

OlimPeak® Certified Filters by Teknokroma



Introduction

Filtering 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.

Syringe Filter Membrane Compatibility Chart

Use this information to determine the ability of a specific syringe filter membrane to withstand exposure to solvent.
All concentrations are 100% unless noted.

Chemical	Nylon	PTFE	PVDF	PES	CA	RC	PP	GMF
ACIDS								
Acetic, Glacial	LC	C	C	C	IC	C	C	C
Acetic, 25%	C	C	C	C	CA	C	C	C
Hydrochloric, Concentrated	IC	C	C	C	IC	IC	C	C
Hydrochloric, 25%	IC	C	C	C	IC	IC	C	C
Sulfuric, Concentrated	IC	C	IC	IC	IC	IC	C	C
Sulfuric, 25%	IC	C	C	C	IC	IC	C	LC
Nitric, Concentrated	IC	C	C	C	IC	IC	C	LC
Nitric, 25%	IC	C	C	C	IC	IC	C	LC
Phosphoric, 25%	IC	C	ND	ND	CA	LC	C	C
Formic, 25%	IC	C	ND	ND	LC	C	C	C
Trichloroacetic, 10%	IC	C	ND	ND	CA	C	C	ND
ALCOHOLS								
Methanol, 98%	C	C	C	C	C	C	C	C
Ethanol, 98%	C	C	C	C	C	C	C	C
Ethanol, 70%	LC	C	C	C	C	C	C	C
Isopropanol	C	C	C	C	C	C	C	C
n-Propanol	C	C	C	C	C	C	C	C
Amyl Alcohol (Butanol)	C	C	C	C	C	C	C	C
Benzyl Alcohol	C	C	C	ND	LC	C	C	IC
Ethylene Glycol	C	C	C	C	C	C	C	C
Propylene Glycol	C	C	C	C	LC	C	C	C
Glycerol	C	C	C	C	C	C	C	C
ALKALIES								
Ammonium Hydroxide, 25%	C	C	LC	C	C	LC	C	C
Sodium Hydroxide, 3N	C	C	C	C	IC	LC	C	IC
AMINES AND AMIDES								
Dimethyl Formamide	LC	C	IC	IC	IC	LC	C	C
Diethylacetamide	C	C	ND	ND	IC	C	ND	C
Triethanolamine	C	C	ND	ND	C	C	ND	ND
Aniline	ND	C	ND	ND	IC	C	ND	ND
Pyridine	C	C	IC	IC	IC	C	IC	C
Acetonitrile	C	C	C	LC	IC	C	C	C
ESTERS								
Ethyl Acetate/Methyl Acetate	C	C	C	IC	IC	C	LC	C
Amyl Acetate/Butyl Acetate	C	C	IC	IC	LC	C	LC	C
Propyl Acetate	C	C	IC	IC	LC	C	LC	ND
Propylene Glycol Acetate	ND	C	ND	IC	IC	C	C	ND
2-Ethoxyethyl Acetate	ND	C	ND	IC	LC	C	ND	ND
Methyl Cellulose	ND	C	ND	IC	IC	C	C	C
Chemical	Nylon	PTFE	PVDF	PES	CA	RC	PP	GMF
Benzyl Benzoate	C	C	ND	IC	C	C	ND	ND
Isopropyl Myristate	C	C	ND	IC	C	C	ND	ND
Tricresyl Phosphate	ND	C	ND	IC	C	C	ND	ND
HALOGENATED HYDROCARBONS								
Methylene Chloride	LC	C	C	IC	IC	C	LC	C
Chloroform	C	C	C	IC	IC	C	LC	C
Trichloroethylene	C	C	C	IC	C	C	C	C
Chlorobenzene	C	C	C	LC	C	C	C	C
Freon	C	C	C	LC	C	C	C	C
Carbon Tetrachloride	C	C	C	IC	LC	C	LC	C
HYDROCARBONS								
Hexane/Xylene	C	C	C	IC	C	C	IC	C
Toulene/Benzene	C	C	C	IC	C	C	IC	C
Kerosene/Gasoline	C	C	C	LC	C	C	IC	C
TetraIn/Decalin	ND	C	C	ND	C	C	ND	ND
KETONES								
Acetone	C	C	IC	IC	IC	C	C	C
Cyclohexanone	C	C	IC	IC	IC	C	C	C
Methyl Ethyl Ketone	C	C	LC	IC	LC	C	LC	C
Isopropylacetone	C	C	IC	IC	C	C	ND	C
Methyl Isobutyl Ketone	ND	C	LC	IC	ND	C	LC	C
ORGANIC OXIDES								
Ethyl Ether	C	C	C	C	C	LC	LC	ND
Dioxane	C	C	LC	IC	C	C	C	C
Tetrahydrofuran	C	C	LC	IC	C	C	C	C
Triethanolamine	C	C	ND	C	C	ND	ND	ND
Dimethylsulfoxide (DMSO)	C	C	IC	IC	C	C	C	C
Isopropyl Ether	ND	C	C	C	C	C	C	ND
MISCELLANEOUS								
Phenol, Aqueous Sol., 10%	ND	C	LC	IC	IC	IC	C	C
Formaldehyde, Aqueous Sol. 30%	C	C	C	C	C	LC	C	C
Hydrogen Peroxide, 30%	C	C	ND	ND	C	C	ND	ND
Silicone Oil/Mineral Oil	ND	C	C	C	C	C	C	C

