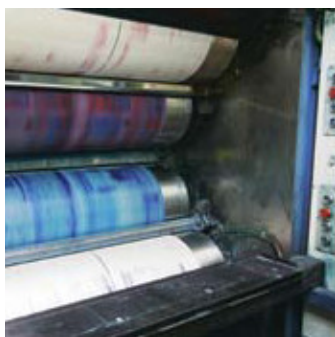




aerospace  
climate control  
electromechanical  
**filtration**  
fluid & gas handling  
hydraulics  
pneumatics  
process control  
sealing & shielding



# Process Filtration

*Filtration Products For Industrial Applications*



ENGINEERING **YOUR** SUCCESS.

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## PARKER

Leader in process filtration, separation and purification

*Parker process filtration products set the highest standards for filtrate quality, product reliability and cost-effective use. Parker products provide optimal solutions for food and beverage applications. Parker products are available in lengths from 4 to 40 inches and configurations to retrofit all commonly installed filter housings. Products are offered in membrane and depth media with a full range of cartridges, mini-cartridges and capsules to meet production-, pilot- and laboratory-scale requirements. Removal ratings from 0.02 to >800 µm are available. All Parker products are backed by in-depth Technical Support, fast order turnaround and factory-trained local Distributors.*



### APPLICATIONS

Parker industrial filtration products are optimized for:

- Chemicals*
- Inks*
- Paints*
- Coatings*
- DI Water*
- R.O. Prefiltration*
- Water Injection*
- Magnetic Media*
- Petrochemicals*
- Specialty Chemicals*
- Bacteria Removal*
- Prefiltration*
- Venting*
- Steam Filtration*
- Gel Removal*
- Haze Removal*
- Sediment Removal*
- Clarification*

### QUALITY MANAGEMENT AND ISO 9001

*Quality is of paramount importance to Parker. All products are manufactured under controlled environmental conditions and are subjected to demanding programs of quality assurance.*

Parker is ISO 9001 Certified.

# INDUSTRIAL FILTRATION:

## A Core Expertise

*Parker Process Advanced Filtration serves a vast range of applications in the inks, paints and coatings industries, as well as in the chemicals, petrochemicals and industries. Our top-performing products are backed by a global network of factory-trained distributors and technical support teams.*

*Through our Technical, R&D and Customer Teams we offer a wide range of services and to ensure total customer satisfaction.*

### TECHNICAL CAPABILITIES

*Our Technical Support Group (TSG) is dedicated to the needs of industrial filtration users worldwide. We have an extensive range of state-of-the art analytical instruments and a highly qualified team of scientists and engineers generating innovative solutions to a wide variety of filtration needs. We strive to optimize our customers' filtration applications by offering full technical support that includes:*

- *process failure analyses*
- *contamination analyses*
- *process and cost improvement audits*
- *on-site testing services*

### RESEARCH AND DEVELOPMENT

*Our R&D teams are constantly working to innovate new products and discover technologies that will improve the performance of process filtration, and keep us at the forefront of process filtration technology.*

### CUSTOMER SERVICE

*An experienced team of professionals dedicated to respond quickly and comprehensively to orders – for both standard and customized products – and ensure their on-time delivery worldwide.*



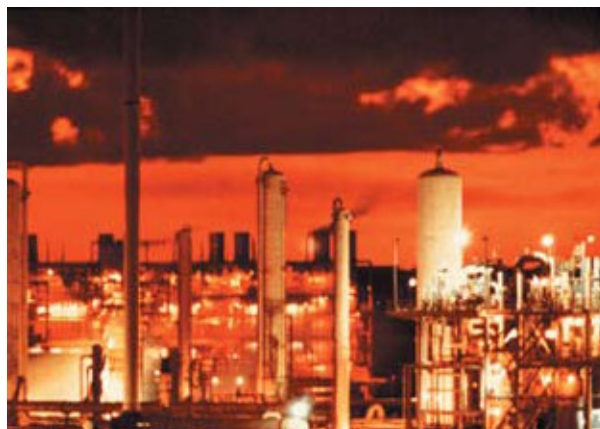
COMMITMENT



# PROCESS FILTRATION PRODUCTS

Tailored to Industrial Applications

*Parker manufactures filtration products for a wide variety of process industry applications. Parker's product line includes membrane cartridges, pleated cartridges, vessels, high efficiency filter bags, melt-blown cartridges, stainless steel media and more. Process filter media provide contaminant removal from 0.04 to 840 micron, with efficiencies as high as 99.9+ percent.*



## MEMBRANE FILTERS

**FLUOROFLOW**  
PTFE

**PROFLOW II G**  
PTFE

**CLARIFLOW G**  
Polyethersulfone

**CLARIFLOW WS**  
Polyethersulfone



## PLEATED FILTERS

**ABSO-MATE™ PAB**  
Polypropylene

**POLY-MATE™ PLUS PMP**  
Polypropylene

**POLY-MATE™ PM/PXD**  
Polypropylene

**CLARIPOR™ CP**  
Polypropylene

**GLASS-MATE™ PMG**  
Microfiber Glass

**FULFLO® PCC**  
Cellulosic/Phenolic Resin

**FULFLO® 336 PLEATED**  
Cellulosic and Polypropylene

**FULFLO® 1401**  
Cellulosic and Polypropylene

## LARGE DIAMETER PLEATED FILTERS

**MEGAFLOW™ MFN**  
Cellulosic and Polypropylene

**MEGAFLOW™ + MFA**  
Cellulosic and Polypropylene

**MAXGUARD™ MX**  
Cellulosic / Polypropylene / Nomex

**PARMAX™ RCP, RMG**  
Glass media or polypropylene structure

**FLO-PAC® FP**  
Cellulosic

**FLO-PAC® + FPE**  
Cellulosic

## MELT BLOWN

**MEGABOND PLUS™ MBP**  
Polypropylene

**AVASAN™ AVS**  
Polypropylene

**DURABOND™ DBC**  
Polyolefin

**ECOBOND™ EBC**  
Polypropylene

## RESIN BONDED

**PROBOND™ PRO**  
Phenolic Resin/Acrylic fiber

## WOUND DEPTH

### *HONEYCOMB™ HFT*

*Various Media*

### *ULTRAFINE HFT*

*Cotton and Polypropylene*

### *FULFLO® XTL*

*Cotton and Polypropylene*

### *FULFLO® SWC*

*Cotton and Polypropylene*

## FILTER BAG/STRAINER

### *FULFLO® BAG FILTERS*

*Various Materials*

### *XLH (HIGH EFFICIENCY BAGS)*

*Polypropylene*

### *FULFLO® BASKET STRAINERS*

*316 Stainless steel*

### *FULFLO® COAXIAL RETAINER BASKET*

*316 Stainless steel*

## SORBENT CARTRIDGE SERIES

### *FULFLO® TRUBIND 300, 400, 700*

*Polymeric Media*

### *FULFLO® ACTIVATED CARBON*

*Activated Carbon*

## METALIC ELEMENT SERIES

### *FULFLO® METALLIC*

*Pleated & Cylindrical 304 SS & 316 SS*

## HOUSINGS

*Parker ASME code and non-code filter vessels are available in a variety of configurations for a broad range of liquid, compressed air and gas applications.*

## SINGLE CARTRIDGE HOUSINGS

### *FULFLO® B*

*Carbon Steel*

### *FULFLO® BSSB*

*316 Stainless*

### *FULFLO® 4.5 C*

*Carbon, 316 Stainless*

### *FULFLO® SSTC*

*316 Stainless*

### *FULFLO® M*

*316 Stainless*

### *FULFLO® LT*

*SAN/Polypropylene*

### *FULFLO® NP*

*Natural Polypropylene*

## MULTI-CARTRIDGE HOUSINGS

### *FULFLO® WH*

*304 & 316L Stainless*

### *FULFLO® CH5*

*Carbon Steel, 304 Stainless*

### *FULFLO® SF*

*Carbon Steel, 304 & 316L Stainless*

### *FULFLO® HT*

*Carbon Steel*

### *FULFLO® S*

*Carbon Steel, 304 & 316L Stainless*

### *FULFLO® MP*

*304L & 316L Stainless*

### *FULFLO® MEGAFLOW*

*Carbon Steel, 304 & 316L Stainless*

### *FULFLO® FE*

*Carbon Steel, 304L & 316L Stainless*

### *FULFLO® FP*

*Carbon Steel & 304L Stainless*

### *FULFLO® CPM*

*Carbon Steel*

### *FULFLO® P*

*Carbon Steel*

## BAG FILTER HOUSINGS

### *FULFLO® SB*

*Carbon Steel, 304 & 316L Stainless*

### *FULFLO® FB*

*Carbon Steel, 304L & 316L Stainless*

### *FULFLO® CB*

*Carbon Steel & 304 Stainless*

### **Always at Our Customers' Service**

*Parker filtration distributors provide local stock and technical design help including 24-hour emergency service. They are supported by our "ever-ready" manufacturing teams. So, if you need technical literature or application support, please call 1-800-C-Parker for the name and location of your nearest Parker distributor.*



# PROCESS FILTRATION PRODUCTS

Tailored to Industrial Applications

| Product line                          | Filter Ratings (microns) | Housings Available | Typical Applications   |
|---------------------------------------|--------------------------|--------------------|--|
| <b>MEMBRANE FILTERS</b>               |                          |                    |  |
| FLUOROFLOW                            | 0.05 to 1                | Yes                | <ul style="list-style-type: none"> <li>High purity aggressive chemicals</li> </ul>   |
| PROFLOW II G                          | 0.05 to 1                | Yes                | <ul style="list-style-type: none"> <li>UHP - chemicals, solvents, rinse baths and gases</li> </ul>   |
| CLARIFLOW G                           | 0.04 to 0.65             | Yes                | <ul style="list-style-type: none"> <li>Specialty chemicals</li> <li>UHP water</li> </ul>   |
| CLARIFLOW WS                          | 0.04 to 0.65             | Yes                | <ul style="list-style-type: none"> <li>Pre-R.O. and post-R.O.</li> </ul>   |
| <b>PLEATED FILTERS</b>                |                          |                    |  |
| ABSO-MATE™ PAB                        | 0.2 to 70                | Yes                | <ul style="list-style-type: none"> <li>Membrane prefiltration chemicals</li> <li>Waste water</li> </ul>  |
| POLY-MATE™ PLUS PMP                   | 0.25 to 100              | Yes                | <ul style="list-style-type: none"> <li>Chemicals, magnetic media, photographic, electronics</li> <li>DI water</li> <li>Process water</li> </ul>  |
| POLY-MATE™ PM/PXD                     | 0.5 to 60                | Yes                | <ul style="list-style-type: none"> <li>Photographic</li> <li>High-tech coatings</li> <li>DI water and R.O. membrane prefiltration</li> <li>Process water, wastewater and disposal wells</li> </ul> |
| CLARIPOR™ CP                          | 0.5 to 90                | Yes                | <ul style="list-style-type: none"> <li>Coatings, inkjet inks</li> <li>Specialty chemicals</li> </ul>   |
| GLASS-MATE™ PMG                       | 0.45 to 40               | Yes                | <ul style="list-style-type: none"> <li>R.O. prefiltration</li> <li>Membrane prefiltration</li> <li>Critical lubricating oils and oil field completion fluids</li> </ul>                            |
| FULFLO® PCC                           | 2 to 60                  | Yes                | <ul style="list-style-type: none"> <li>Chemicals and oil field completion fluids</li> <li>Metal treatment</li> <li>Petroleum and process gases</li> <li>Coatings</li> <li>Process water</li> </ul> |
| FULFLO® 336 PLEATED                   | 3 to 150                 | No                 | <ul style="list-style-type: none"> <li>Petrochemicals, refineries &amp; oil fields, amines, glycols, produced water</li> </ul>   |
| FULFLO® 1401                          | 2 to 100                 | No                 | <ul style="list-style-type: none"> <li>Water injection</li> <li>Chemical processes</li> <li>Hydrocarbons</li> <li>Solvents</li> </ul>  |
| FLO-PAC® FP                           | 0.5 to 60                | Yes                | <ul style="list-style-type: none"> <li>Hydraulic and lubricating oils</li> <li>Coolants - water-soluble, fuels and non-food-grade liquids</li> </ul>   |
| FLO-PAC®+ FPE                         | 0.5 to 60                | Yes                | <ul style="list-style-type: none"> <li>Glycols, amines, esters, ketones, aromatic &amp; aliphatic hydrocarbons, halogenated hydrocarbons</li> </ul>  |
| <b>LARGE DIAMETER PLEATED FILTERS</b> |                          |                    |  |
| MEGAFLOW™ MFN                         | 0.5 to 10                | Yes                | <ul style="list-style-type: none"> <li>DI Water</li> <li>Chemical processing</li> <li>High-tech coatings</li> </ul>  |
| MEGAFLOW™+ MFA                        | 1 to 70<br>140, 150      | Yes                | <ul style="list-style-type: none"> <li>Potable water</li> <li>Coolants</li> </ul>  |
| MAXGUARD™ MX                          | 0.5 to 100               | No                 | <ul style="list-style-type: none"> <li>Oil Field - deep well injection, produced water</li> </ul>  |
| PARMAX™ RCP, RMG                      | 1 to 90                  | Yes                | <ul style="list-style-type: none"> <li>Specialty chemicals</li> <li>Process Water</li> </ul>   |

