GLOBAL FILTER
Filtration Group®

Validated Filtration Solutions
to Industry Leaders®

Filtration SOLUTIONS

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Our Company

Our Product Series

GLOBAL FILTER
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Global Filter is part of the ***Filtration Group*** portfolio

A global leader in industrial process filtration, only Global Filter delivers the performance, quality and consistency you need to separate you from the competition. Our strong heritage is reflected in our brand and our record of accomplishment. Global Filter is an industry leader and innovator with a continuing commitment to technological expertise and service. With extensive market expertise that includes the Food & Beverage, Pharmaceuticals, Industrial, Microelectronics, and Energy industries, we have all your processing needs covered.

Food & Beverage – We are proud to be recognized as a premier supplier of depth, pleated depth, pleated membrane cartridges and vessels for the Food & Beverage industry.

Pharmaceuticals – We promise high purity, efficiency, and economy to our customers. Our products are stringently tested and certified in our hygienic production facilities.

Microelectronics – Providing superior filtration solutions for the high purity manufacture and processing of semiconductor components and products.

Industrial – Our filtration products and services are utilized by customers in a wide variety of industries including: Paints, Inks & Coatings, Water Treatment, Mining & Minerals, Chemical, etc.

Trusted OEM Partner – We work with OEMs to help improve equipment performance, reduce development time and enhance aftermarket service and support to end customers. Through our global footprint, we can also strengthen your ability to provide aftermarket service and technical support to end customers.

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Founded in 1999

in Cedar Rapids, IA, Global Filter produces high-purity pleated filter cartridges in our advanced technology production facility. From modest beginnings as a family-owned business, we've grown to include manufacturing and warehousing facilities in Cedar Rapids and Marion, IA to serve customers worldwide. Some of the world's largest companies trust Global Filter for their most critical filtration requirements.

At Global Filter, we continually strive to improve the quality of our products as well as the processes that develop and manufacture them. We have steadily increased our total footprint of cleanroom-level environment for the production, rinsing, and testing of our high-purity offerings. These improvements have resulted in increased capacity and shortened lead times while enhancing the cleanliness of our rinsed products and our entire range of filter elements.

Advancement of our technological capabilities is a pillar of Global Filter's business and we're proud of our reputation as a leader in tackling difficult challenges. Our engineers and technicians work closely with customers to identify specific filtration needs and provide development support for major filtration projects, while being attentive to objectives for product cost and schedule. We support our programs with capable testing services to provide world-class best net value.

Our commitment to excellence in cleanliness, efficiency, quality, and service is driven by our goal to exceed the requirements of our customers. Our goal is complete customer satisfaction and it is reflected in everything we do.

We provide ***filtration solutions*** for a wide range of industries, including:

Food & Beverage

Bottled Water | Wine & Beer
Dairy | Sugar Cane &
Corn Syrup | Juices & Soft Drinks
Distilled Spirits

Pharmaceutical

Clarification and Pre-filtration
Bioburden Reduction & Sterilization
Venting and Gas Filtration
Ultrapure Water & Utilities

Microelectronics

Ultra-pure Chemicals
Ultra-pure Water
Ultra-pure Air & Gases

Paints, Inks, & Coatings

Dyestuffs
High Purity Paints | Inkjet Inks
Automotive Paints
Laser Inks | Clear Coats

Water Treatment

Process Water | RO Prefiltration
Ultrapure Water | Municipal Water
Produced Water | Injection Water

Dust Collection

Cement | Power Generation
Laser Manufacturing
Carbon Black | Asphalt

Mining & Minerals

Gold | Coal | Copper
Aluminum | Nickel
Sand & Gravel Processing

Energy

Refinery & Petrochemical
Power Generation

Chemical

Titanium Dioxide | Potash
Carbon Black | Intermediates
Raw Materials | Dyestuffs
Bleach | Hydrogen Peroxide

Vessels in stock, ready to ship!

Our Products

Improve cleanliness and optimize your processes with our full line of filtration products:

- Pleated Depth & Membrane Cartridges
- Depth Cartridges
- Swing-Bolt Cartridge & Bag Vessels
- Band-Clamp Cartridge & Bag Vessels
- Custom Filtration Solutions

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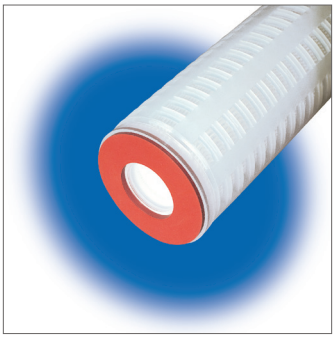
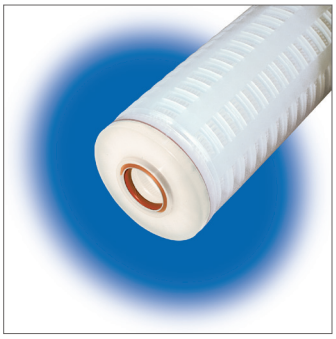
Cartridge End Cap Configurations



Open (DOE)

Spring

PP Core Extender



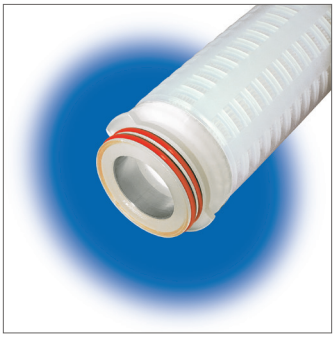
213 Internal O-Ring

Flat (for 213)

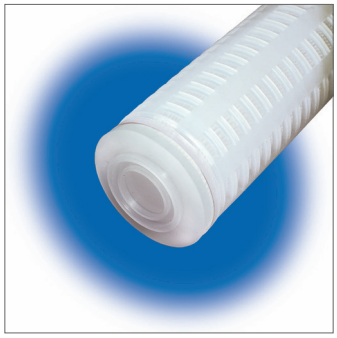
222

222 (w/SS Insert)

226



226 (w/SS Insert)



Flat Cap

Fin

316SS Compression Spring

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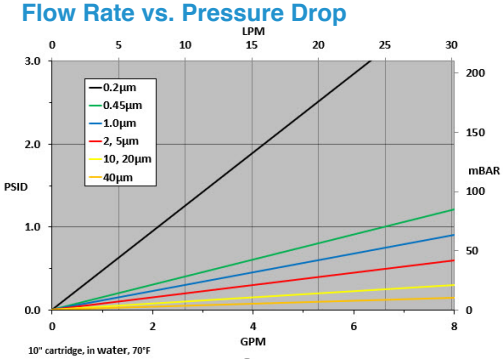
PP-Series Pleated Polypropylene

PP-Series High Purity Pleated Polypropylene Filter Cartridges provide a high area, 100% polypropylene element for removal of fine or coarse particulate from fluid streams.

The pleated depth media is encapsulated in an integral, continuous length, thermally-bonded structure for cleanliness, pressure tolerance, and chemical inertness. Offered in both absolute-rated (up to 99.98% retention) and nominally-rated (90% retention) grades in all end configurations. Manufactured in a clean-room environment to maintain high standards of purity and cleanliness.

Commonly used in food/beverage and chemical applications as a final filter or prefiltration stage.

Flow Rate vs. Pressure Drop



*All data is based on absolute rated medias. Nominally rated medias will result in a pressure drop reduction of approximately 10%.

Typical Applications

- Food & Beverage
- Deionized Water
- R.O. Pre-Filtration
- Process Water
- Fine Chemicals
- Plating Chemicals
- Wastewater

Construction Materials

Filtration Media ..... Polypropylene
Support Media ..... Polypropylene
End Caps ..... Polypropylene
Center Core ..... Polypropylene
Outer Support Cage ..... Polypropylene
O-Rings/Gaskets .....Buna, EPDM, Silicone, Teflon® Encapsulated Viton®, Viton®, Teflon® Encapsulated Silicone

Sanitization/Sterilization

Filtered Hot Water .....80˚C for 30 min.
Steam Sterilization .....121˚C for 30 min., multiple cycles

Chemicals: Cartridges are compatible with most chemical sanitizing agents.

Note: Stainless steel insert option required for all cartridges being hot water sanitized or steam sterilized.

Toxicity

All polypropylene components meet the specifications for biological safety per USP Class VI – 121˚C for plastics.

Dimensions

Length:
10 to 40 inches (25.4 to 101.6 cm) nominal
Outside Diameter:
2.70 inches (7.0 cm) nominal

Operating Conditions

Change Out ΔP (recommended) .....35 PSID
Temperature (max) ..... 176˚F (80˚C)
Differential Pressure (max) ..60 PSID (4.1 bar) at 68˚F (20˚C)

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

PP	Rating (µ)	Retention	Length	C	End Cap Style	O-Rings/Gaskets	-	Adders
	0.2	A = Absolute	10” (25.4 cm)		2 = DOE Flat Gasket	B = Buna		CS = 316SS Compression Spring
	0.45	N = Nominal	20” (50.8 cm)		3 = 222 w/ Fin	E = EPDM		FG = Glass Reinforced PP Core
	1.0		30” (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone		HP = Heavy Poly Core
	2.0		40” (101.6 cm)		5 = 222 w/ Spring	T = Teflon® Encapsulated Viton®		I = Stainless Steel Insert
	5.0				6 = 226 w/ Flat Cap	V = Viton®		R = 18 Megaohm Rinse
	10.0				7 = 226 w/ Fin	Z = Teflon® Encapsulated Silicone		SS = Stainless Steel Core
	20.0				8 = 226 w/ Spring			
	40.0				16 = 213 Internal O-Ring			

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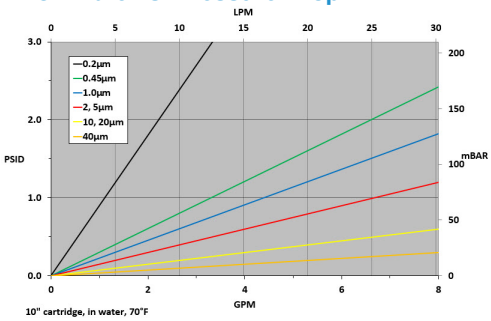
PPE-Series Economy Grade Pleated Polypropylene

PPE-Series High Purity Economy Grade Pleated Polypropylene Filter Cartridges provide an economical, 100% polypropylene element for removal of fine or coarse particulate from fluid streams.

The pleated depth media is encapsulated in an integral, continuous length, thermally-bonded structure for cleanliness, pressure tolerance, and chemical inertness. Offered in both absolute-rated (up to 99.98% retention) and nominally-rated (90% retention) grades in common adapter configurations. Manufactured in a clean-room environment to maintain high standards of purity and cleanliness.

Flow Rate vs. Pressure Drop



*All data is based on absolute rated medias. Nominally rated medias will result in a pressure drop reduction of approximately 10%.

Typical Applications

- Food & Beverage
- Photographic
- Deionized Water
- R.O. Pre-Filtration
- Process Water
- Fine Chemicals
- Process
- Plating Chemicals
- Wastewater
- Produced Water
- Cosmetics

Construction Materials

Filtration Media.....Polypropylene
Support Media.....Polypropylene
End Caps.....Polypropylene
Center Core.....Polypropylene
Outer Support Netting.....Polypropylene
O-Rings/Gaskets.....Buna, EPDM, Silicone, Teflon® Encapsulated Viton®, Viton®

Toxicity

All polypropylene components meet the specifications for biological safety per USP Class VI – 121˚C for plastics.

Dimensions

Length:
10 to 40 inches (25.4 to 101.6 cm) nominal
Outside Diameter:
2.50 inches (6.35 cm) nominal

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max).....176˚F (80˚C)
Differential Pressure (max)..60 PSID (4.1 bar) at 68˚F (20˚C)

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

PPE	Rating (µ)	Retention	Length	N	End Cap Style	O-Rings/Gaskets	-	Adders
	0.2	A = Absolute	10” (25.4 cm)		2 = DOE Flat Gasket	B = Buna		CS = 316SS Compression Spring
	0.45	N = Nominal	20” (50.8 cm)		3 = 222 w/ Fin	E = EPDM		I = Stainless Steel Insert
	1.0		30” (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone		SS = Stainless Steel Core
	2.0		40” (101.6 cm)		5 = 222 w/ Spring	T = Teflon® Encapsulated Viton®		
	5.0					V = Viton®		
	10.0							
	20.0							
	40.0							

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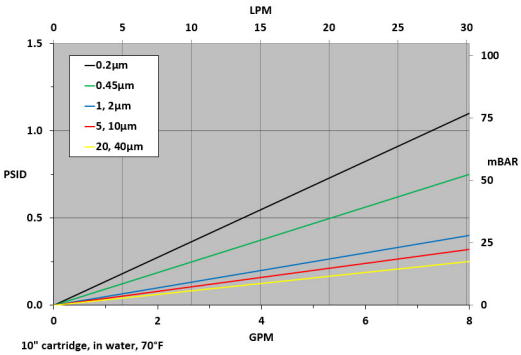
FG-Series Pleated Microglass Media

FG-Series High Purity Pleated Borosilicate Microglass Filter Cartridges offer high-efficiency retention of particulate matter from liquid and gaseous fluid streams. Favored for its superior retention efficiency, low pressure drop, and greater contaminant loading capacity relative to alternative medias. Suitable for food and potable water contact, the FG-Series delivers to the high performance demands in food production and bottled water. Also has broad use with process water, lubricants, and a range of fine chemicals. Manufactured in a clean-room environment to maintain high standards of purity and cleanliness.

Offered in both absolute-rated (up to 99.98% retention) and nominally-rated (90% retention) grades in common adapter configurations.

Flow Rate vs Pressure Drop



*All data is based on absolute rated medias. Nominally rated medias will result in a pressure drop reduction of approximately 10%.

Typical Applications

- Food & Beverage
- Deionized Water
- Process Water
- Fine Chemicals
- Wastewater
- Produced Water
- Wine Clarification
- Sweeteners

Construction Materials

Filtration Media..... Borosilicate microglass with acrylic binder.
Support Media.....Spun-bonded polyester
End Caps.....Polypropylene
Center Core.....Glass-reinforced Polypropylene
Outer Support Cage.....Polypropylene
O-Rings/Gaskets.....Buna, EPDM, Silicone, Teflon® Encapsulated Viton®, Viton®, Teflon® Encapsulated Silicone

Sanitization/Sterilization

Filtered Hot Water.....80˚C for 30 min.
Steam Sterilization.....121˚C for 30 min., multiple cycles

Chemicals: Cartridges are compatible with most chemical sanitizing agents.

Note: Stainless steel end cap insert option required for all cartridges being hot water sanitized or steam sterilized.

Toxicity

All polypropylene components meet the specifications for biological safety per USP Class VI – 121˚C for plastics.

Dimensions

Length:
10 to 40 inches (25.4 to 101.6 cm) nominal
Outside Diameter:
2.75 inches (7.0 cm) nominal

Operating Conditions

Change Out ΔP (recommended) .....35 PSID
Temperature (max).....176˚F (80˚C)
Differential Pressure (max) .....60 PSID (4.1 bar) at 68˚F (20˚C)

Note: Optional high temperature construction available featuring stainless steel core (235˚F).

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

FG	Rating (µ)	Retention	Length	C	End Cap Style	O-Rings/Gaskets	-	Adders
	0.2	A = Absolute	10” (25.4 cm)		2 = DOE Flat Gasket	B = Buna		CS = 316SS Compression Spring
	0.45	N = Nominal	20” (50.8 cm)		3 = 222 w/ Fin	E = EPDM		I = Stainless Steel Insert
	1.0		30” (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone		R = 18 Megaohn Rinse
	2.0		40” (101.6 cm)		5 = 222 w/ Spring	T = Teflon® Encapsulated Viton®		SS = Stainless Steel Core
	5.0				6 = 226 w/ Flat Cap	V = Viton®		
	10.0				7 = 226 w/ Fin	Z = Teflon® Encapsulated Silicone		
	20.0				8 = 226 w/ Spring			
	40.0				16 = 213 Internal O-Ring			

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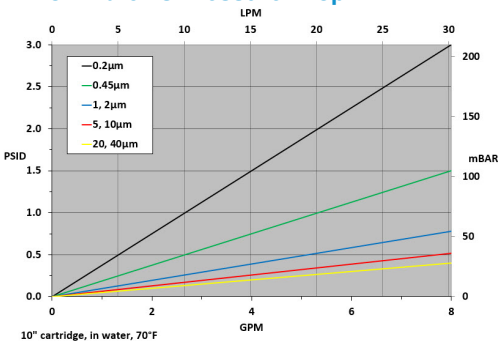
FGE-Series Economy Grade Pleated Microglass Media

FGE-Series High Purity Economy Grade Pleated Borosilicate Microglass Filter Cartridges offer high-efficiency retention of particulate matter from liquid and gaseous fluid streams. Favored for its superior retention efficiency, low pressure drop, and greater contaminant loading capacity relative to alternative medias. The FGE-Series is often the preferred choice when the application calls for a more economical option or where the 2.5" OD is required. Also, the polyester hardware construction allows extended temperature use (up to 200°F).

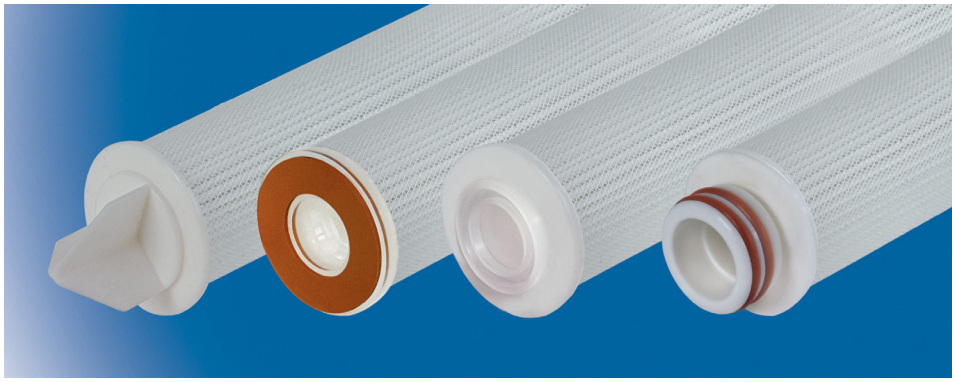
Suitable for food and potable water contact, the FGE-Series meets the high performance demands in food and beverage production. It also has a broad use with process water, lubricants, and a range of fine chemicals. Manufactured in a clean-room environment to maintain high standards of purity and cleanliness.

Offered in both absolute-rated (up to 99.98% retention) and nominally-rated (90% retention) grades in common adapter configurations.

Flow Rate vs Pressure Drop



*All data is based on absolute rated medias. Nominally rated medias will result in a pressure drop reduction of approximately 10%.



Typical Applications

- Food & Beverage
- Deionized Water
- Process Water
- Fine Chemicals
- R.O. Pre-Filtration
- Wastewater
- Produced Water
- Wine Clarification
- Sweetners

Construction Materials

Filtration Media.....Borosilicate Microglass with acrylic binder
Support Media.....Spun-bonded Polyester
End Caps.....Polyester
Center Core.....Glass-filled Polypropylene
Outer Support Netting.....Polyester
O-Rings/Gaskets.....Buna, EPDM, Silicone, Teflon® Encapsulated Viton®, Viton®

Dimensions

Length:
10 to 40 inches (25.4 to 101.6 cm) nominal
Outside Diameter:
2.50 inches (6.35 cm) nominal

Operating Conditions

Change Out ΔP (recommended) .....35 PSID
Temperature (max) ..... 200˚F (93˚C)
Differential Pressure (max) .....60 PSID (4.1 bar) at 68˚F (20˚C)

Note: Optional high temperature construction available featuring stainless steel core (235˚F).

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

FGE	Rating (µ)	Retention	Length	N	End Cap Style	O-Rings/Gaskets	-	Adders
	0.2	A = Absolute	10" (25.4 cm)		2 = DOE Flat Gasket	B = Buna		CS = 316SS Compression Spring
	0.45	N = Nominal	20" (50.8 cm)		3 = 222 w/ Fin	E = EPDM		I = Stainless Steel Insert
	1.0		30" (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone		SS = Stainless Steel Core
	2.0		40" (101.6 cm)		5 = 222 w/ Spring	T = Teflon® Encapsulated Viton®		
	5.0					V = Viton®		
	10.0							
	20.0							
	40.0							

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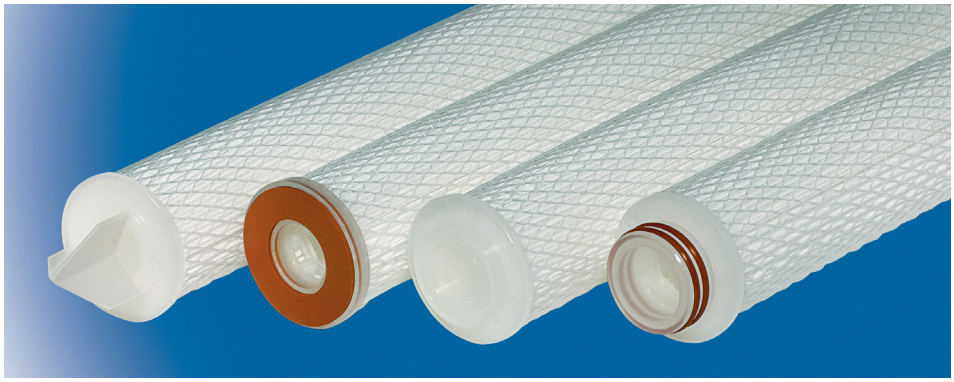
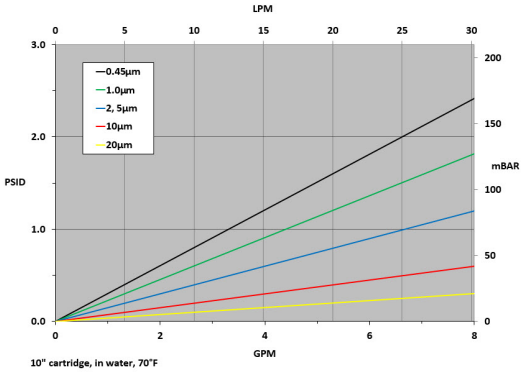
PEE-Series Economy Grade Pleated Polyester Depth Media

PEE-Series Economy Grade Pleated Polyester Depth Media Filter Cartridges offer an efficient and economical filtration option with broad application. The all-polyester construction allows higher temperature use (up to 235°F). The 2.5" OD allows use in housings where larger cartridges do not fit. Manufactured in a clean-room environment to maintain high standards of purity and cleanliness.

