

Food and beverage quality testing

Sample preparation that is accurate, reliable, and fast.

Quality, consistency and safety

Cytiva is committed to quality. Our Whatman™ brand products are manufactured from high-purity raw materials, and our factories all operate to the latest version of ISO 9001 standards. Our filter selection recommendations are built on the combination of expertise in modern methods and almost 300 years of history in the paper and membrane filtration business.

Cytiva's Whatman™ filtration products bring efficiency and accuracy to food and beverage testing, standardizing and streamlining lab workflows and reducing the number of filtration devices required, delivering reliable results to assure consumer product quality, consistency and safety.

Select your filter online at www.cytiva.com/solutions/lab-filtration/whatman-filter-selector



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Cellulose filter papers and products

Key application: clarification and solids retention

Various test methods require that liquid components of a solution be separated from suspended solids prior to analysis. Cytiva offers a wide choice of cellulose filter papers with different flow rates, loading capacities, and chemical resistances to support these applications.

Key application: clarifying sugar solution

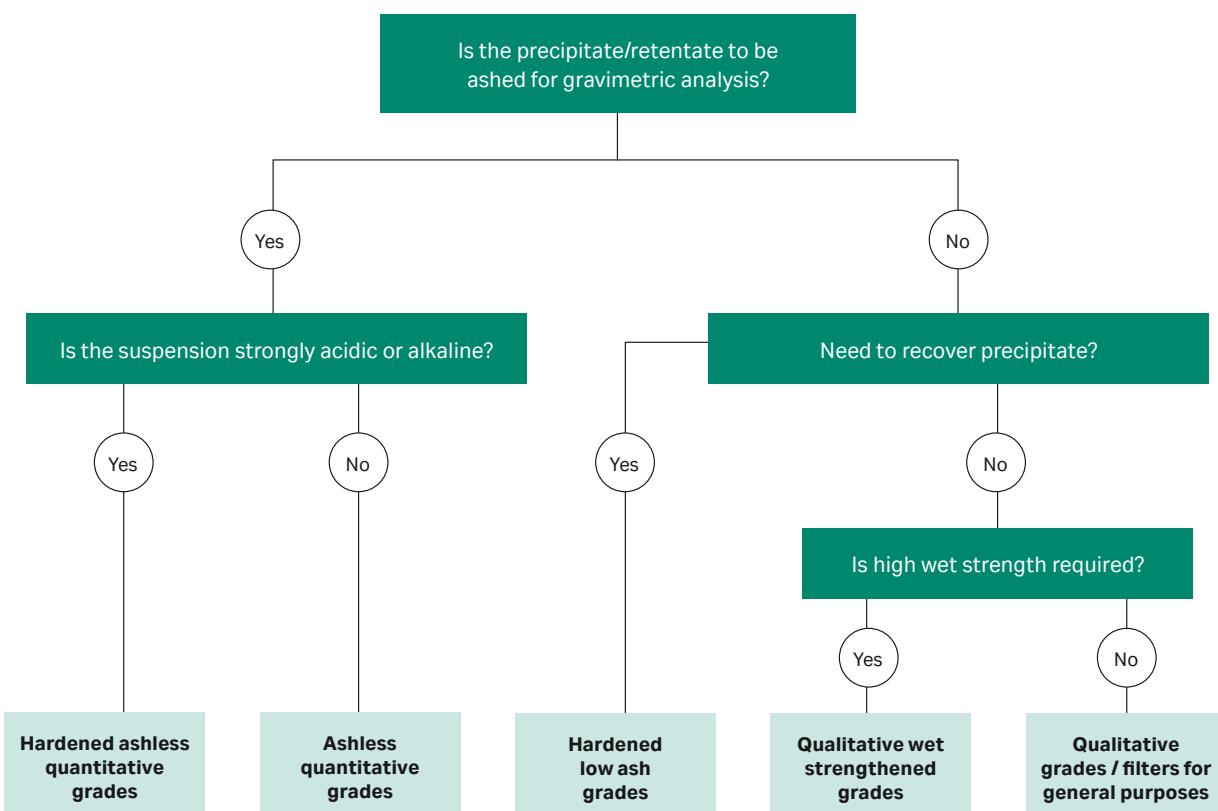
Whatman™ Grade 5 qualitative filter papers have been shown to support ICUMSA methods GS 1/3-7 and GS 2/3-18 for color (filtrate clarity) and turbidity.

Key application: degassing carbonated beverages

Gas bubbles can interfere with accurate colorimetric analysis. Whatman™ Grade 2V cellulose paper has been shown to remove over 77% of CO₂ from a filtered sample. This filter also comes pre-pleated to save setup time.



Qualitative filter paper



Technical characteristics of standard and wet strength qualitative filter papers[‡]

Grade	Nominal thickness (µm)	Nominal basis weight (g/m ²)	Typical water flow rate (normalized for 9 cm diameter) [†]	Typical particle retention in liquid at 98% efficiency (µm)	Pre-pleated grade
Standard qualitative filter papers					
1	180	87	57 mL/min	11	-
2	190	97	38 mL/min	8	Grade 2V
3	390	185	28 mL/min	6	-
4	210	92	247 mL/min	25	-
5	200	100	5 mL/min	2.5	Grade 5V
6	180	105	22 mL/min	3	-
591	350	161	+	7-12	-
595	150	68	+	4-7	Grade 595 ½
597	180	85	+	4-7	Grade 597 ½
597L	180	82	+	7	-
597 Plus	190	85	+	4-7	-
598	320	140	+	8-10	Grade 598 ½
602 h	160	84	+	< 2	Grade 602 h ½
602 eh	150	85	+	2	Grade 602 eh ½
Wet strengthened qualitative filter papers					
91	205	65	274 mL/min	10	-
93	145	65	194 mL/min	10	-
113	420	125	774 mL/min	> 15	Grade 113V
114	190	75	333 mL/min	25	Grade 114V
1573	170	88	+	12-25	Grade 1573 ½
1574	160	90	+	7-12	Grade 1574 ½
1575	140	92	+	< 2	-

[†] Measured under gravity for comparative purposes

[‡] For a full list of products visit cytiva.com

+ Not measured under these conditions

Ordering information[†]

Diam.(mm)/ Grade	1	2	3	4	5	6	595	597	597 Plus	598	602 h
Qualitative filters – flat, 100 per pack											
42.5											
47											
55											
70											
90x											
110											
125											
150											
185											
240											
270											
320											
Diam.(mm)/ Grade	93	113	114	1573	1575						
Qualitative filters – flat, 100 per pack											
90											
110											
125											
150											
185											
240											
Diam.(mm)/ Grade	2V	5V	595 ½	597 ½	598 ½	602 h ½	602 eh ½	113V	114V	1573 ½	1574 ½
Qualitative filters and filters for general purposes – pre-pleated, 100 per pack											
110											
125											
150											
185											
240											
270											
320											
385											

[†] For a full list of products visit cytiva.com

Technical characteristics of general purpose and application specific filter papers

Grade	Nominal thickness (µm)	Nominal basis weight (g/m ²)	Filtration speed (approx) Herzberg (s)	Typical particle retention in liquid at 98% efficiency (µm)	Pre-pleated grade
General purpose filter papers					
520a	300	90	17.5	15-18	Grade 520a ½
0858	170	75	55	7-12	Grade 0858 ½
0860 ½	170	88	60	12	Grade 0860 ½
Shark Skin™	170	44	77.5	8-12	
Application specific filter papers					
0048	0.86	130	-	-	-
287 ½	360	154	330	-	Grade 287 ½
2555 ½	170	75	55	12	Grade 2555 ½
3459	-	75	55	-	-

Ordering information[†]

Diam.(mm)/Grade	520a 1/2	0858 1/2	860.5	Shark Skin™	0048	287 ½	2555 ½	3459
General purpose and application specific filters – flat and pre-pleated, 100 per pack								
32								
90								
110								
125								
150								
185								
230								
240								
270								
320								
500								

[†] For a full list of products visit cytiva.com

Technical characteristics of ashless quantitative filter papers

Grade	Nominal thickness (µm)	Nominal basis weight (g/m ²)	Nominal ash content*	Typical water flow rate (normalized for 9 cm diameter) [†]	Typical particle retention in liquid at 98% efficiency (µm)	Pre-pleated grade
40	210	95	0.007%	25 mL/min	8	-
41	215	85	0.007%	254 mL/min	20	-
42	200	100	0.007%	5 mL/min	2.5	-
43	220	95	0.007%	62 mL/min	16	-
44	176	80	0.007%	11 mL/min	3	-
589/1	190	80	0.01%	-	12-25	Grade 589/1 ½
589/2	180	85	0.01%	-	4-12	Grade 589/2 ½
589/3	160	84	0.01%	-	2	-

* Ash content is determined by ignition of the cellulose filter at 900°C in air

† Measured under gravity for comparative purposes

Ordering information[†]

Diam (mm)./Grade	40	41	42	43	44	589/1	589/2	589/3
Ashless quantitative filters – flat, 100 per pack								
42.5								
47								
55								
70								
90								
110								
125								
150								
185								
240								
320								

† For a full list of products visit cytiva.com

Diam (mm)./Grade	589/1 ½	589/2 ½
------------------	---------	---------

Ashless quantitative filters – pre-pleated, 100 per pack

110		
150		

Hardened ashless and low ash grades are also available upon request.



