GLOBAL FILTER
Filtration Group®

VALIDATED FILTRATION SOLUTIONS TO INDUSTRY LEADERS®

High-quality products with innovative designs that meet every challenge for our global customer base.

GLOBAL FILTER
Filtration Group®

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GLOBAL FILTER IS PART OF FILTRATION GROUP

A global leader in process filtration, Global Filter delivers the performance, quality and consistency you need to separate you from your competition. Our strong heritage is reflected in our brand and our record of accomplishments. Global Filter is an industry leader and innovator with a continuing commitment towards 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 filter vessels for the **food & beverage** industry.

Pharmaceuticals – We promise high purity, efficiency, and economy to our customers. Our products undergo demanding integrity tests and are certified in our hygienic production facilities.

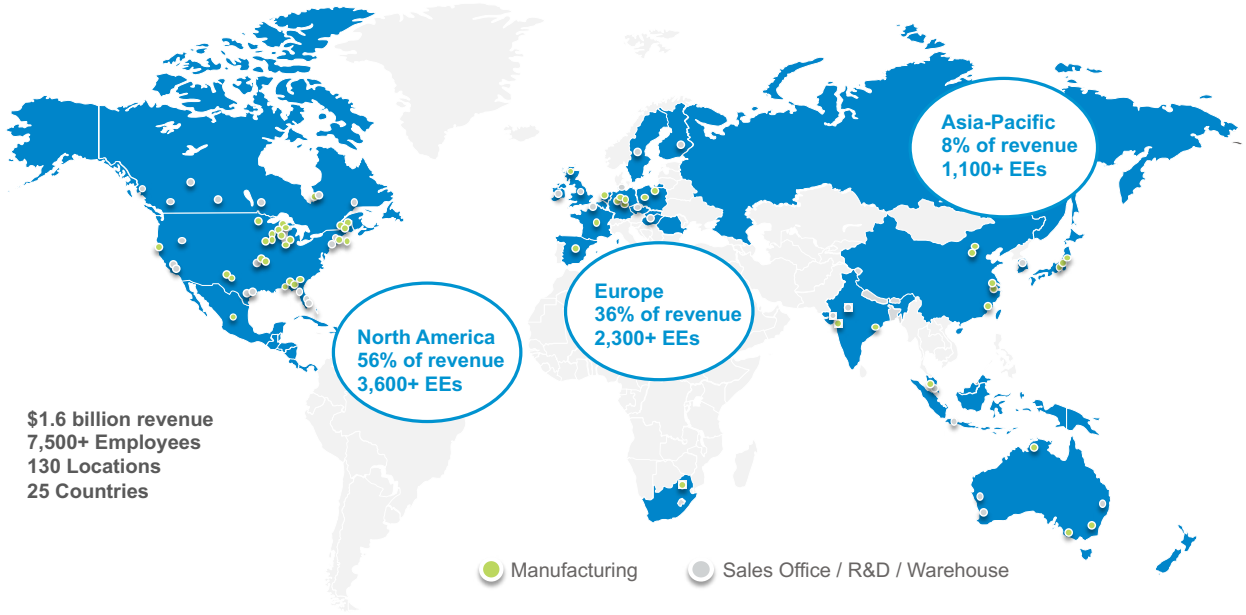
Microelectronics – We provide superior filtration solutions for high purity manufacturing and processing of semiconductor components and products.

Industrial – Our filtration products and services are utilized by customers in a wide variety of industries including: **paints**, **inks & coatings**, **water treatment**, **mining & minerals**, **chemicals**.

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

Filtration Group®
Safer | Healthier | More Productive

Global Presence



FOUNDED IN 1999

GLOBAL FILTER
Filtration Group®

Founded in 1999 in Cedar Rapids, Iowa, **Global Filter** produces high-purity pleated filter cartridges in our advanced technology production facility. From modest beginnings as a family, home-based business, today Global Filter serves customers, as our name implies, around the globe. Some of the largest companies in the world trust their filtration requirements to Global Filter.

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.

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Filtration Group®
Safer | Healthier | More Productive

WE PROVIDE FILTRATION SOLUTIONS FOR A WIDE RANGE OF INDUSTRIES:

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.

- Bottled Water
- Dairy
- Cider
- Distilled Spirits
- Food Ingredients
- Juices & Soft Drinks
- Sugar & Corn Syrup
- Wine
- Beer
- Flavorings

Chemicals

We understand the impact improper filtration ca have on the chemical products you produce and the overall adverse impact that can have on your business.

- Bleach
- Resins & Adhesives
- Dyestuffs
- Hydrogen Peroxide
- Intermediates
- Raw Materials
- Buffer Solutions
- Cosmetics

Life Sciences

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

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

Microelectronics

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

- Ultrapure Chemicals
- Ultrapure Water
- Ultrapure Air & Gases

Paints, Inks & Coatings

Improving your products' quality and your bottom line is why we do what we do. Filtration solutions that help you achieve your goals.

- Stains & Lacquers
- High Purity Paints
- Inkjet Inks
- Automotive Paints
- Laser Inks
- Clear Coats

Water Treatment

We understand the importance as well as impact of water in our everyday lives and the intricacies of producing it.

- Process Water
- R.O. Pre-filtration
- Ultrapure Water
- Municipal Water
- Waste Water
- Injection Water

Filtration Group®
Safer | Healthier | More Productive

OUR FILTRATION SOLUTIONS ARE:

Safer

Our products meet US and EU standards for purity and safe across critical industries.

Healthier

We develop products that improve the quality of life for humans and animals

More Productive

Our solutions allow you to produce more product at a lower cost, improving your bottom line

ADVANTAGES TO WORKING WITH GLOBAL FILTER:

- Access to an extensive network of filtration professionals from all over the world who have experience with thousands of unique processes and applications
- Manufacturing facilities in North America, Europe and Japan
- Products designed to maximize your productivity, product quality and bottom line
- Built to grow with you and help navigate the challenges and changing landscapes of your industry
- Technical support from initial conversations to implementation and beyond
- Shortest lead times and industry-leading value

OUR PRODUCTS

IMPROVE CLEANLINESS AND OPTIMIZE YOUR PROCESSES WITH OUR FULL LINE OF FILTRATION PRODUCTS:

- Pleated Depth & Membrane Cartridges
- Depth Cartridges & Liquid Bags
- Swing-Bolt Cartridge & Bag Vessels
- Band-Clamp Cartridge & Bag Vessels

VESSELS IN STOCK, READY TO SHIP

Cartridge End Cap Configuration

Open (DOE)

Spring

PP Core Extender

213 Internal O-Ring

Flat (for 213)

222

222 (w/SS Insert)

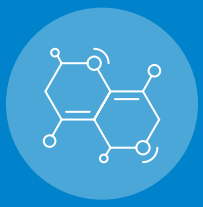
226

226 (w/SS Insert)

Flat Cap

Fin

222 3-tab



PLEATED DEPTH CARTRIDGES

Our multi-layer, fiber-based medias provide true depth-loading for high efficiency removal at low micron ratings. Pleated design increases surface area which in turn, increases loading capacity and allows for higher flow rates.

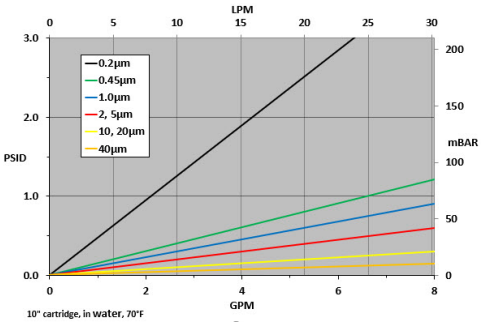
PP-Series High Purity Pleated Polypropylene

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
- Pharmaceutical Prefiltration

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.

[1]Stainless Steel Insert (I) Adder comes standard with the Heavy Poly Core (HP) for elements constructed with a 222 or 226 endcap.

NSF Certified to NSF/ANSI/CAN 61

NSF Certification applies for use only with drinking water. Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the product are Certified. Product options denoted with asterisk (*) are not included in the Certification

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)

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 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[1]
	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			
					28 = 222 3-tabs w/ Fin			

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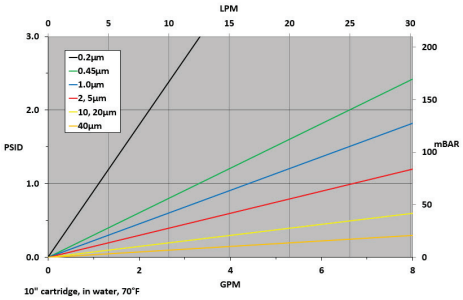
PPE-Series Economy Grade Pleated Polypropylene

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
- Deionized Water
- R.O. Pre-Filtration
- Process Water
- Fine Chemicals
- Plating Chemicals
- Wastewater
- Pharmaceuticals

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®

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.
[1]Stainless Steel Insert (I) Adder comes standard with a Heavy Poly Core for elements constructed with a 222 or 226 endcap.

NSF Certification applies for use only with drinking water. Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the product are Certified. Product options denoted with asterisk (✻) are not included in the Certification

Certified to NSF/ANSI/CAN 61

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)

Toxicity

All polypropylene components meet the specifications for biological safety per USP Class V – 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 1935/2004 and/or 10/2011.

Ordering Information

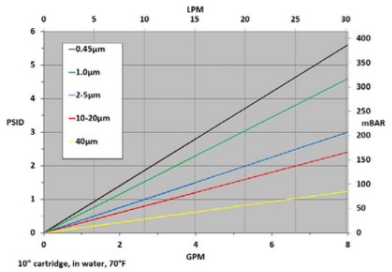
PPE	Rating (µ)	Retention	Length	C	End Cap Style	O-Rings/Gaskets	-	Adders
	0.2	A = Absolute	10" (25.4 cm)		2 = DOE Flat Gasket	B = Buna		CS = 316SS Compression Spring
	0.45	N = Nominal	20" (50.8 cm)		3 = 222 w/ Fin	E = EPDM		FG = Glass Reinforced PP Core ✻
	1.0		30" (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone		I = Stainless Steel Insert[1]
	2.0		40" (101.6 cm)		5 = 222 w/ Spring	T = Teflon® Encapsulated Viton®✻		SS = Stainless Steel Core
	5.0					V = Viton®✻		
	10.0							
	20.0							
	40.0							

DS_PPE_220325

GHLS-Series Lofted Pleated Polypropylene

GHLS-Series High-Loft Pleated Polypropylene filter cartridges provide a 100% polypropylene element designed for removal of agglomerated and deformable contaminants in oils and gels. With its added loft, the GHLS is an ideal combination of both depth and pleated depth functionality. This allows for high retention and holding capacity without inhibiting throughput. 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

- Agglomerated Particles
- CBD Oils
- CMP Slurries
- Coatings
- Edible Oils
- Gels
- Inks
- Paints

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.

[1]Stainless Steel Insert (I) Adder comes standard with the Heavy Poly Core (HP) for elements constructed with a 222 or 226 endcap.

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)

Toxicity

All polypropylene components meet the specifications for biological safety per USP Class V – 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 1935/2004 and/or 10/2011.

Ordering Information

GHLS	Rating (µ)	Retention	Length	C	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		FG = Glass Reinforced PP Core
	2.0		30” (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone		HP = Heavy Poly Core
	5.0		40” (101.6 cm)		5 = 222 w/ Spring	T = Teflon® Encapsulated Viton®		I = Stainless Steel Insert[1]
	10.0				6 = 226 w/ Flat Cap	V = Viton®		R = 18 Megaohm Rinse
	20.0				7 = 226 w/ Fin	Z = Teflon® Encapsulated Silicone		SS = Stainless Steel Core
	40.0				8 = 226 w/ Spring			
					16 = 213 Internal O-Ring			
					28 = 222 3-tabs w/ Fin			

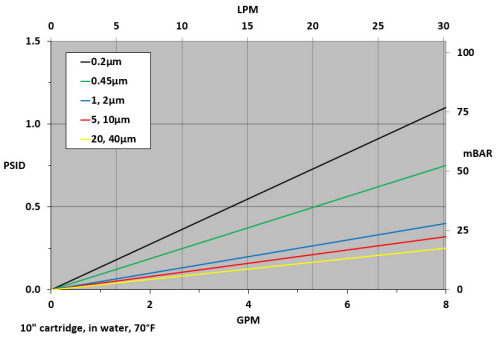
DS_GHLS_220406

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 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 Megaohm 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			
					28 = 222 3-tabs w/ Fin			

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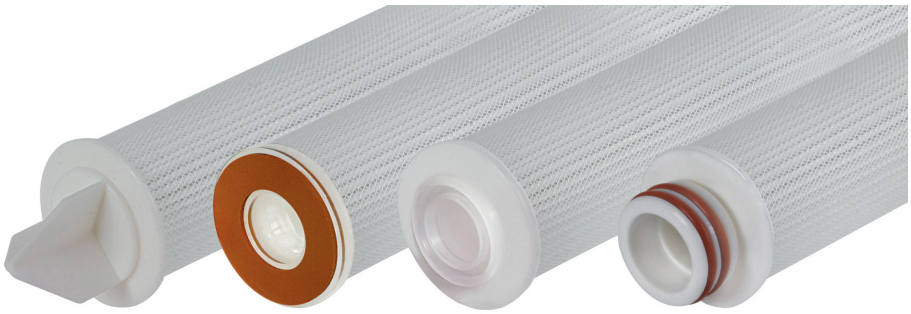
FGE-Series Economy Grade Pleated Microglass Media

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.