Offered in both absolute-rated (up to 99.98% retention) and nominally-rated (90% retention) grades in common adapter configurations and seal material types.



Flow Rate vs Pressure Drop



*All data is based on absolute rated medias. Nominally rated medias will result in a pressure drop reduction of approximately 10%.

Typical Applications

- Process Water
- Solvents
- Fine Chemicals
- Plating Chemicals
- Wastewater
- Produced Water
- Hydrocarbons
- Synthetic Lubricants

Construction Materials

Filtration Media.....Pleated Polyester Meltblown
Support Media.....Spun-bonded Polyester
End Caps.....Polyester
Center Core.....Polyester
Outer Support Netting.....Polyester
O-Rings/Gaskets.....Buna, EPDM, Silicone, Teflon® Encapsulated Viton®, Viton®

Operating Conditions

Change Out ΔP (recommended) ..... 35 PSID
Temperature (max).....235˚F (113˚C)
Differential Pressure (max) .....60 PSID (4.1 bar) at 68˚F (20˚C)

Dimensions

Length:
10 to 40 inches (25.4 to 101.6 cm) nominal
Outside Diameter:
2.50 inches (6.35 cm) nominal

Ordering Information

PEE	Rating (µ)	Retention	Length	N	End Cap Style	O-Rings/Gaskets	-	Adders
	0.45	A = Absolute	10" (25.4 cm)		2 = DOE Flat Gasket	B = Buna		CS = 316SS Compression Spring
	1.0	N = Nominal	20" (50.8 cm)		3 = 222 w/ Fin	E = EPDM		SS = Stainless Steel Core
	2.0		30" (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone		
	5.0		40" (101.6 cm)		5 = 222 w/ Spring	T = Teflon® Encapsulated Viton®		
	10.0					V = Viton®		
	20.0							

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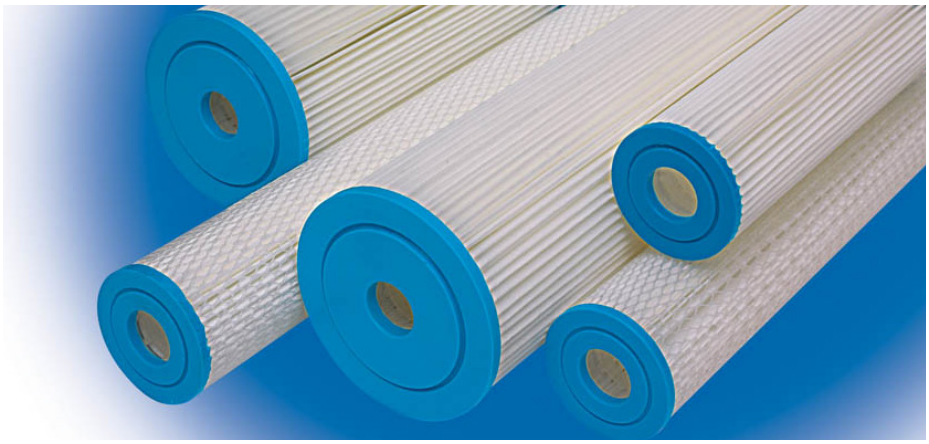
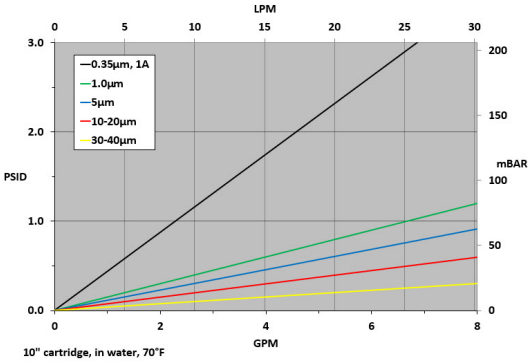
LiquidClear™ GF-Series Pleated Synthetic Depth Media

LiquidClear GF-Series Pleated Synthetic Depth Media Filter Cartridges offer economical, cellulose-free construction with significant dirt-holding capacity and low pressure drop at nominal efficiencies. Generally provides better performance value relative to string-wound, meltblown, and resin-bonded alternatives.

PVC plastisol end caps offer an integral and positive seal.



Flow Rate vs Pressure Drop



*For 4.5" OD-sized elements, the differential pressure is 30% that of the values shown above for 2.7" OD cartridges.

Operating Conditions

Change Out ΔP (recommended) .....20-25 PSID
Temperature (max) .....235˚F (113˚C)
Differential Pressure (max).....50 PSID
(3.4 bar) at 68˚F (20˚C)

Typical Applications

- Process Water
- Cooling Water
- Drinking Water
- R.O. Pre-Filtration
- Plating Chemicals
- Wastewater
- Food & Beverage
- Deionized Water

Dimensions

Outside Diameter.....2.7 or 4.5 inch
Inside Diameter.....1 inch
Lengths.....9.75 to 40 inch

Purity

LiquidClear cartridges are produced using 100% synthetic fibers, which are free of binders or adhesives.

Construction Materials

Filtration Media.....Polypropylene, Polyester
End Caps/Gaskets.....Plastisol
Core.....Polypropylene
Outer Netting.....Polypropylene

Cross-Reference

Pentek®.....R-Series, ECP-Series
Watts®.....FM-Series

Performance Specifications

Micron Ratings.....0.35,1,1A,5,10,20,30,50
Efficiencies.....0.35-50μ = Nominal
1A = 99%

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

GF	-	Diameter	-	Rating (μ)	-	Length	End Cap Style
		Blank = 2.7		0.35		9.75"	Blank = DOE
		BB = 4.5		1		10" (BB Only)	
				1A		19.5"	
				5		20"	
				10		29.25"	
				20		30"	
				30		40"	
				50			

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GLOBAL FILTER
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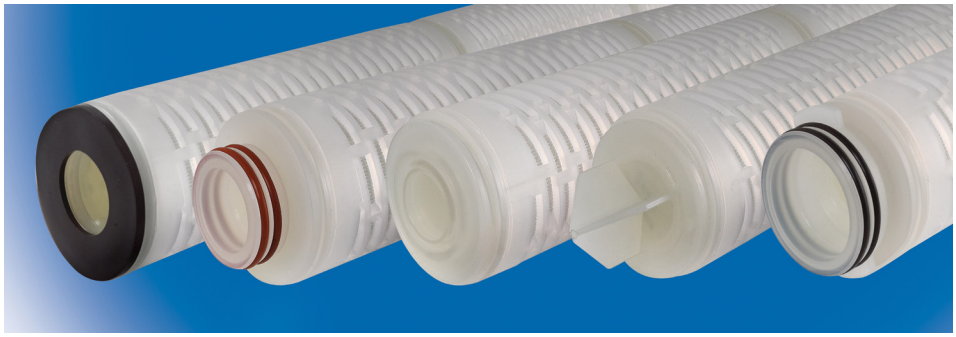
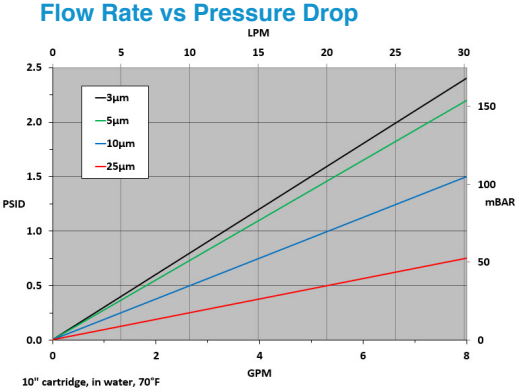
GFH-Series All-Halar® Fluoropolymer Depth Media

GFH-Series High Purity All-Halar Fluoropolymer Depth Media Filter Cartridges are ideal for filtration of aggressive solvents, acids, and caustics. Constructed of 100% ECTFE Halar for superior chemical tolerance in demanding industrial applications. The meltblown microfiber media provides excellent flow at low pressure drop and greater contaminant holding capacity relative to membrane-based options. The >90% typical retention efficiency allows for use as either a pre-filter or final filtration solution.



Flow Rate vs Pressure Drop



Typical Applications

- Toluene
- Xylene
- Ozonated Process Systems or Water
- Bulk Chemical Polishing

Construction Materials

Media ..... ECTFE
Support Media..... ECTFE
End Caps ..... ECTFE
Center Core ..... ECTFE
Outer Support Cage ..... ECTFE
O-Rings/Gaskets.....Teflon®
Encapsulated Viton®, Viton®

Sanitization/Sterilization

GFH cartridges may be sanitized using compatible chemical agents. GFH cartridges may not be autoclaved or steam sterilized.

Dimensions

Length:
10 to 40 inches (25.4 to 101.6 cm) nominal
Outside Diameter:
2.70 inches (7.0 cm) nominal

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max).....190˚F (88˚C)
Differential Pressure (max) ……..…….. 60 PSID
(4.1 bar) at 68˚F (20˚C)

Toxicity

All components meet the specifications for biological safety per USP Class VI – 121˚C for plastics.

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

GFH	Rating (µ)	A	Length	C	End Cap Style	O-Rings/Gaskets
	3.0		10” (25.4 cm)		2 = DOE Flat Gasket	T = Teflon® Encapsulated Viton®
	5.0		20” (50.8 cm)		3 = 222 w/ Fin	V = Viton®
	10.0		30” (76.2 cm)		4 = 222 w/ Flat Cap	
	25.0		40” (101.6 cm)		6 = 226 w/ Flat Cap	
					7 = 226 w/ Fin	

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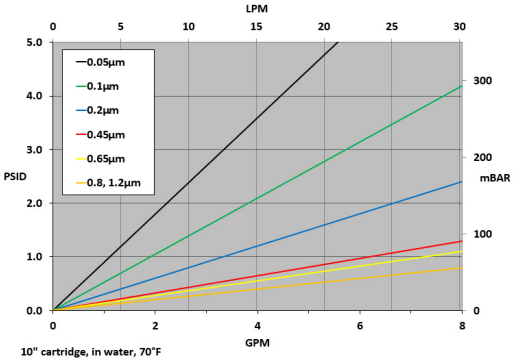
GHPS-Series Polysulfone

GHPS-Series High Purity Polysulfone Filter Cartridges offer exceptional flowrate and loading capability by virtue of its highly asymmetrical pore structure. It's a preferred choice in applications requiring the efficiency of a membrane but where a longer service life is important. Its hydrophilic nature allows immediate wet-out and optimizes the utility of the membrane surface area. Manufactured in a high-purity, thermally-bonded construction for cleanliness and broad compatibility, the optional post-rinse feature provides a cartridge with quick rinse-up to 18 megaohms. Manufactured in a clean-room environment to maintain high standards of purity and cleanliness.

Flow Rate vs Pressure Drop



Typical Applications

- Deionized Water Systems
- General-Use Water Filtration
- Liquid Clarification
- Recirculating Fluids
- Chemical Filtration

Construction Materials

Membrane.....Polysulfone
Support Media.....Polypropylene
End Caps.....Polypropylene
Center Core.....Polypropylene
Outer Support Cage.....Polypropylene
O-Rings/Gaskets.....Buna, EPDM, Silicone, Teflon® Encapsulated Viton®, Viton®, Teflon® Encapsulated Silicone

Sanitization/Sterilization

Filter Hot Water.....80˚C for 30 min
Steam Sterilization.....121˚C for 30 min., multiple cycles

Chemicals: Cartridges are compatible with most chemical sanitizing agents.

Note: Stainless steel insert option reqiured for all cartridges being hot water sanitized or steam sterilized.

Toxicity

All polypropylene components meet the specifications for biological safety per USP Class VI – 121˚C for plastics.

Dimensions

Length:
10 to 40 inches (25.4 to 101.6 cm) nominal
Outside Diameter:
2.70 inches (7.0 cm) nominal

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max) .....176˚F (80˚C)
Differential Pressure (max) ..... 50 PSID (3.4 bar) at 68˚F (20˚C)

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

GHPS	Rating (µ)	A	Length	C	End Cap Style	O-Rings/Gaskets	-	Adders
	0.05		10" (25.4 cm)		2 = DOE Flat Gasket	B = Buna		CS = 316SS Compression Spring
	0.1		20" (50.8 cm)		3 = 222 w/ Fin	E = EPDM		HP = Heavy Poly Core
	0.2		30" (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone		I = Stainless Steel Insert
	0.45		40" (101.6 cm)		6 = 226 w/ Flat Cap	T = Teflon® Encapsulated Viton®		R = 18 Megaohm Rinse
	0.65				7 = 226 w/ Fin	V = Viton®		
	0.8				16 = 213 Internal O-Ring	Z = Teflon® Encapsulated Silicone		
	1.2							

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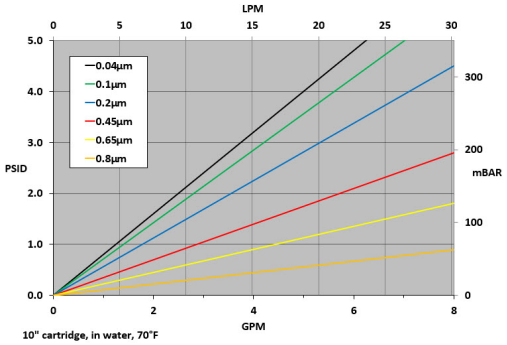
GWPES-Series Water Service Grade Polyethersulfone

GWPES-Series High Purity Water Service Grade Polyethersulfone Filter Cartridges are a value-oriented, reduced surface area choice for cost effective, general purpose membrane filtration. The highly retentive polyethersulfone membrane offers excellent flux density and low protein-binding. The naturally hydrophilic membrane wets easily to allow the GWPES to maximum utilization of the entire surface. These features allow the GWPES-Series to provide the fine performance of PES membrane at a competitive price. Manufactured in a clean-room environment to maintain high standards of purity and cleanliness.

Designed to tolerate repeated hot water sanitization and *in-situ* steam sterilization cycles.

Flow Rate vs Pressure Drop



Typical Applications

- Deionized Water Systems
- General-Use Water Filtration
- Liquid Clarification
- Recirculating Fluids
- Chemical Filtration

Construction Materials

Membrane..... Polyethersulfone
Support Media..... Polypropylene
End Caps..... Polypropylene
Center Core..... Polypropylene
Outer Support Cage ..... Polypropylene
O-Rings/Gaskets.....Buna, EPDM, Silicone, Teflon® Encapsulated Viton®, Viton®, Teflon® Encapsulated Silicone

Sanitization/Sterilization

Filtered Hot Water..... 80˚C for 30 min.
Steam Sterilization ..... 121˚C for 30 min., multiple cycles

Chemicals: Cartridges are compatible with most chemical sanitizing agents.

Note: Stainless steel insert option required for all cartridges being hot water sanitized or steam sterilized.

Toxicity

All polypropylene components meet the specifications for biological safety per USP Class VI – 121˚C for plastics.

Dimensions

Length:
10 to 40 inches (25.4 to 101.6 cm) nominal
Outside Diameter:
2.70 inches (7.0 cm) nominal

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max) ..... 176˚F (80˚C)
Differential Pressure (max) ..... 50 PSID (3.4 bar) at 68˚F (20˚C)

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

GWPES	Rating (µ)	A	Length	C	End Cap Style	O-Rings/Gaskets	-	Adders
	0.04		10" (25.4 cm)		2 = DOE Flat Gasket	B = Buna		CS = 316SS Compression Spring
	0.1		20" (50.8 cm)		3 = 222 w/ Fin	E = EPDM		HP = Heavy Poly Core
	0.2		30" (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone		I = Stainless Steel Insert
	0.45		40" (101.6 cm)		6 = 226 w/ Flat Cap	T = Teflon® Encapsulated Viton®		R = 18 Megaohm Rinse
	0.65				7 = 226 w/ Fin	V = Viton®		
	0.8				16 = 213 Internal O-Ring	Z = Teflon® Encapsulated Silicone		

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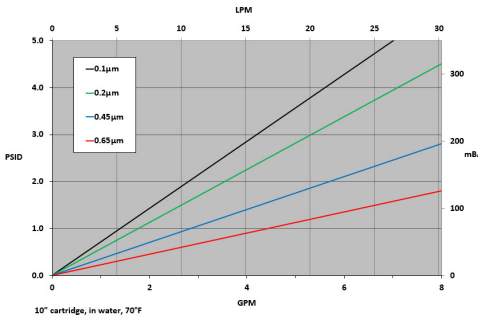
WCPES-Series WaterClear™ Grade Polyethersulfone

WCPES-Series High Purity WaterClear™ Grade Polyethersulfone Filter Cartridges are a value-oriented, reduced surface area choice for cost effective, general purpose membrane filtration. Designed in continuous lengths up to 30" segments* for excellent performance value. The highly retentive polyethersulfone membrane offers excellent flux density and low protein-binding. The naturally hydrophilic membrane wets easily to allow maximum utilization of the entire surface. These features allow the WCPES-Series to provide the fine performance of PES membrane at a competitive price.

Designed to tolerate repeated hot water sanitization and *in-situ* steam sterilization cycles. Manufactured in a clean-room environment to maintain high standards of purity and cleanliness.

* Continuous length up to 30" (40" cartridges have two 20" segments).

Flow Rate vs Pressure Drop



Typical Applications

- Deionized Water Systems
- General-Use Water Filtration
- Liquid Clarification
- Chemical Filtration

Construction Materials

Membrane.....Polyethersulfone
Support Media.....Polypropylene
End Caps.....Polypropylene
Center Core.....Polypropylene
Outer Support Cage.....Polypropylene
O-Rings/Gaskets.....Buna, EPDM, Silicone, Teflon® Encapsulated Viton®, Viton®, Teflon® Encapsulated Silicone

Sanitization/Sterilization

Filtered Hot Water.....80˚C for 30 min.
Steam Sterilization.....121˚C for 30 min., multiple cycles

Chemicals: Cartridges are compatible with most chemical sanitizing agents.

Note: Stainless steel insert option reqiuired for all cartridges being hot water sanitized or steam sterilized.

Dimensions

Length:
10 to 30 inches (25.4 to 101.6 cm) nominal
Outside Diameter:
2.70 inches (7.0 cm) nominal

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max) ..... 176˚F (80˚C)
Differential Pressure (max) ..... 50 PSID (3.4 bar) at 68˚F (20˚C)

Toxicity

All polypropylene components meet the specifications for biological safety per USP Class VI – 121˚C for plastics.

FDA Listed Materials

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

WCPES	Rating (µ)	A	Length	C	End Cap Style	O-Rings/Gaskets	-	Adders
	0.1		10" (5.4 cm)		2= DOE Flat Gasket	B = Buna		CS = 316SS Compression Spring
	0.2		20" (50.8 cm)		3= 222 w/ Fin	E = EPDM		R = 18 Megaohm Rinse
	0.45		30" (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone		
	0.65				6 = 226 w/ Flat Cap	T = Teflon® Encapsulated Viton®		
					7 = 226 w/ Fin	V = Viton®		
					16 = 213 Internal O-Ring	Z = Teflon® Encapsulated Silicone		

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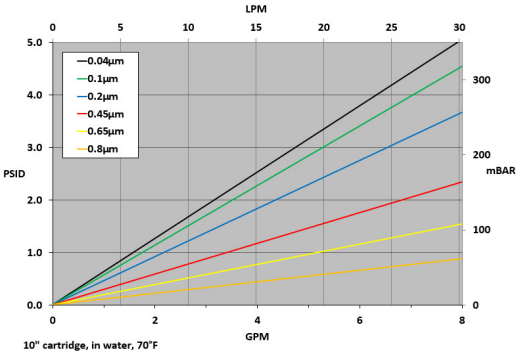
GGPES-Series General Grade Polyethersulfone

GGPES-Series High Purity General Grade Polyethersulfone Filter Cartridges are a well-suited choice for cost effective, general purpose membrane filtration. The highly retentive polyethersulfone membrane offers excellent flux density and low protein-binding. The naturally hydrophilic membrane wets easily to allow maximum utilization of the entire surface. These features coupled with its extended filtration area allow the GGPES-Series to provide lower pressure loss and longer service life versus comparable products.

Designed to tolerate repeated hot water sanitization and *in-situ* steam sterilization cycles. Manufactured in a clean-room environment to maintain high standards of purity and cleanliness.

Flow Rate vs Pressure Drop



10" cartridge, in water, 70°F

Typical Applications

- Deionized Water Systems
- General-Use Water Filtration
- Liquid Clarification
- Recirculating Fluids
- Chemical Filtration

Construction Materials

Membrane..... Polyethersulfone
Support Media..... Polypropylene
End Caps..... Polypropylene
Center Core..... Polypropylene
Outer Support Cage ..... Polypropylene
O-Rings/Gaskets.....Buna, EPDM, Silicone, Teflon® Encapsulated Viton®, Viton®, Teflon® Encapsulated Silicone

Sanitization/Sterilization

Filtered Hot Water..... 80˚C for 30 min.
Steam Sterilization ..... 121˚C for 30 min., multiple cycles
Chemicals: Cartridges are compatible with most chemical sanitizing agents.
Note: Stainless steel insert option required for all cartridges being hot water sanitized or steam sterilized.