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Hydrochloric, 25%	IC	C	C	C	IC	IC	C	C
Sulfuric, Concentrated	IC	C	IC	IC	IC	IC	C	C
Sulfuric, 25%	IC	C	C	C	IC	IC	C	LC
Nitric, Concentrated	IC	C	C	C	IC	IC	C	LC
Nitric, 25%	IC	C	C	C	IC	IC	C	LC
Phosphoric, 25%	IC	C	ND	ND	CA	LC	C	C
Formic, 25%	IC	C	ND	ND	LC	C	C	C
Trichloroacetic, 10%	IC	C	ND	ND	CA	C	C	ND
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n-Propanol	C	C	C	C	C	C	C	C
Amyl Alcohol (Butanol)	C	C	C	C	C	C	C	C
Benzyl Alcohol	C	C	C	ND	LC	C	C	IC
Ethylene Glycol	C	C	C	C	C	C	C	C
Propylene Glycol	C	C	C	C	LC	C	C	C
Glycerol	C	C	C	C	C	C	C	C
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Diethylacetamide	C	C	ND	ND	IC	C	ND	C
Triethanolamine	C	C	ND	ND	C	C	ND	ND
Aniline	ND	C	ND	ND	IC	C	ND	ND
Pyridine	C	C	IC	IC	IC	C	IC	C
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Tetrahydrofuran	C	C	LC	IC	C	C	C	C
Triethanolamine	C	C	ND	C	C	ND	ND	ND
Dimethylsulfoxide (DMSO)	C	C	IC	IC	C	C	C	C
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Formaldehyde, Aqueous Sol. 30%	C	C	C	C	C	LC	C	C
Hydrogen Peroxide, 30%	C	C	ND	ND	C	C	ND	ND
Silicone Oil/Mineral Oil	ND	C	C	C	C	C	C	C

Legend	PTFE	Polytetrafluoroethylene (Teflon®)
C	PVDF	Polyvinylidene
LC	PES	Polyethersulfone
IC	CA	Cellulose Acetate
ND	RC	Regenerated Cellulose
	PP	Polypropylene
	GMF	Glass MicroFiber

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LC	PES	Polyethersulfone
IC	CA	Cellulose Acetate
ND	RC	Regenerated Cell

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

Minitip Connections: 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 mmD. < 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.



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.

