

Chromacol Syringe Filters

Econofil[™] Filters

Cleaning Up

Sample preparation has always been one of the most important steps in successful chromatography. It has also been one of the most time consuming. In recent years the main methods of removing interfering materials and particles have moved away from time consuming liquid extractions to the use of small devices such as syringe filters or solid phase extraction cartridges.



The most useful devices are those that

give simple removal of suspended material. This solid material can block tubing and seriously damage columns if injected into HPLC systems.

This usually means the use of syringe filters.

There are some important changes in the syringe filters from Chromacol.

- Chromacol Syringe Filters are increasing in size.
- There is an increased range of membrane choice.

What is improved and what does it mean to users?

- Increased Diameter Our filters now are 30mm instead of 25 and 17 instead of 13mm. The increased diameter produces a greater level of sample throughput before clogging.
- The user can now filter up to 50% more sample through the filters than previously, before they fail from blockage. Of course this increase is dependant on the sample itself and sample matrix.
- Increased Surface Area The backpressure when filtering will be reduced. This is because
 the cross section area is now larger for the same applied downward pressure when using a
 syringe.
- Less back pressure means an easier time when filtering, especially for customers who filter many samples at a time or those samples who contain a higher level of particulates
- Polyether Sulphone (PES), Cellulose Acetate (CA), Polypropylene (PP), Regenerated
 Cellulose (RC) and Glass Micro-Fibre (GMF) filters are added to the range.
- GMF Pre-filters are available on 30mm PTFE, Nylon, PP and RC units.





Membrane Applications and Solvent Compatibilities

Nylon

0.45 µm membrane

Well established for filtration of aqueous and organic solutions. Broad chemical compatibility with organic and aqueous solvents but should avoid concentrated acids.

High protein binding.

Recommended for most HPLC applications.

0.20µm membrane

Recommended for fine particle removal.

1.5μm and 5μm membrane

Larger pores sizes are available for larger particulate contamination.

PTFE

0.45 µm membranes

Well established for filtration of organic solutions

Broad chemical compatibility with organic solvents.

Recommended for GC applications.

Can be used for degassing organic mobile phases.

0.20µm membranes

Recommended for fine particle removal

May also be used as a vent filter

Larger pore sizes also available

PVDF

0.45 µm membrane

Well established for filtration of aqueous and mild organic solutions Low protein binding

Recommended for Bio-molecular and HPLC applications.

0.20µm membranes

Recommended for fine particle removal

Polyether Sulphone (PES)

Ion chromatography validated.

Used for primarily aqueous applications as poor organic solvent resistance. Low levels of ionic extractable make this an ideal filter for acidic, ionic solutions prior to lon Chromatography.

Polypropylene (PP)

Hydrophobic membrane suitable for use in aqueous or organic media

Low binding of proteins so can be used for bio-molecular clean-up. ${\bf 0.20}\mu m$ membranes

Recommended for fine particle removal

Glass Fibre (GMF)

Bulk filter for large particle removal.

Used as a pre-filter for protection of narrow pore membranes.

Regenerated Cellulose (RC)

0.45 µm membrane

Well established for filtration of aqueous/organic solutions Low protein binding

Recommended for Biomolecular and HPLC applications.

With pre-filter may be used with tissue cultures.

Can be used for HPLC solvent degassing.

0.20µm membrane

Recommended for fine particle removal

Cellulose Acetate (CA)

0.45µm membrane

Well established for filtration of aqueous solutions

Very low protein binding

Recommended for Biomolecular and HPLC applications.