Whatman™ Grade 40
and 41 ashless
filter paper



Nitrogen, phosphorous, and lipid analysis

Key application: nitrogen analysis

Nitrogen content analysis is typically done with Kjeldahl techniques, which involve the sampling of an exact amount of sample before transfer to a digestion tube. Low nitrogen content weighing paper makes the sample transfer easy and quick without loss of material and with minimal interference with the end result. The sample might need to be filtered through a Whatman™ brand qualitative filter paper prior to analysis.



What are you testing for?	Method	Product
Nitrogen	Kjeldahl analysis	Weighing boats, weighing paper
Trace elements	Various	Glass or cellulose filter paper
Phosphorus	Colorimetry	Grade 512 ½ pre-folded low phosphate filter paper
Lipids	Soxhlet extraction	Cellulose thimbles

Ordering information*

For what use?	Product	Quantity	Product code
Kjeldahl analysis	Grade 609 weighing boats	100 / pack	
Kjeldahl analysis	Grade B-2 weighing paper, 4 × 4 in	500 / pack	
Phosphorus analysis	Grade 512 ½	100 / pack	

* For a full list of products visit cytiva.com

Key application: trace element extraction

Most trace element tests are based on extracting a sample and measuring the concentration of trace elements in the liquid phase. Extraction methods can vary between laboratories. The sample then generally needs to be filtered through a qualitative filter paper (p. 4) or glass fiber filter (p. 14) to make sure it will not clog nebulizers or interfere with injection into the analysis instrument. If digested with aqua regia, the sample might be filtered through an ashless filter paper. If syringe filters are used as an additional sample preparation step, please see page 16.

Key application: phosphorus analysis by colorimetry

To determine the phosphorus content, the sample is extracted with a chemical solution and the phosphorus content in the extract is measured by colorimetry. Filtration of the extract through a qualitative filter paper is generally needed before analysis, please see page 7. If an automated method is used for determining phosphorus concentration, acid-resistant filter paper might be needed.

Key application: acid testing

Determination of acid presence and concentration in beverages such as wine can be performed by applying a sample of the liquid to chromatography paper. Allow the paper to separate acidic content, and then dry the paper. The acids that are present in the sample can then be determined by the spots on the paper.

Ordering information

Product	Quantity/pack	Product code
1 Chr sheets, 20 × 20 cm	100	
1 Chr roll, 20 cm × 100 m	1	



Chromatography paper,
Chr roll, 20 cm × 100 m

Key application: Soxhlet extraction for lipid analysis

Food samples can be prepared for lipid analysis using Soxhlet extraction. Extraction thimbles are widely used for Soxhlet techniques. After extraction samples can be re-filtered with a 0.45 µm filter to remove small particles in order to protect your analytical instrument. Standard extraction thimbles have a wall thickness of 1–1.5 mm. Double-thickness thimbles have a wall thickness of approximately 2 mm for applications that require higher retention, increased wet or dry strength, or increased rigidity. Measurements can be matched to specific Soxhlet extractor systems.



Extraction thimbles in Soxhlet extraction apparatus

Ordering information

High performance cellulose extraction thimbles

Dimensions (mm) [†]	Wall thickness	
	1 mm	2.0 mm
10 × 50		
16 × 60		
18 × 55		
19 × 90		
22 × 65		
22 × 80		
25 × 80		
25 × 90		
25 × 100		
26 × 60		
26 × 100		
28 × 80		
28 × 100		
28 × 120		
30 × 80		
30 × 100		
33 × 80		
33 × 94		
33 × 100		
33 × 118		
37 × 130		
41 × 123		
43 × 123		
60 × 180		
90 × 200		

[†] Internal diameter and external length

** Fits Soxtec™ extractor

§ Wall thickness: 1.5 mm

‡ Wall thickness: 2.5 mm

• Wall thickness: 3.0 mm

Standard cellulose thimbles

Dimensions (mm) [†]	Wall thickness	
	1.5 mm	2.0 mm
22 × 60		
22 × 80		
25 × 60		
25 × 80		
25 × 100		
26 × 60		
27 × 80		
28 × 60		
28 × 80		
28 × 100		
30 × 80		
30 × 100		
33 × 60		
33 × 80		
33 × 90		
33 × 94		
33 × 100		
33 × 118		
33 × 130		
33 × 205		
34 × 130		
35 × 150		
40 × 85		
41 × 123		
44 × 230		
48 × 145		
48 × 200		
75 × 250		
80 × 250		

Filtration membranes

Key application: microbial detection and enumeration

In addition to the immediate risk to public health, microbial contamination of food and beverages impacts manufacturers through costs of spoiled product, damage to reputation, and loss of customer confidence. Membrane filtration (MF) technique originated as a methodology for water quality testing and was quickly recognized as a reliable and adaptable method for food and beverage testing. If the sample can be rinsed or dissolved such that the resulting solution has little to no remaining solids, then it can be examined for microbial contamination by filtering through a membrane filter. MF technique can be used for detection and enumeration of a wide range of organisms with the benefits of:

- Concentration of target organisms
- Separation of target from inhibitory substances
- A wide choice of membranes
- Use of rinse buffers to further neutralize inhibition

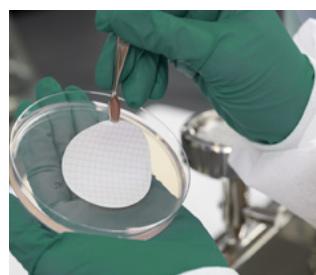
Workflow



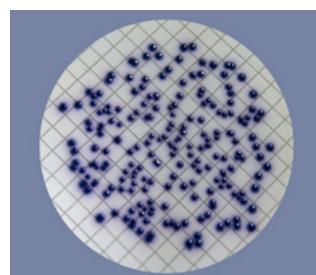
1. Secure membrane and funnel



2. Filter and rinse sample



3. Plate and Incubate



4. Count and record

What is your application?	Typically used	What products should you choose?
Coliforms <i>E. coli</i> <i>Enterobacter sp.</i> <i>Enterococcus sp.</i> <i>Pseudomonas sp.</i> total aerobic microbial counts	0.45 µm, white Additional options selected based on growth media, colony color and organism size: 0.2 µm, black or green	ME 25/21 (mce) 0.45 µm ME 24/21 (mce) 0.2 µm
<i>Legionella sp.</i>	0.45 µm, black 0.2 µm polycarbonate track-etched (pcte)	ME 25/31 (mce) 0.45 µm Nuclepore™/Cyclopore™ polycarbonate membranes, 0.2 µm
Direct cell count / staining	pcte membrane, white or black	Nuclepore™/Cyclopore™ polycarbonate membranes, white or black
Beverage monitoring yeast and mold	0.45 µm, white or black Additional options selected based on growth medium, colony color and organism size: 0.8, 1.2 µm, green	ME (mce) membrane filters
Purified water system	0.2 µm, 0.45 µm, white	ME (mce) membrane filters
eDNA	0.45 µm pcte	Nuclepore™/Cyclopore™ polycarbonate membranes 0.45 µm

Ordering Information*

MBS I

Catalog number	Product	Description	Quantity / pack
	AS220	2-place vacuum filtration manifold	1
	Dispenser for funnels	Dispenser for 100 mL and 350 mL funnels	1
	Funnel—100 mL	Plastic funnel of PP, autoclavable	20
	Funnel—350 mL	Plastic funnel of PP, autoclavable	20
	Autoclave bags	Spare part for 10445861 and 10445866	20
	eButler membrane dispenser	eButler membrane dispenser	1

* For a full list of products visit cytiva.com

Key application: filterability testing

Filterability testing is used to determine bottling readiness of wine.

Non-sterile 0.45 µm membrane filters are used with positive or negative pressure to filter several liters of wine while recording fluid flow rate.



Microplus membrane filters



eButler membrane dispenser

Ordering information

Membrane filters

Membrane material / type*	Pore size (µm)	Color	Sterile	Membrane-Butler compatible	Product code			Quantity
Diameter					25 mm	47 mm	50 mm	
Cellulose mixed ester / ME type	0.2	white / black grid	yes	no				100 / pack
	0.2	white / black grid	yes	yes				400 / pack
	0.45	white / black grid	yes	no				100 / pack
	0.45	white / black grid	yes	yes				400 / pack
	0.45	black / white grid	yes	yes				100 / pack
	0.45	black / white grid	yes	yes				400 / pack
Cellulose nitrate / Microplus	0.45	white / black grid	yes	no				100 / pack
	0.45	white / black grid	yes	yes				400 / pack
	0.45	black / white grid	yes	no				100 / pack
	0.45	black / white grid	yes	yes				400 / pack
Polycarbonate / Nuclepore™	0.2	white	no	no				100 / pack
	0.4	white	no	no				100 / pack
	0.8	black	no	no				100 / pack
Polycarbonate / Cyclopore™	0.2	white	no	no				100 / pack
	0.4	white	no	no				100 / pack

* For a full list of products visit cytiva.com

Glass fiber filters

Key application: moisture and solids analysis

The processes for measuring moisture in food or solids in water are quite similar. In both cases a sample is placed on a filter and weighed. It is then heated to evaporate any water present and weighed again. The difference between the two measurements is the moisture content, and the final weight is the solids content.



What are you testing for?	Product	Characteristics and benefits
Moisture content of foodstuffs	Moisture test paper	<ul style="list-style-type: none">• 90 mm borosilicate glass circle• Designed for use with common moisture analysis methods

Ordering information

Description	Quantity / pack	Product code
Moisture test paper, 90mm	100	

Key application: sample clarification

934-AH™ glass microfiber filters are designed for fast and effective clarification of a large amount of aqueous solutions gravimetrically as specified in ASBC method, Wort 9B. GF/C™ or other glass fiber filters can also be used.