Typical Applications

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

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

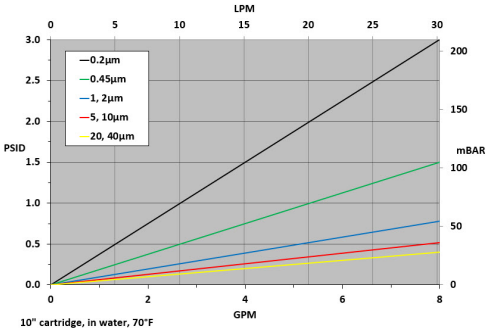
Change Out ΔP (recommended).....35 PSID
Temperature (max).....200°F (93°C)
Differential Pressure (max).....60 PSID (4.1 bar) at 68°F (20°C)

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 1935/2004 and/or 10/2011.

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%.

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[1]	T = Teflon® Encapsulated Viton®		
	5.0					V = Viton®		
	10.0							
	20.0							
	40.0							

1 = The 316SS compression spring adder (-CS) must be selected w/ Spring End Cap (style 5) due to the polyester end cap material.

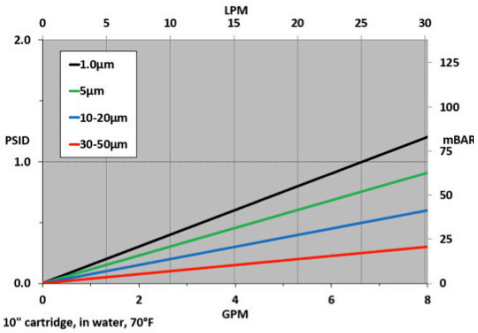
DISCLAIMER: Filtration data presented is representative of performance observed in controlled laboratory testing. It is not given as a warranty, specification or statement of fitness for use. Specific performance can vary widely depending on contaminant type fluid properties, flow rates and environmental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

DS_FGE_220324

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).....140˚F (60˚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
- Food & Beverage
- Wastewater
- Deionized Water

Dimensions

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

BB elements only available in 10" and 20" lengths

Purity

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

Construction Materials

Filtration Media.....Polyester
End Caps/Gasket.....Polyurethane
Core.....Polypropylene
Outer Netting.....Polypropylene

Cross-Reference

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

Performance Specification

Micron Ratings.....1,5,10,20,30,50
Efficiencies.....1-50µ = Nominal

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 1935/2004 and/or 10/2011.

Ordering Information

GF	-	Diameter	-	Rating (µ)	-	Length	End Cap Style
		Blank = 2.7"		1		9.75" (24.77 cm)	Blank = DOE
		BB = 4.5"		5		10" (25.4 cm) (BB Only)	
				10		19.5" (49.35 cm)	
				20		20" (50.8 cm)	
				30		29.25" (74.30 cm)	
				50		30" (76.2 cm)	
						40 (101.6 cm)	

GLOBAL FILTER
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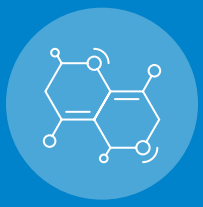


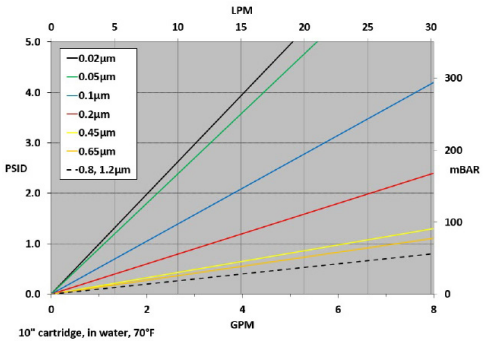
PLEATED MEMBRANE CARTRIDGES

Pleated Membrane cartridges remove particulate and microbial contaminants. Multiple media and grade options available to optimize performance, even in the most demanding applications.

GHPS-Series Polysulfone

GHPS-Series High Purity Polysulfone Filter Cartridges offer exceptional flow rate 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 when 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 required for all cartridges being hot water sanitized or steam sterilized.

Toxicity

All polypropylene components meet the specifications for biological safety per US 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 1935/2004 and/or 10/2011.

Ordering Information

GHPS	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
	0.05		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		R = 18 Megaohm Rinse
	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				28 = 222 3-tabs w/ Fin			
	1.2							

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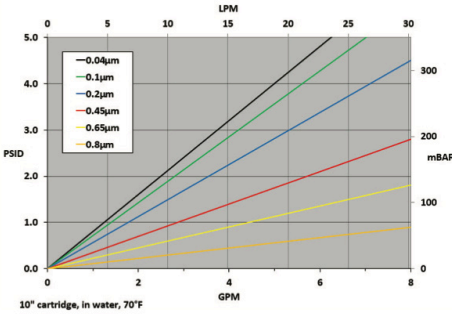
WCPES-Series WaterClear™ Polyethersulfone

WCPES-Series High Purity WaterClear™ Polyethersulfone Filter Cartridges are a value-oriented choice for cost effective, general purpose membrane filtration. Designed in continuous length up to 30" 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 for the maximum utilization of the surface area. 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.

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 required for all cartridges being hot water sanitized or steam sterilized.
[1]Stainless Steel Insert (I) Adder comes standard with the Heavy Poly Core (HP) for elements constructed with a 222 or 226 endcap.

Dimensions

Length:
10 to 40 inches (25.4 to 101.6 cm) nominal
Outside Diameter:
2.70 inches (7.0 cm) nominal
Cartridge Lengths: Lengths in Ordering Information table denoted with an asterisk(*) are constructed with thermally-bonded 10" modules.

Operating Conditions

Change Out ΔP (recommended)..... 35 PSID (2.4 bar)
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 V – 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 1935/2004 and/or 10/2011.

Ordering Information

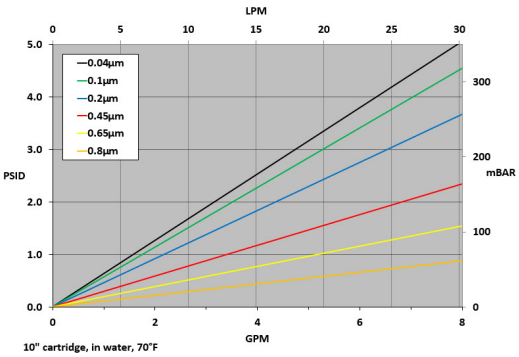
WCPES	Rating (µ)	A	Length	C	End Cap Style	O-Rings/Gaskets	-	Adders
	0.04		10" (25.4 cm)		2= DOE Flat Gasket	B = Buna		CS = 316SS Compression Spring
	0.1		20" (50.8 cm)		3= 222 w/ Fin	E = EPDM		I = Stainless Steel Insert[1]
	0.2		30" (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone		R = 18 Megaohm Rinse
	0.45		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		
					28 = 222 3-tabs w/ Fin			

DS_WCPES_220406

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



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 US 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 1935/2004 and/or 10/2011.

Ordering Information

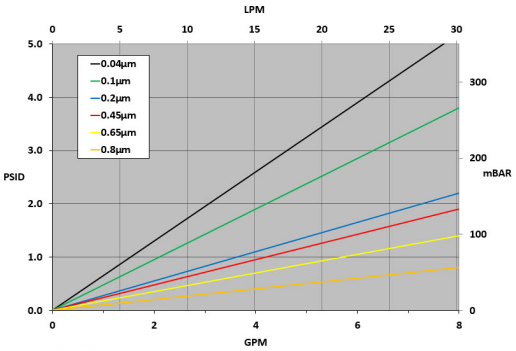
GGPES	Rating (µ)	A	Length	C	End Cap Style	O-Rings/Gaskets	-	Adders
	0.04		10” (25.4 cm)		2 = DOE Flat Gasket	B = Buna		CS = 316SS Compression Spring
	0.1		20” (50.8 cm)		3 = 222 w/ Fin	E = EPDM		I = Stainless Steel Insert
	0.2		30” (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone		
	0.45		40” (101.6 cm)		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		
					28 = 222 3-tabs w/ Fin			

DS_GGPES_190918

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 V – 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 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		
					28 = 222 3-tabs w/ Fin			

DS_GEPES_190918

GFPES-Series Food and Beverage Grade Polyethersulfone

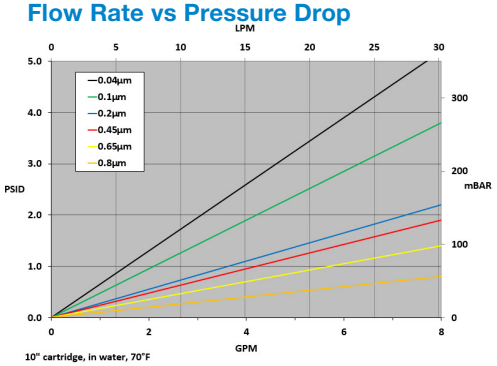
GFPES-Series High Purity Food and Beverage Grade Polyethersulfone Filter Cartridges meet the most demanding requirement of the food and beverage industry. The polyethersulfone membrane offers high flux density and low protein-binding and maintains the organoleptic characteristics of the treated product, 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



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 V – 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 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	
					28 = 222 3-tabs w/ Fin		

DS_GFPES_220224

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.

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

Microbial Retention Performance*

Rating	Challenge Microorganism	LRV
0.2µ	*Serratia marcescens*	6.5
0.45µ	*Sacchromyces cerevisiae*	4.9

Independently tested in accordance with ASTM F838.

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

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.

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

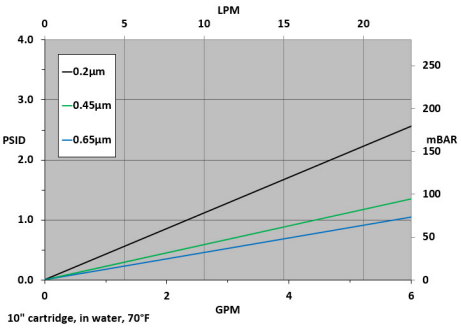
Note: Stainless steel insert option required for all cartridges being hot water sanitized or steam sterilized.

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

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 1935/2004 and/or 10/2011.

Flow Rate vs Pressure Drop



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		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®		
					28 = 222 3-tabs w/ Fin	Z = Teflon® Encapsulated Silicone		

DS_GBPES_220303

GDPES-Series DuoGrade™ Serial Layer Polyethersulfone

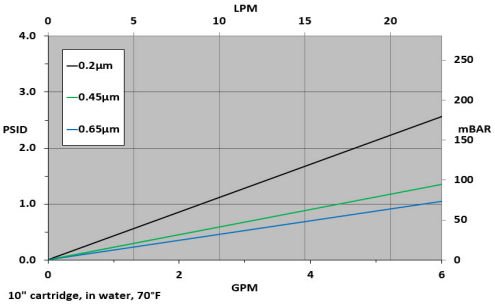
GDPES-Series DuoGrade™ Serial Layer Polyethersulfone Filter Cartridges deliver extended life and excellent retention. Featuring a Microglass prefiltration layer, this serial construction makes the GDPES an ideal choice for clarification of particulate-heavy solutions in a variety of food/beverage, pharmaceutical, 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 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



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 US 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 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		
					28 = 222 3-tabs w/ Fin			

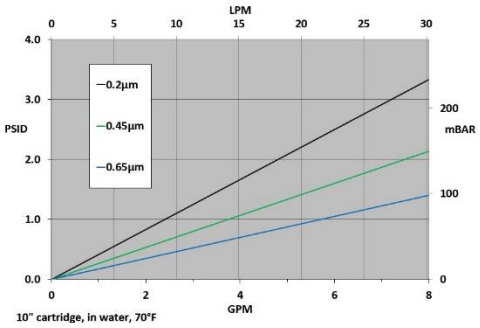
DS_GDPES_190918

GSPES-Series Serial-Layer Polyethersulfone

GSPES filter cartridges deliver extended service life and excellent retention. The serial-layer design makes the GSPES an ideal choice for the clarification or particulate-heavy solutions in wide variety of food & beverage, pharmaceutical, biological, and high purity chemical applications. The GSPES series is available in 0.2, 0.45, & 0.65 micron ratings. The serial-layer design offers superior throughput volumes while protecting 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 lo extractables. Designed to tolerate repeated hot water sanitization and in-situ steam sterilization cycles for maximum service life.

