



**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.



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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.

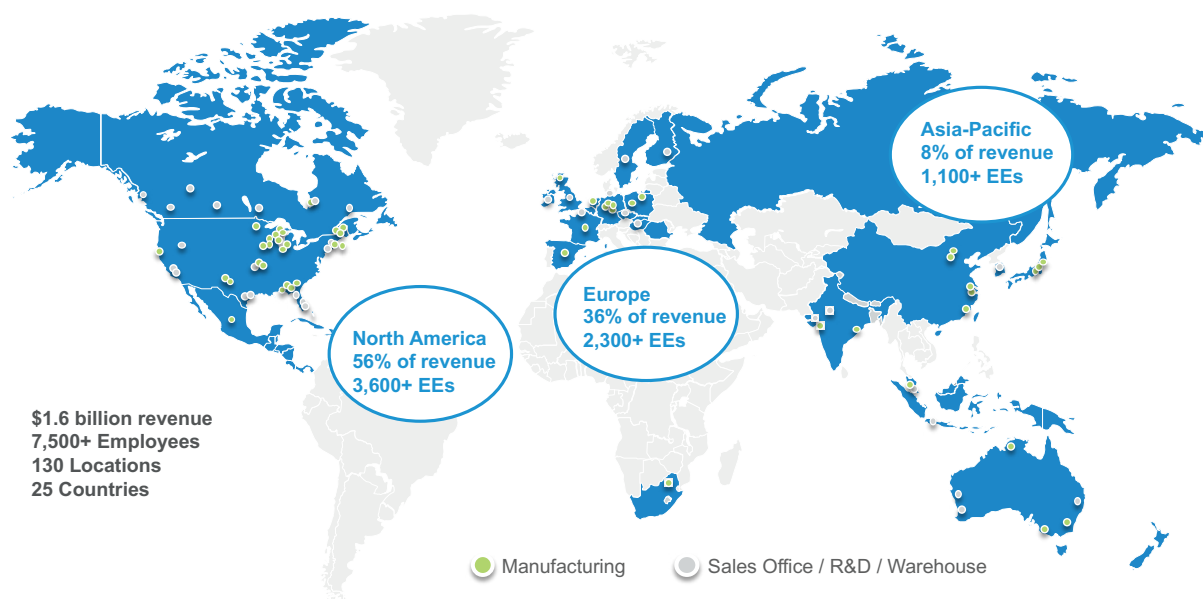


## FILTRATION GROUP GLOBAL FOOTPRINT

With world-class engineering and manufacturing capabilities.



### Global Presence



## FOUNDED IN 1999



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.

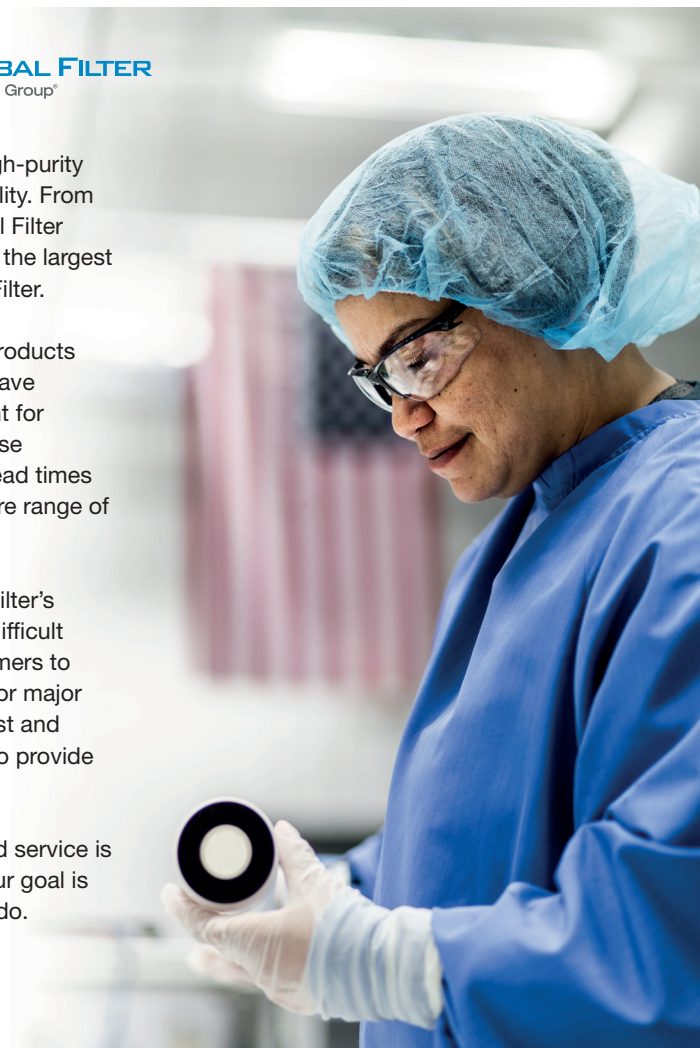
Our commitment to excellence in cleanliness, efficiency, quality, and service is driven by our goal to exceed the requirements of our customers. Our goal is complete customer satisfaction and it is reflected in everything we do.



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## 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



### 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



### 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



### Chemicals

We understand the impact improper filtration can 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



### Microelectronics

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

- Ultrapure Chemicals
- Ultrapure Water
- Ultrapure Air & Gases



### 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

## OUR FILTRATION SOLUTIONS ARE:



Our products meet US and EU standards for purity and safe use with food and beverages



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



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

## ADVANTAGES TO WORKING WITH GLOBAL FILTER:

- Shortest lead times and industry-leading value
- Manufacturing facilities in North America, Europe (France) 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
- Access to an extensive network of filtration professionals from all over the world who have experience with thousands of unique processes and applications





OUR PRODUCTS

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

- Pleated & 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**

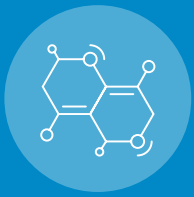


**Fin**



**222 3-tab**





## PLEATED 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.

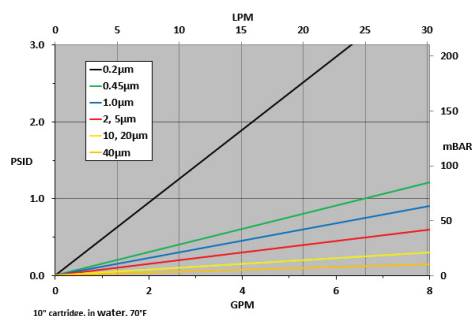
## PP-Series High Purity Pleated Polypropylene

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.



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      |
|    | 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   |                                     |   |                                 |

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.

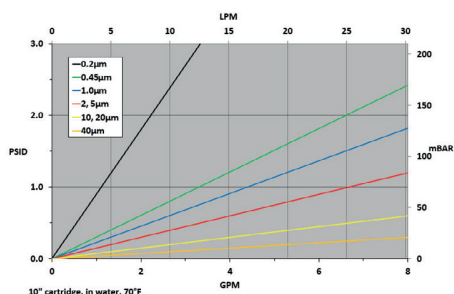
DS\_PP\_220407

## 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.



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:**  
 2.50 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 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

| 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      |
|     | 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       |              |                |   |                     |                                   |   |                                 |

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DS\_PPE\_220407

## 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.



### 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.

### 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)

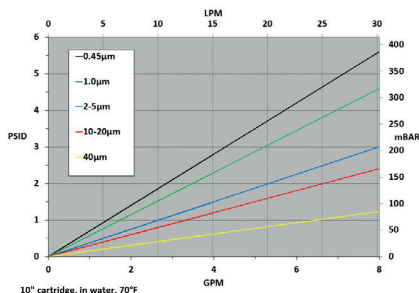
### Toxicity

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.

### 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

| 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    |
|      | 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   |                                   |   |                               |

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.

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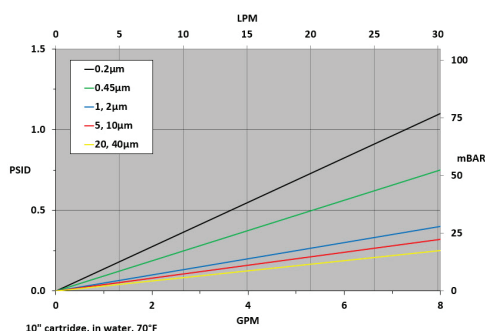


## FG-Series Pleated Microglass Media

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

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

### Flow Rate vs Pressure Drop



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

### Typical Applications

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

### Ordering Information

| FG | Rating (µ) | Retention    | Length         | C | End Cap Style            | O-Rings/Gaskets                   | - | Adders                        |
|----|------------|--------------|----------------|---|--------------------------|-----------------------------------|---|-------------------------------|
|    | 0.2        | A = Absolute | 10" (25.4 cm)  |   | 2 = DOE Flat Gasket      | B = Buna                          |   | CS = 316SS Compression Spring |
|    | 0.45       | N = Nominal  | 20" (50.8 cm)  |   | 3 = 222 w/ Fin           | E = EPDM                          |   | I = Stainless Steel Insert    |
|    | 1.0        |              | 30" (76.2 cm)  |   | 4 = 222 w/ Flat Cap      | S = Silicone                      |   | R = 18 Megaohn Rinse          |
|    | 2.0        |              | 40" (101.6 cm) |   | 5 = 222 w/ Spring        | T = Teflon® Encapsulated Viton®   |   | SS = Stainless Steel Core     |
|    | 5.0        |              |                |   | 6 = 226 w/ Flat Cap      | V = Viton®                        |   |                               |
|    | 10.0       |              |                |   | 7 = 226 w/ Fin           | Z = Teflon® Encapsulated Silicone |   |                               |
|    | 20.0       |              |                |   | 8 = 226 w/ Spring        |                                   |   |                               |
|    | 40.0       |              |                |   | 16 = 213 Internal O-Ring |                                   |   |                               |
|    |            |              |                |   | 28 = 222 3-tabs w/ Fin   |                                   |   |                               |

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\_FG\_210920



### 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.

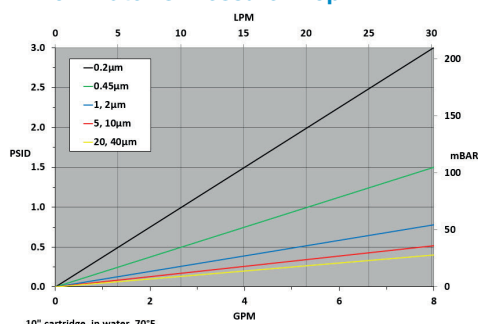
## FGE-Series Economy Grade Pleated Microglass Media

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

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

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

### Flow Rate vs Pressure Drop



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

### Typical Applications

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

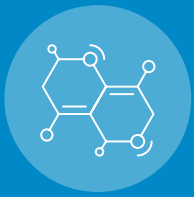
Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 1935/2004, and/or 10/2011.

### Ordering Information

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

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

DS\_FGE\_220324



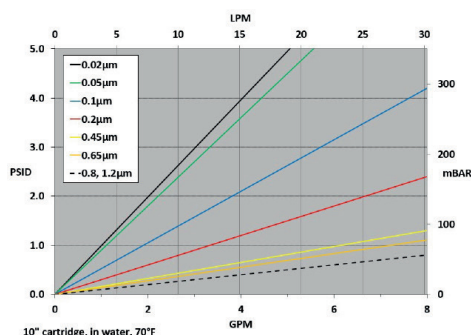
## MEMBRANE CARTRIDGES

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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DS\_GHPS\_220325



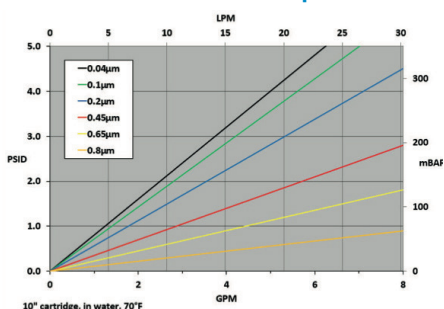
## WCPS-Series WaterClear™ Polyethersulfone

### WCPS-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 WCPS-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

### Ordering Information

| WCPS | 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 <sup>1</sup> |
|      | 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   |                                   |   |                                         |

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\_WCPES\_220406

### 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.

<sup>1</sup>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.