Toxicity

All polypropylene components meet the specifications for biological safety per USP Class VI – 121˚C for plastics.

Dimensions

Length:
10 to 40 inches (25.4 to 101.6 cm) nominal
Outside Diameter:
2.70 inches (7.0 cm) nominal

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max) ..... 176˚F (80˚C)
Differential Pressure (max) ..... 50 PSID (3.4 bar) at 68˚F (20˚C)

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

GGPES	Rating (µ)	A	Length	C	End Cap Style	O-Rings/Gaskets	-	Adders
	0.04		10" (25.4 cm)		2 = DOE Flat Gasket	B = Buna		CS = 316SS Compression Spring
	0.1		20" (50.8 cm)		3 = 222 w/ Fin	E = EPDM		I = Stainless Steel Insert
	0.2		30" (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone		
	0.45		40" (101.6 cm)		6 = 226 w/ Flat Cap	T = Teflon® Encapsulated Viton®		
	0.65				7 = 226 w/ Fin	V = Viton®		
	0.8				16 = 213 Internal O-Ring	Z = Teflon® Encapsulated Silicone		

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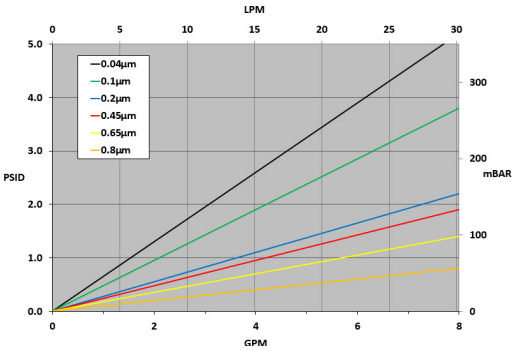
GEPES-Series Electronics Grade Polyethersulfone

GEPES-Series High Purity Electronics Grade Polyethersulfone Filter Cartridges meet the stringent requirements of cleanliness of the micro-electronics industry. The polyethersulfone membrane offers high flux density and provides superior throughput for an extended operating life. Cartridges undergo extended flushing with 18 megaohm ultra-high purity water to achieve extraordinarily low levels of extractable substances. Each element is integrity tested for optimized, highly consistent performance. Manufactured in a clean-room environment to maintain high standards of purity and cleanliness.

Flow Rate vs Pressure Drop



Typical Applications

- Ultra-Pure Water Systems
- Fine Chemical Filtration
- Photoresist Chemicals

Construction Materials

Membrane..... Polyethersulfone
Support Media..... Polypropylene
End Caps..... Polypropylene
Center Core..... Polypropylene
Outer Support Cage ..... Polypropylene
O-Rings/Gaskets.....Buna, EPDM, Silicone, Teflon® Encapsulated Viton®, Viton®, Teflon® Encapsulated Silicone

Sanitization/Sterilization

Filtered Hot Water..... 80˚C for 30 min.
Steam Sterilization ....121˚C for 30 min., multiple cycles

Chemicals: Cartridges are compatible with most chemical sanitizing agents.

Note: Stainless steel insert option required for all cartridges being hot water sanitized or steam sterilized.

Dimensions

Length:
10 to 40 inches (25.4 to 101.6 cm) nominal

Outside Diameter:
2.70 inches (7.0 cm) nominal

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max) ..... 176˚F (80˚C)
Differential Pressure (max) ..... 50 PSID (3.4 bar) at 68˚F (20˚C)

Toxicity

All polypropylene components meet the specifications for biological safety per USP Class VI – 121˚C for plastics.

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

GEPES	Rating (µ)	A	Length	C	End Cap Style	O-Rings/Gaskets	-	Adders
	0.04		10” (25.4 cm)		2 = DOE Flat Gasket	B = Buna		CS = 316SS Compression Spring
	0.1		20” (50.8 cm)		3 = 222 w/ Fin	E = EPDM		I = Stainless Steel Insert
	0.2		30” (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone		
	0.45		40” (101.6 cm)		6 = 226 w/ Flat Cap	T = Teflon® Encapsulated Viton®		
	0.65				7 = 226 w/ Fin	V = Viton®		
	0.8				16 = 213 Internal O-Ring	Z = Teflon® Encapsulated Silicone		

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GFPES-Series Food and Beverage Grade Polyethersulfone

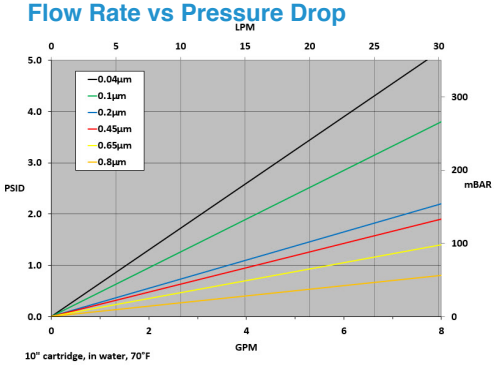
GFPES-Series High Purity Food and Beverage Grade Polyethersulfone Filter Cartridges meet the most demanding requirement of the food and beverage industry. The polyethersulfone membrane offers high flux density and low protein-binding and maintains the organoleptic characteristics of the treated product, making it an ideal choice for production of consumables. Cartridges are flushed with ultra-High Purity water to achieve the most stringent requirements for extractable substances. Designed to tolerate repeated hot water sanitization and *in-situ* steam sterilization cycles for maximum service life. Each element is diffusion tested for integrity to assure optimal performance. Manufactured in a clean-room environment to maintain high standards of purity and cleanliness.

Microbial Retention Performance

Rating	Challenge Microbe	Log Reduction Value (LRV)
0.2µ	*Brevundimonas diminuta*	7.6
0.45µ	*Serratia marcescens*	6.6
0.65µ	*Saccharomyces cerevisiae*	4.8

* Independently tested in accordance with ASTM F838.

Flow Rate vs Pressure Drop



10" cartridge, in water, 70°F

Construction Materials

Membrane.....Polyethersulfone
Support Media.....Polypropylene
End Caps.....Polypropylene
Center Core.....Polypropylene
Outer Support Cage.....Polypropylene
O-Rings/Gaskets.....Buna, EPDM, Silicone, Teflon® Encapsulated Viton®, Viton®, Teflon® Encapsulated Silicone

Sanitization/Sterilization

Filtered Hot Water.....80˚C for 30 min.
Steam Sterilization.....121˚C for 30 min., multiple cycles

Chemicals: Cartridges are compatible with most chemical sanitizing agents.

Note: Stainless steel insert option required for all cartridges being hot water sanitized or steam sterilized.

Typical Applications

- Wine
- Beer
- Juices
- Soft Drinks
- Bottled Water

Dimensions

Length:
10 to 40 inches (25.4 to 101.6 cm) nominal
Outside Diameter:
2.70 inches (7.0 cm) nominal

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max) ..... 176˚F (80˚C)
Differential Pressure (max) ..... 50 PSID (3.4 bar) at 68˚F (20˚C)

Toxicity

All polypropylene components meet the specifications for biological safety per USP Class VI – 121˚C for plastics.

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

GFPES	Rating (µ)	A	Length	C	End Cap Style	O-Rings/Gaskets	Adders
	0.04		10” (25.4 cm)		2 = DOE Flat Gasket	B = Buna	CS = 316SS Compression Spring
	0.1		20” (50.8 cm)		3 = 222 w/ Fin	E = EPDM	I = Stainless Steel Insert
	0.2		30” (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone	
	0.45		40” (101.6 cm)		6 = 226 w/ Flat Cap	T = Teflon® Encapsulated Viton®	
	0.65				7 = 226 w/ Fin	V = Viton®	
	0.8				16 = 213 Internal O-Ring	Z = Teflon® Encapsulated Silicone	

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Safer | Healthier | More Productive

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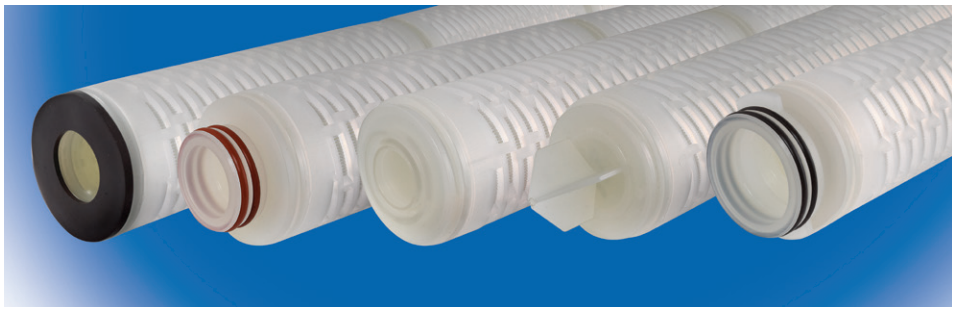
GBPES-Series Wine and Beverage Grade Polyethersulfone

GBPES-Series High Purity Wine and Beverage Grade Polyethersulfone Filter Cartridges are optimized for the requirements of the wine and beverage industry. The polyethersulfone membrane offers high flux density and low protein-binding and maintains the organoleptic characteristics of the treated product, making it an ideal choice for production of consumables. Cartridges are flushed with ultra-High Purity water to achieve the most stringent requirements for extractable substances. Designed to tolerate repeated hot water sanitization and *in situ* steam sterilization cycles for maximum service life. Each element is diffusion tested for integrity to assure optimal performance. Manufactured in a clean-room environment to maintain high standards of purity and cleanliness.

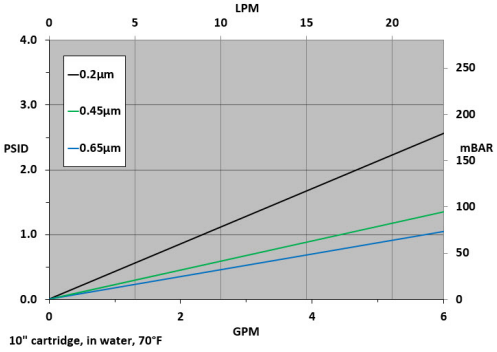


Microbial Retention Performance

Rating	Challenge Microorganism	LRV
0.2µ	*Serratia marcescens*	6.6
0.45µ	*Sacchromyces cerevisiae*	4.8

* Independently tested in accordance with ASTM F838.

Flow Rate vs Pressure Drop



Typical Applications

- Wine
- Beer
- Juices
- Soft Drinks
- Bottled Water

Construction Materials

Membrane..... Polyethersulfone
Support Media..... Polypropylene
End Caps..... Polypropylene
Cages and Cores..... Polypropylene
O-Rings/Gaskets.....Buna, EPDM, Silicone, Teflon® Encapsulated Viton®, Viton®, Teflon® Encapsulated Silicone

Note: All cartridges provided standard with an integral stainless steel reinforcement ring to prevent deformation of the o-ring adapter during steam sterilization or hot water sanitization processes.

Sanitization Chemicals: Peracetic acid, chlorinated alkaline products, bleach, sulfur dioxide and hydrogen peroxide at typical sanitization concentrations and temperatures.

Sanitization/Sterilization

Hot Water..... 85-95˚C, 30 min., max dP 7 PSI
Steam Sterilization.....134˚C for 30 min., max dP 7 psi, multiple cycles

Dimensions

Length.....10 to 40 inches (25.4 to 101.6 cm) nominal
Outside Diameter.....2.70 inches (7.0 cm) nominal

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max) ..... 176˚F (80˚C)
Differential Pressure (max) ..... 72 PSID (5.0 bar) at 68˚F (20˚C)

Toxicity

All polypropylene components meet the specifications for biological safety per USP Class VI – 121˚C for plastics.

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

GBPES	Rating (µ)	A	Length	C	End Cap Style	O-Rings/Gaskets	-	Adders
	0.2		10” (25.4 cm)		2 = DOE Flat Gasket	B = Buna		CS = 316SS Compression Spring
	0.45		20” (50.8 cm)		3 = 222 w/ Fin	E = EPDM		
	0.65		30” (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone		
			40” (101.6 cm)		6 = 226 w/ Flat Cap	T = Teflon® Encapsulated Viton®		
					7 = 226 w/ Fin	V = Viton®		
						Z = Teflon® Encapsulated Silicone		

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GDPES-Series DuoGrade™ Serial Layer Polyethersulphone

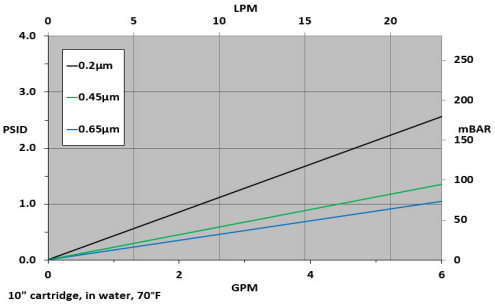
GDPES-Series DuoGrade™ Serial Layer Polyethersulphone Filter Cartridges deliver extended life and excellent retention. Featuring a Microglass prefiltration layer, this serial construction makes the GDPES an ideal choice for clarification of particulate-heavy solutions in a variety of food/beverage, pharmaceutical, biological, and chemical applications. With excellent flowrates, low pressure drops, and superior throughput volumes, GDPES cartridges can be used as final filters or to protect downstream sterilizing grade cartridges. Each cartridge is flushed with 18 megaohm High Purity deionized water and is integrity tested to ensure the delivery of clean effluent with low extractables. Designed to tolerate repeated hot water sanitization and *in-situ* steam sterilization cycles for maximum service life.

Microbial Retention Performance

Rating	Challenge Microorganism	LRV
0.2µ	*Serratia marcescens*	6.6
0.45µ	*Sacchromyces cerevisiae*	4.8

* Independently tested in accordance with ASTM F838.

Flow Rate vs Pressure Drop



10" cartridge, in water, 70°F

Typical Applications

- Wine, Beer, & Spirits
- Bottled Water, Juices, Soft Drinks
- Cell Culture Media
- Large Volume Parenterals
- Bulk Pharmaceutical Solutions

Construction Materials

Membrane..... Polyethersulfone
Support Media.....Microglass
End Caps..... Polypropylene
Center Core..... Polypropylene
Outer Support Cage ..... Polypropylene
O-Rings/Gaskets..... Buna, EPDM, Silicone, Teflon® Encapsulated Viton®, Viton®, Teflon® Encapsulated Silicone

Sanitization/Sterilization

Filtered Hot Water..... 80˚C for 30 min.
Steam Sterilization ....121˚C for 30 min., multiple cycles
Chemicals: Cartridges are compatible with most chemical sanitizing agents.
Note: Stainless steel insert option required for all cartridges being hot water sanitized or steam sterilized.

Dimensions

Length:
10 to 40 inches (25.4 to 101.6 cm) nominal
Outside Diameter:
2.70 inches (7.0 cm) nominal

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max) ..... 176˚F (80˚C)
Differential Pressure (max) ..... 50 PSID (3.4 bar) at 68˚F (20˚C)

Toxicity

All polypropylene components meet the specifications for biological safety per USP Class VI – 121˚C for plastics.

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

GDPES	Rating (µ)	A	Length	C	End Cap Style	O-Rings/Gaskets	-	Adders
	0.2		10” (25.4 cm)		2 = DOE Flat Gasket	B = Buna		CS = 316SS Compression Spring
	0.45		20” (50.8 cm)		3 = 222 w/ Fin	E = EPDM		I = Stainless Steel Insert
	0.65		30” (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone		
			40” (101.6 cm)		6 = 226 w/ Flat Cap	T = Teflon® Encapsulated Viton®		
					7 = 226 w/ Fin	V = Viton®		
					16 = 213 Internal O-Ring	Z = Teflon® Encapsulated Silicone		

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BRPES-Series Bio-Burden Reduction Grade Polyethersulfone

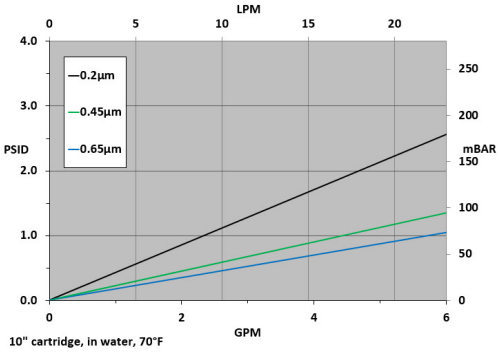
BRPES-Series High Purity Bio-Burden Reduction Grade Filter Polyethersulfone Cartridges are validated and 100% integrity tested; providing bio-burden and small particle removal across a wide range of food & beverage, biological liquids, and intermediate bulk pharmaceutical fluids. The BRPES-Series is constructed using a unique single-layer hydrophilic asymmetric polyethersulfone membrane. This construction offers broad chemical compatibility, high flow-rates at low pressure drops, and low extractables. BRPES cartridges are ideal as either a final filtration stage or as an extremely effective prefilter to a sterilizing stage. Manufactured in a clean-room environment to maintain high standards of purity and cleanliness.

Microbial Retention Performance

Rating	Challenge Microbe	Log Reduction Value (LRV)
0.2μ	*Brevundimonas diminuta*	>8.0
0.45μ	*Lactobacillus lindneri, Serratia marcescens*	>8.0
0.65μ	*Lactobacillus lindneri, Saccharomyces cerevisiae*	>8.0

* Independently tested in accordance with ASTM F838.

Flow Rate vs Pressure Drop



Typical Applications

- Cell Culture Media
- Large Volume Parenterals (LVP's)
- Pharmaceutical Bulk Chemical Solutions
- Diagnostics
- Blood and Serum Fractions
- Purified Water
- Beer, Wine and Spirits
- Juice & Soft Drinks
- Bottled Water

Construction Materials

Membrane.....Polyethersulfone
Support Media.....Polypropylene
End Caps.....Polypropylene
Center Core.....Polypropylene
Outer Support Cage.....Polypropylene
O-Rings/Gaskets.....Buna, EPDM, Silicone, Teflon® Encapsulated Viton®, Viton®, Teflon® Encapsulated Silicone

Note: O-ring adapters include integral reinforcement ring that will not deform with repeated steam sterilization or hot water sanitation cycles.

Dimensions

Length:
10 to 40 inches (25.4 to 101.6 cm) nominal
Outside Diameter:
2.70 inches (7.0 cm) nominal

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max) ..... 176˚F (80˚C)
Differential Pressure (max) ..... 72 PSID (5.0 bar) at 68˚F (20˚C)

Sterilization

Hot Water.....85°- 95°C, 30 min., max. ΔP 7 psi
In-Line Steaming.....134°C, 30 min., max. ΔP 7 psi; 100 cycles

Toxicity

All polypropylene components meet the specifications for biological safety per USP Class VI – 121˚C for plastics.

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

BRPES	Rating (μ)	A	Length	C	End Cap Style	O-Rings/Gaskets
	0.2		10" (25.4 cm)		2 = DOE Flat Gasket	B = Buna-N
	0.45		20" (50.8 cm)		3 = 222 w/ Fin	E = EPDM
	0.65		30" (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone
			40" (101.6 cm)		6 = 226 w/ Flat Cap	T = Teflon® Encapsulated Viton®
					7 = 226 w/ Fin	V = Viton®
						Z = Teflon® Encapsulated Silicone

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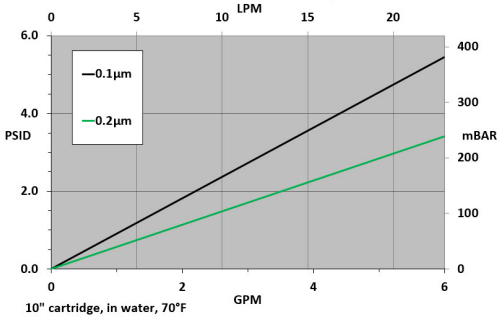
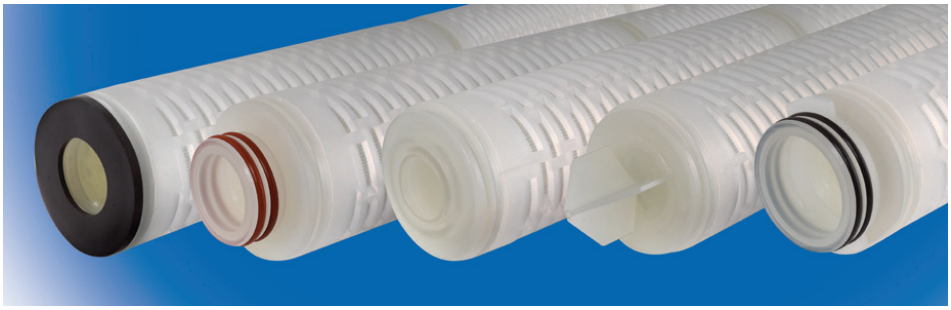
PPES-Series Pharmaceutical Grade Polyethersulfone

PPES-Series High Purity Pharmaceutical Grade Polyethersulfone Filter Cartridges are ideal for sterile filtration and clarification of pharmaceutical and biological solutions. Each PPES cartridge is integrity tested during manufacturing and is supported by a validation guide for regulatory compliance. Low protein binding and the broad chemical compatibility characteristics of the polyethersulfone membrane, along with exceptional flow rate vs pressure drop, makes the PPES-Series the ideal choice for a variety of valuable and/or critical pharmaceutical solutions. PPES cartridges are fully validated as sterilizing grade filters in accordance with HIMA and ASTM F838-05 guidelines. For the 0.2 micron series elements, validation studies demonstrate sterile effluent is achieved with challenge concentrations in excess of 10^7, *Brevundimonas diminuta* organism per cm^2 of filter area. Additionally, validation studies of 0.1 micron series elements demonstrate 10^7 retention of Mycoplasma *(Acholeplasma laidlawii)* per cm^2 of filter area. Designed to tolerate repeated hot water sanitization and *in-situ* steam sterilization cycles for maximum service life. Manufactured in a clean-room environment to maintain high standards of purity and cleanliness.

