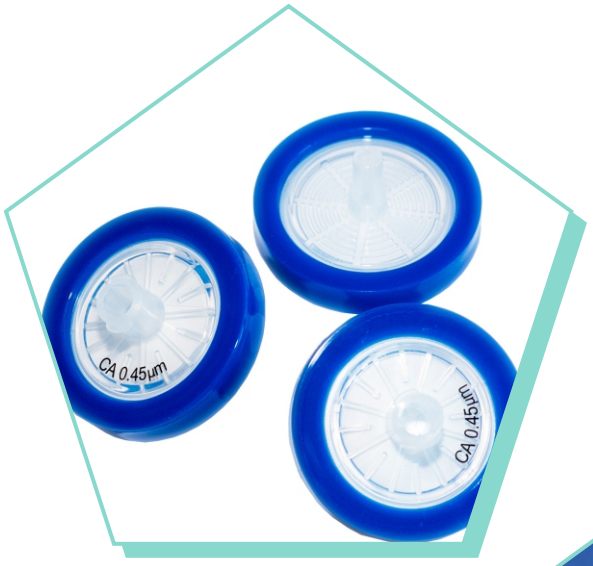
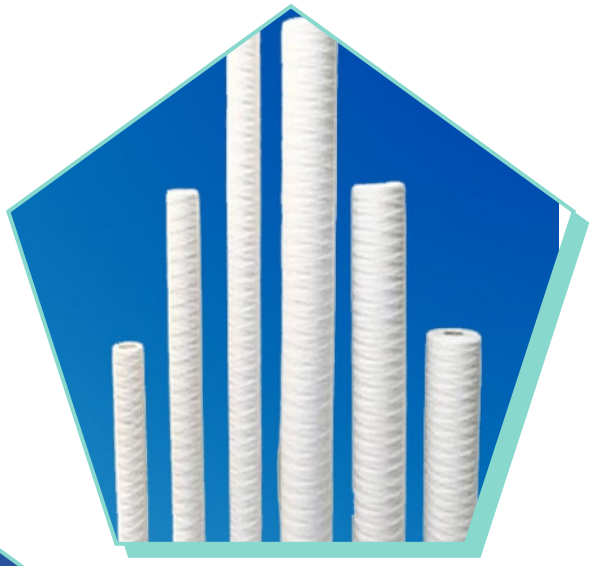
CERTISHELL

Certified Containment Solutions





Welcome to a new benchmark in Analyte Detection

Certipure Syringe and Membrane Filters

Certipure range of syringe filters and Membrane filters from Certishell provides high-quality, cost-effective filtration systems that improve the reliability of experimental results and decrease instrument downtime.

Certipure Syringe and Membrane Filters set (encompasses/comprises) of the new Quality standard for today's laboratory filters with an array of filters suitable for every laboratory application. Manufactured from the highest quality grade, Certipure range of Filters provide excellent chemical compatibility with acids, alcohols, bases, ethers, glycols, ketones and oils.

Certipure range of filters are suitable for

1. Pharmaceutical
2. Food and Beverages
3. Environmental
4. Automobiles
5. CRO's
6. Dyes and Intermediates
7. General laboratory

Products for Certipure range of products include

a) Syringe filters

Diameter: 13 mm, 25 mm, 33 mm

Membranes: Nylon, PVDF, PTFE, Cellulose Acetate, glass microfiber, MCE, PES, Regenerated cellulose

Types: Sterile and Non sterile

b) Membrane filters

Membranes: Nylon, PVDF, PTFE, Cellulose Acetate, glass microfiber, MCE, PES, Regenerated cellulose

Diameter: 25 mm, 47 mm. 147 mm, 253 mm

Types: Sterile and Non Sterile

c) Vent Filters

d) Capsule, BAG and cartridge filters

e) Steripure Funnels

We are dedicated in providing integrated and comprehensive filtration products, solutions, service to our customers

A) Certipure Syringe filters

Certipure syringe filters are tested for filter efficacy and housing integrity. Every colour-coded filter is printed with details of the membrane material and its pore size on the outside of the filter and every box is labelled with the batch number making them ideal for traceability, GLPs and validation purposes.

All Certipure syringe filters are constructed of a durable polypropylene housing

secured around the membrane with a molded polypropylene sealing ring. This double injection molding process yields a robust filter built to withstand pressures higher than most industry alternatives.

Importance of Filtration prior to HPLC

The main source of particle contamination in HPLC columns originate in the sample to be analysed. Therefore, the final preparation step prior to sample injection into the HPLC instrument is to remove any small particulates from the sample by filtration. Removal of the solid materials is very important as they can interfere with the compound of interest and easily clog up the column being used. This will inevitably have a detrimental effect on the performance of the column, i.e. back pressure, peak size, retention time, peak shape. Severe contamination can lead to the column being irreversibly blocked and therefore having to be replaced. Other costs can include instrument downtime, and the loss of valuable samples.

Sample Types

Samples differ in a variety of ways, they may be heavily loaded with fine or coarse particulates, dissolved in aqueous or organic solvents with varying viscosities. To facilitate the most appropriate sample preparation result, filters should be optimised to match the particular requirements of each kind of sample being injected.

Standard Samples

A matrix of 5-10mL is the most common sample volume, with low viscosity, low particle contamination and dissolved in either an organic or an aqueous solvent. Certipure Syringe Filters are an excellent choice for such samples. Their inert housing manufactured from high density medical grade virgin polypropylene, complete with the integrated membrane with different MOC's has a high chemical resistance against the most common HPLC solvents and is very suitable for aqueous samples. Every batch is HPLC-tested for low extractables. Whilst 0.45µm is the most commonly used membrane porosity, the 0.22µm membrane provides improved purity when using capillary columns or HPLC packings with a particle size of 3µm or less.

Demanding Samples

More difficult samples which contain high loads of particulates, high viscosity or unusually high volumes place additional challenges on the user when preparing samples for HPLC analysis. The particles have a tendency to block the filter, high viscosities will decrease the flow rate and high volumes increase the time required to complete the filtration process. These challenges often result in the user applying a greater degree of manual pressure to the process and potentially exceeding the maximum pressure limit of the filter with a subsequent risk of bursting the housing. As a result, the sample will be lost and a potential safety risk can arise if corrosive solvents or harmful chemicals are being filtered. To assist in overcoming these challenges, the use of Certipure Syringe Filters with a built in Glass Microfiber pre-filter are recommended. The pre-filter removes the larger particulates from the sample leaving only the smaller particulates to be filtered by the membrane. These filters increase the flow rate through the unit resulting in a higher volume of sample to be filtered and less pressure being required by the user.

Small Volume Samples

Smaller volume samples are often valuable and require special attention. Any loss of the analyte due to adsorption by the filter membrane or housing or a large dead volume can have a detrimental effect on the analysis. Smaller filters of 13mm diameter decrease the dead volume to less than 25uL making them ideal for smaller volume samples.