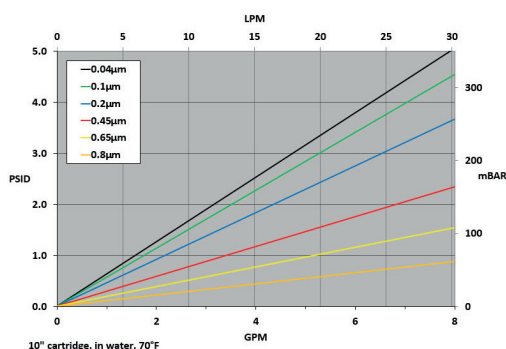
### FDA Listed Materials

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.

## 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   |                                   |   |                               |

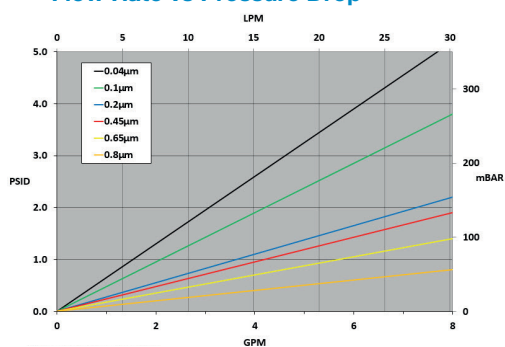
DISCLAIMER: Filtration data presented is representative of performance observed in controlled laboratory testing. It is not given as a warranty, specification or statement of fitness for use. Specific performance can vary widely depending on contaminant type, fluid properties, flow rates and environmental 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\_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

### 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.

### 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.

### 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.

### Dimensions

#### Length:

10 to 40 inches (25.4 to 101.6 cm) nominal

#### Outside Diameter:

2.70 inches (7.0 cm) nominal

### 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   |                                   |   |                               |

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\_GEPES\_190918

## GFPEs-Series Food and Beverage Grade Polyethersulfone

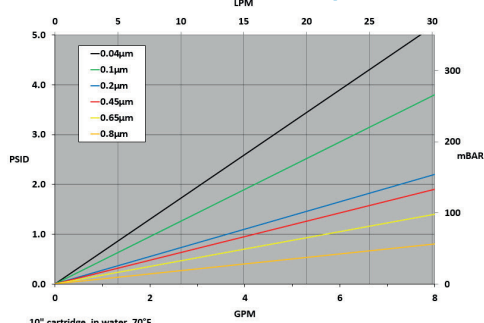
GFPEs-Series High Purity Food and Beverage Grade Polyethersulfone Filter Cartridges meet the most demanding requirement of the food and beverage industry. The polyethersulfone membrane offers high flux density and low protein-binding and maintains the organoleptic characteristics of the treated product, 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   | <i>Brevundimonas diminuta</i>   | 7.6                       |
| 0.45µ  | <i>Serratia marcescens</i>      | 6.6                       |
| 0.65µ  | <i>Saccharomyces cerevisiae</i> | 4.8                       |

\* Independently tested in accordance with ASTM F838.

### Flow Rate vs Pressure Drop



### Construction Materials

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

### Sanitization/Sterilization

|                            |                                    |
|----------------------------|------------------------------------|
| <b>Filtered Hot Water</b>  | 80°C for 30 min.                   |
| <b>Steam Sterilization</b> | 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

|                          |                                            |
|--------------------------|--------------------------------------------|
| <b>Length:</b>           | 10 to 40 inches (25.4 to 101.6 cm) nominal |
| <b>Outside Diameter:</b> | 2.70 inches (7.0 cm) nominal               |

### Operating Conditions

|                                    |                                  |
|------------------------------------|----------------------------------|
| <b>Change Out ΔP (recommended)</b> | 35 PSID                          |
| <b>Temperature (max)</b>           | 176°F (80°C)                     |
| <b>Differential Pressure (max)</b> | 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   |                                   |                               |

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\_GFPEs\_220224



## GBPES-Series Wine and Beverage Grade Polyethersulfone

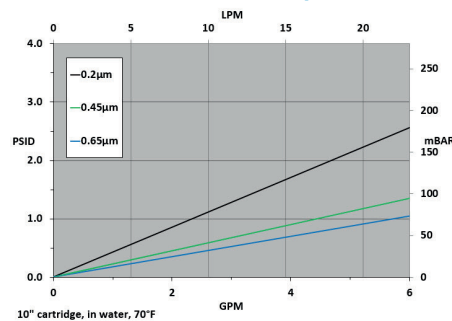
GBPES-Series High Purity Wine and Beverage Grade Polyethersulfone Filter Cartridges are optimized for the requirements of the wine and beverage industry. The polyethersulfone membrane offers high flux density and low protein-binding and maintains the organoleptic characteristics of the treated product, 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.

### Microbial Retention Performance\*

| Rating | Challenge Microorganism        | LRV |
|--------|--------------------------------|-----|
| 0.2μ   | <i>Serratia marcescens</i>     | 6.5 |
| 0.45μ  | <i>Sacchromyces cerevisiae</i> | 4.9 |

Independently tested in accordance with ASTM F838.

### Flow Rate vs Pressure Drop



### Typical Applications

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

### Construction Materials

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

### 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.

### Dimensions

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

### Operating Conditions

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

### Toxicity

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

### Food Safety Compliance

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

### Ordering Information

| GBPES | Rating (μ) | A | Length         | C | End Cap Style          | O-Rings/Gaskets                   | - | Adders                        |
|-------|------------|---|----------------|---|------------------------|-----------------------------------|---|-------------------------------|
|       | 0.2        |   | 10" (25.4 cm)  |   | 2 = DOE Flat Gasket    | B = Buna                          |   | CS = 316SS Compression Spring |
|       | 0.45       |   | 20" (50.8 cm)  |   | 3 = 222 w/ Fin         | E = EPDM                          |   | 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 |   |                               |

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## GDPES-Series DuoGrade™ Serial Layer Polyethersulfone

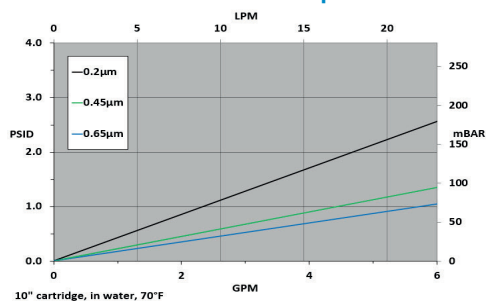
GDPES-Series DuoGrade™ Serial Layer Polyethersulfone Filter Cartridges deliver extended life and excellent retention. Featuring a Microglass prefiltration layer, this serial construction makes the GDPES an ideal choice for clarification of particulate-heavy solutions in a variety of food/beverage, pharmaceutical, 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   | <i>Brevundimonas diminuta</i>   | 7.6                       |
| 0.45µ  | <i>Serratia marcescens</i>      | 6.6                       |
| 0.65µ  | <i>Saccharomyces cerevisiae</i> | 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

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

### Sanitization/Sterilization

|                            |                                    |
|----------------------------|------------------------------------|
| <b>Filtered Hot Water</b>  | 80°C for 30 min.                   |
| <b>Steam Sterilization</b> | 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

|                                    |                                  |
|------------------------------------|----------------------------------|
| <b>Change Out ΔP (recommended)</b> | 35 PSID                          |
| <b>Temperature (max)</b>           | 176°F (80°C)                     |
| <b>Differential Pressure (max)</b> | 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   |                                   |   |                               |

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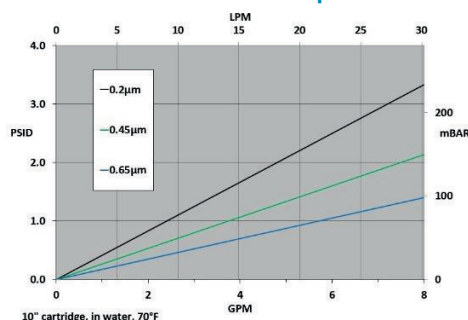
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## GSPES-Series Serial-Layer Polyethersulfone

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 no 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   | <i>Brevundimonas diminuta</i>   | 8.6                       |
| 0.45µ  | <i>Serratia marcescens</i>      | 7.6                       |
| 0.65µ  | <i>Saccharomyces cerevisiae</i> | 5.8                       |

\* Independently tested in accordance with ASTM F838.

### 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   |                                   |   |                               |

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DS\_PPES\_220209



### Construction Materials

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

### Sanitization/Sterilization

|                            |                                    |
|----------------------------|------------------------------------|
| <b>Filtered Hot Water</b>  | 85°C for 30 min                    |
| <b>Steam Sterilization</b> | 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

|                          |                                            |
|--------------------------|--------------------------------------------|
| <b>Length:</b>           | 10 to 40 inches (25.4 to 101.6 cm) nominal |
| <b>Outside Diameter:</b> | 2.70 inches (7.0 cm) nominal               |

### Operating Conditions

|                                    |              |
|------------------------------------|--------------|
| <b>Change Out ΔP (recommended)</b> | 35 PSID      |
| <b>Temperature (max)</b>           | 176°F (80°C) |
| <b>Differential Pressure (max)</b> | 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.

## BRPES-Series Bio-Burden Reduction Grade Polyethersulfone

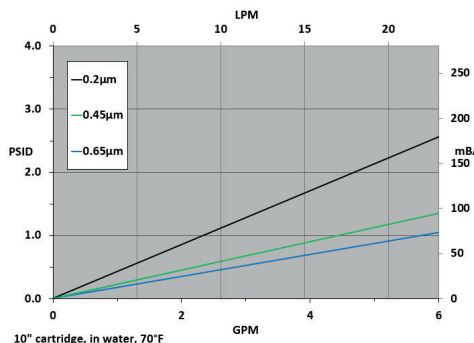
BRPES-Series High Purity Bio-Burden Reduction Grade Filter Polyethersulfone Cartridges are validated and 100% integrity tested; providing bio-burden and small particle removal across a wide range of food & beverage, biological liquids, and intermediate bulk pharmaceutical fluids. The BRPES-Series is 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   | <i>Brevundimonas diminuta</i>                                      | >8.0                      |
| 0.45µ  | <i>Lactobacillus lindneri</i> ,<br><i>Serratia marcescens</i>      | >8.0                      |
| 0.65µ  | <i>Lactobacillus lindneri</i> ,<br><i>Saccharomyces cerevisiae</i> | >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 |

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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 and biological solutions. Each PPES cartridge is integrity tested during manufacturing and is supported by a validation guide for regulatory compliance. Low protein binding and the broad chemical compatibility characteristics of the polyethersulfone membrane, along with exceptional flow rate vs pressure drop, makes the PPES-Series the ideal choice for a variety of valuable and/or critical pharmaceutical solutions.

PPES cartridges are fully validated as sterilizing grade filters in accordance with HIMA and ASTM F838-05 guidelines. For the 0.2 micron series elements, validation studies demonstrate sterile effluent is achieved with challenge concentration in excess of  $10^7$  *Brevundimonas diminuta* per cm<sup>2</sup> of filter area. Additionally, validation studies of 0.1 micron series elements demonstrate  $10^7$  retention of *Mycoplasma (Acholeplasma laidlawii)* per cm<sup>2</sup> of filter area. Designed to tolerate repeated hot water sanitization and *in-situ* steam sterilization cycles for maximum service life. Manufactured in a clean-room environment to maintain high standards of purity and cleanliness.



