

CERTIFIED SYRINGE FILTERS



CERTIFIED SYRINGE FILTERS

simply Quality



GREYHOUND - *setting the standard*

Q Range

As a trusted name in the supply of chromatography consumables and certified reference standards, Greyhound also offers a comprehensive selection of top quality own brand Capillarycolumns, SPE columns, HPLC columns and Certified syringe filters. This catalogue contains details of the Q-Fil range of Certified Syringe Filters. Other product catalogues are available on request.

These quality products are backed by the guaranteed reliability and technical support which has become synonymous with the name Greyhound. Visit our website at: www.greyhoundchrom.com

Welcome to a new era in analyte detection and column performance.





Q-Fil Certified Syringe Filters

Q-Fil Certified Syringe Filters set the new Quality standard for today's laboratory syringe filters. Manufactured from the highest quality medical grade high density polypropylene, Q-Fil Certified Syringe Filters provide excellent chemical compatibility with acids, alcohols, bases, ethers, glycols, ketones and oils, with maximum operating temperatures of 135°C

Every colour-coded filter is printed with the individual batch number, details of the membrane material and its pore size, on the outside rim of the filter, making them unique for traceability, GLPs and validation purposes

Why filter your samples for HPLC?

- To protect the HPLC column, the column inlet frits and capillary columns against blockage (plugging) caused by particulate matter in the sample
- To protect injection valves from damage caused by scratching and wear of the valves internal components, caused by harmful particulate matter in the unfiltered sample, thereby reducing instrument downtime


About our Quality Control procedures

- Every batch of filters is tested by an independent laboratory to ISO 17025 quality procedures
- Every individual Q-Fil Certified Syringe Filter is visually inspected to ensure it meets our manufacturing and quality control specifications
- Samples of all our syringe filters and their respective raw technical data are stored for a period of 5 years from the date of manufacture for future reference
- Each batch of filters is tested prior to release for
 - External Dimensions
 - Bubble Point
 - Burst Pressure
 - Filter Integrity
 - Water Flow Rate
 - UV Extractables and compliance with all technical procedures

Why use Greyhound Q-Fil Certified Syringe Filters?

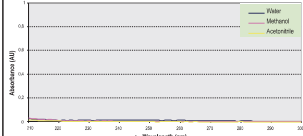
- Q-Fil Certified Syringe Filters are manufactured in compliance with ISO 9001:2000 quality procedures
- Every box is supplied with a Certificate of Analysis and Conformance to guarantee its batch to batch quality and performance
- The unique encapsulating process developed for these filters, forces 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 high density medical grade polypropylene
- Extremely low level of extractables for highly sensitive work
- Luer connections fully comply with ISO 594-1
- Filters are available with standard and 'SlimTip' sized outlets

Q-Fil Certificate of Analysis and Conformance


 CERTIFIED SYRINGE FILTERS BY GREYHOUND
 Certificate of Analysis and Conformance • Disposable Syringe Filters


Product	Q-Fil Syringe Filter	
Lot Number	1132015	
Filter Material	Hydrophilic Nylon LE 0.45µm	
Housing Material	Polypropylene	
Membrane Diameter	25mm	

Test	Specifications	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	31.6mm - 32.2mm Ø	32
	25.4mm - 26.0 mm (height)	26
Water Flow Rate	>4 ml/min. cm2 (at 25°C, 0.7 bar)	4.3
UV Extractable	Relevant conditions detailed below	Pass
	Absorbance at 214nm < 0.04 AU	
	254nm < 0.04 AU	
	280nm < 0.04 AU	



Absorbance level when 10ml of water, methanol or acetonitrile passes through the syringe filter. First ml was rejected.

This product complies with all Q-Fil Certified Syringe Filter manufacturing specifications and Quality Control procedures.


 CHROMATOGRAPHY
 AND LABORATORY



Selecting the right Q-Fil Certified Syringe Filter

- Choose the size of filter based on the volume of sample to be filtered
- Choose the filters 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 fibre pre-filter
- Choose the type of membrane based on the solvent being filtered

Filter Sizes

All our filters have female Luer Lock inlets and are available in three diameters -

25mm Dia.

Designed for large sample volumes or solvent filtration
Wide cross sectional area 3.55cm²
Maximum filtration volume >10ml
Maximum operating pressure 550 Kpa

13mm Dia.

