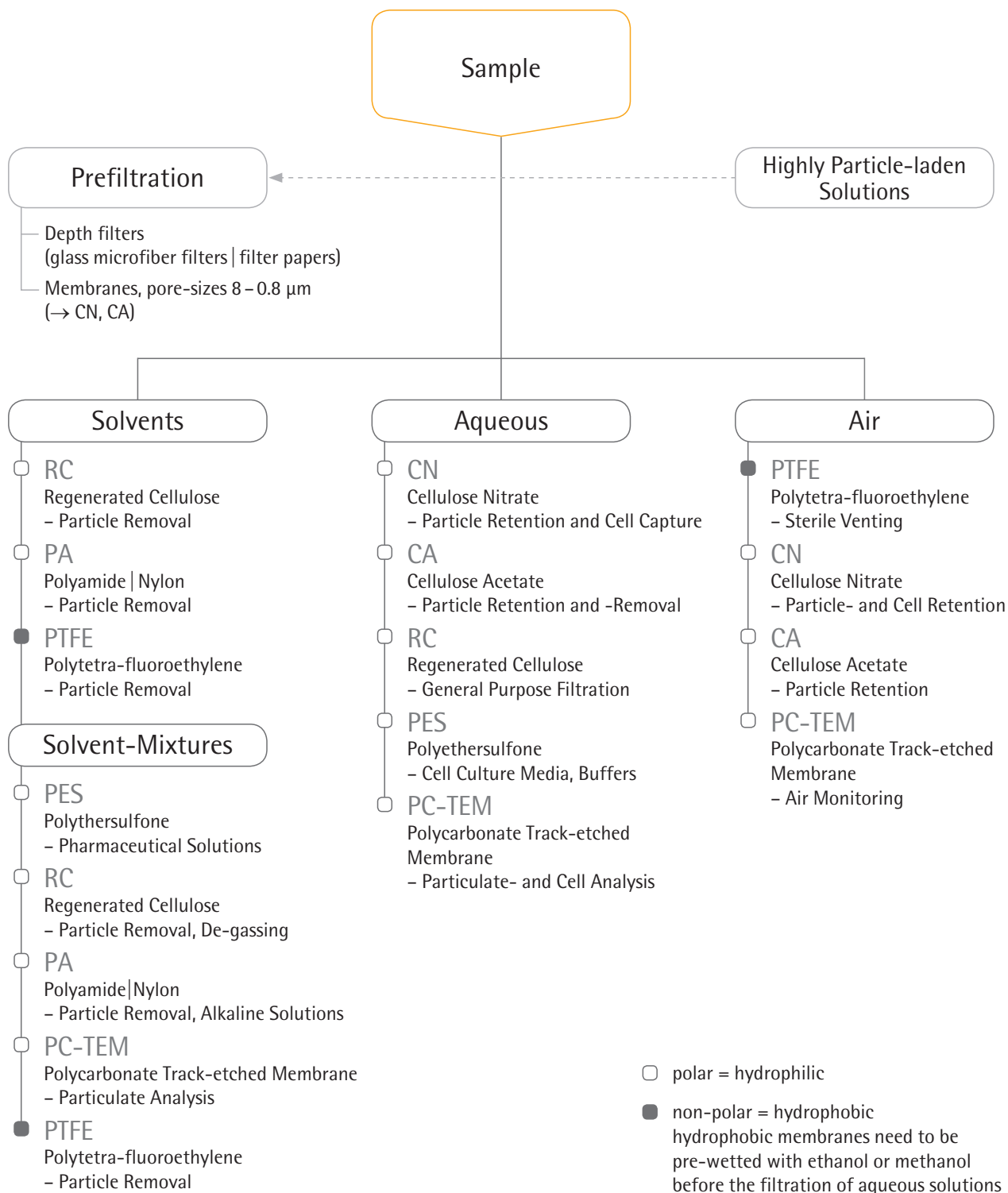
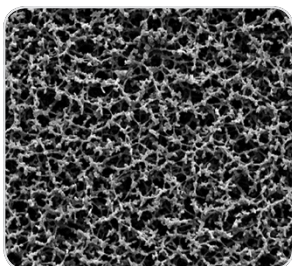


Membrane Filtration – Quick Selection Guide



Cellulose Nitrate (Mixed Cellulose Ester)



Cellulose nitrate membrane filters are indicated for many general laboratory applications where a membrane with a high non-specific adsorption is suitable. They are hydrophilic, have high flow rates thanks to their symmetric structure and are compatible with aqueous solutions

(pH 4 to 8), hydrocarbons and several other organic solvents. The cellulose nitrate membranes are available in different pore sizes from 0.2 μm to 8 μm .

