

Sample Prep - Filtration

Introduction

Sample preparation is arguably the most critical, time consuming & commonly overlooked steps within the analytical process.

Interchim has developed a comprehensive range of high quality sample preparation products in recognition of the importance of this technique and to minimise subsequent errors that could potentially materialise within the analysis process.

This section of the catalog highlights the variety of techniques that maximises the efficiency of sample preparation from a variety of matrices, including filtration, dialysis, liquid/ liquid extraction and solid phase extraction.

Filtration - Selection Guide

This chart provides general guidelines on filter characteristics and applications to assist with the choice of appropriate device and membrane.

Filtration Type	Buffer Exchange Salt removal	Virus removal	Bacteria removal	HPLC clarification	Dissolution	Prefiltration
Cut off	30 - 100KD	< 0.1 µm	0.2 µm	0.45 µm	0.45 - 1.2 µm	0.8 - 25 µm
Sample Volume	0.1 - 50 ml	1 - 2 ml	2 - 10 ml	10 - 100 ml	10 - 250 ml	0.2 - 2 ml
Filter Type	µcentrifuge filter hold up volume : < 5 µl	4 mm hold up volume : < 15 µl	13 mm hold up volume : < 30 µl	25 mm hold up volume : < 100 µl	25 mm + GF hold up volume : < 150 µl	96 well plate hold up volume : < 5 µl
Membrane type	Cellulose ester, Regenerated Cellulose, PolyEtherSulfone, NitroCellulose, Glass Fiber, PolyPropylene, PolyEthylene, Nylon, PVDF, PTFE					



Sample Prep - Filtration

Selection guide

Regenerated cellulose (RC)

Hydrophilic membrane that has the same properties as cellulose acetate but stable with most HPLC solvents.

This membrane is used for HPLC solvents, degassing, and filtration and is compatible with aqueous samples in a pH range from 2 to 12. With a non specific low protein binding, this membrane is chosen for protein filtration when maximum yield of recovery is needed.

Mixing of cellulose esters (MEC)

Ideal hydrophilic membrane for the filtration of aqueous samples, with low solvent resistance. A Glass pre-filter membrane is used for tissue culture media filtration, biological sample filtration, as clarification and sterilization of aqueous samples.

Very low protein binding (binding < PVDF, PS), the Glass prefilter increases filtrate volume yield by 3.

Nylon and Nylon Low Extractables (LE)

Commonly used for HPLC samples filtration prior to injection, with good solvent resistance. Having hydrophobic properties, it gives good results with aqueous samples. Should not be used when maximum protein recovery is important.

Polypropylene (PP)

High resistance, may be used with virtually all solvents, acids and bases.

PVDF

Hydrophilic membrane with a good solvent resistance. Ideal for filtration of HPLC mobile phase solvents.

PTFE (Teflon®)

Hydrophilic membrane chemically resistant to solvents, acids, bases. This membrane is ideal for filtration of chromatography solvents, with no extractables due to the Teflon membrane.

Glass Fiber (GMF or GF)

Commonly used as prefilter for most filtration devices. Typically used for crude samples and used for the cleaning and purification of DNA.

PES

Hydrophilic membrane with a very low binding for proteins and nucleic acids. Good flow rate characteristics and strong membrane mechanical resistance. Mainly dedicated to cell culture filtration. Compatible with alcohols and strong bases.

Nitrocellulose

Hydrophilic membrane recommended for aqueous sample clarification and filtration as MEC membranes.

Sample Prep - Filtration

Chemical compatibility of membranes

Chemical	Nylon	PTFE	PVDF	PES	MEC	RC	PP	GF
Acids								
Acetic, Glacial	LC	C	C	C	NC	C	C	C
Acetic, 25 %	C	C	C	C	C	C	C	C
Hydrochloric, Concentrated	NC	C	C	C	NC	NC	C	C
Hydrochloric, 25 %	NC	C	C	C	NC	NC	C	C
Sulfuric, Concentrated	NC	C	NC	NC	NC	NC	C	C
Sulfuric, 25 %	NC	C	C	C	NC	LC	C	C
Nitric, Concentrated	NC	C	C	NC	NC	NC	C	LC
Nitric, 25 %	NC	C	C	C	NC	NC	C	LC
Phosphoric, 25 %	NC	C	ND	ND	C	LC	C	ND
Formic, 25 %	NC	C	ND	ND	LC	C	C	C
Trichloroacetic, 10 %	NC	C	ND	ND	C	C	C	ND
Alkalies								
Ammonium Hydroxide, 25 %	C	C	LC	C	C	LC	C	C
Sodium Hydroxide, 3 Normal	C	C	C	C	NC	LC	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	LC	C	C	C
Isopropanol, 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	NC
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
Hydrocarbons								
Hexane, Xylene	C	C	C	C	C	C	NC	C
Toluene, benzene	C	C	C	C	C	C	NC	C
Kerosene, Gasoline	C	C	C	C	C	C	LC	ND
Tetraiin, Decalin	ND	C	C	C	C	C	ND	ND
Halogenated Hydrocarbons								
Methylene Chloride	LC	C	C	NC	NC	C	LC	C
Chloroform	C	C	C	NC	NC	C	LC	C
Trichloroethylene	C	C	C	NC	C	C	LC	C
Monochlorobenzene, Freons	C	C	C	LC	C	C	C	C
Carbon Tetrachloride	C	C	C	NC	LC	C	LC	C