| Product line                    | Filter ratings (microns) | Available Housings | Typical applications   |
|---------------------------------|--------------------------|--------------------|--|
| <b>MELT BLOWN</b>               |                          |                    |  |
| MEGABOND® PLUS MBP              | 1 to 120                 | Yes                | <ul style="list-style-type: none"> <li>Chemical processing</li> <li>DI water</li> <li>Coatings</li> </ul>  |
| AVASAN™ AVS                     | 1 to 75                  | Yes                | <ul style="list-style-type: none"> <li>DI and process water</li> <li>R.O. prefiltration</li> </ul>   |
| DURABOND® DBC                   | 1 to 100                 | Yes                | <ul style="list-style-type: none"> <li>Chemical processing</li> <li>Magnetic and industrial coatings</li> <li>R.O. prefiltration, DI water and organic solvents</li> </ul>                                 |
| ECOBOND® EBC                    | 1 to 50                  | Yes                | <ul style="list-style-type: none"> <li>Chemical processing</li> <li>Magnetic and industrial coatings</li> <li>R.O. prefiltration, DI water and organic solvents</li> <li>Oil field applications</li> </ul> |
| <b>RESIN BONDED</b>             |                          |                    |  |
| PROBOND® PRO                    | 2 to 150                 | Yes                | <ul style="list-style-type: none"> <li>Inks and paints</li> <li>Viscous fluids - adhesives, resins and emulsions, plasticizers</li> </ul>  |
| <b>WOUND DEPTH</b>              |                          |                    |  |
| HONEYCOMB® HFT                  | 1 to 150                 | Yes                | <ul style="list-style-type: none"> <li>Organic acids and solvents, petroleum oils, prefilter for membranes, concentrated and diluted alkalies, water, chemical processes</li> </ul>                        |
| ULTRAFINE® HFT                  | 0.5                      | Yes                | <ul style="list-style-type: none"> <li>Organic acids and solvents, petroleum oils, prefilter for membranes, concentrated and diluted alkalies, water, chemical processes</li> </ul>                        |
| XTL™                            | 1 to 30                  | Yes                | <ul style="list-style-type: none"> <li>Chemical processes</li> <li>R.O. prefiltration and process water</li> <li>Lubricants</li> <li>Organic solvents and amines</li> </ul>                                |
| SWC®                            | 1 to 100                 | Yes                | <ul style="list-style-type: none"> <li>Organic Acids and Solvents</li> <li>Petroleum Oils</li> <li>Prefilter for Membranes - concentrated and diluted alkalies, water and chemical processes</li> </ul>    |
| <b>FILTER BAG MEDIA</b>         |                          |                    |  |
| FULFLO® FILTER BAGS             | 1 to 800                 | Yes                | <ul style="list-style-type: none"> <li>Paints, inks and coatings</li> <li>Bulk chemicals and resins</li> <li>Prefilter to other cartridges</li> </ul>  |
| XLH                             | 0.5 to 25                | Yes                | <ul style="list-style-type: none"> <li>Paints, inks and coatings</li> <li>Adhesives and resins</li> <li>Bulk chemicals</li> <li>Prefilter to other cartridges</li> </ul>                                   |
| FULFLO® BASKET STRAINERS        | 20 to 100 Mesh           | Yes                | <ul style="list-style-type: none"> <li>Clarification at high pressure, temperature, or with high-viscosity fluids</li> <li>Filtration of steam and aggressive gases</li> </ul>                             |
| FULFLO® COAXIAL RETAINER BASKET | N/A                      | Yes                | <ul style="list-style-type: none"> <li>Clarification at high pressure, temperature, or with high-viscosity fluids</li> <li>Filtration of steam and aggressive gases</li> </ul>                             |
| <b>CARTRIDGE SERIES</b>         |                          |                    |  |
| TRUBIND 300, 400, 700           | Trace Oil Absorbent      | Yes                | <ul style="list-style-type: none"> <li>Removes trace oil from water</li> </ul>   |
| FULFLO® ACTIVATED CARBON        | 5 micron prefilter       | Yes                | <ul style="list-style-type: none"> <li>Chlorine removal</li> <li>Organics removal</li> </ul>   |
| <b>METALIC ELEMENT SERIES</b>   |                          |                    |  |
| FULFLO® METALLIC                | 2 to 840                 | Yes                | High-temperature liquids and steam   |

Specifications are subject to change without notification.  
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Indus line Rev A 6/07

# PROCESS FILTRATION PRODUCTS

## Solutions for Inks, Paints and Coatings

Parker provides high-technology filtration products and services to the inks and industrial coatings market. The coatings industry produces high-viscosity mixtures of resins, solvents, pigments and other additives that provide specific properties to the end product. Proper blending, mixing and dispersion are necessary for quality coatings. Filtration of these fluids is key to removing gels, agglomerates and other contaminants to assure the desired coating properties. An effective filter must not affect adhesion, color, grind specification or dispersion of the coating. Many coatings require filters that "classify" or allow desirable particles to remain, while removing undesirable ones. Parker filters perform these functions. They contain no silicone or other material that can adversely affect adhesion of coatings.

Parker supplies the industrial coatings market with the best filtration solutions at the lowest cost of filter ownership available anywhere. Parker filters also help ink manufacturers maintain pigment concentration and color, by removing contaminants and ensuring that grind standards are met.



### MEMBRANE FILTERS

CLARIFLOW G  
Polyethersulfone

### PLEATED FILTERS

ABSO-MATE™ PAB  
Polypropylene

POLY-MATE™ PM/PXD  
Polypropylene

GLASS-MATE™ PMG  
Microfiber glass

CLARIPOR™ CP  
Polypropylene

POLY-MATE™ PLUS PMP  
Polypropylene

### WOUND DEPTH, RESIN BONDED MELT BLOWN

MEGABOND PLUS™ MBP  
Polypropylene

AVASAN™ AVS  
Polypropylene

DURABOND™ DBC  
Polyolefin

ECOBOND™ EBC  
Polypropylene

PROBOND™ PRO  
Phenolic Resin/Acrylic fiber

HFT WOUND  
Various materials

### FILTER BAG/ STRAINER

FULFLO® BASKET STRAINER  
316 Stainless Steel

FULFLO® FILTER Bags  
Various Materials

XLH - HIGH EFFICIENCY BAG  
Polypropylene

### SINGLE-CARTRIDGE HOUSINGS

B SERIES  
Carbon Steel

BSSB Series  
316 Stainless

4, 5 C Series  
Carbon Steel, 316 Stainless

SSTC Series  
316 Stainless

M Series  
Carbon Steel, 316 Stainless

### MULTI-CARTRIDGE HOUSINGS

FULFLO® WH  
304 & 316L Stainless

FULFLO® SF  
Carbon Steel, 304 & 316L Stainless

FULFLO® S  
Carbon Steel, 304 & 316L Stainless

FULFLO® FE  
Carbon Steel, 304 & 316L Stainless

FULFLO® FP  
Carbon Steel, & 304L Stainless

### BAG FILTER HOUSINGS

FULFLO® SB  
Carbon Steel, 304 & 316L Stainless

FULFLO® FCB  
Carbon Steel & 304 Stainless

FULFLO® FB  
Carbon Steel, 304 & 316L Stainless

# PROCESS FILTRATION PRODUCTS

Solutions for Inks, Paints and Coatings

| Product line                | Materials   | Filter ratings (microns) | Available Housings | Typical applications   |
|-----------------------------|---|--------------------------|--------------------|--|
| <b>MEMBRANE FILTERS</b>     |   |                          |                    |  |
| CLARIFLOW G                 | Polyethersulfone  | 0.04 to 0.1              | Yes                | <ul style="list-style-type: none"> <li>Final filtration</li> <li>Ink jet inks</li> </ul>   |
| <b>PLEATED FILTERS</b>      |   |                          |                    |  |
| ABSO-MATE™ PAB              | Polypropylene   | 0.2 to 70                | Yes                | <ul style="list-style-type: none"> <li>Inks and paints</li> <li>Resins and emulsions</li> <li>Plasticizers</li> </ul>                      |
| POLY-MATE™ PM/PXD           | Polypropylene   | 0.5 to 60                | Yes                | <ul style="list-style-type: none"> <li>Inks and paints</li> <li>Resins and emulsions</li> <li>Plasticizers</li> </ul>                      |
| GLASS-MATE™ PMG             | Microfiber glass  | 0.45 to 40               | Yes                | <ul style="list-style-type: none"> <li>Inks and paints</li> <li>Resins and emulsions</li> <li>Plasticizers</li> </ul>                      |
| CLARIPOR™ CP                | Polypropylene   | 0.5 to 90                | Yes                | <ul style="list-style-type: none"> <li>High tech optical coatings</li> </ul>   |
| POLY-MATE™ PLUS PMP         | Polypropylene   | 0.25 to 100              | Yes                | <ul style="list-style-type: none"> <li>High-tech coatings</li> <li>Photographic chemicals</li> </ul>                                       |
| <b>DEPTH FILTERS</b>        |   |                          |                    |  |
| MEGABOND PLUS™ MBP          | Melt-Blown Polypropylene (Absolute-Rated)                                     | 1 to 120                 | Yes                | <ul style="list-style-type: none"> <li>High-tech optical coating</li> </ul>  |
| AVASAN™ AVS                 | Melt-Blown Polypropylene  | 1 to 75                  | Yes                | <ul style="list-style-type: none"> <li>Industrial coatings</li> </ul>  |
| DURABOND™ DBC               | Bonded Polyolefin   | 1 to 100                 | Yes                | <ul style="list-style-type: none"> <li>Industrial coatings</li> </ul>  |
| ECOBOND™ EBC                | Melt-Blown Polypropylene  | 1 to 50                  | Yes                | <ul style="list-style-type: none"> <li>Industrial coatings</li> </ul>  |
| PROBOND™ PRO                | Resin Bonded Phenolic/ Acrylic Fiber  | 2 to 150                 | Yes                | <ul style="list-style-type: none"> <li>Inks and paints</li> <li>Viscous fluids - adhesives, resins, emulsions, and plasticizers</li> </ul> |
| <b>FILTER BAG/ STRAINER</b> |   |                          |                    |  |
| FULFLC® BASKET STRAINER     | 316 Stainless   | 20 to 100 mesh           | Yes                | <ul style="list-style-type: none"> <li>Coatings</li> <li>Solvents</li> </ul>   |
| FULFLC® FILTER BAG          | Polyester, Nomex, Polypropylene, Multi-filament Polyester, Monofilament Nylon | 1 to 800                 | Yes                | <ul style="list-style-type: none"> <li>Coatings</li> <li>Paints</li> </ul>   |
| XLH - HIGH EFFICIENCY BAG   | Polypropylene   | 0.5 to 25                | Yes                | <ul style="list-style-type: none"> <li>Coatings</li> <li>Paints</li> </ul>   |

Specifications are subject to change without notification.  
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## Membrane Filter Cartridge Series





## Fluoroflow® Cartridges

### All-fluoropolymer cartridge for effective filtration of aggressive chemicals

Fluoroflow® pleated filter cartridges feature an all-fluoropolymer construction; this provides the highest chemical resistance when filtering acids, bases and solvents. Fluoroflow® cartridges fit standard filter housings and are available in a variety of filter ratings, lengths and end-fittings for maximum versatility. Fluoroflow® cartridges are available flushed with UPW to minimize extractables and wet-packed to eliminate the need for on-site wetting, to fit your needs.

The Fluorflow Cartridge is available in 0.05, 0.1, 0.2, 0.45, 1 and 100µm pore sizes.



### Benefits

- High chemical compatibility maximizes process capability
- Wet-packed option eliminates lengthy wetting procedure and minimizes equipment downtime
- Biosafe in accordance with USP Class VI 121°C Plastics Test

### Applications

- Aggressive chemicals and process fluids at temperatures up to 150°C
- Ozonated and/or hot UPW

Specifications

Materials of Construction

100% Fluoropolymer construction

Effective Filtration Area

6.8ft² (0.63m²) per nominal 10" (250mm) cartridge

Metals Extractables

<20ppb (total) in a 10% HNO3 extraction of 1.5 liters for 24 hours at ambient temperature

Maximum Differential Pressure

Forward:  
80psid (5.5bar) @ 75°F (24°C)  
55psid (3.8bar) @ 167°F (75°C)  
30psid (2.0bar) @ 257°F (125°C)  
15psid (1.0bar) @ 300°F (150°C)  
Reverse:  
50psid (3.4bar) @ 75°F (24°C)  
15psid (1.0bar) @ 250°F (121°C)

Cleanliness (particle shedding)

Wet-packed <2 particles/ml >0.2µm after 7gal at 1gpm

TOC/Resistivity Rinse-up (wet-packed)

TOC recovery within 3-5ppb of feed without additional rinse-up.  
Resistivity recovery within 0.4megohm-cm of feed after 22gal @ 1gpm

Performance Attributes

Water in Flow rates, Typical \*

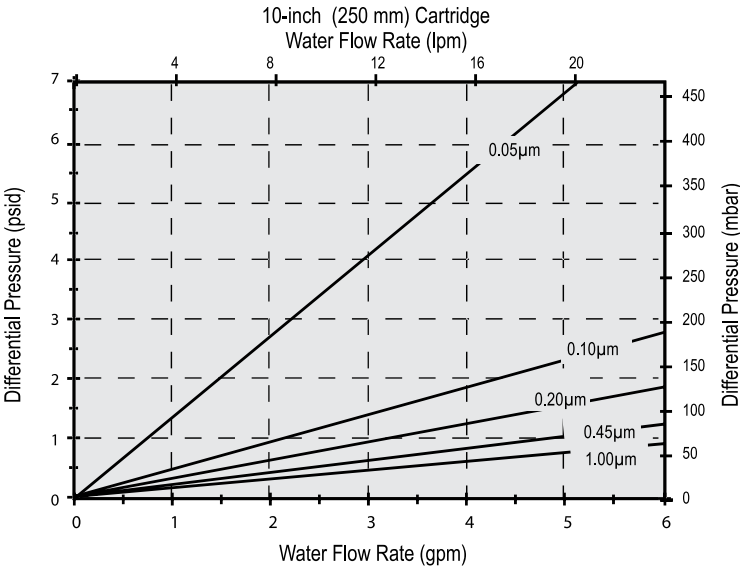
0.05µm 0.9gpm/psid (4.9lpm/100mbar)  
0.10µm 2.3gpm/psid (12.7lpm/100mbar)  
0.20µm 3.2gpm/psid (17.6lpm/100mbar)  
0.45µm 4.7gpm/psid (25.8lpm/100mbar)  
1.00µm 6.7gpm/psid (36.9lpm/100mbar)

\* Per 10-inch (250 mm) cartridge equivalent and for fluids with viscosity of 1cP.

Integrity test values

| Filter Rating |  | Bubble Point* |     |
|---------------|--|---------------|-----|
| µm            |  | psig          | bar |
| 0.05          |  | ≥40           | 2.8 |
| 0.10          |  | ≥21           | 1.5 |
| 0.20          |  | ≥13           | 0.9 |
| 0.45          |  | ≥7            | 0.5 |
| 1.00          |  | ≥3            | 0.2 |

\* In 60/40 IPA/water @ 25°C



Ordering Information

33 — 14

| End Fitting |             |
|-------------|-------------|
| CODE        | DESCRIPTION |
| 2           | 226/Flat    |
| 3           | 222/Flat    |
| 7           | 226/Fin     |
| 8           | 222/Fin     |

| Nominal Length |              |
|----------------|--------------|
| CODE           | LENGTH       |
| 04             | 4" (102mm)   |
| 10             | 10" (250mm)  |
| 20             | 20" (500mm)  |
| 30             | 30" (750mm)  |
| 40             | 40" (1000mm) |

| Filter Rating |               |
|---------------|---------------|
| CODE          | MICRON        |
| 925           | 0.05µm        |
| 001           | 0.1µm         |
| 002           | 0.2µm         |
| 004           | 0.45µm        |
| 010           | 1µm           |
| 503           | 100 (Nominal) |

| O-Rings |                           |
|---------|---------------------------|
| CODE    | MATERIAL                  |
| 2       | Silicone                  |
| 4       | Viton®                    |
| 5       | FEP-Encapsulated Viton®   |
| 6       | FEP-Encapsulated Silicone |
| 7       | Chemraz®                  |
| N       | None                      |

| Options |                 |
|---------|-----------------|
| CODE    | TREATMENT       |
| Blank   | UPW Flush       |
| F       | Ozone UPW Flush |
| W       | Wet Packed      |

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\*Fluoroflow is a registered trademark of Parker Hannifin Corp.