Key application: determination of total aflatoxins in olive oil, peanut oil and sesame oil

Association of Official Analytical Chemists (AOAC) official method 2013.05 recommends 934-AH™ or GF/B circles, 90 mm for the determination of total aflatoxins in olive oil, peanut oil and sesame oil.

Technical specifications

Glass microfiber filters

Grade	Minimum retention efficiency in air (% at 0.3 µm)	Typical retention efficiency in air (% at 0.3 µm)	Typical particle retention in liquid (µm) ¹	Nominal air flow (s / 100 mL /in ²)	Nominal thickness (µm)	Nominal basis weight (g/m ²)	Maximum recommended temperature (°C)	Typical water flow rate (mL / min) ²
GF/A	≥ 99.85	≥ 99.99	1.6	4.3	260	53	550	143
GF/B	-	-	1.0	12	675	143	550	81
GF/C™	-	-	1.2	6.7	260	53	550	105
GF/D	-	-	2.7	2.6	675	121	550	681
GF/F	-	-	0.7	19	420	75	550	41
934-AH™	-	-	1.5	3.7	435	64	550	341

¹ Particle retention rating at 98% efficiency

² Normalized for 9 cm diameter. Measured under gravity for comparative purposes

Ordering information[†]

Binder-free glass microfiber grades, 100 per pack

Dimensions (mm)	Catalog number					
	Grade GF/A	Grade GF/B	Grade GF/C™	Grade GF/D	Grade GF/F	Grade 934-AH™
Filter circles						
25						
32						
37						
42.5						
47						
55						
70						
90						
110						
125						
150						
185						

[†] For a full list of products visit cytiva.com

* Filter in holder for personal air samplers



Filtration devices

Key application: chemical analysis

Chemical analyses are commonly performed using analytic instrumentation. Filtration of samples prior to analysis is good practice in order to remove unwanted particles from the analysis and to protect delicate instrumentation from potentially damaging compounds.

Key to good sample preparation is selection of an appropriate filter membrane and device.

General guidelines on membrane compatibility can be found in the following table.

Selection of a broadly compatible membranes such as regenerated cellulose (RC) and hydrophilic polytetrafluoroethylene (H-PTFE) are recommended.

Characteristics of common membranes

Filter media	ANP	CA	CN	NYL	PP	DpPP	PES	PTFE	H-PTFE	PVDF	RC	GMF
Hydrophilic N/A	●	●	●	●	○	○	●	○	●	●	●	N/A
Slightly Hydrophobic N/A	○	○	○	○	●	●	○	○	○	○	○	N/A
Hydrophobic N/A	○	○	○	○	○	○	○	●	○	○	○	N/A
Sample type	Aqueous	●	●	●	●	●	●	-	●	●	●	●
	Organic	●	-	-	●	●	●	-	●	●	●	●
Low protein binding typically	●	●	-	-	-	-	-	●	●	●	●	-
Clean / low extractables	Low	-	-	-	-	-	Low	Low	Low	-	Low	-

Pore size (μm)												
0.02	●	-	-	-	-	-	-	-	-	-	-	-
0.1	●	-	-	-	-	-	-	●	-	-	-	-
0.2	●	●	-	●	●	-	●	●	●	●	●	-
0.45	-	●	-	●	●	●	●	●	●	●	●	●
0.7	-	-	-	-	-	-	-	-	-	-	-	●
0.8	-	●	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	●	●	-	-	-	●
1.2	-	●	-	-	-	-	-	-	-	-	-	●
1.5	-	-	-	-	-	-	-	-	-	-	-	-
1.6	-	-	-	-	-	-	-	-	-	-	-	●
2	-	-	-	-	-	-	-	-	-	-	-	-
2.7	-	-	-	-	-	-	-	-	-	-	-	●
5	-	-	-	-	-	-	-	-	-	-	-	-

* ANP = Anopore™; CA = Cellulose Acetate; CN = Cellulose Nitrate; NYL = Nylon; PP = Polypropylene; DpPP = Polypropylene depth filter; PES = Polyethersulfone; PTFE = Polytetrafluoroethylene; H-PTFE = Hydrophilic polytetrafluoroethylene; PVDF = Polyvinylidene difluoride; RC = Regenerated Cellulose; GMF = Glass microfibre

Mobile phase filtration

Whatman™ regenerated cellulose Grade 55 (RC55) and GV 050/2 vacuum filtration unit for solvent filtration

Use the same material for mobile phase filtration and sample filtration to:

- Reduce variation of analysis
- Reduce rate of column clogging
- Enhance lifetime of column

If in-line degassing is required, consider the Whatman™ In-line filter / degasser.

Choose from two membrane options:

- Nylon — when mobile phase is > 20% aqueous
- Polypropylene — for non-aqueous solvents



RC55 filters and GV 050/2 vacuum filtration unit

Ordering information

Description	Quantity / pack	Product code
Regenerated Cellulose circles (RC55), 0.45 µm, 47 mm	100	
Regenerated Cellulose circles (RC55), 0.45 µm, 50 mm	100	
GV 050/2, glass frit filter, hose coupling connection, Erlenmeyer flask 1000 mL (NS45) [†]	1	
In-line filter / degasser, polypropylene (0.8 mm–04 mm tubing)	1	
In-line filter / degasser, polypropylene (1/8" tubing)	1	
In-line filter / degasser, nylon (0.8 mm–04 mm tubing)	1	
In-line filter / degasser, nylon (1/8" tubing)	1	

[†] Supplied with silicone cap with air inlet



Syringe filters for preventative care

Filtration of your samples is important as a preventive maintenance step for HPLC or UHPLC analysis. Keep unwanted particulate matter from entering the injector to increase column life, shorten run time, and optimize peak shape.

Whatman™ brand Puradisc™ syringe filters

The workhorse of the lab, high performance syringe filters deliver premium quality and reliability.

- Choice of filter sizes (4, 13, 25 or 30 mm) to minimize sample loss
- Available in 11 membrane types to support a variety of applications
- Pigment-free polypropylene (polycarbonate for Puradisc™ 30 mm and Puradisc™ Aqua)



Puradisc™ RC 25 mm syringe filters

Typical data

Puradisc™ syringe filters

	Puradisc™ 4	Puradisc™ 13	Puradisc™ 25	Puradisc™ 30
Housing	Polypropylene	Polypropylene	Polypropylene	Polycarbonate
Filtration area	0.2 cm ²	1.3 cm ²	4.2 cm ²	5.7 cm ²
Maximum pressure	75 psi (5.2 bar)	75 psi (5.2 bar)	75 psi (5.2 bar)	100 psi (6.9 bar)
Volume hold up with air purge	< 10 μL	< 25 μL	< 100 μL	< 50 μL
Dimensions	10.1 × 23.5 mm	16.3 × 19.8 mm	22.9 × 28.4 mm	26 × 34 mm
Weight	0.55 g	0.95 g	2.7 g	4.7 g
Volume throughput	Up to 2 mL	Up to 10 mL	Up to 100 mL	Up to 100 mL
Inlet connection	Female Luer lock	Female Luer lock	Female Luer lock	Female Luer lock
Outlet connection	Male Luer	Male Luer	Male Luer	Male Luer
Sterilization	Autoclave at 121°C (131°C max)			

Ordering information

Puradisc™ 4 mm syringe filters[‡]

Membrane [†]	Nylon	PVDF	PTFE	Quantity / pack
Pore size (μm)				
Non-sterile with tube tip				
0.2				50
0.45				50
Sterile without tube tip				
0.2				50
Non-sterile without tube tip				
0.2				100
0.2				500
0.45				100
0.45				500

[†] PTFE = Polytetrafluoroethylene; PVDF = Polyvinylidene difluoride

[‡] For a full list of products visit cytiva.com



Puradisc™ 4 mm syringe filter

Puradisc™ 13 mm syringe filters (non-sterile)

Membrane [†]	CA	Nylon	PES	PVDF	PP	PTFE	GMF	RC	H-PTFE	Quantity / pack
Pore size (μm)										
With tube tip										
0.2										50
0.2										100
0.45										50
0.45										100
Without tube tip										
0.1										100
0.2										100
0.2										500
0.2										2000
0.45										100
0.45										500
0.45										2000
1.0										100
5.0										100
GF/F 0.7*										100
GF/B 1.0*										100
GF/C™ 1.2*										100
GF/A 1.6*										100
GF/A 1.6										500
GF/D 2.7*										100
934-AH™ 1.5*										100

* Particle Retention Rating

[†] CA = Cellulose acetate; GMF = Glass microfiber filter; PES = Polyethersulfone; PP = Polypropylene; PTFE = Polytetrafluoroethylene; PVDF = Polyvinylidene difluoride; RC = Regenerated cellulose; H-PTFE = Hydrophilic PTFE



Puradisc™ 13 mm PTFE syringe filter

Puradisc™ 13 mm syringe filter (sterile)

Membrane [†]	PVDF	PES	RC	Quantity / pack
Pore size (μm)				
With tube tip				
0.2				50
0.45				50
Without tube tip				
0.2				50

[†] PES = Polyethersulfone; PVDF = Polyvinylidene difluoride; RC = Regenerated cellulose