0.20µm membrane

Recommended for fine particle removal

Chemical Compatibility

Chemical Type	NY	PTFE	PVDF	PES	GMF	RC	CA
Acids	*	***	***	***	***	**	*
Alkali-	***	***	**	***	***	**	**
Alcohol	***	***	***	***	***	***	**
Hydrocarbon	***	***	***	*	***	***	***
Halogenated	***	***	***	*	***	***	**
Solvents							
Ketones	***	***	*	*	***	***	**
Esters	***	***	**	*	***	***	**
DMSO	***	***	*	*	***	***	*
Acetonitrile	***	***	***	*	***	***	*

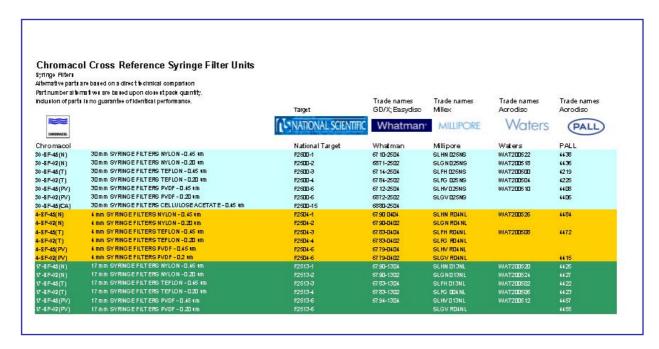
*** Good

** Use with care

* Avoid

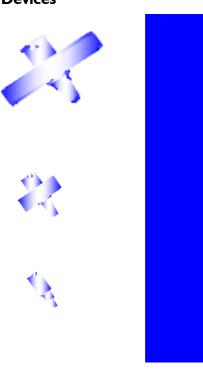


Competitors



The above table shows part numbers of competitor's products for the most common of the Econofil syringe filter range.

Devices



30mm Syringe Filter Unit Polypropylene Body

Luer-Lock inlet/Luer Outlet 5mL sample throughput. Hold-up Volume < 137μL

For larger sample volumes.

Suitable for 4mL analytical and storage samples.

17mm Syringe Filter Unit Polypropylene Body

Luer-Lock inlet/Luer Outlet

2mL sample throughput.

Hold-up Volume <29 μ L

For analytical sample volumes. Use with standard 2mL vials.

4mm Syringe Filter Unit Polypropylene Body

Luer-Lock inlet/Luer Outlet

ImL sample

Hold-up Volume < I 5μL

For micro sampling.

Use with Micro+ vials for maximum sample recovery.