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## Proflow™ II General Grade Cartridges

### Hydrophobic PTFE membrane for general purpose gas and solvent purification

Proflow™ II General grade cartridges provide an economic alternative for general applications where reliable gas and liquid flow rates are required. With 5.6 square feet of expanded PTFE membrane, Proflow II-G is a highly efficient hydrophobic barrier, for the production of dry gas, and will effectively purify aggressive liquids and organic solvents.

Proflow™ II-G cartridges are manufactured under cleanroom conditions and integrity tested before shipment to assure consistent performance and quality.

The Proflow™ II-G Cartridges are available in 0.05, 0.1, 0.2, 0.45, and 1.0µm pore sizes.



### Benefits

- Reliable air and liquid flow rates for effective performance
- Broad chemical compatibility enables use in many applications
- Broad range of micron ratings for user convenience
- Superior hydrophobicity for long life in vent/air applications
- Integrity tested to ensure quality
- Biosafe in accordance with USP Class VI 121°C Plastics Test

### Applications

- Photoresists
- Compressed gas
- Venting
- Electronic grade solvents
- Hot deionized water (less than 80°C)



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## Clariflow® General Grade Cartridges

### Hydrophilic Polyethersulfone (PES) membrane for aqueous liquid filtration applications

Clariflow® General grade cartridges are designed for general-purpose use in the filtration of high-purity liquids and aqueous chemicals.

The mirrored-anisotropic Polyethersulfone (PES) membrane is inherently hydrophilic and has a pore morphology that delivers exceptionally high flow rates.

Because there are no added surfactants or wetting agents, and the support layers and structure are all-polypropylene, the filter exhibits low extractables, broad chemical compatibility and good resistance to hydrolysis.

The Clariflow General Grade Cartridge is available in 0.04, 0.1, 0.2, 0.45, 0.65 and 0.8µm pore sizes.



### Benefits

- High flow rate reduces processing time
- Broad chemical compatibility allows use in most applications
- Low differential pressure reduces system wear and tear
- Biosafe in accordance with USP Class VI 121°C Plastics Test

### Applications

- Chemical filtration
- Liquid clarification
- Recirculating fluids
- General use water filtration
- Deionized water systems





## Clariflow® WS Cartridges

### Hydrophilic Polyethersulfone (PES) membrane for cost-effective purification

Clariflow WS cartridges are cost-effective alternatives to Clariflow Electronics and General grade cartridges for the filtration of a variety of aqueous liquids.

The Clariflow WS cartridge is built around a unique polyethersulfone (PES) membrane that is inherently hydrophilic, and contains no added surfactants or wetting agents. As such, it is known for clean filtrates, and also offers competitive flow rates, extended service life, and excellent resistance to hydrolysis.

Clariflow WS cartridges are fabricated under cleanroom conditions.

The Clariflow WS Cartridge is available in 0.04, 0.1, 0.2, 0.45, and 0.65µm cartridges.



### Benefits

- Reliable and cost-effective to reduce expenses
- Broad chemical compatibility allows use in aqueous applications
- Resistance to hydrolysis allows extended use in UPW systems
- High flow rate / low differential pressure reduces system wear and tear
- Biosafe in accordance with USP Class VI 121°C Plastics Test

### Applications

- Deionized water filtration
- Chemical filtration
- Liquid clarification
- Recirculating liquids
- Wine and beer clarification
- Juices
- Bottled water

Specifications

Materials of Construction

- Membrane: Polyethersulfone
- Support Layers: Polypropylene
- Structure: Polypropylene

Effective Filtration Area

5.4ft² (0.50m²) per 10" (250mm) cartridge

Maximum Differential Pressure

- Forward: 80psid (5.5bar) @ 75°F (24°C)  
40psid (2.8bar) @ 180°F (82°C)
- Reverse: 50psid (3.4bar) @ 75°F (24°C)

Bulk Packaging

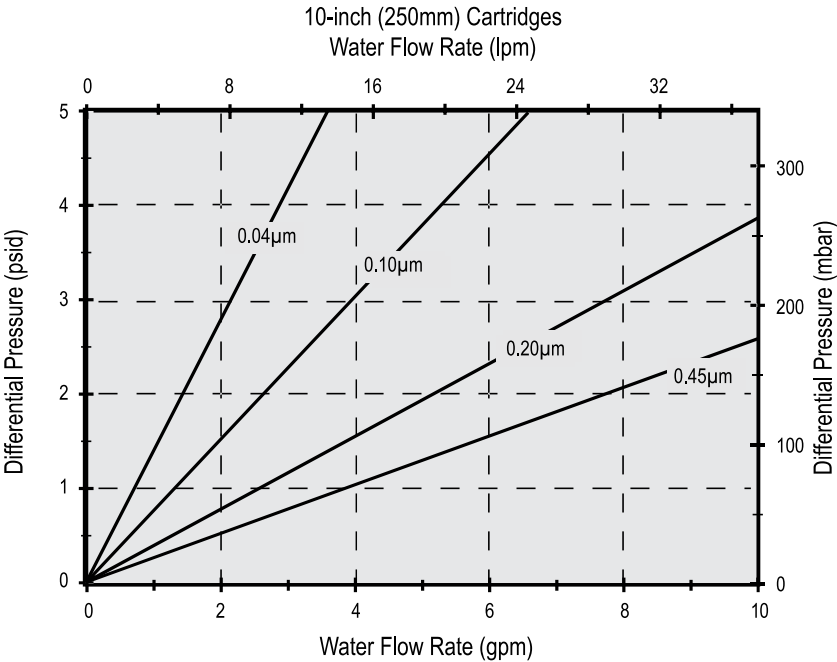
- Bulk packaged in case quantities to reduce material disposal
- 10" 28 per carton
  - 20" 12 per carton
  - 30" 12 per carton
  - 40" 9 per carton

Performance Attributes

Water in Flow rates, Typical \*

- 0.04µm 0.7gpm/psid (3.84lpm/100mbar)
- 0.10µm 1.3gpm/psid (7.14lpm/100mbar)
- 0.20µm 2.6gpm/psid (14.27lpm/100mbar)
- 0.45µm 3.8gpm/psid (20.86lpm/100mbar)

\* Per 10-inch (250 mm) cartridge equivalent and for fluids with viscosity of 1cP.



Ordering Information

25 — 0 — — — — WS

| Insert Style |                                 | End Fittings |                               | Nominal Length |             | Filter Rating |        | Gasket/O-Rings |                       | Thickness (Gaskets Only) |                                     |
|--------------|---------------------------------|--------------|-------------------------------|----------------|-------------|---------------|--------|----------------|-----------------------|--------------------------|-------------------------------------|
| CODE         | DESCRIPTION                     | CODE         | DESCRIPTION                   | CODE           | LENGTH      | CODE          | MICRON | CODE           | MATERIAL              | CODE                     | THICKNESS                           |
| 1            | No Insert (Standard)            | 0            | DOE (Cuno®)                   | 10             | 10' (250mm) | 924           | 0.04µm | 0              | Buna N                | 1                        | 0.200" (5mm)                        |
| 5            | Encapsulated 315 SS Insert      | 1            | DOE                           | 20             | 20' (500mm) | 001           | 0.10µm | 1              | EPDM                  | 2                        | 0.125" (3mm)                        |
| 6            | Encapsulated Polysulfone Insert | 2            | 226/Flat                      | 30             | 30' (750mm) | 002           | 0.20µm | 2              | Silicone              | 4                        | (1) 0.200" (5mm) & (1) 0.125" (3mm) |
| A            | 1/2" Shortened on 222 Fitting   | 3            | 222/Flat                      | 40             | 40' 1000mm) | 004           | 0.45µm | 4              | Viton®                | N                        | No Gasket                           |
|              |                                 | 6            | 020/Internal/Flat             |                |             | 006           | 0.65µm | 5*             | Encapsulated Viton®   |                          |                                     |
|              |                                 | 7            | 226/Fin                       |                |             |               |        | 6*             | Encapsulated Silicone |                          |                                     |
|              |                                 | 8            | 222/Fin                       |                |             |               |        | N              | None                  |                          |                                     |
|              |                                 | G            | 120/Internal/Recessed End cap |                |             |               |        |                |                       |                          |                                     |
|              |                                 | H            | 213/Recessed Endcap (Ametek)  |                |             |               |        |                |                       |                          |                                     |
|              |                                 | R            | 222/Recessed End cap          |                |             |               |        |                |                       |                          |                                     |

\*O-rings only

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# Fulflo® Abso-Mate™ Cartridges

## Absolute, Cost-Effective Filtration From All Polypropylene Cartridges

Parker's Fulflo® Abso-Mate® Cartridges provide the ultimate in economical filtration for even the most critical process fluids. The proprietary melt blown media are rigidly controlled for reliable results time after time. Abso-Mate cartridges are produced without adhesives that can potentially contaminate fluids.

Abso-Mate Pleated Cartridges are available in 0.2µm, 0.45µm, 1µm, 2µm, 5µm, 10µm, 20µm, 40µm, and 70µm absolute rated pore sizes.

## Benefits

- Absolute ratings for consistent and reliable performance (99.98%;  $\beta = 5000$ )
- Backwashable media, reduces replacement maintenance and cartridge disposal costs
- Abso-Mate cartridges are non-fiber releasing and contain minimal extractables
- All materials of construction are FDA listed as acceptable for potable and edible liquid contact according to CFR Title 21
- One-piece construction eliminates bypass concerns on multilength cartridges



- All-polypropylene construction offers wide chemical compatibility with most chemicals, acids, bases and solvents
- Fused construction and continuous lengths eliminate the need for adhesives and allow accurate bubble point integrity testing

## Applications

- Membrane Prefilter
- Chemicals
- Catalyst Recovery
- Precious Metal Recovery
- Waste Water



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# Fulflo® Abso-Mate™ Cartridges

## Specifications

### Materials of Construction:

Type of Construction  
integrally sealed, all-polypropylene  
pleated media supported by  
all-polypropylene construction  
Filter Media  
melt blown polypropylene microfiber  
Media Support Layers  
Non-woven or mesh polypropylene  
Media Support Core  
Heavy wall high strength polypropylene  
Media Support Cage and Thermally  
Welded End Caps  
Molded polypropylene  
Seal Materials  
Buna-N, EPR, Silicone, Viton, PFA  
Encapsulated Viton\*

### Dimensions:

Cartridge Outside Diameter:  
2-11/16 in  
Cartridge Inside Diameter:  
DOE: 1-1/16 in SOE: 1-5/32 in

### Maximum Recommended Operating Conditions:

Temperature: 200°F (93°C)  
Change Out ΔP: 35 psi (2.4 bar)  
ΔP @ Ambient 70°F (21°C):  
90 psi (6 bar)  
ΔP @ 200°F (93°C): 20 psi (1.4 bar)  
Flow Rate: 10 gpm (38 lpm) per 10 in  
length

### Biological Safety/Product Purity:

Meets USP XXi VI requirements for  
plastics  
All components FDA listed per CFR,  
Title 21  
Non-fiber releasing per FDA Part  
210.3B (5) and (6)  
Non-photo sensitive

### Filtration Ratings:

99.98% efficiency at 0.2, 0.45, 1, 2, 5,  
10, 20, 40, & 70 μm pore sizes

### Abso-Mate™ Flow Factors (psid/gpm @ 1 cks)

| Rating Flow<br>(μm) | Factor |
|---------------------|--------|
| 0.20                | 3.100  |
| 0.45                | 1.000  |
| 1                   | 0.750  |
| 2                   | 0.300  |
| 5                   | 0.072  |
| 10                  | 0.031  |
| 20                  | 0.021  |
| 40                  | 0.012  |
| 70                  | 0.008  |

### Abso-Mate™ Length Factors

| Length (in) Factor |     |
|--------------------|-----|
| 9                  | 1.0 |
| 10                 | 1.0 |
| 19                 | 2.0 |
| 20                 | 2.0 |
| 29                 | 3.0 |
| 30                 | 3.0 |
| 39                 | 4.0 |
| 40                 | 4.0 |

### Flow Rate and Pressure Drop Formulas

$$\text{Flow Rate (gpm)} = \frac{\text{Clean DP} \times \text{Length Factor}}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean DP} = \frac{\text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}}{\text{Length Factor}}$$

### Beta Ratio (β) =

$$\frac{\text{Upstream Particle Count @ Specified Particle Size and Larger}}{\text{Downstream Particle Count @ Specified Particle Size and Larger}}$$

$$\text{Percent Removal Efficiency} = \left( \frac{\beta - 1}{\beta} \right) 100$$

Performance determined per ASTM F-795-88. Single-Pass  
Test using AC test dust in water at a flow rate of 3.5 gpm per  
10 in (13.2 lpm per 254 mm) cartridge.

### Notes:

1. Clean ΔP is PSI differential at start.
2. Viscosity is centistokes. Use Conversion Tables for other units.
3. Flow Factor is DP/GPM at 1 cks for 10 in (or single).
4. Length Factors convert flow or DP from 10 in (single length) to required cartridge length.