Suitable for most applications
Filtration area of 0.95cm²
Maximum filtration volume 1 to 10ml
Maximum operating pressure 750 Kpa
Now available with 'SlimTip' (ST) outlet

4mm Dia.

Suitable for most applications
Ideal for small samples <1ml
Pore sizes of 0.20µm and 0.45µm

SlimTip Filters (ST)

13mm diameter syringe filters are now available with the new 'SlimTip' outlet for direct filling of microvials.



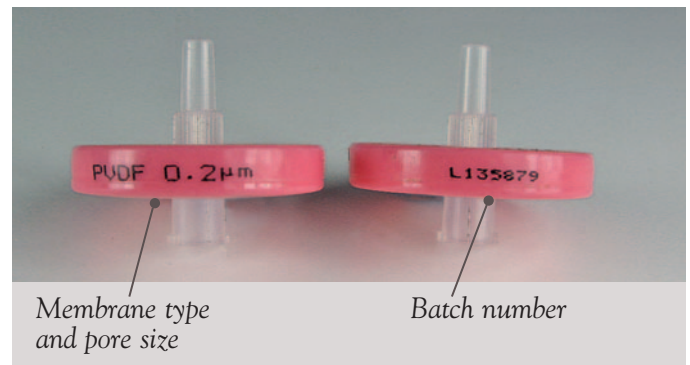
Pore Sizes

Q-Fil Certified Syringe Filters are available in 0.20µm and 0.45µm pore sizes. The 0.20µm filters remove the smallest particulates whilst the 0.45µm filters are designed to remove particulates which would be detrimental to most analytical columns.

Pre-filters (page 6) have a glass microfibre membrane which is chemically inert and resists most solvents. Q-Fil glass microfibre pre-filters are recommended for removing large particulates from the sample and are ideal for dissolution tests.

Glass microfibre membranes are also available mounted before the microporous filter membrane in the polypropylene housing. The glass pre-filter removes the larger particulates and prevents premature clogging of the filter.

Easy Identification for Method Validation



In addition to their colour code identity, every Q-Fil Certified Syringe Filter is printed with the membrane type, pore size and batch number

*Q-Fil Certified Syringe Filters,
the analysts first choice of syringe
filter for reliability, traceability,
GLPs and validation purposes.*



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
Sulphuric, Concentrated	IC	C	IC	IC	IC	IC	C	C
Sulphuric, 25%	IC	C	C	C	IC	LC	C	C
Nitric, Concentrated	IC	C	C	IC	IC	IC	C	LC
Nitric, 25%	IC	C	C	C	IC	IC	C	LC
Phosphoric, 25%	IC	C	ND	ND	CA	LC	C	ND
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%	IC	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
ALKALIS								
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 Cellulosolve	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	IC	C	C	C	C
Freon*	C	C	C	IC	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
Toluene/Benzene	C	C	C	IC	C	C	IC	C
Kerosene/Gasoline	C	C	C	LC	C	C	LC	ND
Tetraim/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	IC	IC	LC	C	LC	C
Isopropylacetone	C	C	IC	IC	C	C	ND	C
Methyl Isobutyl Ketone	ND	C	IC	IC	ND	C	LC	C
ORGANIC OXIDES								
Ethyl Ether	C	C	C	C	C	C	LC	ND
Dioxane	C	C	LC	IC	I	C	C	C
Tetrahydrofuran	C	C	LC	IC	I	C	C	C
Triethanolamine	C	C	ND	ND	C	C	ND	ND
Dimethylsulfoxide (DMSO)	C	C	IC	IC	I	C	C	C
Isopropyl Ether	ND	C	C	C	C	C	C	ND
MISCELLANEOUS								
Phenol, Aqueous Solution 10%	ND	C	LC	IC	IC	IC	C	C
Formaldehyde Aqueous Solution 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

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
Sulphuric, Concentrated	IC	C	IC	IC	IC	IC	C	C
Sulphuric, 25%	IC	C	C	C	IC	LC	C	C
Nitric, Concentrated	IC	C	C	IC	IC	IC	C	LC
Nitric, 25%	IC	C	C	C	IC	IC	C	LC
Phosphoric, 25%	IC	C	ND	ND	CA	LC	C	ND
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%	IC	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
ALKALIS								
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 Cellulosolve	ND	C	ND	IC	IC	C	C	C

