

CELLULOSE ACETATE SYRINGE FILTERS

Cellulose Acetate membrane is a supported, hydrophilic membrane that is naturally low binding. It is ideal for use in enzyme loading and latex bead entrapment assay formats. These syringe filters are available as sterile or non-sterile and with or without a glass fiber pre-filter.

FEATURES AND BENEFITS

- Hydrophilic, low binding filter
- Strength, uniform pore size

APPLICATIONS

- Sterilize biological fluids, serum or media additives, 3S, 25S, 25SG
- Sample preparation of aqueous solutions, 3, 17 or 30
- Sample preparation of protein-based HPLC solutions, 3, 17
- High throughput, low binding filter units for nonsterile aqueous filtrations, 30

PRODUCT DESCRIPTION



Cellulose Acetate Syringe Filter

- Filtration of tissue culture media, 25SG or 30G
- High throughput for sterile or nonsterile clarification of even the most viscous proteinaceous Solutions, 25SG or 30G
- Filter probe and hybridization solutions to reduce backgrounds, 3S, 25S

The Sterlitech Cellulose Acetate syringe filter is well suited for maximum sample recovery such as tissue culture media preparation, sterile or nonsterile filtration and clarification of biological fluids, protein and enzyme filtrations, hybridization buffers, and other aqueous solutions.

The sterile Sterlitech cellulose acetate (S) or with a glass fiber prefilter (SG) is recommended to filter probe solutions. The Sterlitech cellulose acetate series syringe filters are designed to sterilize and remove particulates from proteinaceous samples. Due to the extremely low holdup volume the negligible protein-binding characteristics, these syringe filter units are ideal for applications requiring maximum sample recovery from a standard or presterilized syringe filter.

The membrane filter is Sterlitech (CA) Cellulose Acetate, which eliminates the possibility of "popping" the filter. See Sterlitech CA for a detailed description of the membrane in the filters. The Sterlitech 17G (17 mm), 25G, 25GS (25 mm), 30G (30 mm) syringe filters contain a 1.0 micron borosilicate glass prefilter and our Sterlitech CA membrane filter specifically designed to combine high throughputs and maximum sample recovery when filtering or sterilizing viscous proteinaceous solutions. The prefilter and membrane are contained in the acrylic housing without adhesives.

The Sterlitech Cellulose Acetate (S) filters are individually packaged, gamma irradiation pre-sterilized syringe filters. Other than the 3mm the other sizes offer bi-directionally support of the membrane allowing sample injection or aspiration and are individually labeled with pore size and filter type for quick, easy identification. All units are tested to verify the filter and housing integrity.

Filter	3	3S	17	17G	25S	25SG	30	30G
Cellulose Acetate	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Borosilicate Glass Prefiler				Yes		Yes		Yes
Sterile (*Gamma irradiation)		Yes*			Yes*	Yes*		
Autoclavable	Yes	Yes	Yes	Yes			Yes	Yes
Housing (**PP Polypropylene)	Nylon	Nylon	**pp	**pp	Acrylic	Acrylic	**pp	**pp
Filter diameter (mm)	3	3	17	17	25	25	30	30
Filtration area (cm ²)	0.1	0.1	1.4	1.4	4.1	4.1	4.8	4.8
Holdup volume (uL)	<3	<3	<15	<15	<60	<60	<60	<60
Sample volume (mL)	<1	<1	<12	<18	<100	<150	<120	<180
Maximum Operating	135°C	135°C	180°C	180°C	55°C	55°C	180°C	180°C
Temperature								
Maximum Operating Pressure	75 psi	75 psi	130 psi	130 psi	75 psi	75 psi	130 psi	130 psi
(psi)								

SPECIFICATIONS

Connections: Female LuerLok inlet, Female Luer slip inlet, Male Luer slip outlet Hydrophilic, pH (4-8) Pore Sizes Standard (Custom): 0.22 - 0.8 (0.22 - 5.0 micron)

Cellulose Acetate Syringe

Filters available:

Non-sterile, without Glass Fiber Prefilter. Non-sterile, with Glass Fiber Prefilter. Sterile without Glass Fiber Prefilter. Sterile with Glass Fiber Prefilter.