### ■ Liquid Particle Retention Ratings (μm) @ Removal Efficiency of:

| Cartridge | β=5000<br>Absolute | β=1000<br>99.9% | β=100<br>99% | β=50<br>98% | β=20<br>95% |
|-----------|--------------------|-----------------|--------------|-------------|-------------|
| A PAB002  | 0.2                | <0.2            | <0.2         | <0.2        | <0.1        |
| B PAB004  | 0.45               | 0.4             | 0.2          | <0.2        | <0.1        |
| C PAB010  | 1                  | 0.8             | 0.4          | <0.2        | <0.1        |
| D PAB020  | 2                  | 1.9             | 0.8          | <0.2        | <0.1        |
| E PAB050  | 5                  | 3.8             | 1.4          | 0.4         | 0.15        |
| F PAB100  | 10                 | 7               | 2            | 0.5         | 0.25        |
| G PAB200  | 20                 | 13              | 4            | 1.8         | 0.35        |
| H PAB400  | 40                 | 22              | 7            | 3.2         | 0.8         |
| J PAB700  | 70                 | 52              | 22           | 15          | 5.5         |

## Ordering Information

| PAB         |                              |                           |                                   |   |                          |  |
|-------------|------------------------------|---------------------------|-----------------------------------|---|--------------------------|--|
| Rating (μm) | Nominal Length<br>Code in mm | Support Construction      | Seal Material                     | End Cap Configuration                               | Special Options          |  |
| 002 = 0.2   | 9 9-5/8 244                  | F= Glass-filled           | A = Polypropylene Foam            | AR = 020 O-Ring/Recessed cap                        | B = Bubble-Point Test    |  |
| 004 = 0.45  | 10 9-13/16 249               | Polypropylene             | (DOE gasket only)                 | DO = Double open end (DOE)                          | R = DI Water Rinse       |  |
| 010 = 1     | 19 19-5/8 498                | (core only)               | E = EPR                           | DX = Double open end/extended core                  | (5 minutes)              |  |
| 020 = 2     | 20 19-15/16 506              | G = 304 Stainless Steel   | N = Buna-N                        | LL = 120 O-Ring/Recessed cap                        | Z6 = Individual Poly Bag |  |
| 050 = 5     | 29 29-1/4 743                | (core only)               | S = Silicone                      | LR = 120 O-Ring/Recessed cap                        | only                     |  |
| 100 = 10    | 30 30-1/16 764               | N = Natural Polypropylene | T = PFA Encapsulated              | OB = Std. Open End/Polyp                            |                          |  |
| 200 = 20    | 39 39 991                    | (All support components)  | Viton® (222, 226,<br>O-ring only) | Spring Closed End                                   |                          |  |
| 400 = 40    | 40 40 1016                   | X = Coreless Cartridge    | V = Viton®                        | PR = 213 O-Ring/Recessed cap                        |                          |  |
| 700 = 70    |                              |                           | X = No Seal Material              | SC = 226 O-Ring/Flat                                |                          |  |
|             |                              |                           |                                   | SF = 226 O-Ring/Fin                                 |                          |  |
|             |                              |                           |                                   | SSC = SS Inserted 226 O-ring/Closed                 |                          |  |
|             |                              |                           |                                   | SSF = SS Inserted 226 O-ring/Fin                    |                          |  |
|             |                              |                           |                                   | TC = 222 O-Ring/Flat                                |                          |  |
|             |                              |                           |                                   | TF = 222 O-Ring/Fin                                 |                          |  |
|             |                              |                           |                                   | STC = SS Inserted 222 O-ring/Closed                 |                          |  |
|             |                              |                           |                                   | STF = SS Inserted 222 O-ring/Fin                    |                          |  |
|             |                              |                           |                                   | TX = 222 O-ring/Flex Fin                            |                          |  |
|             |                              |                           |                                   | XB = Ext. Core open End/<br>Polyp Spring Closed End |                          |  |

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## Fulflo® Poly-Mate™ Plus Cartridges

### High Surface Area and High Efficiency All-Polypropylene Pleated Cartridges

Fulflo® Poly-Mate™ Plus Cartridges, made of pleated polypropylene micro-fiber, provide high efficiency and high purity filtration. The high efficiency of the Poly-Mate™ Plus line makes it an ideal membrane prefilter or cost-effective alternative to membrane cartridges in a wide range of applications.

Poly-Mate Plus™ Pleated Cartridges are available in the following pore sizes (nominal rating at 90%): 0.25µm, 0.45µm, 0.8µm, 2.0µm, 3.0µm, 5.0µm, 30.0µm, 50.0µm, 100.0µm

### Benefits

- All-polypropylene media and construction meet a broad range of performance requirements
- One-piece integral construction is 100% bonded for maximum cartridge integrity
- High surface area design provides superior flow rates and extended service life
- All materials of construction are FDA listed as acceptable for potable and edible liquid contact according to CFR Title 21



- Fixed pore construction provides ultimate particle retention
- Major end seal options are available to fit most standard vessels
- Poly-Mate™ Plus cartridges are non-fiber releasing and ensure consistent quality filtration performance

### Applications

- DI Water
- Process Water
- Magnetic Media
- Plating Chemicals
- Membrane Prefilter



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# Fulflo® Poly-Mate™ Plus Cartridges

## Specifications

### Materials of Construction:

Filter Media:  
Melt blown polypropylene microfiber  
Media Support Layers:  
Non-woven or mesh polypropylene  
Core:  
Heavy wall high strength polypropylene  
Media Support Cage and Thermally  
Welded End Caps: Molded polypropylene  
Seal Materials:  
Buna-N, EPR, Silicone, Viton\*, PFA  
Encapsulated Viton\*

### Dimensions:

Cartridge Outside Diameter: 2-11/16 in  
Cartridge Inside Diameter:  
DOE: 1-1/16 in, SOE: 1-5/32 in

### Maximum Recommended Operating Conditions:

Temperature: 200°F (93°C)  
Temperature @ 35 psid: 160°F (71°C)  
Change Out ΔP: 35 psi (2.4 bar)  
ΔP @ Ambient 70°F (21°C):  
70 psi (4.8 bar)  
ΔP @ 200°F (93°C): 20 psi (1.4 bar)  
Flow Rate: 10 gpm (38 lpm) per 10 in length

### Biological Safety/Product Purity:

Meets USP Class VI requirements for plastics  
All components FDA listed per CFR, Title 21  
Non-fiber releasing per FDA Part 210.3B (5) and (6)  
Non-photo sensitive

### Filtration Ratings:

90% at 0.25, 0.45, 0.8, 2, 3, 5, 10, 30, 50 and 100 micrometer pore sizes

### Poly-Mate™ Plus Length Factors

| Length (in) | Factor |
|-------------|--------|
| 4           | 0.4    |
| 10          | 1.0    |
| 20          | 2.0    |
| 30          | 3.0    |
| 40          | 4.0    |

### Poly-Mate Plus Flow Factors (psid/gpm @ 1 cks)

| Rating Flow (μm) | Factor |
|------------------|--------|
| 0.25             | 0.0900 |
| 0.45             | 0.0530 |
| 0.8              | 0.0290 |
| 2                | 0.0068 |
| 3                | 0.0060 |
| 5                | 0.0048 |
| 10               | 0.0040 |
| 30               | 0.0030 |
| 50               | 0.0025 |
| 100              | 0.0020 |

## Performing Attributes

### Flow Rate and Pressure Drop Formulas

$$\text{Flow Rate (gpm)} = \frac{\text{Clean DP} \times \text{Length Factor}}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean } \Delta P = \frac{\text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}}{\text{Length Factor}}$$

### Notes:

1. Clean ΔP is PSI differential at start.
2. Viscosity is centistokes. Use Conversion Tables for other units.
3. Flow Factor is ΔP/GPM at 1 cks for 10 in (or single).
4. Length Factors convert flow or ΔP from 10 in (single length) to required cartridge length.

### ■ Liquid Particle Retention Ratings (μm)@ Removal Efficiency of:

| Parker  | 90%   | 95%   | 98%   | 99.90% | 99.98% |
|---------|-------|-------|-------|--------|--------|
| PMP002  | 0.30  | 0.45  | 0.90  | 1.6    | 2.2    |
| PMP004  | 0.45  | 0.75  | 1.4   | 2.9    | 3.1    |
| PMP008  | 0.8   | 1.5   | 3.2   | 8.0    | 9.2    |
| PMP020  | 1.7   | 3.1   | 8.6   | 9.5    | 15.0   |
| PMP030  | 3.0   | 4.6   | 6.1   | 11.0   | 12.0   |
| PMP050  | 5.0   | 8.4   | 10.6  | 12.0   | 14.0   |
| PMP100  | 10.0  | 12.0  | 15.0  | 17.0   | 21.0   |
| PMP300  | 15.0  | 24.0  | 35.0  | 44.0   | 52.0   |
| PMP500  | 50.0  | 56.0  | 62.0  | 68.0   | 71.0   |
| PMP1000 | 100.0 | 109.0 | 117.0 | 126.0  | 138.0  |

## Ordering Information

| PMP                  |  |   |  |   |  |   |
|----------------------|--|---|--|---|--|---|
| Cartridge Code       | Pore Size  | Nominal Length (in)   | Support Construction                               | Seal Material   | End Cap Configuration  | Special Options   |
| PMP = Poly-Mate Plus | 002 = 0.25<br>004 = 0.45<br>008 = 0.8<br>020 = 2<br>030 = 3<br>050 = 5<br>100 = 10<br>300 = 30<br>500 = 50<br>1000 = 100 | 4 = 4<br>10 = 9-13/16<br>20 = 19-15/16<br>30 = 30-1/16<br>40 = 40 | A = Natural Polypropylene (All support components) | E = EPR<br>N = Buna-N<br>S = Silicone<br>T = PFA/Viton* (SOE)<br>V = Viton* | AR = 020 O-Ring/Recessed cap<br>DO = Double open end (DOE)<br>DX = Double open end/extended core<br>TC = 222 O-Ring/Flat<br>TF = 222 O-Ring/Fin<br>SC = 226 O-Ring/Flat<br>SF = 226 O-Ring/Fin | No Symbol = No Option<br>B = Bubble-Point Test<br>R = DI Water Rinse (5 minutes)<br>Z6 = Individual Poly Bag only |

Specifications are subject to change without notification.

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C-2040

# Fulflo® Poly-Mate™ Filter Cartridges

## Quality, Economical Filtration for Critical Process Applications

Parker's Poly-Mate™ Cartridges incorporate a unique combination of polypropylene melt blown and spun-bonded media to provide high surface area, finish-free and non-fiber releasing filtration. All-polypropylene construction maximizes chemical resistance to acids, bases, salts, and most organic solvents.

Poly-Mate™ Pleated Cartridges are available in 0.5µm, 1µm, 5µm, 10µm, 30µm, and 60µm pore sizes (99% removal;  $\beta = 100$ ).

## Benefits

- High efficiency rated for critical process applications (99% efficiency)
- High pleated surface area for extended service life, low pressure drop and high flow capacity
- Poly-Mate™ Xtra Duty™ (PXD) cartridge features glass-filled polypropylene core for high temperature and high pressure use with rigid outer cage supporting pleated media in backwash applications
- Optional stainless steel O-ring adapter inserts provide added strength for *in situ* sterilization



- Poly-Mate™ Xtra Duty cartridges are available with backwashable construction, reducing replacement maintenance and cartridge disposal costs
- All materials of construction are FDA listed as acceptable for potable and edible liquid contact according to CFR Title 21
- One piece, continuous to 40 in length, integrally sealed pleated filter media

## Applications

- Disposal Wells
- Photographic
- Wastewater
- High-Technology Coatings
- R.O. Membrane Prefiltration
- Plating Chemicals
- Fine Chemicals
- Process Water
- Deionized Water



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# Fulflo® Poly-Mate™ Filter Cartridges

## Specifications

### Materials of Construction:

- Filter media and support layers: polypropylene
- Surface treatment: none (fusion-sealed), chemically inert and neutral
- Media protection: PM – polypropylene netting; PXD – polypropylene cage
- Pleat pack side seal: fused polypropylene
- End caps: polypropylene
- Seals: Buna-N, EPR, silicone, Viton,\* PFA encapsulated Viton\* O-rings, polyethylene foam gaskets

### Recommended Operating Conditions:

#### Poly-mate Cartridges

Change Out ΔP: 35 psid (2.4 bar)  
 Maximum Temperature: 200°F (93°C)  
 Maximum Temperature @ 35 psid (2.4 bar): 125°F (52°C)  
 Maximum ΔP @ 70°F (21°C): 60 psid (4.1 bar)  
 Maximum DP @ 200°F (93°C): 10 psid (0.7 bar)

#### Poly-mate Xtra-Duty Cartridges

Change Out ΔP: 35 psid (2.4 bar)  
 Maximum Temperature: 200°F (93°C)  
 Maximum Temperature @ 35 psid (2.4 bar): 200°F (93°C)  
 Maximum ΔP @ 70°F (21°C): 90 psid (6.1 bar)  
 Maximum DP @ 200°F (93°C): 35 psid (2.4 bar)

## Performance Attributes

### Dimensions:

- Cartridge Outside Diameter: 2-1/2 in (63.5 mm)
- Cartridge Inside Diameter: DOE – 1-1/16 in (27 mm)  
 SOE – 1 in (25.4 mm)

### Filtration Ratings:

- 99% at 0.5μm, 1μm, 5μm, 10μm, 30μm, and 60μm pore sizes

### Effective Filtration Area:

- Up to 6.0 ft²/10 in (0.6m²/254 mm)

### Recommended Maximum Flow Rate:

- Maximum 10 gpm per 10 in length

## Flow Rate and Pressure Drop Formulas

$$\text{Flow Rate (gpm)} = \frac{\text{Clean } \Delta P \times \text{Length Factor}}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean } \Delta P = \frac{\text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}}{\text{Length Factor}}$$

### Beta Ratio (β) =

Upstream Particle Count @ Specified Particle Size and Larger

Downstream Particle Count @ Specified Particle Size and Larger

$$\text{Percent Removal Efficiency} = \left( \frac{\beta - 1}{\beta} \right) 100$$

Performance determined per ASTM F-795-88. Single-Pass Test using AC test dust in water at a flow rate of 3.5 gpm per 10 in (13.2 lpm per 254 mm) cartridge.

### Notes:

1. **Clean ΔP** is PSI differential at start.
2. **Viscosity** is centistokes. Use Conversion Tables for other units.
3. **Flow Factor** is ΔP/GPM at 1 cks for 10 in (or single).
4. **Length Factors** convert flow or ΔP from 10 in (single length) to required cartridge length.