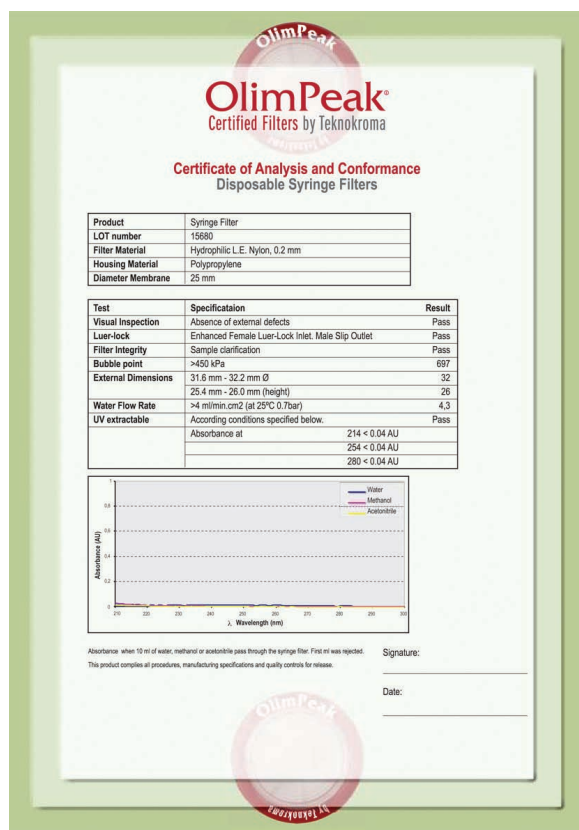
Our new **Certified Syringe Filter Olimpeak™** offer the best value. All filters are supplied with a Certificate of Quality batch to batch as guarantee of product performance and quality.

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™ 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

New !!!!! Nylon Econo Syringe Filter

Teknokroma is launching New Nylon Econo Syringe Filters. If you don't need "Certified Nylon Syringe Filters" but still the highest quality and performance of our OlimPeak filtration units, reduce your cost by using the Nylon Econo Syringe Filter.

Econo Syringe Filter is an orange color PP housing with Nylon membrane available in 0,45 µm , 13 and 25 mm diameter and packed in boxes of 1000 pieces.

Reference	Description	Pk
TR-200100E	Nylon, orange 0,45 µm, 25 mm D.	1000

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 transducer 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 simples

- 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

Nitrocellulose New Certified Olimpeak™ Syringe Filter with Polypropylene Housing



- A naturally hydrophilic membrane recommended for clarification and filtration of aqueous samples
- For immunoblotting, the high protein retention of Nitrocellulose is ideal to bind DNA

Reference	Description	Pk
TR-200480	Nitrocellulose Filter, pistachio, 0.45 µm, 25 mm D	100
TR-200482	Nitrocellulose Filter, light pistachio, 0.20 µm, 25 mm D	100
TR-200466	Nitrocellulose Filter, pistachio, 0.45 µm, 13 mm D	100
TR-200467	Nitrocellulose Filter, light pistachio, 0.20 µm, 13 mm D	100

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 Microfibre GMF, Grey, 1,0 µm 25 mm D	100
TR-200006G	Glass Microfibre GMF, Grey, 2,0 µm 25 mm D	100
TR-200007G	Glass Microfibre GMF, Grey, 5,0 µm 25 mm D	100