Advantages of using Certipure Syringe filter:

- Every box is supplied with a Certificate of Conformance to guarantee its batch-to-batch quality and performance
- The unique encapsulating process developed for these filters, forces the sample to pass only through the membrane, thus avoiding the possibility of leaks or contamination
- Available in the most popular sizes, porosities and membrane types
- Excellent resistance to all routinely used HPLC solvents
- Filter housings are manufactured from the highest quality medical grade, high density polypropylene
- Extremely low level of extractables for highly sensitive work.

How To Use Syringe Filter?

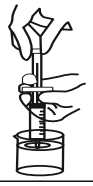
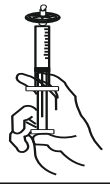
Step 1	Step 2	Step 3	Step 4
			
Fill the syringe with the liquid to be filtered	Install the syringe filter on the syringe	Vent until liquid through the syringe filter	Push the piston to make liquid filterd

Fig. 1 ANOW ® syringe filter operation

Before filling with sample, draw approximately 1 mL of air into the syringe. This will minimize fluid retention.	Draw your sample into the syringe, then draw in about mL of air. Invert the syringe and wipe residue off tip.	Connect the syringe to the syringe filter using a interconnection. Twist gently tonsure a secure seal.	Filter syringe contents into avial. Afterwards, remove the syringe filter, draw air into the syringe, re-attach the syringe filter, and press the plunger to filter the residual sample. This maximizes sample recovery.

Selection of Syringe filters

- Choose the size of the filter based on the volume of sample to be filtered.
- Choose the filter porosity based on the size of the potential particulates in the sample. It is important to be aware that the finer the porosity of the membrane the greater the pressure will be required to pass the sample through the filter. A sample containing large quantities of particulates is best filtered using a filter with a built-in glass microfiber pre-filter.
- Choose the type of membrane based on the solvent being filtered

By Application

Type of filtration	1st Choice	Alternatives
HPLC* UHPLC* LC/MS * GC	Nylon	Hydrophilic PTFE
ICP-MS	RC	Hydrophilic PTFE
Undiluted solvent	Hydrophobic PTFE	RC
Air / Strong acid / Strong base	Hydrophobic PTFE	-
Protein analysis * Buffer	Hydrophilic PVDF	MCE
Tissue/Cell culture	PES	CA
High particle solvent	GF prefilter + Hydrophilic PTFE	GF prefilter + Nylon
High particle aqueous	GF prefilter + Nylon	GF prefilter + PES

By Sample Volume

Sample Volume	Syringe filter diameter	Hold Up Volume	Filtration Area
1-10 ml	13mm	< 10 µl	1.09 cm^2
5 ml to 100 ml	25 mm	< 25 µl	4.08 cm^2
10 ml to 200 ml	33 mm	< 35 µl	5.39 cm^2

Ordering Information
Non Sterile Syringe filters

Membrane type	Pore size	Outside diameter	Part nos	Pack Size
Nylon	0.20 µm	13 mm	SF-NY-NS-13-20I	5x100
	0.45 µm	13 mm	SF-NY-NS-13-45I	5x100
	0.20 µm	25 mm	SF-NY-NS-25-20I	5x100
	0.45 µm	25 mm	SF-NY-NS-25-45I	5x100
	0.80 µm	25 mm	SF-NY-NS-25-80I	5x100
	1.20 µm	25 mm	SF-NY-NS-25-120I	5x100
	3.00 µm	25 mm	SF-NY-NS-25-300I	5x100
	5.00 µm	25 mm	SF-NY-NS-25-500I	5x100
	0.20 µm	33 mm	SF-NY-NS-33-20I	5x100
	0.45 µm	33 mm	SF-NY-NS-33-45I	5x100
PVDF (Polyvinylidene)	0.22 µm	13 mm	SF-PVDF-NS-13-22I	5x100
	0.45 µm	13 mm	SF-PVDF-NS-13-45I	5x100
	0.22 µm	25 mm	SF-PVDF-NS-25-22I	5x100
	0.45 µm	25 mm	SF-PVDF-NS-25-45I	5x100
	0.22 µm	33 mm	SF-PVDF-NS-33-22I	5x100
	0.45 µm	33 mm	SF-PVDF-NS-33-45I	5x100
PTFE (Polytetra-fluoroethylene)	0.22 µm	13 mm	SF-PTFE-NS-13-22I	5x100
	0.45 µm	13 mm	SF-PTFE-NS-13-45I	5x100
	0.22 µm	25 mm	SF-PTFE-NS-25-22I	5x100
	0.45 µm	25 mm	SF-PTFE-NS-25-45I	5x100
	0.22 µm	33 mm	SF-PTFE-NS-33-22I	5x100
	0.45 µm	33 mm	SF-PTFE-NS-33-45I	5x100
Glass Microfiber	1.00 µm	13 mm	SF-GF-NS-13-100I	5x100
	1.00 µm	25 mm	SF-GF-NS-25-100I	5x100
PES	0.22 µm	13 mm	SF-PES-NS-13-22I	5x100
	0.45 µm	13 mm	SF-PES-NS-13-45I	5x100
	0.22 µm	25 mm	SF-PES-NS-25-22I	5x100
	0.45 µm	25 mm	SF-PES-NS-25-45I	5x100
	0.22 µm	33 mm	SF-PES-NS-33-22I	5x100
	0.45 µm	33 mm	SF-PES-NS-33-45I	5x100
Polypropylene	0.22 µm	13 mm	SF-PP-NS-13-22I	5x100
	0.45 µm	13 mm	SF-PP-NS-13-45I	5x100
	0.22 µm	25 mm	SF-PP-NS-25-22I	5x100

MCE	0.45 µm	25 mm	SF-PP-NS-25-45I	5x100
	0.22 µm	33 mm	SF-PP-NS-33-22I	5x100
	0.45 µm	33 mm	SF-PP-NS-33-45I	5x100
	0.22 µm	13 mm	SF-MCE-NS-13-22I	5x100
	0.45 µm	13 mm	SF-MCE-NS-13-45I	5x100
	0.22 µm	25 mm	SF-MCE-NS-25-22I	5x100
	0.45 µm	25 mm	SF-MCE-NS-25-45I	5x100
	0.22 µm	33 mm	SF-MCE-NS-33-22I	5x100
	0.45 µm	33 mm	SF-MCE-NS-25-45I	5x100
Regenerated Cellulose	0.22 µm	13mm	SF-RC-NS-13-22I	5x100
	0.45 µm	13 mm	SF-RC-NS-13-45I	5x100
	0.22 µm	25 mm	SF-RC-NS-25-22I	5x100
	0.45 µm	25 mm	SF-RC-NS-25-45I	5x100
	0.22 µm	33 mm	SF-RC-NS-33-22I	5x100
	0.45 µm	33 mm	SF-RC-NS-33-45I	5x100
Cellulose Acetate	0.22 µm	13 mm	SF-CA-NS-13-22I	5x100
	0.45 µm	13 mm	SF-CA-NS-13-45I	5x100
	0.22 µm	25 mm	SF-CA-NS-25-22I	5x100
	0.45 µm	25 mm	SF-CA-NS-25-45I	5x100
	0.80 µm	25 mm	SF-CA-NS-25-80I	5x100
	1.20 µm	25 mm	SF-CA-NS-25-120I	5x100
	3.00 µm	25 mm	SF-CA-NS-25-300I	5x100
	5.00 µm	25 mm	SF-CA-NS-25-500I	5x100
	0.22 µm	33 mm	SF-CA-NS-33-22I	5x100
	0.45 µm	33 mm	SF-CA-NS-33-45I	5x100

