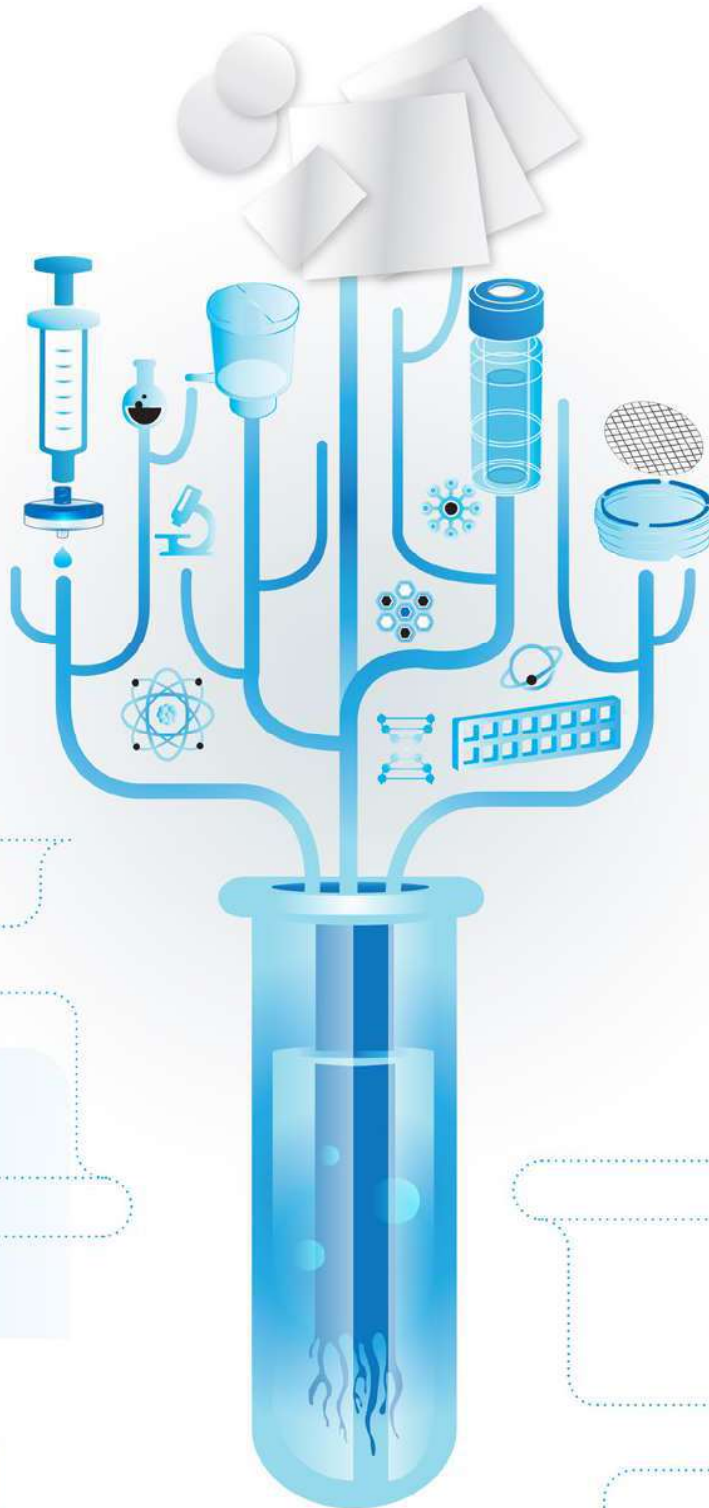




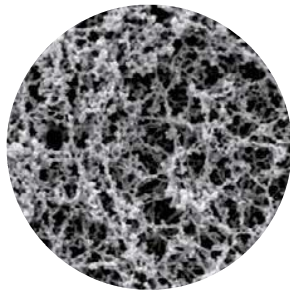
FILTER TECHNOLOGY

DISC AND SHEET MEMBRANES



DISC AND SHEET MEMBRANES

Cellulose Acetate (CA) Membrane



GVS Cellulose Acetate (CA) Filtration Membrane is a supported, hydrophilic membrane that is naturally low binding. It is ideal for use in filtration applications where maximal recovery of protein is critical.

Exceptional Strength for Improved Performance

GVS CA Filtration membranes are composed of pure cellulose acetate that is internally supported by an inert polyester web. This web gives each membrane exceptional strength to prevent cracking, tearing, breaking and distortion when handled or creased. The resulting membrane has dimensional stability that can withstand autoclaving or steam sterilizing leaving the membrane unaffected in temperatures up to 135°C (274°F). The exceptional dimensional strength and low binding characteristics of GVS CA Filtration Membranes provides higher throughputs than competitive offerings and reduces the amount of filter changes needed during proteinaceous solution filtering. Its uniform pore size and consistent flow rates ensure reliable performance.

Features & Benefits

- ◆ Superior strength: Can withstand aggressive handling or be used with automated equipment without breaking or tearing
- ◆ Low extractables: Ensures tests will be clean with consistent results
- ◆ Hydrophilic: Wets out rapidly
- ◆ Lot-to-lot consistency: Quality checks ensure consistent flow and diffusion rates for dependable results every time
- ◆ Nonlysing of cells: Prevents contamination of critical solutions
- ◆ Can be autoclaved or steam sterilized

Typical Applications

- ◆ Protein and enzyme filtration
- ◆ Biological fluid sterilization
- ◆ Tissue culture media sterilization
- ◆ Cold sterilization

Product Characteristics

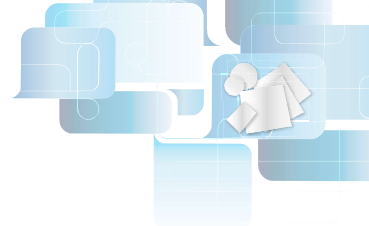
USP Class VI testing	Passed
Thickness	65 - 100 µm
Maximum Operating Temperature	274°F (135°C)
Sealing Compatibility	Ultrasonics, Heat, Radio Frequency and Insert Molding
Pore Size Range	0.22 to 5.0 µm

Performance

Pore Size (µm)	Flow Time (s)	Volume/Vacuum (mL/in Hg)	Flow Rate (mL/min/cm ² @ 10psi)	Bubble Point (psi)
0.22	70-155	250/20	10.26-22.72	50-72
0.45	20-49	250/20	32.46-79.53	30-45
0.65	15-40	250/20	39.77-106.04	18-32
0.8	13-36	250/20	44.18-122.36	14-28
1.2	40-248	500/5	51-318	11-22
5.0	23-59	500/5	216-553	6-16

Ordering information

Dimensions Packaging	13 mm 100/pk	25 mm 100/pk	47 mm 100/pk	50 mm 100/pk	90 mm 25/pk	102 mm 25/pk	142 mm 25/pk	293 mm 25/pk	20x20 mm 5/pk	30 cmx 3m 1/pk
0.22 µm	1212374	1213124	1213804	1221730	1214357		1215074	1215427		1224211
0.45 µm	1215533	1215635	1215676	3052874	1212375	1221546	1212517	1212620		1240382
0.65 µm		1212846	1212942		1213037				3061196	
0.8 µm	1213305		1213358					1213316	3034974	3034975
1.2 µm			1213805				1213958	1214038		3041202
5.0 µm		1214370	1214411		1212648					3049247



Polyethersulfone (PES) Membrane



ULTRA Sep
Polyethersulfone
Membrane

GVS Polyethersulfone (PES) Filtration Membrane is hydrophilic and cast from pure polyethersulfone polymer. It is designed to remove particulates during general filtration and its low protein and drug binding characteristics make it ideally suited for use in life science applications.

Product Uniformity and High Sensitivity Maximize Performance

This strong, microporous film asymmetric membrane is constructed from a high-temperature polyethersulfone polymer that is acid and base resistant. Its strength and durability are advantageous during usage that involves aggressive handling or automated equipment. GVS PES Filtration Membrane is naturally hydrophilic without added wetting agents and has low extractables.

Due to its inherent uniform porosity and controlled pore size, GVS PES Filtration Membrane efficiently removes particulates from solutions during general filtration. Additionally, its low protein and drug binding characteristics maximize recovery of critical drugs used in I.V. therapy, chemotherapy and open-heart surgery.