MiniTip Certified Olimpeak™ Syringe Filters

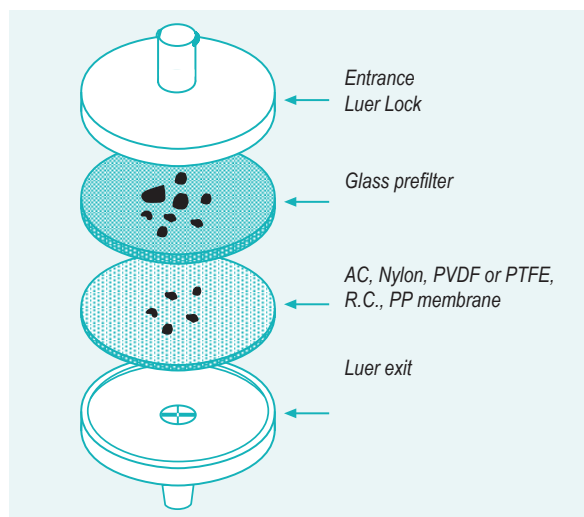


- Teknokroma has designed a new 13 mm syringe filter with a thin outlet called MiniTip, for direct filling of microvials.
- High quality MiniTip syringe filters are available with these membranes: Nylon, PES, PTFE, PVDF, RC, CN, CA, M.E.C and PP.
- Pore size can be 0.45 or 0.20 µm and the lot number 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-200466MT10	Mini Tip Nitrocellulose 0.45 µm x 13 mm.D, Pistachio	1000
TR-200467MT10	Mini Tip Nitrocellulose 0.2 µm x 13 mm.D, Light Pistachio	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 Certified Olimpeak™ 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
TR-200480G	0.45 µm	NC/Glass fibre 1 µm	PP	100
TR-200482G	0.20 µm	NC/Glass fibre 1 µm	PP	100

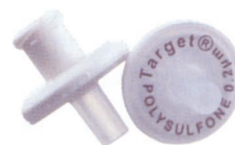
Target Syringe Filters (4mm Diameter)



- 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



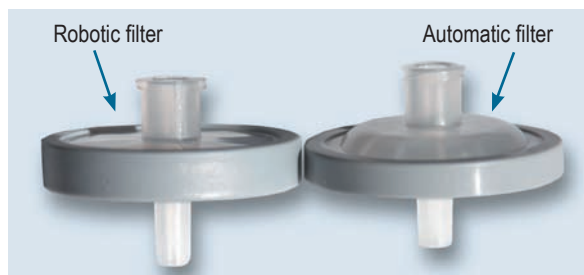
- Filter sample volumes up to 2 mL
- Virgin Polypropylene filter housing with tapered 5mL, capped receiver tube
- Use with benchtop or floor model centrifuges
- 500xG maximum centrifugal force

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

TK Certified Olimpeak™ Robotic Syringe Filters

New Certified AUTOMATIC OlimPeak Filter for automatic equipments Sotax and Zymark

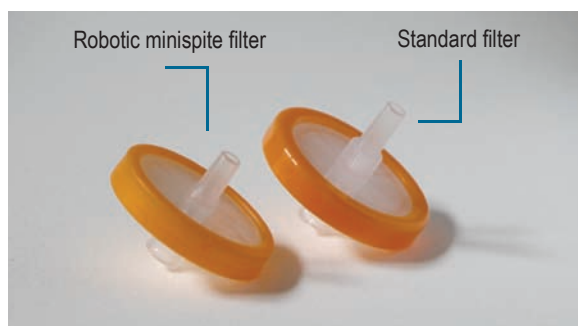


Automatic filter difference

- This filter units are the newest development of Teknokroma filter for automatic equipments.
- The design of this filter is the same than the Robotic Filter except that the upper side is vault shaped.
- The inlet is a female leuer Screw ant the outlet is a male luer Minispike.