Sterile Syringe filters

Products are individually pack and Gamma Sterilized

Membrane type	Pore size	Outside diameter	Part nos	Pack Size
Nylon	0.20 µm	13 mm	SF-NY-S-13-20I	5x50
	0.45 µm	13 mm	SF-NY-S-13-45I	5x50
	0.20 µm	25 mm	SF-NY-S-25-20I	5x50
	0.45 µm	25 mm	SF-NY-S-25-45I	5x50
	0.80 µm	25 mm	SF-NY-S-25-80I	5x50
	1.20 µm	25 mm	SF-NY-S-25-120I	5x50
	3.00 µm	25 mm	SF-NY-S-25-300I	5x50
	5.00 µm	25 mm	SF-NY-S-25-500I	5x50
	0.20 µm	33 mm	SF-NY-S-33-20I	5x50
	0.45 µm	33 mm	SF-NY-S-33-45I	5x50
PVDF (Polyvinylidene)	0.22 µm	13 mm	SF-PVDF-S-13-22I	5x50
	0.45 µm	13 mm	SF-PVDF-S-13-45I	5x50
	0.22 µm	25 mm	SF-PVDF-S-25-22I	5x50
	0.45 µm	25 mm	SF-PVDF-S-25-45I	5x50
	0.22 µm	33 mm	SF-PVDF-S-33-22I	5x50
	0.45 µm	33 mm	SF-PVDF-S-33-45I	5x50
PTFE (Polytetra-fluoroethylene)	0.22 µm	13 mm	SF-PTFE-S-13-22I	5x50
	0.45 µm	13 mm	SF-PTFE-S-13-45I	5x50
	0.22 µm	25 mm	SF-PTFE-S-25-22I	5x50
	0.45 µm	25 mm	SF-PTFE-S-25-45I	5x50
	0.22 µm	33 mm	SF-PTFE-S-33-22I	5x50
	0.45 µm	33 mm	SF-PTFE-S-33-45I	5x50
Glass Microfiber	1.00 µm	13 mm	SF-GF-S-13-100I	5x50
	1.00 µm	25 mm	SF-GF-S-25-100I	5x50
PES	0.22 µm	13 mm	SF-PES-S-13-22I	5x50
	0.45 µm	13 mm	SF-PES-S-13-45I	5x50
	0.22 µm	25 mm	SF-PES-S-25-22I	5x50
	0.45 µm	25 mm	SF-PES-S-25-45I	5x50
	0.22 µm	33 mm	SF-PES-S-33-22I	5x50
	0.45 µm	33 mm	SF-PES-S-33-45I	5x50
Polypropylene	0.22 µm	13 mm	SF-PP-S-13-22I	5x50
	0.45 µm	13 mm	SF-PP-S-13-45I	5x50
	0.22 µm	25 mm	SF-PP-S-25-22I	5x50
	0.45 µm	25 mm	SF-PP-S-25-45I	5x50
	0.22 µm	33 mm	SF-PP-S-33-22I	5x50
	0.45 µm	33 mm	SF-PP-S-33-45I	5x50

MCE	0.22 µm	13 mm	SF-MCE-S-13-22I	5x50
	0.45 µm	13 mm	SF-MCE-S-13-45I	5x50
	0.22 µm	25 mm	SF-MCE-S-25-22I	5x50
	0.45 µm	25 mm	SF-MCE-S-25-45I	5x50
	0.22 µm	33 mm	SF-MCE-S-33-22I	5x50
	0.45 µm	33 mm	SF-MCE-S-25-45I	5x50
Regenerated Cellulose	0.22 µm	13mm	SF-RC-S-13-22I	5x50
	0.45 µm	13 mm	SF-RC-S-13-45I	5x50
	0.22 µm	25 mm	SF-RC-S-25-22I	5x50
	0.45 µm	25 mm	SF-RC-S-25-45I	5x50
	0.22 µm	33 mm	SF-RC-S-33-22I	5x50
	0.45 µm	33 mm	SF-RC-S-33-45I	5x50
Cellulose Acetate	0.22 µm	13 mm	SF-CA-S-13-22I	5x50
	0.45 µm	13 mm	SF-CA-S-13-45I	5x50
	0.22 µm	25 mm	SF-CA-S-25-22I	5x50
	0.45 µm	25 mm	SF-CA-S-25-45I	5x50
	0.80 µm	25 mm	SF-CA-S-25-80I	5x50
	1.20 µm	25 mm	SF-CA-S-25-120I	5x50
	3.00 µm	25 mm	SF-CA-S-25-300I	5x50
	5.00 µm	25 mm	SF-CA-S-25-500I	5x50
	0.22 µm	33 mm	SF-CA-S-33-22I	5x50
	0.45 µm	33 mm	SF-CA-S-33-45I	5x50

Syringe filter with GF prefilter

Membrane type	Pore size	Outside diameter	Part nos	Pack Size
Nylon +GF	0.20 µm	25 mm	SF-GF1-NY-NS-25-20I	5x100
	0.45 µm	25 mm	SF-GF1-NY-NS-25-45I	5x100
PVDF(Polyvinylidene) +GF	0.22 µm	25 mm	SF-GF1-PVDF-NS-25-22I	5x100
	0.45 µm	25 mm	SF-GF1-PVDF-NS-25-45I	5x100
PTFE (Polytetra-Fluoroethylene) +GF	0.22 µm	25 mm	SF-GF1-PTFE-NS-25-22I	5x100
	0.45 µm	25 mm	SF-GF1-PTFE-NS-25-45I	5x100

B) CERTIPURE Membrane Filters:

Certipure Membrane filters offers a complete range of membrane filters with specific pore size ratings. Membrane filters offer accurately controlled pore size distribution and higher strength and flexibility which ensure reproducibility and consistency.