Flow Rate vs Pressure Drop



Microbial Retention Performance

Rating	Challenge Microbe	Log Reduction Value (LRV)
0.2µ	*Brevundimonas diminuta*	8.6
0.45µ	*Serratia marcescens*	7.6
0.65µ	*Saccharomyces cerevisiae*	5.8

* Independently tested in accordance with ASTM F838.

Construction Materials

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

Sanitization/Sterilization

Filtered Hot Water.....85°C for 30 min
Steam Sterilization.....121°C for 30 min., Multiple cycles

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

Typical Applications

- Bottled Water, Juices, Soft Drinks
- Wine, Beer, Spirits
- Bulk Pharmaceutical Solutions
- Bulk & Fine Chemicals

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

Toxicity

All polypropylene components meet the specifications for biological safety per US 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 1935/2004 and/or 10/2011.

Ordering Information

GSPES	Rating (µ)	A	Length	C	End Cap Style	O-Rings/Gaskets	-	Adders
	0.2		10” (25.4 cm)		2 = DOE Flat Gasket	B = Buna-N		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		
					28 = 222 3-tabs w/ Fin			

DS_PPES_220209

BRPES-Series Bio-Burden Reduction Grade Polyethersulfone

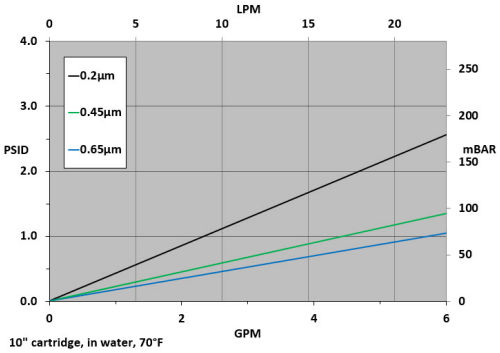
BRPES-Series High Purity Bio-Burden Reduction Grade Filter Polyethersulfone Cartridges are validated and 100% integrity tested; providing bio-burden and small particle removal across a wide range of food & beverage, biological liquids, and intermediate bulk pharmaceutical fluids. The BRPES-Series is 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 & 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:
2.78 inches (7.06 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 V – 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 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®
					28 = 222 3-tabs w/ Fin	Z = Teflon® Encapsulated Silicone

DS_BRPES_190918

PPES-Series Pharmaceutical Grade Polyethersulfone

PPES-Series High Purity Pharmaceutical Grade Polyethersulfone Filter Cartridges are ideal for sterile filtration and clarification of pharmaceutical a 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 concentration in excess of 10^7, *Brevundimonas diminuta* per cm^2 of filter a ea. Additionally, validation studies of 0.1 micron series elements demonstrate 10^7 retention of Mycoplasma *(Acholeplasma laidlawii)* per cm^2 of filter a ea. 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.

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 US 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:
2.78 inches (7.06 cm) nominal

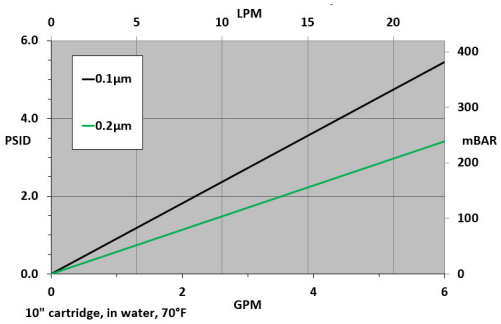
Operating Conditions

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 1935/2004 and/or 10/2011.

Flow Rate vs Pressure Drop



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®
					28 = 222 3-tabs w/ Fin	Z = Teflon® Encapsulated Silicone

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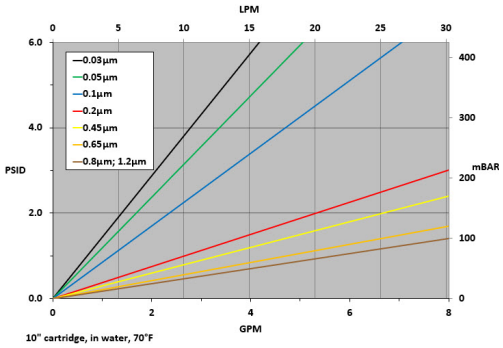
GGHNY-Series General Grade Nylon and Plus+ Nylon

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 V – 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 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				28 = 222 3-tabs w/ Fin			
	1.2							

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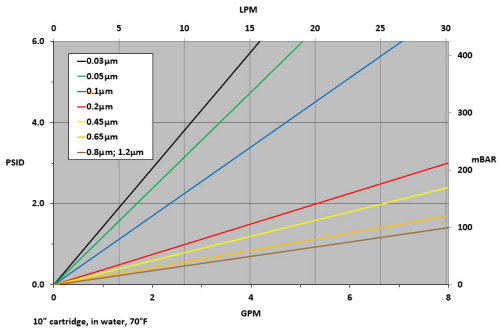
GEHNY-Series Electronics Grade Nylon and Plus+ Nylon

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 integrity tested to assure optimal performance.

Flow Rate vs Pressure Drop



Typical Applications

- UHP DI Water
- Ultrafine Chemical
- 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 V – 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 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	C = Clear Silicone		I = Stainless Steel Insert
	0.1		30” (76.2 cm)		4 = 222 w/ Flat Cap	E = EPDM		
	0.2		40” (101.6 cm)		6 = 226 w/ Flat Cap	S = Silicone		
	0.45				7 = 226 w/ Fin	T = Teflon® Encapsulated Viton®		
	0.65				16 = 213 Internal O-Ring	V = Viton®		
	0.8				28 = 222 3-tabs w/ Fin	Z = Teflon® Encapsulated Silicone		
	1.2							

DS_GEHNY_220228

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

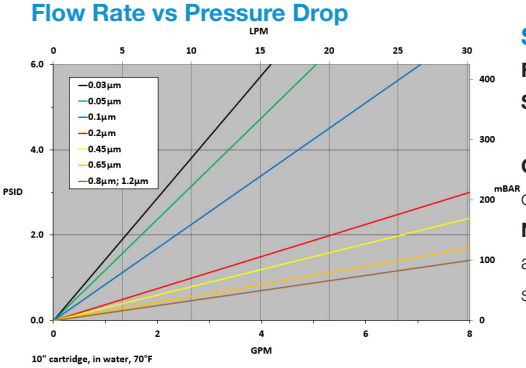
GFHNY-Series High Purity Food and Beverage Grade Nylon and Plus+ Nylon Filter Cartridges featuring nylon 6,6 membrane have a well-proven record of delivering superior microbial retention in the production of highly stable consumables. The optional positive zeta potential surface charge (Plus+) enhances retention performance for particulate well smaller than the stated micron rating, for applications that may include removal of haze, color bodies, and endotoxins. 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 V – 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 1935/2004 and/or 10/2011.

Ordering Information

GFHNY	Rating (µ)	A	Length	C	End Cap Style	O-Rings/Gaskets	-	Adders
GFHNY+	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				28 = 222 3-tabs w/ Fin			
	1.2							

DS_GFHNY_220301

BRHNY-Series Bio-Burden Reduction Grade Nylon Plus+

BRHNY-Series Bio-Burden Reduction Grade Nylon Plus+ filter cartridges feature Nylon 6,6 membrane with an advanced positively-charged surface modification that is highly efficient in capturing submicronic particulate matter much finer than the stated mechanical rating. This offers a well-proven capability for highly efficient retention of haze, colloids, and color bodies. Specific to its use in medical applications, pyrogenic endotoxins are effectively removed as is well-documented in field use, industry journals, and laboratory data. Superior microbial retention is achieved to deliver a stable and consistent effluent. The BRHNY+ series offers a more cost-effective alternative to hollow-fiber cartridges in many high-purity applications.

Cartridges are manufactured in a cleanroom environment and are flushed with 18 megaohm ultra-high purity water to ensure cleanliness, low extractables, and quick rinse-up for service use. Tolerant of repeated hot water sanitization and *in-situ* steam sterilization cycles for maximum service life. Each element is 100% integrity tested to Global Filter standards to assure consistent and optimal performance.

Endotoxin Removal

Bacterial endotoxin is the pyrogen of greatest concern in the pharmaceutical and medical device industries. BRHNY+ filter elements have demonstrated capability to remove bacterial endotoxin to below a 0.005 EU/milliliter detection limit at all data points in independent testing.

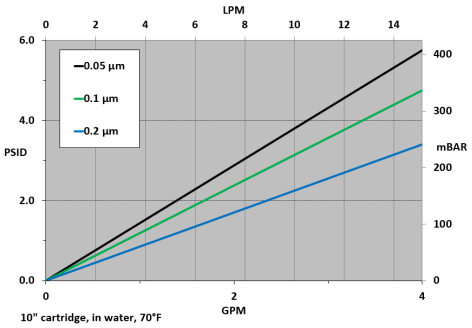
Microbial Retention Performance

Grade	Challenge Microbe	Log Reduction Value (LRV)
0.05 µ	*Brevundimonas diminuta*	>10.1
0.1 µ		>9.1
0.2 µ		>9.0

Typical Applications

- Medical device reprocessing
- Water for Injection (WFI)
- Endotoxin removal
- Pyrogen removal

Flow Rate vs Pressure Drop



Construction Materials

Membrane.....Positively-charged Nylon 6,6
Support Media.....Polypropylene
End Caps.....Polypropylene
Center Core.....Polypropylene
Outer Support Cage.....Polypropylene
O-Rings/Gaskets..... EPDM, 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 1935/2004, and/or 10/2011.

AAMI Standard TIR34 Compliance

The BRHNY+ is a key component of water systems required to be compliant to AAMI Standard #TIR34: Water for the Reprocessing of Medical Devices. The BRHNY+ delivers highly efficient scavenging of microbes and endotoxin when used in a properly-designed system maintained to TIR34 recommended practices. This assures continued compliance of the system to meet the highest standards of cleanliness and user confidence.

Ordering Information

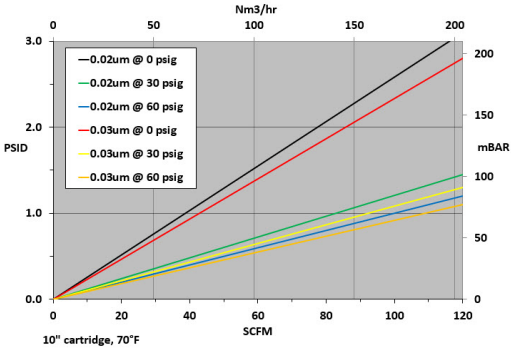
BRHNY+	Rating (µ)	A	Length	C	End Cap Style	O-Rings/Gaskets	-	Adders
	0.05		10” (25.4 cm)		3 = 222 w/ Fin	E = EPDM		CS = 316SS Compression Spring
	0.1		20” (50.8 cm)		4 = 222 w/ Flat Cap	S = Silicone		I = Stainless Steel Insert
	0.2		30” (76.2 cm)		6 = 226 w/ Flat Cap			
			40” (101.6 cm)		7 = 226 w/ Fin			
					16 = 213 Internal O-Ring			
					28 = 222 3-tabs w/ Fin			

DS_BRHNY+0.2DL_220308

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 a 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 US 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 1935/2004 and/or 10/2011.