Certified Olimpeak™ Filters for Automatic Equipments

Reference	Membrane	Pore	Housing	Pk
TR-200000A	Fiber Glass	1.00 µm	PP	1000
TR-2-200006A	Fiber Glass	2.00 µm	PP	1000
TR-2-200007A	Fiber Glass	5.00 µm	PP	1000
TR-200100A	Nylon	0.45 µm	PP	1000
TR-200102A	PTFE	0.45 µm	PP	1000
TR-200104A	M.E.Cellulose	0.45 µm	PP	1000
TR-200106A	PVDF	0.45 µm	PP	1000
TR-200111A	Polypropylene	0.45 µm	PP	1000
TR-200440A	Regenerated Cellulose	0.45 µm	PP	1000
TR-200480A	Nitrocellulose	0.45 µm	PP	1000
TR-200406A	Cellulose Acetate	0.45 µm	PP	1000
TR-200401A	Polyethersulfone	0.45 µm	PP	1000
TR-200100GA	Nylon/Glass fibre 1 µm	0.45 µm	PP	1000
TR-200102GA	PTFE/Glass fibre 1 µm	0.45 µm	PP	1000
TR-200111GA	PP/Glass fibre 1 µm	0.45 µm	PP	1000
TR-200445GA	RC/Glass fibre 1 µm	0.45 µm	PP	1000
TR-200104GA	M.E.C/Glass fibre 1 µm	0.45 µm	PP	1000
TR-200106GA	PVDF/Glass fibre 1 µm	0.45 µm	PP	1000
TR-200406GA	CA/Glass fibre 1 µm	0,45 µm	PP	1000
TR-200401GA	PES/Glass fibre 1 µm	0,45 µm	PP	1000
TR-200480GA	NC/Glass fibre 1 µm	0,45 µm	PP	1000



Robotic filter difference

Certified Olimpeak™ Filters for Robotic Equipments Zotax and Zymark

- Teknokroma has developed new filters to use with robotic apparatus
- They are available in 25 mm D.
- The inlet is a female "Luer Lock" and the outlet is a male luer "Minispike".
- Pore size is 0.45 or 0.20 µm for the following membranes: Nylon, PVDF, PTFE, M.E. Cellulose, PP, Regenerated Cellulose, Cellulose Acetate Nitrocellulose, PES
- For the Glass Microfibre, the pore size is 1.0 µm
- The robotic filters are under strict quality control for reliable performance.
- Each pack contains 1000 units.
- All these filters can be adapted to automatic equipments as Sotax, Zymark, etc.
- The Glass membrane is the good choice for dissolution test.

Reference	Membrane	Pore	Housing	Pk
TR-200000R	Fiber Glass	1.00 µm	PP	1000
TR-2-200006R	Fiber Glass	2.00 µm	PP	1000
TR-2-200007R	Fiber Glass	5.00 µm	PP	1000
TR-200100R	Nylon	0.45 µm	PP	1000
TR-200102R	PTFE	0.45 µm	PP	1000
TR-200104R	M.E.Cellulose	0.45 µm	PP	1000
TR-200106R	PVDF	0.45 µm	PP	1000
TR-200111R	Polypropylene	0.45 µm	PP	1000
TR-200440R	Regenerated Cellulose	0.45 µm	PP	1000
TR-200480R	Nitrocellulose	0.45 µm	PP	1000
TR-200406R	Cellulose Acetate	0.45 µm	PP	1000
TR-200401R	Polyethersulfone	0.45 µm	PP	1000
TR-200100GR	Nylon/Glass fibre 1 µm	0.45 µm	PP	1000
TR-200102GR	PTFE/Glass fibre 1 µm	0.45 µm	PP	1000
TR-200111GR	PP/Glass fibre 1 µm	0.45 µm	PP	1000
TR-200445GR	RC/Glass fibre 1 µm	0.45 µm	PP	1000
TR-200104GR	M.E.C/Glass fibre 1 µm	0.45 µm	PP	1000
TR-200106GR	PVDF/Glass fibre 1 µm	0.45 µm	PP	1000
TR-200406GR	CA/Glass fibre 1 µm	0.45 µm	PP	1000
TR-200401GA	PES/Glass fibre 1 µm	0.45 µm	PP	1000
TR-200480GA	NC/Glass fibre 1 µm	0,45 µm	PP	1000

OlimPeak™ Membrane Filters for Mobile Phase Tk

Membrane Filters



- Protect your instruments and columns eliminating particulates and gases from mobile phase
- Nylon and PVDF membrane filters are resistant to a wide range of organic and aqueous solvents.
- M.E. Cellulose membranes are used for filtration of aqueous mobile phase
- PTFE membrane filters are ideal for organic solvent

Membrane filters for mobile phase filtration 47 mm D.