Features & Benefits

- ▲ Hydrophilic: Eliminates the need for wetting agents that can potentially interfere with analyses
- ▲ Low extractables: Ensures test results will not be compromised by wetting agents or other extractables
- ▲ Low drug and protein binding: Maximizes recovery of critical drugs or proteins
- ▲ Wide range of pore sizes: Pore size range of 0.03 µm to 8.0 µm enables specific pore size selection for given applications
- ▲ Superior burst strength: Protects the integrity of the membrane under high pressure
- ▲ Lot-to-lot consistency: Quality checks, both down and across the membrane, ensure dependable results every time

Typical Applications

- ▲ Protein and enzyme filtration and sterilization
- ▲ Biological fluid filtration and sterilization
- ▲ Pharmaceutical sterilization
- ▲ Environmental water studies

Performance

Pore Size (µm)	Flow Time (s)	Volume/Vacuum (mL/in Hg)	Flow Rate (mL/min/cm ² @ 10 psi)	Bubble Point (psi)
0.03	200-500	250/20	3,18-7,95	90-110
0.1	100-200	250/20	7,95-15,91	70-90
0.2	35-70	250/20	22,72-45,45	50-70
0.4	20-40	250/20	39,77-79,53	35-50
0.6	12-25	250/20	63,63-132,55	21-32
0.8	80-160	500/5	80-159	13-28
1.2	65-130	500/5	98-196	11-22

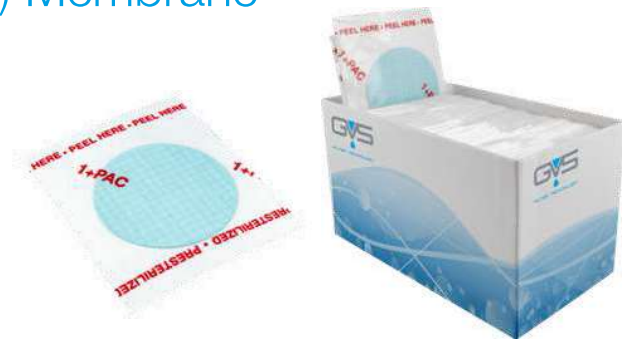
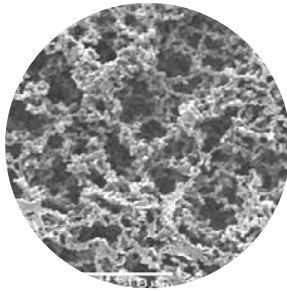
Ordering information

Dimensions Packaging	13 mm 100/pk	25 mm 100/pk	47 mm 100/pk	47 mm 200/pk	90 mm 25/pk	142 mm 25/pk	293 mm 25/pk	200x200 mm 5/pk	30 cmx3 m 1/pk
0.03 µm	3032875	3032876	3029505		3018505			1235748	3057106
0.1 µm			1214756		1222230			1225881	3026365
0.22 µm		1214193	1214465	1226158*	1214920	1214169	1214759	1223871	1226664
0.45 µm		1214532	1214475	1226159*	1215368	1214170	1214760	1225882	1226665
0.65 µm		1215238					1224490	1225883	1225985
0.8 µm		1214604	1214568		1214669	1214171		1225884	3037376
1.2 µm		1222267	1221008		1224492			1223340	1242278
5.0 µm			1215396		1224496			1236292	
8.0 µm								1225885	

*Sterile

DISC AND SHEET MEMBRANES

Mixed Cellulose Esters (MCE) Membrane



GVS Mixed Cellulose Esters (MCE) Filtration Membrane is an unsupported, hydrophilic membrane. Its rapid flow rate and high throughput make it ideal for use in diagnostic kit manufacturing applications.

Characteristics

- High flow rate: fast filtration rates
- Uniform pore structure: consistent flow and diffusion rates
- Lot-to-lot consistency

Typical Applications

- Aqueous filtration
- Sterility testing
- Gravimetric analysis with ashing technique
- Microbiological and particulate analysis
- Black for food and beverage applications

Consistent Uniformity Improves Control and Performance

GVS MCE Filtration Membranes are composed of a mixture of inert cellulose nitrate and cellulose acetate polymers. The uniform microporous structure of these filters provides the fastest flow rates and highest throughputs available in a membrane filter. Because they are biologically inert, GVS

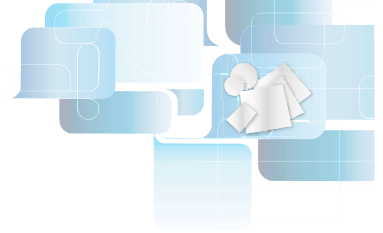
MCE Filtration Membranes are ideal for a wide range of clarification, sterilization and analytical applications such as: microbiological analysis, clarification or sterilization of aqueous solutions, industrial hygiene applications, silt density index and particulate-matter analysis. For gravimetric analysis using ashing techniques, GVS MCE Membranes yield a residue or less than 0.045% of their initial weight. They are hydrophilic with a noncytotoxic wetting agent and yield extractable levels of less than 4% of their weight. These membranes are autoclavable at 121°C (250°F) for 20 minutes. Sterilized product lifetime is 24 months from sterilization date.

Product Characteristics

Sterilization	Gamma Irradiation or Ethylene Oxide (EtO)
USP Class VI testing	Passed
Thickness	100 - 190 µm
Sealing Compatibility	Ultrasonic, Heat, Radio Frequency and Insert Molding
Pore Size Range	0,1 to 8,0 µm
BSA Protein Binding	Approx. 160 µg/cm ² (depending on pore size)
Maximum Operating Temperature	356°F (180°C)

Performance

Pore Size (µm)	Flow Time (s)	Volume/Vacuum (mL/in Hg)	Flow Rate (mL/min/cm ² @ 10psi)	Bubble Point (psi)
0.1	198-263	250/20	6.05-8.03	80-110
0.22	60-136	250/20	11.70-26.51	52-65
0.45	23-46	250/20	34.58-69.16	30-42
0.65	13-35	250/20	45.45-122.36	25-42
0.8	5-18	250/20	88.37-318.13	11-19
1.2	30-80	500/5	159-424	9-18
5.0	13-36	500/5	353-979	6-15
8.0	3-25	500/5	509-4242	4-11



Mixed Cellulose Esters membrane - Sterile, white and black

Ordering information

	Individually Packaged Without Pad Gridded					Individually Packaged with Pad Gridded		
Dimensions Packaging	47 mm 100/pk	47 mm 100/pk	47 mm 1000/pk	47 mm 1000/pk	50 mm 1000/pk	47 mm 100/pk	47 mm 100/pk	47 mm 1000/pk
Color	white	black	white	black	white	white	black	white
0,22 µm	1216720		1214396			1214872		
0,45 µm	1216721	1216719	1214923	1213643	1222980	1215237	1214866	
0,7 µm		1216718		1221948				1215409
0,8 µm	1216724	1216723		1215590		1225460		

Cellulose Mixed Esters - Non sterile, white and black

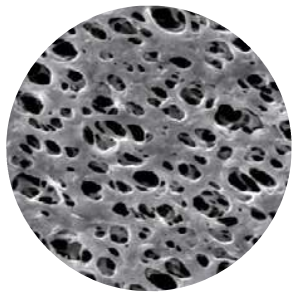
Dimensions Packaging	13 mm 100/pk	25 mm 100/pk	25 mm Gridded 100/pk	25 mm 100/pk	25 mm Gridded 100/pk
Color	white	white	white	black	black
0,1 µm		1214527			
0,22 µm	1214882	1214898			
0,45 µm	1215257	1215263			
0,65 µm		1215376			
0,8 µm	1215424	1215425	1215419	1215415	1215411
1,2 µm	1215438	1215440	1215435		
5,0 µm	1215448	1215450			
8,0 µm		1215455			

Dimensions Packaging	47 mm 100/pk	47 mm Gridded 100/pk	47 mm 100/pk	47 mm Gridded 100/pk	90 mm 25/pk
Color	white	white	black	black	white
0,1 µm	1214533				
0,22 µm	1214909	1214839			1214941
0,45 µm	1215281	1215207		1214977	1215305
0,65 µm	1215380				
0,8 µm	1215428	1215421	1215416	1215412	1215431
1,2 µm	1215441	1215437			1215442
5,0 µm	1215451				1215452
8,0 µm	1215456			3053377	1215027

Dimensions Packaging	142 mm 25/pk	293 mm 25/pk	20x20 cm 5/pk	20x20 cm 5/pk
Color	white	white	white	black
0,1 µm	1214554	1214565		
0,22 µm	1214950	1214959	1215464	
0,45 µm	1215316	1215323	1225781	3053082
0,65 µm				
0,8 µm	1215432	1215433	3050851	
5,0 µm	1215453			
8,0 µm	1221955			

DISC AND SHEET MEMBRANES

Nylon 66 (NY) Membrane



MAGNA
Nylon Membrane

Description and Use

GVS Nylon Filtration Membrane is a supported, naturally hydrophilic membrane designed to wet out evenly and retain its superior strength during use in general filtration or medical assays.

Versatile Capabilities, Consistent Performance

GVS Nylon Filtration Membrane is internally supported with an inert polyester support web giving it added dimensional strength and stability that prevents cracking, tearing, curling and breaking. This added strength and durability is advantageous during usage that involves aggressive handling or automated equipment.

A naturally hydrophilic membrane, GVS Nylon Filtration Membrane does not require wetting agents that can interfere with biological processes.