LEGEND
 C Compatible
 LC Limited Compatibility (membrane may swell and shrink)
 IC Incompatible (not recommended)
 ND No compatibility data currently available

PTFE Polytetrafluoroethylene (Teflon®)
 PVDF Polyvinylidene
 PES Polyethersulfone
 CA Cellulose Acetate
 RC Regenerated Cellulose
 PP Polypropylene
 GMF Glass MicroFibre

Filter Types

NYLON

- Hydrophilic membrane
- Excellent for HPLC sample and general filtration
- Compatible with organic and aqueous liquids
- Nylon 66 has high protein retention
- Maximum operating temperature 100°C

Not suitable for use with strong acids or bases, halogenated hydrocarbons or protein

NYLON			
Cat. No.	Description	Colour	Pk
40-100001	Nylon, 0.45 µm, 25 mm Dia.	Green	100
40-100002	Nylon, 0.20 µm, 25 mm Dia.	Light Green	100
40-100003	Nylon, 0.45 µm, 13 mm Dia.	Green	100
40-100004	Nylon, 0.20 µm, 13 mm Dia.	Light Green	100
40-100003-ST	Nylon, 0.45 µm, 13 mm Dia. Slim Tip	Green	100
40-100004-ST	Nylon, 0.20 µm, 13 mm Dia. Slim Tip	Light Green	100



PTFE

- Hydrophobic membrane resistant to strong acids, aggressive solvents, alcohols, bases and aromatics
- Ideal for the filtration and degassing of chromatography solvents and for extremely basic mobile phase solutions
- Very low extractables
- Mechanically strong
- Excellent thermal stability
- Maximum operating temperature 100°C

PTFE			
Cat. No.	Description	Colour	Pk
40-100014	PTFE, 0.45 µm, 25 mm Dia.	Blue	100
40-100015	PTFE, 0.20 µm, 25 mm Dia.	Light Blue	100
40-100016	PTFE, 0.45 µm, 13 mm Dia.	Blue	100
40-100017	PTFE, 0.20 µm, 13 mm Dia.	Light Blue	100
40-100016-ST	PTFE, 0.45 µm, 13 mm Dia. Slim Tip	Blue	100
40-100017-ST	PTFE, 0.20 µm, 13 mm Dia. Slim Tip	Light Blue	100



NYLON LOW EXTRACTABLES (LE)

- Superior to Nylon 66 membranes
- Nylon-LE is a unique unsupported Nylon membrane
- Does not release significant levels of extractables when in contact with acetonitrile
- Suitable for use with any HPLC sample or solvent
- The elimination of the polyester support in these Q-Fil filters, combined with the unique surface characteristics of this new membrane, eliminates many of the extractables found in Nylon membranes and results in a much cleaner filtrate

NYLON LOW EXTRACTABLES (LE)			
Cat. No.	Description	Colour	Pk
40-100010	Nylon L.E. 0.45 µm, 25 mm Dia.	Green	100
40-100011	Nylon L.E. 0.20 µm, 25 mm Dia.	Light Green	100
40-100012	Nylon L.E. 0.45 µm, 13 mm Dia.	Green	100
40-100013	Nylon L.E. 0.20 µm, 13 mm Dia.	Light Green	100
40-100012-ST	Nylon L.E. 0.45 µm, 13 mm Dia. Slim Tip	Green	100
40-100013-ST	Nylon L.E. 0.20 µm, 13 mm Dia. Slim Tip	Light Green	100

POLYPROPYLENE

- Hydrophilic, high resistance to solvents
- Wide range of chemical compatibility to organic solvents
- Ideal for biological sample filtration
- Low protein binding
- Ideal for chromatography protein analysis and biological sample filtration
- Suitable for acids and bases and general HPLC analysis
- Maximum operating temperature 110°C

POLYPROPYLENE			
Cat. No.	Description	Colour	Pk
40-100020	Polypropylene, 0.45 µm, 25 mm Dia.	White	100
40-100021	Polypropylene, 0.20 µm, 25 mm Dia.	Natural	100
40-100022	Polypropylene, 0.45 µm, 13 mm Dia.	White	100
40-100023	Polypropylene, 0.20 µm, 13 mm Dia.	Natural	100
40-100022-ST	Polypropylene, 0.45 µm, 13 mm Dia. Slim Tip	White	100
40-100023-ST	Polypropylene, 0.20 µm, 13 mm Dia. Slim Tip	Natural	100

