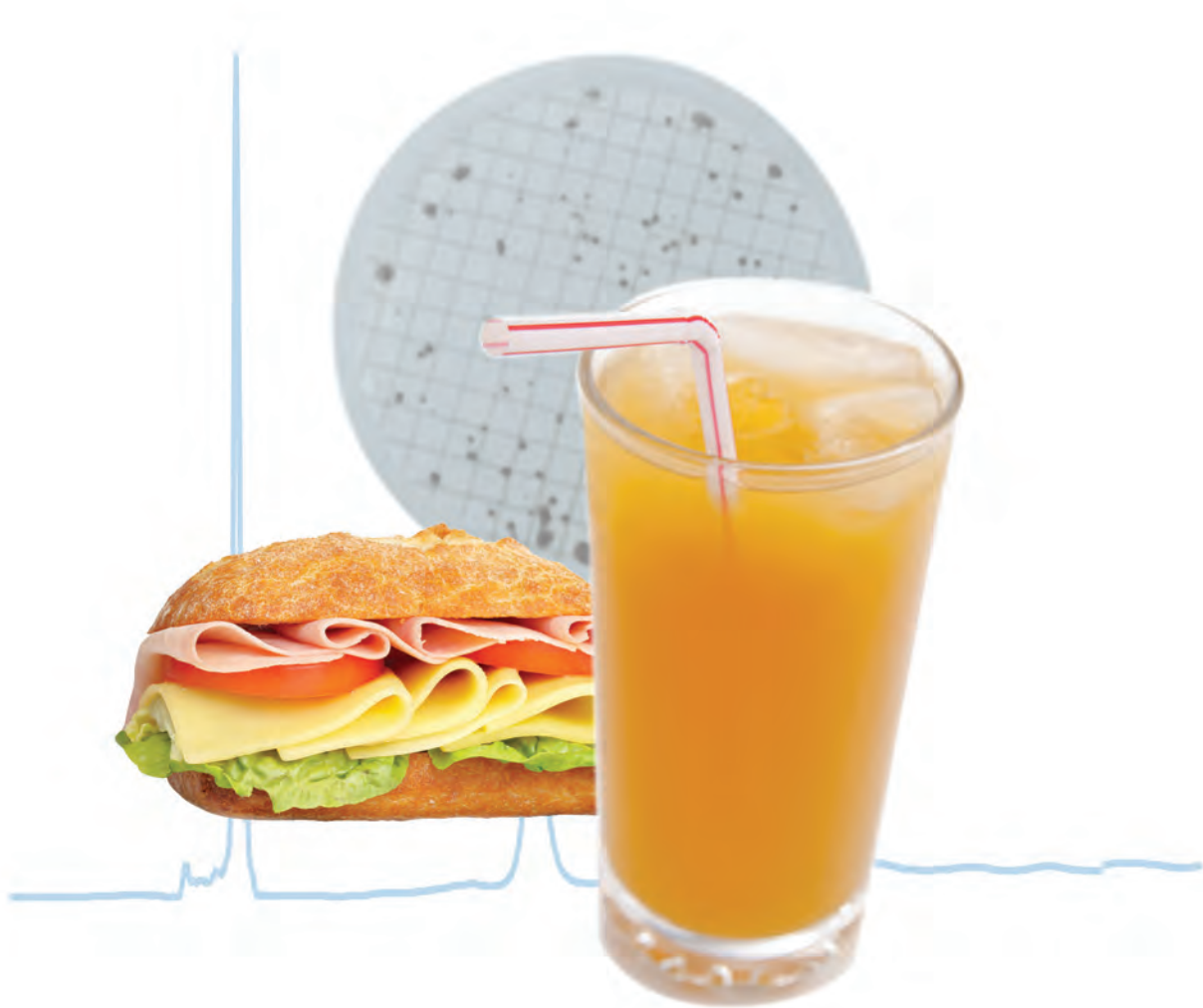


Synchronized solutions for food and beverage testing



Choose Whatman™ products for quality and knowledgeable support from GE Healthcare

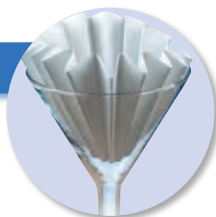


GE Healthcare offers synchronized solutions...

FOOD

Clarification

- Qualitative filter papers: p. 2
- Syringe filters: p. 7



Protein and fat analysis

- Extraction thimbles: p. 5
- Kjeldahl Weighing Boats: p. 5



Microbiology

- Swabs for surface control: p. 13



Sample preparation (HPLC/IC)†

- Syringe filters: p. 7
- Mini-UniPrep filters: p. 9
- Mobile phase filtration: p. 6



Gravimetric analysis

- Quantitative filter papers: p. 3



Moisture testing

- Glass fiber papers: p. 4



Products for
FOOD
applications

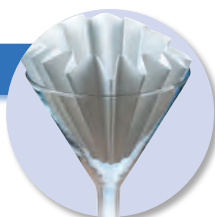


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this brochure

SOFT DRINKS†

Clarification

- Qualitative filter papers: p. 2
- Membrane filters: p. 6



Microbiology

- Analytical Funnels and Monitors: p. 10
- 2 ml culture media: p. 11
- MBS I System: p. 12
- Sterile membranes: p. 13
- Swabs for surface control: p. 13



Sample preparation (HPLC/IC)†

- Syringe filters: p. 7
- Mini-UniPrep filters: p. 9
- Mobile phase filtration: p. 6



Gravimetric analysis

- Quantitative filter papers: p. 3



Products for
SOFT DRINKS
applications



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Applications mentioned on these pages are not exhaustive

† Including bottled water

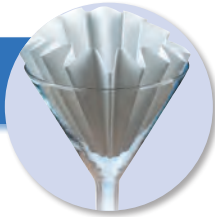
† HPLC = high-performance liquid chromatography; IC = ion chromatography

for your specific application

BEER

Degassing and clarification

- Cellulose filter papers – Grades 0858, 597, 595, 0860: p. 2
- Malt analysis papers – Grades 2555, 597: p. 2



Microbiology

- MBS I System: p. 12
- Sterile membranes: p. 13
- Analytical Funnels and Monitors: p. 10
- 2 ml culture media: p. 11
- Swabs for surface control: p. 13



