connections are available

### Applications

- Sterilization filtration of water for injection, cleaning solution, 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.

### Technical Parameters

|                           |                                    |                                                                                          |                         |
|---------------------------|------------------------------------|------------------------------------------------------------------------------------------|-------------------------|
| Materials of Construction | Filter Membrane                    | Double layer PES                                                                         |                         |
|                           | Support/Drainage                   | PP                                                                                       |                         |
|                           | Core/Cage/End Cap                  | PP                                                                                       |                         |
|                           | Capsule Shell                      | PP                                                                                       |                         |
| Filtration Area           | C30 / C80 / C150 / C300            | 230cm <sup>2</sup> / 500cm <sup>2</sup> / 1000cm <sup>2</sup> / 2000cm <sup>2</sup>      |                         |
|                           | C605 / C610 / C620 / C630          | 2700cm <sup>2</sup> / 5500cm <sup>2</sup> / 11000cm <sup>2</sup> / 16500cm <sup>2</sup>  |                         |
| Filter Dimensions         | Length of Inner Filter Cartridge   | C30 / C80 / C150 / C300                                                                  | 1.5" / 1.5" / 2.5" / 5" |
|                           |                                    | C605 / C610 / C620 / C630                                                                | 5" / 10" / 20" / 30"    |
|                           | Diameter of Inner Filter Cartridge | C30* / C80 / C150 / C300                                                                 | 42mm* / 56mm            |
|                           |                                    | C605 / C610 / C620 / C630                                                                | 68mm                    |
| Sterilization             | Autoclave                          | C30* / C80 / C150 / C300                                                                 | 60±2mm* / 72±2mm        |
|                           |                                    | C605 / C610 / C620 / C630                                                                | 108±2mm                 |
|                           | Gamma Irradiation                  | 25 kGy(Recommended)                                                                      |                         |
| Biological Safety         | Bio-compatibility                  | Meet USP <87> in vitro Cytotoxicity Test                                                 |                         |
|                           |                                    | Meet the criteria of the USP <88> Biological Reactivity Test for Class VI-121°C plastics |                         |
|                           | Endotoxins                         | <0.25EU/ml                                                                               |                         |

### Ordering Information

|                      | Capsule Filter Size          | Inlet/Outlet                                                                                                                                                                                                                  | Material                 | Removal Ratings                                       | Sterilization                                                                                                                                                                                                           | Grade                           |
|----------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| FilterPod SPD Series | C80                          | N2                                                                                                                                                                                                                            | PESD                     | 010                                                   |                                                                                                                                                                                                                         |                                 |
|                      | C30*<br>C80<br>C150<br>C300  | H2M=1/4" Multiple Hosebarb<br>H3M=3/8" Multiple Hosebarb<br>H3=3/8" Hosebarb<br>H4=1/2" Hosebarb<br>HC=1/4"-3/8" Stepped Hosebarb<br>HS=1/4"-1/2" Stepped Hosebarb<br>TCA=1" Tri-clamp (50.5mm)<br>TCB=1/2" Tri-clamp(25.4mm) | PESD= Polyether-sulphone | 010=0.10+0.10µm<br>020=0.20+0.20µm<br>045=0.45+0.45µm | Blank=Non-sterile (Autoclavable)<br><br>-T=Non-sterile (γ-irradiated, Gamma irradiation maximum dosage: Up to 25 kGy)<br><br>-G=Sterile (γ-irradiated, Gamma-compatible to 25 kGy)<br><br>-O=Sterile (Ethylene Oxide)** | PR= Pharmaceutical requirements |
| MedCap SPD Series    | C605<br>C610<br>C620<br>C630 | TCA=1 1/2" Tri-clamp(50.5mm)<br>H4=1/2" Hosebarb                                                                                                                                                                              |                          |                                                       |                                                                                                                                                                                                                         |                                 |

\*C30 is only applicable to HS

\*\*EO sterilization will incur the cost of residual validation

# EFFICIENT STERILE-GRADE SERIES

## FSG Sterile-Grade Capsule Filter with High Retention Efficiency and High Flux

### Description

FSG series capsule filter is made of high porosity hydrophobic PTFE membrane, which has a broad range of chemical tolerance and can provide stable and reliable terminal sterilization filtration performance. Its removal ratings of typical bacteria in the industry have been verified by batches, and its sterilization ability  $LRV > 7$ .