Sample Prep - Filtration

Chemical compatibility of membranes

Chemical	Nylon	PTFE	PVDF	PES	MEC	RC	PP	GF
Ketones								
Acetone, Cyclohexanone	C	C	C	NC	NC	C	C	C
Isopropylacetone	C	C	NC	NC	C	C	ND	C
Methyl Isobutyl Ketone	ND	C	LC	NC	ND	C	LC	C
Esters								
Ethyl Acetate, & Methyl Acetate	C	C	C	NC	NC	C	LC	C
Amyl, Propyl & Butyl Acetate	C	C	ND	NC	LC	C	LC	C
Propyl Acetate	C	C	NC	NC	LC	C	LC	ND
Propylene Glycol Acetate	ND	C	ND	NC	NC	C	C	ND
2-Ethoxyethyl Acetate	ND	C	ND	NC	LC	C	ND	ND
Methyl Cellosolve Acetate	ND	C	ND	NC	LC	C	ND	C
Benzyl Benzoate	C	C	ND	NC	C	C	ND	ND
Isopropyl Myristate	C	C	ND	NC	C	C	ND	ND
Tricresyl Phosphate	ND	C	ND	NC	C	C	ND	ND
Oxides - Ethers								
Ethyl Ether	C	C	C	C	C	C	C	C
Dioxane & Tetrahydrofuran	C	C	LC	NC	NC	C	ND	C
Triethanolamine	C	C	LC	NC	NC	C	ND	ND
Dimethylsulfoxide (DMSO)	C	C	NC	NC	NC	C	C	C
Isopropyl Ether	ND	C	C	C	C	C	C	ND
Solvents with Nitrogen								
Dimethyl Formamide	LC	C	NC	NC	NC	LC	C	C
Diethylacetamide	C	C	ND	ND	NC	C	ND	C
Triethanolamine	C	C	ND	ND	C	C	ND	ND
Aniline	ND	C	ND	ND	NC	C	ND	ND
Pyridine	C	C	C	NC	NC	C	LC	C
Acetonitrile	C	C	C	LC	NC	C	LC	C
Miscellaneous								
Phenol, Aqueous, 10 %	ND	C	LC	NC	NC	NC	C	C
Formaldehyde 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
Pyridine	C	C	C		NC	C	LC	C

C : Compatible
LC : Limited compatibility
NC : Not compatible
ND : No data available

Membrane Type

Nylon : Polyamide
PTFE : Teflon®
PVDF : Polyvinylidene difluoride
PES : Polyethersulfone
MEC : Cellulose Esters
RC : Regenerated cellulose
PP : Polypropylene
GF : Nylon



Sample Prep - Filtration

UptiDisc™ syringe filters

Syringe filters

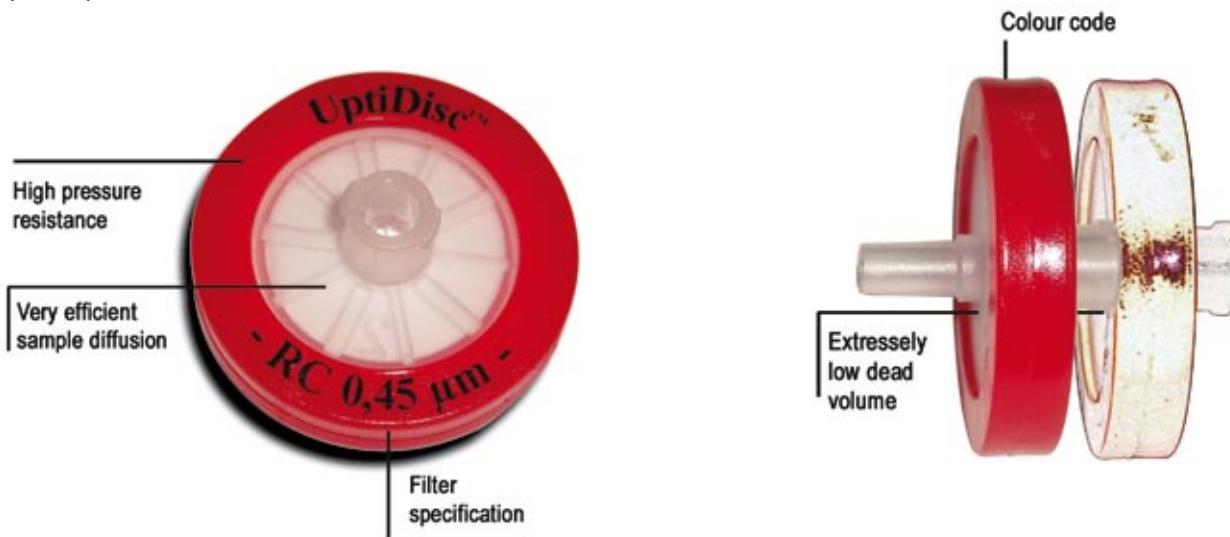
Latest innovation from Interchim, UptiDisc™ syringe filters provides a perfect filtration of aqueous and biological sample as well as organic solvents.