Sample preparation

- SPARTAN syringe filters: p. 7
- GD/X syringe filters: p. 8
- Mobile phase filtration: p. 6



Culture venting

- BugStopper: p. 13



Products for
BEER
applications

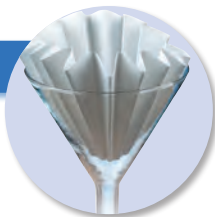


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WINE

Clarification

- Qualitative filter papers: p. 2
- Membrane filters: p. 6



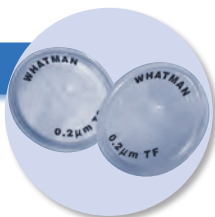
Microbiology

- MBS I System: p. 12
- Sterile membranes: p. 13
- Analytical Funnels and Monitors: p. 10
- 2 ml culture media: p. 11
- Swabs for surface control: p. 13



Sample preparation

- Syringe filters: p. 7



Filterability testing

- Membrane filters: p. 6
- Syringe filters: p. 7



Malic acid measurement

- 1Chr chromatography papers: p. 4

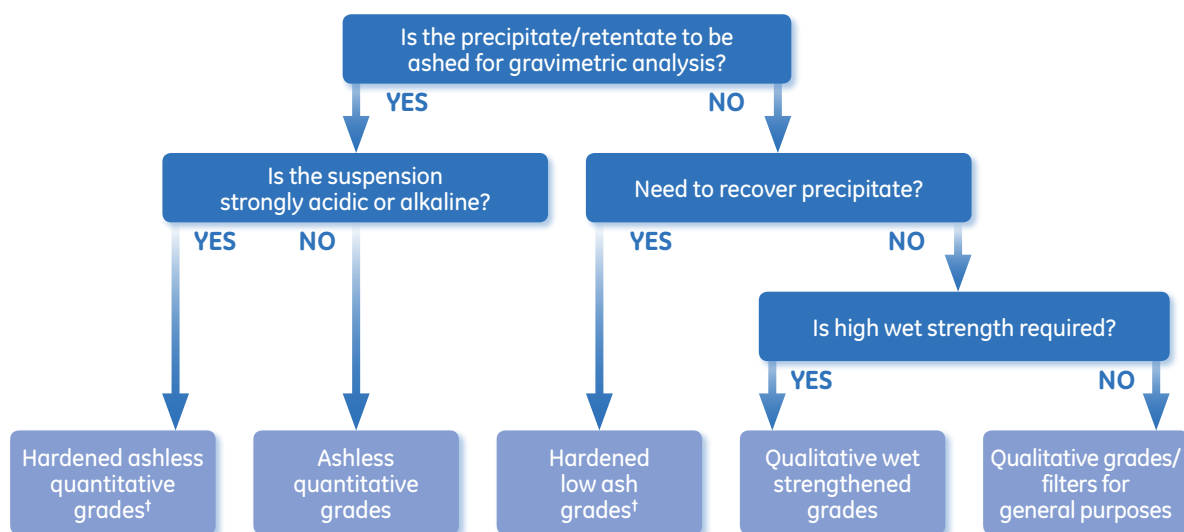
Products for
WINE
applications



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by this logo in
this brochure

Cellulose filter papers

Whatman filter papers from GE Healthcare Life Sciences are widely used in laboratory filtration and are associated with quality and reliability. Use the decision tree to identify the filter paper that meets your needs.



† Please refer to our general catalog for technical and ordering information

Qualitative cellulose filter papers

For clarification

For degassing and clarification



Pre-pleated filter.
Use to increase flow rate or for hard-to-filter samples.



Grade 1 qualitative filter papers.

Technical characteristics of qualitative filter papers and filters for general purposes

| Grade | Nominal particle retention in liquid (µm) | Filtration speed (approx) Herzberg (s) | Typical thickness (µm) | Basis weight (g/m ²) | Grade for pre-pleated version | Flow – aspect |
|---|---|--|------------------------|----------------------------------|-------------------------------|--------------------------|
| Qualitative filters | | | | | | |
| 1 | 11 | 150 | 180 | 88 | | Medium |
| 2 | 8 | 240 | 190 | 103 | 2V | Medium |
| 3 | 6 | 325 | 390 | 187 | | Medium – thick |
| 4 | 20–25 | 37 | 205 | 96 | | Very fast |
| 5 | 2.5 | 1420 | 200 | 98 | | Slow |
| 595 [†] | 4–7 | 80 | 150 | 68 | 595 ½ | Medium to fast – thin |
| 597 [‡] | 4–7 | 70 | 180 | 85 | 597 ½ | Medium to fast |
| Filters for general purposes | | | | | | |
| 0858 [†] | 7–12 | 55 | 170 | 75 | 0858 ½ | Medium to fast – grained |
| 0860 [†] | 7–12 | 60 | 180 | 75 | 0860 ½ | Medium to fast – smooth |
| 2555 [§] | 7–12 | 55 | 170 | 75 | 2555 ½ | Medium to fast |
| Qualitative wet strengthened filters | | | | | | |
| 113 | 30 | 28 | 420 | 125 | 113V | Fast – creped |
| 114 | 25 | 38 | 190 | 77 | 114V | Fast – smooth |

[†] Commonly used for degassing and clarification of beer

[§] Commonly used for malt analysis (beer)