FSG series capsule filter is available in a wide range of cages and connections, and can be customized with double-layer PTFE filter membrane configurations according to customer needs, ensuring reliable sterilization ability and longer service life of the filter cartridg.



### Features

- Broad chemical tolerance
- Proven sterilization efficiency
- Customizable double layer membrane configuration.
- High reliability
- Various cages and connections are available

### Applications

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

### Technical Parameters

|                           |                                    |                                                                                                                                      |                      |
|---------------------------|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| Materials of Construction | Filter Membrane                    | PTFE                                                                                                                                 |                      |
|                           | Support/Drainage                   | PP                                                                                                                                   |                      |
|                           | Core/Cage/End Cap                  | PP                                                                                                                                   |                      |
|                           | Capsule Shell                      | PP                                                                                                                                   |                      |
| Filtration Area           | C30 / C80/ C150 / C300             | 300cm²/ 500cm²/ 1000cm²/2100cm²                                                                                                      |                      |
|                           | C605 / C610 / C620 / C630          | 3700cm²/7400cm²/14800cm²/22200cm²                                                                                                    |                      |
| Filter Dimensions         | Length of Inner Filter Cartridge   | C30 / C80/ C150 / C300                                                                                                               | 1.5"/ 1.5"/ 2.5"/ 5" |
|                           |                                    | C605 / C610 / C620 / C630                                                                                                            | 5"/ 10"/ 20"/ 30"    |
|                           | Diameter of Inner Filter Cartridge | C30*/ C80 / C150 / C300                                                                                                              | 42mm*/56mm           |
|                           |                                    | C605 / C610 / C620 / C630                                                                                                            | 68mm                 |
|                           | Diameter of the Shell              | C30*/ C80 / C150 / C300                                                                                                              | 60±2mm*/72±2mm       |
|                           |                                    | C605 / C610 / C620 / C630                                                                                                            | 108±2mm              |
| Sterilization             | Autoclave                          | 124°C,30min, 5cycles                                                                                                                 |                      |
|                           |                                    | 134°C,20min, 5cycles                                                                                                                 |                      |
| Biological Safety         | Bio-compatibility                  | Meet USP <87> in vitro Cytotoxicity Test<br>Meet the criteria of the USP <88> Biological Reactivity Test for Class VI-121°C plastics |                      |
|                           | Endotoxins                         | <0.25EU/ml                                                                                                                           |                      |

\*Only applicable to C30

### Ordering Information

|                      | Capsule Filter Size          | Inlet/Outlet                                                                                                                                                                                                                  | Material                        | Removal Ratings                                                                                       | Sterilization                                        | Grade                           |
|----------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------------------------------------------------------------------------------------------|------------------------------------------------------|---------------------------------|
|                      | C80                          | N2                                                                                                                                                                                                                            | PTFESG                          | 010                                                                                                   |                                                      |                                 |
| FilterPod FSG Series | C30*<br>C80<br>C150<br>C300  | H2M=1/4" Multiple Hosebarb<br>H3M=3/8" Multiple Hosebarb<br>H3=3/8" Hosebarb<br>H4=1/2" Hosebarb<br>HC=1/4"-3/8" Stepped Hosebarb<br>HS=1/4"-1/2" Stepped Hosebarb<br>TCA=1" Tri-clamp (50.5mm)<br>TCB=1/2" Tri-clamp(25.4mm) | PTFESG= Polytetrafluoroethylene | 010=0.10µm<br>020=0.20µm<br>045=0.45µm<br>C20=0.20µm+0.45µm<br>D20=0.20µm+0.65µm<br>E20=0.20µm+0.80µm | Blank=Non-sterile (Autoclavable)<br><br>-O=Sterile * | PR= Pharmaceutical requirements |
| MedCap FSG Series    | C605<br>C610<br>C620<br>C630 | TCA =1 1/2" Tri-clamp(50.5mm)<br>H4=1/2" Hosebarb                                                                                                                                                                             |                                 |                                                                                                       |                                                      |                                 |