Filter Types

PVDF

- Polyvinylidene difluoride membrane, hydrophilic
- Resistant to solvents, exhibits low levels of extractables
- Low protein binding membrane, can be used with proteins and peptides
- Suitable for filtration of aqueous and organic solvents
- Ideal for HPLC and general biological filtration
- Maximum operating temperature 110°C

PVDF			
Cat. No.	Description	Colour	Pk
40-100030	PVDF, 0.45 µm, 25 mm Dia.	Red	100
40-100031	PVDF, 0.20 µm, 25 mm Dia.	Light Red	100
40-100032	PVDF, 0.45 µm, 13 mm Dia.	Red	100
40-100033	PVDF, 0.20 µm, 13 mm Dia.	Light Red	100
40-100032-ST	PVDF, 0.45 µm, 13 mm Dia. Slim Tip	Red	100
40-100033-ST	PVDF, 0.20 µm, 13 mm Dia. Slim Tip	Light Red	100



CELLULOSE ACETATE

- Hydrophilic membrane
- Ideal for aqueous based samples, tissue culture media filtration and sensitive biological samples
- Very low protein binding membrane, lower than PVDF and PES membranes
- Lower chemical resistance than Regenerated Cellulose
- Maximum operating temperature 110°C

Not suitable for use with organic solvents

CELLULOSE ACETATE			
Cat. No.	Description	Colour	Pk
40-100060	Cellulose Acetate, 0.45 µm, 25 mm Dia.	Orange	100
40-100061	Cellulose Acetate, 0.20 µm, 25 mm Dia.	Light Orange	100
40-100062	Cellulose Acetate, 0.45 µm, 13 mm Dia.	Orange	100
40-100063	Cellulose Acetate, 0.20 µm, 13 mm Dia.	Light Orange	100
40-100062-ST	Cellulose Acetate, 0.45 µm, 13 mm Dia. Slim Tip	Orange	100
40-100063-ST	Cellulose Acetate, 0.20 µm, 13 mm Dia. Slim Tip	Light Orange	100



REGENERATED CELLULOSE

- Hydrophilic, solvent resistant
- Very low protein binding
- Compatible with most common HPLC solvents
- Compatible with aqueous samples in pH range 3 to 12
- Suitable for biological samples and important for protein recuperation
- Best choice for low non-specific binding applications, tissue culture media filtration and biological sample filtration
- Maximum operating temperature 110°C

Not suitable for use with strong acids, chloroform or THF

REGENERATED CELLULOSE			
Cat. No.	Description	Colour	Pk
40-100040	Regenerated Cellulose, 0.45 µm, 25 mm Dia.	Brown	100
40-100041	Regenerated Cellulose, 0.20 µm, 25 mm Dia.	Light Brown	100
40-100042	Regenerated Cellulose, 0.45 µm, 13 mm Dia.	Brown	100
40-100043	Regenerated Cellulose, 0.20 µm, 13 mm Dia.	Light Brown	100
40-100042-ST	Regenerated Cellulose, 0.45 µm, 13 mm Dia. Slim Tip	Brown	100
40-100043-ST	Regenerated Cellulose, 0.20 µm, 13 mm Dia. Slim Tip	Light Brown	100

POLYETHERSULFONE

- Hydrophilic membrane
- Very low protein and nucleotic acid binding
- Provides high flow rates and good throughput volume
- Best choice for tissue culture work
- Very low extractables
- Mechanically strong membrane, suitable for use with strong bases, alcohols and resistive proteins
- Excellent flow rates
- Maximum operating temperature 100°C

POLYETHERSULFONE			
Cat. No.	Description	Colour	Pk
40-100050	Polyethersulfone, 0.45 µm, 25 mm Dia.	Violet	100
40-100051	Polyethersulfone, 0.20 µm, 25 mm Dia.	Light Violet	100
40-100052	Polyethersulfone, 0.45 µm, 13 mm Dia.	Violet	100
40-100053	Polyethersulfone, 0.20 µm, 13 mm Dia.	Light Violet	100
40-100052-ST	Polyethersulfone, 0.45 µm, 13 mm Dia. Slim Tip	Violet	100
40-100053-ST	Polyethersulfone, 0.20 µm, 13 mm Dia. Slim Tip	Light Violet	100

Filter Types



M.E. CELLULOSE

- Hydrophilic membrane
- Suitable for cleaning or sterilising many aqueous solutions
- Ideal for biological samples or culture media