1) ***Nylon Membrane Filter***

Features and Advantages

- Hydrophilic High protein binding capacity, minimizes interference from proteins during testing
- Low extractables ensures tests will be clean and pure
- Leading to more consistent results
- Compatible with many aqueous and organic solutions High strength and heat resistance

Applications

- General laboratory filtration
- Sterilization, clarification of aqueous and organic solvent solutions
- HPLC sample preparation

Specifications

- Wettability: Hydrophilic
- pH Range: 6-13
- Pore Size: 0.22µm, 0.45µm, 0.8µm, 1µm
- Color/Surface: White/Flat
- Diameter: 13 mm, 25 mm, 47 mm, 90 mm, 142 mm, 253mm

2) ***PTFE Membrane Filters (Hydrophobic)***

Features and Advantages

- Hydrophobic
- Chemically resistant to all solvents, acids and bases
- PTFE membrane with supporting layer polyester or polypropylene
- High temperature resistance

Applications

- Aggressive solvents filtration
- Air and gas filtration
- Phase separations
- Aerosol sampling

Specifications

- Wettability: Hydrophobic
- Pore Size: 0.22µm, 0.45µm
- pH Range: 1-14
- Color/Surface: White/Flat
- Diameter: 25 mm, 47 mm

3) ***PTFE Membrane (Hydrophilic)***

Features and Advantages

- Hydrophilic
- Chemically resistant to all solvents, acids and bases
- PTFE membrane with supporting layer polyester or polypropylene
- High temperature resistance

Applications

- Aggressive solvents filtration
- Filtration of HPLC samples and mobile phases

Specifications

- Wettability: Hydrophilic
- Pore Size: 0.22µm, 0.45µm
- pH Range: 1-14
- Color/Surface: White/Flat
- Diameter: 25 mm, 47 mm

4) ***PVDF Membrane***

Features and Advantages

- Hydrophilic
- Chemically resistant to most of solvents

Applications

- Aqueous or mild organic solutions
- Biological Solutions

Specifications

- Wettability: Hydrophilic
- Pore Size: 0.22µm, 0.45µm
- pH Range: 1-14
- Color/Surface: White/Flat
- Diameter: 25 mm, 47 mm

5) ***MCE Membrane***

Features and Advantages

- Hydrophilic
- Biologically inert
- High porosity for increased flow rates without compromising filter integrity
- Uniform pore structure provides consistent flow and diffusion rates

Specifications

- Wettability: Hydrophilic
- Pore Size: 0.22µm, 0.45µm, 0.65µm, 0.8µm
- pH Range: 3-8
- Color/Surface: White or black (gridded or non gridded)/Flat
- Diameter: 13 mm, 25 mm, 47 mm, 50 mm,90 mm

Applications

- Aqueous filtration
- The recovery and retention of E. Coli bacteria
- Sterility testing
- Gravimetric analysis with ashing techniques
- Air monitoring
- Particle monitoring

6) ***PES(Polyethersulfone) Membrane Filter***

Features and Advantages

- High flow rates and throughputs due to the highly asymmetric pore structure
- Inherently hydrophilic
- Low protein binding and high drug compatibility, maximize recovery of critical media components
- High thermal resistance

Applications

- General/sterile filtration
- Biological filtration
- Pharmaceutical filtration
- Bacterial isolation/enumeration
- Liquid of high temperature filtration

Specifications

- Wettability: Hydrophilic
- Pore Size: 0.22µm, 0.45µm
- Color/Surface: White/Flat
- Diameter: 25 mm, 47 mm, 90 mm

7) ***CA (Cellulose Acetate) Membrane Filter***

Specifications

- Wettability: Hydrophilic
- Pore Size: 0.22µm, 0.45µm, 0.65µm, 0.8µm
- pH Range: 3-9
- Color/Surface: White/Flat
- Diameter: 25 mm, 47 mm, 50 mm, 90 mm

Features and Advantages

- Low protein binding
- Hydrophilic
- Strength and dimension stability
- Uniform pore structure

Applications

- Protein and enzyme filtration
- Biological fluid filtration and sterilization
- Tissue culture media sterilization
- Clarification of aqueous solutions, nutrient media, buffers and sera

8) ***PP(Polypropylene) Membrane Filter***

Features and Advantages

- Hydrophobic
- Wide chemical compatibility
- Low extractable levels

Specifications

- Wettability: Hydrophobic
- Thickness:150-250µm
- pH Range: 1-14
- Pore Size: 0.22µm, 0.45µm
- Color/Surface: White/Flat
- Diameter:13mm, 25 mm, 47 mm, 90 mm

Applications

- Aqueous and organic solvent filtration
- Depth filtration
- Ion chromatography
- Gas filtration

9) ***Polycarbonate Membrane Filters***

Features and Advantages

- Hydrophilic
- Wide chemical resistance to organic solvents

Specifications

- Wettability: Hydrophilic
- Pore Size: 0.22µm, 0.45µm
- Color/Surface: White/Flat
- Diameter: 25 mm, 47 mm

Applications

- Aqueous and organic solvent filtration
- Electronic microscope analysis

10) ***Regenerated Cellulose Membrane Filters***

Features and Advantages

- Hydrophilic
- Wide chemical resistance to organic solvents

Specifications

- Wettability: Hydrophilic
- Pore Size: 0.22µm, 0.45µm
- Color/Surface: White/Flat
- Diameter: 25 mm, 47 mm,90 mm

Applications

- Solvent filtration

11) ***Glass FibreMembrane Filters***

Features and Advantages

- Excellent chemical compatibility and resistance to organic solvents and strong acids

Specifications

- Wettability: Hydrophilic or Hydrophobic
- Pore Size: 0.45µm, 1µm
- Color/Surface: White/Flat
- Diameter: 25 mm, 47 mm

Applications

- Prefiltration of Viscous Solutions
- Seperation of cell media before sterilization