### 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 sanitization 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

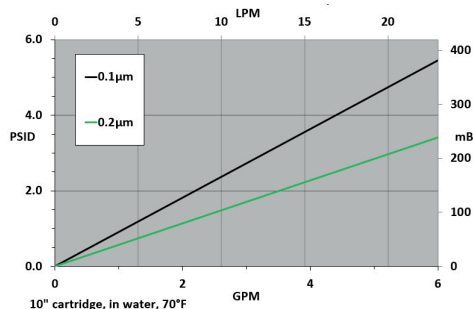
### Dimensions

**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)

### 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 |

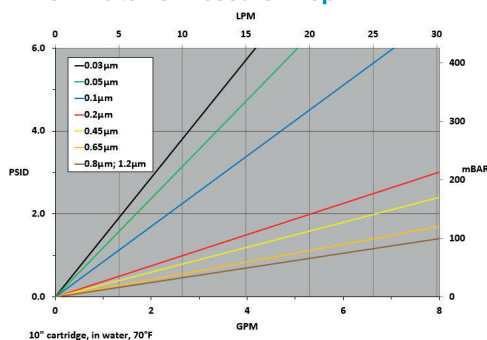
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DS\_PPES\_190918

## 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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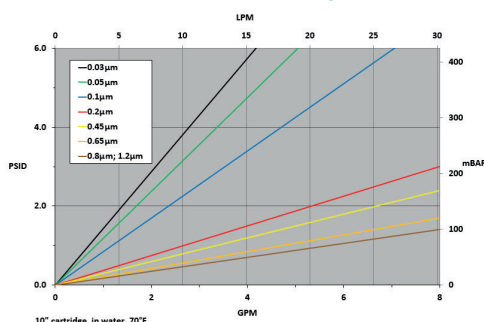
DS\_GGHNY\_190918

## 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        |   |                |   |                          |                                   |   |                               |

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\_GEHNY\_220228

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

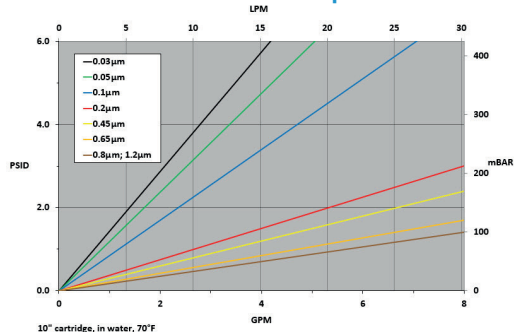
GFHNY-Series High Purity Food and Beverage Grade Nylon and Plus+ Nylon Filter Cartridges featuring nylon 6,6 membrane have a well-proven record of delivering superior microbial retention in the production of highly stable consumables. The optional positive zeta potential surface charge (Plus+) enhances 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  | <i>Brevundimonas diminuta</i>   | 9.1                       |
| 0.45 µ | <i>Serratia marcescens</i>      | 11.0                      |
| 0.65 µ | <i>Saccharomyces cerevisiae</i> | 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        |   |                |   |                          |                                   |   |                               |

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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 | <i>Brevundimonas diminuta</i> | >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

### Ordering Information

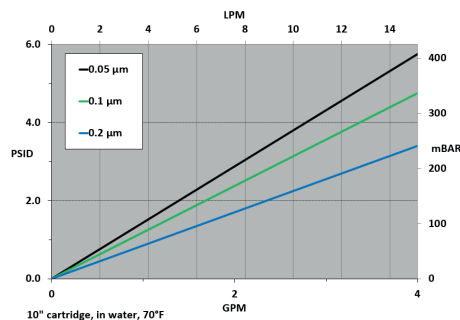
| BRHNY+ | Rating (µ) | A | Length         | C | End Cap Style            | O-Rings/Gaskets | - | Adders                        |
|--------|------------|---|----------------|---|--------------------------|-----------------|---|-------------------------------|
|        | 0.05       |   | 10" (25.4 cm)  |   | 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   |                 |   |                               |

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DS\_BRHNY+0.2DL\_220308



### 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

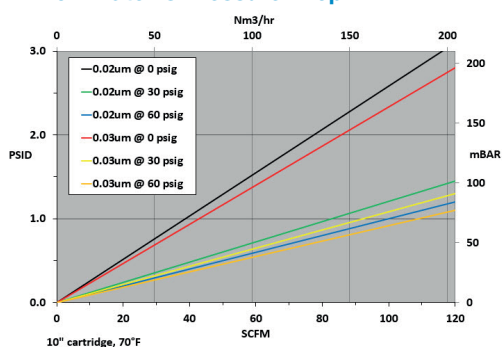
The BRHNY+ is a key component of water systems required to be compliant to AAMI Standard #TIR34: Water for the Reprocessing of Medical Devices. The BRHNY+ delivers highly efficient scavenging of microbes and endotoxin when used in a properly-designed system maintained to TIR34 recommended practices.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

## PSH-Series Hydrophobic Polysulfone

PSH-Series High Purity Hydrophobic Polysulfone Membrane Filter Cartridges provide a cost-effective alternative to PTFE or PVDF membrane cartridges for air, bulk gas, and tank vent applications requiring high moisture resistance. The highly asymmetric membrane pore structure provides high flow rate at 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   |                                   |   |                               |

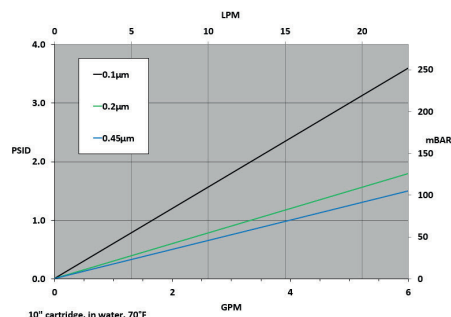
DISCLAIMER: Filtration data presented is representative of performance observed in controlled laboratory testing. It is not given as a warranty, specification or statement of fitness for use. Specific performance can vary widely depending on contaminant type, fluid properties, flow rates and environmental 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\_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
- Photoresists
- Fermentation Feed Air
- Inert gases
- Venting



### 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   |                                   |   |                               |

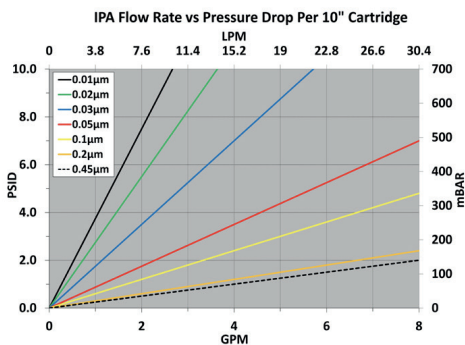
DISCLAIMER: Filtration data presented is representative of performance observed in controlled laboratory testing. It is not given as a warranty, specification or statement of fitness for use. Specific performance can vary widely depending on contaminant type fluid properties, flow rates and environmental 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\_GGPTFE\_210805

## EPTFE-Series Electronics Grade PTFE

EPTFE-Series High Purity Electronics Grade PTFE Filter Cartridges, with expanded polytetrafluoroethylene (PTFE) membrane, provide superior chemical resistance in high-purity microelectronics applications. With retention ratings as fine as 0.01 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          |   |                |   |                        |                                 |                            |

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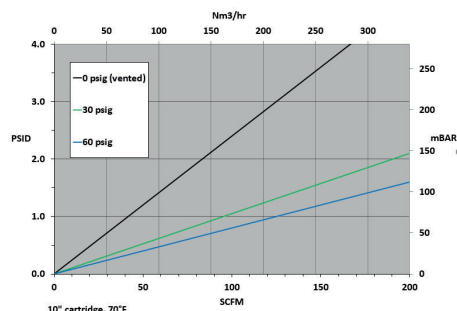
DS\_EPTFE\_221017



## 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

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

|                                  |                                       |
|----------------------------------|---------------------------------------|
| <b>Filtered Hot Water</b> .....  | 80°C for 30 min.                      |
| <b>Steam Sterilization</b> ..... | 121°C for 30 min.,<br>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

|                          |                                            |
|--------------------------|--------------------------------------------|
| <b>Length:</b>           | 10 to 40 inches (25.4 to 101.6 cm) nominal |
| <b>Outside Diameter:</b> | 2.70 inches (7.0 cm) nominal               |

### Operating Conditions

|                                          |                                     |
|------------------------------------------|-------------------------------------|
| <b>Change Out ΔP (recommended)</b> ..... | 35 PSID                             |
| <b>Temperature (max)</b> .....           | 176°F (80°C)                        |
| <b>Temperature (max) "HT"</b> .....      | 235°F (113°C)                       |
| <b>Differential Pressure (max)</b> ..... | 50 PSID<br>(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.

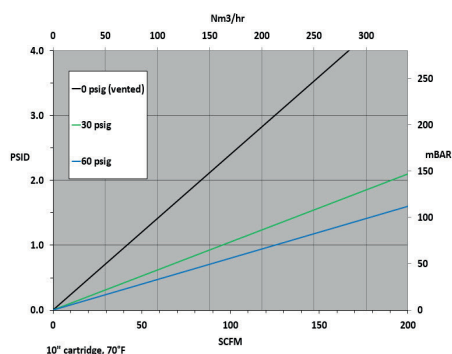
DISCLAIMER: Filtration data presented is representative of performance observed in controlled laboratory testing. It is not given as a warranty, specification or statement of fitness for use. Specific performance can vary widely depending on contaminant type, fluid properties, flow rates and environmental 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\_BRPTFE\_221003

## 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 |

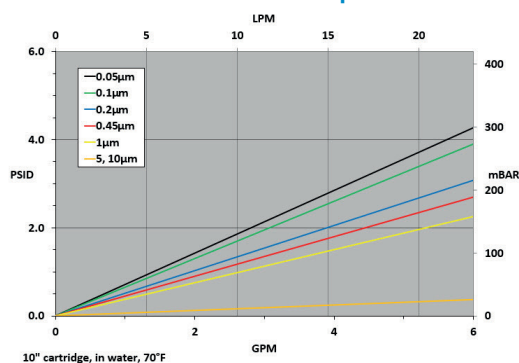
DISCLAIMER: Filtration data presented is representative of performance observed in controlled laboratory testing. It is not given as a warranty, specification or statement of fitness for use. Specific performance can vary widely depending on contaminant type fluid properties, flow rates and environmental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

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



### Dimensions

#### Length:

5 to 40 inches (12.7 to 101.6 cm) nominal

#### Outside Diameter:

2.68 inches (6.8 cm) nominal

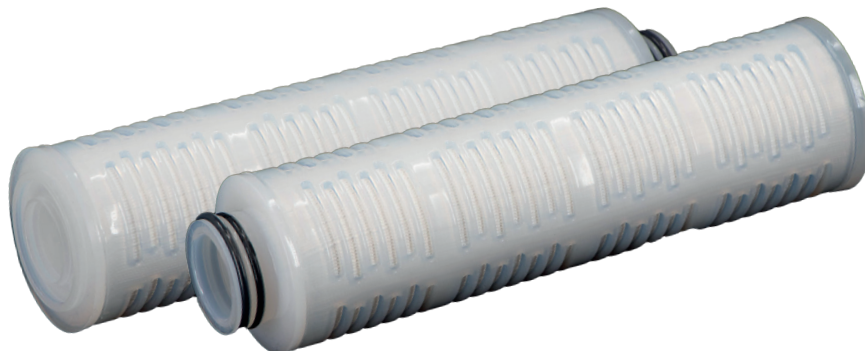
### Typical Applications

#### 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 (HNO<sub>3</sub>:HCl)
- BOE; NH<sub>4</sub>F: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       |   |                |   |                    |                                 |                          |

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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 ft<sup>2</sup> 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:

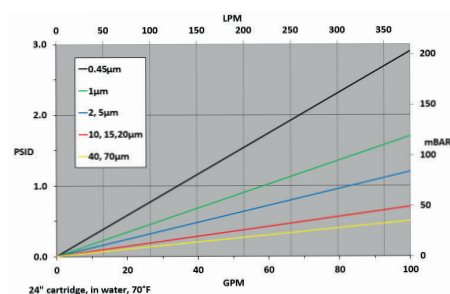
12 inches (#1-size)

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 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<br>(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       |              |             |                         |                   |                                    |

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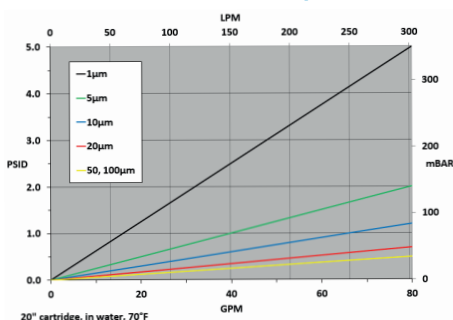
DS\_HFB\_220301

## 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®*  |

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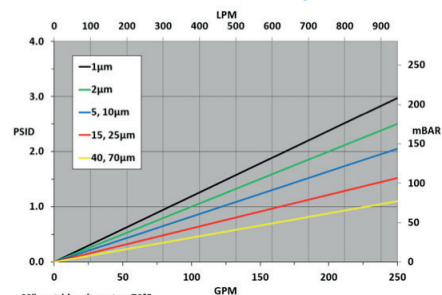
DS\_HF\_220222

## 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  $\Delta P$  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  $\Delta P$  (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 ( $\mu$ m) |      | 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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DS\_EHF3\_220719

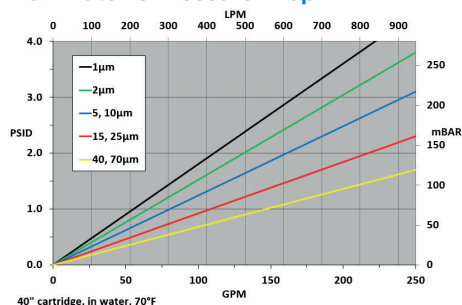
## HF3-Series High Flow Pleated Cartridge

HF3-Series High Flow Polypropylene and Microglass Filter Cartridges address your need for absolute rated filter cartridges in high flowrate and 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.