Features & Benefits

- ◆ Hydrophilic: Eliminates the need for wetting agents that can potentially interfere with biological processes
- ◆ Super strength: Eases handling when used with automated equipment
- ◆ Low extractables: Ensures tests will be clean and pure leading to more consistent results
- ◆ Lot-to-lot consistency: Quality checks ensure lot-to-lot consistency, both down and across the polyester web, for dependable results every time

Typical Applications

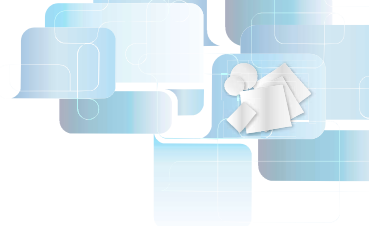
- ◆ Sterilization and clarification of aqueous and organic solvent solutions
- ◆ HPLC sample preparation

Product Characteristics

Sterilization	Steam, Gamma Irradiation or Ethylene Oxide (EtO)
USP Class VI toxicity	Passed
Thickness	65 - 125 µm
Maximum Operating Temperature	356°F (180°C)
Sealing Compatibility	Ultrasonics, Heat, Radio Frequency and Insert Molding
Pore Size Range	0,1 to 5 µm

Performance

Pore Size (µm)	Flow Time (s)	Volume/Vacuum (mL/in Hg)	Flow Rate (mL/min/cm ² @ 10 psi)	Bubble Point (psi)
0.1	300-553	250/20	2.88-5.30	70-100
0.2	113-255	250/20	6.24-14.08	50-72
0.4	44-84	250/20	18.94-36.15	30-45
0.6	18-48	250/20	33.14-88.37	18-32
0.8	13-37	250/20	42.99-122.36	13-28
1.2	40-248	500/5	51-318	11-22
3.0	33-100	500/5	127-386	8-16
5.0	28-57	500/5	223-454	6-13



Nylon 66 (NY) Membrane, white

Ordering information

Dimensions Packaging	13 mm 100/pk	25 mm 100/pk	37 mm 100/pk	47 mm 100/pk	47 mm 1000/pk	47 mm Gridded 100/pk
0.1 µm	1213760	1213761		1213762	3026917*	
0.22 µm	1213766	1213768		1213769		
0.45 µm	1213774	1213775		1213776 1220671*		1213825 1213845
0.65 µm		1213782		1213783		
0.8 µm	1213788	1213789	1214881	1213790		3013826
1.2 µm	1213794	1213796	1230356	1213797		1214880
5.0 µm	1213810	1213811		1213812		3048260

Pore sizes

*sterile

Dimensions Packaging	90 mm 25/pk	142 mm 25/pk	293 mm 25/pk	200x200 mm 5/pk	30 cm x3 m 1/pk
0.1 µm	1213763	1213764	1213765	1222859	1241477
0.22 µm	1213770	1213771	1213772	1222858	1224690
0.45 µm	1213778	1213779	1213780	1222857	1225982
0.65 µm	1213784	1213786		1222856	3052148
0.8 µm	1213791	1213792	1213793	1222855	
1.2 µm	1213798	1213799	1213800	1222854	1214956
5.0 µm	1213813	1213815	1213816	1222851	1221441

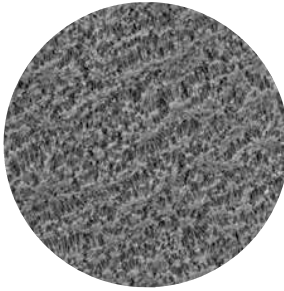
Pore sizes

*sterile



DISC AND SHEET MEMBRANES

Polytetrafluoroethylene (PTFE) Membrane



device manufacturers with a consistent, temperature and chemical compatible barrier to microbes and particulate matter. The optimal combination of air flow and water entry pressure adds value to most device designs.

Inherently hydrophobic, PTFE membranes will not absorb moisture from air or gases, making it ideal for venting applications, phase separations and aerosol samplings.

Laminated PTFE filters can be used to filter aqueous solutions when prewetted with methanol.

They are autoclavable up to 130°C (260°F).

GVS Laminated PTFE filters are made of a polytetrafluoroethylene polymer (PTFE) laminated to a polypropylene support for improved durability and easy handling. These filters are chemically compatible with strong acids and most aggressive solvents such as alcohols.

PTFE (fine powder resin) is expanded into a 3-dimensional web-like structure called PTFE which creates billions of microscopic pores. This structure utilizes the inherent hydrophobic (water-resistant) and non-stick nature of PTFE to allow removal of particulate captured on the membrane surface. This allows air to pass easily through the membrane while collecting particulate as small as 0.1 micron on its surface. PTFE membranes provide

Features & Benefits

- ◆ Naturally hydrophobic
- ◆ Compatible with strong acids and aggressive solutions
- ◆ Improved durability and handling
- ◆ Autoclavable

Typical Applications

- ◆ Filtration of strong acids and aggressive solutions
- ◆ Venting applications
- ◆ Phase separations
- ◆ Aerosol samplings

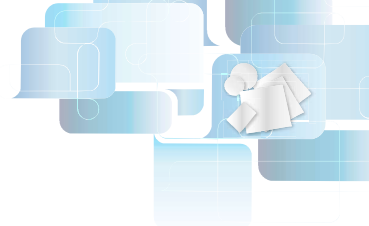
Performance

Pore Size (µm)	Bubble Point (EtOH) (kPa)	Flow Time (MeOH) (sec)	Thickness (µm)
0,22	107,9 -152,0	80 -140	100 -180
0,45	63,7-103,0	40 - 75	100 -180

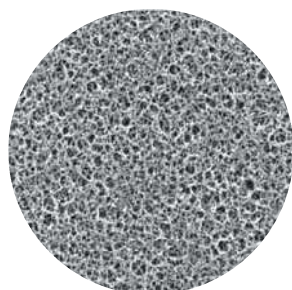
Ordering information

Dimensions Packaging	13 mm 100/pk	25 mm 100/pk	47 mm 100/pk
Pore sizes 0,22 µm	1215485	1215486	1215487
0,45 µm	1215491	1215492	1215493
1,0 µm		1215503	1215504

Dimensions Packaging	90 mm 25/pk	142 mm 25/pk	293 mm 25/pk	200x200 mm 5/pk	305x305 mm 50/pk
Pore sizes 0,22 µm	1215488	1215489		3026028	1267681
0,45 µm	1215494	1215495	1215496	1237423	3034300
1,0 µm	1215505	1215506			1235299



Regenerated Cellulose (RC) Membrane



Features & Benefits

- ◆ Hydrophilic
- ◆ Excellent chemical compatibility and resistance to organic solvents
- ◆ Low non-specific adsorption
- ◆ Superior thermal resistance
- ◆ High mechanical strength
- ◆ Maximum Operating Temperature 134°C

Typical Applications

- ◆ Filtration of Aqueous and Organic Solutions
- ◆ Particle removal from organic solvents or mixtures of aqueous and non-aqueous samples
- ◆ Ultra-cleaning and de-gassing solvents and mobile phases for HPLC
- ◆ Clarification
- ◆ Protein Chemistry

GVS Regenerated Cellulose membrane is a hydrophilic high strength media. Regenerated Cellulose filters have a broad solvent compatibility, and they contribute very low extractable material in a wide variety of sample solvents. Thus, they are appropriate for sample preparation in many applications and as a standalone or syringe filter membrane. This membrane media can be sterilized by all common methods keeping a mechanical stability. The superior strength assures an high chemical resistance for usage with a wide range of aqueous and organic media.

Performance

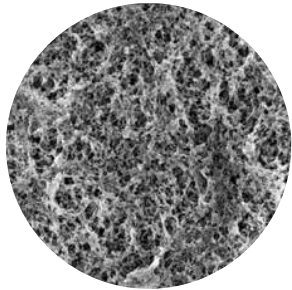
Pore Size (μm)	Typical Flow Rate (mL/min/cm ² @ 10 psi)	Typical Bubble Point (psi)	Typical Thickness (μm)
0.22	10.3	63.8	≥ 145
0.45	20.6	42.1	≥ 145

Ordering information

Dimensions	25 mm	47 mm
Packaging	100/pk	100/pk
Pore sizes		
0.22 μm	3099756	3099758
0.45 μm	3099757	3099755

DISC AND SHEET MEMBRANES

Polyvinylidene Fluoride (PVDF) Hydrophilic Membrane



GVS Hydrophilic Polyvinylidene Difluoride (Hydrophilic PVDF) Filtration Membrane is a supported, hydrophilic membrane that exhibits broad chemical compatibility and low protein binding. Composed of PVDF internally supported by an inert polyester web, the resulting membrane has dimensional stability. This provides higher throughputs than competitor offerings and reduces the amount of filter changes needed during filtration. It is ideal for use in filtration applications of biological solutions. This hydrophilic membrane has a great thermal stability with maximum operating temperature of 175°F and it is autoclavable.

Features & Benefits

- ◆ Superior strength to withstand aggressive handling or use with automated equipment without breaking or tearing
- ◆ Low protein binding minimizes retention of proteins in solution
- ◆ Low extractables ensure tests will be clean with consistent results
- ◆ Lot-to-lot consistency ensures consistent flow and diffusion rates for dependable results every time

Typical Applications

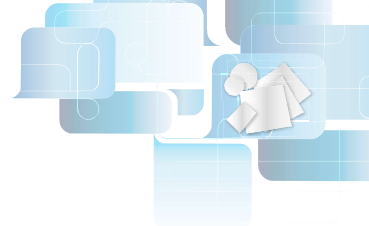
- ◆ Sterilizing clarification of biological solutions.
- ◆ Preparation of protein-containing solutions prior to chromatography or other instrumental analyses.
- ◆ Useful for a wide range of applications, including aggressive and non-aggressive solvent-based mobile phase.
- ◆ Offers excellent chemical compatibility, even with aggressive acids and alcohols.
- ◆ Provides high flow rates and throughput, low extractables and broad chemical compatibility.
- ◆ Better protection of your analytical results.