M.E. CELLULOSE

Cat. No.	Description	Colour	Pk
40-100070	M.E Cellulose, 0.45 µm, 25 mm Dia.	Yellow	100
40-100071	M.E Cellulose, 0.20 µm, 25 mm Dia.	Light Yellow	100
40-100072	M.E Cellulose, 0.45 µm, 13 mm Dia.	Yellow	100
40-100073	M.E Cellulose, 0.20 µm, 13 mm Dia.	Light Yellow	100
40-100072-ST	M.E Cellulose, 0.45 µm, 13 mm Dia. Slim Tip	Yellow	100
40-100073-ST	M.E Cellulose, 0.20 µm, 13 mm Dia. Slim Tip	Light Yellow	100

NITROCELLULOSE

- Naturally hydrophilic
- Ideal for clarification and filtration of aqueous samples
- For immunoblotting, the high protein retention of Nitrocellulose is ideal to bind DNA

NITROCELLULOSE

Cat. No.	Description	Colour	Pk
40-100080	Nitrocellulose, 0.45 µm 25 mm Dia.	Pistachio	100
40-100081	Nitrocellulose, 0.20 µm 25 mm Dia.	Light Pistachio	100
40-100082	Nitrocellulose, 0.45 µm 13 mm Dia.	Pistachio	100
40-100083	Nitrocellulose, 0.20 µm 13 mm Dia.	Light Pistachio	100
40-100082-ST	Nitrocellulose, 0.45 µm 13 mm Dia. Slim Tip	Pistachio	100
40-100083-ST	Nitrocellulose, 0.20 µm 13 mm Dia. Slim Tip	Light Pistachio	100

GLASS MICROFIBRE (GMF)

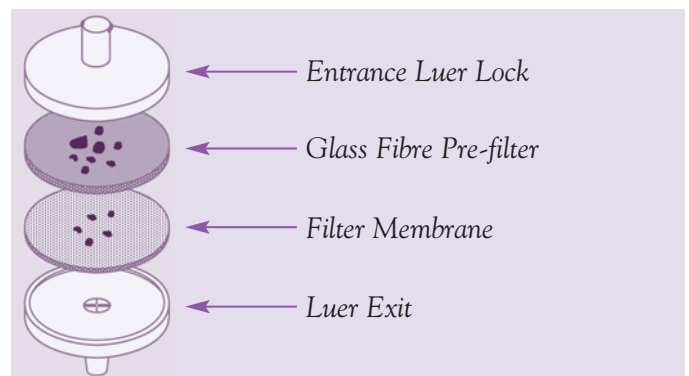
- Commonly used as pre-filters to remove large particulates and extend the loading capacity of the filter membrane
- Ideal for dissolution tests
- Max. operating temperature 110°C

GLASS MICROFIBRE (GMF)

Cat. No.	Description	Colour	Pk
40-100090	Glass Microfiber GMF, 1.0 µm 25 mm Dia.	Grey	100
40-100091	Glass Microfiber GMF, 2.0 µm 25 mm Dia.	Grey	100
40-100092	Glass Microfiber GMF, 5.0 µm 25 mm Dia.	Grey	100

Q-Fil Syringe Filters with Glass Pre-filter

- These filters have the same high quality filter membranes and polypropylene housings as our other Certified syringe filters, but include a Glass Microfibre membrane used as a pre-filter
- The glass pre-filter is mounted before the microporous filter membrane, eliminating the need for a pre-filtration step, minimising sample loss and prolonging the life of the filter membrane
- Flow rates are increased and the filtrate volume is significantly greater when compared to filters without pre-filters
- Regenerated Cellulose membrane filters with the GMF membrane incorporated as a pre-filter, are particularly useful for tissue culture media filtration, as well as for general biological sample filtration
- These filters are ideal for general laboratory filtration of samples which contain excessive amounts of particulates
- The glass pre-filter removes the large particulates and prevents premature clogging of the filter membrane