\*EO sterilization will incur the cost of residual validation

\*C30 is only applicable to HS

# EFFICIENT STERILE-GRADE SERIES

## FDG Sterile-Grade Capsule Filter with Higher Removal Efficiency

### Description

FDG series capsule filter is made of double-layer sterile-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. Its removal ratings of typical bacteria in the industry have been verified by batches, and its sterilization ability  $LRV > 7$ .

FDG series capsule filter is available in a wide range of cages and connections, and at the same time have good heat tolerance, can with stand hot water disinfection and steam sterilization for a long time.



### Features

- Extensive chemical compatibility
- High sterilization efficiency
- High reliability
- Water intrusion test can be used
- Various cages and connections are available

### Applications

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

## Technical Parameters

|                           |                                    |                                                                                          |                      |
|---------------------------|------------------------------------|------------------------------------------------------------------------------------------|----------------------|
| Materials of Construction | Filter Membrane                    | Double layer PTFE                                                                        |                      |
|                           | Support/Drainage                   | PP                                                                                       |                      |
|                           | Core/Cage/End Cap                  | PP                                                                                       |                      |
|                           | Capsule Shell                      | PP                                                                                       |                      |
| Filtration Area           | C30 / C80/ C150 / C300             | 300cm <sup>2</sup> / 500cm <sup>2</sup> / 1000cm <sup>2</sup> /2100cm <sup>2</sup>       |                      |
|                           | C605 / C610 / C620 / C630          | 3700cm <sup>2</sup> /7400cm <sup>2</sup> /14800cm <sup>2</sup> /22200cm <sup>2</sup>     |                      |
| Filter Dimensions         | Length of Inner Filter Cartridge   | C30 / C80/ C150 / C300                                                                   | 1.5"/ 1.5"/ 2.5"/ 5" |
|                           |                                    | C605 / C610 / C620 / C630                                                                | 5"/ 10"/ 20"/ 30"    |
|                           | Diameter of Inner Filter Cartridge | C30*/ C80 / C150 / C300                                                                  | 42mm*/56mm           |
|                           |                                    | C605 / C610 / C620 / C630                                                                | 68mm                 |
|                           | Diameter of the Shell              | C30*/ C80 / C150 / C300                                                                  | 60±2mm*/72±2mm       |
|                           |                                    | C605 / C610 / C620 / C630                                                                | 108±2mm              |
| Sterilization             | Autoclave                          | 124°C,30min, 5cycles                                                                     |                      |
|                           |                                    | 134°C,20min, 5cycles                                                                     |                      |
| Biological Safety         | Bio-compatibility                  | Meet USP <87> in vitro Cytotoxicity Test                                                 |                      |
|                           |                                    | Meet the criteria of the USP <88> Biological Reactivity Test for Class VI-121°C plastics |                      |
|                           | Endotoxins                         | <0.25EU/ml                                                                               |                      |