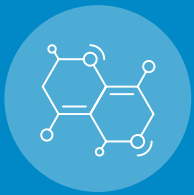
### Ordering Information

| 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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DS\_HF3\_220224





## DEPTH CARTRIDGES

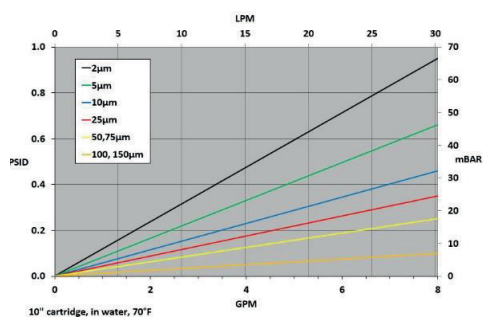
Due to their gradient density depth construction, our depth cartridge products are an economical option for the removal of both fine and coarse deformable and non-deformable contaminants. Ideal for use as a prefilter, protecting costly downstream pleated cartridges and equipment, or as a final filter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

## GRU-V Series Resin Bonded

The unique manufacturing process of GRU-V filter elements produces a rigid fixed-matrix structure with true graded-porosity. This maximizes contaminant-holding capacity while preventing the unloading behavior that is often problematic in competitive products. The grooved outer surface greatly expands the filter's effective surface area and further increases the contaminant holding capacity. The synthetic fiber/phenolic resin binder offers well-proven performance operating under challenging conditions of high temperatures, high fluid viscosities, and high differential pressures. The GRU-V is ideal for paints, coatings, oils, and many other demanding applications.



### Flow Rate vs Pressure Drop



### Typical Applications

- Coatings
- Epoxies
- Adhesives
- Sealants
- Hydraulic Fluids
- Lubricating Oils
- Greases
- Paints
- Inks

### Dimensions

**Lengths**.....9.75 to 40 inches  
 (24.77 to 101.6cm)  
**Outside Diameter**.....2.56 inches (6.50cm)  
**Inside Diameter**.....1.06 inches (2.69cm)

### Construction Materials

Polyester & acrylic fibers with phenolic resin encapsulation.

### Features

- Micron ratings from 2 to 150
- True graded-porosity structure for high dirt holding
- Broad chemical compatibility
- Rigid construction ideal for high viscosity uses
- High temperature resistance

### Operating Conditions

|                                                |                                                              |
|------------------------------------------------|--------------------------------------------------------------|
| <b>Maximum Operating Temperature</b>           | Standard DOE<br>250°F (121°C)                                |
|                                                | w/ Polypropylene Spring<br>or Core Extender 180°F (82°C)     |
|                                                | High Temperature DOE (HT)<br>300°F (149°C)                   |
|                                                | High Temperature DOE w/ Epoxy<br>Adhesive (EP) 300°F (149°C) |
| <b>Maximum Operating Differential Pressure</b> | w/ Stainless Steel Core Extender<br>(HT)<br>300°F (149°C)    |
|                                                | 90 PSID at 150°F (65°C)                                      |

### Ordering Information

| GRU-V | Rating (µ) | N | Length            | - | Option               | End Cap Style                   | - | Adders           |
|-------|------------|---|-------------------|---|----------------------|---------------------------------|---|------------------|
|       | 2          |   | 9.75" (24.77 cm)  |   | Blank = Standard     | Blank = None                    |   | B = Micron Brand |
|       | 5          |   | 10" (25.40 cm)    |   | HT = High Temp       | 9 = SOE w/ Spring               |   |                  |
|       | 10         |   | 19.5" (49.53 cm)  |   | EP = High Temp Epoxy | 10 = DOE w/ Core Extender       |   |                  |
|       | 25         |   | 20" (50.80 cm)    |   |                      | 10X = Stainless Steel Core Ext. |   |                  |
|       | 50         |   | 29.25" (74.26 cm) |   |                      | 20 = SOE PP Ext. w/ Spring      |   |                  |
|       | 75         |   | 30" (76.20 cm)    |   |                      |                                 |   |                  |
|       | 100        |   | 39" (99.06 cm)    |   |                      |                                 |   |                  |
|       | 125        |   | 40" (101.60 cm)   |   |                      |                                 |   |                  |
|       | 150        |   |                   |   |                      |                                 |   |                  |

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Note: GRU-V series filter cartridges are manufactured without the use of silicone-based oils or greases as an ingredient in the product nor as a machine lubricant in the manufacturing environment.

DS\_GRB\_210219

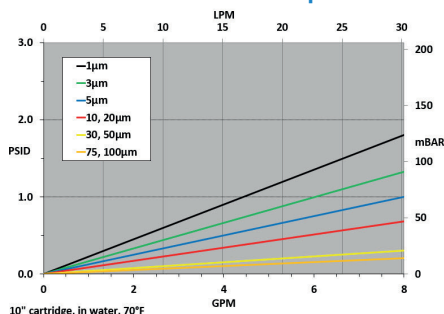
## GWTB-Series Water Grade Meltblown Polypropylene

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®

### Dimensions (Nominal)

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

### Performance Specifications

#### Micron Ratings:

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

#### Efficiencies:

Water Grade = 80%

### Operating Conditions

**Change Out ΔP (recommended)**..... 35 PSID  
**Temperature (max)**..... 140°F (60°C)  
**Differential Pressure (max)**..... 50 PSID (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.



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                 |   | PC = Polypropylene Core                 |
|             | 10         |             | 19.5" (49.53 cm)  |   | 4 = 222 w/Flat Cap        | P = Polyfoam (Gaskets) * |   | TB = Thermally-Bonded                   |
|             | 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 |                          |   |                                         |

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DS\_GWTB\_220127

## GWTB BB-Series Water Grade Meltblown Polypropylene

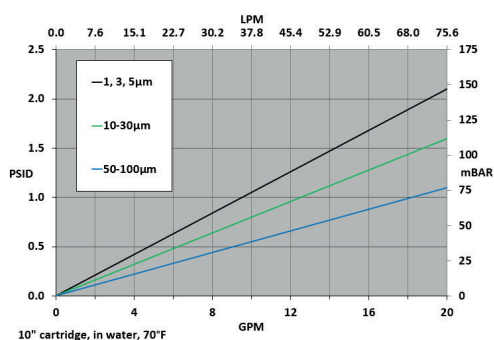
### GWTB BB-Series Water Grade Meltblown

#### 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



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.

### 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 Specifications

#### Micron Ratings:

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

**Efficiencies:** 80%

### Operating Conditions

**Change Out ΔP (recommended)**..... 35 PSID

**Temperature (max)**..... 140°F (60°C)

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

### Food Safety Compliance

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

## Ordering Information

| 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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DS\_GWTB BB\_190918



## GCTB-Series High Performance Grade Meltblown Polypropylene

GCTB-Series High Performance Grade Meltblown Polypropylene Filter Cartridges:

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



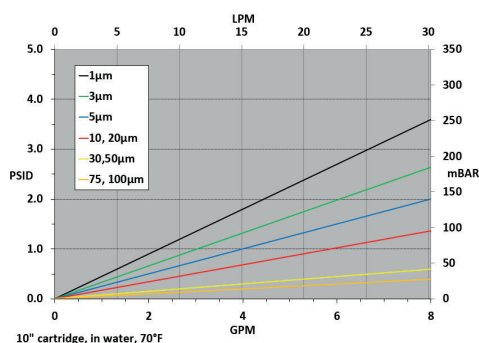
### Construction Materials

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

### Operating Conditions

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

### Flow Rate vs Pressure Drop



### Dimensions (Nominal)

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

### Performance Specifications

#### Micron Ratings:

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

#### Efficiencies:

High Performance Grade = 90%



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### 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                 |   | PC = Polypropylene Core                 |
|                        | 10         |   | 19.5" (49.53 cm)  |   | 4 = 222 w/Flat Cap        | P = Polyfoam (Gaskets) * |   | TB = Thermally-Bonded                   |
|                        | 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 |                          |   |                                         |

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DS\_GCTB\_220127

## 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.



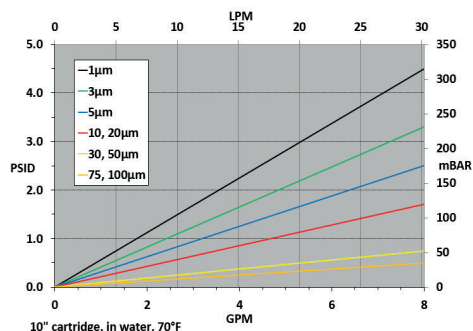
### Construction Materials

**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)

### Flow Rate vs Pressure Drop



### Dimensions (Nominal)

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

### Performance Specifications

#### Micron Ratings:

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

#### Efficiencies:

1-3 Micron: 95%  
 5-100 Micron: 99%

### Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 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" (24.76cm)   |   | 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                 |   | PC = Polypropylene Core                 |
|                | 10         |   | 19.5" (49.53 cm)  |   | 4 = 222 w/Flat Cap          | P = Polyfoam (Gaskets) * |   | TB = Thermally-Bonded                   |
|                | 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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DS\_GATB\_220127

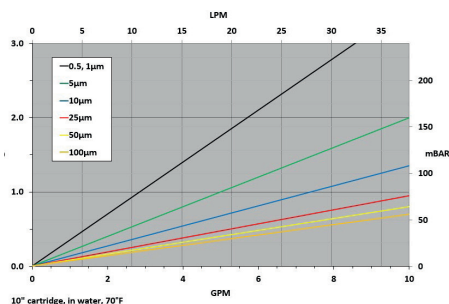
## G-Series Wound

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, FDA bleached cotton, polyester, and glassfiber.
- Core materials available: polypropylene, and 316 stainless steel.
- Performance-enhancing end-configurations available to fit every process requirement



### Flow Rate vs Pressure Drop



### Construction Materials

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

### Operating Conditions

**Change Out ΔP (recommended)**..... 2.4 bar  
**Temperature (max)**..... Dependent on materials of construction  
**Differential Pressure (max)**..... 50 PSID (3.4 bar) at 68°F (20°C)