Ordering Information

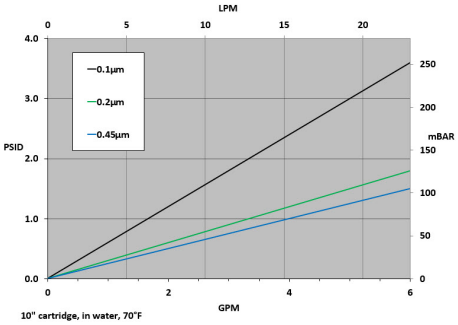
PSH	Rating (µ)	A	Length	C	End Cap Style	O-Rings/Gaskets	-	Adders
	0.02		10” (25.4 cm)		2 = DOE Flat Gasket	B = Buna		CS = 316SS Compression Spring
	0.03		20” (50.8 cm)		3 = 222 w/ Fin	E = EPDM		I = Stainless Steel Insert
			30” (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone		
			40” (101.6 cm)		6 = 226 w/ Flat Cap	T = Teflon® Encapsulated Viton®		
					7 = 226 w/ Fin	V = Viton®		
					16 = 213 Internal O-Ring	Z = Teflon® Encapsulated Silicone		
					28 = 222 3-tabs w/ Fin			

DS_PSH_200605

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 0.1µ (100 nanometers), consistent contaminant removal is achieved in aggressive fluid 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



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 US 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 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		
					28 = 222 3-tabs w/ Fin			

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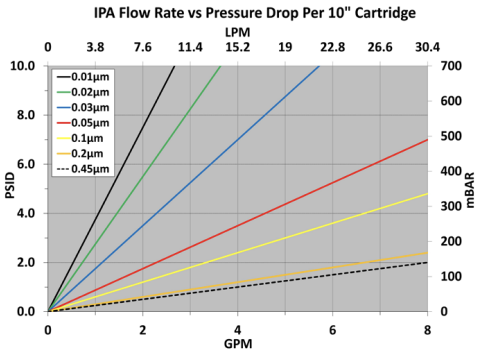
EPTFE-Series Electronics Grade PTFE

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 fine as 0.01 micron (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 clean-room 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, Silicone, Teflon® Encapsulated Viton®, Viton®

Note:
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 1935/2004 and/or 10/2011.

Ordering Information

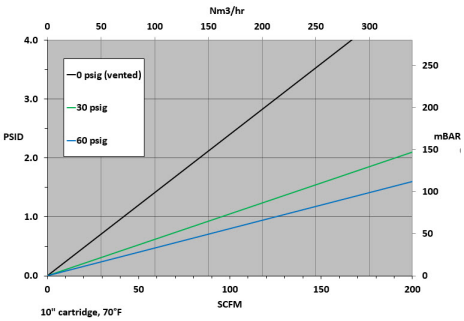
EPTFE	Rating (µ)	A	Length	C	End Cap Style	O-Rings/Gaskets	Options
	0.01 (10 nm)		10” (25.4 cm)		2 = DOE Flat Gasket	B = Buna	I = Stainless Steel Insert
	0.02 (20 nm)		20” (50.8 cm)		3 = 222 w/ Fin	E = EPDM	W = Wet-Packed
	0.03 (30 nm)		30” (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone	
	0.05 (50 nm)		40” (101.6 cm)		6 = 226 w/ Flat Cap	T = Teflon® Encapsulated Viton®	
	0.1				7 = 226 w/ Fin	V = Viton®	
	0.2				28 = 222 3-tabs w/ Fin		
	.45						

DS_EPTFE_221017

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 cost 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 heavy-wall polypropylene core and polyester support layers, and a SS insert for 222 and 226 end cap styles.

Sanitization/Sterilization

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

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

Chemicals: Cartridges are compatible with most chemical sanitizing agents.

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)
Temperature (max) "HT".....235°F (113°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 V – 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 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		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		
					28 = 222 3-tabs w/ Fin			

*Stainless Steel Insert (-I) adder is not required when High Temperature (-HT) adder is selected. "HT" adder comes standard with the stainless steel end cap insert.

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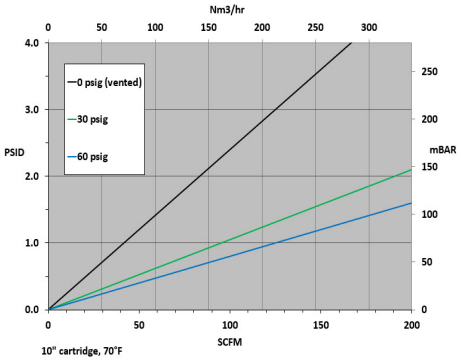
PPTFE-Series Pharmaceutical Grade PTFE

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 clean-room environment to maintain high standards of purity and cleanliness.

Flow Rate vs Pressure Drop



Typical Applications

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

Construction Materials

Membrane.....PTFE
Prefiltration Medi .....Polypropylene
Support Layers.....Polypropylene
Cage/Core/Adapters.....Polypropylene
Seals.....Buna, EPDM, Silicone, 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.

Dimensions

Length:
5 to 40 inches (12.7 to 101.6 cm) nominal
Outside Diameter:
2.78 inches (7.06 cm) nominal

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 1935/2004 and/or 10/2011.

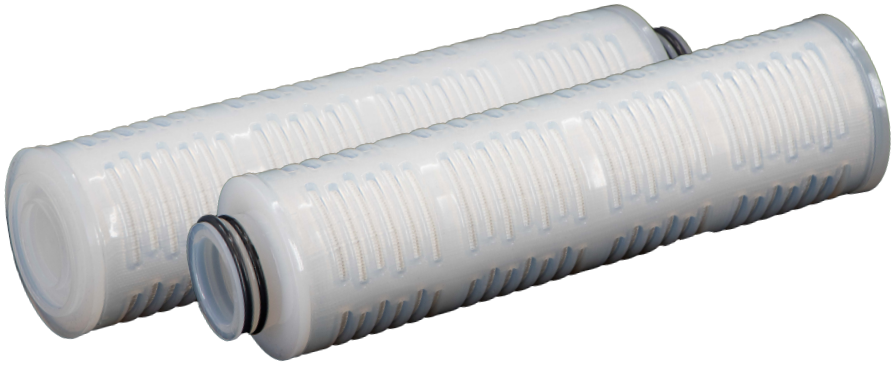
Ordering Information

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®
					28 = 222 3-tabs w/ Fin	Z = Teflon® Encapsulated Silicone

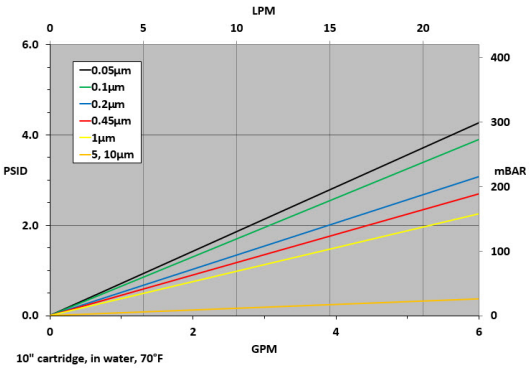
DS_PPTFE_190918

GPFA-Series Pleated All-Fluoropolymer PTFE/PFA

GPFA-Series High Purity All-Fluoropolymer Filter Cartridges provide superior chemical compatibility, temperature range, and ultra-low extractables for the most demanding needs of the micro-electronics 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



10" cartridge, in water, 70°F

Dimensions

Length:

5 to 40 inches (12.7 to 101.6 cm) nominal

Outside Diameter:

2.68 inches (6.8 cm) nominal

Typical Applications

Highly Reactive Chemicals

- Acetic Acid (10%)
- Hydrofluoric Acid (50%)
- Hydrogen Peroxide (30%)
- Nitric Acid (conc.)
- Phosphoric Acid (conc.)
- Sulfuric Acid (cavonc.)
- 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

Ultra-Pure Water

- Pharmaceutical production
- Ozonated systems

Toxicity

All PFA and PTFE components meet the specifications for biological safety per USP Class VI – for plastics.

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

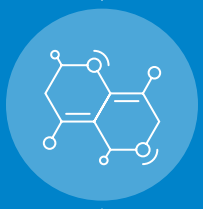
The Semiconductor Rinse (SR) option delivers extraordinary product cleanliness at these typical levels.

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

GPFA	Rating (µ)	A	Length	C	End Cap Style	O-Rings	Options
	0.05		5" (12.7 cm)		3 = 222 w/Fin	T = Teflon® Encapsulated Viton®	SR = Semiconductor Rinse
	0.1		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)		24 = 222 w/Hat Cap		
	5.0						
	10.0						

DS_GPFA_230203



HIGH FLOW CARTRIDGES

Multi-layer, fiber-based media provides true depth-loading for high efficiency removal at low micron ratings. The larger diameter pleated design offers extremely high surface area, allowing for outstanding loading at high flow rates per single cartridge. This reduces the number of required cartridges, thus reducing the total filtration costs.

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 ft² of media, the HFB series offers an exceptional value. Offered in both absolute-rated (up to 99.98% retention) and nominally-rated (90% retention) grades.

Dimensions

Length:

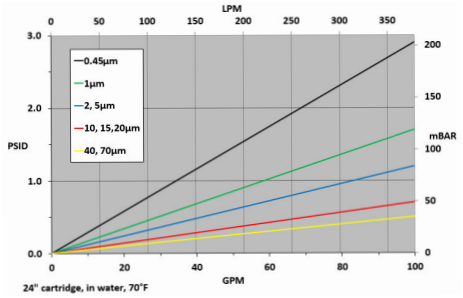
12 inches (#1-size)

24 inches (#2-size)

Outside Diameter:

7.06 inches (flange) / 6 inches (cartridge)

Flow Rate vs Pressure Drop



Typical Applications

- 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
Pull Ring/Handle ..... 304 SS
Center Core ..... Polypropylene
Outer Netting/Wrap ..... Polypropylene
O-Rings/Gaskets .. Buna, EPDM, Silicone, Viton®*

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 US Class VI-121°C for plastics.

NSF Certified to NSF/ANSI/CAN 61

NSF Certification applies for use only with drinking water. Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the product are Certified. Product options denoted with asterisk (*) are not included in the Certification

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 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	A = Absolute	1 = #1-size	A = Global Filter	P = Polypropylene	B = Buna
	FG = Microglass	1.0	N = Nominal	2 = #2-size	B = Pentair, Rosedale®		E = EPDM
		2.0			D = FSI® & Eaton® (OTT)		S = Silicone
		5.0					V = Viton®*
		10.0					
		15.0					
		20.0					
		40.0					
		70.0					

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.

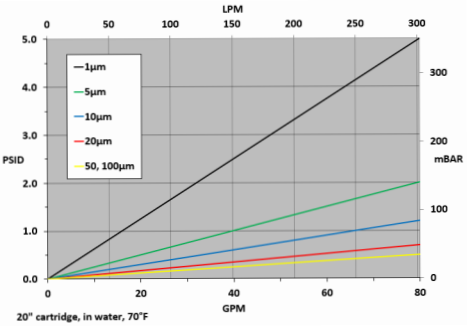
DS_HFB_220301

HF-Series High Flow Polypropylene and Microglass Filter Cartridge

HF-Series High Flow Polypropylene and Microglass Filter Cartridges address your need for absolute rated filter cartridges in high flowrate and/ high solids-load applications. Thermally-bonded construction utilizing polypropylene hardware for high cleanliness and broad chemical compatibility.

Inside to outside flow direction and single o-ring seal ensures against by-pass and captures all contaminants internally, thus preventing clean-side contamination during change-out. Robust molded outer cage and handle offers durability and easy installation/removal. HF-Series cartridges are designed for use as a direct replacement to the Pall Ultipleat™ High Flow series. Absolute ratings exceed 99% efficiencies, Nominal ratings exceed 90%.

Flow Rate vs Pressure Drop



Typical Applications

- Amine
- Bulk chemicals
- Coolants
- EDM fluid
- Glycol
- Plating solutions
- Process water

Construction Materials

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

NSF Certification applies for use only with drinking water. Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the product are Certified. Product options denoted with asterisk (⁎) are not included in the Certification

Dimensions

Length:
20, 40, 60 inches
Outside Diameter:
6.25 inches

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)
Flow Direction.....Inside to Outside

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 1935/2004 and/or 10/2011.

Ordering Information

Type	Material	Rating (µ)		A	Length	O-Rings
HF	PP = Polypropylene	1.0	20.0	A= Absolute	20” (50.8 cm)	B = Buna
Retrofits Pall® HF	FG = Microglass	5.0	50.0	N = Nominal	40” (101.6 cm)	E = EPDM
		10.0	100.0		60” (152.4 cm)	S = Silicone
						V = Viton®⁎

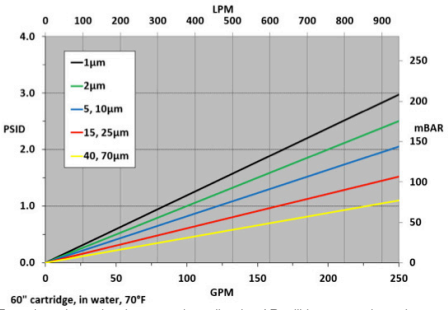
DISCLAIMER: Filtration data presented is representative of performance observed in controlled laboratory testing. It is not given as a warranty, specification or statement of fitness for use. Specific performance can vary widely depending on contaminant type, fluid properties, flow rates and environmental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

DS_HF_220222

EHF3-Series High Flow Pleated Cartridge

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 utilize polypropylene hardware to provide a robust design. Absolute ratings exceed 99% efficiencies Nominal ratings exceed 90%.