Flow Rate vs Pressure Drop





Typical Applications

- Vaccines
- Large Volume Parenteral (LVP's)
- Water for Injection (WFI)
- Diagnostics
- Ophthalmics
- Cell and Tissue Culture Media
- Protein Solutions
- Serum and Blood Products

Construction Materials

Membrane..... Polyethersulfone
Support Media..... Polypropylene
End Caps..... Polypropylene
Center Core..... Polypropylene
Outer Support Cage..... Polypropylene
O-Rings/Gaskets.....Buna, EPDM, Silicone, Teflon® Encapsulated Viton®, Viton®, Teflon® Encapsulated Silicone

Note: O-ring adapters include integral reinforcement that will not deform with repeated steam sterilization or hot water sanitation cycles.

Toxicity

All polypropylene components meet the specifications for biological safety per USP Class VI – 121˚C for plastics.

Sterilization

Hot Water..... 85°- 95°C, 30 min., max. ΔP 7 psi
In-Line Steaming..... 134°C, 30 min., max. ΔP 7 psi; 100 cycles

Dimensions

Length:
10 to 40 inches (25.4 to 101.6 cm) nominal
Outside Diameter:
2.70 inches (7.0 cm) nominal

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max) ..... 176˚F (80˚C)
Differential Pressure (max) ..... 72 PSID (5.0 bar) at 68˚F (20˚C)

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

PPES	Rating (µ)	A	Length	C	End Cap Style	O-Rings/Gaskets
	0.1		10" (25.4 cm)		2 = DOE Flat Gasket	B = Buna-N
	0.2		20" (50.8 cm)		3 = 222 w/ Fin	E = EPDM
			30" (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone
			40" (101.6 cm)		6 = 226 w/ Flat Cap	T = Teflon® Encapsulated Viton®
					7 = 226 w/ Fin	V = Viton®
						Z = Teflon® Encapsulated Silicone

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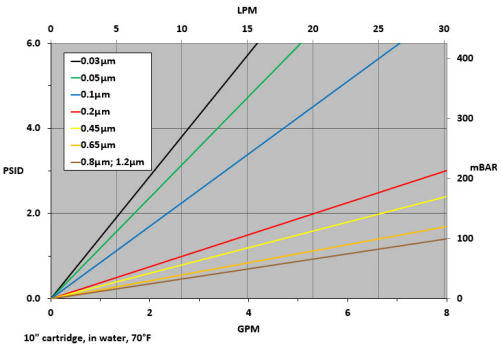
GGHNY-Series General Grade Nylon and Plus+ Nylon

GGHNY-Series High Purity General Grade Nylon and Plus+ Nylon Filter Cartridges, featuring Nylon 6,6 membrane, provide excellent particulate retention and cleanliness for general use applications. Nylon 6,6 membrane has performed successfully over many decades, establishing a legacy of proven performance value. The optional positive zeta potential surface charge (Plus+) enhances retention performance for particulate well smaller than the stated micron rating, for applications that may include removal of haze, color bodies, and endotoxins. Manufactured in a clean-room environment to maintain high standards of purity and cleanliness.

Flow Rate vs Pressure Drop



Typical Applications

- Drinking Water
- Wine
- Soft Drinks
- Pharmaceutical
- Fermentation
- Endotoxin Removal

Construction Materials

Membrane.....Nylon 6,6
Support Media.....Polypropylene
End Caps.....Polypropylene
Center Core.....Polypropylene
Outer Support Cage.....Polypropylene
O-Rings/Gaskets.....Buna, EPDM, Silicone, Teflon® Encapsulated Viton®, Viton®, Teflon® Encapsulated Silicone

Sanitization/Sterilization

Filtered Hot Water.....80˚C for 30 min.
Steam Sterilization.....121˚C for 30 min., multiple cycles

Chemicals: Cartridges are compatible with most chemical sanitizing agents.
Note: Stainless steel insert option required for all cartridges being hot water sanitized or steam sterilized.

Dimensions

Length:
10 to 40 inches (25.4 to 101.6 cm) nominal
Outside Diameter:
2.70 inches (7.0 cm) nominal

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max) ..... 176˚F (80˚C)
Differential Pressure (max) ..... 50 PSID (3.4 bar) at 68˚F (20˚C)

Toxicity

All polypropylene components meet the specifications for biological safety per USP Class VI – 121˚C for plastics.

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

GGHNY	Rating (µ)	A	Length	C	End Cap Style	O-Rings/Gaskets	-	Adders
GGHNY+	0.03		10” (25.4 cm)		2 = DOE Flat Gasket	B = Buna		CS = 316SS Compression Spring
	0.05		20” (50.8 cm)		3 = 222 w/ Fin	E = EPDM		I = Stainless Steel Insert
	0.1		30” (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone		
	0.2		40” (101.6 cm)		6 = 226 w/ Flat Cap	T = Teflon® Encapsulated Viton®		
	0.45				7 = 226 w/ Fin	V = Viton®		
	0.65				16 = 213 Internal O-Ring	Z = Teflon® Encapsulated Silicone		
	0.8							
	1.2							

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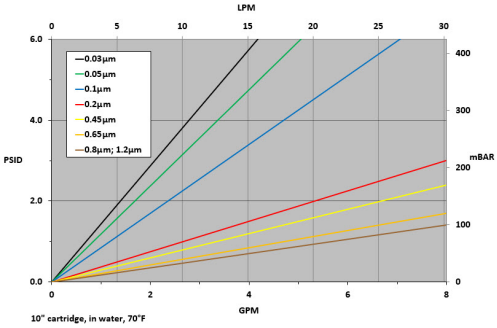
GEHNY-Series Electronics Grade Nylon and Plus+ Nylon

GEHNY-Series High Purity Electronics Grade Nylon and Plus+ Nylon Filter Cartridges, featuring nylon 6,6 membrane, provides superior particulate retention and cleanliness for production of ultra-pure water critical to the micro-electronics industry. The optional positive zeta potential surface charge (Plus+) enhances retention performance for particulate smaller than the stated micron rating.

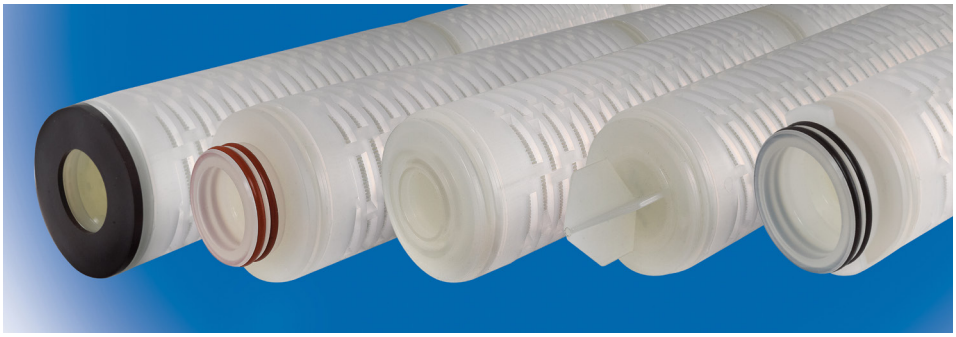
Cartridges are manufactured in a clean room environment and undergo extended flushing with 18 megaohm ultra-high purity water to achieve extraordinarily low levels of extractable substances and provide quick rinse-up. Each element is diffusion tested for integrity to assure optimal performance.

Flow Rate vs Pressure Drop



Typical Applications

- UHP DI Water
- Ultrafine Chemicals
- Ion Exchange Resin Trap
- Point-of-Use Filters



Construction Materials

Membrane.....Nylon 6,6
Support Media.....Polypropylene
End Caps.....Polypropylene
Center Core.....Polypropylene
Outer Support Cage.....Polypropylene
O-Rings/Gaskets.....Buna, EPDM, Silicone, Clear Silicone, Teflon® Encapsulated Viton®, Viton®, Teflon® Encapsulated Silicone

Sanitization/Sterilization

Filtered Hot Water.....80˚C for 30 min.
Steam Sterilization.....121˚C for 30 min., multiple cycles
Chemicals: Cartridges are compatible with most chemical sanitizing agents.
Note: Stainless steel insert option required for all cartridges being hot water sanitized or steam sterilized.

Dimensions

Length:
10 to 40 inches (25.4 to 101.6 cm) nominal
Outside Diameter:
2.70 inches (7.0 cm) nominal

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max) ..... 176˚F (80˚C)
Differential Pressure (max) ..... 50 PSID (3.4 bar) at 68˚F (20˚C)

Toxicity

All polypropylene components meet the specifications for biological safety per USP Class VI – 121˚C for plastics.

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

GEHNY	Rating (µ)	A	Length	C	End Cap Style	O-Rings/Gaskets	-	Adders
GEHNY+	0.03		10” (25.4 cm)		2 = DOE Flat Gasket	B = Buna		CS = 316SS Compression Spring
	0.05		20” (50.8 cm)		3 = 222 w/ Fin	E = EPDM		I = Stainless Steel Insert
	0.1		30” (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone		
	0.2		40” (101.6 cm)		6 = 226 w/ Flat Cap	C = Clear Silicone		
	0.45				7 = 226 w/ Fin	T = Teflon® Encapsulated Viton®		
	0.65				16 = 213 Internal O-Ring	V = Viton®		
	0.8					Z = Teflon® Encapsulated Silicone		
	1.2							

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GFHNY-Series Food and Beverage Grade Nylon and Plus+ Nylon

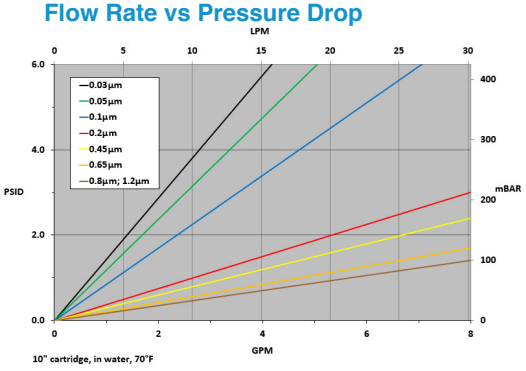
GFHNY-Series High Purity Food and Beverage Grade Nylon and Plus+ Nylon Filter Cartridges featuring nylon 6,6 membrane have a well-proven record of delivering superior microbial retention in the production of highly stable consumables. The optional positive zeta potential surface charge (Plus+) enhances retention performance for particulate well smaller than the stated micron rating, for applications that may include removal of haze, color bodies, and endotoxin. Cartridges are manufactured in a clean room environment and are flushed with 18 megaohm ultra-high purity water to achieve cleanliness and low extractables. Designed to tolerate repeated hot water sanitization and in situ steam sterilization cycles for maximum service life. Each element is diffusion tested for integrity to assure optimal performance.

Microbial Retention Performance

Grade	Challenge Microbe	Log Reduction Value (LRV)
0.2 µ	*Brevundimonas diminuta*	9.1
0.45 µ	*Serratia marcescens*	11.0
0.65 µ	*Saccharomyces cerevisiae*	11.0

Independently tested in accordance with ASTM F838.

Flow Rate vs Pressure Drop



Typical Applications

- Bottled Water
- Wine
- Soft Drinks
- Pharmaceutical
- Fermentation
- Endotoxin Removal

Construction Materials

Membrane.....Nylon 6,6
Support Media..... Polypropylene
End Caps..... Polypropylene
Center Core..... Polypropylene
Outer Support Cage ..... Polypropylene
O-Rings/Gaskets.....Buna, EPDM, Silicone, Teflon® Encapsulated Viton®, Viton®, Teflon® Encapsulated Silicone

Sanitization/Sterilization

Filtered Hot Water..... 80˚C for 30 min.
Steam Sterilization ....121˚C for 30 min., multiple cycles

Chemicals: Cartridges are compatible with most chemical sanitizing agents.
Note: Stainless steel insert option required for all cartridges being hot water sanitized or steam sterilized.

Dimensions

Length:
10 to 40 inches (25.4 to 101.6 cm) nominal
Outside Diameter:
2.70 inches (7.0 cm) nominal

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max) ..... 176˚F (80˚C)
Differential Pressure (max) ..... 50 PSID (3.4 bar) at 68˚F (20˚C)

Toxicity

All polypropylene components meet the specifications for biological safety per USP Class VI – 121˚C for plastics.

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

GFHNY	Rating (µ)	A	Length	C	End Cap Style	O-Rings/Gaskets	-	Adders
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	0.05		20” (50.8 cm)		3 = 222 w/ Fin	E = EPDM		I = Stainless Steel Insert
	0.1		30” (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone		
	0.2		40” (101.6 cm)		6 = 226 w/ Flat Cap	T = Teflon® Encapsulated Viton®		
	0.45				7 = 226 w/ Fin	V = Viton®		
	0.65				16 = 213 Internal O-Ring	Z = Teflon® Encapsulated Silicone		
	0.8							
	1.2							

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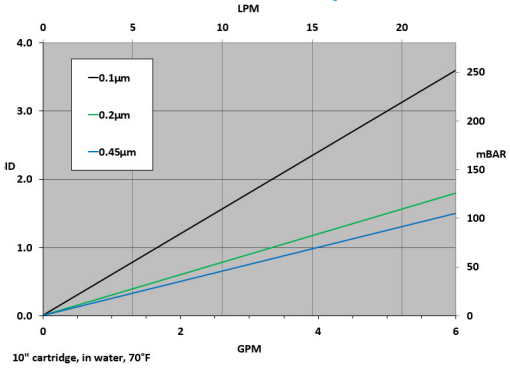
GGPTFE-Series General Grade PTFE

GGPTFE-Series High Purity General Grade PTFE Filter Cartridges, with expanded polytetrafluoroethylene (PTFE) membrane, provide superior chemical resistance for a broad range of industrial applications. With retention ratings as fine as 0.01µ (10 nanometers), consistent contaminant removal is achieved in aggressive fluids and organic solvents. In air/gas/vent applications, the single-layer PTFE membrane delivers superior hydrophobicity versus polypropylene or PVDF; offering a superior option to preclude water wetting and associated diminished flow. Manufactured in a clean-room environment to maintain high standards of purity and cleanliness.

Flow Rate vs Pressure Drop



10" cartridge, in water, 70°F

Typical Applications

- Aggressive Fluids
- Fermentation Feed Air
- Venting
- Photoresists
- Inert gases

Construction Materials

Membrane.....Teflon®
Support Media.....Polypropylene
End Caps.....Polypropylene
Center Core.....Polypropylene
Outer Support Cage.....Polypropylene
O-Rings/Gaskets.....Buna, EPDM, Silicone, Teflon® Encapsulated Viton®, Viton®, Teflon® Encapsulated Silicone

Sanitization/Sterilization

Filtered Hot Water.....80˚C for 30 min.
Steam Sterilization.....121˚C for 30 min., multiple cycles

Chemicals: Cartridges are compatible with most chemical sanitizing agents.
Note: Stainless steel insert option required for all cartridges being hot water sanitized or steam sterilized.

Toxicity

All polypropylene components meet the specifications for biological safety per USP Class VI – 121˚C for plastics.

Dimensions

Length:
10 to 40 inches (25.4 to 101.6 cm) nominal
Outside Diameter:
2.70 inches (7.0 cm) nominal

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max).....176˚F (80˚C)
Differential Pressure (max).....50 PSID (3.4 bar) at 68˚F (20˚C)

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

GGPTFE	Rating (µ)	A	Length	C	End Cap Style	O-Rings/Gaskets	-	Adders
	0.1		10” (25.4 cm)		2 = DOE Flat Gasket	B = Buna		CS = 316SS Compression Spring
	0.2		20” (50.8 cm)		3 = 222 w/ Fin	E = EPDM		I = Stainless Steel Insert
	0.45		30” (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone		
			40” (101.6 cm)		6 = 226 w/ Flat Cap	T = Teflon® Encapsulated Viton®		
					7 = 226 w/ Fin	V = Viton®		
					16 = 213 Internal O-Ring	Z = Teflon® Encapsulated Silicone		

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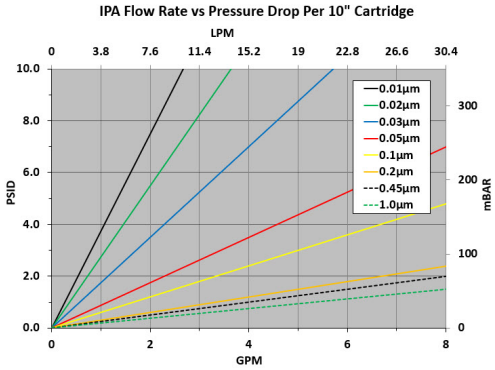
EPTFE-Series Electronics Grade PTFE

EPTFE-Series High Purity Electronics Grade PTFE Filter Cartridges, with expanded polytetrafluoroethylene (PTFE) membrane, provide superior chemical resistance in high-purity microelectronics applications. With retention ratings as fine as 0.01µ (10 nanometers), consistent contaminant removal is achieved in aggressive fluids and organic solvents. In air and gas applications, the single-layer PTFE membrane delivers superior hydrophobicity versus polypropylene or PVDF, offering a superior option to preclude water wetting and associated diminished flow. Each element is integrity tested to assure optimal performance. Manufactured in a cleanroom environment to maintain high standards of purity and cleanliness.

Flow Rate vs Pressure Drop



Typical Applications

- Solvent filtration
- Etching bath solutions
- High purity rinse water
- Photochemical solutions
- Bulk chemical delivery
- Ultrapure electronics - grade gases

Construction Materials

Membrane.....PTFE
Support Layers ..... Polypropylene
Cage/Core/Adapters ..... Polypropylene
Seals ..... Buna, EPDM, FFKM, Silicone, Teflon® Encapsulated Viton®, Viton®, Teflon® Encapsulated Silicone

Cartridges are available with wet-pack option (60/40 IPA/DI water solution) to eliminate the need to wet-out in the environment.

Dimensions

Length:
10 to 40 inches (25.4 to 101.6 cm) nominal
Outside Diameter:
2.70 inches (7.0 cm) nominal

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max) ..... 176˚F (80˚C)
Differential Pressure (max) ..... 50 PSID (3.4 bar) at 68˚F (20˚C)

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

EPTFE	Rating (µ)	A	Length	C	End Cap Style	O-Rings/Gaskets	Options
	0.01 (10 nm)		10” (25.4 cm)		2 = DOE Flat Gasket	B = Buna-N	I = Stainless Steel Insert
	0.02 (20 nm)		20” (50.8 cm)		3 = 222 w/ Fin	E = EPDM	W = Wet-Packed
	0.03 (30 nm)		30” (76.2 cm)		4 = 222 w/ Flat Cap	F = FFKM	
	0.05 (50 nm)		40” (101.6 cm)		6 = 226 w/ Flat Cap	S = Silicone	
	0.1				7 = 226 w/ Fin	T = Teflon® Encapsulated Viton®	
	0.2					V = Viton®	
	0.45					Z = Teflon® Encapsulated Silicone	
	1.0						

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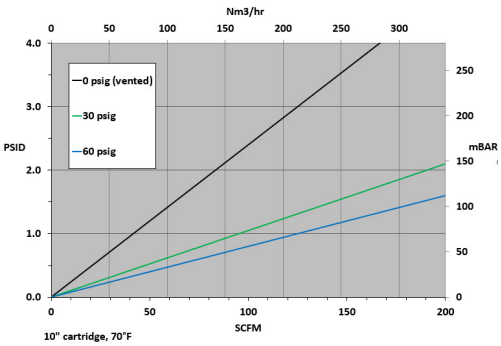
BRPTFE-Series Bio-Burden Reduction Grade PTFE

BRPTFE-Series High Purity Bio-Reduction Grade PTFE Filter Cartridges, with expanded polytetrafluoroethylene (PTFE) membrane, provide reliable high-LRV reduction of micro-organisms in bio-process applications where the high cost of a fully-validated pharmaceutical-grade cartridge is not required. Whether it's fermentation feed air, compressed gas, or a process venting application, the BRPTFE offers a high-flow, high-capacity membrane filter with exceptional hydrophobicity. The superior flow rate allows for economical costs of system design & operation. Proven 7.4 LRV retention of aerosolized bacteriophage provides reliable bioburden reduction and prevention of process contamination. Tolerates multiple sterilization cycles by autoclave or *in-situ* steaming. 100% integrity tested in production. Manufactured in a clean-room environment to maintain high standards of purity and cleanliness.

Flow Rate vs Pressure Drop



Typical Applications

- Fermentation feed air
- Compressed air & gases
- Process venting

Construction Materials

Membrane.....PTFE
Support Media.....Polypropylene
End Caps.....Polypropylene
Center Core.....Polypropylene
Outer Support Cage.....Polypropylene
O-Rings/Gaskets.....Buna, EPDM, Silicone, Teflon® Encapsulated Viton®, Viton®, Teflon® Encapsulated Silicone

High Temperature "HT" construction option features stainless steel core and polyester support layers.

Sanitization/Sterilization

Filtered Hot Water.....80˚C for 30 min.
Steam Sterilization.....121˚C for 30 min., multiple cycles

Chemicals: Cartridges are compatible with most chemical sanitizing agents.

Cartridge O-ring adapters feature integral reinforcement to assure no deformation under repeated steam sterilization cycles.

Dimensions

Length:
10 to 40 inches (25.4 to 101.6 cm) nominal
Outside Diameter:
2.70 inches (7.0 cm) nominal

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max) ..... 176˚F (80˚C)
Differential Pressure (max) ..... 50 PSID (3.4 bar) at 68˚F (20˚C)

Toxicity

All polypropylene components meet the specifications for biological safety per USP Class VI – 121˚C for plastics.