Ordering information†

| Diam./Grade | 1 | 2 | 3 | 4 | 5 | 595 | 597 | 113 | 114 |
|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Qualitative filters – flat, 100 per pack | | | | | | | | | |
| 90 mm | 1001-090 | 1002-090 | 1003-090 | 1004-090 | 1005-090 | | 10311809 | 1113-090 | 1114-090 |
| 110 mm | 1001-110 | 1002-110 | 1003-110 | 1004-110 | 1005-110 | 10311610 | 10311810 | 1113-110 | |
| 125 mm | 1001-125 | 1002-125 | 1003-125 | 1004-125 | 1005-125 | 10311611 | 10311811 | 1113-125 | 1114-125 |
| 150 mm | 1001-150 | 1002-150 | 1003-150 | 1004-150 | 1005-150 | 10311612 | 10311812 | 1113-150 | 1114-150 |
| 185 mm | 1001-185 | 1002-185 | 1003-185 | 1004-185 | 1005-185 | | 10311814 | 1113-185 | 1114-185 |
| 240 mm | 1001-240 | 1002-240 | 1003-240 | 1004-240 | 1005-240 | | 10311820 | 1113-240 | 1114-240 |
| 270 mm | 1001-270 | 1002-270 | 1003-270 | 1004-270 | | | | | 1114-270 |
| 320 mm | 1001-320 | 1002-320 | 1003-320 | 1004-320 | 1005-320 | | 10311822 | 1113-320 | |
| 385 mm | 1001-385 | 1002-385 | | | | | | | |

| Diam./Grade | 2V | 595 ½ | 597 ½ | 2555 ½ | 0858 ½ | 0860 ½ | 113V | 114V |
|--|----------|----------|----------|----------|----------|----------|----------|----------|
| Qualitative filters and filters for general purposes – pre-pleated, 100 per pack | | | | | | | | |
| 110 mm | | 10311643 | 10311843 | | | | | |
| 125 mm | 1202-125 | 10311644 | 10311844 | | | | 1213-125 | 1214-125 |
| 150 mm | 1202-150 | 10311645 | 10311845 | | 10334345 | 10334547 | 1213-150 | 1214-150 |
| 185 mm | 1202-185 | 10311647 | 10311847 | 10313947 | 10334347 | | 1213-185 | 1214-185 |
| 210 mm | | 10311649 | | | | | | |
| 240 mm | 1202-240 | 10311651 | 10311851 | 10313951 | 10334351 | 10334551 | 1213-240 | 1214-240 |
| 270 mm | 1202-270 | 10311652 | 10311852 | | 10334352 | | 1213-270 | 1214-320 |
| 320 mm | 1202-320 | 10311653 | 10311853 | 10313953 | 10334353 | 10334553 | 1213-320 | |
| 385 mm | 1202-385 | 10311654 | 10311854 | | | | | |

†Contact your local representative for more information on the rest of the Whatman filter paper range

Ashless quantitative cellulose filter papers

For gravimetric analysis 

Quantitative filters are dedicated for gravimetric analysis and the preparation of samples for instrumental analysis.



Grade 41 ashless filter papers.

Technical characteristics of ashless quantitative filter papers

| Grade | Nominal particle retention in liquid (µm) | Filtration speed (approx) Herzberg (s) | Typical thickness (µm) | Basis weight (g/m ²) | Grade for pre-pleated version | Flow – aspect |
|--------------------|---|--|------------------------|----------------------------------|-------------------------------|----------------|
| 40 [†] | 8 | 340 | 210 | 95 | | Medium |
| 41 [†] | 20 | 54 | 220 | 85 | | Fast |
| 42 [†] | 2.5 | 1870 | 200 | 100 | | Slow |
| 43 [†] | 16 | 155 | 220 | 95 | | Medium to fast |
| 44 [†] | 3 | 995 | 180 | 80 | | Slow to medium |
| 589/1 [§] | 12–25 | 25 | 190 | 80 | 589/1 ½ | Fast |
| 589/2 [§] | 4–12 | 70 | 190 | 85 | 589/2 ½ | Medium to fast |
| 589/3 [§] | <2 | 750 | 150 | 84 | | Slow |

[†]Typical ash content is 0.007%

[§]Typical ash content is 0.01%

Ordering information†

| Diam./Grade | 40 | 41 | 42 | 43 | 44 | 589/1 | 589/2 | 589/3 |
|---|----------|----------|----------|----------|----------|----------|----------|----------|
| Ashless quantitative filters – flat, 100 per pack | | | | | | | | |
| 90 mm | 1440-090 | 1441-090 | 1442-090 | 1443-090 | 1444-090 | 10300009 | 10300109 | |
| 110 mm | 1440-110 | 1441-110 | 1442-110 | 1443-110 | 1444-110 | 10300010 | 10300110 | 10300210 |
| 125 mm | 1440-125 | 1441-125 | 1442-125 | 1443-125 | 1444-125 | 10300011 | 10300111 | 10300211 |
| 150 mm | 1440-150 | 1441-150 | 1442-150 | 1443-150 | 1444-150 | 10300012 | 10300112 | 10300212 |
| 185 mm | 1440-185 | 1441-185 | 1442-185 | 1443-185 | 1444-185 | 10300014 | 10300114 | 10300214 |
| 240 mm | 1440-240 | 1441-240 | 1442-240 | | 1444-240 | | 10300120 | |
| 320 mm | 1440-320 | 1441-320 | 1442-320 | | | | | |

| Diam./Grade | 589/1 ½ | 589/2 ½ |
|--|----------|----------|
| Ashless quantitative filters – pre-pleated, 100 per pack | | |
| 110 mm | | 10300143 |
| 150 mm | 10300045 | 10300145 |

† Contact your local representative for more information on the rest of the Whatman filter paper range

Chromatography papers

For malic acid measurement

Whatman chromatography papers are extensively used around the world.

Features and benefits:

- Purity and high quality
- Consistency and uniformity within the grades

Among the broad range of chromatography papers, Grade 1Chr is widely used for measurement of malic acid levels in wine production.

Ordering information

| Product | Quantity | Code no. |
|-------------------------|--------------|----------|
| 1Chr sheets, 20 × 20 cm | 100 per pack | 3001-861 |

Glass fiber papers

For moisture testing

Whatman Moisture Test paper is dedicated for use as a sample carrier in moisture analyzers.

Ordering information

| Product | Quantity | Code no. |
|----------------------------------|--------------|-----------|
| Moisture Test glass fiber, 90 mm | 100 per pack | 5401-090E |



Moisture Test paper.

Weighing boats

For Kjeldahl protein analysis (N-determination)

Transfer your samples completely loss-free by simply dropping the entire weighing boat containing the sample into the acid solution in the Kjeldahl digestion tube.

Features and benefits:

- Very low nitrogen ($\leq 0.07\%N$) parchment paper without glue or additives
- Fast
- Minimized interference with analytical results

Ordering information

| Product | Quantity | Code no. |
|---|--------------|----------|
| Weighing boats, Grade 609 (55 × 10 × 10 mm) | 100 per pack | 10313032 |



Kjeldahl Weighing Boat in use.