Ordering

Ordering			
Description	Pack	Existing Chromacol	New Chromacol
NYLON			
Syringe Filter, NY, 0.45um, 4mm	100/pk	4-MF-45(N)	4-SF-45(N)
Syringe Filter, NY, 0.2um, 4mm	100/pk	4-MF-02(N)	4-SF-02(N)
Syringe Filter, NY, 0.45um, 17mm	100/pk	13-MF-45(N)	17-SF-45(N)
Syringe Filter, NY, 0.2um, 17mm	100/pk	13-MF-02(N)	17-SF-02(N)
Syringe Filter, NY, 0.45um, 30mm	100/pk	25-MF-45(N)	30-SF-45(N)
Syringe Filter, NY, 0.2um, 30mm	100/pk	25-MF-02(N)	30-SF-02(N)
Syringe Filter, NY, 1.5um, 30mm	100/pk	23 1 11 32(14)	30-SF-15(N)
Syringe Filter, NY, 5um, 30mm	100/pk		30-SF-50(N)
Syringe Filter, NY, 0.45um, 30mm with pre-filter	100/pk		30-SF-45(N)P
Syringe Filter, NY, 0.2um, 30mm with pre-filter	100/pk		30-SF-02(N)P
	100/5/		55 5: 52(: 1).
PTFE	100/ 1	1 ME 45(T)	4.05.45(T)
Syringe Filter, PTFE, 0.45um, 4mm	100/pk	4-MF-45(T)	4-SF-45(T)
Syringe Filter, PTFE, 0.2um, 4mm	100/pk	4-MF-02(T)	4-SF-02(T)
Syringe Filter, PTFE, 0.45um, 17mm	100/pk	13-MF-45(T)	17-SF-45(T)
Syringe Filter, PTFE, 0.2um, 17mm	100/pk	13-MF-02(T)	17-SF-02(T)
Syringe Filter, PTFE, 0.45um, 30mm	100/pk	25-MF-45(T)	30-SF-45(T)
Syringe Filter, PTFE, 0.2um, 30mm	100/pk	25-MF-02(T)	30-SF-02(T)
Syringe Filter, PTFE, Ium, 30mm	100/pk		30-SF-10(T)
Syringe Filter, PTFE, 5um, 30mm	100/pk		30-SF-50(T)
Syringe Filter, PTFE, 0.45um, 30mm with pre-filter	I 00/pk		30-SF-45(T)P
PVDF			
Syringe Filter, PVDF, 0.45um, 4mm	100/pk	4-MF-45(PV)	4-SF-45(PV)
Syringe Filter, PVDF, 0.2um, 4mm	100/pk	4-MF-02(PV)	4-SF-02(PV)
Syringe Filter, PVDF, 0.45um, 17mm	100/pk	13-MF-45(PV)	17-SF-45(PV)
Syringe Filter, PVDF, 0.2um, 17mm	100/pk	13-MF-02(PV)	17-SF-02(PV)
Syringe Filter, PVDF, 0.45um, 30mm	100/pk	25-MF-45(PV)	30-SF-45(PV)
Syringe Filter, PVDF, 0.2um, 30mm	100/pk	25-MF-02(PV)	30-SF-02(PV)
CA			
Syringe Filter, Cellulose Acetate, 0.45um, 4mm	100/pk		4-SF-45(CA)
Syringe Filter, Cellulose Acetate, 0.2um, 4mm	100/pk		4-SF-02(CA)
Syringe Filter, Cellulose Acetate, 0.45um, 17mm	100/pk		17-SF-45(CA)
Syringe Filter, Cellulose Acetate, 0.2um, 17mm	100/pk		17-SF-02(CA)
Syringe Filter, Cellulose Acetate, 0.45um, 30mm	100/pk	25-MF-45(CA)	30-SF-45(CA)
Syringe Filter, Cellulose Acetate, 0.2um, 30mm	100/pk		30-SF-02(CA)
Regenerated Cellulose	100/ 1		4 CF 4F(DC)
Syringe Filter, Regenerated Cellulose, 0.45um, 4mm	100/pk		4-SF-45(RC)
Syringe Filter, Regenerated Cellulose, 0.2um, 4mm	100/pk		4-SF-02(RC)
Syringe Filter, Regenerated Cellulose, 0.45um, 17mm Syringe Filter, Regenerated Cellulose, 0.2um, 17mm	100/pk		17-SF-45(RC)
Syringe Filter, Regenerated Cellulose, 0.45um, 30mm	100/pk 100/pk		17-SF-02(RC) 30-SF-45(RC)
Syringe Filter, RC, 0.45um, 30mm with pre-filter	100/pk		30-SF-045(RC)P
Polypropylene	100/рк		30-31 -0 13(RC)1
Syringe Filter, Polypropylene, 0.45um, 4mm	100/pk		4-SF-45(PP)
Syringe Filter, Polypropylene, 0.2um, 4mm	100/pk		4-SF-02(PP)
Syringe Filter, Polypropylene, 0.45um, 17mm	100/pk		17-SF-45(PP)
Syringe Filter, Polypropylene, 0.2um, 17mm	100/pk		17-SF-02(PP)
Syringe Filter, Polypropylene, 0.45um, 30mm	100/pk		30-SF-45(PP)
Syringe Filter, Polypropylene, 0.45um, 30mm with pre-filter	100/pk		30-SF-45(PP)P
PES			
Syringe Filter, PES, 0.45um, 17mm	100/pk		17-SF-45(PES)
Syringe Filter, PES, 0.2um, 17mm	100/pk		17-SF-02(PES)
Syringe Filter, PES, 0.45um, 30mm	100/pk		30-SF-45(PES)
Syringe Filter, PES, 0.20um, 30mm	100/pk		30-SF-02(PES)
GMF			
Syringe Filter, GMF, 0.7um, 30mm	100/pk		30-SF-07(GMF)
Syringe Filter, GMF, 1.2um, 30mm	100/pk		30-SF-12(GMF)
Syringe Filter, GMF, 3.1um, 30mm	100/pk		30-SF-31(GMF)