Typical Values

Type	Pore Size (μm)	Thickness (μm)	Bubble Point (bar)	Water Flow Rate (mL/min/cm ² /bar)	Burst Pressure (bar)
11327	0.2	130	4.2	25	≥ 0.35
11306	0.45	130	2.4	70	≥ 0.3
11305	0.65	130	2	130	≥ 0.25
11304	0.8	130	1.4	200	≥ 0.2
11303	1.2	130	1	200	≥ 0.2
11302	3	130	0.5	430	≥ 0.2
11342	5	130	0.5	570	≥ 0.15
11301	8	130	0.3	750	≥ 0.1

Ordering Information

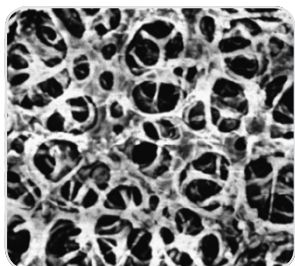
Filter Discs

Dia. in mm	11301 (8 μm)*	11302 (3 μm)*	11303 (1.2 μm)*	11304 (0.8 μm)*
13	11301--13-----N	11302--13-----N	11303--13-----N	11304--13-----N
20				11304--20-----N
25	11301--25-----N	11302--25-----N	11303--25-----N	11304--25-----N
37	11301--37-----N			11304--37-----N
47	11301--47-----N	11302--47-----N	11303--47-----N	11304--47-----N
50	11301--50-----N	11302--50-----N	11303--50-----N	11304--50-----N
70	11301--70-----G			
90		11302--90-----G	11303--90-----G	11304--90-----G
100	11301-100-----N	11302-100-----G	11303-100-----G	11304-100-----G
142	11301-142-----G	11302-142-----G	11303-142-----G	11304-142-----G
293	11301-293-----G	11302-293-----G	11303-293-----G	11304-293-----G
Dia. in mm	11305 (0.65 μm)*	11306 (0.45 μm)*	11327 (0.2 μm)*	11342 (5 μm)*
13	11305--13-----N	11306--13-----N	11327--13-----N	11342--13-----N
20		11306--20-----N		
25	11305--25-----N	11306--25-----N	11327--25-----N	11342--25-----N
37		11306--37-----N		
47	11305--47-----N	11306--47-----N	11327--47-----N	11342--47-----N
50	11305--50-----N	11306--50-----N		11342--50-----N
85		11306--85-----N		
90		11306--90-----N		11342--90-----G
100	11305-100-----N	11306-100-----N		11342-100-----G
110		11306-110-----N		
142	11305-142-----N	11306-142-----N	11327-142-----N	11342-142-----N
293	11305-293-----G	11306-293-----G		11342-293-----G

* G = 25 pieces, N = 100 pieces

Other dimensions and packaging units are available on request

Cellulose Acetate



Cellulose acetate membranes combine high flow rates and thermal stability with very low adsorption characteristics, and are therefore excellently suited for use in pressure filtration devices. They are hydrophilic, have high flow rates thanks to their symmetric structure and are compatible with aqueous solutions

(pH 4–8), oils, alcohols and other organic solvents. The 0.2 μm membrane is the filter of choice for sterile filtration of aqueous solutions, such as nutrient media, buffers and sera. The cellulose acetate membranes are available in different pore sizes from 0.2 to 5 μm .

Typical Values

Type	Pore Size (μm)	Thickness (μm)	Bubble Point (bar)	Water Flow Rate (mL/min/cm ² /bar)	Burst Pressure (bar)
11107	0.2	120	2.9	24	0.8
11106	0.45	120	1.9	69	0.7
11105	0.65	120	1.5	115	0.7
11104	0.8	120	1	200	0.5
12303	1.2	140	0.8	320	0.4
12342	5	140	0.4	570	0.25