Features

Filter size : 13 mm - 25 mm - 25 mm + GF prefilter
Pore size : 0.2 - 0.45 µm
Membrane : RC, Nylon, PP, PVDF, PTFE
Filter type : Non sterile
Housing : PP
End fitting : Male Luer & Female Luer Lock
Color code & printed specification

Filter size	Max. Pressure	Sample vol.	Dead vol.
13 mm	10 bars	1 - 10 ml	< 30 µl
25 mm	7 bars	5 - 100 ml	< 70 µl
25 mm + GF*	7 bars	10 - 100 ml	< 120 µl

* Glass fiber pre-filter



Sample Prep - Filtration

UptiDisc™ syringe filters

Filter size	Pore size	Prefilter	Qty	P/N
Regenerated Cellulose (RC)				
13 mm	0.20 µm		100 u	T38090
13 mm	0.45 µm		100 u	T38080
25 mm	0.20 µm		100 u	T38110
25 mm	0.20 µm		500 u	T38111
25 mm	0.45 µm		100 u	T38100
25 mm	0.45 µm		500 u	T38101
25 mm	0.20 µm	GF*	100 u	U54650
25 mm	0.45 µm	GF*	100 u	U54660



Filter size	Pore size	Prefilter	Qty	P/N
Polypropylene (PP)				
13 mm	0.20 µm		100 u	P00580
13 mm	0.45 µm		100 u	P00590
25 mm	0.20 µm		100 u	N11790
25 mm	0.20 µm		500 u	N11791
25 mm	0.45 µm		100 u	N11800
25 mm	0.45 µm		500 u	N11801
25 mm	0.20 µm	GF*	100 u	U54690
25 mm	0.45 µm	GF*	100 u	U54700



Filter size	Pore size	Prefilter	Qty	P/N
Nylon				
13 mm	0.20 µm		100 u	P00500
13 mm	0.45 µm		100 u	P00510
25 mm	0.20 µm		100 u	N11410
25 mm	0.20 µm		500 u	N11411
25 mm	0.45 µm		100 u	N11720
25 mm	0.45 µm		500 u	N11721
25 mm	0.20 µm	GF*	100 u	U54670
25 mm	0.45 µm	GF*	100 u	U54680



Filter size	Pore size	Prefilter	Qty	P/N
PVDF				
13 mm	0.20 µm		100 u	P00560
13 mm	0.45 µm		100 u	P00570
25 mm	0.20 µm		100 u	N11770
25 mm	0.20 µm		500 u	N11771
25 mm	0.45 µm		100 u	N11780
25 mm	0.45 µm		500 u	N11781
25 mm	0.20 µm	GF*	100 u	U54730
25 mm	0.45 µm	GF*	100 u	U54740



Filter size	Pore size	Prefilter	Qty	P/N
PTFE (Teflon)				
13 mm	0.20 µm		100 u	P00520
13 mm	0.45 µm		100 u	P00530
25 mm	0.20 µm		100 u	N11730
25 mm	0.20 µm		500 u	N11731
25 mm	0.45 µm		100 u	N11740
25 mm	0.45 µm		500 u	N11741
25 mm	0.20 µm	GF*	100 u	U54710
25 mm	0.45 µm	GF*	100 u	U54720



*GF : Glass fiber pre-filter

Sample Prep - Filtration

UptiDisc™ syringe filters

UptiDisc™ 4 mm

- Filtration of small sample volume less than 2 ml
- Aqueous, biological samples and organic solvent
- Fit syringes with Luer or Luer-Lock end-fittings
- Dead volumes less than 15 µl
- Max. pressure : 5.5 bars
- Color code for easy identification

Filter size : 4 mm
Pore size : 0.2 - 0.45 µm
Membrane : RC, MEC, Nylon, PP, PVDF, PTFE
Filter type : Non sterile
Housing : PP

Filter size	Pore size	Qty	P/N
Regenerated Cellulose (RC)			
4 mm	0.20 µm	100 u	T38070
4 mm	0.45 µm	100 u	T38060
Mixing of cellulose ester			
4 mm	0.20 µm	100 u	P00600
4 mm	0.45 µm	100 u	P00610
Nylon			
4 mm	0.20 µm	100 u	P00620
4 mm	0.45 µm	100 u	P00630
Polypropylene			
4 mm	0.20 µm	100 u	P00640
4 mm	0.45 µm	100 u	P00650
PVDF			
4 mm	0.20 µm	100 u	P00680
4 mm	0.45 µm	100 u	P00690
PTFE			
4 mm	0.20 µm	100 u	P00660
4 mm	0.45 µm	100 u	P00670



Sample Prep - Filtration

UptiDisc™ syringe filters

Filter size : 13 mm, 25 mm, 25 mm + GF prefilter
 Pore size : 0.2 - 0.45 µm
 Membrane : PES, NO2, MEC, GMF, Nylon low extractible
 Filter type : Non sterile
 Housing : PP

UptiDisc Bio

- 25 mm filter w/glass pre-filter for crude samples
- Filtration of aqueous and biological samples
- Fit all syringes with "Luer" or "Luer-Lock" end-fittings
- Color codes for easy identification

Filter size	Max. Pressure	Sample vol.	Dead vol.
13 mm	5.5 bars	2 - 10 ml	30 µl
25 mm	5.5 bars	10 - 100 ml	100 µl
25 mm + GF*	5.5 bars	10 - 100 ml	140 µl