## Ordering Information

|                         | Capsule Filter Size          | Inlet/Outlet                                                                                                                                                                                                                  | Material                        | Removal Ratings                                       | Sterilization                                        | Grade                           |
|-------------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------------------------------------------|------------------------------------------------------|---------------------------------|
|                         | C80                          | N2                                                                                                                                                                                                                            | PTFEDG                          | 010                                                   |                                                      |                                 |
| FilterPod<br>FDG Series | C30*<br>C80<br>C150<br>C300  | H2M=1/4" Multiple Hosebarb<br>H3M=3/8" Multiple Hosebarb<br>H3=3/8" Hosebarb<br>H4=1/2" Hosebarb<br>HC=1/4"-3/8" Stepped Hosebarb<br>HS=1/4"-1/2" Stepped Hosebarb<br>TCA=1" Tri-clamp (50.5mm)<br>TCB=1/2" Tri-clamp(25.4mm) | PTFEDG= Polytetrafluoroethylene | 010=0.10+0.10µm<br>020=0.20+0.20µm<br>045=0.45+0.45µm | Blank=Non-sterile (Autoclavable)<br><br>-O=Sterile * | PR= Pharmaceutical requirements |
| MedCap<br>FDG Series    | C605<br>C610<br>C620<br>C630 | TCA =1 1/2" Tri-clamp(50.5mm)<br>H4=1/2" Hosebarb                                                                                                                                                                             |                                 |                                                       |                                                      |                                 |

\*EO sterilization will incur the cost of residual validation

\*C30 is only applicable to HS

# EFFICIENT STERILE-GRADE SERIES

## KPL Sterile-Grade Capsule Filter with Low Precipitation and Low Protein Binding

### Description

KPL series is a pharmaceutical-grade capsule filter made from hydrophilic PVDF membrane and polypropylene components. The extremely low protein binding property of PVDF makes it particularly suitable for filtration of culture solution, biological reagent, sterile vaccine, etc. At the same time, it has low extractability and broad chemical compatibility. It has passed the batch verification of typical bacterial removal grade in the industry, and its sterilization ability LRV>7.

KPL series capsule filter is available in a wide range of cages and connections, and can provide double-layer PVDF filter membrane. The double-layer filter membrane can provide a longer service life with reliable sterilization ability of the filter cartridge through special design.



### Features

- Strong chemical compatibility
- Ultra-low protein binding
- Low precipitation
- Proven sterile-grade filter element
- Various cages and connections are available

### Applications

- Sterilization filtration of water for injection, cleaning solution, 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.

## Technical Parameters

|                           |                                    |                                                                                          |                      |
|---------------------------|------------------------------------|------------------------------------------------------------------------------------------|----------------------|
| Materials of Construction | Filter Membrane                    | Hydrophilic PVDF                                                                         |                      |
|                           | Support/Drainage                   | PP                                                                                       |                      |
|                           | Core/Cage/End Cap                  | PP                                                                                       |                      |
|                           | Capsule Shell                      | PP                                                                                       |                      |
| Filtration Area           | C80 / C150 / C300                  | 500cm <sup>2</sup> / 1000cm <sup>2</sup> / 2100cm <sup>2</sup>                           |                      |
|                           | C605 / C610 / C620 / C630          | 3200cm <sup>2</sup> / 6500cm <sup>2</sup> / 13000cm <sup>2</sup> / 19500cm <sup>2</sup>  |                      |
| Filter Dimensions         | Length of Inner Filter Cartridge   | C80 / C150 / C300                                                                        | 1.5" / 2.5" / 5"     |
|                           |                                    | C605 / C610 / C620 / C630                                                                | 5" / 10" / 20" / 30" |
|                           | Diameter of Inner Filter Cartridge | C80 / C150 / C300                                                                        | 56mm                 |
|                           |                                    | C605 / C610 / C620 / C630                                                                | 68mm                 |
|                           | Diameter of the Shell              | C80 / C150 / C300                                                                        | 72±2mm               |
|                           |                                    | C605 / C610 / C620 / C630                                                                | 108±2mm              |
| Sterilization             | Autoclave                          | 124°C, 30min, 5cycles                                                                    |                      |
|                           | Gamma Irradiation                  | 134°C, 20min, 5cycles                                                                    |                      |
| Biological Safety         |                                    | 25 kGy (Recommended)                                                                     |                      |
|                           | Bio-compatibility                  | Meet USP <87> in vitro Cytotoxicity Test                                                 |                      |
|                           |                                    | Meet the criteria of the USP <88> Biological Reactivity Test for Class VI-121°C plastics |                      |
|                           | Endotoxins                         | <0.25EU/ml                                                                               |                      |