### Dimensions (Nominal)

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

### Typical Applications

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

### Ordering Information

| G | Media                    | Rating (µ) | Diameter | Length            | Core        | End Cap Style               | O-Rings      |
|---|--------------------------|------------|----------|-------------------|-------------|-----------------------------|--------------|
|   | P = FDA Polypropylene    | 0.5        | A = 2.5  | 9.75" (24.76cm)   | P = Polypro | 3 = 222 w/Fin               | B = Buna     |
|   | G = Glass                | 1          |          | 9.875" (25.08 cm) | S = 316 SS  | 4 = 222 w/Flat Cap          | E = EPDM     |
|   | CC = FDA Bleached Cotton | 3          |          | 10" (25.4 cm)     |             | 5 = 222 w/Spring            | S = Silicone |
|   | PE = Polyester           | 5          |          | 19.5" (49.53 cm)  |             | 6 = 226 w/Flat Cap          | T = Teflon®  |
|   |                          | 10         |          | 20" (50.8 cm)     |             | 7 = 226 w/Fin               | V = Viton®   |
|   |                          | 20         |          | 29.25" (74.26 cm) |             | 8 = 226 w/Spring            |              |
|   |                          | 25         |          | 30" (76.2 cm)     |             | 9 = SOE w/ Spring           |              |
|   |                          | 30         |          | 39" (99.1 cm)     |             | 10 = DOE w/PP Core Extender |              |
|   |                          | 50         |          | 40" (101.6 cm)    |             |                             |              |
|   |                          | 75         |          | 50" (127 cm)      |             |                             |              |
|   |                          | 100        |          |                   |             |                             |              |
|   |                          | 200        |          |                   |             |                             |              |
|   |                          | 250        |          |                   |             |                             |              |
|   |                          | 400        |          |                   |             |                             |              |

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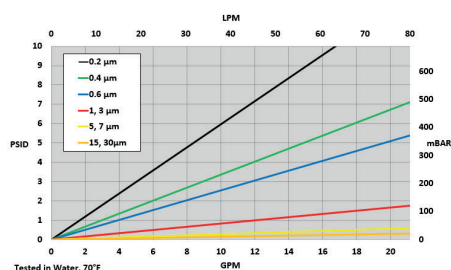
DS\_G WOUND\_220228

## GSD-Series Stacked Disc

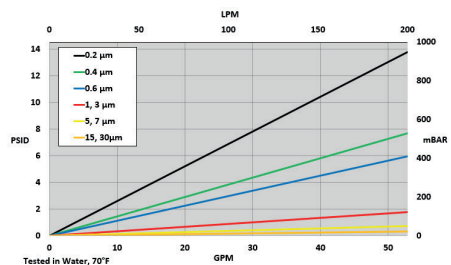
GSD-Series Stacked Disc depth filter elements are constructed from individual cells of a blend of cellulose and diatomaceous earth (DE). Each cell is constructed under compression with polypropylene edge seals and separators. Multiple gasket materials are available to ensure chemical compatibility in 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 an 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          |   |                                                 |               |               | V = Viton®    |
|     | 3          |   |                                                 |               |               | T = PTFE      |
|     | 5          |   |                                                 |               |               |               |
|     | 7          |   |                                                 |               |               |               |
|     | 15         |   |                                                 |               |               |               |
|     | 30         |   |                                                 |               |               |               |

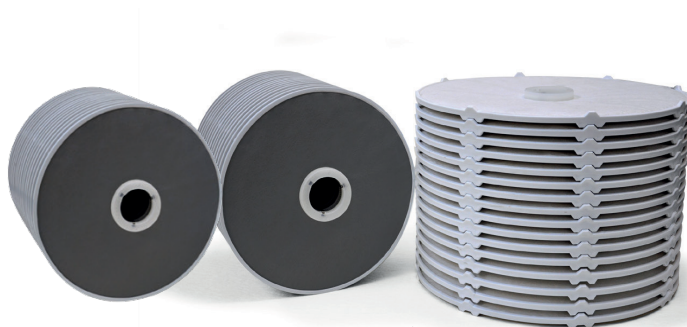
DISCLAIMER: Filtration data presented is representative of performance observed in controlled laboratory testing. It is not given as a warranty, specification or statement of fitness for use. Specific performance can vary widely depending on contaminant type, fluid properties, flow rates and environmental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

DS\_GSD\_220323



## GSDC-Series Activ Carbon Stacked Disc

The GSDC-Series lenticular modules are composed of specific media containing pure cellulose and activated carbon. The GSDC lenticular structure is made of 100% virgin polypropylene. The seals are available in a variety of materials to allow broad chemical compatibility and use in a wide range of liquid applications. Suitable for both low-capacity laboratory environments to large-scale production volumes GlobalFilter's GSDC lenticular modules provide solution purification as well as taste, odor and color removal. The GSDC-Series lenticular modules are designed to prevent the release of activated carbon fines.



### Dimensions (Nominal)

| Configuration          | Materials of Construction          | Effective Filtration Surface Area (EFA) |
|------------------------|------------------------------------|-----------------------------------------|
| 12" diameter, 15 cells | Polypropylene edge seal, end rings | 1,67m²                                  |
| 16" diameter, 15 cells | Polypropylene edge seal, end rings | 3,50 m²                                 |

### Typical Applications

- API
- Chemical Intermediates
- Syrups & Flavorings
- Beer, Wine & Spirits
- Turbine Lube
- Cosmetics
- Plasma & Culture Media

### Construction Materials

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

### 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.

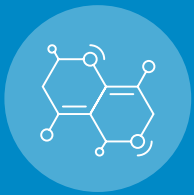
### Ordering Information

| GSDC | A | Media                      | Cell Diameter | # of Cells    | Gaskets      |
|------|---|----------------------------|---------------|---------------|--------------|
|      |   | N = Activ Carbon (45% w/w) | 12 = 12"      | 15 = 15 Cells | B = Buna     |
|      |   |                            | 16 = 16"      |               | E = EPDM     |
|      |   |                            |               |               | S = Silicon* |
|      |   |                            |               |               | V = Viton®   |
|      |   |                            |               |               | T = PTFE     |

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DS\_GSDC\_220906





## 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.

## Polypropylene Felt Liquid Filter Bags

- Micron rating from 1 to 200 microns
- Available in all industry standard sizes
- High chemical compatibility
- High flow/low pressure drop media
- Standard handles on all bags
- Welded construction standard, sewn construction optional
- Molded polypropylene flange standard, stainless steel ring as an option

### Felt Bag Materials

Made with 100% synthetic polypropylene fibers. The ratio of fiber diameter, weight and thickness makes this media an economical depth filtration solution. Polypropylene filter bags are calendered as standard to reduce fiber migration.

- Polypropylene materials comply with

Section 177.1520 of 21 CFR of the FDA and EC1935/2004 - EU 10/2011 regulations for food contact.

- The calendered finish of polypropylene

reduces fiber loss

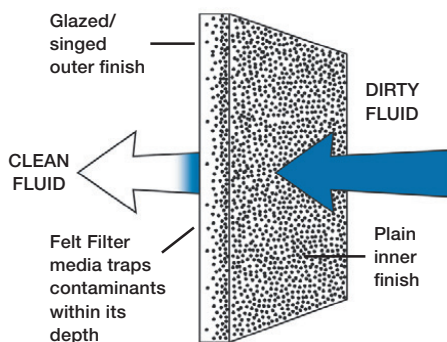
- Solid and gelatinous particle retention

- Silicone-free construction

- High dirt holding capacity

### Typical Applications

- Paints and Coats
- Inks
- Chemicals
- Process Water
- Beverage



### Operating Conditions:

Temperature (max).....80°C

Differential Pressure (max).....2 bar

### Welded Construction

Polypropylene filter bags are available in fully welded calendered versions with molded flange in sizes 1 and 2.

- No needle holes, thus increasing performance while performance while preventing leakage.
- Elimination of threads further reduces the risk of fiber loss

### Rating (μ)

- 1
- 5
- 10
- 25
- 50
- 100
- 200

### Ordering Information

| G | Media              | Rating (μ) | Cover          | Bag Dimensions |          |          | Connection               | Options                     |
|---|--------------------|------------|----------------|----------------|----------|----------|--------------------------|-----------------------------|
|   | PO = Polypropylene | 1-200      | P = Calendered | Size           | Diam.    | Length   | SS = Stainless Steel     | -1PK = Individual packaging |
|   |                    |            |                | 1              | 17,93 cm | 41,91 cm | P = Molded polypropylene | -AS = Fully sewn            |
|   |                    |            |                | 2              | 17,93 cm | 81,28 cm |                          |                             |
|   |                    |            |                | 3              | 10,46 cm | 20,32 cm |                          |                             |
|   |                    |            |                | 4              | 10,46 cm | 35,56 cm |                          |                             |

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DS\_GPO\_220421

## Felt Liquid Filter Bags Polyester

- Micron rating from 1 to 200 microns
- Available in all industry standard sizes
- High chemical compatibility
- High flow/low pressure drop media
- Standard handles on all bags
- Welded construction standard, sewn construction optional
- Stainless steel ring in standard, welded nylon flange in option

### Felt Bag Materials

Made with 100% synthetic polyester fibers. The ratio of filter diameter, weight and thickness makes this media an economical depth filtration solution. Polyester filter bags are calendered as standard to reduce fiber migration.

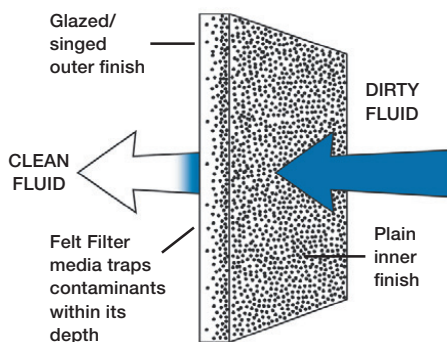
- Polyester materials comply with

Section 177.1520 of 21 CFR of the FDA and EC1935/2004 - EU 10/2011 regulations for food contact.

- The calendered finish of polyester reduces fiber loss
- Solid and gelatinous particle retention
- Silicone-free construction
- High dirt holding capacity

### Typical Applications

- Paints and Coats
- Inks
- Chemicals
- Process Water
- Beverage



### Operating Conditions:

**Temperature (max)**..... 149°C with

Stainless steel ring

**Differential Pressure (max)**..... 2 bar

### Welded Construction

Polyester filter bags are available in fully welded calendered versions with nylon molded flange in sizes 1 and 2.

- No needle holes, thus increasing performance while preventing leakage.
- Elimination of threads further reduces the risk of fiber loss

### Rating (μ)

- 1
- 5
- 10
- 25
- 50
- 100
- 200

### Ordering Information

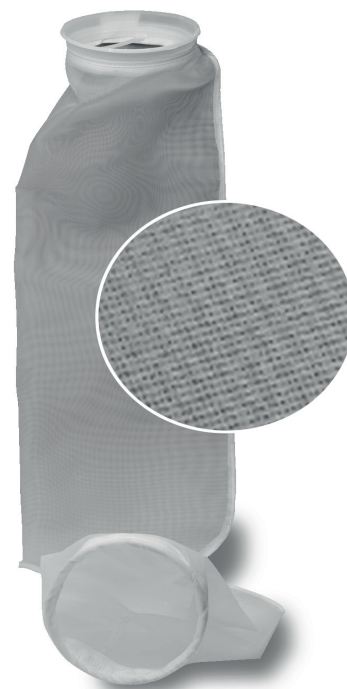
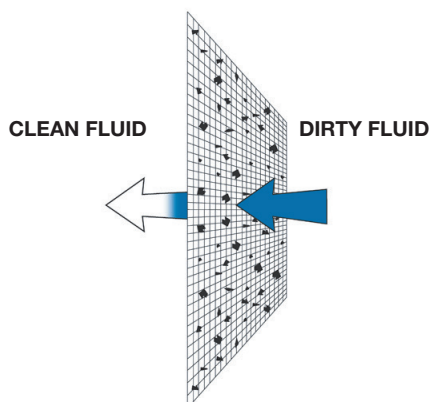
| G | Media          | Rating (μ) | Cover          | Bag Dimensions |          |          | Connections          | Options                     |
|---|----------------|------------|----------------|----------------|----------|----------|----------------------|-----------------------------|
|   | PE = Polyester | 1-200      | P = Calendered | Size           | Diam.    | Length   | SS = Stainless Steel | -1PK = Individual packaging |
|   |                |            |                | 1              | 17,93 cm | 41,91 cm | N = Molded Nylon     | -AS = Fully sewn            |
|   |                |            |                | 2              | 17,93 cm | 81,28 cm |                      |                             |
|   |                |            |                | 3              | 10,46 cm | 20,32 cm |                      |                             |
|   |                |            |                | 4              | 10,46 cm | 35,56 cm |                      |                             |

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DS\_GPE\_220421

## Nylon mono-Filament Bag Filter

- Micron rating from 10 to 1600 microns
- Available in all industry standard sizes
- High flow/low pressure drop media
- Surface filtration
- High chemical compatibility
- Sewn construction with bias tape
- Standard handles on all bags
- No fiber loss
- High filtration capacity
- Temperatures up to 93°C
- Silicone-free construction
- Economical solution for contaminant retention
- non-deformable
- Stainless steel sealing ring or nylon flange
- Complies with the provisions of Section 177.1520 FDA Form 21 and EC1935/ 2004 - EU 10/2011 for food contact.