Filter size	Pore size	Prefilter	Qty	P/N
Mixing of cellulose ester				
13 mm	0.20 µm		100 u	P00540
13 mm	0.45 µm		100 u	P00550
25 mm	0.20 µm		100 u	N11750
25 mm	0.20 µm		500 u	N11751
25 mm	0.45 µm		100 u	N11760
25 mm	0.45 µm		500 u	N11761
25 mm	0.20 µm	GF*	100 u	U54630
25 mm	0.45 µm	GF*	100 u	U54640



Filter size	Pore size	Prefilter	Qty	P/N
Nylon LE (Low Extractables)				
13 mm	0.20 µm		100 u	U54770
13 mm	0.45 µm		100 u	U54780
25 mm	0.20 µm		100 u	U54790
25 mm	0.20 µm		500 u	U54791
25 mm	0.45 µm		100 u	U54800
25 mm	0.45 µm		500 u	U54801



* Glass fiber pre filter

Filter size	Pore size	Prefilter	Qty	P/N
Polyethersulfone				
13 mm	0.45 µm		100 u	BG6740
25 mm	0.45 µm		100 u	BG6730
25 mm	0.45 µm		500 u	BG6731



Filter size	Pore size	Prefilter	Qty	P/N
Nitrocellulose				
13 mm	0.45 µm		100 u	BH1800
25 mm	0.45 µm		100 u	BH1820
25 mm	0.45 µm		500 u	BH1821
25 mm	0.45 µm	GF*	100 u	BH1830
25 mm	0.45 µm	GF*	100 u	BH1831



Filter size	Pore size	Prefilter	Qty	P/N
Micro glass fiber				
13 mm	1.0 µm		100 u	BH1850
25 mm	1.0 µm		100 u	BH1860
25 mm	1.0 µm		500 u	BH1861







Sample Prep - Filtration





UptiDisc™ Robotic syringe filters

Automated sample filtration for test dissolution. The UptiDisc Robotic filters are compatible for use with Sotax and Zymark automated equipment.

- Filter size : 25 mm
- Pore size : 0.2 - 0.45 µm
- Membrane : NO₂, MEC, GMF, Nylon, PP, PVDF, PTFE
- Filter type : Non sterile
- Max. pressure : 5.5 bars
- Housing : PP
- Luer Lock inlet & Minispikes outlet.
- Color codes for easy identification
- 25 mm filters w/glass pre-filter for crude samples

Filter size	Pore size	Prefilter	Qty	P/N	
Nylon					
25 mm	0.20 µm		1000 u	BH7000	
25 mm	0.45 µm		1000 u	BH7010	
25 mm	0.20 µm	GF*	1000 u	BH7200	
25 mm	0.45 µm	GF*	1000 u	BH7210	
Teflon® (PTFE)					
25 mm	0.20 µm		1000 u	BH7020	
25 mm	0.45 µm		1000 u	BH7030	
25 mm	0.20 µm	GF*	1000 u	BH7220	
25 mm	0.45 µm	GF*	1000 u	BH7230	
Cellulose ester (MEC)					
25 mm	0.20 µm		1000 u	BH7040	
25 mm	0.45 µm		1000 u	BH7050	
25 mm	0.20 µm	GF*	1000 u	BH7240	
25 mm	0.45 µm	GF*	1000 u	BH7250	
PVDF					
25 mm	0.20 µm		1000 u	BH7060	
25 mm	0.45 µm		1000 u	BH7070	
25 mm	0.20 µm	GF*	1000 u	BH7260	
25 mm	0.45 µm	GF*	1000 u	BH7270	

* Glass fiber prefilter

Filter size	Pore size	Prefilter	Qty	P/N	
PP					
25 mm	0.20 µm		1000 u	BH7080	
25 mm	0.45 µm		1000 u	BH7100	
25 mm	0.20 µm	GF*	1000 u	NH7280	
25 mm	0.45 µm	GF*	1000 u	BH7290	
Regenerated cellulose (RC)					
25 mm	0.20 µm		1000 u	BH7120	
25 mm	0.45 µm		1000 u	BH7130	
25 mm	0.20 µm	GF*	1000 u	BH7300	
25 mm	0.45 µm	GF*	1000 u	BH7310	
Nitrocellulose (NO₂)					
25 mm	0.45 µm		1000 u	BH7170	
25 mm	0.45 µm	GF*	1000 u	BH7320	
Glass micro fibre (GMF)					
25 mm	1.0 µm		1000 u	BH7180	

Sample Prep - Filtration

UptiDisc™ Membranes filters

UptiDisc™ filter membranes are used for aqueous and organic solvent filtration with appropriate filtration apparatus.

The membrane cutoff allows direct use of filtrate within HPLC.