Flow Rate vs Pressure Drop



For microglass absolute-rated media, the ΔP will be approximately 10% lower than polypropylene media. For 40" filter elements, expect the pressure drop to be 20-30%, higher, on average, than depicted in the flow chart above.

Typical Applications

- Amine
- Bulk chemicals
- Coolants
- EDM fluid
- Glycol
- Plating solutions
- Process water

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®

Dimensions

Length:
40 inches (101.6 cm) & 60 inches (152.4 cm)
Outside Diameter:
6.5 inches (16.5 cm)
Inside Diameter:
3.0 inches (7.6 cm)
* = 60 length is standard

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)
Flow Direction.....Outside to Inside

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 1935/2004 and/or 10/2011.

Ordering Information

Type	Material	Rating (µm)		Retention	Length	O-Rings
EHF3	PP = Polypropylene	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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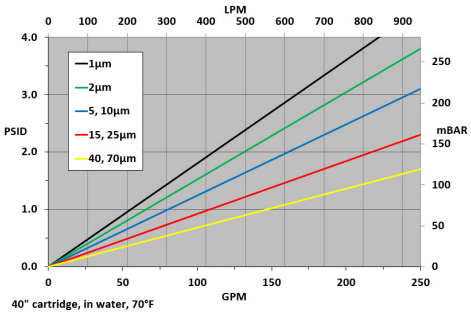
HF3-Series High Flow Pleated Cartridge

HF3-Series High Flow Polypropylene and Microglass Filter Cartridges address your need for absolute rated filter cartridges in high flowrate an or high solids-load applications. Thermally-bonded construction utilizing polypropylene hardware for high cleanliness and broad chemical compatibility.

Dual o-ring seal design ensures against by-pass and user friendly handle design improves ease of installation/removal. HF3-Series cartridges are designed for use as a direct replacement to the 3M 740™ series elements. Absolute ratings exceed 99% efficiencies, Nominal ratings exceed 90%

Flow Rate vs Pressure Drop



Typical Applications

- Amine
- Bulk chemicals
- Coolants
- EDM fluid
- Glycol
- Plating solutions
- Process water

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, Viton®

Dimensions

Length: 39 inches
Outside Diameter: 6.25 inches

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)
Flow Direction.....Outside to Inside

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 1935/2004 and/or 10/2011.

Ordering Information

Type	Material	Rating (µ)		A	Length	O-Rings
HF3	PP = Polypropylene	1.0	15.0	A = Absolute	39" (99.1 cm)	B = Buna
Retrofits 3M™ - 740	FG = Microglass	2.0	25.0	N = Nominal		E = EPDM
		5.0	40.0			S = Silicone
		10.0	70.0			V = Viton®

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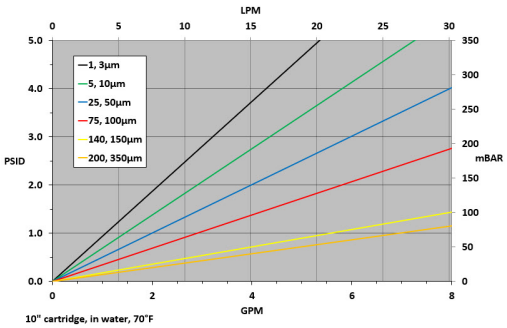
DEPTH CARTRIDGES

Due to their gradient density depth construction, our depth cartridge products are an economical option for the removal of both fine and coarse deformable and non-deformable contaminants. Ideal for use as a prefilter, protecting costly downstream pleated cartridges and equipment, or as a final filter in a wide variety of industries and applications.

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 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 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”					

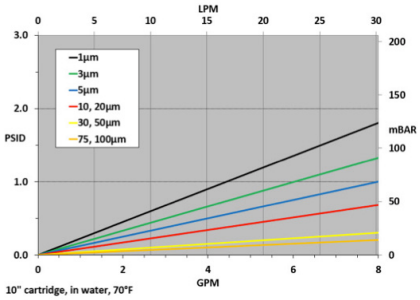
DS_GPB_190918

GWTB-Series Water Grade Meltblown Polypropylene

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®

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max).....140˚F (60˚C)
Differential Pressure (max).....50 PSID (3.4 bar) at 68˚F (20˚C)

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)

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 1935/2004 and/or 10/2011.

Performance Specification

Micron Ratings:
1, 3, 5, 10, 20, 30, 50, 75, 100

Efficiencies
Water Grade = 80%

NSF Certified to NSF/ANSI/CAN 61

NSF Certification applies for use only with drinking water. Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the product are Certified. Product options denoted with asterisk (*) are not included in the Certification.

Ordering Information

GWTB	Rating (µ)	A	Length	-	End Cap Style	O-Rings/Gaskets	-	Adders
Water Grade	1	A = 2.5" OD	9.75" (24.76cm)		Blank = None	Blank = None		Blank = Glued or None
	3		9.875" (25.08 cm)		2 = DOE Flat Gasket	B = Buna		CS = 316SS Compression Spring (TB ONLY)
	5		10" (25.4 cm)		3 = 222 w/Fin	E = EPDM		TB = Thermally-Bonded
	10		19.5" (49.53 cm)		4 = 222 w/Flat Cap	P = Polyfoam (Gaskets) *		
	20		20" (50.8 cm)		5 = 222 w/Spring	S = Silicone		
	30		29.25" (74.29 cm)		6 = 226 w/Flat Cap	V = Viton®*		
	50		29.5" (74.93 cm)		7 = 226 w/Fin			
	75		30" (76.2 cm)		8 = 226 w/Spring			
	100		39" (99.1 cm)		9 = SOE w/ Spring			
			40" (101.6 cm)		10 = DOE w/Core Extender			
					16 = 213 Internal O-Ring			
					20 = SOE PP Ext. w/Spring			

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. For additional technical support, a product Performance Guide is available upon request.

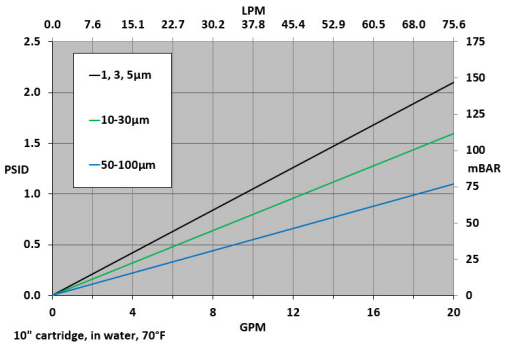
DS_GWTB_220127

GWTB BB-Series Water Grade Meltblown Polypropylene

GWTB BB-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.
- Easy cartridge incineration and disposal.
- Free of additives, wetting agents, binders and silicone.

Flow Rate vs Pressure Drop



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Construction Materials

Filtration Media.....Polypropylene

Dimensions

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

Cross - Reference

Pentek®:
DGD2501 = GWTB1
DGD5005 = GWTB5
DGD7525 = GWTB25

Suez/GE®:
LD01 = GWTB1
LD05 = GWTB5
LD10 = GWTB10
LD20 = GWTB20
LD30 = GWTB30
LD50 = GWTB50

Performance Specification

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 (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 1935/2004 and/or 10/2011.

Ordering Information

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

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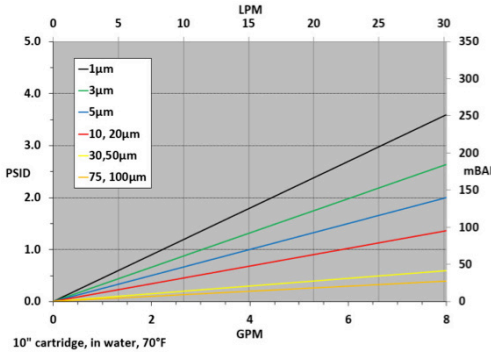
GCTB-Series High Performance Grade Meltblown Polypropylene

GCTB-Series High Performance Grade Meltblown Polypropylene Filter Cartridges:

- Precision process control of fiber diameter an 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.

Flow Rate vs Pressure Drop



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 (3.4 bar) at 68˚F (20˚C)

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 Specification

Micron Ratings:

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

Efficiencies

High Performance Grade = 90%

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Certified to NSF/ANSI/CAN 61

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 1935/2004 and/or 10/2011.

Ordering Information

GCTB	Rating (µ)	A	Length	-	End Cap Style	O-Rings/Gaskets	-	Adders
High Performance Grade	1		9.75” (24.76cm)		Blank = None	Blank = None		Blank = Glued or None
	3		9.875” (25.08 cm)		2 = DOE Flat Gasket	B = Buna		CS = 316SS Compression Spring (TB ONLY)
	5		10” (25.4 cm)		3 = 222 w/Fin	E = EPDM		TB = Thermally-Bonded
	10		19.5” (49.53 cm)		4 = 222 w/Flat Cap	P = Polyfoam (Gaskets) *		
	20		20” (50.8 cm)		5 = 222 w/Spring	S = Silicone		
	30		29.25” (74.29 cm)		6 = 226 w/Flat Cap	V = Viton®*		
	50		29.5” (74.93 cm)		7 = 226 w/Fin			
	75		30” (76.2 cm)		8 = 226 w/Spring			
	100		39” (99.1 cm)		9 = SOE w/Spring			
			40” (101.6 cm)		10 = DOE w/ PP Core Ext.			
					16 = 213 Internal O-Ring			
					20 = DOE PP Ext. w/Spring			

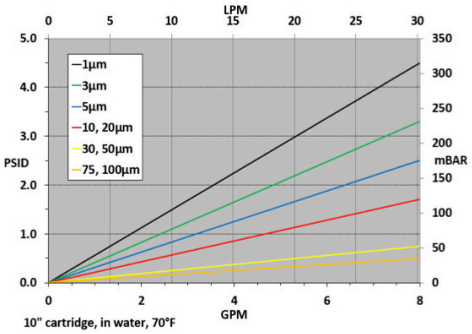
DS_GCTB_221111

GATB-Series Absolute Grade Meltblown Polypropylene

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.

Flow Rate vs Pressure Drop



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 (3.4 bar) at 68˚F (20˚C)

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 Specification

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 1935/2004 and/or 10/2011.

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Ordering Information

GATB	Rating (µ)	A	Length	-	End Cap Style	O-Rings/Gaskets	-	Adders
Absolute Grade	1		9.75” (24.76 cm)		Blank = None	Blank = None		Blank = Glued or None
	3		9.875” (25.08 cm)		2 = DOE Flat Gasket	B = Buna		CS = 316SS Compression Spring (TB ONLY)
	5		10” (25.4 cm)		3 = 222 w/Fin	E = EPDM		TB = Thermally-Bonded
	10		19.5” (49.53 cm)		4 = 222 w/Flat Cap	P = Polyfoam (Gaskets) *		
	20		20” (50.8 cm)		5 = 222 w/Spring	S = Silicone		
	30		29.25” (74.29 cm)		6 = 226 w/Flat Cap	V = Viton® *		
	50		29.5” (74.93 cm)		7 = 226 w/Fin			
	75		30” (76.2 cm)		8 = 226 w/Spring			
	100		39” (99.1 cm)		9 = SOE w/Spring			
			40” (101.6 cm)		10 = DOE w/PP Core Extender			
					16 = 213 Internal O-Ring			
					20 = SOE PP Ext. w/Spring			

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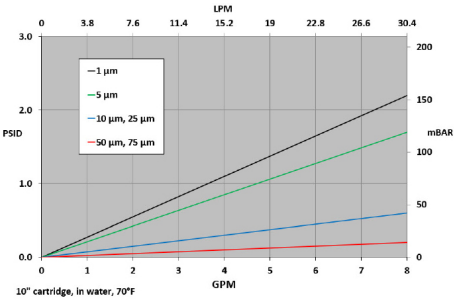
GNTB-Series High Performance Grade Nylon Meltblown

- Controlled fiber diameter and graded density maximize removal efficiency and ensures consistent performance
- Excellent compatibility with a wide range of chemicals
- Easy cartridge incineration and disposal
- Optional molded core for added strength against elevated pressures and temperatures
- All Nylon 6,6 construction
- Available in a variety of end configurations
- Resists contaminant unloading, even at elevated differential pressures
- High temperature resistance

Flow Rate vs. Pressure Drop



Typical Applications

- Aromatic fluid
- Glycol
- Emulsions
- Amine
- High temperature water
- Solvent based paints & coatings

Construction Materials

Filtration Media.....Nylon 6.6
End Caps.....Polyester
O-Rings/Gaskets.....Buna, EPDM, Silicone, Viton®

Performance Specifications

Micron Ratings: 1, 5, 10, 25, 50, 75
Efficiencies: 90.0%

Operating Conditions

Change t ΔP (recommended) ..... 35 PSID
Temperature (max) ..... 120˚C (248˚F)
Differential Pressure (max) ... 50 PSID (3.4 bar) at 200˚F (93˚C)
70 PSID (4.8 bar) at 150˚F (65˚C)

Dimensions

Length.....9.75 to 40 inches (24.7 to 101.6 cm)
Outside Diameter...... 2.5 inches (6.4 cm)
Inside Diameter.....1 inch (2.6 cm)

Purity

GNTB series filter cartridges are free of additives, wetting agents, binders and silicone.