Ordering Information

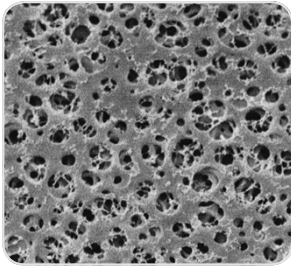
Filter Discs

Dia. in mm	11104 (0.8 μm)*	11105 (0.65 μm)*	11106 (0.45 μm)*	11107 (0.2 μm)*	12303 (1.2 μm)*	12342 (5 μm)*
13	11104--13-----N		11106--13-----N	11107--13-----N		
25	11104--25-----N	11105--25-----N	11106--25-----N	11107--25-----N	12303--25-----N	12342--25-----N
30			11106--30-----N	11107--30-----N		
37			11106--37-----N			
45						
47	11104--47-----N	11105--47-----N	11106--47-----N	11107--47-----N	12303--47-----N	12342--47-----N
50	11104--50-----N	11105--50-----N	11106--50-----N	11107--50-----N	12303--50-----N	
70						
85			11106--85-----N			
90	11104--90-----N	11105--90-----G	11106--90-----G	11107--90-----G		
100			11106-100-----N	11107-100-----N	12303-100-----G	
110			11106-110-----N			
142	11104-142-----N	11105-142-----N	11106-142-----N	11107-142-----N	12303-142-----G	12342-142-----G
293	11104-293-----G	11105-293-----G	11106-293-----G	11107-293-----G	12303-293-----G	12342-293-----G

* G = 25 pieces, N = 100 pieces

Other dimensions and packaging units are available on request

■ Regenerated Cellulose



The very low adsorption membranes are hydrophilic, solvent-resistant (pH 3-12) and therefore suited for the particle removal from solvents. The membrane is reinforced with nonwoven cellulose. They are available in two pore sizes: 0.45 μm and 0.2 μm .

□ Typical Values

Type	Pore Size (μm)	Thickness (μm)	Bubble Point (bar)	Water Flow Rate (mL/min/cm ² /bar)
18407	0.2	170	4.4	15
18406	0.45	170	2.9	30

□ Ordering Information

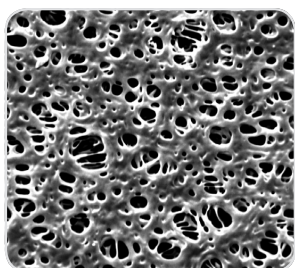
○ Filter Discs

Dia. in mm	18406 (0.45 μm)*	18407 (0.2 μm)*
13	18406--13-----N	18407--13-----N
25	18406--25-----N	18407--25-----N
47	18406--47-----N	18407--47-----N
50	18406--50-----N	18407--50-----N
90	18406--90-----G	
100	18406-100-----G	18407-100-----G
142	18406-142-----G	18407-142-----G
293	18406-293-----G	18407-293-----G

* G = 25 pieces, N = 100 pieces

Other dimensions and packaging units are available on request

■ Polyethersulfone



Polyethersulfone (PES) membrane filters are hydrophilic, have high flow rates, a low non-specific protein adsorption and are chemically resistant over a pH range of 1 – 14. They are therefore recommended

for the filtration of aqueous solutions as well for protein filtration. Furthermore, the low level of extractables makes them suitable for environmental analysis.

□ Typical Values

Type	Pore Size (µm)	Thickness (µm)	Bubble Point (bar)	Water Flow Rate (mL/min/cm ² /bar)	Burst Pressure (bar)
15458	0.1	150	3.8	10	≥ 0.6
15407MI	0.2	150	3.5	25	≥ 0.5
15406	0.45	150	2.6	46	≥ 0.5

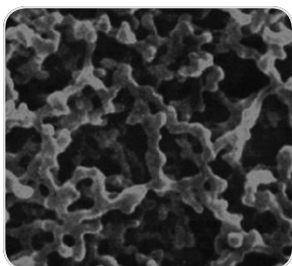
□ Ordering Information

○ Filter Discs

Dia. in mm	15406 (0.45 µm)*	15407MI (0.2 µm)*	15458 (0.1 µm)*
25	15406--25-----N	15407--25----MIN	15458--25-----N
47	15406--47-----N	15407--47----MIN	15458--47-----N
50	15406--50-----N	15407--50----MIN	15458--50-----N
90		15407--90----MIK	
142	15406-142-----G	15407-142----MIG	15458-142-----G
293		15407-293----MIG	15458-293-----G

*G = 25 pieces, K = 50 pieces, N = 100 pieces
Other dimensions are available on request

■ Polyamide



Polyamide membrane filters are hydrophilic and chemically resistant to alkaline solutions and organic solvents. They are therefore recommended for the particle removal from aqueous solutions and

solvents for analytical determination such as HPLC, for the sterile filtration of these liquids as well as for applications where a membrane with a relatively high non-specific adsorption is suitable.