- Diameter : 13 - 25 - 47 mm
- Pore size : 0.20 - 0.45 µm
- Membrane : RC, PES, NO2, MEC, GMF, Nylon, Nylon LE, PP, PVDF, PTFE



Filter size	Pore size	Qty	P/N
Regenerated cellulose (RC)			
13 mm	0.20 µm	100 u	T38130
13 mm	0.45 µm	100 u	T38120
25 mm	0.20 µm	50 u	T38150
25 mm	0.45 µm	50 u	T38140
47 mm	0.20 µm	50 u	T38180
47 mm	0.45 µm	50 u	T38160

Mixing of cellulose ester (MEC)			
13 mm	0.20 µm	100 u	N11940
13 mm	0.45 µm	100 u	N11930
25 mm	0.20 µm	50 u	N11960
25 mm	0.45 µm	50 u	N11950
47 mm	0.20 µm	50 u	N11980
47 mm	0.45 µm	50 u	N11970

Nylon			
13 mm	0.20 µm	100 u	N11820
13 mm	0.45 µm	100 u	N11810
25 mm	0.20 µm	50 u	N11840
25 mm	0.45 µm	50 u	N11830
47 mm	0.20 µm	50 u	N11860
47 mm	0.45 µm	50 u	N11850

Nylon low extractibles (LE)			
13 mm	0.20 µm	100 u	U54840
13 mm	0.45 µm	100 u	U54850
25 mm	0.20 µm	50 u	U54860
25 mm	0.45 µm	50 u	U54870
47 mm	0.20 µm	50 u	U54880
47 mm	0.45 µm	50 u	U54890

Polypropylene			
13 mm	0.20 µm	100 u	N12060
13 mm	0.45 µm	100 u	N12050

Filter size	Pore size	Qty	P/N
Polypropylene			
25 mm	0.20 µm	50 u	N12080
25 mm	0.45 µm	50 u	N12070
47 mm	0.20 µm	50 u	N12100
47 mm	0.45 µm	50 u	N12090

PVDF			
13 mm	0.20 µm	100 u	N12000
13 mm	0.45 µm	100 u	N11990
25 mm	0.20 µm	50 u	N12020
25 mm	0.45 µm	50 u	N12010
47 mm	0.20 µm	50 u	N12040
47 mm	0.45 µm	50 u	N12030

Teflon® (PTFE)			
13 mm	0.20 µm	100 u	N11880
13 mm	0.45 µm	100 u	N11870
25 mm	0.20 µm	50 u	N11900
25 mm	0.45 µm	50 u	N11890
47 mm	0.20 µm	50 u	N11920
47 mm	0.45 µm	50 u	N11910

Glass micro fiber (GMF)			
13 mm	1.0 µm	100 u	BH1870
25 mm	1.0 µm	50 u	BH1880
47 mm	1.0 µm	50 u	BH1890

Nitrocellulose (NO₂)			
13 mm	0.45 µm	100 u	BH5450
25 mm	0.45 µm	50 u	BH6970
47 mm	0.45 µm	50 u	BH6980

Sample Prep - Filtration

UptiDisc™ filter tubes

UptiDisc™ filter tubes are syringe barrel design manufactured from inert polypropylene. They include a frit on the top for pre-filtration and the membrane of preference.

- 1 ml to 60 ml sample loading
- Membrane : Nylon, PE, PTFE, Cellulose
- PTFE frits and membranes are dedicated to organic samples
- Filter tubes can be used either as gravity flow devices or with a vacuum manifold to improve the fluid flow

Membrane	Pore size	Prefilter	Vol.	Tube	Qty	P/N
Nylon	0.45 µm	20 µm PE	1 ml	PP	100	U05790
Nylon	0.45 µm	20 µm PE	3 ml	PP	100	U06130
Nylon	0.45 µm	20 µm PE	6 ml	PP	100	U06230
Nylon	0.45 µm	20 µm PE	12 ml	PP	100	U06310
Nylon	0.45 µm	20 µm PE	60 ml	PP	100	U06320
PE	20.0 µm		1 ml	PP	100	U06340
PE	20.0 µm		3 ml	PP	100	U06350
PE	20.0 µm		6 ml	PP	100	U06360
PE	20.0 µm		12 ml	PP	100	U06370
PE	20.0 µm		60 ml	PP	100	U06380
PE	70.0 µm		1 ml	PP	100	U06390
PE	70.0 µm		3 ml	PP	100	U06400
PE	70.0 µm		6 ml	PP	100	U06410
PE	70.0 µm		12 ml	PP	100	U06420
PE	70.0 µm		60 ml	PP	100	U06430
PTFE	0.45 µm	5 µm PTFE	1 ml	PP	100	U06440
PTFE	0.45 µm	5 µm PTFE	3 ml	PP	100	U06450
PTFE	0.45 µm	5 µm PTFE	6 ml	PP	100	U06460
PTFE	0.45 µm	5 µm PTFE	12 ml	PP	100	U06470
PTFE	0.45 µm	5 µm PTFE	60 ml	PP	100	U06480
Cellulose	0.45 µm	20 µm PE	1 ml	PP	100	U06490
Cellulose	0.45 µm	20 µm PE	3 ml	PP	100	U06500
Cellulose	0.45 µm	20 µm PE	6 ml	PP	100	U06510
Cellulose	0.45 µm	20 µm PE	12 ml	PP	100	U06520
Cellulose	0.45 µm	20 µm PE	60 ml	PP	100	U06540

PP : Polypropylene
PE : Polyethylene
Nylon : Polyamide
PTFE : Teflon



Sample Prep - Filtration

Ultra-Filtration - Centrifugation

One of the easiest and quickest way to filtrate samples is through centrifugal filtration. Interchim offer 6 different spin filters with a comprehensive range of filtration media that allows for the filtration of many different types of sample. Devices range from 50 µl to 50 ml.