Performance

Pore Size (µm)	Typical Flow Rate (mL/min/cm ² @ 10 psi)	Typical Bubble Point (psi)	Typical Thickness (µm)
0.22	7	36	170
0.45	29	22	170

Ordering information

	Dimensions	25 mm	47 mm	90mm
	Packaging	100/ϕk	100/ϕk	25ϕk
Pore sizes	0.22 µm	3044272	3044270	3044271
	0.45 µm	3037802	3037800	3037801



Polypropylene (PP) Membrane



column life. GVS polypropylene filter is the preferred filter membrane for HPLC applications where the detection levels are below 230 nm. The filters also exhibit negligible protein binding which, is essential for maximum sample recovery of critical, small volume protein samples.

Features & Benefits

- ◆ Broad chemical compatibility
- ◆ Hydrophobic
- ◆ HPLC applications - detection levels < 230 nm

Typical Applications

- ◆ Aqueous and organic solvent filtration
- ◆ HPLC sample preparation requiring low detection levels
- ◆ Ion chromatography
- ◆ Total digest for heavy metals

GVS polypropylene filtration membranes are composed of pure polypropylene with absolute pore size ratings. These filters offer broad chemical compatibility allowing its use with aqueous and organic solvent samples.

The polypropylene filter has extremely low extractable levels designed to provide accurate, consistent analysis results for sensitive ion chromatography applications while prolonging

Performance

Pore Size (µm)	Minimum Bubble Point (psi; IPA)	Typical Thickness (µm)
0,1	24,6	110
0,22	92,5	160

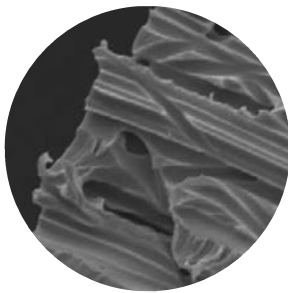
Pore Size (µm)	Minimum Bubble Point (in: H ₂ O)	Typical Thickness
0,45	41	200
1,2	27	220
10	15	300

Ordering information

Dimensions Packaging	25 mm 100/pk	47 mm 100/pk	90 mm 25/pk	142 mm 25/pk	200x200 mm 5/pk
0,1 µm	1222102	1214237	1220824		1225932
0,22 µm	1214238	1214239	1214240		3095433
0,45 µm	1212379	1212380	1212381	1212383	
1,2 µm	1212390	1212391	1212392	1212394	
10,0 µm		1225792			

DISC AND SHEET MEMBRANES

Polycarbonate Track Etched (PCTE) Membrane



GVS Polycarbonate Track Etched (PCTE) Membrane is made from a thin polycarbonate film with precisely defined pores. It is ideally suited for use in cellular-based filtration assays as well as filtration applications where high purity is required. The membrane is produced through a two-step, proprietary manufacturing process that employs high quality standards. In the first step, polycarbonate film is exposed to ion particles that pass through it. As the ions pass through the film, they create “tracks” where the polymer is damaged. The beamed film is then exposed to a chemical that etches out the tracks creating precise, cylindrical pores. Pore density is controlled by the number of tracks per unit area, and pore size is controlled by varying the temperature, strength and time of exposure to the etching solution. This unique process allows for increased control over pore size and density to ensure the physical properties of each membrane precisely fit your specifications. The resulting membrane is a thin, translucent polycarbonate film with a smooth, flat surface. All particles larger than the pore size are captured on its surface.

Nominal Product Characteristics

Thickness	5 - 20 µm
Refractive Indices	Birefringent at 1.584 and 1.625
Water Adsorption (% wt. gain 24-hr immersion)	0.24%
Residual Ash Weight Average	0.92 µg/cm ²
Specific Gravity	0.94-0.97
Autoclavable	Yes
Leachables	Negligible
Wetting Characteristics	Hydrophilic or Hydrophobic
Wetting Agent (hydrophilic)	Polyvinylpyrrolidone (PVP)
Burst Strength Minimum	0.7 bar (10 psi)
Migration of Filter Media	0
Optical Properties	Semi-translucent

GVS offers a unique solution for Legionella analysis following the new standard UNI EN ISO 11731. Our sterile gridded membranes are suitable for this test and give you the best performances.

GVS offers the PCTE Membrane for AOX use (adsorbable organic halogens) with exceptionally low protein-binding/extractable levels and precisely defined pores. These AOX-certified polycarbonate (PCTE) membranes are ideally suited for the detection of man-made pollution in groundwater and wastewater (organic halide adsorption determination).

To optimize the suitability of PCTE, we offer a variety of products with unique characteristics:

- ◆ PVP (polyvinylpyrrolidone)-treated for a hydrophilic membrane
- ◆ AOX-certified for applications requiring extremely low extractables
- ◆ Black-dyed membrane for staining applications
- ◆ PVP-free for a hydrophobic membrane

Characteristics

- ◆ Absolute pore size and density allows for precise size separation
- ◆ Direct thickness and pore size measurements provide accurate characteristics
- ◆ Smooth, thin, glass-like surface is suitable for microscopy and cellular applications
- ◆ Superior strength allows for aggressive handling
- ◆ Low protein binding ensures clean results
- ◆ Resists chemical staining to ease microscopic visualization
- ◆ Passes USP VI Class toxicity testing for use

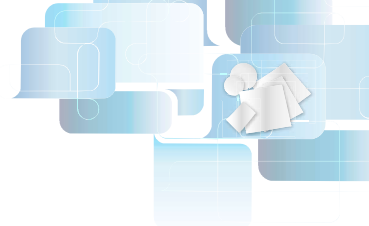
Typical Applications

- ◆ General filtration
- ◆ Legionella test (UNI EN ISO 11731_2017)
- ◆ Removal of red blood cells from plasma
- ◆ Flow control of reagents through assays
- ◆ Precise filtration and prefiltration
- ◆ Fuel testing
- ◆ Cytology
- ◆ Microscopy

Product Characteristics

Sterilization	Gamma Irradiation or Ethylene Oxide (EtO)
USP Class VI Testing	Passed
Extractables	Very Low
BSA Protein Binding	5 µg/cm ²
Maximum Operating Temperature	284°F (140°C)
Sealing Compatibility	Ultrasonic, Heat, Radio Frequency and Insert Molding
Pore Size Range	0.05 to 20 µm

MEMBRANES FOR FILTRATION



Performance Characteristics

Pore Size (a) (µm)	Pore Density (b) (pores/cm ²)	Nominal Thickness (c) (µm)	Min. Bubble Point (d) (psi)	Typical Flow Rates		(a) Tolerance + 0%, -20% (b) Tolerance + / - 15% (c) Tolerance + / - 10% (d) Measured using Isopropanol (IPA) (e) Initial flow rates using prefiltered water at 10 psid (0.7 kg/cm ²) (f) Initial flow rates using prefiltered air at 10 psid (0.7 kg/cm ²) (g) Initial flow rates using prefiltered air at 5 psi (0.35 kg/cm ²)
				Water (e) (mL/min/cm ²)	Air (L/min/cm ²)	
20	4 x 10 ⁴	3	1	1000	11 (g)	
14	5 x 10 ⁴	6	0.2	1400	63.5 (g)	
12	1 x 10 ⁵	8	0.4	1250	63.5 (g)	
10	1 x 10 ⁵	10	0.5	1150	34.5 (g)	
8	1 x 10 ⁵	7	0.7	1000	30 (g)	
5	4 x 10 ⁵	10	1.2	700	30 (g)	
3	2 x 10 ⁶	9	2	440	37.5 (g)	
2	2 x 10 ⁶	10	3	300	16.5 (f)	
1	2 x 10 ⁷	11	6	130	20 (f)	
0.8	3 x 10 ⁷	9	7	90	18 (f)	
0.6	3 x 10 ⁷	9	9	60	7.5 (f)	
0.4	1 x 10 ⁸	10	12	33	7.5 (f)	
0.2	3 x 10 ⁸	10	20	10	3 (f)	
0.1	4 x 10 ⁸	6	30	2.5	1.5 (f)	
0.08	4 x 10 ⁸	6	38	0.6	0.75 (f)	
0.05	6 x 10 ⁸	6	50	0.4	0.37 (f)	
0.03	6 x 10 ⁸	6	NA	0.2	0.075 (f)	
0.01	6 x 10 ⁸	6	NA	0.1	0.0075 (f)	