For more information, please visit the <u>Cellulose Acetate Syringe Filters section</u> at <u>www.sterlitech.com</u> or email us at <u>sales@sterlitech.com</u>.

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Nylon Syringe Filters

Nylon membrane is supported, naturally hydrophilic and designed to wet out evenly and retain its superior strength during use in general filtration or medical essays. Nylon syringe filters are available in pre-sterilized blister packs or bulk packs.

FEATURES AND BENEFITS

- Naturally hydrophilic
- Wide chemical compatibility range
- Extremely Low Extractables
- Disposable to eliminate cross contamination

APPLICATIONS

- HPLC aqueous and organic sample filtration, 3, 17, 30
- Solvent filtration and clarification, 30
- Sterilize aqueous and/or organic samples, 25S
- Sterilize and clarification biological fluids, buffer solutions and tissue culture media, 25S
- Exceptionally low extractable level with no wetting agents utilized, 25S, 30

PRODUCT DESCRIPTION

- Filter viscous aqueous and organic HPLC sample filtration 17G, 30G
- Improve sample volume throughput with prefilter 17G, 30G
- High particulate load, 17G, 30G
- Exceptionally low extractable level with no wetting agents utilized

Sterlitech Nylon syringe filter is designed for sterilization or clarification of aqueous and solvent samples in a wide array of analytical and research applications. It is primarily used to filter small aqueous and organic samples with low hold-up volume in order to inject them directly into the HPLC sample loop systems. The filtered samples ensure column protection.

The Sterlitech membrane filter is naturally hydrophilic nylon, which contains no wetting agents and yields an exceptionally low extractable level of less than 0.0015 mg/cm².



Nylon Syringe Filters

Trouble-free operation and consistent test results, the Sterlitech G filter features a 1.0 micron glass prefilter over our nylon. This combination provides high throughputs and quick flow rates with high particulate or viscous samples.

The Sterlitech S filter is a presterilized, individually blister-packed 25 mm syringe filter designed for sterilization or clarification of aqueous samples up to 100 mL where low extractables and low holdup volumes are critical. Primary applications include filtering of biological fluids, buffer solutions and sterile filtering of tissue culture media.

The Sterlitech nylon is pre-rinsed in methanol to completely eliminate any possible extractables, which could interfere with the results in sensitive applications. The Sterlitech nylon filter resists temperatures up to 180°C (356°F.) (See Sterlitech nylon membrane filters for a complete description of the membrane.) Pore sizes from 0.1 to 20.0 micron are available as standard or custom sizes in our syringe filters. Custom sizes require a 5,000 unit minimum.

The Sterlitech 3 mm housing is manufactured of pure nylon. The 17 mm and 30 mm housings are made of pure polypropylene. These units, nylon and polypropylene are highly temperature resistant and autoclavable. The units are compatible with most organic solvents including acetone, methylene chloride and acetonitrile. The housing for the 25 mm sterile unit is manufactured of a modified acrylic designed to bi-directionally support the membrane allowing sample injection or aspiration. The S units are sterilized by gamma irradiation. All units are tested to verify the filter and housing integrity. The 17, 25 and 30 units are individually labeled with pore size and filter type for quick, easy identification. These units are tested to verify the filter and housing integrity.

SPECIFICATIONS

	3	17	17G	25S	30	30G
Filter (Sterlitech Nylon)	Yes	Yes	Yes	Yes	Yes	Yes
Borosilicate Glass Prefiler	No	No	Yes	No	No	Yes
Sterile (*Gamma irradiation)	No	No	No	Yes*	No	No
Autoclavable	Yes	Yes	Yes	No	Yes	Yes
Housing (**PP Polypropylene)	Nylon	**pp	**pp	Acrylic	*pp	*pp
Filter diameter (mm)	3	17	17	25	30	30
Filtration area (cm ²)	0.1	1.4	1.4	4.1	4.8	4.8
Holdup volume (uL)	<3	<15	<15	<60	<60	<60
Sample volume (mL)	<1	<12	<18	<100	<120	<180
Maximum Operating Temperature	180°C	180°C	180°C	55°C	180°C	180°C
Maximum Operating Pressure (psi)	75	130	130	75	130	130

Connections: Female LuerLok inlet/Female Luer slip inlet, Male Luer slip outlet Hydrophilic, pH 3-12

Pore Sizes Standard (Custom): 0.1 - 5.0 (0.1 - 20.0 micron)

For more information, please visit the <u>Nylon Syringe Filters section</u> at <u>www.sterlitech.com</u> or email us at <u>sales@sterlitech.com</u>.