Extraction thimbles

For fat analysis

Whatman cellulose extraction thimbles are known for their purity and consistent high quality. They can be used for Soxhlet extraction to analyze fats and extract organic compounds.

Features and benefits:

- Made of high-quality cellulose
- Excellent mechanical strength and retention
- Support accuracy and consistency



Extraction thimbles mounted on extractors.

Ordering information –25 per pack

| Dimensions† | Wall thickness | |
|-------------|----------------|----------|
| | 1 mm | 1.5 mm |
| 10 × 50 mm | 2800-105 | |
| 18 × 55 mm | 2800-185 | |
| 19 × 90 mm | 2800-199 | |
| 22 × 65 mm | 2800-226 | |
| 22 × 80 mm | 2800-228 | 10350211 |
| 25 × 60 mm | 10350416 | 10350215 |
| 25 × 70 mm | | 10350216 |
| 25 × 80 mm | 2800-258 | 10350217 |
| 25 × 100 mm | 2800-250 | 10350219 |
| 26 × 60 mm | 2800-266 | 10350220 |
| 27 × 80 mm | | 10350223 |
| 28 × 60 mm | | 10350225 |
| 28 × 80 mm | 2800-288 | 10350226 |

| Dimensions† | Wall thickness | |
|-------------|----------------|----------|
| | 1 mm | 1.5 mm |
| 28 × 100 mm | 2800-280 | 10350227 |
| 28 × 120 mm | 2800-282 | |
| 30 × 80 mm | 2800-308 | 10350234 |
| 30 × 90 mm | | 10350235 |
| 30 × 100 mm | 2800-300 | 10350236 |
| 31 × 80 mm | 10350437 | 10350303 |
| 33 × 60 mm | | 10350238 |
| 33 × 80 mm | 2800-338 | 10350240 |
| 33 × 100 mm | 2800-330 | 10350243 |
| 33 × 118 mm | 2800-331 | 10350245 |
| 33 × 130 mm | | 10350247 |
| 33 × 205 mm | | 10350250 |
| 33 × 90 mm | | 10350241 |

| Dimensions† | Wall thickness | | |
|-------------|----------------|----------|-----------|
| | 1 mm | 1.5 mm | 2 mm |
| 33 × 94 mm | 2800-339 | 10350242 | 2810-339 |
| 34 × 130 mm | | 10350252 | |
| 35 × 120 mm | | 10350254 | |
| 35 × 150 mm | | 10350255 | |
| 37 × 130 mm | 2800-373 | | |
| 40 × 85 mm | | | 10350261 |
| 41 × 123 mm | 2800-412 | | 10350265 |
| 43 × 123 mm | 2800-432 | | 2810-432 |
| 44 × 230 mm | | | 10350275 |
| 48 × 145 mm | | | 10350273 |
| 48 × 200 mm | | | 10350274 |
| 60 × 180 mm | 2800-608 | | |
| 75 × 250 mm | | | 10350287† |

† Internal diameter and external length

‡ Wall thickness: 2.5 mm

Filtration membranes and units

For clarification and mobile phase filtration



Whatman membranes from GE Healthcare offer:

- Broad range of materials, pore sizes, and diameters
- Sterile version available, see page 13

Regenerated cellulose membranes (RC) are compatible with aqueous solvents and the majority of organic solvents.

All products that include RC membranes are identified with this logo in this brochure.



RC55 regenerated cellulose membranes.

Ordering information

| Membrane type | Cellulose acetate | Cellulose mixed ester | Cellulose nitrate | Nylon (Polyamide) | Regenerated cellulose | PTFE |
|-------------------------|-------------------|-----------------------|-----------------------|---|-------------------------------|-------------------|
| Compatibility | Aqueous solutions | Aqueous solutions | Aqueous solutions | Aqueous and organic solutions (3<pH<10) | Aqueous and organic solutions | Organic solutions |
| Description | 100 per pack | 100 per pack | 100 per pack | 100 per pack | 100 per pack | 50 per pack |
| 0.2 µm, 25 mm diameter | 10404106 | 10401706 | 10401306 | 10414006 | | 10411405 |
| 0.45 µm, 25 mm diameter | 10 404006 | 10401606 | 7184-002 | 10414106 | 10410206 | 10411305 |
| 0.6 µm, 25 mm diameter | | 10401506 | 7186-002 [†] | | | |
| 0.2 µm, 47 mm diameter | 10404112 | 10401712 | 10401312 | 10414012 | 10410312 | 10411411 |
| 0.45 µm, 47 mm diameter | 10404012 | 10401612 | 10401112 | 10414112 | 10410212 | 10411311 |
| 0.2 µm, 50 mm diameter | 10404114 | 10401714 | 10401314 | 10414014 | 10410314 | 10411413 |
| 0.45 µm, 50 mm diameter | 10404014 | 10401614 | 10401114 | 10414114 | 10410214 | 10411313 |

[†]0.65 µm; other membrane materials, pore sizes, and diameters are available – please contact your local representative for more information

Whatman GV050/2 vacuum filtration unit

Whatman GV050/2 vacuum filtration unit consists of a 250 ml glass filtration funnel and 1000 ml flask, funnel base, top, and clamp.

It is a good complement for use with Whatman filtration membranes.

For information on other funnels, diameters, and volumes, please contact your local representative.

Ordering information

| Product | Quantity | Code no. |
|------------------------------|------------|----------|
| GV050/2 vacuum filter holder | 1 per pack | 10442200 |






GV050/2 vacuum filtration unit.

Syringe and syringeless filters

For sample preparation before HPLC, U-HPLC, ion chromatography 

GE Healthcare offers a complete range of Whatman syringe and syringeless filters. Use the selection guide to identify the optimal product for your sample preparation needs. Whatman GD/X™ and Mini-UniPrep™ filters are particularly well-suited to the requirements of food and beverage testing. GE Healthcare also offers a complete range of single-membrane syringe filters: Puradisc and SPARTAN™.