Toxicological Safety

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Filter media complies with EU RoHS Directive 2015/863 amending Annex II of Directive 2011/65/EU; and EU REACH requirements effective 27-June-2018 regarding EC Regulation 1907/2006.

Ordering Information

GNTB	Rating (µ)	A	Length	-	End Cap Style	O-Rings/Gaskets
High Performance Grade	1		9.75” (24.7 cm)		Blank = None	B = Buna
	5		10” (25.4 cm)		2 = DOE Flat Gasket	E = EPDM
	10		19.5” (49.5 cm)		3 = 222 w/Fin	S = Silicone
	25		20” (50.8 cm)		4 = 222 w/Flat Cap	V = Viton®
	50		29.25” (74.3 cm)		9 = SOE w/ Spring	
	75		29.5” (74.9 cm)		10X = Stainless Steel Core Ext.	
			30” (76.2 cm)			
			39” (99.1 cm)			
			40” (101.6 cm)			

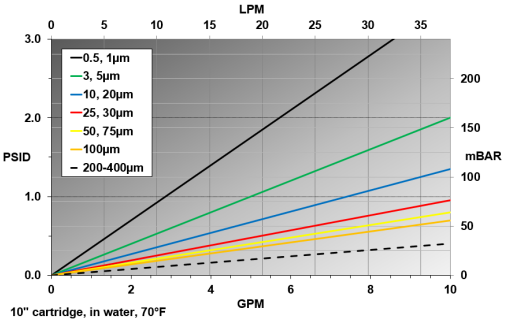
DS_GNTB_220307

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-configuration available to fit every process requirement

Flow Rate vs Pressure Drop



10" cartridge, in water, 70°F

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

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)

NSF Certified to NSF/ANSI/CAN 61

NSF Certification applies for use only with drinking water. Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the product are Certified. Product options denoted with asterisk (*) are not included in the Certification. Only FDA polypropylene media applies.

Operating Conditions

Change Out ΔP (recommended).....35 PSID
Temperature (max)..... Dependent on materials of construction (see table below)
Differential Pressure (max).....50 PSID (3.4 bar) at 68°F (20°C)

Wound Elements with Metal Core

Max. Operating Temp		Yarn Media
200°F	93°C	Polypropylene
250°F	121°C	Polyester or Nylon
300°F	149°C	Cotton
750°F	399°C	Glass Fiber

Wound Elements with Polypropylene Core

Max. Operating Temp		Yarn Media
140°F	60°C	Polypropylene, Cotton, Nylon, Polyester, Glass Fiber

Ordering Information

G	Media	Rating (µ)	Diameter	Length	Core	End Cap Style	O-Rings	-	NSF
	P = FDA Polypropylene	0.5	A = 2.5"	9.75” (24.76 cm)	A = 304 SS	2P = DOE Flat Polyfoam Gasket	B = Buna		Blank = No NSF
	C = Bleached Cotton*	1	BB = 4.5"	9.875” (25.08 cm)	FG = Glass*	3 = 222 w/ Fin	E = EPDM		
	CC = FDA Bleached Cotton*	3		10” (25.4 cm)	P = Polypro*	4 = 222 w/ Flat Cap	S = Silicone		MC = NSF
	CN = Natural Cotton*	5		19.5” (49.53 cm)	S = 316 SS*	5 = 222 w/ Spring	T = Teflon®*		
	PE = Polyester*	10		20” (50.8 cm)	T = Tin*	6 = 226 w/ Flat Cap	V = Viton®*		
	N = Nylon*	20		29.25” (74.26 cm)		7 = 226 w/ Fin			
	G = Glass*	25		30” (76.2 cm)		8 = 226 w/ Spring			
		30		39” (99.1 cm)		9 = SOE w/ Spring			
		50		40” (101.6 cm)		10 = DOE w/ PP Core Extender			
		75		50” (127 cm)		10K = DOE w/ Crimped Ext. Core*			
		100				10X = DOE w/ SS Core Extender*			
		200							
		250							
		400							

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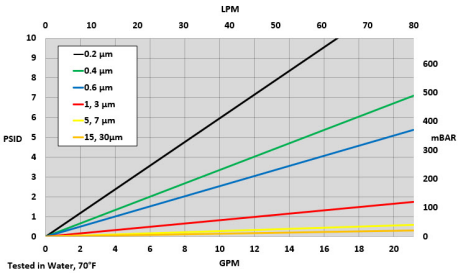
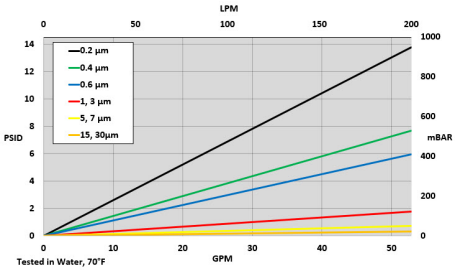
GSD-Series Stacked Disc

GSD-Series Stacked Disc depth filter elements are constructed from individual cells of a blend of cellulose and diatomaceous earth (DE). Each cell is constructed under compression with polypropylene edge seals and separators. Multiple gasket materials are available to ensure chemical compatibility in a wide range of liquid applications. Stacked Disc depth filter elements are ideal for applications ranging from low capacity laboratory environments to large scale production volumes for high solids removal or to protect downstream pleated depth or membrane filtration and equipment. DE exhibits a inherent positive charge which can support the removal of negatively charged ions and haze-causing particulate.

Flow Rate vs Pressure Drop



12 INCH OD 16 CELL GSD SERIES



16 INCH OD 16 CELL GSD SERIES

Typical Applications

- Coatings & Stabilizers
- Chemical Intermediates
- Syrups & Flavorings
- Beer, Wine & Spirits
- Turbine Lube
- Transformer Oil
- Edible Oils
- Plasma, APIs & Culture Media
- Oral Products, SVPs, LVPs & topicals

Construction Materials

Filtration Media.....Cellulose: Diatomaceous Earth
Edge Seals.....Polypropylene
Spacer & Separator.....Polypropylene
Gasket Retainer.....Polypropylene
Gasket.....Buna, EPDM, Silicone*, Viton®
Gaskets denoted with an asterisk (*) come as standard

Dimensions (Nominal)

Configuration	Materials of Construction	Effective Filtration Surface Area (EFA)
12" diameter, 16 cell	Polypropylene edge seal, end rings	18.0 ft²
16" diameter, 16 cell	Polypropylene edge seal, end rings	38.0 ft²

Operating Conditions

Steam in Place.....3 cycles up to 250°F (121°C)
Temperature (max).....176°F (80°C)
Differential Pressure (max).....30 PSID (2.1 bar) at 68°F (20°C)
Recommended Rinse Volume.....2.5 gal ft² (100L/m²)

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 1935/2004, and/or 10/2011.

Ordering Information

GSD	Rating (u)	A	Media	Cell Diameter	# of Cells	Gaskets
	0.2		CDE (Cellulose+Diatomaceous Earth, 0.2u – 7.0u)	12 = 12"	16 = 16 cells	B = Buna
	0.4		C (Cellulose, 15u & 30u)	16 = 16"		E = EPDM
	0.6					S = Silicone*
	1.0					V = Viton®
	3.0					
	5.0					
	7.0					
	15.0					
	30.0					

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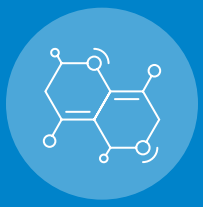
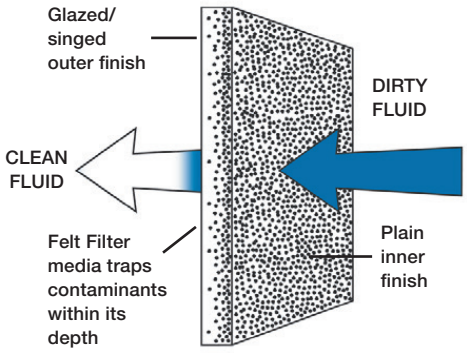


LIQUID FILTER BAGS

Adaptable to a very wide range of applications, liquid bag filters are available in both nominal and high efficiency designs in micron ratings from 1 to 1500.

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 with 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 and Polyester materials meet the regulations for food contact use under FDA CFR21, Section 177.1520 and EU No. 10/2011, 1935-2004
- 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 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 singed polyester felt, in #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

Operating Conditions

Change Out ΔP (recommended).....15-20 PSID (1.0-1.4 bar)

Differential Pressure (max).....35 PSID (2.4 bar) at 68˚F (20˚C)

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

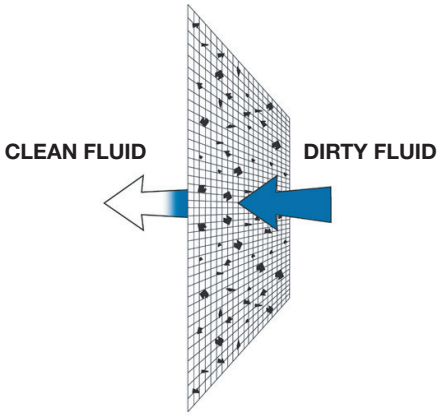
Ordering Information

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 PO 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”		

DS_GPE-GPO_210826

Standard Mesh Liquid Filter Bags

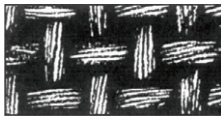
- Micron ratings from 1 to 1500
- All industry-standard and custom sizes available
- High flow/low pressure drop media
- Surface-retention filtration
- Wide chemical compatibility
- Sewn construction
- Handles standard on all bags
- Non-fiber shedding
- High removal efficiency
- Temperature ratings to 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.

Operating Conditions

Change Out ΔP (recommended).....15-20 PSID (1.0-1.4 bar)

Differential Pressure (max).....35 PSID (2.4 bar) at 68˚F (20˚C)

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

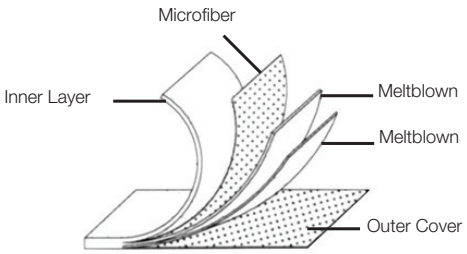
G	Media	Rating (µ)	Cover/Jacket	Bag Dimensions			Ring Style	Options
	NMO = Nylon Monofilament	1-1500	P = Plain (No Cover)	Size	Diam.	Length	C = Commercial Type Snap Steel Band	A = Automotive Seam
	POMO = Polypropylene Monofilament			1	7.06	16.5”	PP = Polypropylene (rolled)	DS = Draw-String
	PEMU = Polyester Multifilament			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”		

DS_GN-GP_220623

Microfiber Liquid Filter Bag

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 significant increased loading capacities and lower overall filtration costs.

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

High Efficiency Bag Style

- 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

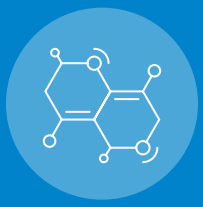
High Efficiency Materials (9 .0%)	Rating (µ)					
	1A	2A	5A	10A	25A	50A
Polyester	•	•	•	•	•	•
Polypropylene	•	•	•	•	•	•

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”	

DS_GPEMF-GPOMF_210826

FILTER VESSELS



Global Filter's vessels meet the process requirements for the broadest range of applications and industries. With robust construction, these are available constructed in 304 & 316 stainless steel as well as carbon steel, for flow rates up to 2,400 GPM. Designs are available stamped as compliant with the ASME Code for Boilers and Pressure Vessels, and registered with the National Board and are available with the European Union CE Mark. In addition, many of our designs meet NSF 61 requirements for drinking water.

GSTL-Series Single Sanitary Cartridge Liquid Filter Vessels

GSTL-Series Single-Sanitary Cartridge Liquid Filter Vessels are suited for a wide variety of filtration applications where full sanitary vessels are required. V-band clamp closure provides easy access for change out. Available in 316 stainless steel, and rated for 150psi service.