### Bag filter types

The bag filters have a stainless steel ring as standard.  
They are sewn with a bias tape as standard.

### Operating Conditions:

**Temperature (max)**.....93°C

**Differential Pressure (max)**.....2bar

### Typical Applications

- Paints and coats
- Inks
- Chemicals
- Process Water

### Micron Ratings (μ)

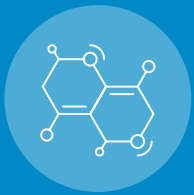
- 10
- 25
- 50
- 75
- 100
- 200
- 300
- 400
- 500
- 700
- 1000
- 1600

### Ordering Information

| G | Media                    | Rating (μ) | Cover     | Bag Dimensions |          |          | Connections               | Options                      |
|---|--------------------------|------------|-----------|----------------|----------|----------|---------------------------|------------------------------|
|   | NMO = Nylon monofilament | 10-1600    | P = Plain | Size           | Diam.    |          | N = Nylon Molded Flange   | - 1PK = Individual Packaging |
|   |                          |            |           | 1              | 17,93 cm | 41,91 cm | SS = Stainless Steel Ring |                              |
|   |                          |            |           | 2              | 17,93 cm | 81,28 cm |                           |                              |
|   |                          |            |           | 3              | 10,46 cm | 20,32 cm |                           |                              |
|   |                          |            |           | 4              | 10,46 cm | 35,56 cm |                           |                              |

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DS\_GNMO\_220208



## 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 9,5 bar service.

### Features

- Sanitary V-band closure operates easily and seals tightly
- Excellent cleanability with crevice-free welding and internal mirror electropolished (EP) finish, Ra <0.63µm
- 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 ASME BPE inlet and outlet and 1/2" TC ASME BPE 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)
- 9,5 bar pressure rating at maximum 100° C use
- T-style port design

### Alternate Seal Materials (Sold Separately)

- EPDM
- Viton® FKM

### Applications

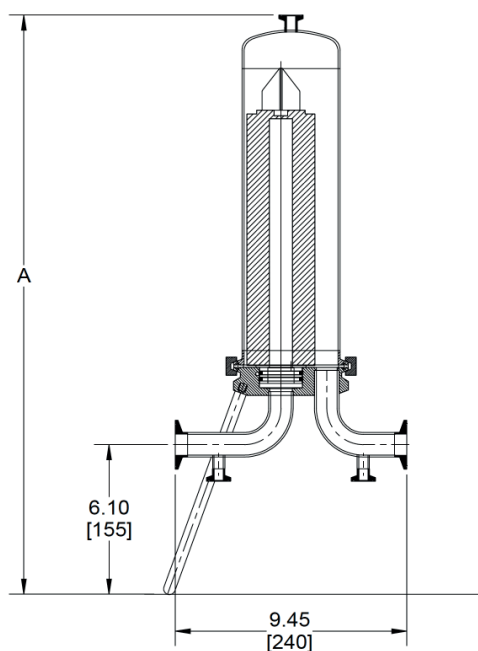
- High-purity water systems
- Active Pharmaceutical Ingredients
- Fine chemicals
- Wine, beer & spirits
- Blood & serum
- Cell culture media & diagnostics

### 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 ASME BPE | 2 = 222 Fin or Flat | 6 = 316  | 15 = 9,5 bar    | EP             |
|      | 1 = 10" |                     | 6 = 226 Fin or Flat |          |                 |                |
|      | 2 = 20" |                     |                     |          |                 |                |
|      | 3 = 30" |                     |                     |          |                 |                |
|      | 4 = 40" |                     |                     |          |                 |                |

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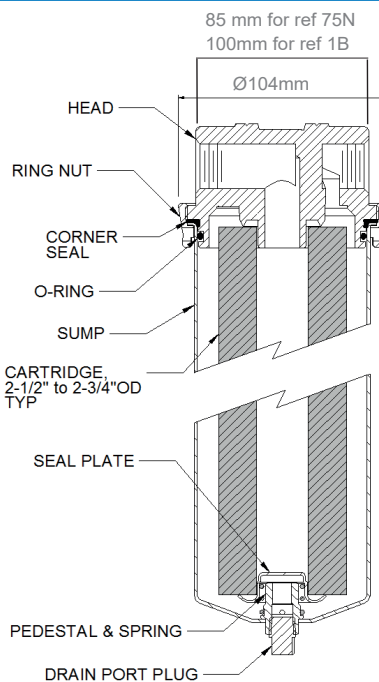
DS\_GSTL\_210601

## GFHD-Series Single-Cartridge Liquid Filter Vessels

The stainless steel GFHD-Series Single-Cartridge Vessels are suited for a wide variety of filtration applications. A ring-nut closure provides easy access for change-out. Equipment in accordance with PED 2014/68/UE, art4§3.

### Features

- DOE design features a spring-loaded bottom seat cup which allows for easy installation and positive seal
- Maximum temperature : 120°C
- Ring-nut allows for easy change-out (wrench pin is included as standard, spanner wrench is optional)
- 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
- Offered in DOE, 222/FLAT or 226/FLAT configurations
- Heavy-duty cast head with mounting bracket
- Dual closure seal (EPDM standard)
- Optional 1/8" NPT gauge ports drilled & tapped
- Available in 316 stainless steel



### Alternate Seal Materials (Sold Separately)

- Viton®\*
- Buna
- Teflon® Encapsulated Viton®\*

### Technical Specifications

| Filter Type | Type of Fluid (PED) | Max Pressure Allowed For Liquid Use | Max Pressure Allowed For Gas Use |
|-------------|---------------------|-------------------------------------|----------------------------------|
| GFHD105     | group 1             | 20 bar                              | 20 bar                           |
| GFHD11      |                     |                                     | 14 bar                           |
| GFHD12      |                     |                                     | 7 bar                            |
| GFHD13      |                     |                                     | 5 bar                            |
| GFHD105     | group 2             | 20 bar                              | 20 bar                           |
| GFHD11      |                     |                                     | 20 bar                           |
| GFHD12      |                     |                                     | 15 bar                           |
| GFHD13      |                     |                                     | 10 bar                           |



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           | 6 = 316 SS | 30 = 20 bar     | Blank = None<br><br>MC = NSF-61 |   | 25GP = Gauge Ports |
|       |         | 1B = 1" BSPP      |                   |            |                 |                                 |   |                    |
|       | 1 = 10" | 75N = 3/4" FNPT   | 2 = 222/FLAT      |            |                 |                                 |   |                    |
|       |         | 1B = 1" BSPP      |                   |            |                 |                                 |   |                    |
|       | 2 = 20" | 1B = 1" BSPP      | 6 = 226/FLAT      |            |                 |                                 |   |                    |
|       | 3 = 30" | 1B = 1" BSPP      |                   |            |                 |                                 |   |                    |

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DS\_GFHD\_EU230509

## GTCHB-Series Multi-Cartridge Band Clamp Liquid Filter Vessels

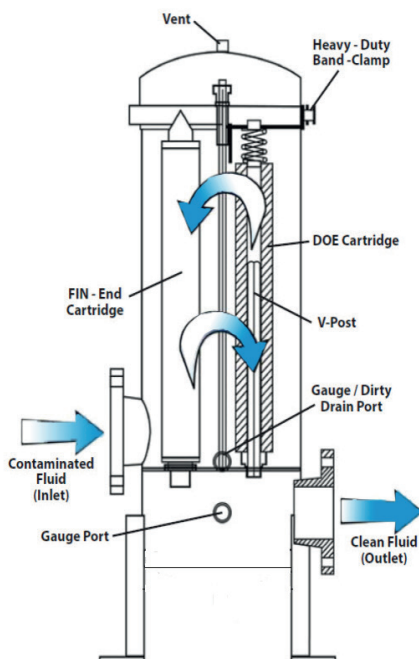
GTCHB-Series Multi-Cartridge Vessels are designed for industrial and commercial applications. Vessels are constructed of 304 or 316L stainless steel and accept DOE, 222/FLAT and 222/FIN end cartridges in 10, 20, 30 & 40 inch lengths. The GTCHB Series vessels comply with the European regulations and the PED 2014/68 / EU §4.3.

### Features

- Easy access, self-centering heavy-duty band-clamp closure
- Available in 304 and 316L stainless steel.
- 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
- Maximum operating pressure: 7 bar
- Fluid: liquid group 2 (non hazardous)
- Maximum service temperature: 100 °C

### Options

- 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.

### Ordering Information

| GTCHB | # of Cartridges | Length  | Inlet/Outlet Size          | Inlet/Outlet Style         | Outlet              | Material   | Pressure Rating | Surface Finish | NSF          |
|-------|-----------------|---------|----------------------------|----------------------------|---------------------|------------|-----------------|----------------|--------------|
|       | 4               | 1 = 10" | 2 = DN50/2"                | B = BSPT male              | 2 = Opposite Outlet | 4= 304L SS | 15 = 7 bar      | PC = Poly-coat | Blank = None |
|       | 5               | 2 = 20" |                            | D = RF EN<br>1092-1 Flange |                     |            |                 | MC = NSF-61    |              |
|       | 7               | 3 = 30" | 2 = DN50/2"<br>3 = DN80/3" |                            |                     |            |                 |                |              |
|       | 12              | 4 = 40" | 3 = DN80/3"                | D = RF EN<br>1092-1 Flange |                     |            |                 |                |              |
|       | 22              |         | 4 = DN100/4"               |                            |                     |            |                 |                |              |

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DS\_GTCHB\_190918

## GTCH-Series Multi-Cartridge Liquid Filter Vessels

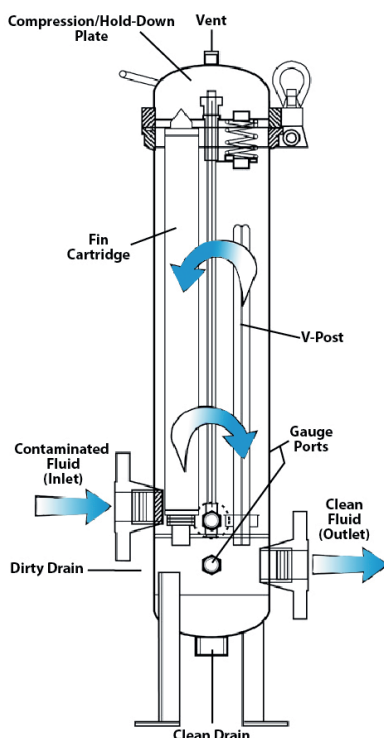
GTCH-Series Multi-Round Cartridge Vessels are designed for industrial and high purity applications. Vessels are constructed of 304 or 316L stainless steel and accept DOE, 222/FLAT and 222/FIN end cartridges in 10, 20, 30 & 40 inch lengths. The GTCH Series vessels comply with the European regulations and the PED 2014/68 / EU §4.3.

### Features

- 304 or 316L stainless steel construction options
- Maximum operating pressure: 10 bar
- Fluid: liquid group 2 (non hazardous)
- Maximum service temperature: 100 °C
- 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)
- Other temperature, pressure and fluid type available on request

### Options

- Electropolished Finish
- Sanitary Porting
- Alternate Seal Materials
  - EPDM (required for NSF-61)
  - Teflon® Encapsulated Viton®\*
  - Viton® \*
- NSF 61 requires certified EPDM gaskets, to order separately.



