

OlimPeak® Certified Filters by Teknokroma



Introduction

Filtrating samples prior to injection will prolong column, frits and valves life, and reduce down time due to less instrument maintenance.

The quality of the filtrate from any sample is dependent on a number of variables, such as, the membrane, the membrane support (if used), the resin used to mold the filter housing, and last but not least, the analyst.

In any laboratory filtration where the purity of the filtrate is important, the analyst must remember three very important words, slower is better. Filtration improves when the sample passes through the filter slowly. Attention should be paid when using a high volume syringe (more than 10 ml), in order to avoid the maximum operating pressure.

Integrity of the Membrane

The best method to guarantee the integrity of the membrane is the control of the bubble point.

The bubble point is the minimum pressure required to create a steady flow of bubbles from a fully wetted membrane (water for hydrophilic materials and alcohols for hydrophobics). Microporous membranes in contact with the wetting liquid, fill their pores following principles associated with the capillary forces. To vent the filled pores requires a differential pressure to be applied across them.

Principal factors affecting bubble point test are: surface tension of the liquid, surface free energy of the membrane, size of pores, temperature and wetting procedure.

In a simplified math-form, the required pressure to vent a liquid filled pore **P**, has an inverse relationship to the pore diameter, **d** as described by this bubble point equation:

$$P = \frac{K4\sigma \cos\theta}{d}$$

P: Bubble point pressure

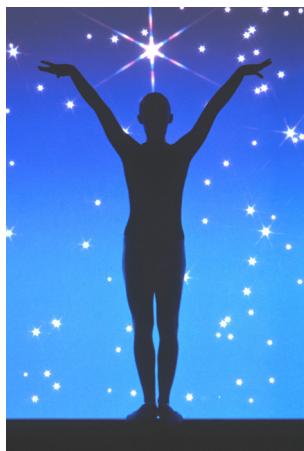
σ: Surface tension of wetting fluid

θ: Contact angle of liquid-solid

K: Pore shape factor constant (since pores are not simple cylinders in the real filter membranes).

d: pore diameter.

Tk Certified Olimpeak™ Syringe Filters



Membrane Selection

To select the right membrane for sample and solvent filtration for chromatography, there are several important considerations:

- The membrane and housing must be highly solvent resistant, since most chromatography solvents are aggressive and sometimes corrosive.
- It should not have extractables because they can interfere with analytical results.
- It should present a low protein binding for biological samples.
- Size and amount of particulates in the sample
- Special considerations if you need pre-filter
- Special membrane for filtration of inorganic ions

Guidelines to choose your syringe filter

Sample matrix with organic or/and water solvents:

You can use:

Nylon, Polypropylene, PVDF, PTFE, Regenerated Cellulose

Sample matrix with aqueous solutions:

You can use:

Cellulose Acetate, M.E. Cellulose, PES, Nitrocellulose

Sample matrix with peptides and proteins:

You can use:

Regenerated Cellulose, Acetate Cellulose, Polypropylene, PVDF, PES

Tissue Culture media Filtration:

You can use:

Regenerated Cellulose, Cellulose Acetate, PES, M.E Cellulose

Ion Chromatography Filtration:

You can use:

Certified Polyethersulfone

Samples matrix with excessive amount of particulates:

You can use:

Syringe filter with Glass Prefilter.

General Overview

Filter Housing: High density polypropylene (PP) medical grade: Excellent chemical compatibility with acids, alcohols, bases, ethers, glycols, ketones and oils.

Limited resistance for acids > 1N, ethers, aromatics and halogenated hydrocarbons

Maximum operating temperature 135 °C

Standard Connections: Female Luer Lock inlet, male Luer slip outlet as a standard in compliance with ISO 594-1

MinitiConnections: Female Luer Lock inlet, male MiniTip outlet

Robotic Connections: Female Luer Lock inlet, male Minispike outlet

Filter type: Non sterile

Membranes Selection: PP (Polypropylene), Nylon, Nylon Low Extractables, PTFE, M.E. Cellulose, Regenerated Cellulose, PVDF, Nitrocellulose, Cellulose Acetate, Polyethersulfone, and Glass Microfiber

Pore size: 0.2 - 0.45 µm for all filters

Pore size: 1, 2 and 5 µm for Glass microfiber

Pore size 0.45 µm: Most of HPLC application.