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POLYETHERSULFONE SYRINGE FILTERS

PES membrane is hydrophilic and constructed from pure polyethersulfone polymer membrane for maximum sample recovery. Low protein and drug binding characteristics make it ideally suited for use in life sciences applications. These syringe filters are available as sterile or non-sterile, with or without glass fiber prefilter.

FEATURES AND BENEFITS:

- Low protein binding
- Fast flow rates and high throughput
- Hydrophilic
- Extremely low extractable levels

APPLICATIONS

- Sterilize biological fluids, serum or tissue culture media additives
- Sample preparation of aqueous solutions
- High throughput, low binding filter
- Units for sterile aqueous filtrations

- Filter probe and hybridization solutions to reduce backgrounds
- Sample preparation of protein-based
- HPLC solutions
- High throughputs when sterilizing or clarifying even the most viscous proteinaceous solutions, SG

PRODUCT DESCRIPTION

The non-sterile Sterlitech Polyethersulfone syringe filter are well suited for maximum sample recovery such as media preparation, non-sterile filtration and clarification of fluids, buffers, and other aqueous solutions where low protein binding and low extractables are important.

The sterile Sterlitech Polyethersulfone syringe filter units are ideal for applications where maximum sample recovery is essential such as: tissue culture media preparation; sterile filtration and clarification of biological fluids; probe solutions; protein and enzyme filtrations; hybridization buffers and other aqueous solutions.



PES Syringe Filters

The Sterlitech Polyethersulfone sterile syringe filters are presterilized, individually blister-packed 25 mm syringe filter. The unit contains our PES membrane filter designed specifically to provide high throughputs and quick flow rates when filtering or sterilizing proteinaceous solutions with very low protein binding. For more viscous solutions we provide the 25 PES Sterile, with glass fiber prefilter unit, which contains a 1.0-micron borosilicate glass prefilter with a PES membrane filter.

The syringe housing is manufactured of a modified acrylic designed to bidirectionally support the membrane allowing sample injection or aspiration. The prefilter and PES membrane filter are contained in an acrylic housing without adhesives. All units are tested to verify the filter and housing integrity.

The Sterlitech Polyethersulfone sterile filters are individually packaged, gamma irradiation pre-sterilized syringe filters. Each unit is individually labeled with pore size and filter type for quick, easy identification. Sterlitech PES membrane section has details of the membrane.

	25S	25SG	30
Filter:			
PES	Yes	Yes	Yes
Borosilicate Glass Prefilter	No	Yes	No
Sterile (*Gamma irradiation)	Yes*	Yes*	No
Autoclavable	No	No	Yes
Housing	Acrylic	Acrylic	**PP
Filter diameter (mm)	25	25	30
Filtration area (cm 2)	4.1	4.1	4.8
Holdup volume (uL)	<60	<60	<60
Sample volume (mL)	<100	<150	<120
Maximum operating Temperature	55°C	55°C	80°C
Maximum operating pressure, psi	75	75	130

SPECIFICATIONS

Connections: Female LuerLok inlet, Female Luer slip inlet, Male Luer slip outlet Hydrophilic, pH (1-14)

For more information, please visit the <u>PES Syringe Filters section</u> at <u>www.sterlitech.com</u> or email us at <u>sales@sterlitech.com</u>.

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PTFE (TEFLON[®]) SYRINGE FILTERS

PTFE (Teflon[®]) membrane is hydrophobic and is designed to filter most aggressive solvents, acids, and base samples. The PTFE syringe filter is available with or without a glass fiber prefilter.