PCTE AOX Hydrophilic Membrane

Ordering information

Dimensions Packaging	25 mm 100/pk	47 mm 100/pk
0.4 µm	3026431	1215071

PCTE Hydrophilic Black Membrane

Ordering information

Dimensions Packaging	13 mm 100/pk	25 mm 100/pk	47 mm 100/pk	293 mm 20/pk	203x254 mm 30/pk
0.1 µm	1215311	1215315	1221503		3048982
0.2 µm	1215185	1215609	1213889	3027176	
0.4 µm	1215142	1212790	1214567		1227213
0.6 µm	1222025	1215290	1215198		3054144**
0.8 µm	1215236	1215138	1222028	3022140	
1 µm	1221181	1215161	1222035		
2 µm		1215297		3033301	
3 µm		1222452	3032159	3033302	
5 µm	1221286	1215188	1221230		
8 µm		1229540			

** 100/pack

DISC AND SHEET MEMBRANES

PCTE Hydrophilic Membrane - Sheets and Rolls

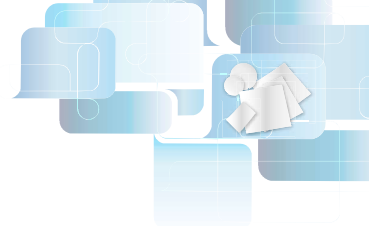
Ordering information

Dimensions Packaging	19x42 mm 100/pk	25x80 mm 50/pk	203x254 mm 30/pk	300x3000 mm 1/pk	
Pore sizes	0,01 µm		1215116	1225184	
	0,03 µm		1227264	1239558	
	0,05 µm		1215271	3027177	
	0,1 µm		1215117	1239556	
	0,2 µm		1215118	1239557	
	0,4 µm		1215274		
	0,6 µm		1222027		
	0,8 µm		1222030	3035602	
	1 µm		1268126	1221429	1267667
	2 µm			1221232	
	3 µm			1215275	3002536
	5 µm	1221295		1222080	1264835
	8 µm	1220867	1220686	1222085	3033093
	10 µm			1220823	3033092
	12 µm				1235494
	20 µm			1221231	

PCTE PVP-Free Hydrophobic Membrane

Ordering information

Dimensions Packaging	13 mm 100/pk	25 mm 100/pk	47 mm 100/pk	90 mm 30/pk	203x254 mm 30/pk	203x254 mm 30/pk	25x80 mm 50/pk
Pore sizes	0,01 µm		1226494		3032133		
	0,1 µm	1221504	1215059			1232919	
	0,2 µm		1222017	1222018		1223036	
	0,4 µm		1220835	1215073		1233373	
	0,8 µm		1222032				
	1,0 µm		1222037	1222038		1224067	
	3,0 µm	1215050	1221871	1222077		1228132	1221296
	5,0 µm	1215051	1221746	1222081	1222082	1225120	1221331
	8,0 µm	1215052	1221293	1215148	1222086	1225783	1215042
	10,0 µm	1215053	1222089	1220941		1234298	1215043
	12,0 µm	1215055	1221300				1215044
	14,0 µm	1221297					



PCTE Hydrophilic Membrane - Disks

Ordering information

Dimensions Packaging	13 mm 100/pk	19 mm 100/pk	25 mm 100/pk	37 mm 100/pk	47 mm 100/pk
0,01 µm	1215046		1215321		1215068
0,03 µm	1215047		1215057		1215069
0,05 µm	1215048	1221229	1220868		1215070
0,08 µm	1222092		1215058		1222093
0,1 µm	1215605	1215056	1215606		1215608
0,2 µm	1215610	1220694	1215611		1215612 1226156*
0,4 µm	1215613		1215614	1215615	1215617 1226157*
0,6 µm	1215618		1215619		1215620
0,8 µm	1215621		1215622	1215623	1215624
1 µm	1215625	1227203	1215627	1221302	1215628
2 µm	1215985		1215062		1215629
3 µm	1215049		1215063		1215036
5 µm	1215630		1215631		1215632
8 µm	1215633	3013894	1215634		1215637
10 µm	1221009		1215638		1212661
12 µm	1215054		1215984		3027598
14 µm	1222063		1222064		1215077
20 µm	1222072		1222073		1215078

* white, gridded, sterile and single packed for Legionella test

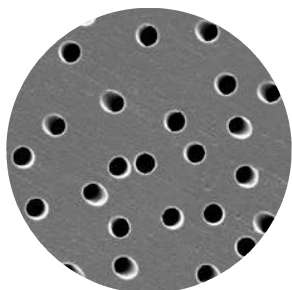
PCTE Hydrophilic Membrane - Disks

Ordering information

Dimensions Packaging	62 mm 100/pk	76 mm 30/pk	76 mm 100/pk	90 mm 30/pk	142 mm 20/pk	293 mm 20/pk
0,05 µm			1221291	1221227	1221290	1222091
0,08 µm				1222094	1222095	1222096
0,1 µm			1220970	1215150	1215304	1215219
0,2 µm			1220891	1215151	1215215	1215385
0,4 µm	3023783		1228342	1215303	1215152	1215317
0,6 µm		1224680		1222026	1221485	1220861
0,8 µm		1225894		1215194	1215309	1221720
1 µm			1220860	1215153	1216611	1215145
2 µm				1222070	1222071	1221005
3 µm			3013824	1222074	1215113	1222075
5 µm			3013825	1221004	1215388	
8 µm			3034848	1215403	1215201	1222084
10 µm			1267014	1222482	1221292	1222088
12 µm				1239192		
14 µm				1222479		

DISC AND SHEET MEMBRANES

Polyester Track Etched (PETE) Membrane



GVS PETE Membrane is made from a thin polyester film with a high density of solvent resistance. It is ideal for use in blood assays or general filtration where chemically aggressive solvents may be used. The membrane is produced through a two-step proprietary manufacturing process similar to that of the PCTE membrane. In the first step, polyester film is exposed to ion particles that pass through the film. As the ions pass through the film, they create “tracks” where the polymer is damaged. The beamed film is then exposed to a chemical solution which etches out the tracks creating precise, cylindrical pores. Pore density is controlled by the number of tracks per unit area, and pore size is controlled by varying the temperature, strength and time of exposure to the etching solution. This unique process allows for increased control over pore size and density to ensure the physical properties of each membrane precisely fit your specifications. The resulting membrane is a thin, translucent

polyester film with a smooth, flat surface containing pores of controlled diameter and number. The membrane has better solvent resistance than polycarbonate and captures all particles larger than the precisely controlled pore size on its surface.

Characteristics

- ▲ Broad range of chemical compatibility for a wide range of applications
- ▲ Direct thickness and pore size measurements ensure accurate characteristics
- ▲ Naturally hydrophilic so pre-treatments and wetting agents are not required
- ▲ Smooth, thin, glass-like surface for microscopic visualization
- ▲ Low protein binding ensures clean results

Typical Applications

- ▲ General filtration
- ▲ Removal of red blood cells from plasma
- ▲ Flow control of reagents through assays
- ▲ Precise filtration and prefiltration
- ▲ Air analysis
- ▲ Filtration of aggressive solutions
- ▲ Cellular assays and diagnostics
- ▲ Trace element analysis

Product Characteristics

Sterilization	Gamma Irradiation or Ethylene Oxide (EtO)
USP Class VI Testing	Passed
Thickness	10 - 20 μm
Extractables	Low
BSA Protein Binding	< 5 $\mu\text{g}/\text{cm}^2$
Maximum Operating Temperature	284°F (140°C)
Sealing Compatibility	Ultrasonic, Heat, Radio Frequency and Insert Molding
Pore Size Range	0.2 to 10 μm

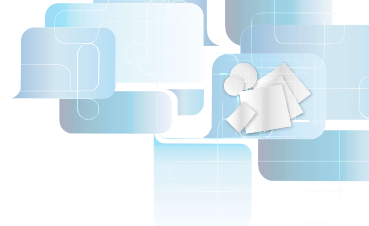
Nominal Product Characteristics

Water Adsorption (% wt. gain 24-hr immersion)	0.24%
Residual Ash Weight Average	0.92 $\mu\text{g}/\text{cm}^2$
Specific Gravity	0.94-0.97
Autoclavable	Yes
Leachables	Negligible
Wetting Characteristics	Naturally Hydrophilic
Burst Strength Minimum	0.7 bar (10 psi)
Migration of Filter Media	0
Optical Properties	Semi-translucent

Performance Characteristics

Pore Size (a) (μm)	Pore Density (b) (pores/ cm^2)	Nominal Thickness (c) (μm)	Min. Bubble Point (d) (psi)	Typical Flow Rates	
				Water (e) ($\text{mL}/\text{min}/\text{cm}^2$)	Air ($\text{L}/\text{min}/\text{cm}^2$)
10	1 x 10 ⁶	9	0.5	1150	34.5 (g)
8	1 x 10 ⁶	7	0.7	1000	30 (g)
5	4 x 10 ⁶	10	1.2	700	30 (g)
3	2 x 10 ⁶	9	2	440	37.5 (g)
2	2 x 10 ⁶	10	3	300	16.5 (f)
1	2 x 10 ⁷	11	6	130	20 (f)
0.8	3 x 10 ⁷	9	7	90	18 (f)
0.6	3 x 10 ⁷	9	9	60	7.5 (f)
0.4	1 x 10 ⁸	10	12	33	7.5 (f)
0.2	3 x 10 ⁸	10	20	10	3 (f)