Pore size 0.20 µm: we use them in 2 cases:

- 1- In order to eliminate all bacterial contamination.
- 2- When we use 3 µm HPLC column.

Max. Operating pressure: 13 mm D. 750 Kpa and 25 mm D. 550 Kpa

Retention volumes: 13 mm < 30 µl and 25 mm D. < 120 µl

Max. Filtration volume: 13 mm D. 1-10 ml and 25 mm D. > 10 ml

Filtration area: 13 mm D. 0.95 cm² and 25 mm D. 3.55 cm²

For samples with a high amount of particulates it is recommended to use the filters with a glass-fiber pre-filter. This combination eliminates the need for a pre-filtration step.

OlimPeak® Certified Filters by Teknokroma

Introduction of the New line of Olimpeak™ syringe filters

Teknokroma introduces into the market the new range of Certified Syringe Filters **Olimpeak™**.

This new line of Olimpeak™ Certified Filters offers a step further in traceability, method validation and GLP.

Certified Olimpeak™ syringe filters are made using polypropylene medical grade housing with Luer Lock and Luer slip fittings in compliance with ISO 594-1. Each filter is sealed using an external ring insert to maintain the membrane integrity and best performance. Olimpeak™ syringe filters are color coded for an easy identification.

All syringe filters are manufactured in compliance with ISO 9001 and technical procedures and tested according international standards of ISO 17025. Our manufacturing methods eliminate variable results through controlled manufacturing consistency batch to batch, and filter to filter. Samples and raw data of all syringe filter batches and membranes are stored during 5 years from production for reference.

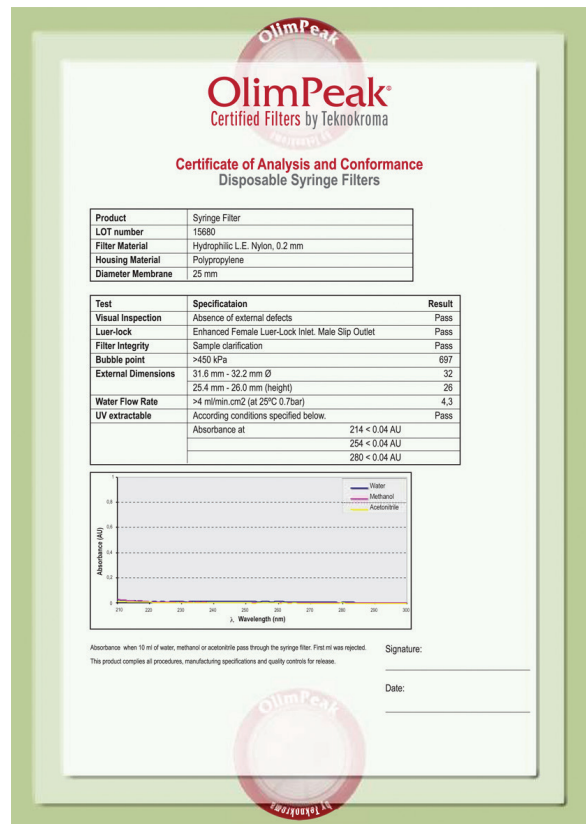
Our new **Certified Syringe Filter Olimpeak™** offer the best value. All filters are supplied with a Certificate of Quality batch to batch as guarantee of product performance and quality.

Each lot is quality monitored for:

- 100 % of the syringe filters are visually inspected following quality specifications
- Each batch of filters is tested for external dimensions
- Bubble Point
- Burst Pressure
- Filter Integrity
- Water Flow Rate
- UV Extractables and compliance with all technical procedures.
- Manufacturing specifications and quality controls for release

Test are carried out by an independent laboratory

(*) For critical applications using chromatography detection at < 210 nm it is recommended to reject the first filtrate ml.



OlimPeak®
Certified Filters by Teknokroma

Certificate of Analysis and Conformance
Disposable Syringe Filters

Product	Syringe Filter
LOT number	15680
Filter Material	Hydrophilic L.E. Nylon, 0.2 mm
Housing Material	Polypropylene
Diameter Membrane	25 mm

Test	Specification	Result
Visual Inspection	Absence of external defects	Pass
Luer-lock	Enhanced Female Luer-Lock Inlet, Male Slip Outlet	Pass
Filter Integrity	Sample clarification	Pass
Bubble point	>450 kPa	697
External Dimensions	31.6 mm - 32.2 mm Ø	32
	25.4 mm - 26.0 mm (height)	26
Water Flow Rate	>4 ml/min.cm ² (at 25°C 0.7bar)	4.3
UV extractable	According conditions specified below.	Pass
	Absorbance at	214 < 0.04 AU
		254 < 0.04 AU
		280 < 0.04 AU

Absorbance (AU)

Wavelength (nm)

Water
Methanol
Acetonitrile

Absorbance when 10 ml of water, methanol or acetonitrile pass through the syringe filter. First ml was rejected.
This product complies all procedures, manufacturing specifications and quality controls for release.