Ordering Information
Non Sterile Membrane filters

Membrane type	Pore size	Outside diameter	Part nos	Pack Size
Nylon	0.20 µm	13 mm	NY-NS-13-M-20I	5x100
	0.45 µm	13 mm	NY-NS-13-M-45I	5x100
	0.80 µm	13 mm	NY-NS-13-M-80I	5x100
	1.00µm	13 mm	NY-NS-13-M-100I	5x100
	0.20 µm	25 mm	NY-NS-25-M-20I	5x100
	0.45 µm	25 mm	NY-NS-25-M-45I	5x100
	0.80 µm	25 mm	NY-NS-25-M-80I	5x100
	1.00µm	25 mm	NY-NS-25-M-100I	5x100
	0.20 µm	47 mm	NY-NS-47-M-20I	5x100
	0.45 µm	47 mm	NY-NS-47-M-45I	5x100
	0.80 µm	47 mm	NY-NS-47-M-80I	5x100
	1.00µm	47 mm	NY-NS-47-M-100I	5x100
	0.20 µm	90 mm	NY-NS-90-M-20I	5x100
	0.45 µm	90 mm	NY-NS-90-M-45I	5x100
	0.80 µm	90 mm	NY-NS-90-M-80I	5x100
	1.00µm	90 mm	NY-NS-90-M-100I	5x100
PVDF (Polyvinylidene)	0.22 µm	25 mm	PVDF-NS-25-M-22I	5x100
	0.45 µm	25 mm	PVDF-NS-25-M-45I	5x100
	0.22 µm	47 mm	PVDF-NS-47-M-22I	5x100
	0.45 µm	47 mm	PVDF-NS-47-M-45I	5x100
PTFE (Polytetra-fluoroethylene)	0.22 µm	13 mm	PTFE-NS-13-M-22I	5x100
	0.45 µm	13 mm	PTFE-NS-13-M-45I	5x100
	0.22 µm	25 mm	PTFE-NS-25-M-22I	5x100
	0.45 µm	25 mm	PTFE-NS-25-M-45I	5x100
	0.22 µm	47 mm	PTFE-NS-47-M-22I	5x100
	0.45 µm	47 mm	PTFE-NS-47-M-45I	5x100
	0.22 µm	90 mm	PTFE-NS-90-M-22I	5x100
	0.45 µm	90 mm	PTFE-NS-90-M-45I	5x100
Glass Microfiber	0.45 µm	25 mm	GF-NS-25-M-45I	5x100
	1.00 µm	25 mm	GF-NS-25-M-100I	5x100
	0.45 µm	47 mm	GF-NS-47-M-45I	5x100
	1.00 µm	47 mm	GF-NS-47-M-100I	5x100
	0.45 µm	90 mm	GF-NS-90-M-45I	5x100
	1.00 µm	90 mm	GF-NS-90-M-100I	5x100

PES	0.22 µm	25 mm	PES-NS-25-M-22I	5x100
	0.45 µm	25 mm	PES-NS-25-M-45I	5x100
	0.22 µm	47 mm	PES-NS-47-M-22I	5x100
	0.45 µm	47 mm	PES-NS-47-M-45I	5x100
	0.22 µm	90 mm	PES-NS-90-M-22I	5x100
	0.45 µm	90 mm	PES-NS-90-M-45I	5x100
Polypropylene	0.22 µm	25 mm	PP-NS-25-M-22I	5x100
	0.45 µm	25 mm	PP-NS-25-M-45I	5x100
	0.22 µm	47 mm	PP-NS-47-M-22I	5x100
	0.45 µm	47 mm	PP-NS-47-M-45I	5x100
	0.22 µm	90 mm	PP-NS-90-M-22I	5x100
	0.45 µm	90 mm	PP-NS-90-M-45I	5x100
MCE	0.22 µm	13 mm	MCE-NS-13-M-22I	5x100
	0.45 µm	13 mm	MCE-NS-13-M-45I	5x100
	0.65µm	13 mm	MCE-NS-13-M-65I	5x100
	0.80 µm	13 mm	MCE-NS-13-M-80I	5x100
	0.22 µm	25 mm	MCE-NS-25-M-22I	5x100
	0.45 µm	25 mm	MCE-NS-25-M-45I	5x100
	0.65µm	25 mm	MCE-NS-25-M-65I	5x100
	0.80 µm	25 mm	MCE-NS-25-M-80I	5x100
	0.22 µm	47 mm	MCE-NS-47-M-22I	5x100
	0.45 µm	47 mm	MCE-NS-47-M-45I	5x100
	0.22 µm	47 mm Black	MCE-NS-47-M-B-22I	5x100
	0.45 µm	47 mm Black	MCE-NS-47-M-B-45I	5x100
	0.65µm	47 mm	MCE-NS-47-M-65I	5x100
	0.80 µm	47 mm	MCE-NS-47-M-80I	5x100
	0.22 µm	90 mm	MCE-NS-90-M-22I	5x100
	0.45 µm	90 mm	MCE-NS-90-M-45I	5x100
	0.65µm	90 mm	MCE-NS-90-M-65I	5x100
	0.80 µm	90 mm	MCE-NS-90-M-80I	5x100
Regenerated Cellulose	0.22 µm	25mm	RC-NS-25-M-22I	5x100
	0.45 µm	25 mm	RC-NS-25-M-45I	5x100
	0.22 µm	47 mm	RC-NS-47-M-22I	5x100
	0.45 µm	47 mm	RC-NS-47-M-45I	5x100
	0.22 µm	90 mm	RC-NS-90-M-22I	5x100
	0.45 µm	90 mm	RC-NS-90-M-45I	5x100
Cellulose Acetate	0.22 µm	25 mm	CA-NS-25-M-22I	5x100
	0.45 µm	25 mm	CA-NS-25-M-45I	5x100
	0.65 µm	25 mm	CA-NS-25-M-65I	5x100
	0.80 µm	25 mm	CA-NS-25-M-80I	5x100
	0.22 µm	47 mm	CA-NS-47-M-22I	5x100
	0.45 µm	47 mm	CA-NS-47-M-45I	5x100

	0.65 µm	47 mm	CA-NS-47-M-65I	5x100
	0.80 µm	47 mm	CA-NS-47-M-80I	5x100
	0.22 µm	90 mm	CA-NS-90-M-22I	5x100
	0.45 µm	90 mm	CA-NS-90-M-45I	5x100
	0.65 µm	90 mm	CA-NS-90-M-65I	5x100
Cellulose Nitrate	0.80 µm	90 mm	CA-NS-90-M-80I	5x100
	0.22 µm	47 mm	CN-NS-47-M-22I	5x100
	0.45 µm	47 mm	CN-NS-47-M-45I	5x100

Sterile Membrane filters

Products are individually pack and Gamma Sterilized

Membrane type	Pore size	Outside diameter	Part nos	Pack Size
Nylon	0.20 µm	47 mm	NY-S-47-M-20I	100
	0.45 µm	47 mm	NY-S-47-M-45I	100
PVDF	0.22 µm	47 mm	PVDF-S-47-M-22I	100
(Polyvinylidene)	0.45 µm	47 mm	PVDF-S-47-M-45I	100
PES	0.22 µm	47 mm	PES-S-47-M-22I	100
	0.45 µm	47 mm	PES-S-47-M-45I	100
MCE	0.22 µm	47 mm	MCE-S-47-M-22I	100
	0.45 µm	47 mm	MCE-S-47-M-45I	100
	0.22 µm	47 mm Gridded	MCE-SG-47-M-22I	100
	0.45 µm	47 mm Gridded	MCE-SG-47-M-45I	100
	0.45 µm	47 mm Black Gridded	MCE-SGB-47-M-22I	100
Cellulose Acetate	0.22 µm	47 mm	CA-S-47-M-22I	100
	0.45 µm	47 mm	CA-S-47-M-45I	100
Cellulose Nitrate	0.22 µm	47 mm	CN-S-47-M-22I	100
	0.45 µm	47 mm	CN-S-47-M-45I	100
	0.22 µm	47 mm Gridded	CN-SG-47-M-22I	100
	0.45 µm	47 mm Gridded	CN-SG-47-M-45I	100

C) VENT Filters

Vent Filters are used for the safety of your equipment. These devices act as barriers on air lines. They contain hydrophobic Filter, which prevent the entry of water and aerosols into sensitive equipment and also protect the lab environment from aerosolized pathogens. Vent filters can also enable air to enter and exit vessels such as bioreactors, while maintaining the sterility of the interior environment.