Syringe and syringeless filters for sample preparation – selection guide

| Type | Syringe filters without prefilter | | Syringe filters with integrated prefilter | Syringeless filters |
|-----------------------------------|---|--|--|---|
| |  | |  |  |
| Product | Puradisc | SPARTAN | Whatman GD/X | Mini-UniPrep |
| Main feature | Complete range | Regenerated cellulose membrane HPLC-Certified | For hard-to-filter samples | For high-throughput sample preparation |
| Pre-filter | N/A | N/A | Multilayer glass fiber prefilter GMF 150: 10–1 µm GF/F: 0.7 µm | N/A |
| Dimensions | 4, 13, 25, or 30 mm | 13 or 30 mm | 13 or 25 mm | 12 × 32 mm |
| Main available pore sizes | 0.1, 0.2, 0.45, 0.8, 1.0, 1.2, 5 µm | 0.2 and 0.45 µm | 0.2, 0.45, 0.7, 1.0, 1.2, 1.5, 2.7, 5.0 µm | 0.2 and 0.45 µm |
| Main membrane materials available | Cellulose acetate, nylon, CN, PES, PVDF, PP, PTFE | Regenerated cellulose | Cellulose acetate, nylon, PES, PVDF, PP, PTFE, RC | Nylon, PES, PVDF, RC, PP, PTFE |

PES = polyethersulfone; PVDF = polyvinylidene fluoride; PP = polypropylene; PTFE = polytetrafluoroethylene; CN = cellulose nitrate; RC = regenerated cellulose

Puradisc Syringe Filter

Features and benefits:

- Broad choice of membranes and diameters
- Dedicated for routine applications

Ordering information†

| Product | Code no. | Code no. |
|-------------------|--------------|---------------|
| Puradisc 25 mm | | |
| Pore size: 0.2 µm | 200 per pack | 1000 per pack |
| Nylon | 6751-2502 | 6753-2502 |
| PES | 6781-2502 | 6794-2502 |
| PVDF | 6747-2502 | |
| PTFE | 6785-2502 | 6798-2502 |
| PP | 6788-2502 | 6790-2502 |

| Product | Code no. | Code no. |
|--------------------|--------------|---------------|
| Pore size: 0.45 µm | 200 per pack | 1000 per pack |
| Nylon | 6751-2504 | 6753-2504 |
| PES | 6781-2504 | 6794-2504 |
| PVDF | 6747-2504 | 6749-2504 |
| PTFE | 6785-2504 | 6798-2504 |
| PP | 6788-2504 | |

Puradisc FP 30 mm

| | | |
|--------------------|--------------|--------------|
| Cellulose acetate | 100 per pack | 500 per pack |
| Pore size: 0.2 µm | 10462710 | 10462700 |
| Pore size: 0.45 µm | 10462610 | 10462600 |

SPARTAN Syringe Filter

Features and benefits:

- Universal regenerated cellulose membrane
- HPLC-Certified
- Certificate of analysis available for each batch

Ordering information†

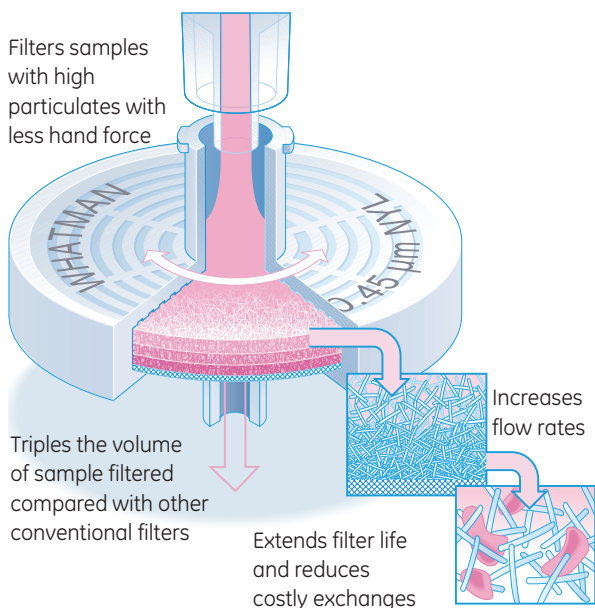
| Product | Code no. | Code no. |
|-----------------------|--------------|--------------|
| SPARTAN 30 mm | | |
| Regenerated cellulose | 100 per pack | 500 per pack |
| Pore size: 0.2 µm | 10463060 | 10463062 |
| Pore size: 0.45 µm | 10463050 | 10463052 |

† Additional pore sizes, dimensions, and membrane material available – please contact your local representative for more information

GD/X Syringe Filter

Whatman GD/X Syringe Filters are an excellent choice for filtering high-particulate or viscous solutions.

These high-quality disposable syringe filters include glass microfiber prefilters, enabling you to filter more of your sample in less time to greatly enhance laboratory efficiency.



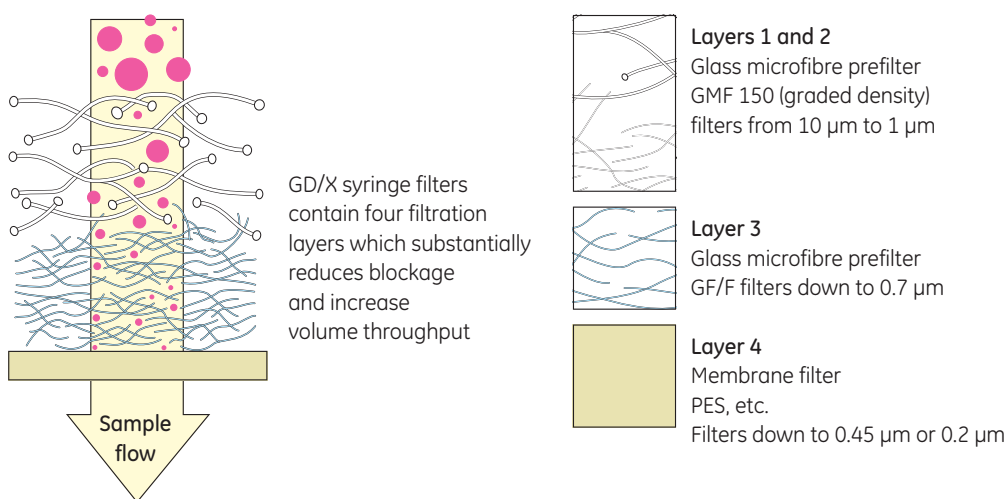
Features and benefits:

- Integrated multilayer glass fiber prefilter (10 µm to 0.7 µm)
- Broad choice of final membrane types (0.2 or 0.45 µm)
- Increased volume throughput
- Less hand force required



Whatman GD/X Syringe Filter in use.