Cat. No.	Pore	Description	Dia.	Pk
40-100100	0.45 µm	Nylon/Glass fibre 1 µm	25 mm	100
40-100101	0.2 µm	Nylon/Glass fibre 1 µm	25 mm	100
40-100102	0.45 µm	PTFE/Glass fibre 1 µm	25 mm	100
40-100103	0.2 µm	PTFE/Glass fibre 1 µm	25 mm	100
40-100104	0.45 µm	PP/Glass fibre 1 µm	25 mm	100
40-100105	0.2 µm	PP/Glass fibre 1 µm	25 mm	100
40-100106	0.45 µm	RC/Glass fibre 1 µm	25 mm	100
40-100107	0.2 µm	RC/Glass fibre 1 µm	25 mm	100
40-100108	0.45 µm	M.E.C/Glass fibre 1 µm	25 mm	100
40-100109	0.2 µm	M.E.C/Glass fibre 1 µm	25 mm	100
40-100110	0.45 µm	PVDF/Glass fibre 1 µm	25 mm	100
40-100111	0.2 µm	PVDF/Glass fibre 1 µm	25 mm	100
40-100112	0.45 µm	CA/Glass fibre 1 µm	25 mm	100
40-100113	0.20 µm	CA/Glass fibre 1 µm	25 mm	100
40-100114	0.45 µm	PES/Glass fibre 1 µm	25 mm	100
40-100115	0.20 µm	PES/Glass fibre 1 µm	25 mm	100
40-100116	0.45 µm	NC/Glass fibre 1 µm	25 mm	100
40-100117	0.20 µm	NC/Glass fibre 1 µm	25 mm	100

Filter Types

Target® Syringe Filters (4mm Dia.)

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



Cat. No.	Pore	Description	Pk
NAT-F2504-1	0.45 µm	Nylon 4 mm Dia.	100
NAT-F2504-2	0.20 µm	Nylon 4 mm Dia.	100
NAT-F2504-3	0.45 µm	PTFE 4 mm Dia.	100
NAT-F2504-4	0.20 µm	PTFE 4 mm Dia.	100
NAT-F2504-5	0.45 µm	PVDF 4 mm Dia.	100
NAT-F2504-6	0.20 µm	PVDF 4 mm Dia.	100
NAT-F2504-7	0.45 µm	Regenerated Cellulose 4 mm Dia.	100
NAT-F2504-8	0.20 µm	Regenerated Cellulose 4 mm Dia.	100
NAT-F2504-9	0.45 µm	Polypropylene 4 mm Dia.	100
NAT-F2504-10	0.20 µm	Polypropylene 4 mm Dia.	100
NAT-F2504-15	0.45 µm	Cellulose Acetate 4 mm Dia.	100
NAT-F2504-16	0.20 µm	Cellulose Acetate 4 mm Dia.	100

Target® PES (Polyethersulfone) Syringe Filters

- High flow rates and good throughput volume
- Low protein binding
- Can be used with high temperature liquids
- PES is certified for Ion Chromatography



Cat. No.	Pore	Description	Pk
NAT-F2513-14	0.45 µm	PES (polyethersulfone), 17 mm Dia.	100
NAT-F2513-17	0.20 µm	PES (polyethersulfone), 17 mm Dia.	100
NAT-F2500-14	0.45 µm	PES (polyethersulfone), 30 mm Dia.	100
NAT-F2500-17	0.20 µm	PES (polyethersulfone), 30 mm Dia.	100

Target® Glass Microfibre Syringe Filters

- GMF membranes are commonly used as pre-filters to remove large particulates and to extend the load capacity of the membrane
- Ideal for dissolution tests



Cat. No.	Pore	Description	Pk
NAT-F2500-18	0.70 µm	GMF Glass Microfibre, 30 mm Dia.	100
NAT-F2500-19	1.20 µm	GMF Glass Microfibre, 30 mm Dia.	100
NAT-F2500-20	3.10 µm	GMF Glass Microfibre, 30 mm Dia.	100

Micro-Centrifugal Filters

750µL Micro-Centrifugal Filters

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

Cat. No.	Pore	Membrane	Pk
NAT-F2517-1	0.20 µm	Cellulose Acetate	100
NAT-F2517-2	0.45 µm	Cellulose Acetate	100
NAT-F2517-3	0.20 µm	Nylon	100
NAT-F2517-4	0.45 µm	Nylon	100
NAT-F2517-5	0.20 µm	PVDF	100
NAT-F2517-6	0.45 µm	PVDF	100
NAT-F2517-7	0.20 µm	Regenerated Cellulose	100
NAT-F2517-8	0.45 µm	Regenerated Cellulose	100