Applications:

- Use vent filters for venting receiving vessels, isolation or environmental chambers, bioreactors, fermentation tanks, carboys, and other small containers.
- Use in-line for low-pressure sterile air/gas delivery to instruments and culture vessels, bioisolation of a vacuum source, flushing instruments, and cleaning parts.

Membrane Type	Pore Size	Diameter	Part nos	Pack size
PTFE	0.22 µm	50 mm	VENT-PTFE-S-47-22I	10
PTFE	0.45 µm	50 mm	VENT-PTFE-S-47-45I	10

D) CARTRIDGE, BAG AND CAPSULE FILTERS

Cartridge filters are one of the most widely used technologies for filtration of liquids and gases. They can either be used on their own, or as final filters in conjunction with other methods of liquid filtration such as bag filters.

Selecting the correct cartridge filter and system size is essential to optimize the performance of your filtration system.

When making a recommendation, we will consider all the required process parameters such as the amount, type and size of particles to be removed, the fluid flow rate, chemical and temperature compatibility with the filter, fluid viscosity and the permitted pressure drop across the filtration system.

Filter cartridges can be used for applications which require a particle size retention rating of 150 micron and lower and especially for processes which require sub-micron particle retention. They are typically used for processes where the contaminant levels are in the range of <1 to100 ppm for continuous flow applications and up to 1000 ppm for smaller batch size operations

Applications:

1. Pharmaceutical
2. Food and Beverages
3. Water filtration
4. Petrochemicals
5. Chemicals
6. Paint and coatings

Certishell offers all the range of Capsule filters, Cartridge filters and Bag filters under the brand name of **Certipure**. Capsule and cartridge filters can be customised as per your required MOC'S (PP, PTFE, PVDF, PES and Nylon) and with compatible housing End caps (Open End or Code 7) along with Pleated, Non-pleated and Spiral Wounds.

Ordering Information

Note: Same products can be available in different MOC, Pore Size and type as per your requirement

Type	MOC	OD (mm)	Length (Inch)	Pore size	Part No
Bag	PP	7	32	1µm	BAG-PP7-32-100I
Cartridge	PP	25	5	1µm	CART-PP25-05-100I
Cartridge	PP	25	10	1µm	CART-PP25-10-100I
Cartridge	PP	25	20	1µm	CART-PP25-20-100I
Cartridge	PP	25	30	1µm	CART-PP25-30-100I
Cartridge	PP	25	40	1µm	CART-PP25-40-100I
Cartridge	PP (Code 7)	25	5	1µm	CART-PPC725-05-100I
Cartridge	PP (Code 7)	25	10	1µm	CART-PPC725-10-100I
Cartridge	PP (Code 7)	25	20	1µm	CART-PPC725-20-100I
Cartridge	PP (Code 7)	25	30	1µm	CART-PPC725-30-100I
Cartridge	PP (Code 7)	25	40	1µm	CART-PPC725-40-100I
Cartridge	PP (Pleated)	25	5	1µm	CART-PPPL25-05-100I
Cartridge	PP (Pleated)	25	10	1µm	CART-PPPL25-10-100I
Cartridge	PP (Pleated)	25	20	1µm	CART-PPPL25-20-100I
Cartridge	PP (Pleated)	25	30	1µm	CART-PPPL25-30-100I
Cartridge	PP (Pleated)	25	40	1µm	CART-PPPL25-40-100I
Cartridge	PP (Spiral)	25	5	1µm	CART-PPSP25-05-100I
Cartridge	PP (Spiral)	25	10	1µm	CART-PPSP25-10-100I
Cartridge	PP (Spiral)	25	20	1µm	CART-PPSP25-20-100I
Cartridge	PP (Spiral)	25	30	1µm	CART-PPSP25-30-100I
Cartridge	PP (Spiral)	25	40	1µm	CART-PPSP25-40-100I

E) Steripure Microbioloigcal Funnels

A microbiological disposable funnels are designed for filtering and analysing samples in microbiology, including those for water, pharmaceutical, and food processing industries. These funnels often come with pre-sterilized membrane filters and may be specifically designed for ease of sample collection, transfer, and analysis.

Each ***Steripure*** range funnels from **Certishell** are presterilized (ETO or Gamma) and individually packed. Steripure funnels comes two types one with pre-fitted Membrane and other without Membrane

1) Steripure Funnels without Membrane

This are disposable funnels without any membrane. Customers can use the choice of its own membrane of any make. The funnel directly fit on the top of Mesh adapter of vacuum Manifold.

Ordering Details:

Part no: MCF-S-250

2) Steripure Funnels with membrane

This are disposable funnels with different pre-fitted membranes. This fits directly into a manifold when a suitable adapter of manifold is placed. Customers can select funnels with different membranes as per his needs

Ordering details

Membrane type	Pore Size	Part nos	Pack Size
MCE	0.22	MCF-MCE-S-22I	100
	0.45	MCF-MCE-S-45I	100
MCE Gridded	0.22	MCF-MCE-SG-22I	100
	0.45	MCF-MCE-SG-45I	100
Cellulose nitrate	0.22	MCF-CN-S-22I	100
	0.45	MCF-CN-S-45I	100
Cellulose Nitrate	0.22	MCF-CN-SG-22I	100
(Gridded)	0.45	MCF-CN-SG-45I	100
PVDF	0.22	MCF-PVDF-S-22I	100
	0.45	MCF-PVDF-S-45I	100
PVDF (Gridded)	0.22	MCF-PVDF-SG-22I	100
	0.45	MCFPVDF-SG-45I	100
Nylon	0.20	MCF-NY-S-20I	100
	0.45	MCF-NY-S-45I	100

Ordering Details (Sertipure M RANGE)

Membrane type	Pore Size	Part nos	Pack Size
MCE	0.45	MMCF-MCE-S-22I	100
	0.22	MMCF-MCE-S-45I	100
MCE Gridded	0.45	MMCF-MCE-SG-22I	100
	0.22	MMCF-MCE-SG-45I	100
Cellulose nitrate	0.22	MMCF-CN-S-22I	100
	0.45	MMCF-CN-S-45I	100
Cellulose Nitrate	0.22	MMCF-CN-SG-22I	100
(Gridded)	0.45	MMCF-CN-SG-45I	100
PVDF	0.22	MMCF-PVDF-S-22I	100
	0.45	MMCF-PVDF-S-45I	100
PVDF (Gridded)	0.22	MMCF-PVDF-SG-22I	100
	0.45	MMCF-PVDF-SG-45I	100
Nylon	0.20	MMCF-NY-S20I	100
	0.45	MMCF-NY-S-45I	100