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

BRPTFE	Rating (μ)	A	Length	C	End Cap Style	O-Rings/Gaskets	-	Adders
	0.2		10" (25.4 cm)		2 = DOE Flat Gasket	B = Buna		CS = 316SS Compression Spring
			20" (50.8 cm)		3 = 222 w/ Fin	E = EPDM		HT = High Temperature
			30" (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone		
			40" (101.6 cm)		6 = 226 w/ Flat Cap	T = Teflon® Encapsulated Viton®		
					7 = 226 w/ Fin	V = Viton®		
					16 = 213 Internal O-Ring	Z = Teflon® Encapsulated Silicone		

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PPTFE-Series Pharmaceutical Grade PTFE

PPTFE-Series High Purity Pharmaceutical Grade PTFE Filter Cartridges, with expanded polytetrafluoroethylene (PTFE) membrane, provide optimized filtration performance in sterile air/gas filtration and venting applications. The single layer PTFE membrane, with over twice the hydrophobicity of polypropylene or PVDF, is the best choice to prevent water intrusion and resulting microbial growth. Each PPTFE cartridge is integrity tested during manufacturing and is supported by a validation guide for regulatory compliance. PPTFE elements are fully validated as sterilizing grade filters in liquids in accordance with HIMA and ASTM F838-05 guidelines and in gases through full retention of the MS2 phage in an aerosol challenge. Manufactured in a cleanroom environment to maintain high standards of purity and cleanliness.

Typical Applications

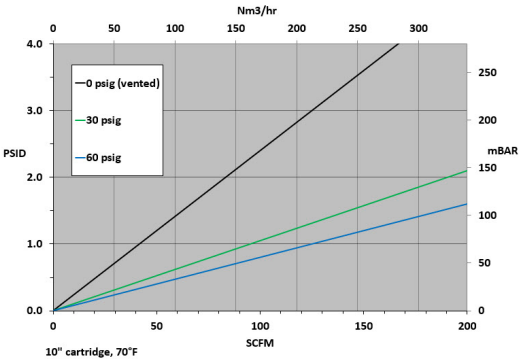
- Sterile gas filtration of fermentor inlets
- Off-gassing downstream of fermentors and bioreactors
- Autoclave vent filters
- WFI tank vents
- Sterile air supply for service gases (i.e. filling lines in blow-fill-seal systems)

Dimensions

Length:
5 to 40 inches (12.7 to 101.6 cm) nominal

Outside Diameter:
2.70 inches (7.0 cm) nominal

Flow Rate vs Pressure Drop



Construction Materials

Membrane.....PTFE
Prefiltration Media ..... Polypropylene
Support Layers ..... Polypropylene
Cage/Core/Adapters ..... Polypropylene
Seals .....Buna, EPDM, Silicone, Teflon® Encapsulated Viton®, Viton®, Teflon® Encapsulated Silicone

Note: O-ring adapters include integral reinforcement that will not deform with repeated steam sterilization or hot water sanitation cycles.

Toxicity

All polypropylene components meet the specifications for biological safety per USP Class VI – 121˚C for plastics.

Sanitization/Sterilization

Steam Sterilization.....134°C, 30 min., max. 7 psid, 150 cycles
Hot Water.....85°- 95°C, 30 min., max. 7 psid

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max) ..... 248˚F (120˚C)
Differential Pressure (max) ..... 72 PSID (5.0 bar) at 68˚F (20˚C)

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

PPTFE	Rating (μ)	A	Length	C	End Cap Style	O-Rings/Gaskets
	0.2		5” (12.7 cm)		2 = DOE Flat Gasket	B = Buna
			10” (25.4 cm)		3 = 222 w/ Fin	E = EPDM
			20” (50.8 cm)		4 = 222 w/ Flat Cap	S = Silicone
			30” (76.2 cm)		6 = 226 w/ Flat Cap	T = Teflon® Encapsulated Viton®
			40” (101.6 cm)		7 = 226 w/ Fin	V = Viton®
						Z = Teflon® Encapsulated Silicone

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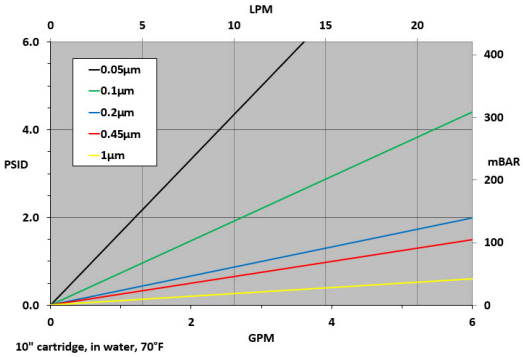
GFL-Series FluoroClear™ Pleated All-Fluoropolymer

GFL-Series High Purity FluoroClear Filter Cartridges are designed for highly aggressive wet-etch and cleaning applications in the micro-electronics industry. Constructed with 100% fluoropolymer materials, the ECTFE hardware and support layers provide broad chemical compatibility and temperature resistance. The PTFE membrane delivers high flow rates and high purity effluent at low pressure drops. Cartridges are available as either flushed & dried or wet-packed in high purity DI water with hydrogen peroxide preservative. FluoroClear cartridges are manufactured in a cleanroom environment to ensure product cleanliness. Manufactured in a clean-room environment to maintain high standards of purity and cleanliness.

Flow Rate vs Pressure Drop



Typical Applications

- Wet-etch & cleaning chemicals:
  - — Sulfuric Acid
  - — Hydrofluoric Acid
  - — Phosphoric Acid
  - — Nitric Acid
- Photo-resists
- Ozonated Process Streams

Construction Materials

Membrane.....PTFE
Support Media..... ECTFE
End Caps..... ECTFE
Center Core..... ECTFE
Outer Support Cage ..... ECTFE
O-Rings/Gaskets..... Teflon® Encapsulated Viton®, Teflon® Encapsulated Silicone

Sanitization/Sterilization

FluoroClear cartridges may be sanitized using compatible chemical agents.
FluoroClear cartridges may not be autoclaved or steam sterilized.

Integrity Testing

0.05μ ≤ 5 cc/min at 40 psig (2.76 bar)
0.1μ ≤ 5 cc/min at 40 psig (2.76 bar)
0.2μ ≤ 5 cc/min at 30 psig (2.07 bar)
0.45μ ≤ 5 cc/min at 20 psig (1.38 bar)
1.0μ ≤ 5 cc/min at 15 psig (1.38 bar)

Toxicity

All components meet the specifications for biological safety per USP Class VI – 121˚C for plastics.

Dimensions

Length:
10 to 40 inches (25.4 to 101.6 cm) nominal
Outside Diameter:
2.70 inches (7.0 cm) nominal

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max) ..... 215˚F (102˚C)
Differential Pressure (max) ..... 60 PSID (4.1 bar) at 68˚F (20˚C)

FDA Listed Materials

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

GFL	Rating (μ)	A	Length	C	End Cap Style	O-Rings/Gaskets	-	Adders
	0.05 (5nm)		10” (25.4 cm)		2 = DOE Flat Gasket	T = Teflon® Encapsulated Viton®		E = Flushed & Dried
	0.1		20” (50.8 cm)		3 = 222 w/ Fin	Z = Teflon® Encapsulated Silicone		W = Wet-Packed
	0.2		30” (76.2 cm)		4 = 222 w/ Flat Cap			
	0.45		40” (101.6 cm)		6 = 226 w/ Flat Cap			
	1.0				7 = 226 w/ Fin			

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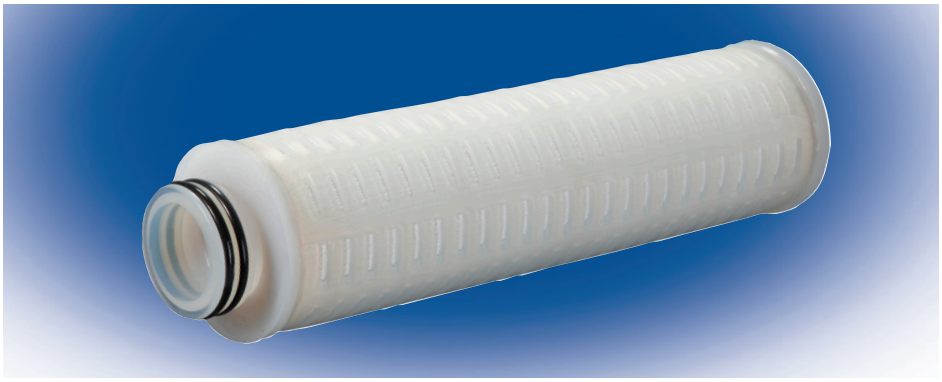
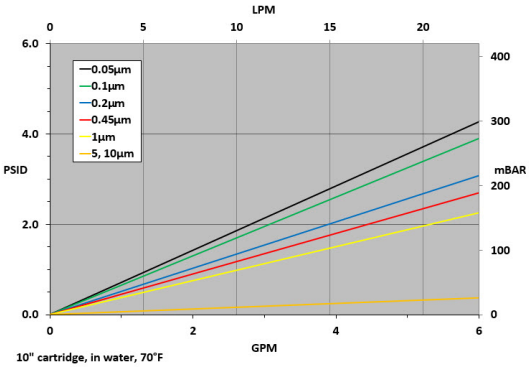
GPFA-Series Pleated All-Fluoropolymer PTFE/PFA

GPFA-Series High Purity All-Fluoropolymer Filter Cartridges provide superior chemical compatibility, temperature range, with ultra-low extractables for the most demanding needs of the microelectronics industry. Ideal for aggressive "wet-etch and clean" applications. The PTFE membrane offers high flowrates at low pressure drop, while the PFA-440HP hardware exhibits superior chemical resistance and high temperature tolerance. Minimized ionic and TOC extractables are attained through a specialized UPW flush process. Wet-packing option is available for ease of wetting in aqueous applications. Available in the full range of micron ratings to suit all applications.



Flow Rate vs Pressure Drop



Typical Applications

Highly Reactive Chemicals

- Acetic Acid (10%)
- Hydrofluoric Acid (50%)
- Hydrogen Peroxide (30%)
- Nitric Acid (conc.)
- Phosphoric Acid (conc.)
- Sulfuric Acid (conc.)
- Ammonium Hydroxide (conc.)
- Potassium Hydroxide (conc.)
- Sodium Hydroxide (conc.)
- TMAH (5%)
- Aqua Regia (HNO3:HCl)
- BOE; NH4F:HF
- Mixed Acid Etch
- ChromPhos Etch
- Piranha Etch

Construction Materials

Filtration Media ..... PTFE
Support Media ..... PFA
End Caps PFA440HP
Center Core PFA440HP
Outer Support Cage PFA440HP
O-Rings ..... Teflon® Encapsulated Viton®

Operating Conditions

Change Out ΔP (recommended) ..... 35 PSID
Temperature (max) ..... 365˚F (185˚C)
Differential Pressure (max) ..... 60 PSID (4.1 bar) at 68˚F (20˚C)

Cleanliness

The Semiconductor Rinse (SR) option delivers extraordinary product cleanliness at these typical levels.

Metals Extractable: ..... < 20 ppb total
Particulate Extractable: .... ≤ 2 counts/ml at ≥ 0.2µ
≤ 1 count/ml at ≥ 1.0µ
TOC Extractable: ..... below detection limits

Ordering Information

GFPA	Rating (µ)		A	Length	C	End Cap Style	O-Rings	Options
	0.05	5.0		5" (12.7 cm)		3 = 222 w/ Fin	T = Teflon® Encapsulated Viton®	SR = Semiconductor Rinse
	0.1	10.0		10" (25.4 cm)		4 = 222 w/Flat Cap		W = Wet Packed
	0.2			20" (50.8 cm)		6 = 226 w/Flat Cap		
	0.45			30" (76.2 cm)		7 = 226 w/ Fin		
	1.0			40" (101.6 cm)				

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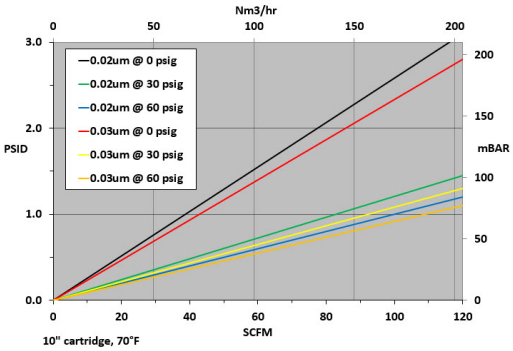
PSH-Series Hydrophobic Polysulfone

PSH-Series High Purity Hydrophobic Polysulfone Membrane Filter Cartridges provide a cost-effective alternative to PTFE or PVDF membrane cartridges for air, bulk gas, and tank vent applications requiring high moisture resistance. The highly asymmetric membrane pore structure provides high flow rate at low pressure drop. Constructed using high purity polypropylene hardware and support layers. PSH-Series cartridges offer outstanding performance value. Manufactured in a clean-room environment to maintain high standards of purity and cleanliness.

Flow Rate vs Pressure Drop



Typical Applications

- Tank Vent
- Fermentation
- Air, Nitrogen, Other Inert Gases

Construction Materials

Membrane.....Hydrophobic Polysulfone
Support Media.....Polypropylene
End Caps.....Polypropylene
Center Core.....Polypropylene
Outer Support Cage.....Polypropylene
O-Rings/Gaskets.....Buna, EPDM, Silicone, Teflon® Encapsulated Viton®, Viton®, Teflon® Encapsulated Silicone

Sanitization/Sterilization

Filtered Hot Water.....80˚C for 30 min.
Steam Sterilization.....121˚C for 30 min., multiple cycles

Chemicals: Cartridges are compatible with most chemical sanitizing agents.
Note: Stainless steel insert option required for all cartridges being hot water sanitized or steam sterilized.

Toxicity

All polypropylene components meet the specifications for biological safety per USP Class VI – 121˚C for plastics.

Dimensions

Length:
10 to 40 inches (25.4 to 101.6 cm) nominal
Outside Diameter:
2.70 inches (7.0 cm) nominal

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max) ..... 176˚F (80˚C)
Differential Pressure (max) ..... 50 PSID (3.4 bar) at 68˚F (20˚C)

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

PSH	Rating (μ)	A	Length	C	End Cap Style	O-Rings/Gaskets	-	Adders
	0.02		10” (25.4 cm)		2 = DOE Flat Gasket	B = Buna		CS = 316SS Compression Spring
	0.03		20” (50.8 cm)		3 = 222 w/ Fin	E = EPDM		HP = Heavy Poly Core
			30” (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone		I = Stainless Steel Insert
			40” (101.6 cm)		6 = 226 w/ Flat Cap	T = Teflon® Encapsulated Viton®		
					7 = 226 w/ Fin	V = Viton®		
					16 = 213 Internal O-Ring	Z = Teflon® Encapsulated Silicone		

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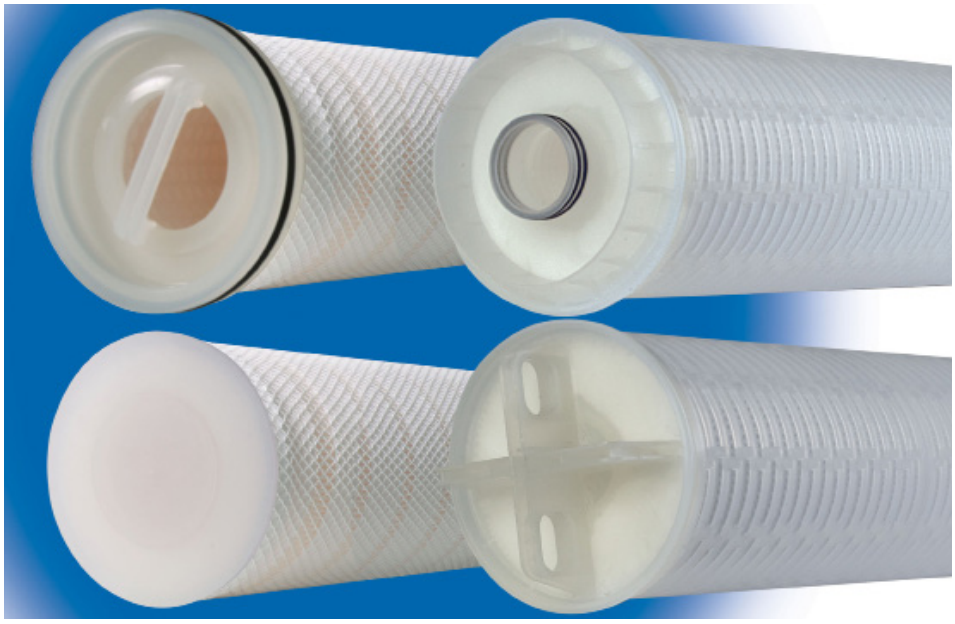
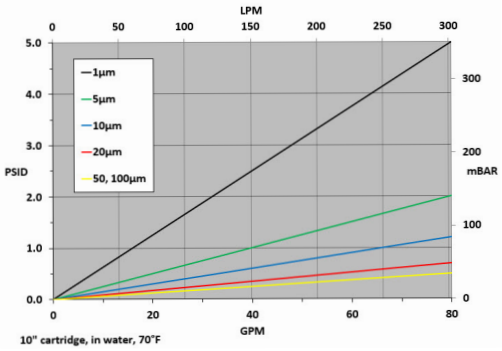
HF-Series High Flow Pleated

HF-Series High Flow Polypropylene and Microglass Filter Cartridges address your need for absolute rated filter cartridges in high flowrate applications. HF-Series cartridges are designed for use as a direct replacement to the Pall® Ultipleat® High Flow and 3M 740™ series elements. Filtration efficiencies exceed 99%.



Flow Rate vs Pressure Drop



Construction Materials

Filtration Media..... Polypropylene or Microglass
Support Media..... Polypropylene
End Caps..... Polypropylene
Center Core..... Polypropylene
Outer Support Cage..... Polypropylene
O-Rings/Gaskets..... Buna, EPDM, Silicone, White Buna, Viton®

Dimensions

Length:
HF - 20, 40, 60 inches
HF3 - 39 inches
Outside Diameter:
6.25 inches

Clean Pressure Drop Versus Flow Rate (PSID)						
	1 micron	5 micron	10 micron	20 micron	50 micron	100 micron
ΔP @ 40 GPM	2.0	1.0	0.5	0.3	0.2	0.2
ΔP @ 60 GPM	4.0	1.5	0.8	0.5	0.3	0.3
ΔP @ 80 GPM	5.0	2.0	1.2	0.7	0.5	0.5

ΔP is based on a 20" filter cartridge
* Pressure Drop for 40" element multiply by 0.5
* Pressure Drop for 60" element multiply by 0.34

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Polypropylene Temperature (max).....160˚F (71˚C)
Microglass Temperature (max).....200˚F (93˚C)
Differential Pressure (max) ..... 60 PSID (4.1 bar) at 68˚F (20˚C)

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

Type	Material	Rating (µ)		A	Length	O-Rings
HF	PP = Polypropylene	0.45	20.0		20" = HF (50.8 cm)	B = Buna
Retrofits Pall® HF	FG = Microglass	1.0	50.0		39" = HF3 (99.1 cm)	E = EPDM
		5.0	100.0		40" = HF (101.6 cm)	S = Silicone
HF3		10.0			60" = HF (152.4 cm)	V = Viton®
Retrofits 3M™ - 740						W = White Buna

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HFB-Series High Flow Pleated

HFB-Series High Flow Pleated Filter Cartridges seal into most standard bag filter vessels. These cartridges deliver high efficiencies, flow rates, and loading capacities at extremely low initial pressure drops. Due to the inside-to-outside flow design, all contaminants are captured on the inside of the element, avoiding potential contamination of filtered product during change-out. Utilizing polypropylene or microglass medias along with polypropylene hardware, the HFB series offers broad chemical compatibility. With up to 48.5 ft^2 of media, the HFB series offers an exceptional value.

Dimensions

Length:

12 inches (#1-size)

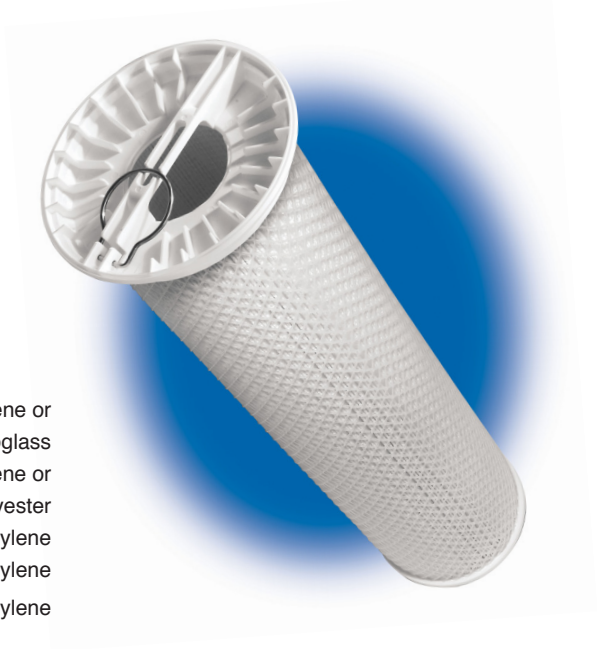
24 inches (#2-size)

Outside Diameter:

7.06 inches (flange) / 6 inches (cartridge)

Typical Application

- Process Water
- Deionized Water
- R.O. Membrane Pre-Filtration
- Food & Beverage
- Cosmetics
- Fine Chemicals
- Produced Water
- Waste Water
- Amines



Construction Materials

Filtration Media ..... Polypropylene or Microglass

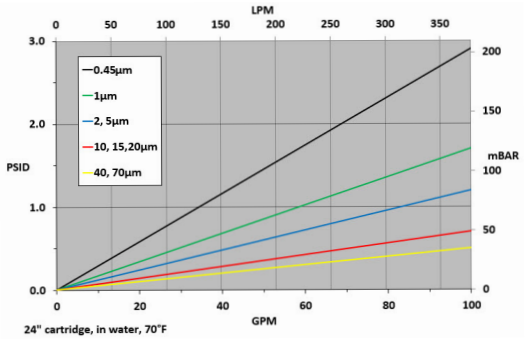
Support Media ..... Polypropylene or Polyester

End Caps ..... Polypropylene

Center Core ..... Polypropylene

Outer Netting/Wrap ..... Polypropylene

Flow Rate vs Pressure Drop



Operating Conditions

Change Out ΔP (recommended) .....25 PSID

Temperature (max) ..... 160˚F (71˚C)

Differential Pressure (max) ..... 50 PSID (3.4 bar) at 68˚F (20˚C)

Toxicity

All polypropylene components meet the specifications for biological safety per USP Class VI-121°C for plastics.