Columns consist of an external body (receiver) and an inside spin column manufactured from FDA Polypropylene to avoid sample contamination associated with historical plastic leaching. Filtration media are available in 0.2 µm and 0.45 µm and made of Nylon, PTFE, Cellulose Acetate, Polypropylene, Nitrocellulose, Glass Fiber, Filter paper, and PE Frit. In addition, a custom device can be manufactured upon request.

Device :	Spin-850™	Spin-850+™	Spin-850cap™	Spin-4™	Spin-23™	Spin-25™
Vol. Capacity :	850 µl	850 µl	850 µl	4 ml	23 ml	25 ml
Rec. Centrifuge Force :	10 000 g	10 000 g	10 000 g	5 000 g	2 500 g	2 500 g
Rec. Tube :	1.9/2.0 ml	1.9/2.0 ml	1.9/2.0 ml capless	12 ml or 15 ml	50 ml	50 ml
Centrifuge :	Micro	Micro	Micro	Bench top/floor model	50 ml Rotor	50 ml Rotor
Materials of Housing :	Polypropylene	Polypropylene	Polypropylene	Polypropylene	Polypropylene	Polypropylene
Effective Filtration Area :	0.62 cm ²	0.62 cm ²	0.62 cm ²	0.8 cm ²	1.1 cm ²	1.1 cm ²
Membrane Diameter :	7.55 mm	7,55 mm	7,55 mm	12.65 mm	24.35 mm	24.35 mm
Dimensions :Length	23.65 mm	29.82 mm	29.82 mm	44.59 mm	60.32 mm	60.0 mm
Body OD.	8.65 mm	8.53 mm	8.53 mm	13.10 mm	25.75 mm	25.30 mm



Sample Prep - Filtration

Ultra-Filtration - Centrifugation devices

Spin-850™ Columns

Disposable centrifugal spin filter for sample volumes up to 850 µL

- Unique frosted area for marking and labelling
- Flat Bottom for delicate membranes
- Ideal for small volume sample filtration and purification
- Works with many commercially available receiver tubes

Membrane	Pore size	Reservoir	Sterile	Qty	P/N
Nylon	0.2 µm	2 ml with cap	no	100 u	CD3220
PES	0.2 µm	2 ml with cap	no	100 u	CD3230
PVDF	0.2 µm	2 ml with cap	no	100 u	BX4270
RC	0.2 µm	2 ml with cap	no	100 u	CD3240
PTFE	0.2 µm	2 ml with cap	no	100 u	BY0940
PP	0.2 µm	2 ml with cap	no	100 u	CD3260
CA	0.2 µm	2 ml with cap	no	100 u	BU8190
NC	0.2 µm	2 ml with cap	no	100 u	CD3280
CA	0.45 µm	2 ml with cap	no	100 u	CD3290
Nylon	0.45 µm	2 ml with cap	no	100 u	CD3310
RC	0.45 µm	2 ml with cap	no	100 u	CD3320
PTFE	0.45 µm	2 ml with cap	no	100 u	CD3340
PES	0.45 µm	2 ml with cap	no	100 u	CD3350
PVDF	0.45 µm	2 ml with cap	no	100 u	AL5131
NC	0.45 µm	2 ml with cap	no	100 u	CD3370
PP	0.45 µm	2 ml with cap	no	100 u	BI7020

Product Specifications

Volume Capacity :	850 µl
Max. Centrifuge Force :	10 000 g
Receiver/Collection Tubes :	1.5 ml, 1.9 ml, 2.0 ml
Centrifuge :	Standard lab micro centrifuge
Housing Material :	FDA Grade Polypropylene
Effective Filtration Area :	0.62 cm ²
Membrane Diameter :	7.06 mm
Dimensions :	
Length :	23.65 mm
Width : Body OD.	8.65 mm
ID :	7.68 mm at top
Colors :	Various colors available



Sample Prep - Filtration

Ultra-Filtration - Centrifugation devices

Spin-850+™ Columns

Disposable centrifugal spin filter for sample volumes up to 1 ml

- Unique frosted area for marking and labeling
- Various custom formats available
- Ideal for small volume sample filtration and purification
- Unique luer tip provides fast flow rates and sample direction
- Male luer tip works with standard female luer vacuum manifolds and adapters
- Works with many commercially available receiver tubes

Spin-850cap™ Columns

Disposable centrifugal spin filter with cap for sample volumes up to 1 ml

- Attached cap eliminates risk of sample loss
- Unique frosted area for marking and labeling
- Various custom formats available
- Ideal for small volume sample filtration and purification
- Unique luer tip provides fast flow rates and sample direction
- Male luer tip works with standard female luer vacuum manifolds and adapters
- Works with many commercially available receiver tubes

Spin-4™ Columns

Midi-Spin Device

Disposable centrifugal spin filter for sample volumes up to 4 ml

- Unique frosted area for marking and labeling
- Various custom formats available
- Ideal for mid volume sample filtration and purification
- Unique luer tip provides fast flow rates and sample direction



Product Specifications

Volume Capacity :	4.0 ml
Max. Centrifuge Force :	5 000 g
Receiver/Collection Tubes :	5.0 ml, 12.0 ml, 15.0 ml
Centrifuge :	Bench top/floor model
Housing Material :	FDA Grade Polypropylene
Effective Filtration Area :	0.8 cm ²
Membrane Diameter :	12.65 mm
Dimensions :	
Length :	44.59 mm
Width : Body OD	13.10 mm
ID :	12.60 mm
Colors :	Various colors available