\*Only applicable to C30

## Ordering Information

|                      | Capsule Filter Size          | Inlet/Outlet                                                                                                                                                                                                                   | Material                       | Removal Ratings                                                    | Sterilization                                                                                                                                                                                                           | Grade                            |
|----------------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
|                      | C80                          | N2                                                                                                                                                                                                                             | PVDFL                          | 020                                                                |                                                                                                                                                                                                                         |                                  |
| FilterPod KPL Series | C80<br>C150<br>C300          | H2M=1/4" Multiple Hosebarb<br>H3M=3/8" Multiple Hosebarb<br>H3=3/8" Hosebarb<br>H4=1/2" Hosebarb<br>HC=1/4"-3/8" Stepped Hosebarb<br>HS=1/4"-1/2" Stepped Hosebarb<br>TCA=1" Tri-clamp (50.5mm)<br>TCB=1/2" Tri-clamp (25.4mm) | PVDFL= Polyvinylidene Fluoride | 020=0.20µm<br>045=0.45µm<br>X20=0.20µm+0.20µm<br>C20=0.20µm+0.45µm | Blank=Non-sterile (Autoclavable)<br><br>-T=Non-sterile (γ-irradiated, Gamma irradiation maximum dosage: Up to 25 kGy)<br><br>-G=Sterile (γ-irradiated, Gamma-compatible to 25 kGy)<br><br>-O=Sterile (Ethylene Oxide)** | PR = Pharmaceutical requirements |
| MedCap KPL Series    | C605<br>C610<br>C620<br>C630 | TCA=1 1/2" Tri-clamp (50.5mm)<br>H4=1/2" Hosebarb                                                                                                                                                                              |                                |                                                                    |                                                                                                                                                                                                                         |                                  |

# EFFICIENT STERILE-GRADE SERIES

## MZ Positively-charged Capsule Filter

### Description

MZ series capsule filter use a modified Nylon 66 membrane with positive charge which can provide enhanced retention of fine particles smaller than the membrane’s rating, such as endotoxins in water. Due to reasonable structure, it can offers high flow rate, high throughput and low extractables, available in particulate and bio reduction grades and in sterilizing-grades with low cost.

MZ series capsule filter is available in a wide range of cages and connections to meet the needs of different applications.



### Technical Parameters

|                           |                                    |                                                                                                                                      |                   |
|---------------------------|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| Materials of Construction | Filter Membrane                    | Modified Nylon 66 membrane with positive charge                                                                                      |                   |
|                           | Support/Drainage                   | PP                                                                                                                                   |                   |
|                           | Core/Cage/End Cap                  | PP                                                                                                                                   |                   |
|                           | Capsule Shell                      | PP                                                                                                                                   |                   |
| Filtration Area           | C80/ C150 / C300                   | 500cm²/ 1000cm²/2100cm²                                                                                                              |                   |
|                           | C605 / C610 / C620 / C630          | 3200cm²/6400cm²/12800cm²/19200cm²                                                                                                    |                   |
| Filter Dimensions         | Length of Inner Filter Cartridge   | C80/ C150 / C300                                                                                                                     | 1.5"/ 2.5"/ 5"    |
|                           |                                    | C605 / C610 / C620 / C630                                                                                                            | 5"/ 10"/ 20"/ 30" |
|                           | Diameter of Inner Filter Cartridge | C80 / C150 / C300                                                                                                                    | 56mm              |
|                           |                                    | C605 / C610 / C620 / C630                                                                                                            | 68mm              |
| Filter Dimensions         | Diameter of the Shell              | C80 / C150 / C300                                                                                                                    | 72±2mm            |
|                           |                                    | C605 / C610 / C620 / C630                                                                                                            | 108±2mm           |
| Sterilization             | Autoclave                          | 124°C,30min, 5cycles<br>134°C,20min, 5cycles                                                                                         |                   |
|                           | Gamma Irradiation                  | 25 kGy(Recommended)                                                                                                                  |                   |
| Biological Safety         | Bio-compatibility                  | Meet USP <87> in vitro Cytotoxicity Test<br>Meet the criteria of the USP <88> Biological Reactivity Test for Class VI-121°C plastics |                   |
|                           | Endotoxins                         | <0.25EU/ml                                                                                                                           |                   |