Centrifugal Filters

2ml Centrifugal Filters - Non-sterile

- Filter sample volumes up to 2ml
- Virgin polypropylene filter housing with tapered 5ml, capped receiver tube
- Use with bench top or floor model centrifuges
- 5000 x G maximum centrifugal force

Cat. No.	Pore	Membrane	Pk
NAT-F2520-1	0.20 µm	Cellulose Acetate	25
NAT-F2520-2	0.45 µm	Cellulose Acetate	25
NAT-F2520-3	0.20 µm	Nylon	25
NAT-F2520-4	0.45 µm	Nylon	25
NAT-F2520-5	0.20 µm	PVDF	25
NAT-F2520-6	0.45 µm	PVDF	25
NAT-F2520-7	0.20 µm	PTFE	25
NAT-F2520-8	0.45 µm	PTFE	25

Filter Types

Membrane Filters

- Protect your instruments and columns by eliminating particulates and gases from the 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 the filtration of aqueous mobile phases
- PTFE membrane filters are ideal for organic solvents



Membrane filters for Sample Filtration (require use of Swinnex holder)



Cat. No.	Pore	Membrane	Dia	Pk
40-100200	0.45 µm	Nylon	13 mm	100
40-100201	0.2 µm	Nylon	13 mm	100
40-100202	0.45 µm	M.E. Cellulose	13 mm	100
40-100203	0.2 µm	M.E. Cellulose	13 mm	100
40-100204	0.45 µm	PTFE	13 mm	100
40-100205	0.2 µm	PTFE	13 mm	100
40-100206	0.45 µm	PVDF	13 mm	100
40-100207	0.2 µm	PVDF	13 mm	100
40-100208	0.45 µm	Polypropylene	13 mm	100
40-100209	0.2 µm	Polypropylene	13 mm	100
40-100210	0.45 µm	Regenerated Cellulose	13 mm	100
40-100211	0.2 µm	Regenerated Cellulose	13 mm	100
40-100212	0.45 µm	Nylon	25 mm	50
40-100213	0.2 µm	Nylon	25 mm	50
40-100214	0.45 µm	M.E. Cellulose	25 mm	50
40-100215	0.2 µm	M.E. Cellulose	25 mm	50
40-100216	0.45 µm	PTFE	25 mm	50
40-100217	0.2 µm	PTFE	25 mm	50
40-100218	0.45 µm	PVDF	25 mm	50
40-100219	0.2 µm	PVDF	25 mm	50
40-100220	0.45 µm	Polypropylene	25 mm	50
40-100221	0.2 µm	Polypropylene	25 mm	50
40-100222	0.45 µm	Regenerated cellulose	25 mm	50
40-100223	0.2 µm	Regenerated cellulose	25 mm	50
40-100224	1 µm	Glass Microfibre	25 mm	50

Cat. No.	Pore	Membrane	Dia	Pk
40-100180	0.45 µm	Nylon	47 mm	50
40-100181	0.2 µm	Nylon	47 mm	50
40-100182	0.45 µm	PTFE	47 mm	50
40-100183	0.2 µm	PTFE	47 mm	50
40-100184	0.45 µm	M.E. Cellulose	47 mm	50
40-100185	0.2 µm	M.E. Cellulose	47 mm	50
40-100186	0.45 µm	PVDF	47 mm	50
40-100187	0.2 µm	PVDF	47 mm	50
40-100188	0.45 µm	Polypropylene	47 mm	50
40-100189	0.2 µm	Polypropylene	47 mm	50
40-100190	0.45 µm	Regenerated Cellulose	47 mm	50
40-100191	0.2 µm	Regenerated Cellulose	47 mm	50
40-100192	0.45 µm	Nitrocellulose	47 mm	50
40-100193	1 µm	Glass Microfibre	47 mm	50
40-100194	0.45 µm	Cellulose Acetate	47 mm	50

Sterile Syringe Filters

- Sterile: Gamma irradiated
- Individually blister packed
- Acrylic housing

Cat. No.	Pore	Membrane	Dia	Pk
40-100250	0.45µm	Nylon	25 mm	50
40-100251	0.22µm	Nylon	25 mm	50
40-100252	1.2µm	Nylon	25 mm	50
40-100253	0.45µm	Cellulose Acetate	25 mm	50
40-100254	0.22µm	Cellulose Acetate	25 mm	50
40-100255	0.45µm	PES	25 mm	50
40-100256	0.22µm	PES	25 mm	50
40-100257	1.0µm	GMF	25 mm	50