Puradisc™ 13 mm PTFE syringe filter

Puradisc™ 25mm syringe filters

Membrane [†]	Nylon	PES	PVDF	PP	PTFE	H-PTFE	GMF	DpPP	RC	Quantity / pack
Pore size (μm)/Grade										
Sterile										
0.2										50
0.2										1000
0.45										50
0.45										1000
1.0										50
Non-sterile										
0.1										50
0.1										1000
0.2										50
0.2										200
0.2										1000
0.45										50
0.45										200
0.45										500
0.45										1000
0.7 GF/F*										50
0.7 GF/F*										200
0.7 GF/F*										1000
1.0										50
1.0										200
1.0										1000
1.0 GD 1*										100
1.0 GD 1*										1000
2.0 GD 2*										100

* Particle Retention Rating

[†] DpPP = Polypropylene Depth Filter; GD = Graded Density; GMF = Glass microfiber; H-PTFE = Hydrophilic PTFE; NYL = Nylon; PES = Polyethersulfone; PP = Polypropylene; PTFE = Polytetrafluoroethylene; PVDF = Polyvinylidene difluoride; RC = Regenerated cellulose



Puradisc™ 25 mm PES syringe filter

Puradisc™ 30 mm syringe filters

Membrane ^t / housing	CA / PC	CN / PC	PTFE / PP	RC / PP	Connection in / out	Quantity / pack
Pore size (μm)						
0.2					FLL/ML	50
0.2					FLL/ML	50
0.2					FLL/ML	100
0.2					FLL/ML	500
0.2					FLL/MLL	50
0.2					FLL/MLL	500
0.2					FLL/ML	50
0.45					FLL/ML	50
0.45					FLL/ML	50
0.45					FLL/ML	500
0.45					FLL/ML	100
0.8					FLL/ML	50
0.8					FLL/ML	50
0.8					FLL/ML	500
1.0					FLL/ML	100
1.0					FLL/ML	500
1.2					FLL/ML	50
1.2					FLL/ML	50
1.2					FLL/ML	500
5.0					FLL/ML	50
5.0					FLL/ML	50
5.0					FLL/ML	100
5.0					FLL/ML	500

* Sterile

† CA = Cellulose acetate; CN = Cellulose Nitrate; FLL = Female Luer lock; ML = Male Luer; MLL = Male Luer lock; PC = Polycarbonate; PP = Polypropylene; PTFE = Polytetrafluoroethylene; RC = Regenerated cellulose



Puradisc™ 30 mm FP syringe filter

Puradisc™ Aqua syringe filters

Pore size (μm)	Catalog number	Media / housing	Connection in / out	Color code	Quantity / pack	Quantity / pack
0.45		CA/PC	FLL/ML	White	50	50
0.45		CA/PC	FLL/ML	White	100	100
0.45		CA/PC	FLL/ML	White	500	500

† CA = Cellulose acetate; PC = Polycarbonate; FLL = Female Luer lock; ML = Male Luer

Whatman™ brand Uniflo™ syringe filters

Reliable quality, economical portfolio for basic applications.

- Choice of filter sizes: 13, 25 or 30 mm
- Available in 6 membrane types
- Laser etched printing on the filter for easy identification



Uniflo™ syringe filters

Typical data

Uniflo™ syringe filters

	Uniflo™ 13 mm	Uniflo™ 25 mm	Uniflo™ 30 mm w/FG pre-filter syringe filter
Dimensions	19.6 mm × 16.9 mm	24.5 mm × 29.2 mm	24.5 mm × 24.5 mm
Filtration area	0.88 cm ²	3.45 cm ²	4.98 cm ²
Operation pressure	65.2 psi	65.2 psi	67.5 psi
Housing	Polypropylene	Polypropylene	Polypropylene
Volume hold up	≤ 50 µL after air purge	≤ 100 µL after air purge	≤ 200 µL after air purge
Flow direction	Flow should enter from inlet	Flow should enter from inlet	Flow should enter from inlet
Inlet connectors	Female Luer Lock	Female Luer Lock	Female Luer Lock
Outlet connectors	Male slip Luer	Male slip Luer	Male slip Luer
Sterilization	Autoclave at 121°C at 15 psi for 20 minutes	Autoclave at 121°C at 15 psi for 20 minutes	Autoclave at 121°C at 15 psi for 20 minutes
Biosafe	Polymer grade and membrane types meet the USP test requirements (for Class VI Plastics)	Polymer grade and membrane types meet the USP test requirements (for Class VI Plastics)	Polymer grade and membrane types meet the USP test requirements (for Class VI Plastics)
Pre-filtration media	N/A	N/A	100% borosilicate glass



Ordering information[‡]

Uniflo™ syringe filters

Non-sterile, 13 mm				
Membrane [†]	Nylon	PES	PTFE	Quantity
Pore size (µm)				
0.2				500 / pack
0.45				500 / pack

Non-sterile, 25 mm						
Membrane [†]	Nylon	PES	PTFE	PVDF	H-PTFE	Quantity
Pore size (µm)						
0.2						500 / pack
0.45						500 / pack

Non-sterile, 30 mm with GF* prefILTER						
Membrane [†]	Nylon	PES	PTFE	PVDF	H-PTFE	Quantity
Pore size (µm)						
0.2						500 / pack
0.45						500 / pack

* GF = glass fiber

† PES = Polyethersulfone; PTFE = Polytetrafluoroethylene; PVDF = Polyvinylidene difluoride; H-PTFE = Hydrophilic polytetrafluoroethylene

‡ For a full list of products visit cytiva.com

	Sterile, 13 mm	Sterile, 25 mm			
Membrane [†]	PES	PES	PVDF	Quantity	
Pore size (µm)					
0.2				100 / pack	
0.45				100 / pack	
0.2				45 / pack	
0.45				45 / pack	

† PES = Polyethersulfone; PVDF = Polyvinylidene difluoride

‡ For a full list of products visit cytiva.com



Sterile Uniflo™ syringe filters

Certified quality for method development: SPARTAN™ filters

Whatman™ brand SPARTAN™ syringe filters are HPLC-certified for confidence and consistent results. Tested and certified for the absence of UV-absorbing substances (210 and 254 nm) with water, methanol, acetonitrile to ensure absence of interfering substances.

- Hydrophilic, low protein-binding membrane made of regenerated cellulose
- Excellent chemical resistance against the standard aqueous and organic HPLC solvents
- Tested and certified for the absence of UV-absorbing substances at wavelengths of 210 and 254 nm with water, methanol, and acetonitrile
- 13 mm diameter with Mini-Tip options
- 13 mm diameter with extremely low dead volume < 10 µL



SPARTAN™ syringe filters

Ordering information

SPARTAN™ syringe filters

Product code	Diameter (mm)	Pore size (µm)	Membrane / housing*	Connection in / out*	Color code	Quantity / pack
	13	0.2	RC/PP	FLL/Mini-Tip	dark brown	100
	13	0.2	RC/PP	FLL/Mini-Tip	dark brown	500
	13	0.2	RC/PP	FLL/ML	dark brown	100
	13	0.2	RC/PP	FLL/ML	dark brown	500
	13	0.45	RC/PP	FLL/Mini-Tip	light brown	100
	13	0.45	RC/PP	FLL/Mini-Tip	light brown	500
	13	0.45	RC/PP	FLL/ML	light brown	100
	13	0.45	RC/PP	FLL/ML	light brown	500
	30	0.2	RC/PP	FLL/ML	dark brown	100
	30	0.2	RC/PP	FLL/ML	dark brown	500
	30	0.45	RC/PP	FLL/ML	light brown	50
	30	0.45	RC/PP	FLL/ML	light brown	100
	30	0.45	RC/PP	FLL/ML	light brown	500

* PP = Polypropylene; FLL = Female Luer lock; ML = Male Luer; RC = Regenerated cellulose

High-particulate, challenging sample filtration: Whatman GD/X™ filters

Filter even the most difficult samples and use less hand pressure with Whatman GD/X™ syringe filters.

- Exceptional loading capacity and fast flow rates – prevents back pressure and clogging of membrane
- Graduated microfiber prefilter from 1 µm to 0.7 µm
- Higher flow rates (3x) compared to unprotected membranes
- Uses glass microfiber-based prefilters

For metals testing and other applications where glass-based compounds could interfere with analysis, we offer a related syringe filter (GD/XP), which uses polypropylene prefilters.