\*Only applicable to C30

### Features

- Highly hydrophilic, easy to wet
- Positive charge on membrane surface
- 100% integrity testing
- Various cages and connections are available

### Applications

- Sterilization filtration of sterile APIs, antibiotic solutions, 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

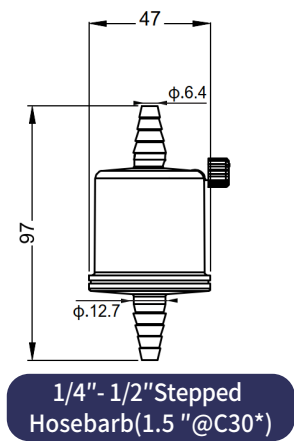
### Ordering Information

|                     | Capsule Filter Size          | Inlet/Outlet                                                                                                                                                                                                                  | Material              | Removal Ratings                        | Sterilization                                                                                                                                                                                                           | Grade                           |
|---------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
|                     | C80                          | N2                                                                                                                                                                                                                            | NYZ                   | 010                                    |                                                                                                                                                                                                                         |                                 |
| FilterPod MZ Series | C80<br>C150<br>C300          | H2M=1/4" Multiple Hosebarb<br>H3M=3/8" Multiple Hosebarb<br>H3=3/8" Hosebarb<br>H4=1/2" Hosebarb<br>HC=1/4"-3/8" Stepped Hosebarb<br>HS=1/4"-1/2" Stepped Hosebarb<br>TCA=1" Tri-clamp (50.5mm)<br>TCB=1/2" Tri-clamp(25.4mm) | NYZ= Charged Nylon 66 | 010=0.10µm<br>020=0.20µm<br>045=0.45µm | Blank=Non-sterile (Autoclavable)<br><br>-T=Non-sterile (γ-irradiated, Gamma irradiation maximum dosage: Up to 25 kGy)<br><br>-G=Sterile (γ-irradiated, Gamma-compatible to 25 kGy)<br><br>-O=Sterile (Ethylene Oxide)** | PR= Pharmaceutical requirements |
| MedCap MZ Series    | C605<br>C610<br>C620<br>C630 | TCA =1 1/2" Tri-clamp(50.5mm)<br>H4=1/2" Hosebarb                                                                                                                                                                             |                       |                                        |                                                                                                                                                                                                                         |                                 |