Swinnex Filter Holders for 13mm, 25mm and 47mm Dia. Membranes

Cat. No	Item	Pack
MLP-SX0001300	Swinnex Filter Holder 13 mm Dia.	10
MLP-SX0002500	Swinnex Filter Holder 25 mm Dia.	12
MLP-SX0004700	Swinnex Filter Holder 47 mm Dia.	8

Cat. No.	Pore	Membrane	Dia	Pk
40-100260	0.45µm	Cellulose Acetate	25 mm	50
40-100261	0.22µm	Cellulose Acetate	25 mm	50
40-100262	0.45µm	PES	25 mm	50
40-100263	0.22µm	PES	25 mm	50

Millipore All-Glass Filter Holders for 47mm disc filters



Glass funnel and base (stainless steel screen base optional) with vacuum connector and receiving flask connected by ground glass outer and inner joints.

Applications

Vacuum filter aqueous, organic or corrosive liquids for particulate contamination analysis, also recommended for HPLC solvent filtration. Contact Greyhound Chromatography for recommended membranes for filtering organic solvents.

Borosilicate glass parts in contact with liquid, with ground glass sealing surfaces. Vacuum connection to integral base and flask cap is above filtrate exit level, avoiding drawing filtrate into vacuum tubing.

Do not use this filter holder with flammable liquids.

SPECIFICATIONS

Materials

MLP-XX15 047 00 Borosilicate glass funnel, base and tabulated cap; anodized aluminium spring clamp; fritted glass filter support.

Filter Diameter, mm	47
Filtration Area, cm ²	9.6
Funnel Capacity, ml	Funnel: 300 ml; Flask: 1 L
Outlet Fitting	6mm (1/4") O.D. tabulated cap sidearm to vacuum

Dimensions

Height, cm	43
Diameter, cm	Flask: 14, Funnel: 7.6

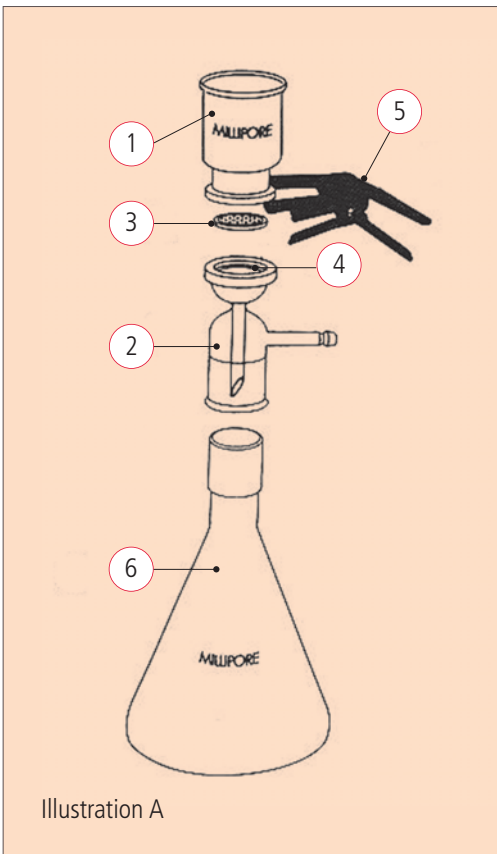


Illustration A

ORDER INFORMATION

Description	Cat. No.
All-Glass Filter Holder Assembly with funnel, fritted base, cap, clamp, 47 mm	MLP-XX15 047 00
Replacement Parts - see illustration A	
1) Glass Funnel, 300ml, borosilicate	MLP-XX10 047 04
2a) Glass Base & Cap, 47 mm	MLP-XX15 047 02
or	
2b) Glass Base & Cap with stainless steel screen, 47 mm	MLP-XX15 047 32
3) Support Screen, 47 mm, stainless steel	MLP-XX20 047 08
4) Gasket, PTFE, 25/pkg	MLP-XX20 047 03
5) Spring Clamp, 47 mm, aluminium	MLP-XX10 047 03
6) Ground Joint Flask, 1 L	MLP-XX15 047 05
Accessories	
1 L Funnel, 47 mm, ground glass seal	MLP-XX10 047 07
Tubing, 3/16" ID x 140 cm, silicone	MLP-XX71 000 04
Funnel Cover, 47 mm, silicone	MLP-XX25 047 54

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