Whatman GD/X™ Nylon w/GMF syringe filters

Typical data

Whatman GD/X™ syringe filters

Membrane	Whatman GD/X™ 13 mm	Whatman GD/X™ 25 mm
Housing	Polypropylene (pigment-free)	Polypropylene (pigment-free)
Filtration area	1.3 cm ²	4.6 cm ²
Maximum pressure	100 psi (6.9 bar)	75 psi (5.2 bar)
Volume "hold-up" full housing with air purge	0.5 mL 50 µL (approx)	1.4 mL 250 µL (approx)
Dimensions	21.6 × 29.8 mm	20.8 × 29.8 mm
Weight	3 g (approx)	3 g (approx)
Flow direction	Flow should enter from the inlet	Flow should enter from the inlet
Inlet connection	Female Luer lock	Female Luer lock
Outlet connection	Male Luer	Male Luer
Sterilization*	Autoclave at 121°C at 15 psi for 20 min	Autoclave at 121°C at 15 psi for 20 min
Glass microfiber prefiltration media	100% borosilicate glass microfiber	100% borosilicate glass microfiber

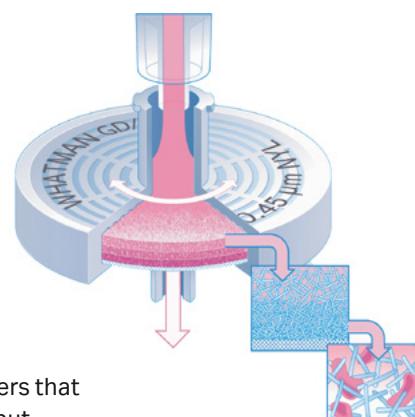
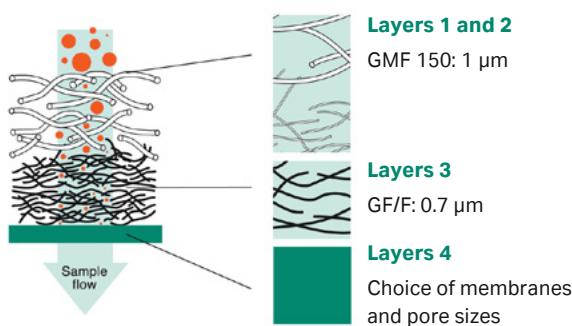
* Applies to non-sterile filters only. Do not autoclave sterile Whatman GD/X™ syringe filters.

Typical data

Whatman™ GD/XP syringe filters

Membrane	Whatman™ GD/XP 25 mm
Housing	Polypropylene (pigment-free)
Filtration area	4.6 cm ²
Maximum pressure	75 psi (5.2 bar)
Volume 'hold-up' full housing	1.4 ml with air purge 250 µL (approx)
Dimensions	20.8 × 30.0 mm
Weight	3 g (approx)
Flow direction	Flow should enter from the inlet
Inlet connection	Female Luer lock
Outlet connection	Male Luer
Sterilization†	Autoclave at 121°C at 15 psi for 20 min
Prefiltration media	Polypropylene

† Not recommended for nylon.



Whatman GD/X™ syringe filters contain several filtration layers that substantially reduce blockage and increase volume throughput

Ordering information

Whatman GD/X™ syringe filters

Membrane*	Pore size (µm)	Diameter (mm)	Non-sterile		Sterile	
			150 / pack	1500 / pack	50 / pack	500 / pack
Nylon high charge (positive)	0.2	25				
Nylon	0.45	25				
	0.2	13				
	0.2	25				
	0.45	13				
	0.45	25				
PVDF	5	25				
	0.2	13				
	0.2	25				
	0.45	13				
PTFE	0.45	25				
	0.2	13				
	0.2	25				
	0.45	13				
PES	0.45	25				
	0.2	13				
	0.2	25				
	0.45	13				
PP	0.45	25				
	0.2	13				
RC	0.2	25				
	0.45	25				
CA	0.2	13				
	0.2	25				
	0.45	13				
	0.45	25				
GF/A [‡]	1.6 [†]	13				
	1.6 [†]	25				
GF/B [‡]	1 [†]	13				
	1 [†]	25				
GF/C ^{TM‡}	1.2 [†]	13				
	1.2 [†]	25				
GF/D [‡]	2.7 [†]	13				
	2.7 [†]	25				
GF/F [‡]	0.7 [†]	13				
	0.7 [†]	25				
	0.45 [†]	13				
934-AH ^{TM‡}	1.5 [†]	25				
GMF [†]	0.45 [†]	25				

* PP = Polypropylene; CA = Cellulose acetate; PES = Polyethersulfone; GF = Glass fiber; PVDF = Polyvinylidene difluoride; GMF = Glass microfiber; PTFE = Polytetrafluoroethylene, RC = Regenerated cellulose

† Glass microfiber particle retention rating

‡ Contains GMF 150 without the GF/F prefilter



Whatman GD/X™ Nylon w/GMF syringe filter

Whatman™ GD/XP syringe filters

Product code	Membrane*	Pore size (µm)	Diameter (mm)	Hydrophilic	Solvent resistance	Quantity / pack
	Nylon	0.45	25	Yes	Good	150
	Nylon	0.45	25	Yes	Good	1500
	PVDF	0.45	25	Yes	Good	150
	PVDF	0.45	25	Yes	Good	1500
	PTFE	0.45	25	No	Very good	150
	PP	0.45	25	No	Good	150
	DpPP	0.45	25	No	Good	1500
	DpPP	0.45	25	No	Good	150
	PES	0.45	25	Yes	Poor	150
	PES	0.45	25	Yes	Poor	1500

* PP = Polypropylene; PES = Polyethersulfone; PVDF = Polyvinylidene difluoride; PTFE = Polytetrafluoroethylene; DpPP = Polypropylene depth filter



Whatman™ GD/XP syringe filter



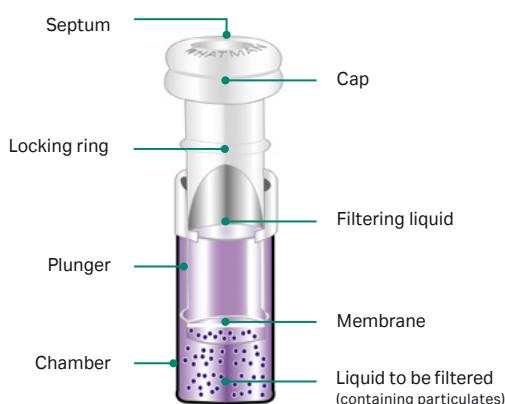
Autosampler and workflow support: Mini-UniPrep™ filters

Mini-UniPrep™ syringeless filters — polypropylene or glass chambers

The Mini-UniPrep™ syringeless filters are compatible with most autosamplers.

- Easy-to-use design supports sample preparation outside of the lab if needed
- Process samples in one-third the time of traditional syringe filtration
- Replaces syringe, syringe filter, vial, and cap in one consumable
- Polypropylene or glass chamber options to prevent interference from chemical leaching
- Amber vials available for light sensitive samples
- Multi-compressors available for ease of use
- 12 × 33 mm vial can be used to filter up to 400 µL

Parts of a Mini-UniPrep™ filter



Typical data

Mini-UniPrep™ and Mini-UniPrep™ G2 filter vials

	Mini-UniPrep™	Mini-UniPrep™ G2
Materials of construction		
Chamber:	Polypropylene	Borosilicate glass
Plunger housing:	Polypropylene	Polypropylene
Plunger inner storage vial:	N/A	Borosilicate glass
Filter medium:	As specified	As specified
Septum:	Silicone with PTFE liner	Silicone with PTFE liner
Cap:	Polypropylene	Polypropylene
Maximum operating temp	50°C (122°F)	50°C (122°F)
Max. unfiltered sample capacity	400 µL	500 µL
Max. filtered sample capacity	350 µL	330 µL
Dead volume	50 µL	170 µL
Recommended minimum filtering volume	100 µL	220 µL placed in the chamber to obtain 50 µL in inner storage vial
Nominal force needed to compress	Approx. 8.2 kg (18 lbs)	Approx. 11.3 kg (25 lbs)
Autosampler needle height adjustment:	3 mm from the bottom of Mini-UniPrep™	5 mm from the bottom of Mini-UniPrep™ G2
Autosampler compatibility	Any autosampler that accommodates standard 12 × 32 mm profile vials	Any autosampler that accommodates standard 12 × 32 mm profile vials

Ordering Information

Mini-UniPrep™ G2 filter vials with inner glass storage vial

Note: Adjust autosampler needle height to a minimum of 5 mm from the bottom of the Mini-UniPrep™ G2.

Membrane	Pore size (µm)	Housing	Cap	Product code 100 / pack	Product code 1000 / pack	Product code Starter pack (100 / pack + Hand compressor)
RC*	0.2	Translucent	Normal			
RC	0.45	Translucent	Normal			
PTFE*	0.2	Translucent	Normal			
PTFE	0.2	Translucent	Slit septum			
PTFE	0.2	Amber	Normal			
PTFE	0.45	Translucent	Normal			
PTFE	0.45	Translucent	Slit septum			
PVDF*	0.2	Translucent	Normal			
PVDF	0.2	Translucent	Slit septum			
PVDF	0.2	Amber	Normal			
PVDF	0.45	Translucent	Normal			
PVDF	0.45	Translucent	Slit septum			
Nylon	0.2	Translucent	Normal			
Nylon	0.2	Translucent	Slit septum			
Polypropylene	0.2	Translucent	Normal			
Polypropylene	0.2	Translucent	Slit septum			
Glass fiber	0.45	Translucent	Normal			
Glass fiber	0.45	Translucent	Slit septum			

* PTFE = polytetrafluoroethylene; PVDF = polyvinylidene difluoride; RC = regenerated cellulose



Mini-UniPrep™ G2 filter vials

Hand compressor

Mini-UniPrep™ G2 hand compressor 1 / pack	
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Multi-compressor

Mini-UniPrep™ G2 multi-compressor 1 / pack, comes with one tray	
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Mini-UniPrep™ G2 multi-compressor tray 1 / pack	
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Hand compressor

Mini-UniPrep™ filter vial with polypropylene housing

Note: Adjust autosampler needle height to a minimum of 3 mm from the bottom of the Mini-UniPrep™.