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

HFB	Material	Rating (µ)		Retention	Size	Flange Style	Hardware	O-Rings (For B & D Flange Only)
	PP = Polypropylene	0.45	15.0	A = Absolute	1 = #1-size	A = Global, Rosedale®	P = Polypropylene	B = Buna
	FG = Microglass	1.0	20.0	N = Nominal	2 = #2-size	B = Pentair		E = EPDM
		2.0	40.0			D = FSI® & Eaton® (OTT)		S = Silicone
		5.0	70.0					V = Viton®
		10.0						

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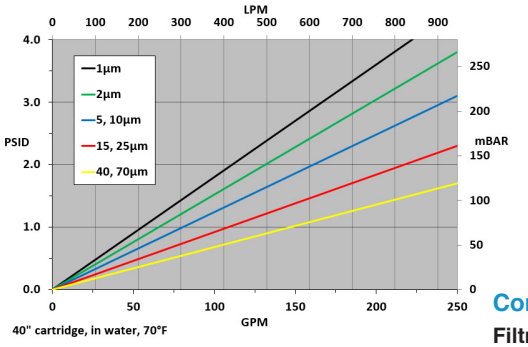
EHF3-Series High Flow Pleated

EHF3-Series High Flow Pleated Filter Cartridges are designed to address the need for critical filtration in high flow applications. Large diameter, high surface area filters dramatically reduce maintenance and production downtime. EHF3 cartridges are a direct replacement for the 3M/Cuno High Flow series cartridges. The EHF3 Series cartridges are available in both polypropylene and microglass media in a wide variety of micron ratings. This filter utilizes polypropylene hardware to provide a robust design. Both the polypropylene and microglass media provide broad chemical compatibility. Filtration efficiencies exceed 99%.

Flow Rate vs Pressure Drop



40" cartridge, in water, 70°F

Dimensions

Length:
40, 60 inches
Outside Diameter:
6.5 inches
Inside Diameter:
3.0 inches

Construction Materials

Filtration Media.....Polypropylene or Microglass
Support Media.....Polypropylene
End Caps.....Glass-reinforced Nylon
Center Core.....Polypropylene
Outer Support Cage.....Polypropylene
O-Rings/Gaskets.....Buna, EPDM, Silicone, Viton®

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Polypropylene Temperature (max).....160˚F (71˚C)
Microglass Temperature (max).....160˚F (71˚C)
Differential Pressure (max) ..... 60 PSID (4.1 bar) at 68˚F (20˚C)

Sanitization/Sterilization

Filtered Hot Water.....80˚C for 30 min.

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

EHF3	Material	Rating (µm)		Retention	Length	O-Rings
	PP = Polyropylene	1.0	15.0	A = Absolute	40” (101.6 cm)	B = Buna
	FG = Microglass	2.0	25.0	N = Nominal	60 “(152.4 cm)	E = EPDM
		5.0	40.0			S = Silicone
		10.0	70.0			V = Viton®

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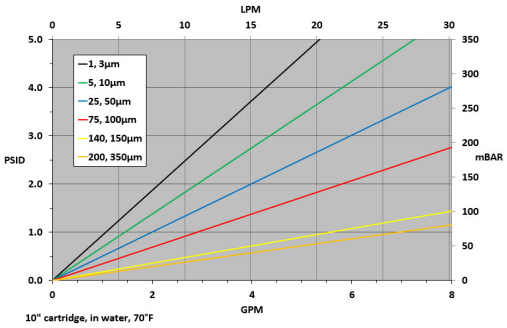
GPB-Series Bi-Component Polyolefin

GPB-Series Bi-Component Polyolefin Filter Cartridges feature thermally bonded co-extruded polyolefin fibers manufactured in a unique and proprietary process. The result is fiber-to-fiber point bonds forming a rigid, fixed-matrix pore structure. The performance benefit of this construction is a sharpened retention size cut-off. Furthermore, the enhanced matrix rigidity provides greater tolerance to differential pressures. This unique feature also prevents changes in fiber matrix throughout the life of the filter. Consistent precise filtration acts to prevent against contaminant unloading. GPB-series filter cartridges are free of additives, wetting agents, binders and silicone.

Flow Rate vs Pressure Drop



Typical Applications

- Paints and Coatings
- High-purity Inks
- Resins
- R.O. Pre-Filtration
- Food and Beverage
- Particle Classification

Construction Materials

Filtration Media ..... Polyolefin
End Caps ..... Polypropylene

Dimensions (Nominal)

Length:
9.75 to 40 inches (24.8 to 102 cm)
Outside Diameter:
2.6 inches (6.6 cm)
Inside Diameter:
1.1 inch (2.8 cm)

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max) ..... 176˚F (80˚C)
Differential Pressure (max) ..... 80 PSID
(5.5 bar) at 68˚F (20˚C)

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

GPB	Rating (µ)		-	Length	-	End Cap Style	O-Rings/Gaskets
Polyolefin	1	Cuno “A”		9.75” (24.76 cm)		Blank = None	Blank = None
	3	Cuno “B”		10” (25.4 cm)		2 = DOE Flat Gasket	B = Buna
	5	Cuno “C”		19.5” (49.53 cm)		3 = 222 w/Fin	E = EPDM
	10	Cuno “D”		20” (50.8 cm)		4 = 222 w/Flat Cap	P = Polyfoam
	25	Cuno “E”		29.25” (74.29 cm)		5 = 222 w/Spring	S = Silicone
	50	Cuno “G”		30” (76.2 cm)		6 = 226 w/Flat Cap	V = Viton®
	75	Cuno “L”		39” (99.1 cm)		7 = 226 w/Fin	
	100	Cuno “Q”		40” (101.6 cm)		8 = 226 w/Spring	
	140	Cuno “V”				9 = SOE w/ Spring	
	150	Cuno “W”				10 = DOE w/ Core Extender	
	200	Cuno “X”					
	350	Cuno “Y”					

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GLOBAL FILTER
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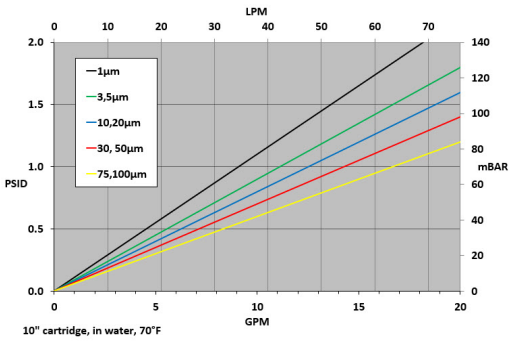
GWTB-Series Water Grade Meltblown

GWTB-Series Water Grade Meltblown Polypropylene Filter Cartridges:

- A gradient density structure provides for low pressure drop and high dirt holding capacity.
- All polypropylene construction presents excellent compatibility with a wide range of chemicals.
- Resists contaminant unloading, even at elevated differential pressures.
- All end configurations available (glued or thermally-bonded).
- Easy cartridge incineration and disposal.
- Free of additives, wetting agents, binders and silicone.

Flow Rate vs Pressure Drop



Construction Materials

Filtration Media ..... Polypropylene
End Caps ..... Polypropylene
O-Rings/Gaskets ..... Buna, EPDM, Polyfoam, Silicone, Viton®

Dimensions (Nominal)

Length .....9.75 to 40 inches (24.8 to 102 cm)
Outside Diameter ..... 2.5 inches (6.4 cm)
Inside Diameter ..... 1.06 inches (2.69 cm)

Performance Specifications

Micron Ratings:
1, 3, 5, 10, 20, 30, 50, 75, 100
Efficiencies:
Water Grade = 80%

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max) ..... 140˚F (60˚C)
Differential Pressure (max) ..... 50 PSID (2.4 bar) at 68˚F (20˚C)

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

GWTB	Rating (µ)	A	Length	-	End Cap Style	O-Rings/Gaskets	-	End Caps
Water Grade	1	A = 2.5" OD	9.75" (24.76cm)		2 = DOE Flat Gasket	B = Buna		Blank = Glued
	3		9.875" (25.08 cm)		3 = 222 w/Fin	E = EPDM		CS = 316SS Compression Spring (TB ONLY)
	5		10" (25.4 cm)		4 = 222 w/Flat Cap	P = Polyfoam (Gaskets)		PC = Polypropylene core
	10		19.5" (49.53 cm)		5 = 222 w/Spring	S = Silicone		TB = Thermally-Bonded
	20		20" (50.8 cm)		6 = 226 w/Flat Cap	V = Viton®		
	30		29.25" (74.29 cm)		7 = 226 w/Fin			
	50		29.5" (74.93 cm)		8 = 226 w/Spring			
	75		30" (76.2 cm)		9 = SOE w/ Spring			
	100		39" (99.1 cm)		10 = DOE w/Core Extender			
			40" (101.6 cm)		20 = SOE PP Ext. w/Spring			

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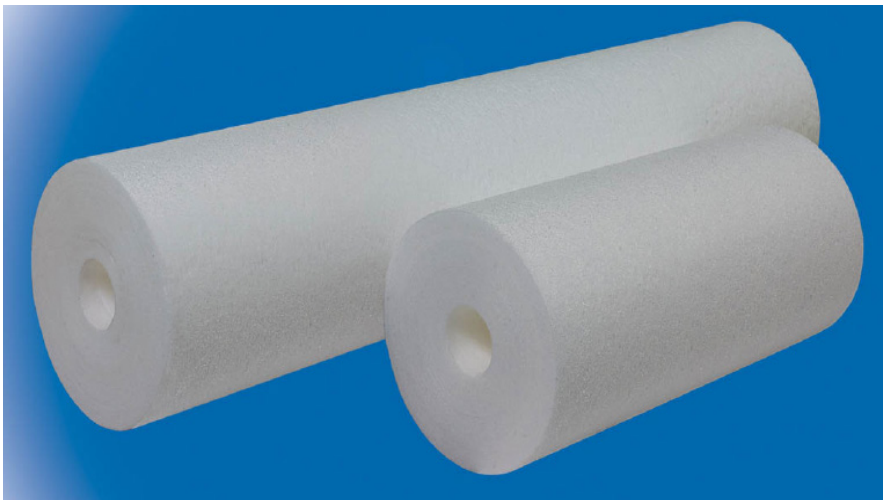
GWTB BB-Series Water Grade Meltblown

GWTB BB-Series Water Grade Meltblown Polypropylene Filter Cartridges:

- A gradient density structure provides for low pressure drop and high dirt holding capacity.
- Retention efficiency to 80%.
- All polypropylene construction presents excellent compatibility with a wide range of chemicals.
- Resists contaminant unloading, even at elevated differential pressures.
- Easy cartridge incineration and disposal.
- Free of additives, wetting agents, binders and silicone.



Cross - Reference

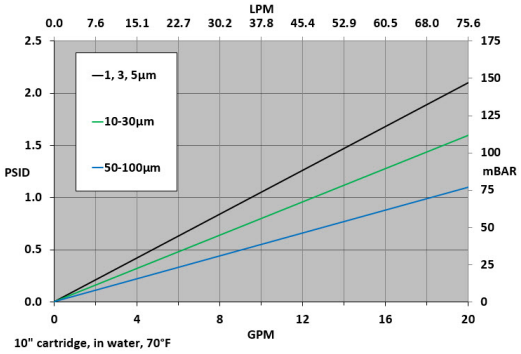
Pentek®:

DGD2501 = GWTB1
DGD5005 = GWTB5
DGD7525 = GWTB25

GE®:

LD01 = GWTB1
LD05 = GWTB5
LD10 = GWTB10
LD20 = GWTB20
LD30 = GWTB30
LD50 = GWTB50

Flow Rate vs Pressure Drop



Construction Materials

Filtration Media ..... Polypropylene

Dimensions

Length ..... 10 & 20 inches
Outside Diameter .....4.5 inches
Inside Diameter ..... 1.06 inches (2.69 cm)

Performance Specifications

Micron Ratings:

1, 3, 5, 10, 20, 25, 30, 50, 75, 100

Efficiencies: 80%

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max) ..... 140˚F (60˚C)
Differential Pressure (max) ..... 50 PSID
(2.4 bar) at 68˚F (20˚C)

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

GWTB	Rating (μ)		BB	Length
Water Grade	1	3	BB = 4.5” OD	10” (25.4 cm)
	5	10		20” (50.8 cm)
	20	25		
	30	50		
	75	100		

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GCTB-Series High Performance Meltblown

GCTB-Series High Performance Grade Meltblown Polypropylene Filter Cartridges:

- Precision process control of fiber diameter and layer density tunes the media to achieve targeted retention efficiency and ensure consistent performance.
- All polypropylene construction presents excellent compatibility with a wide range of chemicals.
- Resists contaminant unloading, even at elevated differential pressures.
- All end configurations available (glued or thermally-bonded).
- Easy cartridge incineration and disposal.
- Free of additives, wetting agents, binders and silicone.

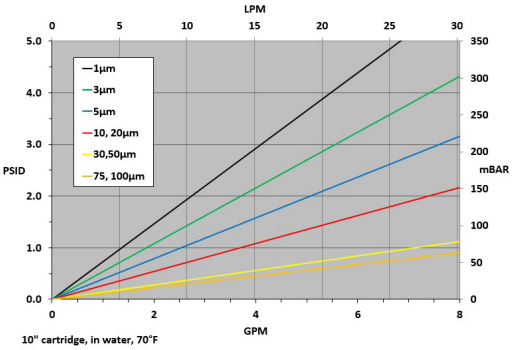
Construction Materials

Filtration Media ..... Polypropylene
End Caps ..... Polypropylene
O-Rings/Gaskets ..... Buna, EPDM, Polyfoam, Silicone, Viton®

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max) ..... 140˚F (60˚C)
Differential Pressure (max) ..... 50 PSID (2.4 bar) at 68˚F (20˚C)

Flow Rate vs Pressure Drop



Dimensions (Nominal)

Length ..... 9.75 to 40 inches (24.8 to 102 cm)
Outside Diameter ..... 2.5 inches (6.4 cm)
Inside Diameter.....1.06 inches (2.69 cm)

Performance Specifications

Micron Ratings:
1, 3, 5, 10, 20, 30, 50, 75, 100
Efficiencies:
High Performance Grade = 90%

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

GCTB	Rating (µ)	A	Length	-	End Cap Style	O-Rings/Gaskets	-	End Caps
High Performance Grade	1		9.75” (24.76cm)		2 = DOE Flat Gasket	B = Buna		Blank = Glued
	3		9.875” (25.08 cm)		3 = 222 w/Fin	E = EPDM		CS = 316SS Compression Spring (TB ONLY)
	5		10” (25.4 cm)		4 = 222 w/Flat Cap	P = Polyfoam (Gaskets)		PC = Polypropylene Core
	10		19.5” (49.53 cm)		5 = 222 w/Spring	S = Silicone		TB = Thermally-Bonded
	20		20” (50.8 cm)		6 = 226 w/Flat Cap	V = Viton®		
	30		29.25” (74.29 cm)		7 = 226 w/Fin			
	50		29.5” (74.93 cm)		8 = 226 w/Spring			
	75		30” (76.2 cm)		9 = DOE w/Spring			
	100		39” (99.1 cm)		10 = DOE w/ PP Core Extender			
			40” (101.6 cm)		20 = DOE PP Ext. w/Spring			

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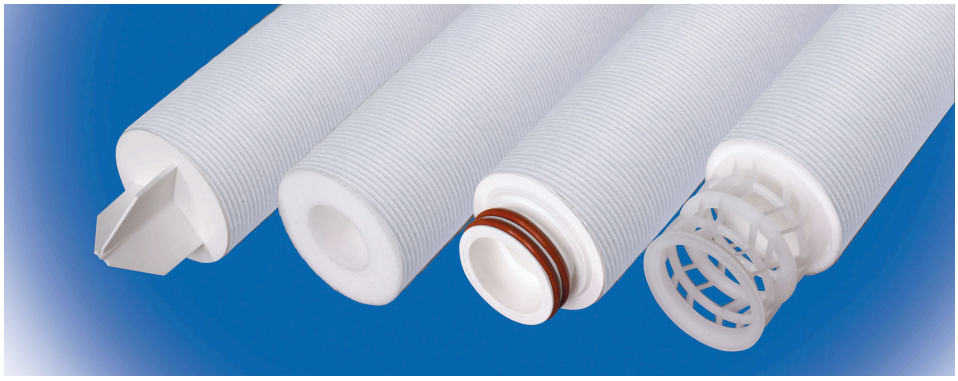
GATB-Series Absolute-Rated Meltblown

GATB-Series Absolute Grade Meltblown Polypropylene Filter Cartridges:

- Precision process control of fiber diameter and layer density tunes the media to achieve targeted retention efficiency and ensure consistent performance.
- All polypropylene construction presents excellent compatibility with a wide range of chemicals.
- Resists contaminant unloading, even at elevated differential pressures.
- All end configurations available (glued or thermally-bonded).
- Grooved exterior increases surface area.
- Easy cartridge incineration and disposal.
- Free of additives, wetting agents, binders and silicone.



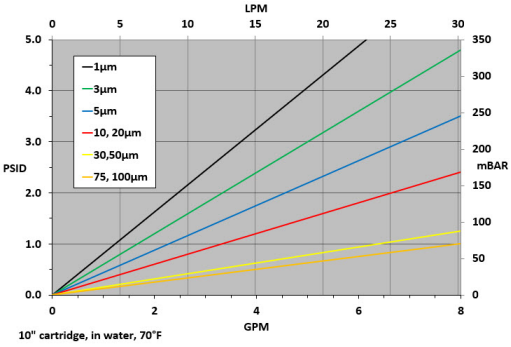
Construction Materials

Filtration Media.....Polypropylene
End Caps.....Polypropylene
O-Rings/Gaskets.....Buna, EPDM, Polyfoam, Silicone, Viton®

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max) ..... 140˚F (60˚C)
Differential Pressure (max) ..... 50 PSID (2.4 bar) at 68˚F (20˚C)

Flow Rate vs. Pressure Drop



Dimensions (Nominal)

Length ..... 9.75 to 40 inches (24.8 to 102 cm)
Outside Diameter ..... 2.5 inches (6.4 cm)
Inside Diameter.....1.06 inches (2.69 cm)

Performance Specifications

Micron Ratings:
1, 3, 5, 10, 20, 30, 50, 75, 100
Efficiencies:
1-3 Micron: 95%
5-100 Micron: 99%

Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

GATB	Rating (µ)	A	Length	-	End Cap Style	O-Rings/Gaskets	-	End Caps
Absolute Grade	1		9.75” (24.76cm)		2 = DOE Flat Gasket	B = Buna		Blank = Glued
	3		9.875” (25.08 cm)		3 = 222 w/Fin	E = EPDM		CS = 316SS Compression Spring (TB ONLY)
	5		10” (25.4 cm)		4 = 222 w/Flat Cap	P = Polyfoam (Gaskets)		PC = Polypropylene Core
	10		19.5” (49.53 cm)		5 = 222 w/Spring	S = Silicone		TB = Thermally-Bonded
	20		20” (50.8 cm)		6 = 226 w/Flat Cap	V = Viton®		
	30		29.25” (74.29 cm)		7 = 226 w/Fin			
	50		29.5” (74.93 cm)		8 = 226 w/Spring			
	75		30” (76.2 cm)		9 = SOE w/ Spring			
	100		39” (99.1 cm)		10 = DOE w/PP Core Extender			
			40” (101.6 cm)		20 = SOE PP Ext. w/Spring			

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GRB-Series Resin Bonded

GRB-Series Resin Bonded Filter Cartridges offer multi-stage filtration; delivering superior removal efficiencies and loading capacities in viscous liquid applications. Spiral outer wrap and long acrylic fibers minimize fiber-shedding while increasing surface area as well as minimizing loose debris caused by machine grooved competitive products. The continuous length design eliminates potential by-pass and void spaces created by glued increments. Full 2.56 inch diameter construction offers superior depth when compared to some smaller diameter competitive products.