### Poly-Mate/PXD Flow Factor (psid/gpm @ 1 cks)

| Rating (μm) | Flow Factor |
|-------------|-------------|
| 0.5         | 0.0900      |
| 1.0         | 0.0530      |
| 5.0         | 0.0290      |
| 10.0        | 0.0068      |
| 30.0        | 0.0048      |
| 60.0        | 0.0030      |

### Poly-Mate/PXD Length Factor

| Length in | Length Factor |
|-----------|---------------|
| 9         | 1             |
| 10        | 1             |
| 19        | 2             |
| 20        | 2             |
| 24        | 3             |
| 30        | 3             |
| 39        | 4             |
| 40        | 4             |

## Liquid Particle Retention Ratings (μm) @ Removal Efficiencies of:

| Cartridge   | β = 5000 Absolute | β = 1000 99.9% | β = 100 99% | β = 50 98% | β = 20 95% | β = 10 90% |
|-------------|-------------------|----------------|-------------|------------|------------|------------|
| PM / PXD005 | 3                 | 3              | 0.5         | .25        | <0.1       | <0.1       |
| PM / PXD010 | 5                 | 4.5            | 1.0         | 0.5        | 0.2        | <0.1       |
| PM / PXD050 | 15                | 10             | 4           | 2.0        | 0.7        | 0.25       |
| PM / PXD100 | 30                | 28             | 10          | 6          | 3          | 1.2        |
| PM / PXD300 | 45                | 43             | 30          | 18         | 8          | 4.5        |
| PM / PXD600 | 95                | 90             | 50          | 40         | 20         | 12         |



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# Fulflo® Poly-Mate™ Filter Cartridges

## Ordering Information

| Cartridge                        | Micron Code (µm)  | Nominal Length<br>(code) (in) (mm)   | Core  | Seal Material   | End Cap Configurations   | Special Options   |
|----------------------------------|---|--|---|---|--|---|
| PM = Standard<br>PXD = Xtra Duty | 005 = 0.5<br>010 = 1.0<br>050 = 5.0<br>100 = 10.0<br>300 = 30.0<br>600 = 60.0 | 9 9-5/8 244<br>10 9-13/16 249<br>19 19-5/8 498<br>20 19-15/16 506<br>29 29-1/4 743<br>30 30-1/16 764<br>40 40 1016 | A = Natural Polypropylene<br>(PM core only)<br>F = Glass-filled<br>Polypropylene<br>(PXD core only)<br>G = 304 Stainless Steel<br>(core only)<br>N = Natural<br>Polypropylene<br>(All support components) | P = Poly Foam<br>(DOE Gasket Only)<br>E = EPR<br>N = Buna-N<br>S = Silicone<br>T = PFA Encapsulated<br>Viton* (222, 226<br>O-ring only)<br>V = Viton*<br>X = No Seal Material | AR = 020 O-Ring/Recessed (Gelman)<br>DO = Double-Open-End (DOE)<br>DX = DOE With Core Extender<br>LL = 120/120 (Filterite LMO and<br>Nuclepore Polymeric Vessels)**<br>LR = 120 O-Ring/Recessed<br>(Nuclepore)**<br>OB = Std. Open End/Polypro Spring<br>Closed End<br>PR = 213 O-Ring/Recessed<br>(Ametek and Parker)LT<br>Polymeric Vessels)**<br>SC = 226 O-Ring/Cap<br>SF = 226 O-Ring/Fin<br>SSC = SS Inserted 226 O-ring/Closed<br>SSF = SS Inserted 226 O-ring/Fin<br>TC = 222 O-Ring/Cap<br>TF = 222 O-Ring/Fin<br>STC = SS 222 Inserted O-ring/Closed<br>STF = SS 222 Inserted O-ring/Fin<br>TX = 222 O-Ring/Flex Fin<br>XB = Ex. Core Open End/<br>Polypro Spring Closed End | B = Bubble Point Test<br>R = Rinse with DI<br>Water (5 minutes)<br>Z6 = Individual Poly bag<br>only (PXD only)<br>Z15 = Individual poly bag<br>15/cdn. (20", 30", 40")<br>(PXD only)<br>Z30 = Individual poly bag<br>30/cdn. (10") (PXD only) |

\* PFA/Viton is O-ring only, T is expanded PTFE gaskets

\*\* Available only in 9 5/8 (-9) and 19 5/8 (-10) lengths

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# Claripor™ Filter Cartridges

## Polypropylene Pleated Depth Media for Critical Process Applications

The best of pleated and depth style technologies combine in Parker's Claripor™ pleated depth filter cartridges. The unique layered construction provides absolute retention with high flow rates and excellent gel removal. These features, in addition to Claripor™'s high contaminant holding capacity and exceptional clarifying ability make it an ideal choice for a wide array of critical process applications.

Claripor™ cartridges are available with polypropylene media in absolute (99.98%) micron ratings from 0.5 to 90 microns.



## Benefits

- Pleated construction yields high flow rates compared to traditional depth filters
- Rigid cage design permits superior strength
- Graded density layering for superior removal of amorphous particles
- Available with all industry standard end configurations

- Absolute retention ratings for critical filtration
- All materials listed as acceptable for potable and edible contact according to CFR Title 21
- Manufactured with strict quality control
- Parker Process Filtration Division is an ISO9001:2000 registered company

## Applications

- Critical coatings
- Inkjet inks
- Specialty chemicals



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# Claripor™ Filter Cartridges

## Specifications

### Materials of Construction

Media: Polypropylene  
 Support/Drainage: Polypropylene  
 Hardware: Polypropylene  
 O-Rings (SOE): EPR, Buna-N, Viton\*,  
 Silicone, PFA Encapsulated Viton\*  
 Gaskets (DOE): EPR, Buna-N, Viton\*,  
 Silicone

### Recommended Operating Conditions

Flow Rate: 5 gpm (18.9 lpm) per  
 10" equivalent  
 Change-out Pressure: 35 psid (2.4 bar)

### Retention Ratings (99.98%):

0.5, 1.5, 3, 4.5, 10, 20, 30, 40, 70, 90µm

### Maximum Operating Conditions

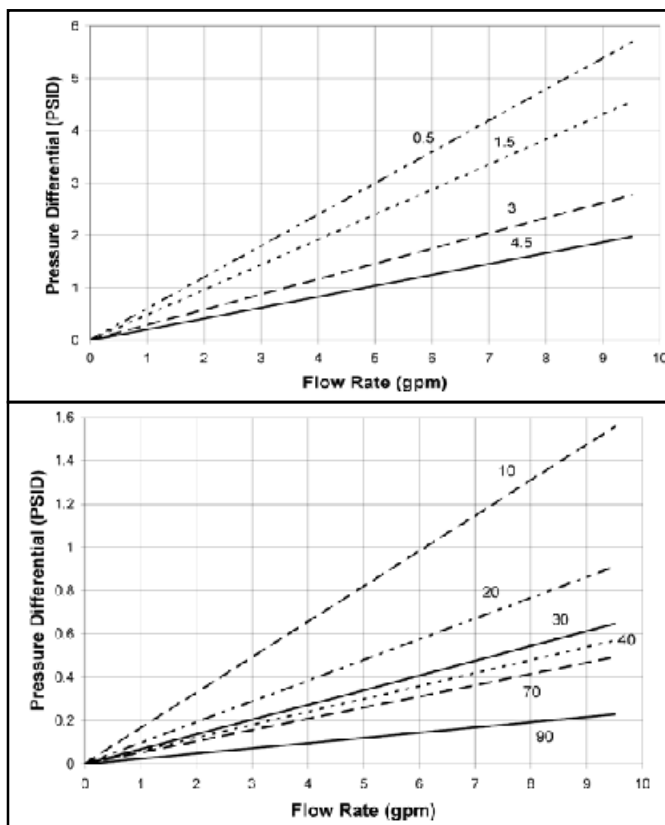
Maximum Temperature:  
 176°F (80°C) @ 30 psid (2.1 bar)  
 Maximum Differential Pressure:  
 70 psi (4.8 bar) @ 77°F (25°C)  
 30 psi (2.1 bar) @ 176°F (80°C)

### Dimensions (nominal)

Outside Diameter: 2.7" (6.86 cm)  
 Inside Diameter: 1" (2.54 cm)

## Performance Attributes

Flow rate vs. DP for a 1 cks liquid @ 73°F (23°C)\*\*



## Ordering Information

| CP             |  |  |   |  |   |
|----------------|--|--|---|--|---|
| Cartridge Code | Pore Size  | Length   | Core Material   | Seal Material  | End Cap Configuration   |
| CP = Claripor  | 005 = 0.5<br>015 = 1.5<br>030 = 3.0<br>045 = 4.5<br>100 = 10<br>200 = 20<br>300 = 30<br>400 = 40<br>700 = 70<br>900 = 90 | 4 = 4" (10.16 cm)<br>5 = 5" (12.7 cm)<br>10 = 10" (25.4 cm)<br>20 = 20" (50.8 cm)<br>30 = 30" (76.2 cm)<br>40 = 40" (101.6 cm) | F = Glass-Filled<br>Polypropylene<br>A = Natural<br>Polypropylene | E = EPR<br>N = Buna-N<br>V = Viton*<br>S = Silicone<br>T = PFA/Viton (SOE) | DO = Double open end<br>DX = Double open end/extended core<br>TC = 222/Flat<br>TF = 222 O-Ring/Fin<br>TX = 222 O-Ring/Flex Fin<br>SC = 226/Flat<br>SF = 226/Fin<br>STC = 222 O-Ring/Flat cap with SS insert<br>STF = 222 O-Ring/Fin cap with SS insert<br>SSC = 226 O-Ring/Flat cap with SS insert<br>SSF = 226 O-Ring/Fin cap with SS insert |

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C-2041

## Glass-Mate™ Cartridges

### Absolute and economical filtration with pleated microfiberglass cartridges

Parker's Glass-Mate™ cartridges offer an economical choice for absolute-rated efficiency, high flow rate capability and long service life. A wide variety of construction components, end fittings and seal options make this product line ideal for prefiltration and point-of-use filtration for many industrial applications.

Glass-Mate cartridges are available in 0.45, 1, 2, 3, 5, 10, 20 and 40µm absolute-rated pore sizes.



### Benefits

- Absolute-rated media provides reliable removal efficiency
- Thermal bonding eliminates particle bypass
- Laminated media/support layer maximizes flow capacity and media utilization and minimizes media migration
- Variety of construction/seal options for increased compatibility
- End fitting options provide competitive housing retrofit capability

- All FDA listed components biosafe per USP Class V1-121°C Plastic Tests allows filtration of edible and potable liquids
- High surface area yields high flow rate, low differential pressure
- Non-fiber-releasing media with minimal extractables provides high purity filtrate

### Applications

- Chemicals
- Coatings
- Water
- R.O. prefiltration



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# Glass-Mate™ Cartridges

## SPECIFICATIONS

### Materials of Construction:

Filter Medium: Borosilicate microfiber-glass with acrylic binder  
Support/Drainage Layers: Spunbonded polyester; laminated on the downstream side

### Recommended Operating Conditions:

#### Maximum Temperatures

Glass Filled Polypropylene  
200°F @ 35ΔP (93°C/2.4 bar)

Polyester  
140°F @ 35ΔP (60°C/2.4 bar)

Stainless Steel  
275°F @ 35ΔP (135°C/2.4 bar)

Changeout Differential Pressure  
35 psi (2.4 bar)

Maximum Flow Rate  
10 gpm per 10 in length  
(38 lpm/254 mm)

Design Flow Rate  
2.5 gpm per 10 in length  
(9.5 lpm/254 mm)

### Effective Filtration Area:

5 ft²/10 in (0.46 m²/254 mm) minimum

### Maximum Differential Pressure:

Glass-Filled Polypropylene  
90 psi @ 75°F (6.2 bar/24°C)

Polyester  
70 psi @ 75°F (4.8 bar/24°C)

### Biological Safety/Product Purity:

Meets USP XXIV Class VI safety requirements for plastics  
All components FDA listed per CFR, Title 21  
Non-fiber releasing per FDA

### Sterilization/Sanitization:

Hot water ("F" construction):  
180°F (82°C) for 30 minutes at maximum 15 psid (1 bar).  
In-Line Steam/Autoclave ("F" construction with stainless steel sleeve) 60 minutes at 255°F (140°C) at 2 psid (0.14 bar) maximum pressure.

### GlassMate Flow Factor (psid/gpm @ 1 cks)

| Rating (μm) | Flow Factor |
|-------------|-------------|
| 0.45        | .108        |
| 1           | .102        |
| 2           | .095        |
| 3           | .090        |
| 5           | .072        |
| 10          | .060        |
| 20          | .042        |
| 40          | .018        |

### Flow Rate and Pressure Drop Formulas

$$\text{Flow Rate (gpm)} = \frac{\text{Clean } \Delta P \times \text{Length Factor}}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean } \Delta P = \frac{\text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}}{\text{Length Factor}}$$

### Notes:

1. Clean ΔP is PSI differential at start.
2. Viscosity is centistokes. Use Conversion Tables for other units.
3. Flow Factor is ΔP/GPM at 1 cks for 10 in (or single).
4. Length Factors convert flow or ΔP from 10 in (single length) to required cartridge length.

### ■ Liquid Particle Retention Ratings (μm)@ Removal Efficiency of:

| Cartridge | β = 5000<br>Absolute | β = 1000<br>99.9% | β = 100<br>99% | β = 20<br>95% | β = 10<br>90% |
|-----------|----------------------|-------------------|----------------|---------------|---------------|
| PMG004    | 0.45                 | 0.3               | <0.1           | <0.1          | <0.1          |
| PMG010    | 1.0                  | 0.6               | 0.2            | <0.1          | <0.1          |
| PMG020    | 2.0                  | 1.2               | 0.4            | 0.2           | 0.1           |
| PMG030    | 3.0                  | 1.8               | 0.6            | 0.3           | 0.2           |
| PMG050    | 5                    | 3                 | 1.3            | 0.5           | 0.4           |
| PMG100    | 10                   | 7                 | 3.5            | 1.6           | 1.2           |
| PMG200    | 20                   | 16                | 8              | 4             | 2.5           |
| PMG400    | 40                   | 32                | 20             | 11            | 8             |



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# Glass-Mate™ Cartridges

## Ordering Information

PMG

| Particle Removal Rating |      |
|-------------------------|------|
| CODE                    | (µm) |
| 002                     | 0.2  |
| 004                     | 0.45 |
| 010                     | 1.0  |
| 020                     | 2.0  |
| 050                     | 5.0  |
| 100                     | 10   |
| 200                     | 20   |
| 400                     | 40   |

| Nominal Length |                 |
|----------------|-----------------|
| CODE           | LENGTH (mm)     |
| 9              | 9 5/8" (244)    |
| 10             | 9 13/16" (249)  |
| 19             | 19 5/8" (498)   |
| 20             | 19 15/16" (506) |
| 29             | 29 1/4" (743)   |
| 30             | 30 1/16" (764)  |
| 39             | 39" (991)       |
| 40             | 40" (1016)      |

| Support Construction |  |
|----------------------|--|
| CODE                 | DESCRIPTION                            |
| F                    | Glass Filled Polypropylene (core only) |
| P                    | Polyester                              |

| Seal Material |                                     |
|---------------|-------------------------------------|
| CODE          | DESCRIPTION                         |
| P             | Polyethylene Foam (DOE Gasket Only) |
| E             | EPR                                 |
| N             | Buna-N                              |
| S             | Silicone                            |
| V             | Viton*                              |
| X             | No Seal Material                    |

| End Cap Configuration |   |
|-----------------------|---|
| CODE                  | DESCRIPTION                                   |
| AR                    | 020 O-ring/Recessed Cap                       |
| DO                    | Double Open End (DOE)                         |
| DX                    | DOE With Core Extender                        |
| LL**                  | 120 O-ring/Recessed Cap                       |
| LR**                  | 120 O-ring/Recessed Cap                       |
| OB                    | Std. open end / Polypro Spring Closed End     |
| PR**                  | 213 O-ring/Recessed Cap                       |
| SC                    | 226 O-ring/Flat Cap                           |
| SF                    | 226 O-ring/Fin                                |
| TC                    | 222 O-ring/Flat Cap                           |
| TF                    | 222 O-ring/Fin                                |
| TX                    | 222 O-ring/Flex Fin                           |
| XB                    | Ext. core open end/ Polypro Spring Closed End |
| SSC                   | S.S. Inserted 226 O-ring/Closed               |
| SSF                   | S.S. Inserted 226 O-ring/Fin                  |
| STC                   | S.S. Inserted 222 O-ring/Closed               |
| STF                   | S.S. Inserted 226 O-ring/Fin                  |

| Special Options |  |
|-----------------|--|
| CODE            | DESCRIPTION  |
| Z6              | Individual Poly Bag only                               |
| Z15             | Individual Poly Bag 15/ctn. (20", 30", 40") (PXD only) |
| Z30             | Individual Poly bag 30/ctn. (10")                      |

\*\* Available only in 9 5/8" (-9) and 19 5/8" (-19 lengths)

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## Fulflo® PCC Filter Cartridge

### Unique Cartridge Construction Improves Particle Retention, Service Life and Flow Rates

Parker Fulflo® Pleated Cellulosic Cartridges meet a broad range of critical filtration applications. Each cartridge in the Fulflo Pleated Cellulosic series is manufactured with premium grade, phenolic impregnated, cellulosic filter media. Phenolic resin locks the cellulosic fibers into a rigid, porous matrix. This structure provides superior particle removal and particle retention performance under the most severe conditions.