Signature: _____
Date: _____

Olimpeak™ Certificate

Teknokroma's Syringes filters are of high quality and their level of extractables is very low. The encapsulating process forces the sample to pass only through the membrane.

They chemically resist a wide range of chemical products and solvents.

Teknokroma's filters avoid any leak or any contamination due to the use of high quality materials.

Easy Identification for Method Validation



In addition to the color code, every single unit of Olimpeak™ Certified Syringe Filter is printed with the membrane type, pore size and batch number. This information makes them unique for traceability, GLP's and validation purposes.

Tk Certified Olimpeak™ Syringe Filters

Nylon Olimpeak™ New Certified Syringe Filter with Polypropylene Housing



- Hydrophilic membrane.
- Excellent for HPLC samples, can be used for general filtration.
- Nylon is compatible with organic or aqueous solutions
- High bubble point.
- Nylon has high protein retention.
- Maximum operating temperature 100 °C

Don't use with strong acids, or bases, halogenated hydrocarbons, and protein.

Reference	Description	Pk
TR-200100	Nylon Filter, green 0.45 µm, 25 mm D	100
TR-200101	Nylon Filter, light green 0.20 µm, 25 mm D	100
TR-200500	Nylon Filter, green 0.45 µm, 13 mm D	100
TR-200501	Nylon Filter, light green 0.20 µm, 13 mm D	100

Nylon Low Extractables New Certified Olimpeak™ Syringe Filter with Polypropylene Housing



- One of the traditional membranes used for filtration of HPLC samples is supported Nylon 66. Generally, a small quantity of the sample is passed through this filter prior to injection. This is done to reduce unwanted spikes in the chromatogram due to extractables leaching from the support material or membrane.
- The Nylon Low Extractables, is a HPLC certified 13 and 25 mm D. syringe filter with a unique unsupported Nylon

membrane. This new membrane does not release significant levels of extractables following an acetonitrile challenge.

Reference	Description	Pk
TR-200475	Nylon L.E. Filter, green , 0.45 µm, 25 mm D	100
TR-200470	Nylon L.E. Filter light green 0.20 µm, 25 mm D	100
TR-200465	Nylon, L.E. Filter green 0.45 µm, 13 mm D	100
TR-200460	Nylon L.E. Filter light green 0.20 µm, 13 mm D	100

PTFE New Certified Olimpeak™ Syringe Filter with Polypropylene Housing



- The PTFE (polytetrafluoroethylene) is an hydrophobic membrane resistant to strong acids, aggressive solvents, alcohols, bases and aromatics.
- This membrane is ideal for filtration and degassing of chromatography solvents and also for extremely basic mobile phase solutions
- Very low extractables
- This membrane is mechanically strong
- For sterile venting use 0.2 µm pore size, and for trasducer protection or air/gas filtration use 1 or 0.45 µm.
- Excellent thermal stability
- Aqueous solutions require pre-wetting with an alcohol
- Maximum operating temperature 100 °C

Reference	Description	Pk
TR-200102	PTFE Filter, blue , 0.45 µm, 25 mm D	100
TR-200103	PTFE Filter, light blue, 0.20 µm, 25 mm D	100
TR-200502	PTFE Filter, blue , 0.45 µm, 13 mm D	100
TR-200503	PTFE Filter, light blue , 0.20 µm, 13 mm D	100

Polypropylene New Certified Olimpeak™ Syringe Filter with Polypropylene Housing



- Polypropylene is a hydrophilic membrane, highly resistant to solvents
- Exhibits a wide range of chemical compatibility to organic solvents
- It is ideal for biological sample filtration due to the low protein binding
- Good choice for chromatography protein analysis and biological sample filtration
- Can be used with acids and bases, and general HPLC analysis
- Maximum operating temperature 110 °C
- Limited resistance to chloroform and MeCl