FEATURES AND BENEFITS

PTFE (Teflon[®]) Syringe Filters

- Membrane compatible with most aggressive solutions.
- Hydrophobic ideal for venting applications

APPLICATIONS

- Aggressive solvent, acids and bases, 17, 30, 17G, 30G
- Filter organic-based HPLC samples, 17, 30, 17G, 30G
- Degassing solvents, 17, 30, 17G, 30G
- Aerosol sampling, 17, 30, 17G, 30G

- Venting applications, sterilize air, gases, aerosols, 17, 30, 17G, 30G
- Vacuum pump line protection, 17, 30, 17G, 30G
- Filter viscous organic-based HPLC samples, 17G, 30G

PRODUCT DESCRIPTION

The Sterlitech Teflon[®] syringe filter is designed to filter most aggressive solvents, acids and base samples. These units are recommended for HPLC solvent and gas chromatography filtration. They are excellent for filtering and degassing solvents before analysis.

The membrane filter in the Sterlitech Teflon[®] filter is naturally hydrophobic Teflon[®] (PTFE), which is autoclavable and will not release extractables into the sample. See the section on Teflon membrane filters for membrane details.

The Sterlitech Teflon[®] with glass fiber prefilter (G) syringe filter features a 1.0 micron glass prefilter over our Teflon[®] filter. The Sterlitech G filter is designed to sterilize or clarify most aggressive solvent, acid and base samples with a high particulate load with high throughputs and quick flow rates.

The Sterlitech 17 and 30 are made of pure polypropylene housing which is autoclavable. All units are tested to verify the filter and housing integrity. Each unit is individually labeled with pore size and filter type for quick, easy identification.

Filter	17	17G	30	30G
PTFE (Teflon [®]) filter	Yes	Yes	Yes	Yes
Borosilicate Glass Prefiler	No	Yes	No	Yes
Sterile	No	No	No	No
Autoclavable	Yes	Yes	Yes	Yes
Housing (**PP Polypropylene)	**pp	**pp	**pp	**pp
Filter diameter (mm)	17	17	30	30
Filtration area (cm ²)	1.4	1.4	4.8	4.8
Holdup volume (uL)	<15	<15	<60uL	<60uL
Sample volume (mL)	<12 mL	<18 mL	<120 mL	<180 mL
Maximum Operating Temperature	180°C	180°C	180°C	180°C
Maximum Operating Pressure (psi)	130 psi	130 psi	130 psi	130 psi

SPECIFICATIONS

Connections: Female LuerLok inlet, Female Luer slip inlet, Male Luer slip outlet Hydrophobic, pH 1-14 Pore Sizes Standard (Custom): 0.22 - 0.45 (1.0 micron)

For more information, please visit the <u>PTFE (Teflon[®]) Syringe Filters section</u> at <u>www.sterlitech.com</u> or email us at <u>sales@sterlitech.com</u>.



PVDF (POLYVINYLIDENE DIFLUORIDE) SYRINGE FILTERS

PVDF (Polyvinylidene difluoride) Syringe Filters provides high flow rates and throughput, low extractables and broad chemical compatibility. Hydrophilic PVDF membranes bind far less protein than nylon, nitrocellulose or PTFE membranes.



PVDF Syringe Filters

FEATURES AND BENEFITS

- High Flow Rates
- Low Extractables
- Broad Chemical Compatibility

APPLICATIONS

- Sterilizing filtration of biological solutions
- Clarifying filtration of biological solutions

Pore Size	Bubble Point	Flow Rate* (mL/min/cm ²)	Membrane Thickness
0.2um	2.3	5	140
0.45um	1.1	26	127

*at 13.5psi

SPECIFICATIONS

	30		
Filter:			
PVDF	Yes		
Borosilicate Glass Prefilter	Νο		
Sterile (*Gamma irradiation)	No		
Autoclavable	Yes		
Housing	**PP		
Filter diameter (mm)	24mm		
Filtration area (cm 2)	4.52cm ²		
Holdup volume (uL)	100ul (0.1ml)		
Sample volume (mL)	<120		
Maximum operating Temperature	85°C Max		
Maximum operating pressure, psi	130		

Connections: Female LuerLok inlet/Female Luer slip inlet, Male Luer slip outlet

For more information, please visit the <u>PVDF Syringe Filters section</u> at <u>www.sterlitech.com</u> or email us at <u>sales@sterlitech.com</u>.