Features of a GD/X Syringe Filter.



Four filtration layers inside a GD/X Syringe Filter.

Ordering information

| Product | Code no. | Code no. |
|-------------------|--------------|---------------|
| GD/X 25 mm | | |
| Pore size: 0.2 µm | 150 per pack | 1500 per pack |
| Nylon | 6870-2502 | 6871-2502 |
| PES | 6876-2502 | 6905-2502 |
| PVDF | 6872-2502 | 6873-2502 |
| PTFE | 6874-2502 | 6875-2502 |
| PP | 6878-2502 | |
| CA | 6880-2502 | |
| RC | 6887-2502 | 6888-2502 |

| Product | Code no. | Code no. |
|--------------------|--------------|---------------|
| GD/X 25 mm | | |
| Pore size: 0.45 µm | 150 per pack | 1500 per pack |
| Nylon | 6870-2504 | 6871-2504 |
| PES | 6876-2504 | 6905-2504 |
| PVDF | 6872-2504 | 6873-2504 |
| PTFE | 6874-2504 | 6875-2504 |
| PP | 6878-2504 | 6879-2504 |
| CA | 6880-2504 | 6881-2504 |
| RC | 6882-2504 | 6883-2504 |

Mini-UniPrep Syringeless Filter

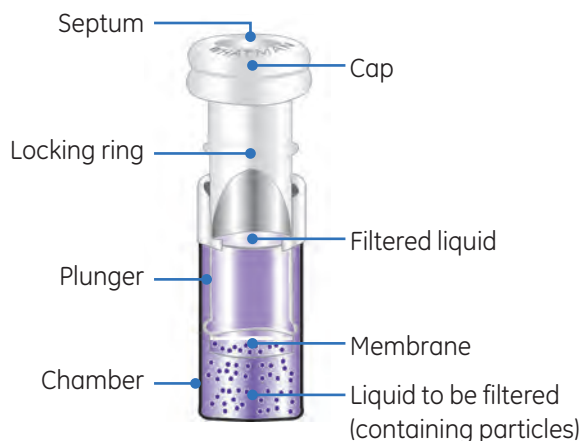


Whatman Mini-UniPrep Syringeless Filters provide a faster, easier way to remove particulates from samples being prepared for HPLC/U-HPLC analysis.

Features and benefits:

- Replaces syringe, syringe filter, vial, and cap
- Time savings with 6-position compressor
- Waste and cost reduction
- Compatible with all major autosamplers

Parts of a Mini-UniPrep filter:



Workflow for Mini-UniPrep



1. Add sample.



2. Insert plunger.



3. Compress.



4. Place in autosampler.

Ordering information

| Product | Code no. | Code no. |
|---|--------------|---------------|
| Mini-UniPrep translucent housing – standard cap | | |
| Pore size: 0.2 µm | 100 per pack | 1000 per pack |
| Nylon | UN203NPENYL | UN503NPENYL |
| PES | UN203NPEPES | UN503NPEPES |
| PVDF | UN203NPEAQU | UN503NPEAQU |
| PTFE | UN203NPEORG | UN503NPEORG |
| PP | UN203NPEPP | UN503NPEPP |
| RC | UN203NPERC | UN503NPERC |

| Product | Code no. | Code no. |
|---|----------|--------------|
| Mini-UniPrep amber housing – standard cap | | |
| Pore size: 0.2 µm | | 100 per pack |
| Nylon | | UN203APENYL |
| PES | | UN203APEPES |
| PVDF | | UN203APEAQU |
| PTFE | | UN203APEORG |
| PP | | UN203APEPP |

| Product | Code no. | Code no. |
|--|----------|--------------|
| Mini-UniPrep translucent housing – slit septum cap | | |
| Pore size: 0.2 µm | | 100 per pack |
| Nylon | | UN203APUNYL |
| Nylon Slit Septa | | US203APUNYL |
| PES | | UN203APUPES |
| PVDF | | UN203APUAQU |
| PTFE | | UN203APUORG |
| PP | | UN203APUPPP |

| Product | Code no. | Code no. |
|---|--------------|---------------|
| Mini-UniPrep translucent housing – standard cap | | |
| Pore size: 0.45 µm | 100 per pack | 1000 per pack |
| Nylon | UN203NPUNYL | UN503NPUNYL |
| PES | UN203NPUPES | UN503NPUPES |
| PVDF | UN203NPUAQU | UN503NPUAQU |
| PTFE | UN203NPUORG | UN503NPUORG |
| PP | UN203NPUPP | UN503NPUPP |
| RC | UN203NPURC | UN503NPURC |

| Product | Code no. | Code no. |
|--|--------------|---------------|
| Mini-UniPrep translucent housing – slit septum cap | | |
| Pore size: 0.2 µm | 100 per pack | 1000 per pack |
| Nylon | | US203NPENYL |
| PES | | US203NPEPES |
| PVDF | | US203NPEAQU |
| PTFE | | US203NPEORG |
| PP | | US203NPEPP |

| Product | Code no. | Code no. |
|--|--------------|---------------|
| Mini-UniPrep translucent housing – slit septum cap | | |
| Pore size: 0.45 µm | 100 per pack | 1000 per pack |
| Nylon | | US203NPUNYL |
| PES | | US203NPUPES |
| PVDF | | US203NPUAQU |
| PTFE | | US203NPUORG |
| PP | | US203NPUPP |




Compressor

| Product | Code no. | Code no. |
|-------------------------------------|------------|-----------|
| Mini-UniPrep Compressor, 6 position | 1 per pack | CR0000006 |

Microbiology

GE Healthcare offers several options for membrane filtration-based microbiology. Use the selection guide to choose a funnel and manifold combination that meets your needs.