Features

- Micron ratings from 2 to 150
- High dirt holding capacity
- Broad chemical compatibility
- Rigid construction is ideal for high viscosity applications

Filtration Media ..... Polyester & acrylic fibers with phenolic resin

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max) .....250˚F (121˚C)
Differential Pressure (max) ..... 50 PSID (2.4 bar) at 68˚F (20˚C)

Dimensions

Lengths..... 9.75 to 40 inches
Outside Diameter..... 2.56 inches (6.5cm)
Inside Diameter..... 1.125 inches (2.88cm)

Ordering Information

GRB	Rating (μ)	N	Length	-	End Cap Style
	2		9.75” (24.76cm)		9 = SOE w/Poly Spring
	5		10” (25.4 cm)		10 = DOE w/Poly Core Ext.
	10		19.5” (49.53 cm)		10X = Stainless Steel Core Ext.
	25		20” (50.8 cm)		
	50		29.25” (74.29 cm)		
	75		30” (76.2 cm)		
	125		39” (99.1 cm)		
	150		40” (101.6 cm)		

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G-Series Wound

G-Series Wound Depth Filter cartridges:

- Available in a wide variety of lengths and micron ratings from 9.75 to 50 inches and 0.5-400 μ
- Medias to fit all applications including: FDA polypropylene, bleached cotton, FDA bleached cotton, natural cotton, polyester, nylon and glass
- Core materials include: polypropylene, 304 & 316 stainless steel, tin and glass
- Performance-enhancing end-configurations available to fit every process requirement

Typical Applications

- Chemicals
- Pharmaceutical
- Consumer Products
- Photographic
- Food and Beverage
- Plating Solutions
- Lubricating Oils
- Edible Oils
- Paints
- Water
- Inks
- Waste Treatment
- Petrochemicals

Construction Materials

Filtration Media.....See Table
End Caps.....Polypropylene
Core.....See Table
O-Rings/Gaskets.....Buna, EPDM, Silicone, Teflon®, Viton®

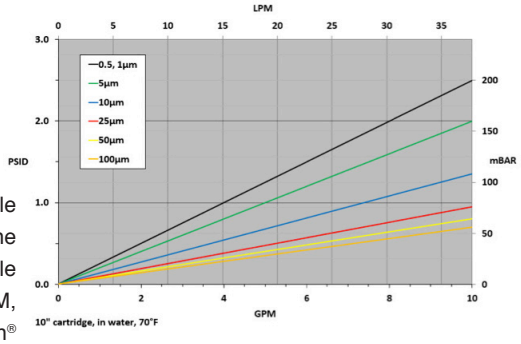
Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max)..... Dependent on materials of construction)
Differential Pressure (max)..... 50 PSID (2.4 bar) at 68˚F (20˚C)

Dimensions (Nominal)

Length..... 9.75 to 50 inches (24.8 to 127 cm)
Outside Diameter..... 2.5 inches (6.4 cm) or 4.5 inches (11.4 cm)
Inside Diameter..... 1.06 inches (2.69 cm)

Flow Rate vs Pressure Drop



Ordering Information

G	Media	Rating (μ)		Diameter	Length	Core	End Cap Style	O-Rings
	P = FDA Polypropylene	0.5	1	A = 2.5	9.75” (24.76cm)	P = Polypro	2P= DOE Flat Polyfoam Gasket	B = Buna
	C = Bleached Cotton	3	5	BB = 4.5	9.875” (25.08 cm)	A = 304 SS	3 = 222 w/Fin	E = EPDM
	CC = FDA Bleached Cotton	10	20		10” (25.4 cm)	S = 316 SS	4 = 222 w/Flat Cap	S = Silicone
	CN = Natural Cotton	25	30		19.5” (49.53 cm)	T = Tin	5 = 222 w/Spring	T = Teflon®
	PE = Polyester	50	75		20” (50.8 cm)	FG = Glass	6 = 226 w/Flat Cap	V = Viton®
	N = Nylon	100	200		29.25” (74.26 cm)		7 = 226 w/Fin	
	G = Glass	250	400		30” (76.2 cm)		8 = 226 w/Spring	
					39” (99.1 cm)		9 = DOE w/ Spring	
					40” (101.6 cm)		10 = DOE w/PP Core Extender	
					50” (127 cm)		10K = DOE w/ Crimped Ext. Core	
							10X = DOE w/ SS Core Extender	

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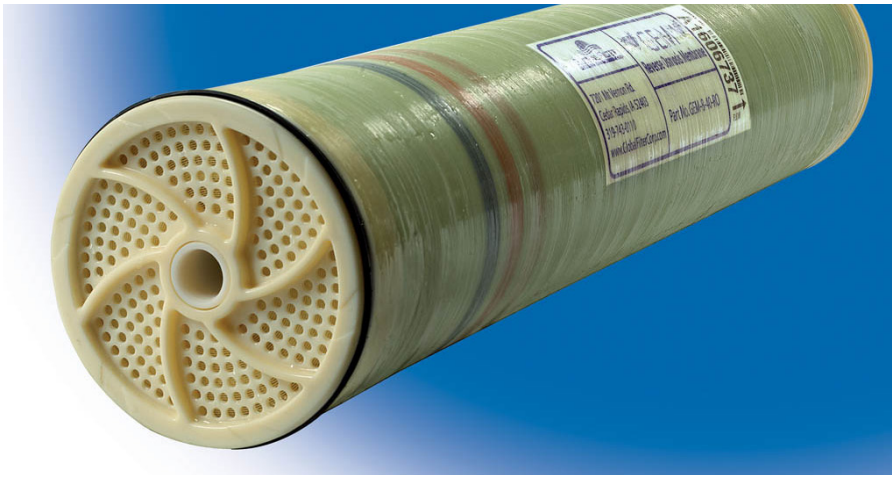
GEM-Series Reverse Osmosis

GEM-Series Reverse Osmosis Membrane Filter Modules provide the high salt rejection and flow rates typically available from competitive composite membranes while providing superior value. This gives the membrane user an edge by providing reduced reverse osmosis system operating costs. The pre-filtration program offered by Global Filter, in conjunction with the G.E.M. elements, can minimize the need for costly membrane cleanings. These elements are manufactured utilizing an ISO 9001:2000 Certified Quality Management System.



Application Data*

Max. Applied Pressure.....600 PSIG (4.16 MPa)
Max. Chlorine Concentration.....<0.1 PPM
Max. Operating Temperature.....113˚F (45˚C)
Feedwater pH Range.....3.0 - 10.0
Max. Feedwater Turbidity.....1.0 NTU
Max. Feedwater SDI (15 mins).....5.0
Max. Feed Flow.....75 GPM (17.0 m3/h)
Max. Ratio of Concentrate to Permeate Flow.....5:1
Max. Pressure Drop for Each Element.....10 PSI

* The limitations shown here are for general use. The values may be more conservative for specific projects to ensure the best performance and longest life of the membrane.

Typical Applications

- Producing boiler make-up
- Water for power plants
- Blow-down from power plants
- Desalting of well water for municipal drinking water supplies
- Reducing TDS prior to ion-exchange
- Purifying water to ultrapure standards for semiconductor and microelectronics manufacturing facilities

Testing Conditions

The stated performance is initial (data taken after 30 minutes of operation), based on the following conditions:

NaCl Test Solution..... 1500 PPM
Applied Pressure..... 225 PSI (1.55 MPa)
Operating Temperature..... 77˚F (25˚C)
Permeate Recovery.....15%
pH Range.....6.5 - 7.0

Performance

Permeate Flow.....8,900 to 14,000 GPD
Salt Rejection Minimum..... 98%

Type

Configuration.....Spiral Wound
Membrane Polymer.....Composite Polyamide

Dimensions

A	40.0” (1016 mm)
B	7.95” (201.9 mm)
C	1.125” (28.6 mm)

* Weight = 36 lbs (16.4kg)

Ordering Information

GEM-CPA400	-	Diameter (Nominal)	-	Length	-	RO
		8		40”		

DISCLAIMER: Filtration data presented is representative of performance observed in controlled laboratory testing. It is not given as a warranty, specification or statement of fitness for use. Specific performance can vary widely depending on contaminant type, fluid properties, flow rates and environmental conditions. It is recommended that users conduct thorough qualification testing to assure the product functions as required.

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GLOBAL FILTER
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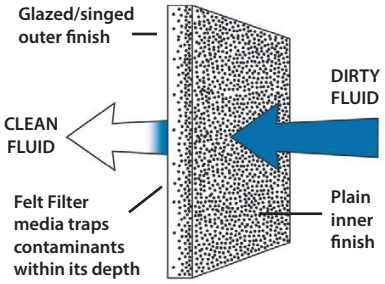
Standard Felt Liquid Filter Bags

- Micron ratings from 1 to 200
- All industry-standard and custom sizes available
- Broad chemical compatibility
- High flow/low pressure drop media
- Sewn or fully-welded construction
- Handles standard on all bags
- Choice of steel or molded plastic snap seal rings
- Temperature ratings to 275°F (PE w/S, SS or V-seal ring) and 425°F (HT w/S or SS ring)



Felt Bag Materials

Constructed using 100% synthetic fibers in polypropylene, polyester and Nomex®. The proper combination of fiber diameters, weights and thicknesses result in economical depth filter medias. Polypropylene & polyester bags are supplied with a singed or glazed finish to reduce fiber migration.

- Polypropylene, Polyester an Nomex materials meet FDA regulations for food contact under CFR21, Section 177.1520
- Glazed/singed finish on polyester & polypropylene reduces fiber-shedding
- Ability to remove both solid and gelatinous particles
- Silicone-free construction
- High dirt holding capacity
- Low cost

Felt Materials	Rating (μ)										
	1	3	5	10	15	25	50	75	100	150	200
Polyester	•	•	•	•	•	•	•	•	•	•	•
Polypropylene	•	•	•	•		•	•		•		•
Nomex®	•		•	•		•	•	•	•		•

Felt Bag Styles

S-ring bags have a galvanized steel ring (stainless steel optional) sewn into the top of the bag. They are supplied with sewn seams standard.

V-ring bags have a specially-designed, high-temperature snap seal ring sewn into the top of the bag. They are supplied with sewn seams standard (fully -welded seams available upon request).

Welded Construction

Fully-welded bags are available in glazed polypropylene and polyester felt for #1 & #2 sizes with V-seal molded plastic rings.

- No needle holes, thus increasing efficiencies by preventing by-pass
- Elimination of threads further reduces fiber-shedding

Ordering Information

G	Media	Rating (μ)	Cover/Jacket	Bag Dimensions			Ring Style	Options
	PE = Polyester	1-200	P = Plain (No Cover)	Size	Diam.	Length	C = Commercial-Style Band (C1 & C2 only)	A = Automotive Seam
	PO = Polypropylene		PEM = Polyester Multifilament Mesh	1	7.06	16.5”	PP = Polypropylene (rolled)	NR = No Ring
	HT = Nomex®			2	7.06	32.0”	S = Galvanized Steel	PL = No Outer Finish
				3	4.12	8.0”	SS = Stainless Steel	RC = Rev. Collar (S & SS only)
				4	4.12	14.0”	V = High-temp Plastic Snap Seal	WE = Fully-Welded (PE and PP Only)
				7	5.5	15.0”		
				8	5.5	20.0”		
				9	5.5	31.0”		
				C1	7.31	16.5”		
				C2	7.31	32.5”		
				12	8.0	30.0”		

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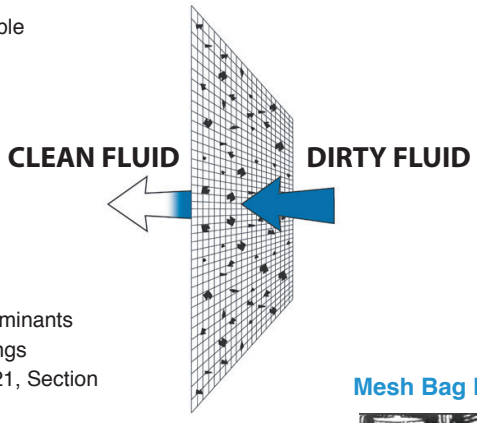
Standard Mesh Liquid Filter Bags

- Micron ratings from 1 to 1500
- All industry-standard and custom sizes available
- High flow/low pressure drop media
- Surface-retention filtration
- Wide chemical compatibility
- Sewn construction
- Handles standard on all bags
- Non-fiber shedding
- High removal efficiency
- Temperature ratings to 400ºF (204ºC)
- Silicone-free construction
- Economical removal of non-deformable contaminants
- Choice of steel or molded plastic snap seal rings
- Meet FDA regulations for contact under Title 21, Section 177.1520



Mesh Bag Styles

S-ring bags have a galvanized steel ring (stainless steel optional) sewn into the top of the bag. They are supplied with sewn seams standard.
V-ring bags have a specially-designed, high-temperature snap seal ring sewn into the top of the bag. They are supplied with sewn seams standard.

Mesh Bag Materials

Multifilament Mesh media is woven from threads made of smaller fibers. Bags made from this material are low cost and disposable.

Monofilament Mesh is woven from single-fiber threads. The openings are square and uniform. Bags made from this material have excellent strength and some are cleanable.

Mesh Materials	Rating (μ)																	
	1	5	10	25	50	75	100	125	150	175	200	250	300	400	600	800	1000	1500
NMO	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
POMO							•		•		•	•	•	•	•	•		
PEMU/NMU							•		•		•	•	•	•	•	•	•	•

Ordering Information

G	Media	Rating (μ)	Cover/Jacket	Bag Dimensions			Ring Style	Options
	NMO = Nylon Monofilament	1-1500	P = Plain (No Cover)	Size	Diam.	Length	C = Commercial Type Snap Steel Band	A = Automotive Seam
	POMO = Polypropylene Monofilament			1	7.06	16.5”	PP = Polypropylene (rolled)	DS = Draw-String
	PEMU = Polyester Multifila-ment			2	7.06	32.0”	S = Standard Steel Ring	EB = Edge Binding
	NMU = Nylon Multifilament			3	4.12	8.0”	SS = Stainless Steel Ring	NR = No Ring
				4	4.12	14.0”	V = High-temp Plastic Snap Seal	RC = Rev. Collar (S & SS only)
				7	5.5	15.0”		
				8	5.5	20.0”		
				9	5.5	31.0”		
				C1	7.31	16.5”		
				C2	7.31	32.5”		
				12	8.0	30.0”		

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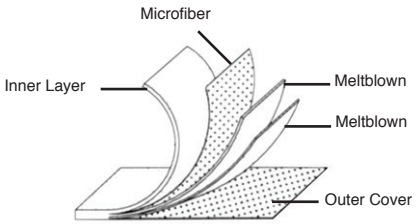
Microfiber Liquid Filter Bags

High Efficiency Microfiber Filter Bags

- Micron ratings from 1.0 to 50.0
- All industry-standard and custom sizes available
- Choice of steel or molded plastic snap seal V-rings
- Broad chemical compatibility
- Excellent oil-absorbing capabilities (POMF)
- Handles standard on all bags
- Efficiency ratings to 95.0%



HIGH EFFICIENCY FILTER BAG

High Efficiency Bag Materials

Microfiber materials provide high efficiencies at low micron ratings. Multi-layer technology results in true graded-density filtration, delivering significantly increased loading capacities and lower overall filtration costs.

- Polypropylene & polyester microfiber materials meet FDA regulations for food contact under CFR21, Section 177.1520
- Silicone-free construction
- High dirt holding capacity

High Efficiency Bag Styles

- Standard ring bags have a galvanized steel ring (stainless steel optional) sewn in the top of the bag
- V-ring bags have a molded plastic ring sewn to the filter bag

High Efficiency Materials (95.0%)	Rating (μ)					
	1A	2A	5A	10A	25A	50A
Polyester	•	•	•	•	•	•
Polypropylene	•	•	•	•	•	•

Ordering Information

G	Media	Rating (μ)	Cover/Jacket	Bag Dimensions			Ring Style
				Size	Diam.	Length	
	PEMF = Polyester	1A	P = Standard	1	7.06	16.5”	C = Commercial-Style Band (C1 & C2 only)
	POMF = Polypropylene	2A		2	7.06	32.0”	PP = Polypropylene (rolled)
		5A		3	4.12	8.0”	S = Standard Steel Ring
		10A		4	4.12	14.0”	SS = Stainless Steel Ring
		25A		7	5.5	15.0”	V = High-temp Plastic Snap Seal
		50A		8	5.5	20.0”	
				9	5.5	31.0”	
				C1	7.31	16.5”	
				C2	7.31	32.5”	

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GFHD-Series Single-Cartridge Liquid Filter Vessels

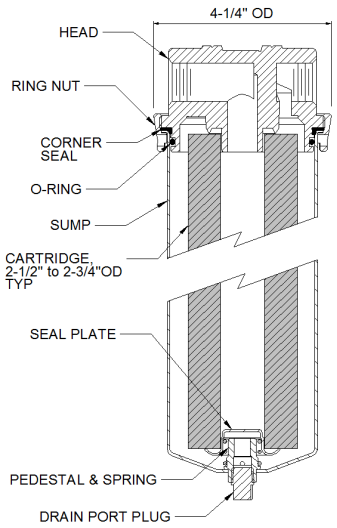
GFHD-Series Single-Cartridge Vessels are suited for a wide variety of filtration applications. A ring-nut closure provides easy access for change-out. Rated for 300 PSI service, models are available in either 304 or 316 stainless steel construction.

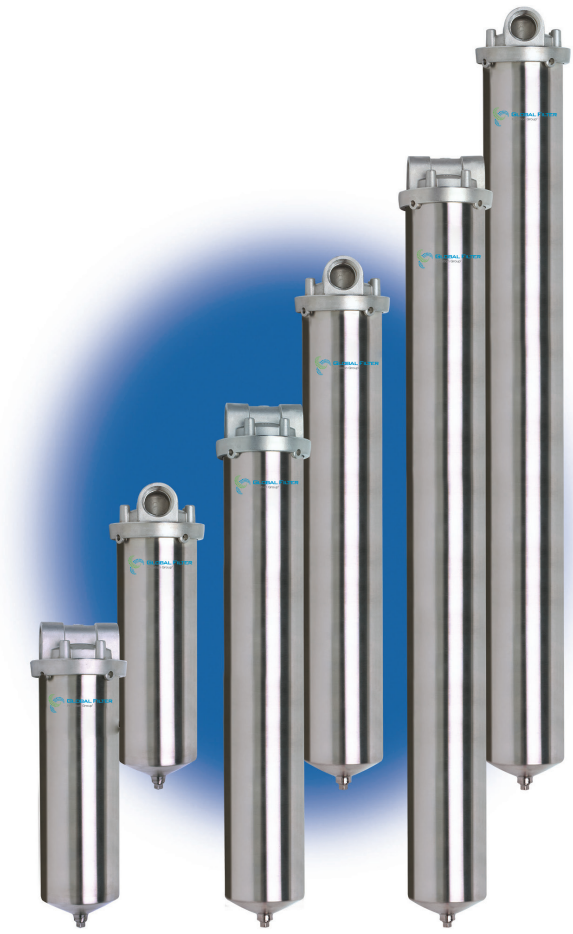
Features

- DOE design features a spring-loaded bottom seat cup which allows for easy installation and positive seal
- Ring-nut allows for easy change-out (wrench pin is included as standard, spanner wrench is optional)
- 3/4" and 1" inlet and outlet available in NPT and BSPP for ease of installation
- 1/4" NPT dirty drain port allows for complete evacuation prior to change-out
- Available in 5", 10", 20", 30" lengths to accept cartridges up to 3" OD
- 304 or 316 stainless steel construction (passivated finish)
- Offered in DOE, 222/FLAT* or 226/FLAT* configurations
- Heavy-duty cast head with mounting bracket
- Dual closure seal (EPDM standard)
- 300 PSI pressure rating
- Inline port design

Alternate Seal Materials
(Sold Separately)

- Viton®
- Buna
- Teflon® Encapsulated Viton®





Ordering Information

GFHD	Length	Inlet/Outlet Size	End Configuration	Material	Pressure Rating
	05 = 5"	75N = 3/4" FNPT	D = DOE	4 = 304 SS	30 = 300 PSI
	1 = 10"	1N = 1" FNPT	2 = 222/FLAT*	6 = 316 SS	
	2 = 20"	75B = 3/4" BSPP**	6 = 226/FLAT*		
	3 = 30"	1B = 1" BSPP**			

* Available in 316 SS only ** Available in 304 SS only

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GTCH-Series Multi-Cartridge Liquid Filter Vessels

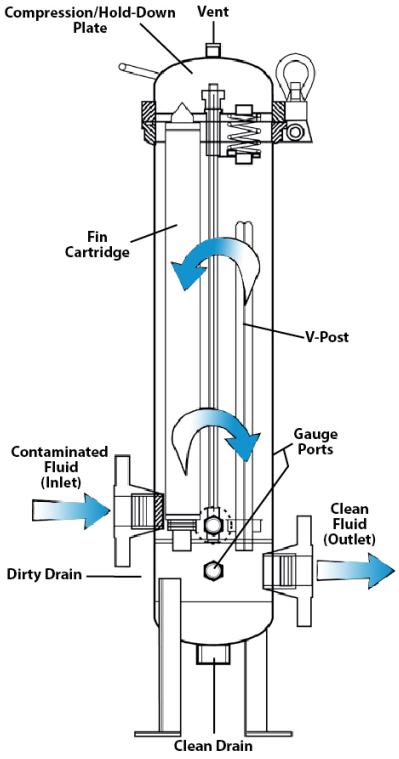
GTCH-Series Multi-Round Cartridge Vessels are designed for industrial and high purity applications. Vessels are constructed of 304 or 316L stainless steel and accept DOE, 222/FLAT and 222/FIN end cartridges in 10, 20, 30 & 40 inch lengths.

Features

- 304 or 316L stainless steel construction options
- 150 PSI pressure rating standard
- Single o-ring design (Buna standard)
- Easy-access eye-nuts/swing-bolt closure
- Universal seat cups and alternate compression/ hold-down plates allow vessels to accept DOE, 222/FLAT or 222/ FIN cartridges
- Heavy-duty welded angle mounting/support legs
- Bearing-assisted hand-wheel closure davit (GTCH12 & larger)

Options

- ASME Code Stamp
- Electropolished Finish
- Sanitary Porting
- Alternate Seal Materials
  - — EPDM
  - — Teflon® Encapsulated Viton®
  - — Viton®



Ordering Information

GTCH	# of Cartridges	Length	Inlet/Outlet Size	Inlet/Outlet Style	Outlet	Material	Pressure Rating	Surface Finish	ASME Code Stamp
	3	1 = 10”	1 = 1”	N = FNPT	1 = Bottom Outlet	4 = 304 SS	15 = 150 PSI @ 250°F	EP = Electropolished	Blank = None
	5	2 = 20”	1.5 = 1.5”	F = RF Flange	2 = Opposite Outlet	6 = 316L SS		GB = Glass Bead	U = ASME
	7	3 = 30”	2 = 2”	T = TC ferrule					
	12	4 = 40”	3 = 3”						
	21		4 = 4”						
	36		6 = 6″						
	51		8 = 8″						

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GTCHB-Series Multi-Cartridge Band Clamp Liquid Filter Vessels

GTCHB-Series Multi-Cartridge Vessels are designed for industrial and commercial applications. Vessels are constructed of 304 or 316L stainless steel and accept DOE, 222/FLAT and 222/FIN end cartridges in 10, 20, 30 & 40 inch lengths.