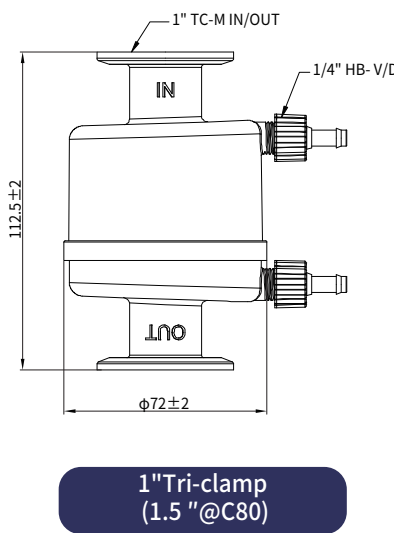
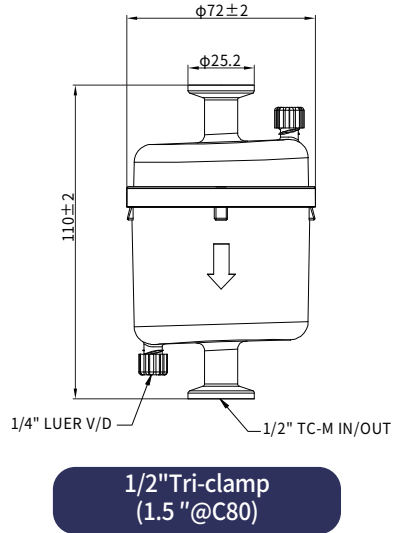
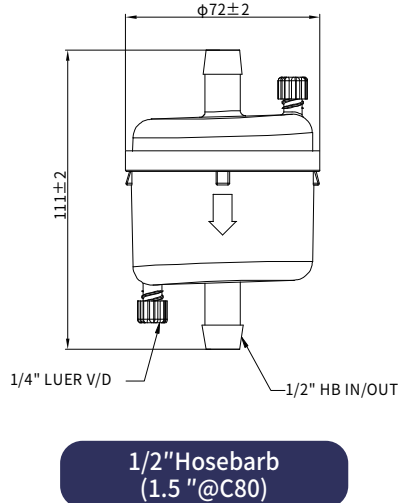
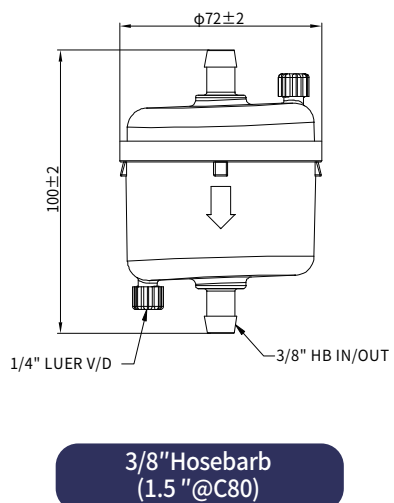
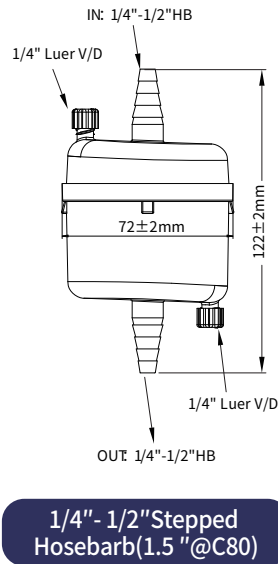
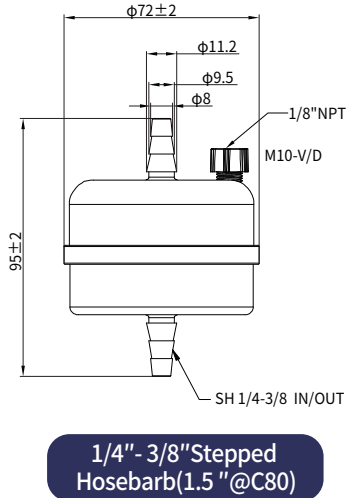
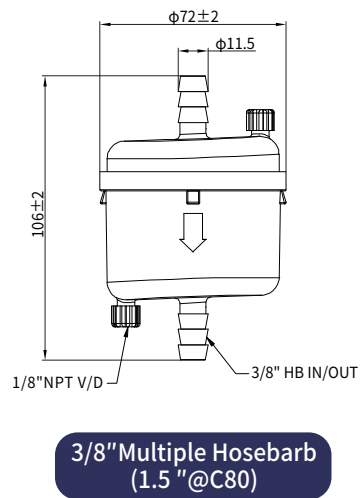
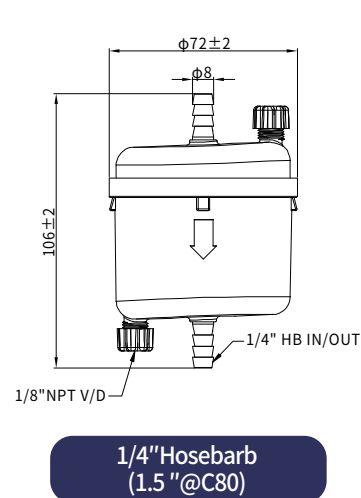
\*EO sterilization will incur the cost of residual validation