Reference	Description	Pk
TR-200111	Polypropylene Filter, white 0.45 µm, 25 mm D	100
TR-200112	Polypropylene Filter, natural , 0.20 µm, 25 mm D	100
TR-200509	Polypropylene Filter, white , 0.45 µm, 13 mm D	100
TR-200508	Polypropylene Filter, natural , 0.20 µm, 13 mm D	100

PVDF New Certified Olimpeak™ Syringe Filter with Polypropylene Housing



- PVDF is Polyvinylidene difluoride and is a hydrophilic membrane
- This membrane is solvent resistant and exhibits low levels of extractables
- PVDF is a low protein binding membrane, and can be used with proteins and peptides

- Can be used for sample filtration of aqueous and organic solvents
- Ideal for all the applications for HPLC and general biological filtration
- Maximum operating temperature 110 °C

Don't use it with strong acids, bases or ketones.

Reference	Description	Pk
TR-200106	PVDF Filter, red 0.45 µm, 25 mm D	100
TR-200107	PVDF Filter, rose 0.20 µm, 25 mm D	100
TR-200506	PVDF Filter, red 0.45 µm, 13 mm D	100
TR-200507	PVDF Filter, rose, 0.20 µm, 13 mm D	100

Regenerated Cellulose New Certified Olimpeak™ Syringe Filter with Polypropylene Housing



- Regenerated Cellulose, is a hydrophilic solvent resistant and very low protein binding membrane
- It is also compatible with nearly all common HPLC solvents
- The Regenerated Cellulose is compatible with aqueous samples in a pH from 3 to 12
- These membranes, can used for biological samples filtration and are important for the protein recuperation
- The Regenerated Cellulose is the membrane of choice for low nonspecific binding applications, tissue culture media filtration and biological sample filtration. To improve the filtration use it with Glass pre-filter membrane
- Maximum operating temperature 110 °C

Don't use with strong acids, chloroform, THF.

Reference	Description	Pk
TR-200445	Regenerated Cellulose Filter, brown, 0.45 µm, 25 mm D	100
TR-200440	Regenerated Cellulose Filter, light brown, 0.20 µm, 25 mm D	100
TR-200435	Regenerated Cellulose Filter, brown 0.45 µm, 13 mm D	100
TR-200430	Regenerated Cellulose Filter, light brown, 0.20 µm, 13 mm D	100

Tk Certified Olimpeak™ Syringe Filters

Polyethersulfone New Certified Olimpeak™ Syringe Filter with Polypropylene Housing



- Hydrophilic membrane, very low protein and nucleotic acid binding and can be used with high temperature liquids
- This membrane provides high flow rates and good throughput volume
- PES is the filter of choice for tissue culture work, having very low extractables
- The PES is a mechanically strong membrane, and can be used with strong bases, alcohols and resistive proteins
- Good to excellent flow rates
- Maximum operating temperature 100 °C

Don't use it with acids, ketones, ethers, halogenated or aromatic hydrocarbons.

Reference	Description	Pk
TR-200401	Polyethersulfone, violet 0,45 µm, 25 mm D	100
TR-200402	Polyethersulfone, light violet 0,20 µm, 25 mm D	100
TR-200403	Polyethersulfone, violet 0,45 µm, 13 mm D	100
TR-200404	Polyethersulfone, light violet 0,20 µm, 13 mm D	100

Cellulose Acetate New Certified Olimpeak™ Syringe Filter with Polypropylene Housing



- Hydrophilic membrane
- Ideal for aqueous based samples and for tissue cultura media filtration and sensitive biological samples

- Very low protein binding membrane, even less than either PVDF or PES membranes
- This membrane has a lower chemical resistance than Regenerated Cellulose
- Maximum operating temperature 110 °C

Don't use it with organic solvents.