Membrane	Pore size (µm)	Housing	Cap	Product code 100 / pack	Product code 1000 / pack
PTFE*	0.2	Translucent	Standard		
PTFE	0.2	Translucent	Slit septum		
PTFE	0.2	Amber	Standard		
PTFE	0.45	Translucent	Standard		
PTFE	0.45	Translucent	Slit septum		
PTFE	0.45	Amber	Standard		
PVDF*	0.2	Translucent	Standard		
PVDF	0.2	Translucent	Slit septum		
PVDF	0.2	Amber	Standard		
PVDF	0.45	Translucent	Standard		
PVDF	0.45	Translucent	Slit septum		
PVDF	0.45	Amber	Standard		
PES*	0.2	Translucent	Standard		
PES	0.2	Translucent	Slit septum		
PES	0.2	Amber	Standard		
PES	0.45	Translucent	Standard		
PES	0.45	Amber	Standard		
PES	0.45	Translucent	Slit septum		
RC*	0.2	Translucent	Standard		
RC	0.45	Translucent	Standard		
Nylon	0.2	Translucent	Standard		
Nylon	0.2	Translucent	Slit septum		
Nylon	0.2	Amber	Standard		
Nylon	0.45	Translucent	Standard		
Nylon	0.45	Translucent	Slit septum		
Nylon	0.45	Amber	Standard		
PP*	0.2	Translucent	Standard		
PP	0.2	Translucent	Slit septum		
PP	0.2	Amber	Standard		
PP	0.45	Translucent	Standard		

* RC = regenerated cellulose; PVDF = Polyvinylidene difluoride; PTFE = Polytetrafluoroethylene; PP = Polypropylene; PES = Polyethersulfone;

Mini-UniPrep™ filter vial with polypropylene housing (cont.)

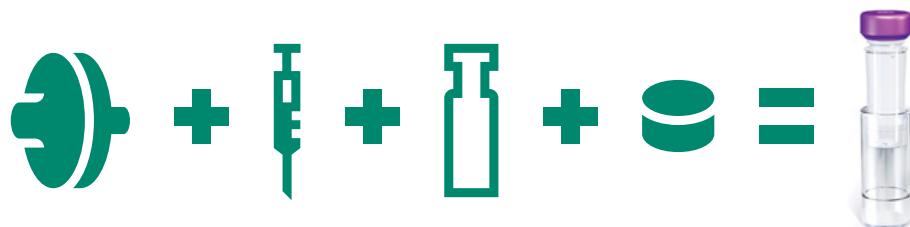
Note: Adjust autosampler needle height to a minimum of 3 mm from the bottom of the Mini-UniPrep™.

Membrane	Pore size (µm)	Housing	Cap	Product code 100 / pack	Product code 1000 / pack
PP	0.45	Translucent	Slit septum		
PP	0.45	Amber	Standard		
DpPP*	0.45	Translucent	Standard		
DpPP	0.45	Translucent	Slit septum		
DpPP	0.45	Amber	Standard		
Glass fiber	0.45	Translucent	Standard		
Glass fiber	0.45	Translucent	Slit septum		
Glass fiber	0.45	Amber	Standard		

* PP = Polypropylene; DpPP = Polypropylene depth filter

Multi-compressor

Description	Product Code
Mini-UniPrep™ multi-compressor 1 / pack comes with one tray	
Mini-UniPrep™ multi-compressor tray 1 / pack	



Mini-UniPrep™ filter vial replaces syringe filter,
syringe, autosampler vial, cap, and septum

Sample preparation prior to other instrumentation

Cytiva's Whatman™ products are among the industry leaders in separations technology, and our analytical sample filtration collection is no exception. Every filter is manufactured to exacting specifications that ensure reliable results and uncompromised performance.

		Anopore™	Cellulose acetate	Cellulose nitrate	Nylon	Polypropylene	Depth polypropylene	PES	PTFE	Hydrophilic PTFE	PVDF	Regenerated cellulose	Glass microfiber
High performance The workhorse of the lab, these syringe filters deliver premium quality with efficiency to meet most analytical needs, from basic to advanced.	Anotop™	●	-	-	-	-	-	-	-	-	-	-	-
	Puradisc™	-	●	●	●	●	●	●	●	●	●	●	●
Difficult filtration For use with high-particulate and viscous samples, these syringe filters contain two or more filter layers to allow efficient filtration without blockage for a cost-effective and efficient solution.	Anotop™ Plus	●	-	-	-	-	-	-	-	-	-	-	-
	Whatman GD/X™	-	●	-	●	●	●	●	●	●	-	●	●
	GD/XP	-	-	-	●	●	●	●	●	-	●	-	-
Automated systems These sturdy syringe filters are compatible with most high throughput and/or dissolution systems.	Roby	-	-	-	●	-	-	-	-	-	-	●	●
	850-DS	-	-	-	●	-	-	●	●	-	●	-	●
Application specific Dedicated uses: HPLC, IC and LC with certification; bioethanol and protein purification production; environmental samples prior to COO/DOC analysis.	Anotop™ IC	●	-	-	-	-	-	-	-	-	-	-	-
	Anotop™ LC	●	-	-	-	-	-	-	-	-	-	-	-
	Puradisc™ Aqua	-	●	-	-	-	-	-	-	-	-	-	-
	MashPrep™	-	-	-	●	-	-	-	-	-	-	-	-
	SPARTAN™ Certified	-	-	-	-	-	-	-	-	-	-	●	-
	Protein Prep	-	-	-	-	-	-	-	-	-	-	●	-
All-in-One Integrated devices include the collection receptacle to save time, reduce waste and reduce sample handling.	Autovia™	-	●	-	●	●	-	●	●	-	●	-	●
	UniPrep™	-	-	-	●	-	-	-	●	-	●	-	●
	Mini-UniPrep™	-	-	-	●	●	●	●	●	-	●	●	●
	Mini-UniPrep™ G2	-	-	-	●	●	-	-	●	-	●	●	●
Advantage Reliable quality, economical portfolio for basic applications.	Uniflo™	-	-	-	●	-	-	●	●	●	●	-	●
Mobile phase In-line filter devices for degassing solutions used as the carrier phase in analytical equipment	Aqueous IFD	-	-	-	●	-	-	-	-	-	-	-	-
	Solvent IFD	-	-	-	-	●	-	-	-	-	-	-	-

Ordering information

Anotop™ syringe filters

Product code	IC* certified	Pore size (µm)	Diameter (mm)	Glass prefilter	Sterile blister packed	Quantity / pack
	No	0.02	10	No	No	50
	No	0.1	10	No	No	50
	No	0.2	10	No	No	50
	No	0.02	10	No	Yes	50
	No	0.1	10	No	Yes	50
	No	0.2	10	No	Yes	50
	No	0.02	10	Yes	No	50
	No	0.1	10	Yes	No	50
	No	0.2	10	Yes	No	50
	No	0.02	10	Yes	Yes	50
	No	0.1	10	Yes	Yes	50
	No	0.2	10	Yes	Yes	50
	No	0.02	25	No	No	50
	No	0.1	25	No	No	50
	No	0.2	25	No	No	50
	No	0.02	25	No	Yes	50
	No	0.1	25	No	Yes	50
	No	0.2	25	No	Yes	50
	No	0.02	25	Yes	No	50
	No	0.1	25	Yes	No	50
	No	0.2	25	Yes	No	50
	No	0.02	25	Yes	Yes	50
	No	0.1	25	Yes	Yes	50
	No	0.2	25	Yes	Yes	50
	Yes	0.2	10	No	No	100
	Yes	0.2	10	No	Yes	50
	Yes	0.2	25	No	No	200

* IC = ion chromatography



Anotop™ Plus 25 mm syringe filter

Anotop™ syringe filters

Pore size (μm)	Media	Catalog number	Quantity / pack
Anotop™ 10 Plus			
0.02	Anopore™ with prefILTER		50
0.1	Anopore™ with prefILTER		50
0.2	Anopore™ with prefILTER		50
0.02	Anopore™ with prefILTER, sterile		50
0.1	Anopore™ with prefILTER, sterile		50
0.2	Anopore™ with prefILTER, sterile		50
Anotop™ 25 Plus			
0.02	Anopore™ with prefILTER		50
0.1	Anopore™ with prefILTER		50
0.2	Anopore™ with prefILTER		50
0.02	Anopore™ with prefILTER, sterile		50
0.1	Anopore™ with prefILTER, sterile		50
0.2	Anopore™ with prefILTER, sterile		50
0.2	Anopore™ with prefILTER		200

Anotop™ IC* and Anotop™ LC* syringe filters

Pore size (μm)	Membrane	Catalog number	Quantity / pack
Anotop™ 10 IC			
0.2	Anopore™		100
0.2	Anopore™		200
Anotop™ 25 IC			
0.2	Anopore™		200
Anotop™ 10 IC blister			
0.2	Anopore™		50
0.2	Anopore™		250
Anotop™ 10 LC			
0.2	Anopore™		100
0.2	Anopore™		200
Anotop™ 25 LC			
0.2	Anopore™		100
0.2	Anopore™		200
0.2	Anopore™ with prefILTER		200

* IC = ion chromatography; LC = liquid chromatography

Autovial™ syringeless filters replace syringe-coupled filtration devices with a single, convenient disposable unit. Consisting of a plunger and a graduated filter barrel with a choice of filtration media, Autovial™ speeds sample preparation — so you can get more work done in less time. Simply pour the sample directly into the filter barrel, insert the plunger, and compress the unit. The filter barrel has a support stand to protect the slip Luer outlet. Autovial™ syringeless filters are designed for filtration both into an autosampler and through direct instrument injection, by connecting a needle to the slip Luer outlet.