Membrane	Pore size	Reservoir	Sterile	Qty	P/N
Nylon	0.2 µm	7 ml with cap	no	25 u	CD3400
PES	0.2 µm	7 ml with cap	no	25 u	CD3650
PVDF	0.2 µm	7 ml with cap	no	25 u	BI6500
RC	0.2 µm	7 ml with cap	no	25 u	CD3670
PTFE	0.2 µm	7 ml with cap	no	25 u	CD3680
PP	0.2 µm	7 ml with cap	no	25 u	CD3660
CA	0.2 µm	7 ml with cap	no	25 u	CD3690
NC	0.2 µm	7 ml with cap	no	25 u	CD3700

Membrane	Pore size	Reservoir	Sterile	Qty	P/N
CA	0.45 µm	7 ml with cap	no	25 u	CD3710
Nylon	0.45 µm	7 ml with cap	no	25 u	CD3720
RC	0.45 µm	7 ml with cap	no	25 u	CD3760
PTFE	0.45 µm	7 ml with cap	no	25 u	CD3780
PES	0.45 µm	7 ml with cap	no	25 u	CD3750
PVDF	0.45 µm	7 ml with cap	no	25 u	BI6510
NC	0.45 µm	7 ml with cap	no	25 u	CD3370
PP	0.45 µm	7 ml with cap	no	25 u	CD3740

Sample Prep - Filtration

Ultra-Filtration - Centrifugation devices

Spin-23™ Columns

Disposable centrifugal spin filter for sample volumes up to 23 ml

- Unique frosted area for marking and labeling
- Various custom formats available
- Male luer for vacuum filtration
- Ideal for large volume sample filtration and purification
- Works with many commercially available 50 ml receiver tubes



Product Specifications

Volume Capacity :	25 ml
Max. Centrifuge Force :	2 500 g
Receiver/Collection Tubes :	50 ml
Centrifuge :	50 ml Rotor
Housing Material :	FDA Grade Polypropylene
Effective Filtration Area :	1.1 cm ²
Membrane Diameter :	24.35 mm
Dimensions :	
Length :	60.0 mm
Width : Body OD	25.30 mm
ID :	24.30 mm
Color :	Various colors available

Spin-25™ Columns

Disposable centrifugal spin filter for sample volumes up to 25 ml

- Maxi Size centrifugal device
- Unique frosted area for marking and labeling
- Various custom formats available
- Ideal for large volume sample filtration and purification
- Works with many commercially available 50ml receiver tubes

Membrane	Pore size	Reservoir	Sterile	Qty	P/N
Nylon	0.2 µm	50 ml with screw cap	no	50 U	CD3790
PES	0.2 µm	50 ml with screw cap	no	50 U	CD3800
PVDF	0.2 µm	50 ml with screw cap	no	50 U	CD3810
RC	0.2 µm	50 ml with screw cap	no	50 U	CD3840
PTFE	0.2 µm	50 ml with screw cap	no	50 U	CD3830
PP	0.2 µm	50 ml with screw cap	no	50 U	CD3850
CA	0.2 µm	50 ml with screw cap	no	50 U	CD3820
NC	0.2 µm	50 ml with screw cap	no	50 U	CD3850
CA	0.45 µm	50 ml with screw cap	no	50 U	CD3870
Nylon	0.45 µm	50 ml with screw cap	no	50 U	CD3880
RC	0.45 µm	50 ml with screw cap	no	50 U	CD3910
PTFE	0.45 µm	50 ml with screw cap	no	50 U	CD3900
PES	0.45 µm	50 ml with screw cap	no	50 U	CD3890
PVDF	0.45 µm	50 ml with screw cap	no	50 U	CD3920
NC	0.45 µm	50 ml with screw cap	no	50 U	CD3970
PP	0.45 µm	50 ml with screw cap	no	50 U	CD3930

Sample Prep - Filtration

Uptiplate™ filter plates

Uptiplate™ filter plates provide rapid filtration of large volumes of samples. The unit requires the use of a vacuum filtration apparatus or an automated work station. Sample volumes may vary from 125 µl to 2 ml and the specified membrane and porosity size supports a large range of filtration applications. i.e.

Chromatography : many aqueous or organic samples (except whole blood and plasma). Porosity commonly used is 0.45 or 0.2 µm

Chemistry : filtration of reactive samples after deposit and elution of compounds pre-adsorbed on resins (scavengers)

Biology : peptides & oligonucleotides synthesis. DNA and RNA purification & isolation after deposit on silica or agarose gel, high biomolecule binding

- Plate type : non sterile
- Plate specification : PP
- Dimensions : 127.76 x 85.47 x 19.74 mm
- 96 well-plates available in 300 µl, 800 µl and 2 ml
- 384 well-plates available in 125 µl
- Pore size : 0.2 to 25 µm