Reference	Description	Pk
TR-200406	Cellulose Acetate, orange 0.45 µm, 25 mm D	100
TR-200407	Cellulose Acetate, light orange 0.20 µm, 25 mm D	100
TR-200408	Cellulose Acetate, orange 0.45 µm, 13 mm D	100
TR-200409	Cellulose Acetate, light orange 0.20 µm, 13 mm D	100

M.E. Cellulose New Certified Olimpeak™ Syringe Filter with Polypropylene Housing



- The M.E Cellulose membrane is hydrophilic
- They are used to clean or to sterilize many aqueous solutions
- It is ideal for biological samples or culture media filtration

Reference	Description	Pk
TR-200104	M.E Cellulose Filter, yellow, 0.45 µm, 25 mm D	100
TR-200105	M.E Cellulose Filter, light yellow, 0.20 µm, 25 mm D	100
TR-200504	M.E Cellulose Filter, yellow, 0.45 µm, 13 mm D	100
TR-200505	M.E Cellulose Filter, light yellow, 0.20 µm, 13 mm D	100

Certified Olimpeak™ Syringe Filters Tk

Glass Microfibre GMF New Certified Olimpeak™ Syringe Filter with Polypropylene Housing



- GMF membranes are commonly used as pre-filters to remove large particulates to extend the loading capacity of the filter membrane
- Membrane of choice for dissolution test
- Maximum operating temperature 110 °C

Reference	Description	Pk
TR-200000G	Glass Microfiber GMF, Grey, 1,0 µm 25 mm D	100
TR-200006G	Glass Microfiber GMF, Grey, 2,0 µm 25 mm D	100
TR-200007G	Glass Microfiber GMF, Grey, 5,0 µm 25 mm D	100

MiniTip Certified Olimpeak™ Syringe Filters

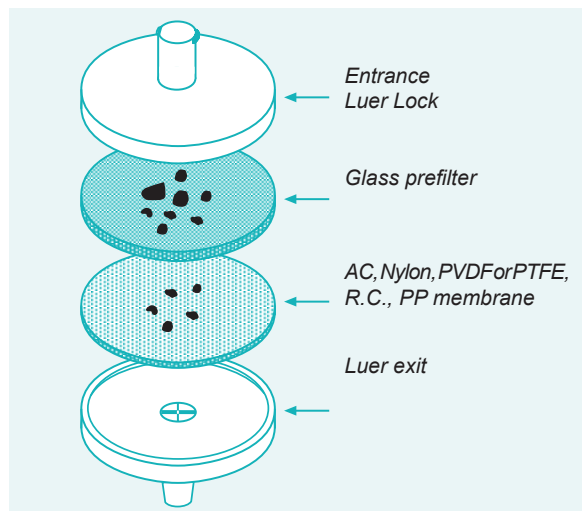


- Teknokroma has designed a new 13 mm syringe filter with a thin outlet called MiniTip, for direct filling of microvials.
- High quality MiniTip syringe filters are available with these membranes: Nylon, PES, PTFE, PVDF, RC, CN, CA, M.E.C and PP.
- Pore size can be 0.45 or 0.20 µm and the lot number of each filter is printed on the PP housing.

Reference	Description	Pk
TR-200500MT5	Mini Tip Nylon 0.45 µm x 13 mm PP, Green	500
TR-200501MT5	Mini Tip Nylon 0.2 µm x 13 mm PP, Light Green	500
TR-200502MT5	Mini Tip PTFE 0.45 µm x 13 mm PP, Blue	500
TR-200503MT5	Mini Tip PTFE 0.2 µm x 13 mm PP, Light Blue	500
TR-200504MT5	Mini Tip M.E.Cellulose 0.45 µm x 13 mm PP, Yellow	500
TR-200505MT5	Mini Tip M.E.Cellulose 0.2 µm x 13 mm PP, Light Yellow	500
TR-200506MT5	Mini Tip PVDF 0.45 µm x 13 mm PP, Red	500
TR-200507MT5	Mini Tip PVDF 0.2 µm x 13 mm PP, Light Red	500
TR-200508MT5	Mini Tip Polypropylene 0.2 µm x 13 mm PP, White	500
TR-200509MT5	Mini Tip Polypropylene 0.45 µm x 13 mm PP, White	500
TR-200430MT5	Mini Tip Regenerated Cellulose 0.2 µm x 13 mm PP, Light Brown	500
TR-200435MT5	Mini Tip Regenerated Cellulose 0.45 µm x 13 mm PP, Brown	500
TR-200465MT10	Mini Tip Nylon L.E. 0.45 µm x 13 mm.D, Green	1000
TR-200460MT10	Mini Tip Nylon L.E. 0.2 µm x 13 mm.D, Light Green	1000
TR-200408MT10	Mini Tip Cellulose Acetate 0.45 µm x 13 mm.D, Orange	1000
TR-200409MT10	Mini Tip Cellulose Acetate 0.2 µm x 13 mm.D, Light Orange	1000
TR-200403MT10	Mini Tip Polyethersulfone 0.45 µm x 13 mm.D, Violet	1000
TR-200404MT10	Mini Tip Polyethersulfone 0.2 µm x 13 mm.D, Light Violet	1000