Reference	Membrane	Pore Size μm	Diameter mm	Pk
TR-200 140	Nylon	0.45	47	50
TR-200 150	Nylon	0.20	47	50
TR-200 200	PTFE	0.45	47	50
TR-200 210	PTFE	0.20	47	50
TR-200 260	M.E. Cellulose	0.45	47	50
TR-200 270	M.E. Cellulose	0.20	47	50
TR-200 320	PVDF	0.45	47	50
TR-200 330	PVDF	0.20	47	50
TR-200 380	Polipropylene	0.45	47	50
TR-200 390	Polipropylene	0.20	47	50
TR-200 420	Regenerated cellulose	0.45	47	50
TR-200 425	Regenerated cellulose	0.20	47	50
TR-200 456	Nitrocellulose	0.45	47	50
TR-200 457G	Glass Microfiber	1.00	47	50
TR-200 458	Cellulose Acetate	0.45	47	50



Filtering Equipment

- 47 mm filtration apparatus is recommended for filtration of mobile phase and removal of particles from HPLC solvents.
- Manufactured with first quality glass, tube of glass DURAN from Schott.
- The porosity of the filtration plate is of number 3, which means a nominal pore size of 16-40 micrometers.

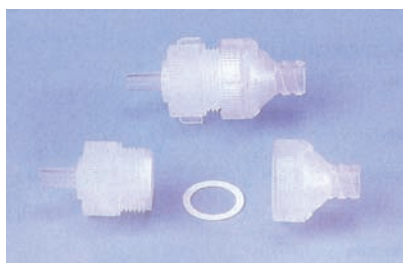
Reference	Description
TR-F1000	Complete Filtering Equipment 1.000 ml vessel and 250 ml funnel.
TR-F1002	Complete Filtering Equipment 2.000 ml vessel and 250 ml funnel.
TR-F1010	Filtration vessel, frosted glass and 1.000 ml capacity
TR-F1012	Filtration vessel, frosted glass and 2.000 ml capacity
TR-F1022	Fritted glass support, with screw fitting.
TR-F1016	Aluminium plier for the filtering equipment.
TR-F1018	Glass Funnel with 250 ml capacity for the filtering equipment.

TK Olimpeak™ Membrane Filters for Sample Filtration

Membrane filters for sample filtration
(need the holder 13/25 mm D.)



Reference	Membrane	Pore Size mm	Diameter mm	Pk
TR-200109	Nylon	0.45	13	100
TR-200110	Nylon	0.20	13	100
TR-200220	M.E. Cellulose	0.45	13	100
TR-200230	M.E. Cellulose	0.20	13	100
TR-200160	PTFE	0.45	13	100
TR-200170	PTFE	0.20	13	100
TR-200280	PVDF	0.45	13	100
TR-200290	PVDF	0.20	13	100
TR-200340	Polipropylene	0.45	13	100
TR-200350	Polipropylene	0.20	13	100
TR-200400	Regenerated cellulose	0.45	13	100
TR-200405	Regenerated cellulose	0.20	13	100
TR-200120	Nylon	0.45	25	50
TR-200130	Nylon	0.20	25	50
TR-200240	M.E. Cellulose	0.45	25	50
TR-200250	M.E. Cellulose	0.20	25	50
TR-200180	PTFE	0.45	25	50
TR-200190	PTFE	0.20	25	50
TR-200300	PVDF	0.45	25	50
TR-200310	PVDF	0.20	25	50
TR-200360	Polypropylene	0.45	25	50
TR-200370	Polypropylene	0.20	25	50
TR-200410	Regenerated cellulose	0.45	25	50
TR-200415	Regenerated cellulose	0.20	25	50
TR-200002 G	Glass microfibre	1.00	25	50



SX00 01300 - Holder 13 mm D

Holder for 13 mm. D Membrane

Reference	Description	Pk
SX00 01300	Milipore Swinex Holder 13 mm. D	10