Fulflo Pleated Cartridges are available in 2µm, 3µm, 10µm, 30µm and 60µm pore sizes (99%+ removal:  $\beta = 100$ ).



### Benefits

- Premium pleated cellulosic media allow high flow capacity at low pressure drop
- Available in a variety of cartridge lengths and end cap configurations to fit most industrial vessels
- Phenolic resin impregnated to provide strength, integrity and high contaminant capacity
- High flow rates permit the use of smaller vessels and fewer cartridges
- Lower  $\Delta P$  reduces power requirements and pump wear and tear
- Longer cartridge life reduces frequency of filter change out resulting in less disposal costs, reduced inventory and less process interruptions

### Applications

- Chemical
- Oil Field
- Photographic
- Film & Paper
- Metal Treatment
- Process Water
- Synthetic Fibers
- Process Gas
- Petroleum
- Coatings, Paint
- Ink & Resins
- Recording Media



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# Fulflo® PCC Filter Cartridge

## Specifications

### Materials of Construction

Phenolic impregnated cellulosic media (PCC)  
Polypropylene support  
Stainless steel support (optional)  
PCG is glass-modified cellulose

### Recommended Operating Conditions

Maximum 10 gpm per 10 in length  
(38 lpm/254 mm)  
Stainless Steel Support:  
Maximum Temperature: 250°F (121°C)  
Maximum DP: 50 psi (3.5 kg/cm<sup>2</sup>)  
Optimum Change Out DP:  
35 psi (2.5 km/cm<sup>2</sup>)

### Polypropylene Support

Maximum Temperature  
@ 10 psid (0.7 km/cm<sup>2</sup>): 200°F (93°C)  
Maximum Temperature  
@ 35 psid (2.5 km/cm<sup>2</sup>): 125°F (52°C)  
Maximum ΔP  
@ 75°F (24°C): 60 psi (4.2 kg/cm<sup>2</sup>)  
Change Out DP: 35 psi (2.5 km/cm<sup>2</sup>)

### Filtration Ratings

99%+ at 2μm, 3μm, 10μm, 30μm, and  
60μm pore sizes

## Performance Attributes

### PCC / PCG Flow Factor (psid/gpm @ 1 cks)

| Rating<br>(μm) | Flow<br>Factor |
|----------------|----------------|
| 2              | 0.026          |
| 3              | 0.017          |
| 10             | 0.002          |
| 30             | 0.001          |
| 60             | 0.0005         |

### Flow Rate and Pressure Drop Formulas

$$\text{Flow Rate (gpm)} = \frac{\text{Clean } \Delta P \times \text{Length Factor}}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean } \Delta P = \frac{\text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}}{\text{Length Factor}}$$

### Beta Ratio (β) =

Upstream Particle Count @ Specified  
Particle Size and Larger

Downstream Particle Count @ Specified  
Particle Size and Larger

$$\text{Percent Removal Efficiency} = \left( \frac{\beta - 1}{\beta} \right) 100$$

Performance determined per ASTM F-795-88. Single-Pass  
Test using AC test dust in water at a flow rate of 3.5 gpm per  
10 in (13.2 lpm per 254 mm) cartridge.

### Notes:

1. Clean ΔP is PSI differential at start.
2. Viscosity is centistokes. Use Conversion  
Tables for other units.
3. Flow Factor is ΔP/GPM at 1 cks for 10 in  
(or single).
4. Length Factors convert flow or ΔP from 10 in  
(single length) to required cartridge length.

### ■ Liquid Particle Retention Ratings

| Cartridge | β=5000<br>absolute | β=1000<br>99.7% | β=100<br>99% | β=50<br>98% | β @ 2<br>micron |
|-----------|--------------------|-----------------|--------------|-------------|-----------------|
| PCG020    | 10                 | 8.6             | 1.8          | 0.9         | 110             |
| PCC3      | 12                 | 10              | 3.2          | 1.7         | 64              |
| PCC10     | 22                 | 18              | 6            | 3.2         | 35              |
| PCC30     | 100                | 85              | 11           | 4.5         | 25              |
| PCC60     | 150                | 90              | 30           | 15.0        | 10              |

## Ordering Information

| Cartridge Code (μm)  | Nominal Length<br>(code) (in) (mm)   | Support Construction   | Seal Material   | End Cap Configurations  |
|--|--|--|---|---|
| PCG020 - 2<br>PCC3 - 3<br>PCC10 - 10<br>PCC30 - 30<br>PCC60 - 60 | 9 9-5/8 244<br>10 9-13/16 249<br>19 19-5/8 498<br>20 19-15/16 506<br>29 29-1/4 743<br>30 30-1/16 764<br>40 40 1016 | A = Polypropylene<br>(DOE/SOE)<br>G = 304 Stainless<br>Steel (DOE) | P = Poly Foam<br>(DOE Gasket Only)<br>E = EPR<br>N = Buna-N<br>S = Silicone<br>V = Viton* | AR = 020 O-Ring/Recessed (Gelman)<br>DO = Double-Open-End (DOE)<br>DX = DOE With Core Extender<br>LL = 120/120 (Filterite LMO and Nuclepore<br>Polymeric Vessels)**<br>LR = 120 O-Ring/Recessed (Nuclepore)**<br>OB = Std. Open End/Polypro Spring<br>Closed End<br>PR = 213 O-Ring/Recessed (Ametek<br>and Parker)/LT Polymeric Vessels)**<br>SC = 226 O-Ring/Cap<br>SF = 226 O-Ring/Fin<br>TC = 222 O-Ring/Cap<br>TF = 222 O-Ring/Fin<br>TX = 222 O-Ring/Flex Fin<br>XB = Ex. Core Open End/<br>Polypro Spring Closed End |

\*\*Available only in 9-5/8 (-9) and 19-5/8 (-19) lengths.

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ENGINEERING YOUR SUCCESS.

C-2060

## Fulflo® 336 Pleated Cartridge

**Pleated cartridge construction improves filtration efficiency, dirt holding capacity and flow rates**

Parker's Fulflo® Pleated 336 size filter cartridges provide highly efficient removal of solid contaminants from a variety of petrochemical, refinery and oilfield applications. Cartridges are manufactured from premium grade phenolic impregnated cellulose and polypropylene blown media. These structures provide superior removal efficiency. The cartridges are available in 3μ, 10μ, 12μ, 22μ, and 100μ pore sizes. (99.98% removal; β = 5000)



### Benefits

- Retrofits housings that use 3" OD x 36" long SOE cartridges with spring
- High surface area
- Low pressure drop
- Materials compatible with most applications
- High filtration efficiency
- High dirt-holding capacity
- Rugged construction

### Applications

- Petrochemical
- Refineries
- Oil Fields
- Produced Water
- Amines
- Glycols



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# Fulflo® 336 Pleated Cartridges

## Specifications

### Materials of Construction:

Cellulose: Phenolic impregnated cellulose media  
 Polypropylene support core and end caps (Steel core optional)  
 Buna-N gasket 316 st. stl. spring  
 Polypropylene: Filter media and support layers – Polypropylene  
 Polypropylene support core and end caps (steel core optional)  
 Buna-N gasket 316 st. stl. spring

| Length | Length Factor |
|--------|---------------|
| 336    | 4             |

| Cartridge | Flow Factor |
|-----------|-------------|
| PPC005    | 0.090       |
| PCG020    | 0.026       |
| PCC2      | 0.017       |
| PCC10     | 0.002       |
| PCC30     | 0.001       |
| PCC60     | 0.005       |

| Cartridge | β=5000 Absolute | β=1000 99.7% | β=100 99% | β=50 98% | β@2 micron |
|-----------|-----------------|--------------|-----------|----------|------------|
| PPC005    | 3               | 2.8          | 0.5       | <0.5     | 400        |
| PCG020    | 10              | 8.6          | 1.8       | 0.9      | 110        |
| PCC2      | 12              | 10           | 3.2       | 1.7      | 64         |
| PCC10     | 22              | 18           | 6         | 3.2      | 35         |
| PCC30     | 100             | 85           | 11        | 4.5      | 25         |
| PCC60     | 150             | 90           | 30        | 15.0     | 10         |

### Recommended Operating Conditions:

Maximum 33 GPM per cartridge

### Polypropylene Support:

Maximum Temperature @ 10 PSID (0.7 km/cm²): 200°F (93°C)  
 Maximum Temperature @ 35 PSID (2.5 km/cm²): 125°F (52°C)  
 Maximum Temperature @ 60 PSID (4.2 km/cm²): 75°F (24°C)  
 Optimum Change Out at ambient temp.: 35 PSID (25 km/cm)

### Steel Support:

Maximum Temperature: 250°F (121°C)  
 Maximum ΔP: 50 PSID (3.5 km/cm²)  
 Optimum change Out ΔP: 35 PSID (2.5 km/cm²)

### Dimensions:

Length: 34-3/4 in (883 mm) w/o spring:  
 37-1/8 in (943 mm) with spring  
 OD: 3 in (76 mm)  
 ID: 1-9/16 in (40 mm)

### Flow Rate and Pressure Drop Formulas

$$\text{Flow Rate (gpm)} = \frac{\text{Clean } \Delta P \times \text{Length Factor}}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean } \Delta P = \frac{\text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}}{\text{Length Factor}}$$

1. Clean ΔP is PSI differential at start.
2. Viscosity is centistokes. Use Conversion Tables for other units.
3. Flow Factor is ΔP/GPM at 1 cks for 10 in (or single).
4. Length Factors convert flow or ΔP from 10 in (single length) to required cartridge length.

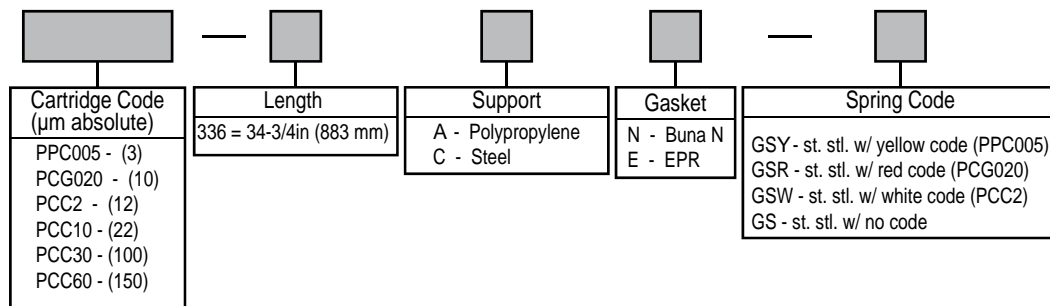
### Beta Ratio (β) =

Upstream Particle Count @ Specified Particle Size and Larger

Downstream Particle Count @ Specified Particle Size and Larger

$$\text{Percent Removal Efficiency} = \left( \frac{\beta - 1}{\beta} \right) 100$$

## Ordering Information



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ENGINEERING YOUR SUCCESS.



C-2030

## Fulflo® 1401 Pleated Cartridge

### High Efficiency, Flow Rate, Dirt Holding Capacity & High Pressure Pleated Cartridges

Parker's Fulflo® 1401 cartridges are designed to replace similar competitive cartridges in high pressure water injection & disposal, gas streams and fluid processing. The cartridges are available in cellulosic and polypropylene media. Fulflo® 1401's are available in absolute ratings of 2.5, 6, 10, 12, 22, and 100 microns ( $\beta = 5000$ , 99.98%)



### Benefits

- Retrofits into compatible housing that use 1401 style cartridges
- Maximize surface area to prevent particle bridging.
- High filtration efficiency
- Low pressure drops
- High flow rates
- Internal o-ring seal for positive sealing
- Rugged construction

### Applications

- Water Injection
- Solvents
- Acids
- Chemicals
- Hydrocarbons
- Water



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# Fulflo® 1401 Pleated Cartridges

## Specifications

### Filtration Rtings:

99.98% at 2.5µm, 6µm, 10µm, 12µm, 22µm, and 100µm pore sizes

### Recommended Operating Conditions:

Pressure rating - 150 PSID  
Temperature Rating - 275°F  
Recommended flow rate - 75 GPM  
Change out ΔP - 35 PSID

### Dimensions:

3 3/4" OD x 2 1/8" ID x 38-3/4" long

### Materials of Construction:

Filter media;  
PCC/PCG - phenolic impregnated cellulose  
PPC - Polypropylene  
Core & End Cap: Steel  
Outer Mesh Sleeve: Polypropylene  
Internal O-Ring: Buna-N

### ■ Liquid Particle Retention Ratings (µm)@ Removal Efficiency of:

| Cartridge    | β=5000<br>99.98% | β=1000<br>99.9% | β=100<br>99% | β=20<br>95% | β=10<br>90% |
|--------------|------------------|-----------------|--------------|-------------|-------------|
| PPC005 -1401 | 2.5              | 2.8             | 0.5          | <0.5        | <0.5        |
| PPC010 -1401 | 6                | 4.8             | 1.2          | <0.5        | <0.5        |
| PPC020 -1401 | 10               | 8               | 5            | <1.0        | <0.5        |
| PCG020 1401  | 10               | 8.6             | 1.8          | 0.9         | <0.5        |
| PCC3 - 1401  | 12               | 10              | 3            | 1.7         | <0.5        |
| PCC10 - 1401 | 22               | 18              | 6            | 3.2         | <1.0        |
| PCC30 - 1401 | 100              | 85              | 11           | 3.0         | <1.0        |

### 1401 Cross Reference

| Pall                | Process Filtration |
|---------------------|--------------------|
| MCC 1401JO25 - H13  | PPC005 - 1401      |
| MCC 1401JO60 - H13  | PPC010 - 1401      |
| MCC 1401 J100 - H13 | PPC020 - 1401      |
| MCC 1401 E100 - H13 | PCG020 - 1401      |
| MCC 1401E280 - H13  | PCC10 - 1401       |
| MCC 1401E500 - H13  | PCC30 - 1401       |
|                     | PCC3 - 1401        |

Beta Ratio (β) =

Upstream Particle Count @ Specified Particle Size and Larger  
Downstream Particle Count @ Specified Particle Size and Larger

Percent Removal Efficiency =  $\left(\frac{\beta-1}{\beta}\right) \times 100$

Performance determined per ASTM F-795-88. single-pass test using AC test dust in water.