Tk Target Syringe Filters

Filter with Glass prefilter New Certified Olimpeak™ Syringe and Polypropylene Housing



- Teknokroma offers a wide range of syringe filters with a Glass Microfiber membrane used as pre-filter.
- The Glass pre-filter is mounted before the microporous filter membrane. This combination eliminates the need for a pre-filtration step, minimizes sample loss, and prolongs the life of membrane.
- Flow rates are increased and filtrate volume is significantly greater when compared to filters with no pre-filter.
- Regenerated Cellulose membrane with the GMF membrane as a prefilter, is especially useful for tissue culture media filtration, as well as for general biological sample filtration.
- These filters are ideal for general laboratory filtration of samples that contain an excessive amount of particulates.
- The glass pre-filter removes the larger particulates and prevents premature clogging of the filter membrane.

Reference	Pore	Description	Housing Pk
TR-200100G	0.45 µm	Nylon/Glass fibre 1 µm	PP 100
TR-200101G	0.2 µm	Nylon/Glass fibre 1 µm	PP 100
TR-200102G	0.45 µm	PTFE/Glass fibre 1 µm	PP 100
TR-200103G	0.2 µm	PTFE/Glass fibre 1 µm	PP 100
TR-200111G	0.45 µm	PP/Glass fibre 1 µm	PP 100
TR-200112G	0.2 µm	PP/Glass fibre 1 µm	PP 100
TR-200445G	0.45 µm	RC/Glass fibre 1 µm	PP 100
TR-200440G	0.2 µm	RC/Glass fibre 1 µm	PP 100
TR-200104G	0.45 µm	M.E.C/Glass fibre 1 µm	PP 100
TR-200105G	0.2 µm	M.E.C/Glass fibre 1 µm	PP 100
TR-200106G	0.45 µm	PVDF/Glass fibre 1 µm	PP 100
TR-200107G	0.2 µm	PVDF/Glass fibre 1 µm	PP 100
TR-200406G	0.45 µm	CA/Glass fibre 1 µm	PP 100
TR-200407G	0.20 µm	CA/Glass fibre 1 µm	PP 100
TR-200401G	0.45 µm	PES/Glass fibre 1 µm	PP 100
TR-200402G	0.20 µm	PES/Glass fibre 1 µm	PP 100

Target Syringe Filters (4mm Diameter)



- Assured quality - each lot independently tested for physical properties and membrane tested for UV extractables.
- Secure Luer Lok inlet
- Solvent resistant, low extractables polypropylene housing.

Reference	Description	Pore	Pk
CC-F2504-1	Nylon 4 mm D	0.45 µm	100
CC-F2504-2	Nylon 4 mm D	0.20 µm	100
CC-F2504-3	PTFE 4 mm D	0.45 µm	100
CC-F2504-4	PTFE 4 mm D	0.20 µm	100
CC-F2504-5	PVDF 4 mm D	0.45 µm	100
CC-F2504-6	PVDF 4 mm D	0.20 µm	100
CC-F2504-7	Regenerated Cellulose 4 mm D	0.45 µm	100
CC-F2504-8	Regenerated Cellulose 4 mm D	0.20 µm	100
CC-F2504-9	Polypropylene 4 mm D	0.45 µm	100
CC-F2504-10	Polypropylene 4 mm D	0.20 µm	100
CC-F2504-15	Cellulose Acetate 4 mm D	0.45 µm	100
CC-F2504-16	Cellulose Acetate 4 mm D	0.20 µm	100

Target Syringe Filter with polyethersulfone (PES) membrane



- Provides high flow rates and good throughput volum. Low protein binding and can be used with high temperature liquids.
- Good to excellent flow rate. PES is certified for Ion Chromatography.

PES Certified for Ion Chromatography

Reference	Description	Pore	Pk
CC-F2513-14	PES (polyethersulfone), 17 mm	0.45 µm	100
CC-F2513-17	PES (polyethersulfone), 17 mm	0.20 µm	100
CC-F2500-14	PES (polyethersulfone), 30 mm	0.45 µm	100
CC-F2500-17	PES (polyethersulfone), 30 mm	0.20 µm	100

Target Syringe Filters with Glass microfiber membrane



- GMB membranes are commonly used as pre-filters to remove large particulates and to extend the load capacity of the membrane.
- Membrane of choice for dissolution test.