How to choose a filter

Filter Chemical compatibility

Different materials have different chemical tolerance, The primary concern when choosing a solvent filter is solvent compaliblity with the filter material

C = Compatible **IC = Not compatible**

LC = Limited compatibility *** = Not analyzed**

SOLVENT	PTFE (Polytetrauoroethyene)	PVDF (Ployvinylidene)	PES (Polyetherasultone)	CA/CN (Cellulose Acetatel Celluose Nirate)	RC (Regenerated Cefluose)	PP (Ployvinylidene)	GMF (Glass microfber)	Nylon6 (Nylon66)
ACIDS								
Acetic, Glacial	C	C	C	IC	C	C	C	LC
Acetic acid 90%	C	C	C	*	*	C	C	*
Acetic, 25%	C	C	C	*	C	C	C	C
Acetic acid 10%	C	C	C	LC	*	C	C	*
Hydrocholoric Concentrated	C	C	C	IC	IC	C	C	IC
Hydrochloric, 25%	C	C	C	*	IC	C	C	IC
Hydrochloric acid 1N (3.3%)	C	C	C	*	*	C	C	IC
Sufuric, Cocertrated	C	IC	IC	IC	IC	C	C	IC
Sulfuric, 25%	C	IC	IC	IC	IC	C	C	IC
Nitric, Concentrated	C	IC	IC	IC	C	C	LC	IC
Nitric, 25%	C	C	IC	IC	C	C	LC	IC
Phosphoric, 25%	C	*	*	C	LC	C	*	IC
Formic, 25%	C	*	*	LC	C	C	C	IC
Trichiroactic, 10%	C	*	*	C	C	*	*	IC
Citric acid	C	C	C	C	C	C	C	LC
Hydrofluoric acid	C	C	*	*	IC	IC	IC	IC
Boric Acid	C	C	C	C	C	C	C	LC
ALCOHOLS								
Menthanol	C	C	C	IC	C	C	C	C
Enthanol	C	C	C	IC	C	C	C	C
Ethanol, 70%	C	C	C	C	C	C	C	LC
Isopropanol	C	C	C	C	C	C	C	C
N-Propabnol	C	C	C	C	C	C	C	C
Amyl Alcohol (Butanol)	C	C	C	LC	C	C	C	C
Benzyl Alcohal	C	C	IC	IC	C	C	IC	LC
Ethylene Glycol	C	C	C	C	C	C	C	C
Propylene Glycol	C	C	C	LC	C	C	C	C
Glycerol	C	C	C	C	C	C	C	C
Isobutyl alcohol	C	C	*	C	C	C	*	*
ALKALIES								
Ammonium Hydroxide 25%	C	LC	C	C	LC	C	C	C
Sodium Hydroxide, 3N	C	IC	C	IC	LC	C	IC	LC
Sodium hydroxide, 6N (22%)	C	IC	C	IC	IC	C	IC	IC
Potassium hydroxide 3N 15%	C	IC	C	IC	*	C	IC	IC
AMINES AND AMIDES								
Dimethyl Formamide	C	IC	IC	IC	LC	C	C	C
Diethylacetamide	C	*	*	IC	C	*	C	LC
Triethanolamine	C	*	*	C	C	*	*	C
Aniline	C	*	*	IC	C	*	*	C
Pyridine	C	IC	IC	IC	C	IC	C	*
Acetontrile	C	C	LC	IC	C	C	C	C
ESTERS								
Ethyl Acetate/Methyl Acetate	C	C	IC	IC	C	LC	C	C
Amyl Acetate/Butyl Acetate	C	IC	IC	LC	C	LC	C	C
Proply Acetate	C	IC	IC	LC	C	LC	*	C
Propylene Glycol acetate	C	*	IC	IC	C	C	*	*
2-Ethoxyethyl Acetate	C	*	IC	LC	C	*	*	*

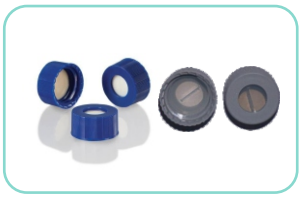
SOLVENT	PTFE (Polytetrauoroethyene)	PVDF (Ployvinylidene)	PES (Polyetherasultone)	CA/CN (Cellulose Acetatel Celluose Nirate)	RC (Regenerated Cefluose)	PP (Ployvinylidene)	GMF (Glass microfber)	Nylon6 (Nylon66)
Methyl Cellusolve	C	*	IC	IC	C	C	C	*
Benzyl Benzoate	C	*	IC	C	C	*	*	C
Isopropyl Myristate	C	*	IC	C	C	*	*	C
Tricresyl Phosphate	C	*	IC	C	C	*	*	*
HALOGENATED HYDROCARBONS								
Methylene Chloride	C	C	IC	IC	C	LC	C	LC
Chloroform	C	C	IC	IC	C	LC	C	C
Trichloroethylence	C	C	C	C	C	C	C	C
Chlorobenzene	C	C	LC	C	C	C	C	C
Freon	C	C	LC	C	C	C	C	C
Carbon Tetrachloride	C	C	IC	LC	C	LC	C	C
Butyl chloride	C	C	*	C	*	IC	C	IC
HYDROCARBONS								
Hexane/Xylene	C	C	IC	C	C	IC	C	C
Tolyene/Benzene	C	C	IC	C	C	IC	C	C
Kerosene/Gasoline	C	C	LC	C	C	LC	*	C
Tetralin / Decalin	C	C	*	C	C	*	*	*
Nitrobenzene	C	C	IC	C	C	C	C	LC
Cyclohexane	C	C	IC	C	C	C	C	LC
Trichloroethane	C	C	C	C	C	C	C	C
Trichloroethylene	C	C	IC	C	C	C	C	IC
Perchioro Ethylene	C	C	IC	C	C	C	C	C
	C	C	IC	C	C	IC	C	C
KETONES								
Acetone	C	IC	IC	IC	C	C	C	C
Cydohexanone	C	IC	IC	IC	C	C	C	C
Methyl Ethyl Ketone	C	LC	IC	IC	C	LC	C	C
Isopropylacetone	C	IC	IC	C	C	*	C	C
Methysobuty Ketone	C	LC	IC	*	C	LC	C	*
ORGANIC OXIDES								
Ethyl Ether	C	C	C	C	C	LC	*	C
Dioxane	C	LC	IC	IC	C	C	C	C
Tetrahydrofuran	C	LC	IC	IC	C	C	C	C
Triethanolamine	C	*	*	C	C	*	*	C
Dimethylsulfoxide (DMSO)	C	IC	IC	IC	C	C	C	C
Isoproply Ether	C	C	C	C	C	*	*	*
MISCELLANEOUS								
Phenol, Aqueous Solution 10%	C	LC	IC	IC	IC	C	C	*
From aldehyde Aquecus Solutions 30%	C	C	C	C	C	C	C	C
Hydrogen Peroade 30%	C	*	C	C	C	*	*	C
Silicone Oil Mineral Oil	C	C	C	C	C	C	C	*

This chart is intended only as a guide. We recommend that you confirm compatibility with the liquid you want to filter by performing a trial fitration run before you start your actual filtration.