- (a) Tolerance + 0%, -20%
- (b) Tolerance + / - 15%
- (c) Tolerance + / - 10%
- (d) Measured using Isopropanol (IPA)
- (e) Initial flow rates using prefiltered water at 10 psid (0.7 kg/cm^2)
- (f) Initial flow rates using prefiltered air at 10 psid (0.7 kg/cm^2)
- (g) Initial flow rates using prefiltered air at 5 psi (0.35 kg/cm^2)



PETE Membrane - Disks and Sheets

Ordering information

Dimensions Packaging	13 mm 100/pk	25 mm 100/pk	47 mm 100/pk	90 mm 30/pk	142 mm* 20/pk	293 mm 20/pk	203x254 mm 30/pk
0,2 µm	1220969	1221383	1215288	1222240	1221385		1220886
0,4 µm	1221387	1221388	1215373	1220702	1221389		1222242
0,8 µm		1221398	1215374	1221399		1221401	1222246
1,0 µm	1215379	1215308	1220871	1221402	1222248	1222249	1221334
2,0 µm		1221404	1221405				1222251
3,0 µm	1221409	1221410	1215367	1222253	1221411	1221412	1222254
5,0 µm	1215324	1221413	1215183	1221414	1221415	1221416	1222256
8,0 µm	1221417	1221418	1221419	1221420			1222258
10,0 µm		1220827	1215173	1221424		1221426	1222260

*Bulk packaging available

Drain Disc



The polyester spun-bonded “drain” type disc prevents “pore blinding” or blockage of the capillary pores in screen membranes resulting in higher flow rates and increased throughputs. The drain disc increases flow and capture ability by lifting off of screen supports and exposing all the pores. This ensures efficient performance when placed between two filters in a serial filtration stack. The spacers prevent air locking of the downstream screen, or function as filters by binding a percentage of pores in the upstream filter. The spacer may be sized to fit within the diameter of the O-ring in the filter holder. For example , use a 42 mm spacer under a 47 mm filter.

Characteristics

- ◆ Frequently used with PCTE (Polycarbonate) and PETE (Polyester) membranes to increase flow
- ◆ Spacer between stacked membranes

Ordering information

Product Code	Quantity	Description
1215218	100/pk	Drain Disc, 13 mm
1215141	100/pk	Drain Disc, 25 mm
1238010	100/pk	Drain Disc, 37 mm
1215500	100/pk	Drain Disc, 42 mm
1215163	100/pk	Drain Disc, 47 mm
1221182	25/pk	Drain Disc, 90 mm
1215522	25/pk	Drain Disc, 124 mm
3033452	25/pk	Drain Disc, 142 mm
3007164	25/pk	Drain Disc, 293 mm

DISC AND SHEET MEMBRANES

Filter Papers

GVS filter paper is the standard for laboratory filtration. Using the highest quality material, the GVS filter paper has an enhanced mechanical strengths, quality level and reliability. GVS offers both qualitative and quantitative filter papers, with increasing degrees of purity, hardness and chemical resistance.

Qualitative Papers

GVS Qualitative low ash hardened filter paper is used in qualitative analytical techniques to determine and identify materials. Qualitative filter papers are made of refined pulp and pure cotton linters with an alpha-cellulose content of nearly 100%. The ash content of less than 0.06% is not reduced by post-treatment. From Very Fast filtration to Very Slow filtration, GVS qualitative Papers provide a wide range of solutions for all application needs.

Low Ash / Very Fast

Very high rate of filtration with excellent retention of coarse particles and precipitates such as metal hydroxides and sulphides or gelatinous substances. Rapid filter for clean-up of biological fluids or organic extracts, food industry analysis and air pollution monitoring.



Product Characteristics

Weight	85 g/m ²
Thickness	210 µm
Retention Range	15-20 µm
Ash content	<0.06 %

General Application

- ◆ Qualitative analysis
- ◆ Analysis of Biological and organic fluids
- ◆ Air monitoring
- ◆ Food analysis

Ordering information

Product Code	Diameter	Quantity
FP042DXF04QALC01	42 mm	100/pk
FP047DXF04QALC01	47 mm	100/pk
FP055DXF04QALC01	55 mm	100/pk
FP070DXF04QALC01	70 mm	100/pk
FP090DXF04QALC01	90 mm	100/pk
FP110DXF04QALC01	110 mm	100/pk
FP125DXF04QALC01	125 mm	100/pk
FP150DXF04QALC01	150 mm	100/pk
FP185DXF04QALC01	185 mm	100/pk
FP240DXF04QALC01	240 mm	100/pk
FP320DXF04QALC01	320 mm	100/pk



Low Ash / Medium

Medium retention and flow rate. For the rapid filtration of fine precipitates.

Medium grade filter paper is ideal for a wide range of laboratory applications: separation of precipitates (lead sulfate, calcium oxalate, calcium carbonate), soil analysis, seed testing, separation of solid foodstuff or extracting liquid, atmospheric dust collection. gas detection.



Product Characteristics

Weight	85 g/m ²
Thickness	180 μm
Retention Range	10-13 μm
Ash content	<0,06 %

General Application

- ◆ Qualitative analysis
- ◆ Clarifying liquids
- ◆ Soil analysis and seed testing
- ◆ Food analysis
- ◆ Air monitoring

Ordering information

Product Code	Diameter	Quantity
FP042DME01QALC01	42 mm	100/pk
FP047DME01QALC01	47 mm	100/pk
FP055DME01QALC01	55 mm	100/pk
FP070DME01QALC01	70 mm	100/pk
FP090DME01QALC01	90 mm	100/pk
FP110DME01QALC01	110 mm	100/pk
FP125DME01QALC01	125 mm	100/pk
FP150DME01QALC01	150 mm	100/pk
FP185DME01QALC01	185 mm	100/pk
FP240DME01QALC01	240 mm	100/pk
FP320DME01QALC01	320 mm	100/pk

Low Ash / Medium-Slow

Medium-Slow flow speed with medium-high retention. For general filtration. Ideal for monitoring specific contaminants in the atmosphere and soil testing. For the filtration of fine precipitates.



Product Characteristics

Weight	100 g/m ²
Thickness	190 μm
Retention Range	7-8 μm
Ash content	<0,06 %

General Application

- ◆ Qualitative analysis
- ◆ General filtration
- ◆ Soil analysis
- ◆ Air monitoring

Ordering information

Product Code	Diameter	Quantity
FP042DMS02QALC01	42 mm	100/pk
FP047DMS02QALC01	47 mm	100/pk
FP055DMS02QALC01	55 mm	100/pk
FP070DMS02QALC01	70 mm	100/pk
FP090DMS02QALC01	90 mm	100/pk
FP110DMS02QALC01	110 mm	100/pk
FP125DMS02QALC01	125 mm	100/pk
FP150DMS02QALC01	150 mm	100/pk
FP185DMS02QALC01	185 mm	100/pk
FP240DMS02QALC01	240 mm	100/pk
FP320DMS02QALC01	320 mm	100/pk

DISC AND SHEET MEMBRANES

Low Ash / Medium-Slow/Thick

Double thick filter paper with Medium-Slow flow speed with medium-high retention. The extra thickness provides greater wet strength for higher solute loading. Suitable for Buchner funnels and hard to clarify liquids, essences, oils and tinctures. For the filtration of fine particles.



Product Characteristics

Weight	200 g/m ²
Thickness	320 µm
Retention Range	5-7 µm
Ash content	<0.06 %

General Application

- ◆ Qualitative analysis
- ◆ Buchner funnels
- ◆ High absorbency

Ordering information

Product Code	Diameter	Quantity
FP042DMS03QLTC01	42 mm	100/pk
FP047DMS03QLTC01	47 mm	100/pk
FP055DMS03QLTC01	55 mm	100/pk
FP070DMS03QLTC01	70 mm	100/pk
FP090DMS03QLTC01	90 mm	100/pk
FP110DMS03QLTC01	110 mm	100/pk
FP125DMS03QLTC01	125 mm	100/pk
FP150DMS03QLTC01	150 mm	100/pk
FP185DMS03QLTC01	185 mm	100/pk
FP240DMS03QLTC01	240 mm	100/pk
FP320DMS03QLTC01	320 mm	100/pk

Low Ash / Very Slow

Maximum particle retention. Slow flow rate. High retention of fine particles in chemical analysis. Clarification of cloudy suspensions (wine); Water and soil analysis. Ideal for extra fine-grained precipitates, barium sulphate, cuprous oxide.