PRODUCT DIMENSION

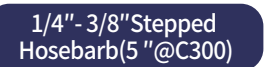
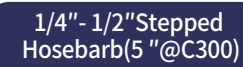
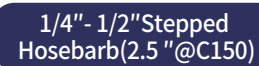
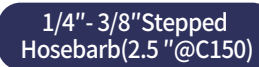
C30



C80

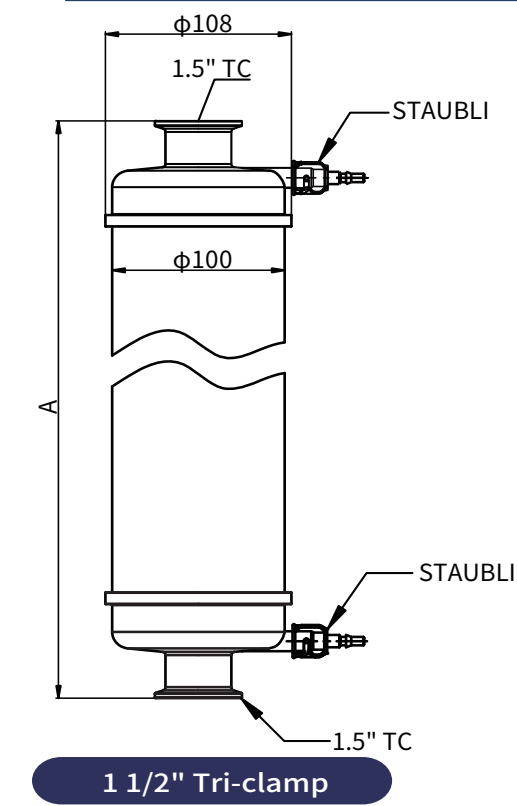


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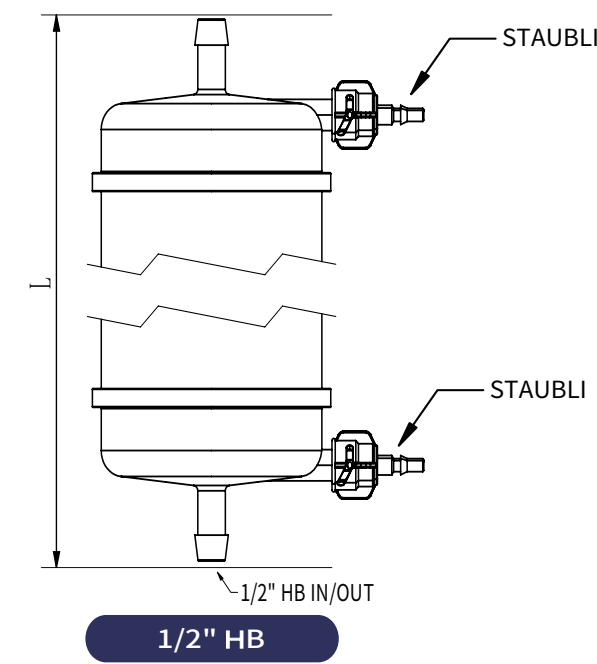


# PRODUCT DIMENSION

## C605/C610/C620/C630



| Code | Length(inch) | A(mm)   |
|------|--------------|---------|
| C605 | 05           | 252.0±2 |
| C610 | 10           | 373.0±2 |
| C620 | 20           | 619.0±2 |
| C630 | 30           | 865.0±2 |



| Code | Length(inch) | L(mm)   |
|------|--------------|---------|
| C605 | 05           | 258.8±2 |
| C610 | 10           | 379.8±2 |
| C620 | 20           | 625.8±2 |
| C630 | 30           | 871.8±2 |