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 = DN25/1"       | B = BSPT female            | 1 = Bottom Outlet   | 4 = 304 SS  | 15 = 150 PSI @ 250°F | EP = Electropolished | Blank = None       | Blank = None |
|      | 5               | 2 = 20" | 1.5 = DN40/1,5"   | D = RF EN<br>1092-1 Flange | 2 = Opposite Outlet | 6 = 316L SS |                      | GB = Glass Bead      | U = ASME           | MC = NSF-61  |
|      | 7               | 3 = 30" | 2 = DN50/2"       |                            |                     |             |                      |                      | CE = CE Mark       |              |
|      | 12              | 4 = 40" | 3 = DN80/3"       |                            |                     |             |                      |                      |                    |              |
|      | 21              |         | 4 = DN100/4"      |                            |                     |             |                      |                      |                    |              |
|      | 36              |         | 6 = DN150/6"      |                            |                     |             |                      |                      |                    |              |
|      | 51              |         | 8 = DN200/8"      |                            |                     |             |                      |                      |                    |              |

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DS\_GTCH\_200909

## AFS1 -Series Sanitary Mono-Cartridge Vessels

Global Filter has specially designed mono cartridge filter housing for sterile filter applications. We can offer a range of high quality sanitary filter housings in stainless steel. The AFS-Series vessels have proven their quality in the pharmaceutical and beverage industries.

This filter can only be used for liquid or gas group 2 ( non hazardous)

### Filter for liquid or gas group 2



### Standard Specifications

- Design code: EN13445
- PED 2014/68/EU
- Operating pressure: -1 to 10 bar(g) at 40°C and -1 to 4bar (g) at 150°C
- All parts with fluid contact are stainless steel 316L
- Sum closure by V-Band clamp
- Three adjustable support legs
- Drain connections 1,5" clamp ASME BPE ( 1" if inlet/outlet tube requested is below 1,5") as standard but can be DIN 11851 or JIS/ISO 1.5S on request
- Vent connection 1,5" clamp ASME BPE as standard and DIN11851 on request
- Internally mechanically polished (Ra < 0.8 µm). Ra < 0.4µm on request
- Electropolishing (internal/external) on request
- FDA O-ring sealing: Silicone or other materials on-request ( EPDM, VITON, FEP)
- For non hazardous liquid or gas - group 2 (Hazardous liquid or gas group 1 on request )
- Comply with BfR recommendation for silicone gasket

### Typical Applications

- Filtration of beverage
- API
- Filtration of non hazardous fluids
- Fine chemicals

### Possible documentation on request

- Raw material certificate (3.1 following EN10204)
- Hydrotest certificate
- Complete Welding report
- Roughness certificate
- FDA Alimentary certificate

### Features

- Hygienic and compact designed filter housing
- Suitable for 1 filter cartridge
- Filter housing can be fully drained
- Suitable for length, 10", 20", 30" or 40" filter cartridges
- Externally mechanically polished
- Suitable for cartridges with end-cap configuration 222 or 226

### Ordering information

| AFS | # of Cartridges | Cartridge Lenth                          | Inlet/Outlet Size                 | Inlet /Outlet type                            | Drain Connections                               | Cartridge Style                                         |
|-----|-----------------|------------------------------------------|-----------------------------------|-----------------------------------------------|-------------------------------------------------|---------------------------------------------------------|
|     | 1               | 1 = 10"<br>2 = 20"<br>3 = 30"<br>4 = 40" | 1 = 1" /DN25<br>1.5 = 1,5" /DN40* | M = DIN 11851 male part<br>T = Clamp ASME BPE | 0 = No Drain<br><br>2 = Two Drains (clamp 1.5") | 7 = 226/Flat or 226/Fin<br><br>8* = 222/Flat or 222/Fin |
|     |                 |                                          | 0,75 = DN20*<br>1,25 = DN32*      | D = Flange EN1092-1                           |                                                 |                                                         |

\* : not standard configuration with extra cost

Codification Example :

AFS1-2-1T-2-7 : Filter with 1 cartridge lenth 20" inlet/outlet 1" type Clamp ASME BPE with 2 drain for 226/flat cartridge

DS\_AFS\_070823



## AFS3-8 -Series Sanitary Multi-Cartridge Vessels

Global Filter has specially designed multi cartridge filter housing for sterile filter applications. We can offer a range of high quality sanitary filter housings in stainless steel. The AFS-Series vessels have proven their quality in the pharmaceutical and beverage industries. This filter can only be used for liquid or gas group 2 ( non hazardous).

### Filter for liquid or gas group 2



### Standard Specifications

- Design code: EN13445
- PED 2014/68/EU
- Design pressure: -1 to 10 bar(g) at 40°C and -1 to 4bar (g) at 150°C
- All parts with fluid contact are stainless steel 316L
- Sum closure by V-Band clamp
- Three adjustable support legs
- Drain connections 1,5" clamp ASME BPE ( 1" if inlet/outlet tube requested is below 1,5") as standard but can be DIN 11851 or JIS/ISO 1.5S on request
- Internally mechanically polished (Ra < 0.8 µm). Ra < 0.4µm on request
- electropolishing (internal/external) on request
- FDA O-ring sealing: Silicone or other materials on-request ( EPDM, VITON, FEP)
- For non hazardous liquid or gas group 2 (Hazardous liquid or gas group 1 on request )
- Comply with BfR recommendation for silicone gasket

### Typical Applications

- Filtration of beverage
- API
- Filtration of non hazardous fluids
- Fine chemicals

### Possible documentation on request

- Raw material certificate (3.1 following EN10204)
- Hydrotest certificate
- Complete Welding report
- Roughness certificate
- Alimentary certificate

### Features

- Hygienic and compact designed filter housing
- Suitable for 3, 5 or 8 filter cartridges
- Filter housing can be fully drained
- Suitable for length, 20", 30" or 40" filter cartridges
- Externally mechanically polished
- Suitable for cartridges with end-cap configuration 222 or 226

### Ordering information

| AFS | # of Cartridges | Cartridge Lenth               | Inlet/Outlet Size                                                      | Inlet /Outlet type                            | Drain Connections | Cartridge Style             |
|-----|-----------------|-------------------------------|------------------------------------------------------------------------|-----------------------------------------------|-------------------|-----------------------------|
|     | 3               | 2 = 20"<br>3 = 30"<br>4 = 40" | 1.5 = 1.5"/DN40                                                        | M = DIN 11851 male part<br>T = Clamp ASME BPE | 0 = No Drain      | 7 = 226/Flat<br>or 226/Fin  |
|     |                 |                               | 1 = DN25*<br>1.25 = DN32*                                              | D = Flange EN1092-1                           |                   |                             |
|     | 5               | 2 = 20"<br>3 = 30"<br>4 = 40" | 1.5 = 1.5"/DN40*<br>2 = 2.0"/DN50                                      | M = DIN 11851 male part<br>T = Clamp ASME BPE |                   |                             |
|     |                 |                               | 1.25 = DN32*<br>1.5 = DN40*                                            | D = Flange EN1092-1                           |                   |                             |
|     | 8               | 2 = 20"<br>3 = 30"<br>4 = 40" | 1.5 = 1.5" /DN40*<br>2 = 2.0"/DN50<br>2.5 = 2.5"/DN65*<br>3 = 3"/DN80* | M = DIN 11851 male part<br>T = Clamp ASME BPE | 2 = Two Drains    | 8* = 222/Flat<br>or 222/Fin |
|     |                 |                               | 1.25 = DN32*<br>1.5 = DN40*<br>2 = DN50*<br>2.5 = DN65*                | D = Flange EN1092-1                           |                   |                             |

\* : not standard configuration with extra cost

Codification Example :

AFS5-3-2T-0-7 : vessel for 5 cartridges, lenth 30", inlet/outlet 2" Clamp ASME BPE, no drain, 226/Flat cartridge interface

DS\_AFS\_070823

## AFS12-30 -Series Sanitary Multi-Cartridge Vessels

Global Filter has specially designed multi cartridge filter housing for sterile filter applications.

We can offer a range of high quality sanitary filter housings in stainless steel. The AFS-Series vessels have proven their quality in the pharmaceutical and beverage industries. This filter can only be used for liquid or gas group 2 (non hazardous).

### Standard Specifications

- Design code: EN13445
- PED 2014/68/EU
- Design pressure: -1 to 10 bar(g) at 40°C and -1 to 4bar (g) at 150°C
- All parts with fluid contact are stainless steel 316L
- Sum closure by pressure vessel screwed clamps
- Three adjustable support legs
- Drain and vent connections 1,5" clamp ASME BPE as standard. DIN 11851 or JIS/ISO 1.5S on request
- Internally mechanically polished (Ra < 0.8 µm). Ra < 0.4µm on request
- Electropolishing (internal/external) on request
- FDA O-ring sealing: Silicone or other materials on-request (EPDM, VITON, FEP)
- For non hazardous liquid or gas group 2 (Hazardous liquid or gas group 1 on request)
- Comply with BfR recommendation for silicone gasket

### Typical Applications

- Filtration of beverage
- API
- Filtration of non hazardous fluids
- Fine chemicals

### Possible documentation on request

- Raw material certificate (3.1 following EN10204)
- Hydrotest certificate
- Complete Welding report
- Roughness certificate
- Alimentary certificate

### Features

- Hygienic and compact designed filter housing
- Suitable for 12, 18, 24 or 30 filter cartridges
- Filter housing can be fully drained
- Suitable for length, 20", 30" or 40" filter cartridges
- Externally mechanically polished
- Suitable for cartridges with end-cap configuration 222 or 226

### Filter for liquid or gas group 2



### Ordering information

| AFS | # of Cartridges | Cartridge Lenth               | Inlet/Outlet Size                                                  | Inlet /Outlet type                                                    | Drain Connections                                          | Cartridge Style                                                   |
|-----|-----------------|-------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------|
|     | 12              | 2 = 20"<br>3 = 30"<br>4 = 40" | 2 = 2"/DN50*<br>2.5 = 2.5"/DN65<br>3 = 3"/DN80*<br>4 = 4"/DN100*   | M = DIN 11851 male part<br>T = Clamp ASME BPE<br>D = Flange EN1092-1* | 0 = No Drain<br><br><br><br>2 = Two Drains<br>(clamp 1.5") | 7 = 226/Flat<br>or 226/Fin<br><br><br>8* = 222/Flat<br>or 222/Fin |
|     | 18              | 2 = 20"<br>3 = 30"<br>4 = 40" | 2.5 = 2.5"/DN65<br>3 = 3"/DN80*<br>4 = 4"/DN100*                   | M = DIN 11851 male part<br>T = Clamp ASME BPE                         |                                                            |                                                                   |
|     | 24              | 2 = 20"<br>3 = 30"<br>4 = 40" | 2 = DN50*<br>2.5 = DN65*<br>3 = DN80*<br>4 = DN100*                | D = Flange EN1092-1                                                   |                                                            |                                                                   |
|     | 30              | 2 = 20"<br>3 = 30"<br>4 = 40" | 2.5 = 2.5"/DN65<br>3 = 3"/DN80*<br>4 = 4"/DN100*                   | M = DIN 11851 male part<br>T = Clamp ASME BPE                         |                                                            |                                                                   |
|     |                 |                               | 2.5 = DN65*<br>3 = DN80*<br>4 = DN100*<br>5 = DN125*<br>6 = DN150* | D = Flange EN1092-1                                                   |                                                            |                                                                   |

\* : not standard configuration with extra cost

Codification Example : AFS24-3-2.5T-0-7 : vessel for 24 cartridges, lenth 30", inlet/outlet 2,5" Clamp ASME BPE, no drain, 226/Flat cartridge interface

DS\_AFS\_080823

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

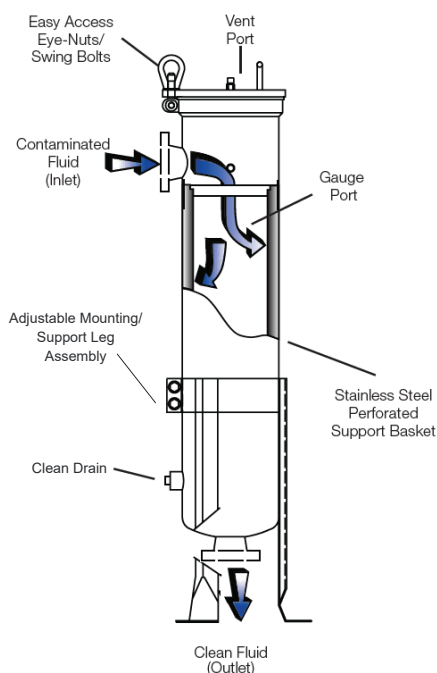
GBFV8-Series Stainless Steel & Carbon Steel Bag Vessels are designed to meet and/or exceed nearly all application requirements. The V-ring design provides a positive snap-fit to ensure against by-pass and deliver clean effluent. Our filters are, as standard, manufactured under PED 2014/68 / EU art. 4§3 and valid for the use of non-hazardous liquids up to a pressure of 10 bars. The use for higher pressure of dangerous liquids or gases is optional (PED 2014/68 / EU category I, II or III).