Features

- Sanitary V-band closure operates easily and seals tightly
- Excellent cleaning ability with crevice-free welding and internal mirror electro polished (EP) finish, < 25 Ra (0.63um)
- Suitable for steam-in-place (SIP) and clean-in-place (CIP) processes
- Designed for 222 or 226 cartridge end cap configuration
- Standard with 1" TC inlet and outlet and 1/2" TC vent
- 1/2" TC inlet side drain port allows for complete evacuation prior to change-out
- Available in 5", 10", 20", 30" and 40" lengths
- 316 stainless steel construction
- Silicone seal (standard)
- 150 PSI pressure rating at 200° F
- T-style port design

Alternate Seal Materials (Sold Separately)

- EPDM
- Viton® FKM
- PTFE (Teflon®)

Applications

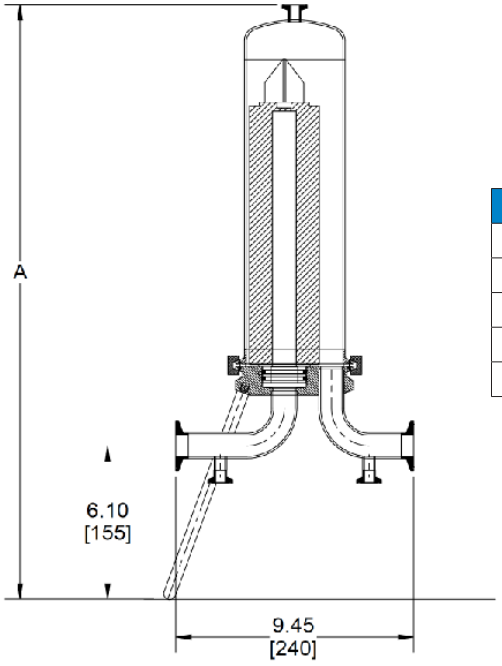
- High-purity water systems
- Active Pharmaceutical Ingredients
- Fine chemicals
- Wine, beer & spirits
- Blood & serum
- Cell culture media & diagnostics

Regulatory Compliance

Complies with PED 2014/68/CE article 4§3

- Suitable for use with non-hazardous liquids
- Suitable for use with hazardous liquids; hazardous or non-hazardous gases within restrictions

Contact your Global Filter representative for complete information on limits of use.



NOMINAL LENGTH	OAL "A"
5"	18.7" (475mm)
10"	23.6" (600mm)
20"	33.5" (850mm)
30"	43.3" (1,100mm)
40"	53.2" (1,350mm)

Ordering Information

GSTL	Length	Inlet/Outlet Size	End Configuration	Material	Pressure Rating	Surface Finish
	05 = 5"	1T = 1" TC	2 = 222 Fin or Flat	6 = 316 SS	15 = 150 PSI	EP
	1 = 10"		6 = 226 Fin or Flat			
	2 = 20"					
	3 = 30"					
	4 = 40"					

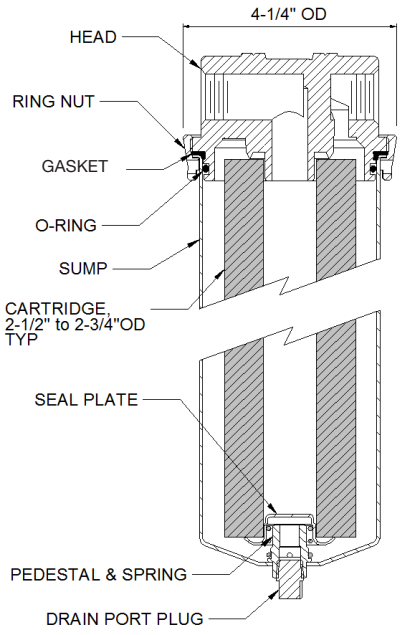
DS_GSTL_210623

GFHD-Series Single-Cartridge Liquid Filter Vessels

GFHD-Series Single-Cartridge Vessels are suited for 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
- 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* configuration
- Heavy-duty cast head with mounting bracket
- Dual closure seal (EPDM standard)
- 300 PSI pressure rating
- Inline port design
- Optional 1/4" gauge ports drilled & tapped



Alternate Seal Materials (Sold Separately)

- Viton®⁎
- Teflon® Encapsulated Viton® ⁎

NSF Certification applies for use only with drinking water. Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the product are Certified. Product options denoted with asterisk (⁎) are not included in the Certification

Ordering Information

GFHD1	Length	Inlet/Outlet Size	End Configuration	Material	Pressure Rating	NSF	-	Adders
	05 = 5"	75N = 3/4" FNPT	D = DOE	4 = 304 SS	30 = 300 PSI	Blank = None		.25GP = Gauge Ports
	1 = 10"	1N = 1" FNPT	2 = 222/FLAT*	6 = 316 SS		MC = NSF-61		
	2 = 20"		6 = 226/FLAT*					
	3 = 30"							

*Available in 316 SS only

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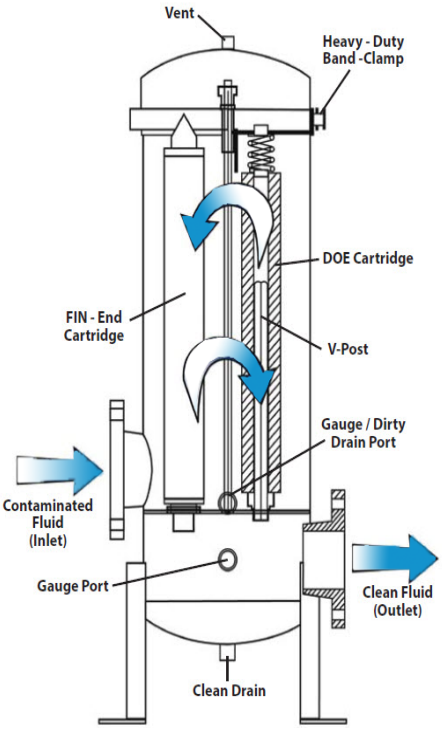
GTCHB-Series Multi-Cartridge Band Clamp Liquid Filter Vessels

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

- Sanitary Porting
- Alternate Seal Materials
  - — EPDM (required for NSF-61)
  - — Teflon® Encapsulated Viton® ⁕
  - — Viton® ⁕

Certified to NSF/ANSI/CAN 61

NSF Certification applies for use only with drinking water. Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the product are Certified. Product options denoted with asterisk (⁕) are not included in the Certification

Ordering Information

GTCHB	# of Cartridges	Length	Inlet/Outlet Size	Inlet/Outlet Style	Outlet	Material	Pressure Rating	Surface Finish	NSF
	4	1 = 10”	2 = 2”, (50)	B = BSPT	2 = Opposite Outlet	4 = 304 SS	15 = 150 PSI @ 250°F	PC = Poly-coat	Blank = None
	5	2 = 20”	3 = 3”, (80)	DN = DIN Flange		6 = 316L SS			MC = NSF-61
	7	3 = 30”	4 = 4”, (100)	F = RF Flange					
	12	4 = 40”		M = MNPT					
	22								

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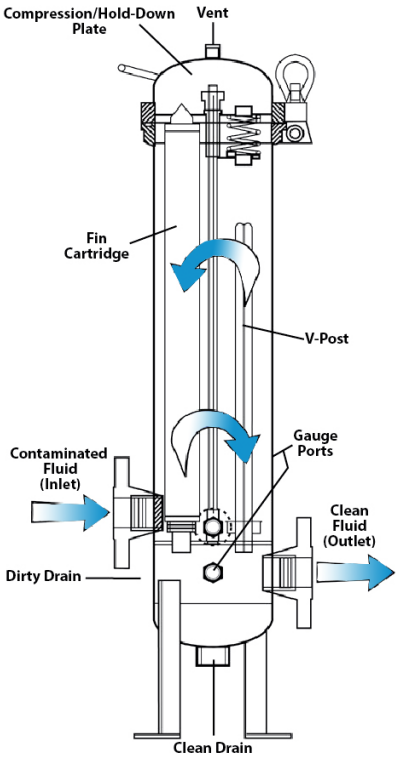
GTCH-Series Multi-Cartridge Liquid Filter Vessels

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
- CE Mark
- Electropolished Finish
- Sanitary Porting
- Alternate Seal Materials
  - — EPDM (required for NSF-61)
  - — Teflon® Encapsulated Viton® ⁕
  - — Viton® ⁕

NSF Certified to NSF/ANSI/CAN 61

NSF Certification applies for use only with drinking water. Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the product are Certified. Product options denoted with asterisk (⁕) are not included in the Certification

Ordering Information

GTCH	# of Cartridges	Length	Inlet/Outlet Size	Inlet/Outlet Style	Outlet	Material	Pressure Rating	Surface Finish	ASME Stamp CE Mark	NSF
	3	1 = 10”	1 = 1”, (25)	B = BSPT	1 = Bottom Outlet	4 = 304 SS	15 = 150 PSI @ 250°F	EP = Electropolished	Blank = None	Blank = None
	5	2 = 20”	1.5 = 1.5”, (40)	DN = DIN	2 = Opposite Outlet	6 = 316L SS		GB = Glass Bead	U = ASME	MC = NSF-61
	7	3 = 30”	2 = 2”, (50)	F = RF Flange					CE = CE Mark	
	12	4 = 40”	3 = 3”, (80)	N = FNPT						
	21		4 = 4”, (100)	T = TC ferrule						
	36		6 = 6”, (150)							
	51		8 = 8”, (200)							

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.

DS_GTCH_200909

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 PSI 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
- 1/4" 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 (required for NSF-61)
- Viton®⁎

NSF Certification applies for use only with drinking water. Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the product are Certified. Product options denoted with asterisk (⁎) are not included in the Certification

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	Material	Pressure Rating	Surface Finish	NSF
	12 = #4 Size	1N = 1" FNPT	3 = Bottom & Opposite Side	4 = 304 SS	30 = 300 PSI @ 250°F	GB = Glass Bead	Blank = None
		1B = 1" BSPT					MC = NSF-61

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.

DS_GBFE4_190918

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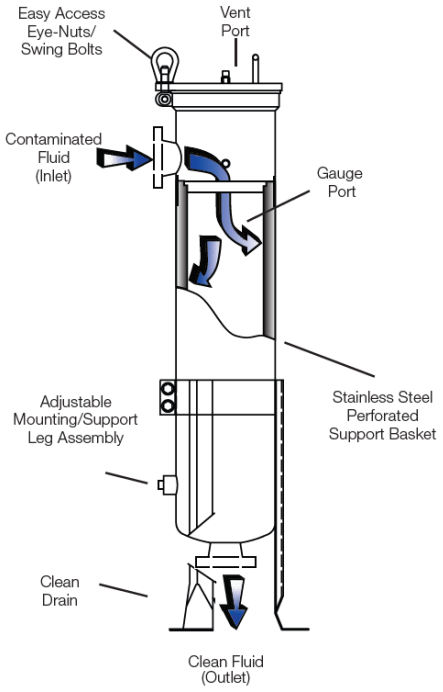
GBFV8-Series Stainless Steel & Carbon Steel Single Bag Liquid Vessels

GBFV8-Series Stainless Steel & Carbon Steel 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

- BSP, NPT, or RF Flanged inlet/outlet connections
- Stainless steel or carbon steel construction with epoxy coated exterior 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
- 2" NPT uni-style (side & bottom outlet) offers increased piping flexibility
- Single o-ring seal (Buna-N standard)
- 150 PSI pressure rating standard
- Snap-fit V-ring bag seal design



Options

- ASME Code Stamp (SS only)
- CE Mark (SS only)
- Electropolished Finish
- Sanitary porting
- Mesh-lined/perforated baskets
- Alternate seal materials
  - — EPDM (required for NSF-61)
  - — Silicone

NSF Certification applies for use only with drinking water. Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the product are Certified. Product options denoted with asterisk (✻) are not included in the Certification

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 - Carbon Steel

GBFV8	Basket Depth	Inlet/Outlet Size	Inlet/Outlet Style	Outlet	Material	Pressure Rating	Surface Finish
	15 = #1 Size	2 = 2"	B = BSPT	1 = Bottom Outlet	C = Carbon Steel ✻	15 = 150 PSI @ 500°F	EC = Epoxy Coated
	30 = #2 Size	3 = 3"	DN = DIN flang	2 = Opposite Side			
			F = RF Flange	3 = Bottom & Opposite			
			N = FNPT				

Ordering Information - Stainless Steel

GBFV8	Basket Depth	Inlet/Outlet Size	Inlet/Outlet Style	Outlet	Material	Pressure Rating	Surface Finish	ASME Stamp CE Mark	NSF
	15 = #1 Size	2 = 2"	B = BSPT	1 = Bottom Outlet	4 = 304SS	15 = 150 PSI @ 250°F	EP = Electropolished	Blank = None	Blank = None
	30 = #2 Size	3 = 3"	DN = DIN flang	2 = Opposite Side	6 = 316SS		GB = Glass Bead	U = ASME	MC = NSF-61
			F = RF Flange	3 = Bottom & Opposite				CE Mark (SS only)	
			N = FNPT						
			T = TC Ferrule						

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** MC only applies to the 304 & 316ss and not to the carbon steel construction.