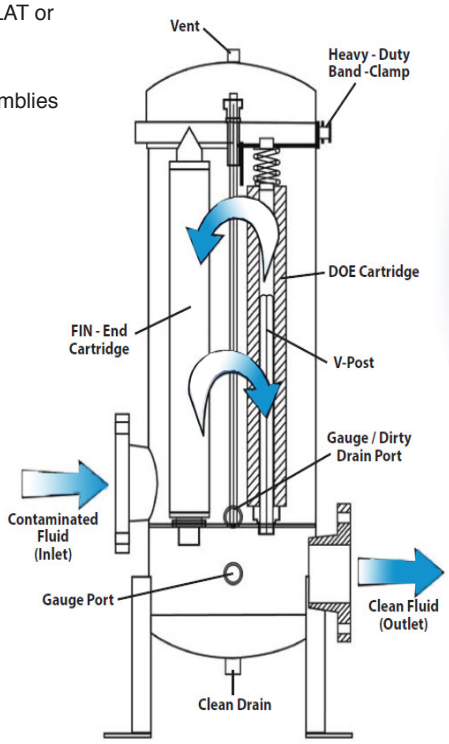
Features

- Easy access, self-centering heavy-duty band-clamp closure
- Heavy-duty welded mounting/support legs
- Single o-ring design (Buna standard)
- Universal seal cups and compression plates allow vessels to accept DOE, 222/FLAT or 222/FIN cartridges
- Poly-coat finish (exterior only)
- 316L stainless steel cap/spring assemblies and V-posts
- 150 PSI pressure rating

Options

Alternate Seal Materials

- EPDM
- Viton®



Ordering Information

GTCHB	# of Cartridges	Length	Inlet/Outlet Size	Inlet/Outlet Style	Outlet	Material	Pressure Rating	Surface Finish
	4	1 = 10”	2 = 2”	F = RF Flange	2 = Opposite Outlet	4 = 304 SS	15 = 150 PSI @ 250°F	PC = Poly-coat
	5	2 = 20”	3 = 3”	M = MNPT		6 = 316L SS		
	7	3 = 30”	4 = 4”					
	12	4 = 40”						
	22							

GLOBAL FILTER
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GBFE4-Series Single Bag Liquid Filter Vessels

GBFE4 Series Bag Vessels offer an economical solution to your low-flow bag filtration requirements. These vessels offer a cost-effective means for removing solid contaminants from a process liquid stream. Vessels are designed to a 300 PSIG rating with a swing bolt closure. Vessels accept (1) #4-size filter bag.

Features

- 304 stainless steel construction with a glass bead finish
- 300 PSIG rating
- Buna seal
- Easy-access swing-bolt closure
- 1" NPT uni-style (side & bottom outlet) offers increased piping flexibility
- Stainless steel hold-down spring
- 1/2" NPT vent & gauge ports
- Adjustable stainless steel tripod mounting/support leg assembly
- Stainless steel perforated support basket (9/64" perf. standard)

Options

Alternate Seal Materials

- EPDM
- Viton®

Flow Rate

Model	Bag Size	Basket Depth	EFA (ft2)	Max Flow Rate (GPM)*
GBFE412	4	12	1.0	50

* Is the maximum flow rate recommended through the vessel without a filter bag installed (using water). Any increase in viscosity and/or the installation of filter bags will reduce these flow rates significantly. Please refer to the appropriate bag filter sizing chart or consult with your Global Filter representative when sizing.

Ordering Information

GBFE4	Basket Depth	Inlet/Outlet Size	Outlet Configuration	Material	Pressure Rating	Surface Finish
	12 = #4 Size	1N = 1" FNPT	3 = Bottom & Opposite Side Outlet	4 = 304 SS	30 = 300 PSI @ 250°F	GB = Glass Bead

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GBFV8-Series Single Bag Liquid Filter Vessels

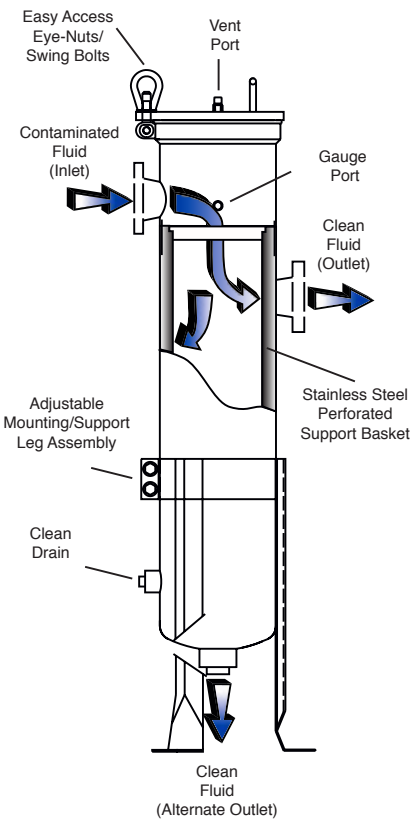
GBFV8-Series Bag Vessels are designed to meet and/or exceed nearly all application requirements. The V-ring design provides a positive snap-fit to ensure against by-pass and deliver clean effluent.

Features

- NPT or RF Flanged inlet/outlet connections
- Stainless steel support baskets (9/64" standard)
- Adjustable tripod mounting/support leg assemblies
- Easy-access eye-nut/swing-bolt closures with handle
- 304 or 316L stainless steel construction options
- Uni-style (side & bottom outlet) offers increased piping flexibility
- Single o-ring seal (Buna standard)
- 150 PSI pressure rating standard
- Snap-fit V-ring bag seal design

Options

- ASME Code Stamp
- Electropolished Finish
- Sanitary porting
- Mesh-lined/perforated baskets
- Alternate seal materials
  - — EPDM
  - — Silicone
  - — Teflon® Encapsulated Viton®
  - — Viton®



Flow Rate

Model	Bag Size	Basket Depth	EFA (ft2)	Max Flow Rate (GPM)*
GBFV815	#1	15	2.0	90
GBFV830	#2	30	4.4	200

* Is the maximum flow rate recommended through the vessel without a filter bag installed (using water). Any increase in viscosity and/or the installation of filter bags will reduce these flow rates significantly. Please refer to the appropriate bag filter sizing chart or consult with your Global Filter representative when sizing.

Ordering Information

GBFV8	Basket Depth	Inlet/Outlet Size	Inlet/Outlet Style	Outlet	Material	Pressure Rating	Surface Finish	ASME Code Stamp
	15 = #1 Size	2 = 2"	F = RF Flange	1 = Bottom Outlet	4 = 304 SS	15 = 150 PSI @ 250°F	EP = Electro-polished	Blank = None
	30 = #2 Size	3 = 3"	N = FNPT	2 = Opposite Side Outlet	6 = 316L SS		GB = Glass Bead	U = ASME
			T = TC Ferrule	3 = Bottom & Opposite Outlet (2" FNPT ONLY)				

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GBFV82-Series Twin Capacity Bag Liquid Filter Vessels

GBFV82-Series Twin-Capacity Bag Vessels are designed to meet and/or exceed nearly all application requirements. The V-ring design provides a positive snap-fit to ensure against by-pass and deliver clean effluent. Vessels offer the flow and loading capacity of a multi-bag vessel at a more economical cost.

Features

- 304 or 316L stainless steel construction options
- 150 PSI pressure rating standard
- Snap-fit V-ring bag seal design
- Single o-ring seal (Buna standard)
- Two identical GBFV830 vessels working in tandem
- Adjustable tripod mounting/support leg assemblies
- High flow rates and loading capacity at low pressure drops
- Stainless steel support baskets (9/64" standard)
- Two easy-access eye-nut/swing-bolt closures with single handle
- RF Flanged inlet/outlet connections (same side and opposite side options available)

Options

- ASME Code Stamp
- Electropolished finish
- Mesh-lined/perforated baskets
- Alternate seal materials
  - — EPDM
  - — Teflon® Encapsulated Viton®
  - — Viton®

Flow Rate

Model	Bag Size	Basket Depth	EFA (ft^2)	Max Flow Rate (GPM)*
GBFV8230	#2	30	8.8	400

* Is the maximum flow rate recommended through the vessel without a filter bag installed (using water). Any increase in viscosity and/or the installation of filter bags will reduce these flow rates significantly. Please refer to the appropriate bag filter sizing chart or consult with your Global Filter representative when sizing.

Ordering Information

GBFV82	Basket Depth	Inlet/Outlet Size	Inlet/Outlet	Outlet	Material	Pressure Rating	Surface Finish	ASME Code Stamp
	30 = #2 Size	3 = 3"	F = RF Flange	2 = Opposite Side Outlet	4 = 304 SS	15 = 150 PSI @ 250°F	EP = Electropolished	Blank = None
		4 = 4"		5 = Same Side Outlet	6 = 316L SS		GB = Glass Bead	U = ASME

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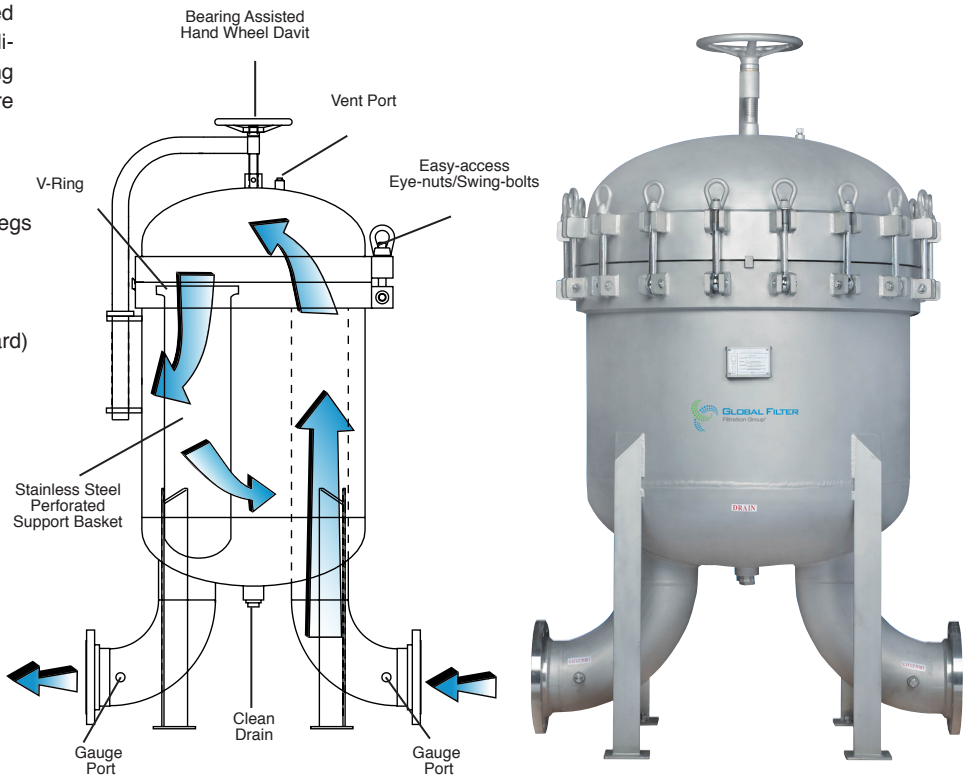
GMBV-Series Multi-Bag Liquid Vessels

GMBV-Series Multi-Bag Vessels are designed for high flow and/or high contaminant load applications where clean effluent is critical. The V-ring design provides a positive snap-fit to ensure against by-pass.



Features

- Heavy-duty welded angle mounting/support legs
- RF Flanged “inline” inlet/outlet connections
- Bearing-assisted hand-wheel closure
- Permanent compression/hold-down plate
- Stainless steel support baskets (9/64” standard)
- Easy-access eye-nut/swing-bolt closure
- 304 or 316L stainless steel construction
- Snap-fit V-ring bag seal design
- 150 PSI pressure rating
- Single o-ring seal (Buna-N standard)

Options

- ASME Code Stamp
- Mesh-lined/perforated baskets
- Alternate Seal Materials
  - — EPDM
  - — Teflon® Encapsulated Viton®
  - — Viton®

Flow Rate

Model	# of Bags	Bag Size	Basket Depth	EFA (ft2)	Max Flow Rate (GPM)*
GMBV430	4	#2	30”	17.6	600
GMBV630	6	#2	30”	26.4	1200
GMBV830	8	#2	30”	35.2	1600
GMBV1230	12	#2	30”	57.8	2400

* Is the maximum flow rate recommended through the vessel without a filter bag installed (using water). Any increase in viscosity and/or the installation of filter bags will reduce these flow rates significantly. Please refer to the appropriate bag filter sizing chart or consult with your Global Filter representative when sizing.

Ordering Information

GMBV	# of Bags/ Baskets	Basket Depth	Inlet/Outlet Size	Inlet/Outlet	Material	Pressure Rating	Surface Finish	ASME Code Stamp
	4	30 = 30”	4 = 4”	F = RF Flange	4 = 304 SS	15 = 150 PSI @ 250°F	GB = Glass Bead	Blank = None
	6		6 = 6”		6 = 316L SS			U = ASME
	8		8 = 8”					
	12							

GLOBAL FILTER
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GBFV8/GMBE-Series Carbon Steel Liquid Vessels

GBFV & GMBE Series Carbon Steel Bag Vessels are designed to offer a high-quality and economical solution to applications that do not require stainless steel construction. The V-ring tubesheet design provides a positive snap-fit to ensure against by-pass.

Features (GBFV)

- Carbon steel construction with epoxy-coated exterior
- 150 PSI pressure rating
- 2" NPT uni-style (side & bottom outlet) offers increased piping flexibility
- Snap-fit V-ring bag seal design
- Stainless steel perforated support baskets (9/64" perf. standard)
- Adjustable tripod mounting/support leg assemblies
- Easy-access eye-nut/swing-bolt closures with handle
- Single o-ring seal (Buna-N standard)

Features (GMBE)

- Carbon steel construction with epoxy-coated exterior
- 150 PSI pressure rating
- RF Flanged "inline" inlet/outlet connections
- Snap-fit V-ring bag seal design
- Stainless steel perforated support baskets (9/64" perf. standard)
- Permanent compression/hold-down plate
- Heavy-duty welded angle mounting/support legs
- Easy-access eye-nut/swing-bolt closure with bearing-assisted hand-wheel davit
- Single o-ring seal (Buna-N standard)

Flow Rate

Model	# of Bags	Bag Size	Basket Depth	EFA (ft2)	Max Flow Rate (GPM)*
GBFV815	1	#1	15"	2.0	90
GBFV830	1	#2	30"	4.4	200
GMBE430	4	#2	30"	17.6	600
GMBE630	6	#2	30"	26.4	1200

* Max flow rate is the maximum flow rate recommended through the vessel without a filter bag installed (using water). Any increase in viscosity and/or the installation of filter bags will reduce these flow rates significantly. Please refer to the sizing chart or consult with Global Filter when sizing these vessels.

Ordering Information

GBFV8	Basket Depth	Inlet/Outlet Size	Inlet/Outlet	Material	Pressure Rating	Surface Finish
	15 = 15"	2N = 2" FNPT	3 = Uni-Style	C = Carbon Steel	15 = 150 PSI @ 500°F **	EC = Epoxy Coated (Ext)
	30 = 30"					

GMBE	# of Bags/ Baskets	Basket Depth	Inlet/Outlet Size	Inlet/Outlet	Material	Pressure Rating	Surface Finish
	4	30 = 30"	4F = 4" RF Flange	Blank = Inline	C = Carbon Steel	15 = 150 PSI @ 500°F **	EC = Epoxy Coated (Ext)
	6		6F = 6" RF Flange				

** The maximum allowable operating temperature will be dictated by the limits of the selected O-ring material.

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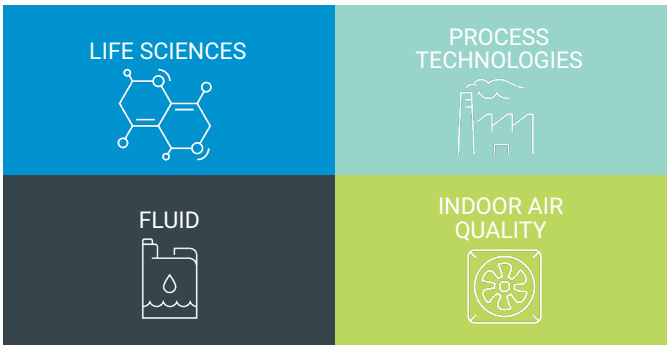
Filtration Group® **www.filtrationgroup.com**

Filtration Group Corporation is committed to making the world safer, healthier, and more productive by creating innovative solutions that deliver outstanding customer value. As a world-leading provider, we have the experience, resources and scale to accommodate any filtration need — standard or otherwise — with the most precise, advanced, and efficient solutions around the globe. We offer a level of acumen and accountability no other provider can match.

From filtration and material sciences to medical applications, we are the only company able to provide comprehensive solutions, offering unparalleled products, service and delivery for a range of industries. With industry-leading solutions across the entire filtration spectrum, you can expect a unified, seamless experience, no matter what your current or future needs demand.

We are the one global partner that truly understands that the success of our customers depends on responsiveness, quality of product and continuity of supply. That's why we go to great lengths to provide consistent and seamless filtration solutions across an impressive range of business applications. We are committed to providing our customers with the best solutions available in Life Sciences, Process Technologies, Fluid and Environmental Air.



At Filtration Group, our values are ***CLEAR***

C — **Customer-Centric** – we delight customers

L — **Leadership** – we lead in the markets we serve

E — **Excellence** – we ensure outstanding execution in all aspects of our business

A — **Accountability** – we hold ourselves accountable to our customers, shareholders, and to ourselves

R — **Respect** – we treat everyone with respect and operate at the highest level of integrity

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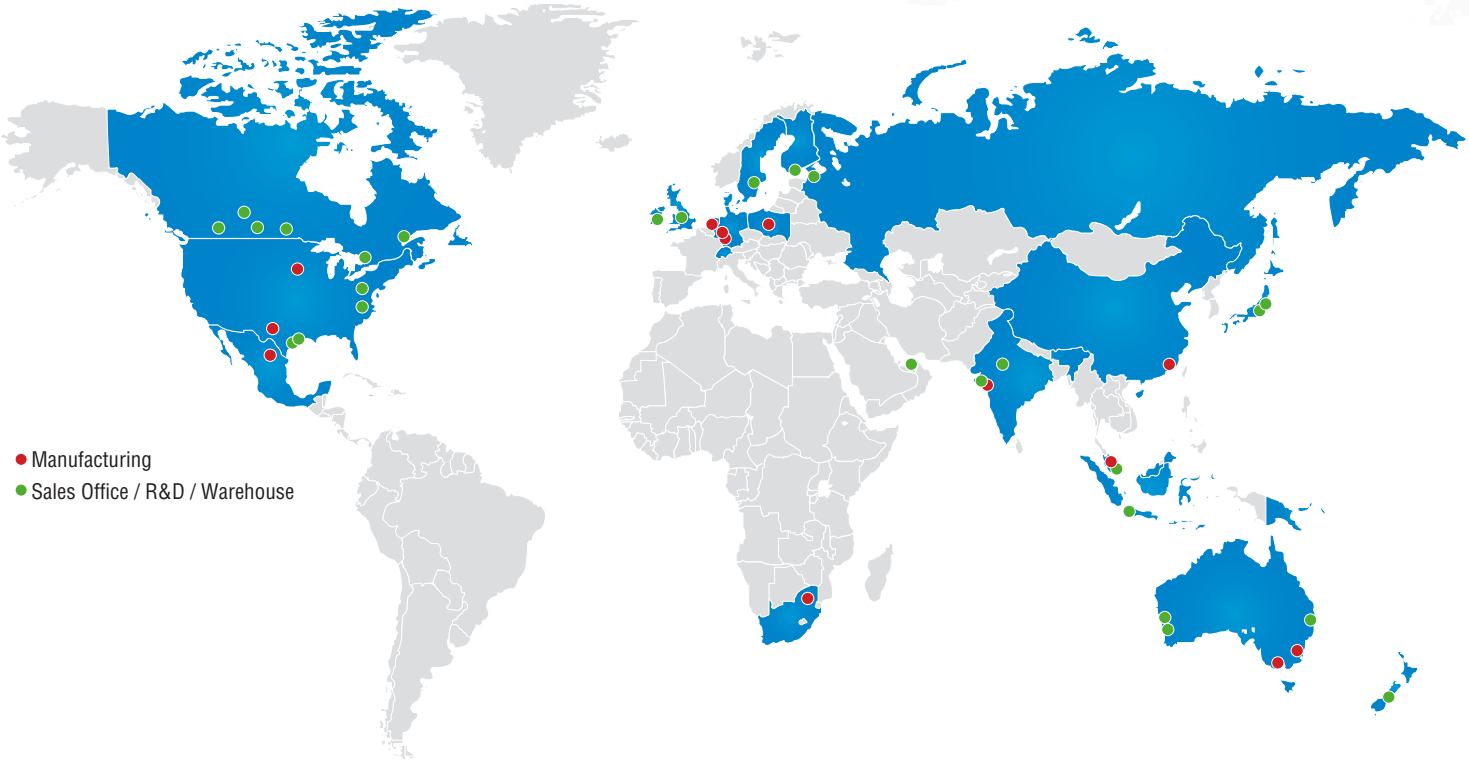
Global Footprint...



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