### Features

- BSPT or RF flange under EN 1092-1 for Inlet/outlet connections. All other type on specific demand
- Stainless steel or carbon steel construction with epoxy coated exterior support baskets (hole Ø 3mm as standard)
- Adjustable tripod mounting/support leg assemblies
- Easy-access eye-nut/swing-bolt closures with handle
- 304 or 316L stainless steel construction options uni-style (side & bottom outlet) offers increased piping flexibility
- Single o-ring seal (Buna-N standard). All other material possible on request.
- 10 bar 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 = DN50 or 2"    | B = FBSPT              | 1 = Bottom Outlet                      | C = Carbon Steel * | 15 = 10 bar @ 260°C | EC = Epoxy Coated |
|       | 30 = #2 Size | 3 = DN80 or 3"    | D = EN 1092-1RF flange | 2 = Opposite Side                      |                    |                     |                   |
|       |              |                   |                        | 3 = Bottom & Opposite (only for FBSPT) |                    |                     |                   |

### 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 = DN50 or 2"    | B = FBSPT              | 1 = Bottom Outlet                      | 4 = 304SS   | 15 = 10 bar @ 121°C | EP = Electropolished | Blank = None       | Blank = None |
|       | 30 = #2 Size | 3 = DN80 or 3"    | D = EN 1092-1RF flange | 2 = Opposite Side                      | 6 = 316SS L |                     | GB = Glass Bead      | U = ASME           | MC = NSF-61  |
|       |              |                   |                        | 3 = Bottom & Opposite (only for FBSPT) |             |                     |                      | CE Mark (SS only)  |              |

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\_GBFFV8\_22021

## 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. The GBFV82 Series vessels comply with the European regulations and the PED 2014/68 / EU §4.3.

### Features

- 304 or 316L stainless steel construction options
- Maximum operating pressure: 10 bar at 100°C (for non hazardous liquids)
- Snap-fit V-ring bag seal design
- Single o-ring seal (Buna standard)
- Two identical GBFV830 vessels working in tandem
- Adjustable tripod mounting/support leg assemblies
- High flow rates and loading capacity at low pressure drops
- Stainless steel support baskets (Ø 3mm hole as standard)
- Two easy-access eye-nut/swing-bolt closures with single handle
- RF and DIN Flanged inlet/outlet connections (same side and opposite side options available)
- ASME code



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.

### Options

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



### Flow Rate

| Model    | Bag Size | EFA (m²) | Max Flow Rate (m³/h)*    |
|----------|----------|----------|--------------------------|
| GBFV8230 | #2       | 1        | 50 if DN80 , 70 if DN100 |

\* 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       | NSF          |
|--------|--------------|-------------------|-----------------|-------------------|-------------|-----------------|----------------------|--------------|
|        | 30 = #2 Size | 3 = DN80          | DN = DIN flange | 2 = Opposite Side | 4 = 304 SS  | 15 = 10 bar     | EP = Electropolished | Blank = None |
|        |              | 4 = DN100         |                 | 5 = Same Side     | 6 = 316L SS |                 | GB = Glass Bead      | MC = NSF-61  |

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DS\_GB82\_221104

## GMBV-Series Multi-Bag Liquid Vessels

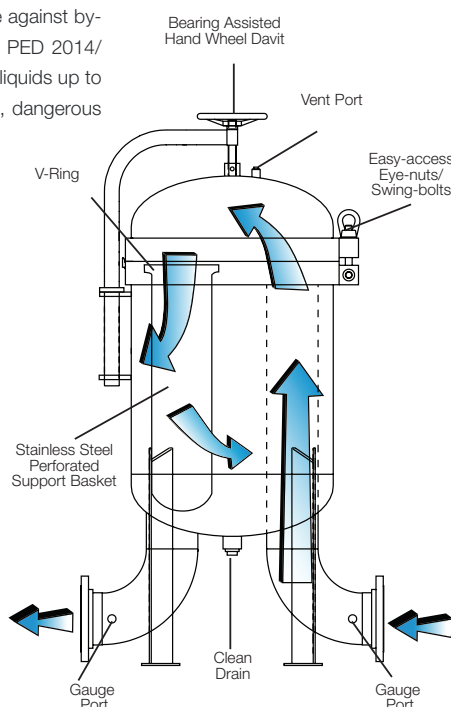
GMBV-Series Multi-Bag Vessels are designed for high flow and/or high contaminant load applications where clean effluent is critical. The V-ring design provides a positive snap-fit to ensure against bypass. Our filters are, as standard, manufactured under PED 2014/68 / EU art. 4§3 and valid for the use of non-hazardous liquids up to a pressure of 10 bars. The use of higher pressure, gas, dangerous liquids or higher temperature is possible on request.

### 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 perforated support baskets (Ø3mm holes as standard)
- Easy-access eye-nut/swing-bolt closure
- 304 or 316L stainless steel construction
- Snap-fit V-ring bag seal design
- 10 bar pressure rating
- Single o-ring seal (Buna-N standard)

### Options

- CE Mark
- Mesh-lined/perforated baskets
- 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.

### Flow Rate

| Model    | # of Bags | Bag Size | EFA (m <sup>2</sup> ) | Max Flow Rate (m <sup>3</sup> /h)* |
|----------|-----------|----------|-----------------------|------------------------------------|
| GMBV430  | 4         | #2       | 2                     | 90                                 |
| GMBV630  | 6         | #2       | 3                     | 205                                |
| GMBV830  | 8         | #2       | 4                     | 400                                |
| GMBV1230 | 12        | #2       | 6                     | 590                                |

\* 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/<br>Baskets | Basket<br>Depth | Inlet/Outlet Size | Inlet/Outlet       | Material   | Pressure Rating | Surface Finish  | ASME Code<br>Stamp/CE Mark | NSF          |
|------|-----------------------|-----------------|-------------------|--------------------|------------|-----------------|-----------------|----------------------------|--------------|
|      | 4                     | 30 = 30"        | 4 = 4"            | D = RF flange acc. | 4 = 304 SS | 15 = 10 bar     | GB = Glass Bead | Blank = None               | Blank = None |
|      | 6                     |                 | 6 = 6"            | EN1092-1           | 6 = 316 SS |                 |                 | CE = CE Mark               | MC = NSF-61  |
|      | 8                     |                 | 8 = 8"            | F = RF Flange      |            |                 |                 |                            |              |
|      | 12                    |                 |                   |                    |            |                 |                 |                            |              |

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DS\_GMBV\_221104



## GMBE-Series Stainless Multi-Bag Liquid Vessels

GMBE-Series Stainless 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. Our filters are, as standard, manufactured under PED 2014/68 / EU art. 4§3 and valid for the use of non-hazardous liquids up to a pressure of 10 bars. The use of higher pressure, gas, dangerous liquids or higher temperature is possible on request.

### Features

- 304, 316L Stainless Steel construction
- 10 bar pressure rating
- RF Flanged "inline" inlet/outlet connections
- Snap-fit V-ring bag seal design
- Stainless steel perforated support baskets (Ø 3mm as 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® \*


 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 | EFA (m²) | Max Flow Rate (m³/h)* |
|----------|-----------|----------|----------|-----------------------|
| GMBE430  | 4         | #2       | 2        | 90                    |
| GMBE630  | 6         | #2       | 3        | 205                   |
| GMBE830  | 8         | #2       | 4        | 400                   |
| GMBE1230 | 12        | #2       | 6        | 590                   |

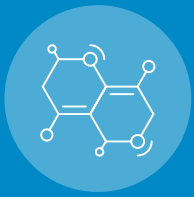
\* Is the maximum flow rate recommended through the vessel without a filter bag installed (using water). Any increase in viscosity and/or the installation of filter bags will reduce these flow rates significantly. Please refer to the appropriate bag filter sizing chart or consult with your Global Filter 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"            | D = RF flange acc EN1092-1 | 4 = 304 SS  | 15 = 10 bar     | GB = Glass Bead (SS Only) | Blank = None |
|      | 6                 |              | 6 = 6"            |                            | 6 = 316L SS |                 |                           |              |
|      | 8                 |              | 8 = 8"            |                            |             |                 |                           |              |
|      | 12                |              |                   |                            |             |                 |                           |              |

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DS\_GBFV-GMBE\_221104



## SPECIALTY PRODUCTS

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

## GCCB+ Series - Carbon

Global Filter's GCCB+ Series carbon cartridges are designed to remove taste, odor, chlorine, color and unwanted organic impurities from drinking water and other aqueous solutions.

The high porosity, fixed matrix carbon maximizes adsorption capacity while maintaining excellent sediment removal. Manufactured entirely with materials suitable for food/water use, Global Filter's activ carbon filter cartridges are ideal for a wide range of food and industrial applications. Ideal for use in applications with low initial delta P. The GCCB+ cartridges are available in standard (2.75") diameter in lengths ranging from 9.75" to 40" .

**Recommended Initial Pressure Drop**  
 (per 9"3/4): 0.028 bar at 3.8L/min (240L/h).

**Recommended flow rate:**  
 250 L/h max /9" 3/4

### Typical Applications

- Drinking water
- Plating solutions
- Fine chemicals
- Industrial fluids



### Construction Materials

#### Medias

G-CCB+ = Coconut Carbon Block

**Connections**..... Polypropylene

**Outer Wrap**..... Polypropylene

**Outer Netting**..... Polypropylene

**Gaskets**.....EPDM

### Dimensions

**Length**.....9.75" (247mm) till 40" (1016mm)

**External Diameter** .....Standard: 2.75"(68mm)

### Operating Conditions

**Max recommended ΔP** .....2.4 bar

**Temperature (max)** .....52°C

**Recommended flow rate**....250L/h max / 9"3/4

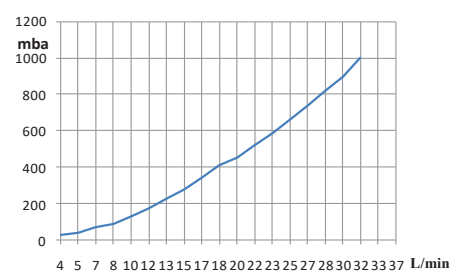
### Toxicity

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

### NSF Compliance

GCCB+ elements comply with NSF61 and EWG80/778 standards on the conformity of materials for food contact.

### Flow Rate vs Pressure Drop



### Ordering Information

| G | Type | Rating (μ) | Diameter                 | Efficiency  | Length       | - | Connection          | O-ring   |
|---|------|------------|--------------------------|-------------|--------------|---|---------------------|----------|
|   | CCB+ | 5.0        | Blank = Standard (2.75") | N = Nominal | 9.75 = 240mm |   | 2 = DOE flat gasket | E = EPDM |
|   |      |            |                          |             | 10 = 254mm   |   |                     |          |
|   |      |            |                          |             | 20 = 508mm   |   |                     |          |
|   |      |            |                          |             | 30 = 762mm   |   |                     |          |
|   |      |            |                          |             | 40 = 1016mm  |   |                     |          |

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DS\_Global Carbon+\_130123

## GSS-Series Cylindrical & Pleated Stainless Steel

Global Filter's GSS-Series cylindrical and pleated stainless steel filter elements offer 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 a 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

<sup>1</sup> 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 <sup>1</sup> |                     |
|   |       | 150.0      |              |                |             |                                       |                     |
|   |       | 200.0      |              |                |             |                                       |                     |

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

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DS\_GSS\_220502



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.







# GLOBAL FILTER

## Filtration Group®



### ADDRESS

#### Global Filter

Le Mas d'Auriac, D237  
84100 Orange  
FRANCE



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Filtering The World