DS_GBFV8_190918

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 lo pressure drops
- Stainless steel support baskets (9/64" standard)
- Two easy-access eye-nut/swing-bolt closures with single handle
- RF or DIN 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 (required for NSF-61)
  - — Teflon® Encapsulated Viton®⁂
  - — Viton®⁂

NSF Certification applies for use only with drinking water. Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the product are Certified. Product options denoted with asterisk (⁂) are not included in the Certification

Flow Rate

Model	Bag Size	Basket Depth	EFA (ft2)	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/CE Mark	NSF
	30 = #2 Size	3 = 3"	DN = DIN Flange	2 = Opposite Side	4 = 304 SS	15 = 150 PSI @ 250°F	EP = Electropolished	Blank = None	Blank = None
		4 = 4"	F = RF Flange	5 = Same Side	6 = 316L SS		GB = Glass Bead	U = ASME	MC = NSF-61

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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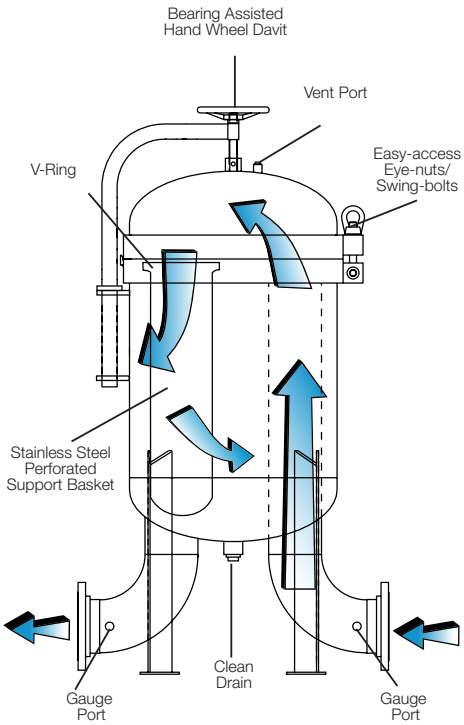
GMBV-Series Multi-Bag Liquid Vessels

GMBV-Series Multi-Bag Vessels are designed for high flow and/or high contaminant load applications where clean effluent is critical. Th 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 316 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
- CE Mark (SS only)
- Mesh-lined/perforated baskets
- Alternate Seal Materials
  - EPDM (required for NSF-61)
  - Teflon® Encapsulated Viton® ⁕
  - Viton® ⁕

NSF Certified to NSF/ANSI/CAN 61

NSF Certification applies for use only with drinking water. Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the product are Certified. Product options denoted with asterisk (⁕) are not included in the Certification

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/CE Mark	NSF
	4	30 = 30”	4 = 4”	DN = DIN Flange	4 = 304 SS	15 = 150 PSI @ 250°F	GB = Glass Bead	Blank = None	Blank = None
	6		6 = 6”	F = RF Flange	6 = 316 SS			U = ASME	MC = NSF-61
	8		8 = 8”					CE = CE Mark	
	12								

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DS_GMBV_190918

GMBE-Series Stainless & Carbon Steel Multi-Bag Liquid Vessels

GMBE-Series Stainless & Carbon Steel Multi-Bag Liquid Vessels are designed to offer a high-quality and economical solution for a variety of high flow and high load applications. The V-ring tubesheet design provides a positive snap-fit to ensure against by-pass.

Features

- 304, 316L Stainless Steel and Carbon Steel construction
- Epoxy-coated exterior (CS only)
- 150 PSI pressure rating
- RF or DIN 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)
- Mesh-lined/perforated baskets

Options

- Mesh-lined/perforated baskets
- Alternate seal materials
  - — EPDM (required for NSF-61)
  - — Teflon® Encapsulated Viton®*
  - — Viton®*

NSF Certification applies for use only with drinking water. Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the product are Certified. Product options denoted with asterisk (*) are not included in the Certification

Flow Rate

Model	# of Bags	Bag Size	Basket Depth	EFA (ft2)	Max Flow Rate (GPM)*
GMBE430	4	#2	30”	17.6	600
GMBE630	6	#2	30”	26.4	1200
GMBE830	8	#2	30”	35.2	1600
GMBE1230	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

GMBE	# of Bags/ Baskets	Basket Depth	Inlet/Outlet Size	Inlet/Outlet	Material	Pressure Rating	Surface Finish	NSF
	4	30 = 30”	4 = 4”	DN = DIN Flange	4 = 304 SS	15 = 150 PSI @ 250°F	EC = Epoxy Coated Exterior (CS Only)	Blank = None
	6		6 = 6”	F = RF Flange	6 = 316L SS		GB = Glass Bead (SS Only)	
	8		8 = 8”		C = Carbon Steel*			
	12							

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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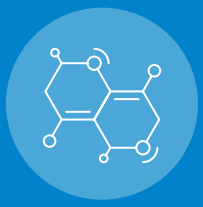

SPECIALTY PRODUCTS

Global Filter offers a variety of product lines, designed for the most challenging applications.

NIL-8™ Sanitizing Solution & Membrane Cleaner

NIL-8 is a peracetic acid-based solution intended for use in membrane-based water treatment systems and associated distribution piping, valves, & controls. It's been proven consistently effective with decades of successful application in the pharmaceutical, biotechnology, and medical industries as well as in general industry.

Cleaning of membranes and associated equipment with NIL-8 to kill microbes and remove bacterial load is proven to maintain the quality & consistency of products and process fluids, as well as maximizing membrane life. NIL-8 ca eliminate the expense and time for acid cleaning of membranes where iron or manganese are not primary foulants. By degrading into only oxygen, water, and carbon dioxide, NIL-8 presents no risk to water systems or waste streams. A simple test strip allows users to verify that no residual NIL-8 is present.

Chemical Makeup

Peracetic Acid.....5.6%
Hydrogen Peroxide.....26.5%
Inert Ingredients.....67.9%

Available Sizes

2.5 gallon carboy
5 gallon carboy
14/28/53 gallon drums

Contact Time

A 0.64% solution of NIL-8 sanitizing solution provides 99.9999% reduction (6-log) of bacteria in a typical application with a 36-minute contact time.

Typical Applications

- High-purity Water System Sanitization
- NF, UF & RO Membrane CIP
- Microbial (Slime) Control in Cooling Towers or Condensers
- Agricultural (Fruits, Vegetables, & Livestock) Water System Cleaning

Quantity of NIL-8 Needed Based on System Size

System Volume	By Weight	By Volume
50 gallons	3 lb	0.32 gal
100 gallons	6 lb	0.64 gal
250 gallons	15 lb	1.60 gal
500 gallons	30 lb	3.20 gal
750 gallons	45 lb	4.80 gal
1,000 gallons	60 lb	6.40 gal
200 liters	1.42 kg	1.27 lit
400 liters	2.85 kg	2.54 lit
1,000 liters	7.12 kg	6.36 lit
2,000 liters	14.24 kg	12.72 lit
3,000 liters	21.4 kg	19.1 lit
4,000 liters	28.5 kg	25.4 lit

Product Safety

This product is considered hazardous and must be handled with caution. Take proper precautionary measures to ensure product does not come into contact with eyes, skin or clothing. Refer to product label or SDS for full list of precautionary statements, first aid, and storage & disposal instructions

Ordering Information

NIL-8 Sanitizing Compound Product Number	**Description**
NIL8-1-2.5GAL	2.5 gallon carboy
NIL8-1-5GAL	5 gallon carboy
NIL8-D-14GAL	14 gallon drum
NIL8-D-28GAL	28 gallon drum
NIL8-D-53GAL	53.5 gallon drum

NIL-8 Test Strip Product Number	**Description**
NIL8-TS-H	High Concentration PAA Test Strips; (50) per tube
NIL8-TS-L	Low Concentration H_2O_2 Test Strips; (50) per tube

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GSS-Series Cylindrical & Pleated Stainless Steel

Global Filter's GSS-Series cylindrical and pleated stainless steel filter elements o fer an excellent filtration solution for applications with extreme thermal ranges and differential pressures while providing excellent contaminant holding capacity and efficiency. The GSS-Series elements are constructed entirely with 316L stainless steel, which not only provides excellent strength and resistance in extreme applications, but allows for easier and repeated cleaning cycles without compromising product integrity. Available in micron ratings ranging from 1.0 to 200.0 and particulate retention up to 99.0%, the GSS-Series elements are available in four robust configurations to accommodate variety of applications: Cylindrical Woven Mesh (SSC), Pleated Woven Mesh (SSP), Powdered Sintered Cylindrical (SSSC), and Sintered Pleated Woven (SSSP).

Flow Rate vs Pressure Drop (per 10" length in water)

Type	Micron Rating	Flow GPM (LPM)	Pressure Drop PSID (bar)
SSC	5.0	2.0 (7.5)	1.5 (0.10)
SSP	5.0	6.0 (22.7)	0.5 (0.03)
SSSC	5.0	1.0 (3.7)	1.5 (0.10)
SSSP	5.0	4.0 (15.1)	0.5 (0.03)
SSC	50.0	4.0 (15.1)	0.5 (0.03)
SSP	50.0	8.0 (30.2)	0.1 (0.1)
SSSP	50.0	6.0 (22.7)	0.1 (0.1)

Typical Applications

- Cryogenic Fluids
- Aggressive Chemicals
- High Pressure Steam
- Polymers
- Corrosive Gases
- High Temperature Fluids

Construction Materials

Filtration Media .....316L SS
Support Media .....316L SS
Outer Cage (If Used) .....316L SS
High Pressure Core .....316L SS
End Caps.....316L SS
Bonding .....Welded
O-Rings/Gaskets ..... Buna, EPDM, Silicone, Viton®

Note: Buna-N and EPDM elastomers have a temperature limit of 250˚F. Silicone and Viton® can tolerate up to 400˚F.

SSC = Stainless Steel Cylindrical Woven Mesh
SSP = Stainless Steel Pleated Woven Mesh*
SSSC = Stainless Steel Sintered Cylindrical (Powdered)
SSSP = Stainless Steel Sintered Pleated Woven*
*Pleated stainless steel elements are constructed with an outer cage as standard.

Dimensions

Length: 10 to 40 inches (25.4 to 101.6 cm) nominal
Outside Diameter: 2.5 inches (6.4 cm) nominal

[1] End cap style 32 (Code 32 w/ Flat Cap) matches Donaldson's UF and Parker's H-Style end cap configurations. Due to endcap dimensions, filters built with the Code 32 have an element outside diameter of 2.7 inches (6.9 cm).

Operating Conditions

Change Out ΔP (recommended)... 60 PSID (4.1 bar)
Temperature (max)..... 250˚F (121˚C) for Buna-N & EPDM seals
Temperature (max) .....400˚F (204˚C) for Silicone and Viton®
Differential Pressure (max)..... 90 PSID (6.2 bar) at 250˚F (121˚C)

Effective Filtration Area (per 10")

Type	Area ft² (cm²)
SSC	0.54 (502)
SSP	2.05 (1905)
SSSC	0.54 (502)
SSSP	3.98 (3698)

Ordering Information

G	Type	Rating (µ)	Retention	Length	Cage	End Cap Style	O-Rings/Gaskets
	SSC	1.0	A = Absolute	10" (25.4 cm)	N = No Cage	2 = DOE Flat Gasket	B = Buna (standard)
	SSP*	2.0		20" (50.8 cm)	C = Caged	3 = 222 w/ Fin	E = EPDM
	SSSC	5.0		30" (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone
	SSSP*	10.0		40" (101.6 cm)		6 = 226 w/ Flat Cap	V = Viton®
		20.0				7 = 226 w/ Fin	
		50.0				30 = 1" MNPT w/ Hex Nut	
		100.0				32 = Code 32 w/ Flat Cap[1]	
		150.0				33 = 1" MNPT w/ Flat Cap	
		200.0				34 = 1.5" MNPT w/ Flat Cap	

*Pleated stainless steel elements are constructed with an outer cage as standard.

DS_GSS_221026

Global Filter's keen attention to cleanliness and process control is instrumental in our ability to deliver quality and consistent product performance. We deliver the best net value in industries we serve.

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