Autovial™ syringeless filters

Product code	Prefilter	Pore size (µm)	Media [†]	Sterile blister packed	Quantity / pack
	None	0.45	NYL	No	50
	None	0.45	PVDF	No	50
	None	0.2	PTFE	No	50
	None	0.45	PTFE	No	50
	None	0.45	GMF	No	50
	Glass	0.45	CA	No	50
	Glass	0.2	NYL	No	50
	Glass	0.45	NYL	No	50
	None	0.45	PES	No	50
	Glass	0.2	PVDF	No	50
	Glass	0.45	PVDF	No	50
	None	0.45	PVDF	No	50
	PP	0.2	PP	No	50
	PP	0.45	PP	No	50
	Glass	0.2	PTFE	No	50
	Glass	0.45	PTFE	No	50
	Glass	0.45*	GMF	No	50
	Glass	0.45	NYL	No	1000
	Glass	0.45	PVDF	No	1000
	Glass	0.45	PTFE	No	1000

* Particle retention rating

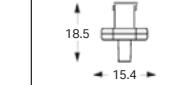
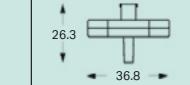
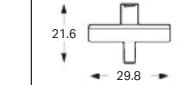
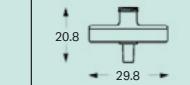
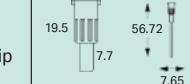
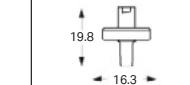
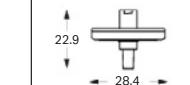
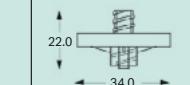
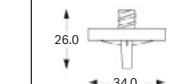
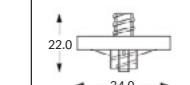
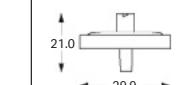
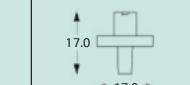
** No prefilters

† NYL = Nylon; PVDF = Polyvinylidene difluoride; PTFE = Polytetrafluoroethylene; GMF = Glass microfiber; CA = Cellulose acetate; PES = Polyethersulfone; PP = Polypropylene;



Autovial™ syringeless filters

Technical data of syringe filters

Name	Dia. (mm)	Housing material*	Max. operating pressure (psi/bar)	Effective filter area (cm ²)	Hold-up volume after air purging (µl)	Inlet*	Outlet*	Dimensions (mm)
Anotop™ 10 Anotop™ 10 Plus Anotop™ 10 IC and LC	10	PP	100 / 6.9	0.78	Anotop™ 10 & 1C: < 20 Anotop™ 10 Plus: < 30	FLL	ML	
Anotop™ 25 Anotop™ 25 Plus Anotop™ 25 IC and LC	25	PP	100 / 6.9	4.78	Anotop™ 25 & 1C: < 150 Anotop™ 25 Plus: < 200	FLL	ML	
Whatman GD/X™ 13	13	PP	75 / 5.2	1.3	50 (approx)	FLL	ML	
Whatman GD/X™ 25 Whatman™ GD/XP 25	25	PP	75 / 5.2	4.6	250 (approx)	FLL	ML	
Puradisc™ 4 with and without tip (all membranes apart from PVDF)	4	PP	75 / 5.2	0.2	< 10	FLL	ML	
Puradisc™ 4 with and without tip (PVDF only)	4	PP	75 / 5.2	0.2	< 10	FLL	ML Tube Tip	
Puradisc™ 13	13	PP	75 / 5.2	1.3	< 25	FLL	ML	
Puradisc™ 13 with Tube Tip	13	PP	75 / 5.2	1.3	< 25	FLL	Tube Tip	
Puradisc™ 25	25	PP	75 / 5.2	4.2	< 100	FLL	ML	
Puradisc™ 30 MLL	30	PC	100 / 6.9	5.7	≤ 50	FLL	MLL	
Puradisc™ 30 Puradisc™ Aqua 30	30	PC	100 / 6.9	5.7	≤ 50	FLL	ML	
Puradisc™ 13 MT SPARTAN™ 13 MT	13	PP	100 / 6.9	0.75	≤ 10	FLL	Mini-Tip	
Puradisc™ 30 GF92	30	PP	100 / 6.9	5.7	≤ 50	FLL	MLL	
Puradisc™ 30 SPARTAN™ 30	30	PP	100 / 6.9	5.7	≤ 50	FLL	ML	
Roby 25	25	PP	100 / 6.9	4.2	≤ 50	FLL	ML	
SPARTAN™ 13	13	PP	100 / 6.9	0.75	≤ 10	FLL	ML	

* FLL = Female Luer lock; ML = Male Luer; MLL = Male Luer lock; PP = Polypropylene

General laboratory accessories

In addition to the filtration consumable range, we provide a comprehensive range of accessories for routine work in your laboratory.



1PS phase separator



**Grade 105 lens
cleaning tissue**



**Benchkote™
protection paper**



pH paper



**VACU-GUARD Pump
protection filter**

Description	Product name	Dimension	Quantity	Product code
Phase separation paper <ul style="list-style-type: none">Separatory funnel replacement: Automatic cut-offEase of use: No special training required	1PS Phase separator paper	Diam. 125 mm	100/pack	
		Diam. 150 mm	100/pack	
Optical lens cleaning tissue <ul style="list-style-type: none">Soft tissue for removing surface moisture and grease from lenses and other optical surfaces	Grade 105	100 × 150 mm	25 wallets of 25 sheets	
		200 × 300 mm	100/pack	
Benchkote™ bench protection papers <ul style="list-style-type: none">High-quality, smooth, absorbent Whatman™ paperQuickly absorbs liquid spills and protects the working surfaceBenchkote™ Plus is thicker and more absorbent	Benchkote™ Benchkote™ Plus	460 × 570 mm	50/pack	
		460 mm × 50 m	1/pack	
		500 × 600 mm	50/pack	
		600 mm × 50 m	1/pack	
pH indicator paper <ul style="list-style-type: none">Range of pH indicator and test papers for rapid results	Color Bonded, 0.0 to 14.0 range Standard Full Range, Reel, 1.0 to 14.0 range Standard Narrow Range, Reel, 4.0 to 7.0 range	6 × 80 mm	100 strips, 1/pack	
		7 mm × 5 m	1/pack	
		7 mm × 5 m	1/pack	
Pump protection filters <ul style="list-style-type: none">Protects vacuum pump systems from aqueous aerosols. Hydrophobic PTFE membranes retain 99.99% of airborne particles > 0.1 µm	VACU-GUARD	50 mm	10/pack	
Weighing papers <ul style="list-style-type: none">Reliably allow samples to be transferred to scales without adding unwanted substances that could impact analytical results	Grade 2122 weighing paper	100 × 100 m*	500/pack	

* For a full list of products visit cytiva.com

Ordering information

Fermentation vessel venting

Description	Membrane type	Filtration area	Product code
Polydisc TF	PTFE	16 cm ²	
HEPA-VENT	Hydrophobic glass microfiber	16 cm ²	
PolyVENT	PTFE	500 cm ²	
		1000 cm ²	
HEPA-CAP	Hydrophobic glass microfiber	625 cm ²	
		1300 cm ²	
		2590 cm ²	



Polydisc in-line filter

Filtration hardware and accessories

Description	Product name	Dimension	Quantity	Product code
Filtration flask assembly for batch filtration • Consists of a 250 ml glass filtration funnel and 1000 ml flask, funnel base, top, and clamp • Suited for use with Whatman™ filtration membranes	GV050/2 vacuum filtration unit	-	-	
Pressure filtration apparatus • Stainless steel • Infusion vessel 2200 ml	MD142/5/3	142 mm	1	
Pressure filter holder • PTFE • Infusion vessel 1500 ml	MD142/7/3	142 mm	1	
3-piece filter funnel • For quick and easy filtration • Choice of 3 plates	Filter funnel Filter funnel Filter funnel	47 mm 90 mm 70 mm	1 1 1	
Membrane holder • Produced from borosilicate glass • Suitable for aqueous and organic solvent filtration	Vacuum-type glass membrane holder Vacuum-type glass membrane holder	47 mm 90 mm	1 1	

Chemical compatibility of membranes and housings*

Selecting the right filter depends on the solvent that you are using for your application.
This table will help ensure that you get it right the first time.