□ Typical Values

Type	Pore Size (μm)	Thickness (μm)	Bubble Point (bar)	Water Flow Rate (mL/min/cm ² /bar)	Burst Pressure (bar)
25007	0.2	115	3.2	15	≥ 0.25
25006	0.45	115	2.3	35	≥ 0.23

□ Ordering Information

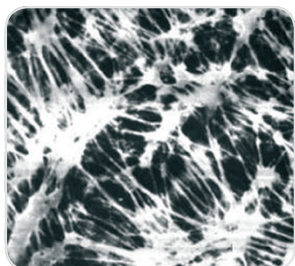
○ Filter Discs

Dia. in mm	25006 (0.45 μm)*	25007 (0.2 μm)*
13	25006--13-----N	25007--13-----N
25	25006--25-----N	25007--25-----N
47	25006--47-----N	25007--47-----N
50	25006--50-----N	25007--50-----N
90	25006--90-----G	25007--90-----G
142	25006-142-----N	25007-142-----N
293	25006-293-----N	25007-293-----N

* G = 25 pieces, N = 100 pieces

Other dimensions and packaging units are available on request

Hydrophobic PTFE



The main application of these membrane filters is the filtration of air, gases or chemicals. They are made of PTFE (polytetra-fluorethylene) only and are therefore permanently hydrophobic. Unlike other (hydrophilic) filter types, they are not wetted by air humidity, allowing unhindered passage of air at low differential pressures as well. PTFE

membrane filters have an excellent chemical compatibility (pH 1 to 14), so that they are also used for the filtration of solvents and acids, to which other filter types are not resistant. Due to their hydrophobic characteristics, they must be pre-wetted with ethanol or methanol before the filtration of aqueous media.

Typical Values

Type	Pore Size (µm)	Thickness (µm)	Bubble Point (bar)	Isopropanol Flow Rate (mL/min/cm ² /bar)
11807	0.2	65	1.4	11
11806	0.45	80	0.9	20
11803	1.2	100	0.45	80
11842	5	100	0.10	250

Ordering Information

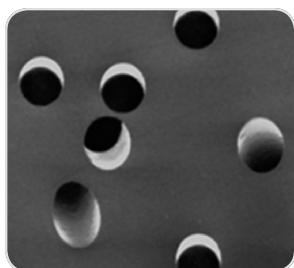
Filter Discs

Dia. in mm	11803 (1.2 µm)*	11806 (0.45 µm)*	11807 (0.2 µm)*	11842 (5 µm)*
13	11803--13-----N	11806--13-----N	11807--13-----N	
25	11803--25-----N	11806--25-----N	11807--25-----N	11842--25-----N
37	11803--37-----N	11806--37-----N		
42				11842--42-----N
47	11803--47-----N	11806--47-----N	11807--47-----N	11842--47-----N
50	11803--50-----N	11806--50-----N	11807--50-----N	11842--50-----N
90	11803--90-----G	11806--90-----G	11807--90-----G	
100	11803-100-----G	11806-100-----G	11807-100-----G	11842-100-----G
142	11803-142-----G	11806-142-----G	11807-142-----G	11842-142-----G
293	11803-293-----G	11806-293-----G	11807-293-----G	11842-293-----G

* G= 25 pieces, N= 100 pieces

Other dimensions and packaging units are available on request

Polycarbonate Track-Etched



Those white and hydrophilic polycarbonate track-etched membranes are manufactured from high grade polycarbonate film using track-etch technology. Their capillary pore structure is uniform and precise, with a narrow pore size distribution to retain particles on their surface. Track-etched membranes are an excellent choice for accurate fractionation of particulates because of their precise pore size.

Track-etch technology offers the user distinct performance advantages when excellent surface capture and high sample visibility are required. Their main applications are particulate analysis, epifluorescence microscopy, fluid clarification, cytology, cell biology, bioassays, water microbiology and environmental analysis.

Typical Values

Type	Pore Size (µm)	Thickness (µm)	Bubble Point (bar)	Water Flow Rate (mL/min/cm ² /0.7 bar)	Burst Pressure (bar)
23058	0.1	25	7.0	≥ 0.5	≥ 0.7
23007	0.2	25	3.5	≥ 10	≥ 0.7
23006	0.4	25	2.0	≥ 30	≥ 0.7
23004	0.8	25	0.6	≥ 40	≥ 0.7

Ordering Information

Filter Discs, 100 Pieces

Dia. in mm	23004 (0.8 µm)	23006 (0.4 µm)	23007 (0.2 µm)	23058 (0.1 µm)
25	23004--25-----N	23006--25-----N	23007--25-----N	23058--25-----N
47		23006--47-----N	23007--47-----N	23058--47-----N
50			23007--50-----N	

Other dimensions are available on request



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