Microbiology using membrane filtration – selection guide

| Funnel type | Ready-to-use funnels (membrane included) | | Funnels (purchase membrane separately) | |
|---------------------------------|---|-------------------------|--|---|
| | Analytical Funnels | Monitors | MBS I funnels | Stainless steel funnels |
| Main features | Removable membrane included | Fixed membrane included | PP autoclavable funnels (50 times) | Part of complete stainless steel system |
| Manifolds with funnels attached |  <p>3- or 6-position manifolds (code no. 10498761 and 10498762)[†]. Rubber stopper not supplied by GE Healthcare.</p> | |  <p>AS220 Manifold (code no. 10445890)[†]; part of MBS I System</p> |  <p>AS300 and AS600 range of stainless steel manifolds</p> |

[†] Monitors, Analytical Funnels, and MBS I funnels are not supplied with the manifolds

Analytical Funnels and Monitors – ready-to-use units

Analytical Funnel: The membrane can be removed and transferred to a Petri dish.

Microbiological Monitor: The membrane is fixed to the unit.

Features and benefits:

- Sterilized: ready-to-use units include the membrane and funnel
- Reduced contamination
- Can be used with 2 ml media ampules
- Easy handling

Workflow for ready-to-use units



1. Pour and filter sample.

2. Remove funnel.

Option 1 (for use with either unit)

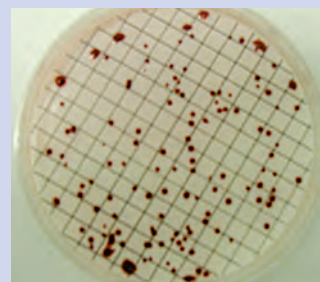


3a. Add 2 ml liquid media.

4a. Place lid on the top to create a Petri dish and incubate.

3b. Remove membrane with tweezers and transfer onto appropriate culture media on a Petri dish.

4b. Incubate.



Option 2 (only for use with Analytical Funnels)

Liquid media – 2 ml ampules

The ampules are designed for use with microbiological monitors. They offer:

- Time savings: pre-sterilized and ready to use
- Reduced risk of cross-contamination
- Batch-specific certificate of quality: Confirms reproducibility and reliability
- Broad range of media



2 ml media ampules.

Ordering information

| Product | Code no. | Code no. |
|---|----------|----------|
| Analytical Funnels 100 ml (removable membrane) – 50 per pack† 47 mm | | |
| 0.2 µm, white membrane | | 10497507 |
| 0.2 µm, white membrane, individually bagged | | 10497510 |
| 0.45 µm, white membrane | | 10497504 |
| 0.45 µm, white membrane, individually bagged | | 10497506 |
| 0.45 µm, black membrane | | 10497508 |
| 0.45 µm, black membrane, individually bagged | | 10497509 |

Microbiological Monitors 100 ml (fixed membrane) – 50 per pack†

| | 47 mm | 56 mm |
|--|----------|----------|
| 0.2 µm, white membrane | 10497511 | 10497603 |
| 0.45 µm, white membrane | 10497500 | 10497600 |
| 0.45 µm, white membrane, individually bagged | 10497501 | |
| 0.45 µm, black membrane | 10497502 | 10497601 |
| 0.8 µm, black membrane | 10497503 | 10497602 |

† Black membranes have a white grid, and white membranes have a black grid

Manifolds for use with Monitors and Analytical Funnels

| | | |
|-----------------------------------|------------|----------|
| 3-Place Manifold, stainless steel | 1 per pack | 10498761 |
| 6-Place Manifold, stainless steel | 1 per pack | 10498762 |

| Product | Selective for | Code no. |
|--|---|----------|
| Liquid media – 2 ml ampules – 50 per pack | | |
| Cetrimide Broth | <i>Pseudomonas aeruginosa</i> | 10496146 |
| Enterococcus Broth | Enterococci | 10496120 |
| HPC Broth with TTC | Total count at 35°C | 10496151 |
| KF- <i>Streptococcus</i> Broth | Fecal Streptococci | 10496125 |
| Mannitol Salt Broth | Staphylococci | 10496121 |
| Membrane Lauryl Sulfate PHLS/UK | Total coliforms and <i>E. coli</i> | 10496187 |
| M-Endo Coliform Broth | Coliforms | 10496103 |
| M-FC Media | Fecal coliforms | 10496124 |
| M-FC Broth with Rosolic Acid | Fecal coliforms | 10496114 |
| M-Green Yeast and Mold Broth | Yeast and mold in soft drinks | 10496101 |
| M-Green Select Broth | Fungi in sugar-based drinks | 10496116 |
| MI-Broth Media | Coliforms | 10496192 |
| MRS Broth | Lactobacilli | 10496112 |
| M-TGE Broth | Total bacteria count | 10496102 |
| Orange Serum Broth | Contaminants of juices | 10496104 |
| Pry Broth | <i>Zygosaccharomyces</i> spp. | 10496106 |
| <i>Pseudomonas</i> Broth | <i>Pseudomonas</i> sp. | 10496119 |
| Total Count Broth with TTC | Colony count | 10496113 |
| Wallerstein Broth (WL) | Yeast | 10496108 |
| Wallerstein Differential Broth | as WL with Cycloheximide for bacteria count | 10496109 |

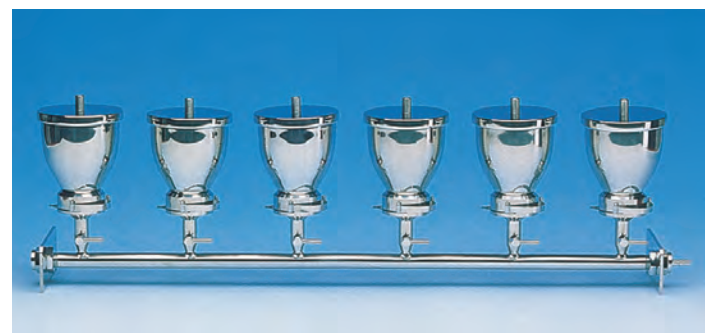
Stainless steel vacuum filtration systems

GE Healthcare also offers a complete range of stainless steel vacuum filtration systems that are dedicated for microbiological control.