Solvent	ANP	CA	CN	PC	PE	GMF	NYL	PP	DpPP	PES	H-PTFE	PTFE‡	PVDF	RC
Acetic acid, 5%	R	LR	R	R	-	R	R	R	R	R	R	R	R	R
Acetic acid, glacial	R	NR	NR	-	-	R	LR	R	R	R	R	R	R	NR
Acetone	R	NR	NR	NR	R	R	R	R	R	NR	R	R	NR	R
Acetonitrile	R	NR	NR	-	-	R	R	R	R	NR	R	R	R	R
Ammonia, 6 N	NR		NR	NR	LR	LR	R	R	R	R	R	R	LR	LR
Amyl acetate	LR	NR	NR	NR	R	R	R	R	R	LR	R	R	LR	R
Amyl alcohol	R	LR	LR	-	-	R	R	R	R	NR	R	R	R	R
Benzene [†]	R	R	R	NR	R	R	LR	NR	NR	R	R	R	R	R
Benzyl alcohol [†]	R	LR	LR	LR	R	R	LR	R	R	NR	R	R	R	R
Boric acid	R	R	R	R	R	R	LR	R	R	-	-	R	R	R
Butyl alcohol	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Butyl chloride [†]	-	-	-	-	-	R	NR	NR	NR	-	-	R	R	-
Carbon tetrachloride [†]	R	NR	R	LR	R	R	LR	NR	NR	NR	R	R	R	R
Chloroform [†]	R	NR	R	NR	R	R	NR	LR	LR	NR	R	R	R	R
Chlorobenzene [†]	R	-	LR	NR	-	R	NR	LR	-	NR	-	R	R	R
Citric acid	-	-	-	-	-	R	LR	R	-	R	-	R	R	R
Cresol	-	NR	R	-	-	R	NR	NR	NR	NR	-	R	NR	R
Cyclohexane	R	NR	NR	R	R	R	NR	NR	NR	NR	-	R	R	R
Cyclohexanone	R	NR	NR	-	-	R	NR	R	R	NR	R	R	R	R
Diethylacetamide	-	NR	NR	-	-	R	R	R	R	-	-	R	NR	R
Dimethylformamide	LR	NR	NR	-	-	R	R	R	R	NR	R	R	NR	LR
Dioxane	R	NR	NR	NR	R	R	R	R	R	LR	-	R	LR	R
DMSO	LR	NR	NR	NR	R	R	R	R	R	NR	R	R	LR	LR
Ethanol	R	R	NR	R	R	R	R	R	R	R	-	R	R	R
Ethers	R	LR	LR	R	R	R	R	NR	NR	R	R	R	LR	R
Ethyl acetate	R	NR	NR	NR	R	R	R	R	R	NR	R	R	NR	R
Ethylene glycol	R	LR	LR	R	R	R	R	R	R	R	R	R	R	R
Formaldehyde	LR	LR	R	R	R	R	R	LR	LR	R	R	R	R	LR

* ANP = Anopore™; CA = Cellulose acetate; CN = Cellulose nitrate; DpPP = Polypropylene depth filter; GMF = Glass microfiber; NYL = Nylon; PC = Polycarbonate; PE = Polyester; PES = Polyethersulfone; PP = Polypropylene; H-PTFE = Hydrophilic Polytetrafluoroethylene; PTFE = Polytetrafluoroethylene; PVDF = Polyvinylidene difluoride; RC = Regenerated cellulose R = Resistant; LR = Limited Resistance; NR = Not Recommended.

† Short Term Resistance of Housing.

‡ Membrane may need pre-wetting with isopropanol/methanol if filtering a polar liquid.

The above data is to be used as a guide only. Testing prior to application is recommended.

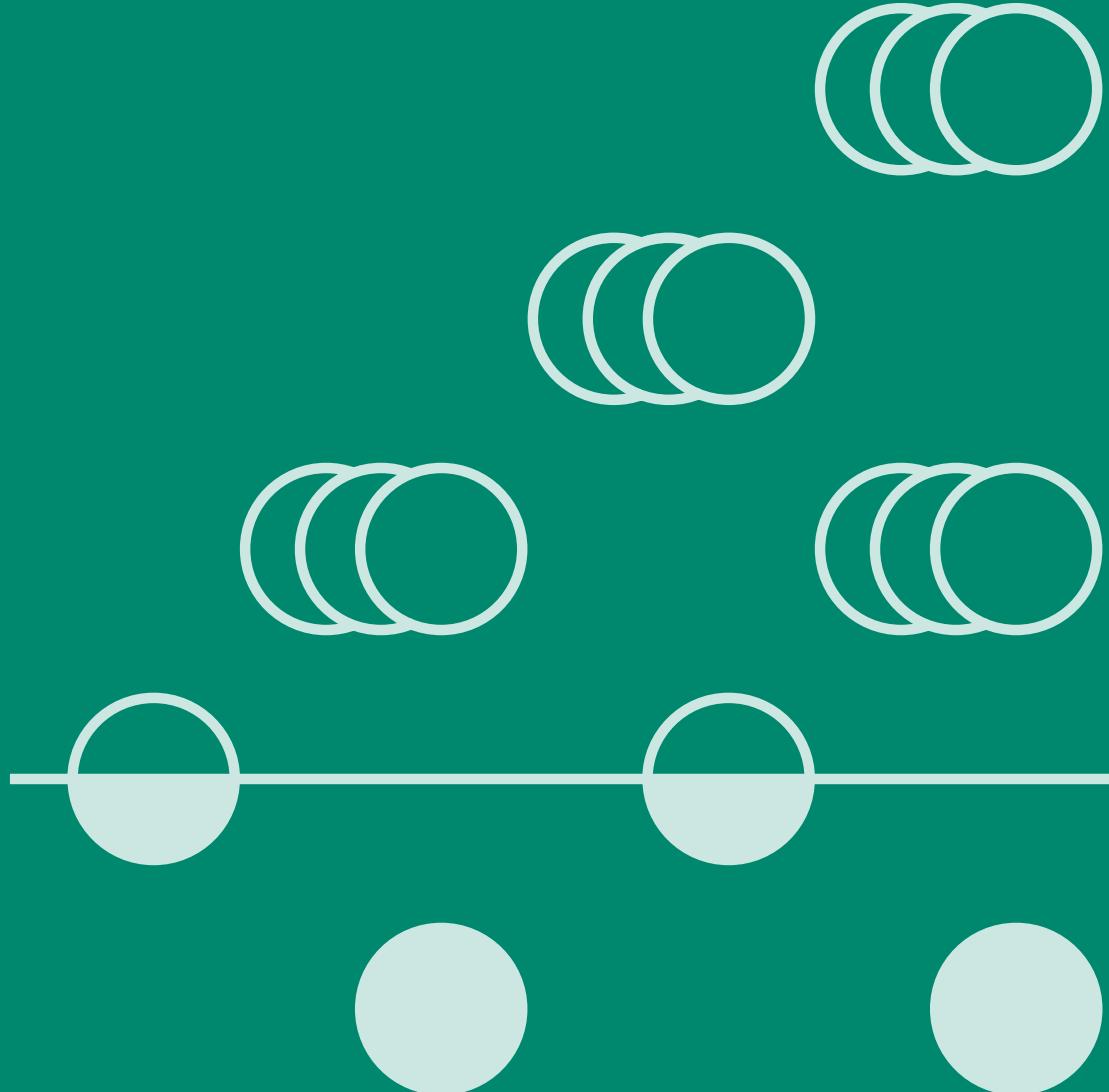
Solvent	ANP	CA	CN	PC	PE	GMF	NYL	PP	DpPP	PES	H-PTFE	PTFE‡	PVDF	RC
Freon TF	R	R	R	R	R	R	NR	NR	NR	R	-	R	R	-
Formic acid	-	LR	LR	-	-	R	NR	R	R	R	-	R	R	LR
Hexane	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Hydrochloric acid, conc.	NR	NR	NR	NR	NR	R	NR	LR	LR	R	R	R	R	NR
Hydrofluoric acid	-	NR	NR	-	-	NR	NR	LR	LR	-	-	R	R	NR
Isobutyl alcohol	R	LR	LR	R	R	R	R	R	R	-	R	R	R	R
Isopropyl alcohol	R	R	LR	-	-	R	R	R	R	-	R	R	R	R
Methanol	R	R	NR	R	R	R	R	R	R	R	R	R	R	R
Methyl ethyl ketone	R	LR	NR	NR	R	R	R	R	R	NR	R	R	NR	R
Methylene chloride†	R	NR	LR	-	-	R	NR	LR	LR	NR	R	R	R	R
Nitric acid, conc.	-	NR	NR	LR	NR	R	NR	NR	NR	NR	R	R	R	NR
Nitric acid, 6 N	-	LR	LR	-	-	R	NR	LR	LR	LR	R	R	R	LR
Nitrobenzene†	LR	NR	NR	NR	R	R	LR	R	R	NR	-	R	R	R
Pentane	R	R	R	R	R	R	R	NR	NR	R	-	R	R	R
Perchloroethylene	R	R	R	-	-	R	LR	NR	NR	NR	R	R	R	R
Phenol 0.5%	LR	LR	R	-	-	R	NR	R	R	NR	-	R	R	R
Pyridine	R	NR	NR	NR	R	R	LR	R	R	NR	R	R	NR	R
Sodium hydroxide, 6N	NR	NR	NR	NR	NR	NR	LR	R	R	R	R	R	NR	NR
Sulfuric acid, conc.	NR	NR	NR	NR	NR	R	NR	NR	NR	NR	R	R	NR	NR
Tetrahydrofuran	R	NR	NR	-	-	R	R	LR	LR	NR	R	R	R	R
Toluene†	R	LR	R	NR	R	R	LR	LR	LR	NR	R	R	R	R
Trichloroethane†	R	NR	LR	NR	R	R	LR	LR	LR	NR	R	R	R	R
Trichloroethylene†	R	-	R	-	-	R	NR	LR	LR	NR	R	R	R	R
Water	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Xylene†	R	R	R	-	-	R	LR	LR	LR	LR	R	R	R	R

* ANP = Anopore™; CA = Cellulose acetate; CN = Cellulose nitrate; DpPP = Polypropylene depth filter; GMF = Glass microfiber; NYL = Nylon; PC = Polycarbonate; PE = Polyester; PES = Polyethersulfone; PP = Polypropylene; PTFE = Polytetrafluoroethylene; PVDF = Polyvinylidene difluoride; RC = Regenerated cellulose; R = Resistant; LR = Limited Resistance; NR = Not Recommended.

† Short Term Resistance of Housing

‡ Membrane may need pre-wetting with isopropanol/methanol if filtering a polar liquid

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