Product Characteristics

Weight	85 g/m ²
Thickness	170 µm
Retention Range	3-5 µm
Ash content	<0.06 %

General Application

- ◆ Qualitative analysis
- ◆ Clarifying liquids
- ◆ Water analysis
- ◆ Soil analysis

Ordering information

Product Code	Diameter	Quantity
FP042DXS05QALC01	42 mm	100/pk
FP047DXS05QALC01	47 mm	100/pk
FP055DXS05QALC01	55 mm	100/pk
FP070DXS05QALC01	70 mm	100/pk
FP090DXS05QALC01	90 mm	100/pk
FP110DXS05QALC01	110 mm	100/pk
FP125DXS05QALC01	125 mm	100/pk
FP150DXS05QALC01	150 mm	100/pk
FP185DXS05QALC01	185 mm	100/pk
FP240DXS05QALC01	240 mm	100/pk
FP320DXS05QALC01	320 mm	100/pk



Quantitative Papers

GVS Quantitative Ashless filter papers are designed for quantitative analysis and preparation of samples and gravimetric analysis. Suitable for Buchner funnels and filtration under pressure. Quantitative Ashless filter papers are made of refined pulp and pure cotton linters with an alpha-cellulose content of virtually 100%. Ash content of less than 0.007%. From Very Fast Filtration to Very Slow Filtration, the wide range of GVS Quantitative Papers provide the right solution for any application need.

Ashless / Fast

Very fast ashless filter paper. Analytical procedures with large particles or gelatinous precipitates (iron or aluminum hydroxides). Air pollution analysis to determinate gaseous compounds.



Product Characteristics

Weight	85 g/m ²
Thickness	190 μm
Retention Range	20-25 μm
Ash content	<0.007 %

General Application

- ◆ Quantitative analysis
- ◆ Air monitoring
- ◆ Food industry
- ◆ paper industry

Ordering information

Product Code	Diameter	Quantity
FP042DFA41QANC01	42 mm	100/pk
FP047DFA41QANC01	47 mm	100/pk
FP055DFA41QANC01	55 mm	100/pk
FP070DFA41QANC01	70 mm	100/pk
FP090DFA41QANC01	90 mm	100/pk
FP110DFA41QANC01	110 mm	100/pk
FP125DFA41QANC01	125 mm	100/pk
FP150DFA41QANC01	150 mm	100/pk
FP185DFA41QANC01	185 mm	100/pk
FP240DFA41QANC01	240 mm	100/pk
FP320DFA41QANC01	320 mm	100/pk

Ashless / Medium

Medium retention and fast flow. Foodstuff and soil analysis. Air pollution monitoring. Analysis in mining, construction and steel industries.



Product Characteristics

Weight	85 g/m ²
Thickness	180 μm
Retention Range	14-17 μm
Ash content	<0.007 %

General Application

- ◆ Quantitative analysis
- ◆ Food analysis
- ◆ Soil analysis
- ◆ Industrial analysis
- ◆ COD and TOC determination
- ◆ inorganic analysis
- ◆ Blaine test and other cement testing
- ◆ Inorganic

Ordering information

Product Code	Diameter	Quantity
FP042DME43QANC01	42 mm	100/pk
FP047DME43QANC01	47 mm	100/pk
FP055DME43QANC01	55 mm	100/pk
FP070DME43QANC01	70 mm	100/pk
FP090DME43QANC01	90 mm	100/pk
FP110DME43QANC01	110 mm	100/pk
FP125DME43QANC01	125 mm	100/pk
FP150DME43QANC01	150 mm	100/pk
FP185DME43QANC01	185 mm	100/pk
FP240DME43QANC01	240 mm	100/pk
FP320DME43QANC01	320 mm	100/pk

DISC AND SHEET MEMBRANES

Ashless / Medium-Slow

Medium speed and retention. Analysis of components in cements, clays, iron and steel products. Soil analysis. Sediments in milk. Filtration of solutions prior to atomic absorption spectrophotometry; High purity filter in atmospheric analysis.



Product Characteristics

Weight	85 g/m ²
Thickness	170 μm
Retention Range	7-9 μm
Ash content	<0.007 %

General Application

- ◆ Quantitative analysis
- ◆ Gravimetric analysis
- ◆ Soil analysis
- ◆ Air monitoring
- ◆ Fat and oil in water testing

Ordering information

Product Code	Diameter	Quantity
FP042DMS40QANC01	42 mm	100/pk
FP047DMS40QANC01	47 mm	100/pk
FP055DMS40QANC01	55 mm	100/pk
FP070DMS40QANC01	70 mm	100/pk
FP090DMS40QANC01	90 mm	100/pk
FP110DMS40QANC01	110 mm	100/pk
FP125DMS40QANC01	125 mm	100/pk
FP150DMS40QANC01	150 mm	100/pk
FP185DMS40QANC01	185 mm	100/pk
FP240DMS40QANC01	240 mm	100/pk
FP320DMS40QANC01	320 mm	100/pk

Ashless / Slow

High retention and slow flow rate. Often used for filtering very fine precipitates and in gravimetric metal determination.



Product Characteristics

Weight	85 g/m ²
Thickness	160 μm
Retention Range	2-4 μm
Ash content	<0.007 %

General Application:

- ◆ Quantitative analysis
- ◆ For very fine crystalline precipitates

Ordering information

Product Code	Diameter	Quantity
FP042DSL44QANC01	42 mm	100/pk
FP047DSL44QANC01	47 mm	100/pk
FP055DSL44QANC01	55 mm	100/pk
FP070DSL44QANC01	70 mm	100/pk
FP090DSL44QANC01	90 mm	100/pk
FP110DSL44QANC01	110 mm	100/pk
FP125DSL44QANC01	125 mm	100/pk
FP150DSL44QANC01	150 mm	100/pk
FP185DSL44QANC01	185 mm	100/pk
FP240DSL44QANC01	240 mm	100/pk
FP320DSL44QANC01	320 mm	100/pk



Ashless / Very Slow

Highest retention and very slow flow. Extremely difficult filtrations. Analytical precipitates: barium sulphate, mactannic acid and finely precipitated calcium carbonate. The ideal filter paper for critical gravimetric analysis.



Product Characteristics

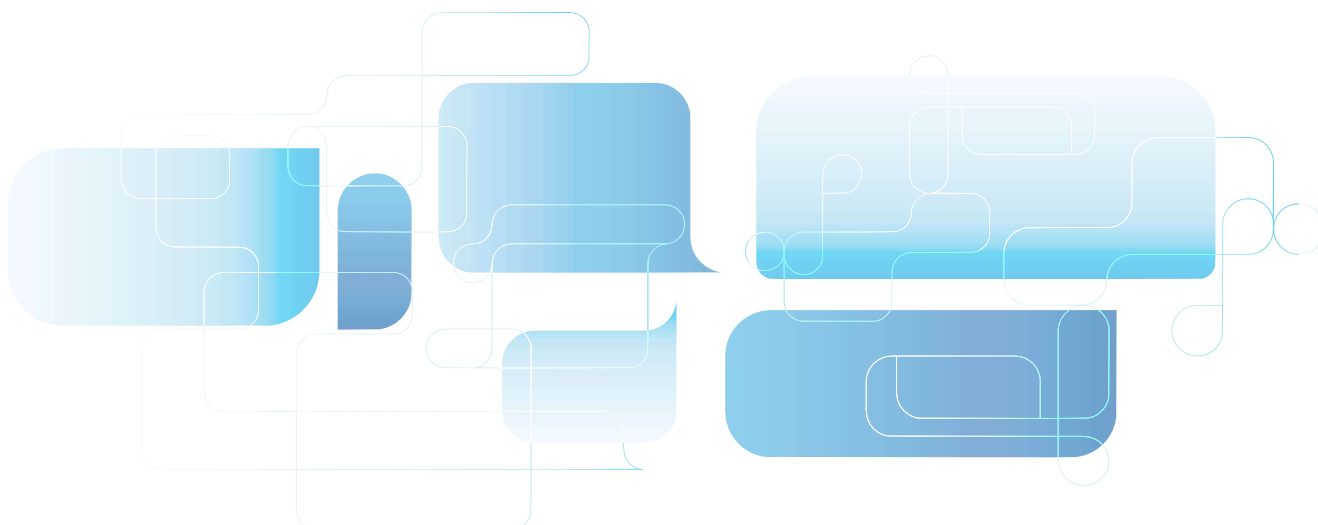
Weight	100 g/m ²
Thickness	160 μm
Retention Range	2-3 μm
Ash content	<0.007 %

General Application

- ◆ Quantitative analysis
- ◆ Critical gravimetric analysis.

Ordering information

Product Code	Diameter	Quantity
FP042DXS42QANC01	42 mm	100/pk
FP047DXS42QANC01	47 mm	100/pk
FP055DXS42QANC01	55 mm	100/pk
FP070DXS42QANC01	70 mm	100/pk
FP090DXS42QANC01	90 mm	100/pk
FP110DXS42QANC01	110 mm	100/pk
FP125DXS42QANC01	125 mm	100/pk
FP150DXS42QANC01	150 mm	100/pk
FP185DXS42QANC01	185 mm	100/pk
FP240DXS42QANC01	240 mm	100/pk
FP320DXS42QANC01	320 mm	100/pk



DISC AND SHEET MEMBRANES

Glass Microfiber



GVS offers a wide range of glass microfiber filters made of 100% borosilicate glass fibers without binders. The depth structure of the filter with its large surface area provides an outstanding impurity retention capacity combined with a low filter resistance. Glass fiber filters adsorb the finest particles down to 1 µm from liquids and < 1 µm in air and gases, as the electrostatic interaction between the glass fibers and gases is better than between glass fibers and liquids.