Membrane	Pore size	Drip	Qty	P/N	Qty	P/N
96 well plate 2 ml						
Glass Fiber	0.70 µm	Long	5 u	BM5031	25 u	BM5030
UH-PE	25.0 µm	Long	5 u	BM5041	25 u	BM5040
PP	0.45 µm	Long	5 u	BE3941	25 u	BE3940
PES	0.45 µm	Long	5 u	BM5021	25 u	BM5020
96 well plate 800 µl						
Glass Fiber	0.70 µm	Long	5 u	AA1761	25 u	AA1760
		Short	5 u	BM5061	25 u	BM5060
	1.0 µm	Long	5 u	AA1781	25 u	AA1780
		Short	5 u	BM4581	25 u	BM4580
	1.20 µm	Long	5 u	BH5521	25 u	BH5520
		Short	5 u	BM4681	25 u	BM4680
3.0 µm	Long	5 u	BM8691	25 u	BM8690	
		5 u	BM8691	25 u	BM8690	
UH-PE	25 µm	Long	5 u	BM4851	25 u	BM4850
		Short	5 u	BM4831	25 u	BM4830
PP	0.45 µm	Long	5 u	BM4851	25 u	BM4850
		Short	5 u	BM4831	25 u	BM4830
PVDF-2 (hydrophilic)	0.20 µm	Long	5 u	BM8671	25 u	BM8670
		Long	5 u	U84901	25 u	U84900
	0.45 µm	Short	5 u	BM4791	25 u	BM4790



BM5031

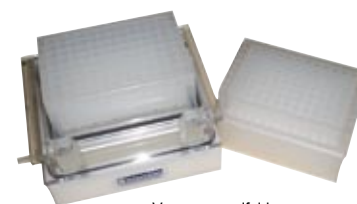


AA1760

Sample Prep - Filtration

Uptiplate™ filter plates

Membrane	Pore size	Drip	Qty	P/N	Qty	P/N
96 well plate 800 µl						
Nylon	0.20 µm	Long	5 u	AA1811	25 u	AA1810
	0.45 µm	Long	5 u	U84821	25 u	U84820
NO ₂	0.20 µm	Long	5 u	AA1791	25 u	AA1790
	0.45 µm	Long	5 u	AA1801	25 u	AA1800
PTFE	0.20 µm	Long	5 u	BE0250		
	0.45 µm		5 u	BE0240		
RC	10.0 Mwt Cutoff	Long	5 u	U84921	10 u	U84920
	30.0 Mwt Cutoff	Long	5 u	U84931	10 u	U84930
	0.45 µm + GF	Long	5 u	BN4611	10 u	BN4610



Vacuum manifold

96 well plate 300 µl						
Glass Fiber	0.70 µm	Long	10 u	BM4711	50 u	BM4710
		Short	10 u	BM8601	50 u	BM8600
	1.00 µm	Long	10 u	BM4641	50 u	BM4640
		Short	10 u	BM4351	50 u	BM4350
	1.20 µm	Long	10 u	BM4691	50 u	BM4690
		Short	10 u	BM4671	50 u	BM4670
3.00 µm	Long	10 u	BM8641	50 u	BM8640	
	UH-PE	25.0 µm	Long	10 u	BM4841	50 u
		Short	10 u	BM4821	50 u	BM4820
PP	0.45 µm	Long	10 u	BM4741	50 u	BM4740
		Short	10 u	BM4721	50 u	BM4720
PP-2 (hydrophilic)	0.45 µm	Short	10 u	BM2161	50 u	BM2160
PVDF-2 (hydrophilic)	0.20 µm	Short	10 u	BM2241	50 u	BM2240
		Long	10 u	BM4801	50 u	BM4800
		Short	10 u	BM4761	50 u	BM4760



384 well plate 125 µl						
Glass Fiber	0.70 µm	Long	10 u	BM5010		
		Short	10 u	BM4990		
	1.20 µm	Long	10 u	BM5000		
		Short	10 u	BM4980		
	3.0 µm	Long	10 u	BM8650		



BM5010

Sample Prep - Filtration

Uptiplate™ Protein Crash plates

Protein Crash filtration plates are used for protein precipitation contained within whole blood or plasma.

Uptiplate™ membranes are 0.2 µm, organic, solvent watertight, membranes which display low adsorption of analyte.

The 96 well format achieves filtration in approximately 10 minutes and is an excellent alternative to centrifugation. Samples are then ready for direct LC, LC/MS, GC, GC/MS analysis.

Uptiplate™ Protein Crash plates are particularly suited to the pharmaceutical industry for pre-clinical, clinical and toxicology experiments.

- Plate type : non sterile
- Plate Specification : PP
- Dimensions : 127.76 x 85.47 x 19.74 mm
- Available in 96 well plates
- Well volume : 1 - 2 ml
- Porosity : 0,2 µm



Solvent First procedure for plasma

1. Place the Protein Crash Plate onto a collection plate and then insert both into vacuum manifold
2. Dispense 1 ml of acetonitrile
3. Dispense 1 ml of plasma
4. Insert the soft cover onto the filter plate
5. Leave for 5 to 7 min or vortex
6. Apply vacuum (~ 200 mbar)
7. Evaporate
8. Analyze samples

Description	Qty	P/N
Uptiplate Protein Crash 0.2 µm 1ml	1 u	U84750
	5 u	U84751
	10 u	U84752
	50 u	U84753
Uptiplate Protein Crash 0.2 µm 2ml	1 u	U84760
	5 u	U84761
	10 u	U84762
	50 u	U84763
Uptiplate Protein Crash 0.2 µm 2ml + pierceable soft cover	5 u	BJ0730
	10 u	BJ0731
	50 u	BJ0732
Pierceable soft cover for 2ml Protein crash plate	50 u	BI3520



BI3520