Features and benefits:

- Stainless steel funnels and manifold
- Autoclavable
- Available in 3 or 6 positions
- Available in several funnel volumes

Contact your local representative for more information about this range.



6-position manifold.

MBS I System – a complete solution

MBS I System combines a 2-position manifold, a membrane dispenser, and a funnel dispenser.

AS220 Filtration Manifold for:

- Easy handling
- Minimization of cross-contamination
- Can be used with 47 mm or 50 mm diameter membranes
- Time savings: No need to flame between filtrations

Filtration funnels for time and cost savings and waste reduction:

- Polypropylene (PP) version can be autoclaved up to 50 times:
 - Twenty PP funnels are enough for 1000 analyses
- Two volumes available:
 - 350 ml, ideal for foaming samples (i.e., beer)
 - 100 ml

Membrane dispenser for time savings:

With each turn a membrane filter is ejected from its sterile packaging and can be removed easily with tweezers.

Membrane-Butler delivers:

- Simple handling
- Minimization of cross-contamination
- Membrane dispensed rapidly

MBS I starter pack

The MBS I starter pack contains Whatman systems and consumables for microbiological quality control.

Please see the Ordering information for details.



AS220 manifold with 350 ml PP funnel.



Manual Membrane-Butler membrane dispenser.



STL membranes (for use with Membrane-Butler).

Ordering information

| Product | Quantity | Code no. |
|--|-------------|----------|
| MBS I filtration manifold and funnels | | |
| AS220 2-place Vacuum filtration manifold for MBS I | 1 per pack | 10445890 |
| MBS I funnel dispenser | 1 per pack | 10445870 |
| MBS I plastic funnel of PP, autoclavable, 100ml | 20 per pack | 10445861 |
| MBS I plastic funnel of ABS, 100 ml | 20 per pack | 10445865 |
| MBS I plastic funnel of PP, autoclavable, 350ml | 20 per pack | 10445866 |
| Autoclaving bags for MBS I plastic funnels | 20 per pack | 10445868 |
| Steel frit with ring for AS220 | 1 per pack | 10445863 |
| Membrane dispenser | | |
| Membrane-Butler – manual version | 1 per pack | 10477100 |

| Product | Code no. |
|--|----------|
| MBS I Starter Pack | |
| Each starter pack contains: | 28992499 |
| 1 × AS220 2-place vacuum filtration manifold for MBS I | |
| 1 × Membrane-Butler—manual version | |
| 20 × MBS I plastic funnel of PP, autoclavable, 350 ml | |
| 400 × Sterile membrane – 0.45 µm, 47 mm , white, for Membrane-Butler | |
| 1 × MBS I funnel dispenser | |
| 1 × PZ 001 Tweezers, stainless steel | |
| 20 × Autoclaving bags for MBS I plastic funnels | |
| 10 × VACU-GUARD 50 mm disc for pump protection | |

Sterile membranes

GE Healthcare provides a wide and versatile range of Whatman filtration membranes that consistently deliver high-quality performance.

STL membranes are dedicated for use with the Membrane-Butler.

Ordering information

| Product | Code no. | Code no. |
|--|----------|----------|
| Cellulose nitrate membranes, MicroPlus type[†] | | |
| 0.45 µm, white membrane | | |
| 100 per pack | 10407713 | 10407714 |
| 400 per pack for Membrane-Butler (STL) | 10407112 | 10407114 |
| 0.45 µm, black membrane | | |
| 100 per pack | | 10407734 |
| 400 per pack for Membrane-Butler (STL) | 10407132 | 10407134 |
| 0.45 µm, green membrane | | |
| 400 per pack for Membrane-Butler (STL) | 10407170 | 10407172 |

SwabCheck swabs

The SwabCheck principle

The surface is wiped with a cellulose swab and any bacteria collected are transferred via the swab into a tube containing a special medium with an indicator dye, which is then incubated.

A single bacterium is sufficient to cause a color change.



Listeria SwabCheck.

Culture venting in standard flasks (125 to 2500 ml)

BugStopper units prevent bacteria and viruses from entering or exiting a culture vessel, while allowing air and gas to pass through the membrane.

- Autoclavable 50 times: Repeated use minimizes costs
- Two sizes available: BugStopper and BugStopper 10
- Ideal for venting of bacteria or yeast cultures

Ordering information

| Product | Quantity | Code no. |
|---------------|-------------|-----------|
| BugStopper | 10 per pack | 6713-3010 |
| BugStopper 10 | 10 per pack | 6713-6010 |

| Product | Code no. | Code no. |
|---|----------|----------|
| Cellulose mixed ester, ME type[†] | | |
| 0.2 µm, white membrane | | |
| | 47 mm | 50 mm |
| 100 per pack | 10406970 | 10406972 |
| 400 per pack for Membrane-Butler (STL) | 10408712 | 10408714 |
| 0.45 µm, white membrane | | |
| 100 per pack | 10406870 | 10406872 |
| 400 per pack for Membrane-Butler (STL) | 10407312 | 10407314 |
| 0.45 µm, black membrane | | |
| 100 per pack | 10409770 | 10409772 |
| 400 per pack for Membrane-Butler (STL) | 10407332 | 10407334 |
| 0.45 µm, green membrane | | |
| 100 per pack | 10409470 | 10409472 |
| 400 per pack for Membrane-Butler (STL) | 10407370 | 10407372 |

[†]All of the above membranes are sterile and individually packed. Black membranes have a white grid, white membranes have a black grid, and green membranes have a black grid.

Features and benefits:

- Qualitative hygiene control
- Sterile packed and ready to use
- Rapid results
- Long shelf-life

Ordering information

| Product | Quantity | Code no. |
|--|-------------|----------|
| Listeria SwabCheck, units ready to use | 25 per pack | 10498408 |
| Coliform SwabCheck, units ready to use | 25 per pack | 10498406 |
| Hygiene SwabCheck, units ready to use | 25 per pack | 10498407 |

Please contact your local representative for information about the rest of our SwabCheck range.



BugStopper 10 (left) and BugStopper (right).

For local office contact information, visit:
www.gelifesciences.com/contact

www.gelifesciences.com/whatman

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