GF 0.7 µm

This is the filter with the highest retention performance of the range. It is particularly suited to filter samples and solvents for HPLC, being this pre-filtration most important for ensuring the success of the test. It is also suitable for biochemical test, such as clarifications, protein filtrations, cellular cultures, etc. The Trace Element Levels were obtained with an AAS (Atomic Absorption Spectrometer) with 100% dissolved fiberglass.

Features & Benefits

- ◆ Very small particles retention
- ◆ Resistance to aggressive substances
- ◆ Temperature resistant up to 500°C

Typical Application

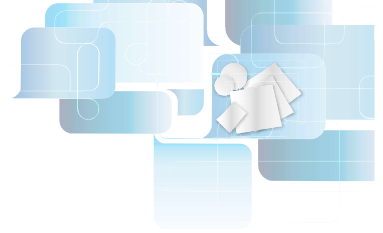
- ◆ DNA and Protein filtration
- ◆ Clarification
- ◆ Water analysis
- ◆ Biochemical determinations
- ◆ Air monitoring
- ◆ As a membrane pre-filter
- ◆ Filtration of solvents for HPLC and biochemical tests
- ◆ Cell cultures
- ◆ Protein and Enzyme filtration

Product Characteristics

Basis Weight	75 g/m ²
Thickness	450 µm
Retention range	0.7 µm
Binders	Binder-free
Retention DOP	99,998 %

Ordering information

Product Code	Diameter	Quantity
FP021DSLFFGLFC01	21mm	100/pk
FP024DSLFFGLFC01	24mm	100/pk
FP025DSLFFGLFC01	25 mm	100/pk
FP037DSLFFGLFC01	37 mm	100/pk
FP047DSLFFGLFC01	47 mm	100/pk
FP050DSLFFGLFC01	50 mm	100/pk
FP055DSLFFGLFC01	55 mm	100/pk
FP070DSLFFGLFC01	70 mm	100/pk
FP090DSLFFGLFC01	90 mm	100/pk
FP110DSLFFGLFC01	110 mm	100/pk
FP125DSLFFGLFC01	125 mm	100/pk
FP150DSLFFGLFC01	150 mm	100/pk
FP203RSLFFGLFC01	203x254 mm	100/pk
FP240DSLFFGLFC01	240 mm	100/pk



GF 1.0 µm

This filter paper is mainly used in membrane prefiltration and for filtration of suspended solids in water. Suitable for filtration of large volumes.

Features & Benefits

- ◆ Small particles retention
- ◆ Resistance to aggressive substances
- ◆ Temperatures up to 500 °C

Product Characteristics

Basis Weight	143 g/m ²
Thickness	700 µm
Retention range	1.0 µm
Binders	Binder-free
Retention DOP	99,998 %

Typical Application

- ◆ Liquid Filtration
- ◆ Clarification
- ◆ Water analysis
- ◆ Biochemical determinations
- ◆ As a membrane pre-filter
- ◆ Large volume filtration

Ordering information

Product Code	Diameter	Quantity
FP021DAM10GLFC01	21mm	100/pk
FP024DAM10GLFC01	24mm	100/pk
FP027DAM10GLFC01	27 mm	100/pk
FP037DAM10GLFC01	37 mm	100/pk
FP047DAM10GLFC01	47 mm	100/pk
FP050DAM10GLFC01	50 mm	100/pk
FP055DAM10GLFC01	55 mm	100/pk
FP070DAM10GLFC01	70 mm	100/pk
FP090DAM10GLFC01	90 mm	100/pk
FP110DAM10GLFC01	110 mm	100/pk
FP125DAM10GLFC01	125 mm	100/pk
FP150DAM10GLFC01	150 mm	100/pk
FP203RAM10GLFC01	203 X 254 mm	100/pk
FP240DAM10GLFC01	240 mm	100/pk

DISC AND SHEET MEMBRANES

GF 1.2 µm

This is the most suitable filter to test for solids in suspension in water in accordance with the parameters set by the EN European regulations. In general it is suitable for any work in water control or waste water analysis, including clarification processes. In biochemical tests, it is very useful for analysing carbohydrates, cellular cultures, etc. The Trace Element Levels were obtained with an AAS (Atomic Absorption Spectrometer) with 100% dissolved fiberglass.

Product Characteristics

Basis Weight	53 g/m ²
Thickness	260 µm
Retention range	1.2 µm
Binders	Binder-free
Retention DOP	99,998 %

Features & Benefits

- ◆ Extraction thimbles (cellulose, glass & quartz microfiber)
- ◆ Very small particles retention
- ◆ Resistance to aggressive substances
- ◆ Temperatures up to 500 °C

Typical Application

- ◆ DNA and Protein filtration
- ◆ Clarification
- ◆ Water analysis
- ◆ Biochemical determinations
- ◆ Air monitoring
- ◆ As a membrane pre-filter
- ◆ Filtration of solvents for HPLC and biochemical tests

Ordering information

Product Code	Diameter	Quantity
FP021DMEFCGLFC01	21 mm	100/pk
FP024DMEFCGLFC01	24 mm	100/pk
FP025DMEFCGLFC01	25 mm	100/pk
FP037DMEFCGLFC01	37 mm	100/pk
FP047DMEFCGLFC01	47 mm	100/pk
FP050DMEFCGLFC01	50 mm	100/pk
FP055DMEFCGLFC01	55 mm	100/pk
FP070DMEFCGLFC01	70 mm	100/pk
FP090DMEFCGLFC01	90 mm	100/pk
FP110DMEFCGLFC01	110 mm	100/pk
FP125DMEFCGLFC01	125 mm	100/pk
FP150DMEFCGLFC01	150 mm	100/pk
FP254RMEFCGLFC01	254x102 mm	100/pk
FP203RMEFCGLFC01	203x254 mm	100/pk
FP240DMEFCGLFC01	240 mm	100/pk



GF 1.6 µm

Particularly suited to atmospheric pollution controls, intake controls and ozone level measurements. This product is used in testing for algae in water, in general water controls and in waste water analysis. Its use for filtering solvents in high-resolution laboratories is recommended.

Product Characteristics

Basis Weight	52 g/m ²
Thickness	260 µm
Retention range	1.6 µm
Binders	Binder-free
Retention DOP	99,998 %

Features & Benefits

- ◆ Extraction thimbles (cellulose, glass & quartz microfiber)
- ◆ Very small particles retention
- ◆ Resistance to aggressive substances
- ◆ Temperatures up to 500 °C
- ◆ Fine retention with fast flow

Typical Application

- ◆ General purpose laboratory filtration
- ◆ Food analysis
- ◆ Water analysis
- ◆ Biochemical determinations
- ◆ Air monitoring
- ◆ As a membrane pre-filter
- ◆ Protein filtration

Ordering information

Product Code	Diameter	Quantity
FP021DFAFAGLFC01	21 mm	100/pk
FP024DFAFAGLFC01	24 mm	100/pk
FP025DFAFAGLFC01	25 mm	100/pk
FP037DFAFAGLFC01	37 mm	100/pk
FP047DFAFAGLFC01	47 mm	100/pk
FP050DFAFAGLFC01	50 mm	100/pk
FP055DFAFAGLFC01	55 mm	100/pk
FP070DFAFAGLFC01	70 mm	100/pk
FP090DFAFAGLFC01	90 mm	100/pk
FP110DFAFAGLFC01	110 mm	100/pk
FP125DFAFAGLFC01	125 mm	100/pk
FP150DFAFAGLFC01	150 mm	100/pk
FP203RFAFAGLFC01	203 x 254 mm	100/pk
FP240DFAFAGLFC01	240 mm	100/pk

DISC AND SHEET MEMBRANES

GF 2.7 µm

A coarse filter commonly used for membrane pre-filtering. Has a high particle retention for pre-filtering to ensure that the sample is clarified properly prior to passing through the membrane filter.

Features & Benefits

- ◆ Coarse particles retention
- ◆ Resistance to aggressive substances
- ◆ Temperatures up to 500 °C
- ◆ Coarse retention with fast flow

Product Characteristics

Basis Weight	120 g/m ²
Thickness	530 µm
Retention range	2.7 µm
Binders	Binder-free
Retention DOP	99,998 %

Typical Application

- ◆ General purpose laboratory filtration
- ◆ Clarification
- ◆ As a membrane pre-filter

Ordering information

Product Code	Diameter	Quantity
FP021DAM27GLFC01	21 mm	100/pk
FP024DAM27GLFC01	24 mm	100/pk
FP025DAM27GLFC01	25 mm	100/pk
FP037DAM27GLFC01	37 mm	100/pk
FP047DAM27GLFC01	47 mm	100/pk
FP050DAM27GLFC01	50 mm	100/pk
FP055DAM27GLFC01	55 mm	100/pk
FP070DAM27GLFC01	70 mm	100/pk
FP090DAM27GLFC01	90 mm	100/pk
FP110DAM27GLFC01	110 mm	100/pk
FP125DAM27GLFC01	125 mm	100/pk
FP150DAM27GLFC01	150 mm	100/pk
FP203RAM27GLFC01	203 x 254 mm	100/pk
FP240DAM27GLFC01	240 mm	100/pk