## Ordering Information

| Cartridge Code (µm)                         | Nominal Particle (µm)<br>Removal Rating | Size Code (Length) |
|---|---|--------------------|
| PPC = Pleated<br>Polypropylene<br>Cartridge | 005 = 0.5<br>010 = 1.0<br>020 = 2.0     | 1401 = 38.75       |
| PCC = Pleated<br>Cellulosic<br>Cartridge    | 3 = 3.0<br>10 = 10.0<br>30 = 30.0       |                    |

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ENGINEERING YOUR SUCCESS.

C-4015

## Fulflo® Flo-Pac® Filter Cartridges

### Superior Industrial Filtration From a Pleated Cartridge Design

Parker Fulflo® Flo-Pac® Cartridges are the perfect choice for many industrial filtration requirements. Flo-Pac pleated cartridges contain premium grade, phenolic impregnated cellulosic filter media. Parker's line of pleated cartridges is designed for critical filtration applications, providing long service life, high flow rate and low pressure drop.

Flo-Pac Pleated Cartridges are available in 0.5µm, 1µm, 5µm, 10µm, 20µm, 30µm, and 60µm pore sizes (95% removal;  $\beta = 20$ ).



### Benefits

- Pleated cellulosic media allow high flow capacity at low pressure drop
- Available in a variety of sizes and configurations to fit most industrial vessels
- Phenolic resin impregnated to provide strength, integrity and high contaminant capacity
- High strength spiral core withstands pressure surges to 100 psid
- Suitable for operating temperatures to 250°F (121°C)

- Outer sleeve protects the media from damage
- ETP (Electro-tin-plated) steel metal components for both aqueous and oil-based applications
- Buna-N gaskets are standard, other materials are available

### Applications

- Water Soluble
- Coolants
- Quench Oils
- Fuels
- Lubricating Oils
- Hydraulic Oils
- EDM Dielectrics
- Rolling Mill Oils
- Processing Liquids
- Gasoline



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# Fulflo® Flo-Pac® Filter Cartridges

## Specifications

### Materials of Construction:

Filter Media: Phenolic impregnated cellulose  
 Cores ETP steel  
 End Caps: ETP steel  
 Sleeve: 300 series - polypropylene  
 600 & 700 series - ETP steel  
 Adhesive: Thermosetting PVC  
 End Seals: 300 & 700 Series—Buna-N gaskets, 600 Series—Buna-N gaskets/grommets, 500 Series—fiber gaskets,

### Packaging:

#### 300 Series:

310—24/carton (12 lb ≈ shipping wt)  
 320—12/carton (12 lb ≈ shipping wt)  
 330—12/carton (18 lb ≈ shipping wt)  
 340—12/carton (24 lb ≈ shipping wt)

#### 500 Series:

518—6/carton (14 lb ≈ shipping wt)

#### 600 Series:

614—6/carton (20 lb ≈ shipping wt)  
 629—4/carton (26 lb ≈ shipping wt)  
 644—4/carton (40 lb ≈ shipping wt)

#### 700 Series:

718—6/carton (20 lb ≈ shipping wt)  
 736—4/carton (26 lb ≈ shipping wt)  
 754—4/carton (39 lb ≈ shipping wt)

### Maximum Recommended Operating Conditions:

Temperature: 250°F (121°C)  
 Differential Pressure: 70 psi (4.8 bar)  
 Change Out ΔP: 35 psid (2.4 bar)  
 Flow Rate per Single Length Cartridge:  
 300 Series 7 gpm  
 500 Series 50 gpm  
 600 Series (3-1/2 in ID) 50 gpm  
 600 Series (1-9/16 in ID) 35 gpm  
 700 Series 50 gpm

### Dimensions:

300 Series  
 2-1/2 in OD x 1 in ID x 9-5/8 in,  
 19-3/4 in, 29-1/4 in, 29-5/8 in, 40 in  
 500 Series  
 4-1/2 in OD x 1-3/4 in ID x 18 in  
 600 Series  
 6-1/4 in OD x 3-1/12, 1-9/16 in or 1-1/4 in ID x 14-3/8, 29 or 43-3/8 in long  
 700 Series  
 6-1/4 in OD x 2-5/8 in or 2-1/8 in ID x 18, 36, or 54 in long

### Filtration Ratings:

95% at 0.5μm, 1μm, 5μm, 10μm, 20μm, 30μm, and 60μm pore sizes

### ■ Liquid Particle Retention Ratings (μm) at Removal Efficiencies of:

| Cartridge | β=5000<br>Absolute | β=1000<br>99.9% | β=100<br>99% | β=20<br>95% | β=10<br>90% |
|-----------|--------------------|-----------------|--------------|-------------|-------------|
| FP-0.5    | 12                 | 10              | 3            | 0.5         | <0.5        |
| FP-1      | 15                 | 12              | 6            | 1           | <1.0        |
| FP-5      | 30                 | 20              | 9            | 5           | 3.5         |
| FP-10     | 50                 | 35              | 18           | 10          | 7           |
| FP-20     | 90                 | 70              | 40           | 20          | 12          |
| FP-30     | 100                | 85              | 50           | 30          | 21          |
| FP-60     | 200                | 150             | 90           | 60          | 45          |

### Flow Rate and Pressure Drop Formulas

$$\text{Flow Rate (gpm)} = \frac{\text{Clean } \Delta P \times \text{Length Factor}}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean DP} = \frac{\text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}}{\text{Length Factor}}$$

1. Clean ΔP is PSI differential at start.
2. Viscosity is centistokes. Use Conversion Tables for other units.
3. Flow Factor is ΔP/GPM at 1 cks for 10 in (or single).
4. Length Factors convert flow or ΔP from 10 in (single length) to required cartridge length.

### FP Flow Factors (psid/gpm @ 1 cks)

| Rating (μm) | Flow Factor |
|-------------|-------------|
| 0.5         | 0.0260      |
| 1           | 0.0170      |
| 5           | 0.0020      |
| 10          | 0.0018      |
| 20          | 0.0010      |
| 30          | 0.0009      |
| 60          | 0.0005      |

### FP Length Factors

| Style | Length Factor |
|-------|---------------|
| FP310 | 1.0           |
| FP320 | 2.0           |
| FP330 | 3.0           |
| FP340 | 4.0           |
| FP518 | 3.3           |
| FP614 | 3.6           |
| FP629 | 7.2           |
| FP644 | 10.8          |
| FP718 | 6.5           |
| FP736 | 13.0          |
| FP754 | 19.5          |

## Ordering Information

| FP             |  |  |                                       |   |   |   |
|----------------|--|--|---------------------------------------|---|---|---|
| Cartridge Code | Outside Diameter   | Length   | Micron Rating (μm)                    | Inside Diameter   | Seal Material   | Body  |
| FP = Flo-Pac   | 3 = 2-1/2 in (300 Series)<br>5 = 4-1/2 in (500 Series)<br>6 = 6-1/4 in (600 Series)<br>7 = 6-1/4 in (700 Series) | (code) (in) (series)<br>10 9-5/8 300<br>14 14-3/8 600<br>18 18 500,700<br>20 19-3/4 300<br>29 29 600<br>29 29-1/4 300<br>30 29-5/8 300<br>36 36 700<br>40 40 300<br>44 43-3/8 600<br>54 54 700 | 0.5<br>1<br>5<br>10<br>20<br>30<br>60 | None = 1 in (300 Series)<br>None = 1-3/4 in (500 Series)<br>None = 3-1/2 in (600 Series)<br>None = 2-5/8 in (700 Series)<br>1 = 1-9/16 in (600 Series)<br>8 = 2-1/8 in (700 Series) | None = Buna-N Gaskets<br>A = Vellumoid (300, 600, 700 Series)<br>B = Fiber (500 Series Only)<br>C = Cork (700 Series Only)<br>G = Buna-N Grommets (600 Series 1-9/16 in ID)<br>V = Viton* | None = Metal (500, 600 700 series)<br>1 = Polypro (300 series)<br>M = Metal (300 series)<br>N = No Body |

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# Fulflo® Flo-Pac® + Filter Cartridges

## Special Construction for Organic Solvent Filtration

Parker Fulflo® Flo-Pac® Cartridges are the filters of choice for many industrial filtration requirements. Flo-Pac+ Pleated Cartridges are manufactured with premium grade, phenolic impregnated cellulosic filter media for long service life, high flow rate and low pressure drop. Unique epoxy resin bonding of end caps, pleat side seal and gaskets provides excellent resistance to most organic solvents.

Flo-Pac+ Pleated Cartridges are available in 0.5µm, 1µm, 5µm, 10µm, 20µm, 30µm, and 60µm pore sizes (95% removal;  $\beta = 20$ ).



## Benefits

- Epoxy bonding of end caps, pleat side seal and gaskets provides resistance to most organic solvents
- Premium pleated cellulosic media allow high flow capacity at low pressure drop
- Available in a variety of sizes and configurations to fit most industrial vessels
- Impregnated phenolic resin provides strength, integrity and high contaminant capacity
- Suitable for operating temperatures to 250°F (121°C)

- Perforated outer metal sleeve protects the media against damage.
- ETP (Electro-tin-plated) steel metal components for aqueous and oil-based applications
- Gaskets provide positive seals and are available in Viton,\* cork and standard Vellumoid
- Recommended range is pH 4-10. Please call for specific recommendation
- Spiral core withstands pressure surges to 100 psid

## Applications

- Aromatic Hydrocarbons (toluene, xylene, benzene)
- Ketones (acetone, isophorone, methylethyl ketone)
- Ethers (THF, dioxane)
- Amines (DEA, TEA, DMEA)
- Glycols (ethyl acetate, cellosolve acetate)
- Aliphatic Hydrocarbons (hexane, pentane, naphtha)
- Halogenated Hydrocarbons (methylene chloride, perchloroethylene)
- Esters (EG, PEG, DEG)



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# Fulflo® Flo-Pac® + Filter Cartridges

## Specifications

### Materials of Construction:

Filter Media: phenolic impregnated cellulose  
Cores: ETP steel  
End Caps: ETP steel  
Sleeve: ETP steel  
Adhesive: epoxy  
End Seals: Vellumoid (standard), Viton,\* cork

### Maximum Recommended Operating Conditions:

Temperature: 250°F (121°C)  
Change Out ΔP: 35 psi (2.4 bar)  
Flow Rate per Single Length Cartridge:  
300 Series 7 gpm  
600 Series (3-1/2 in ID) 50 gpm  
600 Series (1-9/16 in ID) 35 gpm  
700 Series 50 gpm  
Differential Pressure: 70 psi (4.8 bar)

### Dimensions:

300 Series -  
2-1/2 in OD x 1 in ID x 9-5/8 in, 19-3/4 in, 29-1/4 in, 29-5/8 in and 40 in long  
600 Series -  
6-1/4 in OD x 3-1/2 in ID or 1-9/16 in ID x 14-3/8 in long or 29 in long  
700 Series -  
6-1/4 in OD x 2-5/8 in or 2-1/8 in ID x 18 in or 36 in long

### Packaging:

300 Series:  
310—24/carton (12 lb ≈ shipping wt)  
320—12/carton (12 lb ≈ shipping wt)  
330—12/carton (18 lb ≈ shipping wt)  
340—12/carton (24 lb ≈ shipping wt)  
600 Series:  
614—6/carton (20 lb ≈ shipping wt)  
629—6/carton (40 lb ≈ shipping wt)  
700 Series:  
718—6/carton (20 lb ≈ shipping wt)  
736—4/carton (26 lb ≈ shipping wt)

### Filtration Ratings:

95% at 0.5μm, 1μm, 5μm, 10μm, 20μm, 30μm, and 60μm pore sizes

### Flow Rate and Pressure Drop Formulas

$$\text{Flow Rate (gpm)} = \frac{\text{Clean } \Delta P \times \text{Length Factor}}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean } \Delta P = \frac{\text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}}{\text{Length Factor}}$$

1. Clean ΔP is PSI differential at start.
2. Viscosity is centistokes. Use Conversion Tables for other units.
3. Flow Factor is ΔP/GPM at 1 cks for 10 in (or single).
4. Length Factors convert flow or ΔP from 10 in (single length) to required cartridge length.