Glass Microfiber GMF

Reference	Description	Pore	Pk
CC-F2500-18	GMF Glass Microfiber, 30 mm	0.70 µm	100
CC-F2500-19	GMF Glass Microfiber, 30 mm	1.20 µm	100
CC-F2500-20	GMF Glass Microfiber, 30 mm	3.10 µm	100

Target Syringe Filters 30 mm Diameter

Reference	Membrane	Pore	Diameter	Pk
CC-F2500-1	Nylon	0.45 µm	30 mm	100
CC-F2500-2	Nylon	0.20 µm	30 mm	100
CC-F2500-3	PTFE	0.45 µm	30 mm	100
CC-F2500-4	PTFE	0.20 µm	30 mm	100
CC-F2500-13	PTFE	1.00 µm	30 mm	100
CC-F2500-5	PVDF	0.45 µm	30 mm	100
CC-F2500-6	PVDF	0.20 µm	30 mm	100
CC-F2500-7	Regenerated Cellulose	0.45 µm	30 mm	100
CC-F2500-8	Regenerated Cellulose	0.20 µm	30 mm	100
CC-F2500-9	Polypropylene	0.45 µm	30 mm	100
CC-F2500-10	Polypropylene	0.20 µm	30 mm	100
CC-F2500-15	Cellulose Acetate	0.45 µm	30 mm	100
CC-F2500-16	Cellulose Acetate	0.20 µm	30 mm	100

Target Syringe Filters 17 mm Diameter

Reference	Membrane	Pore	Diameter	Pk
CC-F2513-1	Nylon	0.45 µm	17 mm	100
CC-F2513-2	Nylon	0.20 µm	17 mm	100
CC-F2513-3	PTFE	0.45 µm	17 mm	100
CC-F2513-4	PTFE	0.20 µm	17 mm	100
CC-F2513-5	PVDF	0.45 µm	17 mm	100
CC-F2513-6	PVDF	0.20 µm	17 mm	100
CC-F2513-7	Regenerated Cellulose	0.45 µm	17 mm	100
CC-F2513-8	Regenerated Cellulose	0.20 µm	17 mm	100
CC-F2513-9	Polypropylene	0.45 µm	17 mm	100
CC-F2513-10	Polypropylene	0.20 µm	17 mm	100
CC-F2513-14	Polyethersulfone	0.45 µm	17 mm	100
CC-F2513-17	Polyethersulfone	0.20 µm	17 mm	100
CC-F2513-15	Cellulose Acetate	0.45 µm	17 mm	100
CC-F2500-16	Cellulose Acetate	0.20 µm	17 mm	100

750 µL Micro-Centrifugal Filters - Nonsterile



- Filter volumes as low as 50 µl up to 750 µl with low hold-up volume
- Use with any laboratory microcentrifuge
- Virgin polypropylene filter housing with tapered 2 mL, capped receiver tube

750 µL Micro-Centrifugal Filters - Nonsterile

Reference	Membrane	Pore	Pk
CC-F2517-1	Cellulose Acetate	0.22 µm	100
CC-F2517-2	Cellulose Acetate	0.45 µm	100
CC-F2517-3	Nylon	0.2 µm	100
CC-F2517-4	Nylon	0.45 µm	100

2 mL Micro-Centrifugal Filters - Nonsterile



- Filter sample volumes up to 2 mL
- Virgin Polypropylene filter housing with tapered 5mL, capped receiver tube
- Use with benchtop or floor model centrifuges
- 500xG maximum centrifugal force

2mL Micro-Centrifugal Filters - Nonsterile

Reference	Membrane	Pore	Pk
CC-F2520-1	Cellulose Acetate	0.22 µm	25
CC-F2520-2	Cellulose Acetate	0.45 µm	25
CC-F2520-3	Nylon	0.20 µm	25
CC-F2520-4	Nylon	0.45 µm	25
CC-F2520-5	PVDF	0.20 µm	25
CC-F2520-6	PVDF	0.45 µm	25
CC-F2520-7	Regenerated Cellulose	0.20 µm	25
CC-F2520-8	Regenerated Cellulose	0.45 µm	25