This information was developed from technical publications, materials suppliers, laboratory tests, and field evaluations, etc., and is believed to be accurate and reliable. However, because of variability in temperature, concentrations, exposure time, and other factors outside of our control that may affect the use of the unit, we do not provide or imply a warranty with respect to such information. Users should verify chemical compatibility with a specific filter under actual use conditions.

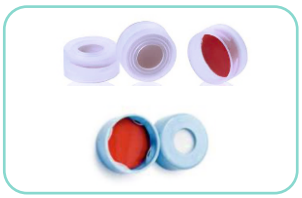
HPLC Vials Closures

A) Certified Clean Screw Cap Clean Closures		
Part no	Description	Pack Size
CS09GSL213	9mm, PP Grey Screw Cap with Clear SLIT BONDED septa	100
CS09BSL211	9mm, PP Blue Screw Cap with Clear BONDED Septa	100



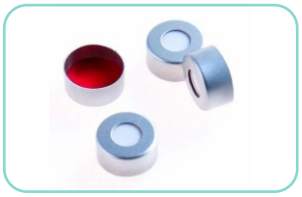
B) Everyday screw cap closures		
Part no	Description	Pack size
CS09BSE213	9mm,PP Blue Colour Screw Cap with Red PTFE & White Silicon SLIT BONDED septa	100
CS09BSE211	9mm,PP Blue Colour Screw Cap with Red PTFE & White Silicon BONDED septa	100
CS09BSE201	9mm,PP Blue Colour Screw Cap with Red PTFE & White Silicon septa	100
CS09BSE200	9mm,PP Blue Colour Screw Cap with Red PTFE & White Silicon with SLIT septa	100

C) Everyday Snap cap closures		
Part no	Description	pack size
CS11WSN200	11mm White Snap Cap with Red PTFE /White Silicon Septa	100
CS11WSN201	11mm Clear Snap Cap with Red PTFE / White Silicon with Slit Septa	100
CS11BSN200	11mm Blue Snap Cap with Red PTFE / White Silicon Septa	100
CS11BSN201	11mm Blue Snap Cap with Red PTFE / White Silicon with Slit Septa	100



D) Ultraclean Chemically Inert Closures		
Part No	Description	Pack size
CS09BUM213	9mm,UM4, PP Blue Colour Screw Cap with White PTFE/ Purple Silicon SLIT BONDED septa	100
CS09BUM211	9mm,UM4, PP Blue Colour Screw Cap with White PTFE/ Purple Silicon BONDED septa	100

E) Crimp Cap Closures		
Part No	Description	Pack Size
CC11WCA200	11mm Silver Aluminium Crimp Caps with Red PTFE /White Silicon Septa	100
CC11RCA200	11mm Silver Aluminium Crimp Caps with Red PTFE /Red Silicon Septa	100



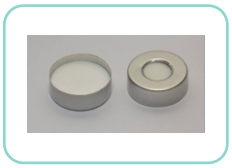
HPLC Vials		
Cat No	Description	Qty
	9mm Screw top Vial	
VSC0209154	2 ml, Clear Glass Screw Top vials, with write on Patch	100
VSC0209054	2 ml, Clear Glass Screw Top vials, without write on Patch	100
VSA0209154	2 ml, Amber Glass Screw Top vials, with write on Patch	100
VSA0209054	2 ml, Amber Glass Screw Top vials, without write on Patch	100
VSC0209133	2 ml, Clear Glass Screw Top vials, with write on Patch, 3.3 expansion glass	100

	9 mm Screw top PP Vial	
VSC03090PP	0.3 ml (300 ull) PP Micro vial	100
VSC02090PP	1.5ml PP Screw Top vials	100
	11 mm Snap top vials	
VNC0211054	1.5ml Clear Glass Snap Top vials, w/o write-on Patch	100
VNC0211154	1.5ml Clear Glass Snap Top vials, with write-on Patch	100
VNA0211054	1.5ml Amber Glass Snap Top vials, w/o write-on Patch	100
VNA0211154	1.5ml amberr Glass Snap Top vials, with write-on Patch	100
	11mm crimp top vials	
VCC0211054	1.5ml Clear Glass crimp Top vials, w/o write-on Patch	100
VCC0211154	1.5ml Clear Glass crimp Top vials, with write-on Patch	100
VCA0211054	1.5ml Amber Glass crimp Top vials, w/o write-on Patch	100
VCA0211154	1.5ml amberr Glass crimp Top vials, with write-on Patch	100
	20 mm Headspace vials	
VHC20200FB	20 ml Clear glass vial with flat bottom surface	100
VHC20200RB	20 ml Clear glass vial with round bottom surface	100
	Inserts	
INS100PS	(100ul) 0.1ml 31 x 6 mm with assembled plastic spring	100
INS200FB	(200ul) 0.2ml 31 x 6 mm flat bottom	100
	Headspace Closures	
Part No	Description	Pack Size
CC20SACB00	20mm, Silver Aluminium Crimp Cap with Silicon White / PTFE Beige Septa	100
CC20SACD00	20mm, Silver Aluminium Crimp Cap with Silicon White / PTFE Beige Dark Septa	100
CC20GMCB00	20mm,Gold Magnetic Crimp Cap with Siilicon White / PTFE Beige Septa	100
CC20BBCD00	20mm, Blue Bimetallic Crimp Cap with Silicon White / PTFE Dark Beige Septa	100
CC20RBCB00	20mm, Red Bimetallic Crimp Cap with Silicon White / PTFE Beige Septa	100
CC20SACBU0	20mm, Silver Aluminium Crimp Cap with Butyl/ PTFE Septa	100
CC20APCBU0	20mm, Aluminium Pressure release Cap with Butyl/ PTFE Septa	100
	CRIMPER and Decapper	
Part no	Description	Pack Size
MANCRIMPH-11	Manual Crimper 11mm	1
MANDECAPH-11	Manual Decapper 11mm	1
MANCRIMPH-20	Manual Crimper 20mm	1
MANDECAPH-20	Manual Decapper 20mm	1
MANCRIMPV-11	Manual Crimper 11mm Vertical	1
MANDECAPV-11	Manual Decapper 11mm Vertical	1
MANCRIMPV-20	Manual Crimper 20mm Vertical	1
MANDECAPV-20	Manual Decapper 20mm Vertical	1
ELECRIMPV-11	Electronic Crimper 11mm	1
ELEDECAPV-11	Electronic Decapper 11mm	1
ELECRIMPV-20	Electronic Crimper 20mm	1
ELEDECAPV-20	Electronic Decapper 20mm	1







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