### FP Flow Factors (psid/gpm @ 1 cks)

| Rating (μm) | Flow Factor |
|-------------|-------------|
| 0.5         | 0.0260      |
| 1           | 0.0170      |
| 5           | 0.0020      |
| 10          | 0.0018      |
| 20          | 0.0010      |
| 30          | 0.0009      |
| 60          | 0.0005      |

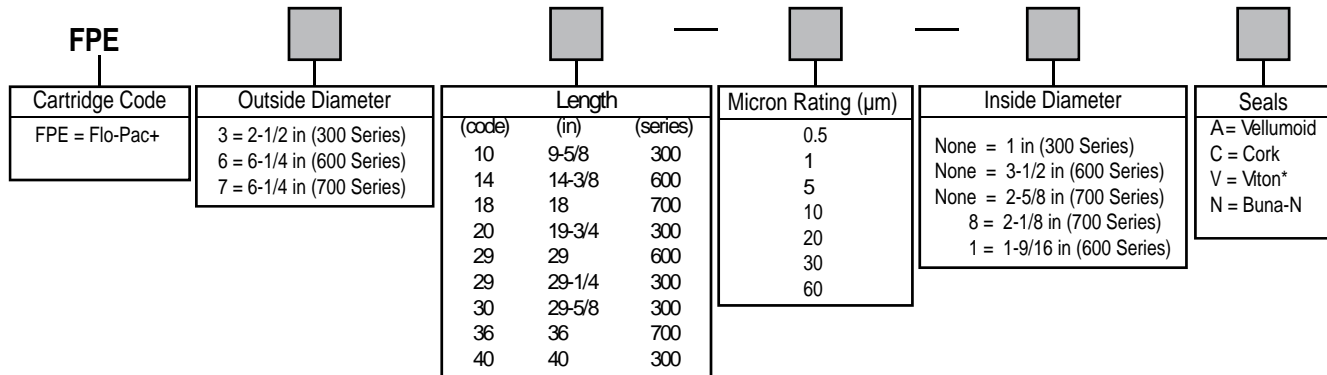
### FP Length Factors

| Style | Length Factor |
|-------|---------------|
| 310   | 1.0           |
| 320   | 2.0           |
| 330   | 3.0           |
| 340   | 4.0           |
| 614   | 3.6           |
| 629   | 7.2           |
| 718   | 6.5           |
| 736   | 13.0          |

### ■ Liquid Particle Retention Ratings (μm) at Removal Efficiencies of:

| Cartridge | β=5000   | β=1000 | β=100 | β=20 |
|-----------|----------|--------|-------|------|
|           | Absolute | 99.9%  | 99%   | 95%  |
| FPE-0.5   | 12       | 10     | 3     | 0.5  |
| FPE-1     | 15       | 12     | 6     | 1    |
| FPE-5     | 30       | 20     | 9     | 5    |
| FPE-10    | 50       | 35     | 18    | 10   |
| FPE-20    | 90       | 70     | 40    | 20   |
| FPE-30    | 100      | 85     | 50    | 30   |
| FPE-60    | 200      | 150    | 90    | 60   |

## Ordering Information



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## Large Diameter Pleated Filter Cartridge Series





# Fulflo® MegaFlow Filter Cartridges

## High Flow Capacity Pleated Filter Cartridges

Parker's Fulflo® MegaFlow™ cartridges provide a cost effective alternative to wound and other 2 1/2 inch OD style filter cartridges in high flow applications such as reverse osmosis pre-filtration and similar applications where nominal efficiency is sufficient. Each MegaFlow™ cartridge can handle flow rates up to 175 gpm (662 lpm), significantly reducing the number of cartridges required and the housing size. Each 6 inch (152 mm) diameter MegaFlow™ cartridge has flow capacity equal to 8 standard 2 1/2 inch OD X 40 inch long filter cartridges. Positive O-ring seals and a built in handle make cartridge installation reliable, fast and easy.

MegaFlow™ cartridges are available in either pleated polypropylene or cellulose media with nominal ratings of 0.5, 1, 5 and 10 micron.

## Benefits

- High flow capacity means fewer cartridges and reduces labor costs to change
- High flow capacity allows smaller housings and less capital expenditure
- Built in handle makes change fast, easy and safe
- O-ring seal assures filtration integrity
- Choice of polypropylene or cellulose media allows use in both aqueous and non-aqueous fluid applications
- Thermally bonded polypropylene and phenolic resin bonded cellulose filter media prevent particle bleed through and unloading that commonly occurs with wound cartridges



- High surface area pleated design provides lower pressure drop and longer service life than other cartridges
- All materials of construction in polypropylene cartridges comply with FDA regulations per CFR Title 21
- Horizontal and vertical housings are available for flow rates up to 3,325 gpm (12,586 LPM)

## Applications

- Potable Water
- Waste Water
- Reverse Osmosis Pre-Filtration
- Lubricating Oil
- Coolants



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# Fulflo® Mega-Flow Filter Cartridges

## Specifications

### Materials of Construction:

Media: Polypropylene microfiber (P Code); Cellulose with phenolic binder (C Code)  
 Support Layers: Polypropylene (P Code); None (C Code)  
 End caps: Glass Filled Polypropylene  
 O-Rings: Buna-N, EPR, Silicone, Fluoroelastomer

### Recommended Operating Conditions:

Change Out Differential Pressure:  
 35 psid (2.4 bar)  
 Maximum Flow Rate: 175 gpm (662 lpm)  
 Maximum Temperature: 200°F (93°C)  
 Maximum Differential Pressure: 150 psid (10 bar)

### Nominal Filtration Ratings:

(90%) 0.5, 1, 5 and 10 µm

### Dimensions:

6 in (152 mm) OD, 3.5 in (89 mm) ID,  
 40 in (1016 mm) long

### Surface Area:

55-60 ft² (5.1-5.6m²)

| Cartridge Code | Nominal Rating | Media         | Removal Rating (Microns) at Efficiency |     |     |     |       | Flow Factor*<br>[PSID/GPM<br>(Mbar/lpm)] |
|----------------|----------------|---------------|--|-----|-----|-----|-------|--|
|                |                |               | 90%                                    | 95% | 98% | 99% | 99.9% |  |
| MFNP005        | 0.5            | Polypropylene | 0.5                                    | 1   | 2   | 5   | 10    | 0.003 (0.06)                             |
| MFNP010        | 1              | Polypropylene | 1                                      | 3   | 7   | 10  | 30    | 0.0007 (0.014)                           |
| MFNP050        | 5              | Polypropylene | 5                                      | 10  | 20  | 30  | 50    | 0.0004 (0.008)                           |
| MFNP100        | 10             | Polypropylene | 10                                     | 30  | 50  | 60  | 90    | 0.0003 (0.006)                           |
| MFNC005        | 0.5            | Cellulose     | 0.5                                    | 1   | 2   | 3   | 10    | 0.002 (0.03)                             |
| MFNC010        | 1              | Cellulose     | 1                                      | 2   | 3   | 5   | 20    | 0.0002 (0.003)                           |
| MFNC050        | 5              | Cellulose     | 5                                      | 8   | 10  | 15  | 85    | 0.0001 (0.002)                           |
| MFNC100        | 10             | Cellulose     | 10                                     | 12  | 15  | 30  | 100   | 0.00005 (0.0009)                         |

\*In water at 1 cks

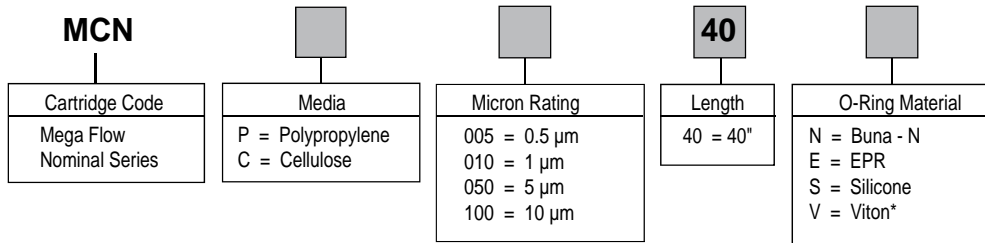
### Flow Rate and Pressure Drop Formulas

$$\text{Flow Rate (gpm)} = \frac{\text{Clean } \Delta P \times \text{Length Factor}}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean } \Delta P = \frac{\text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}}{\text{Length Factor}}$$

1. Clean  $\Delta P$  is PSI differential at start.
2. Viscosity is centistokes. Use Conversion Tables for other units.
3. Flow Factor is  $\Delta P/\text{GPM}$  at 1 cks for 10 in (or single).
4. Length Factors convert flow or  $\Delta P$  from 10 in (single length) to required cartridge length.

## Ordering Information



Specifications are subject to change without notification.

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C-2051

## Fulflo® Mega-Flow Plus Filter Cartridges

### Absolute Rated, High Flow Capacity, Pleated Filter Cartridges

Parker's Fulflo® MegaFlow+™ cartridges are ideally suited for high flow applications where absolute particle removal is required. Each MegaFlow+™ cartridge can handle flow rates up to 175 gpm (662 lpm), significantly reducing the number of cartridges required as well as the housing size. Each 6 inch (152 mm) diameter MegaFlow+™ cartridge has flow capacity equal to 8 standard 2 ½ inch OD X 40 inch long cartridges. Positive O-ring seals and a built in handle make cartridge installation reliable, fast and easy.

MegaFlow+™ cartridges are available with pleated polypropylene media for use in a wide variety of fluids. Absolute ratings range from 1 µm to 150 µm.

### Benefits

- High flow capacity means fewer cartridges and less time to change
- High flow capacity allows smaller housings
- Built in handle makes change fast, easy and safe
- O-ring seal assures filtration integrity
- Choice of polypropylene media expands fluid compatibility
- High surface area pleated design provides low pressure drop and long service life



- Polypropylene cartridges comply with FDA regulations per CFR Title 21
- Horizontal and vertical housings available for flow rates up to 3325 gpm (12,586 lpm)
- Reduces process interruptions

### Applications

- Potable Water
- Vegetable Oil
- Wastewater
- Lubricants
- Food and Beverage
- Coolants



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# Fulflo® Mega-Flow Plus Filter Cartridges

## Specifications

### Absolute Filtration Ratings:

( $\beta_x = 5000$ ; 99.98%):

Polypropylene: 1, 2, 5, 10, 20, 40, 70  $\mu\text{m}$

Cellulose: 10, 15, 25, 100, 150  $\mu\text{m}$

### Materials of Construction:

Media: Polypropylene microfiber

(P Code) Cellulose with phenolic binder

(C Code)

Support Layers: Polypropylene (P Code);

End caps: Glass Filled Polypropylene

O-Rings: Buna-N, EPR, Silicone, Fluoro-elastomer

| Cartridge Code | Absolute Rating | Media         | Removal Rating (Microns) at Efficiency |       |      |      | Flow Factor*<br>[PSID/GPM<br>(Mbar/lpm)] |
|----------------|-----------------|---------------|--|-------|------|------|--|
|                |                 |               | 99.98%                                 | 99.9% | 99%  | 98%  |  |
| MFAP010        | 1               | Polypropylene | 1                                      | 0.8   | 0.45 | <0.2 | 0.078 (1.4)                              |
| MFAP020        | 2               | Polypropylene | 2                                      | 1.5   | 0.8  | 0.2  | 0.031 (0.6)                              |
| MFAP050        | 5               | Polypropylene | 5                                      | 4     | 1    | 0.45 | 0.008 (0.01)                             |
| MFAP100        | 10              | Polypropylene | 10                                     | 7     | 2    | 0.5  | 0.003 (0.06)                             |
| MFAP200        | 20              | Polypropylene | 20                                     | 13    | 4    | 2    | 0.002 (0.04)                             |
| MFAP400        | 40              | Polypropylene | 40                                     | 22    | 7    | 3    | 0.001 (0.02)                             |
| MFAP700        | 70              | Polypropylene | 70                                     | 52    | 22   | 15   | 0.0008 (0.015)                           |
| MFAC100        | 10              | Cellulose     | 10                                     | 8     | 2    | 1    | 0.003 (0.05)                             |
| MFAC150        | 15              | Cellulose     | 15                                     | 10    | 3    | 2    | 0.002 (0.03)                             |
| MFAC250        | 25              | Cellulose     | 25                                     | 20    | 5    | 3    | 0.0002 (0.003)                           |
| MFAC1000       | 100             | Cellulose     | 100                                    | 85    | 10   | 5    | 0.0001 (0.002)                           |
| MFAC1500       | 150             | Cellulose     | 150                                    | 100   | 30   | 15   | 0.00005 (0.0009)                         |

\*In water at 1 cks

### Recommended Operating Conditions:

Change Out Differential Pressure:

35 psid (2.4 bar)

Maximum Flow Rate: 175 gpm (662 lpm)

Maximum Temperature: 200°F (93°C)

Maximum Differential Pressure: 150 psid (10 bar)

### Flow Rate and Pressure Drop Formulas:

$$\text{Flow Rate (gpm)} = \frac{\text{Clean } \Delta P \times \text{Viscosity} \times \text{Flow Factor}}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean } \Delta P = \text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}$$

1. Clean  $\Delta P$  is PSI differential at start.
2. Viscosity is centistokes. Use Conversion Tables for other units.
3. Flow Factor is  $\Delta P/\text{GPM}$  at 1 cks for 10 in (or single).

### Dimensions:

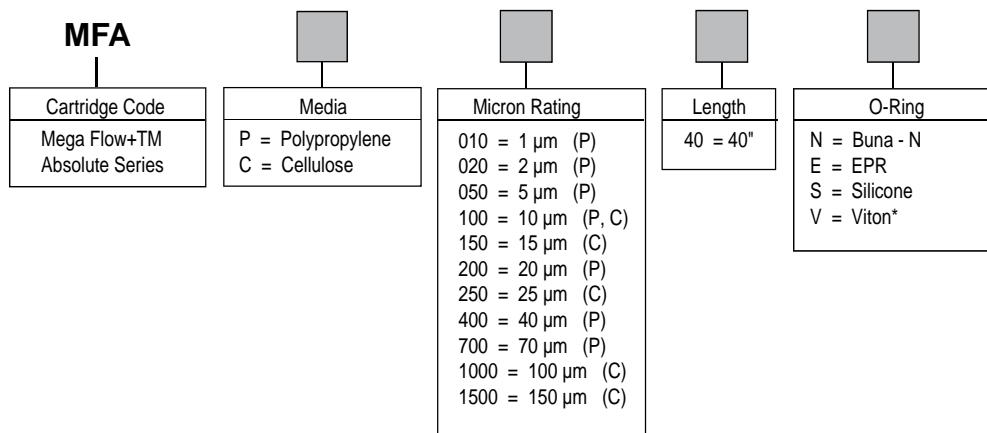
6 in (152 mm) OD 3.5 in (89 mm) ID,

40 in (1016 mm) long

### Surface Area

55 - 60 ft.<sup>2</sup> (5.1 - 5.6 m<sup>2</sup>)

## Ordering Information



Specifications are subject to change without notification.

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# Fulflo® MaxGuard Filter Cartridges

## MaxGuard™ High Capacity Cartridge

Parker's MaxGuard™ high capacity cartridge product line provides a cost effective alternative to bag media or standard 2-1/2 inch cartridges for high flow applications. Each MaxGuard™ cartridge has a 6" nominal outside diameter and can handle flows up to 90 gpm, significantly reducing the number of cartridges required for large flow applications.

MaxGuard™ cartridges are available in polypropylene, cellulose and Nomex™ media. All cartridges feature an industry standard 226 positive O-ring seal and easy-to-grasp integrated handle.



## Benefits

- High flow capacity means fewer cartridges and reduced labor costs associated with change-out
- High flow capacity allows for smaller housings and less capital expenditure
- Heavy wall core ensures superior strength
- Integrated handle makes change-outs fast, easy and safe
- Positive 226 O-ring seal assures filtration integrity

- Absolute retention ratings for critical filtration
- Polypropylene cartridges listed as acceptable for potable and edible contact according to CFR Title 21
- Manufactured with strict quality control
- Parker Process Filtration Division is an ISO9001:2000 registered company

## Applications

- Deep well injection
- Amines
- Commercial water
- Food and Beverage



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# Fulflo® MaxGuard Filter Cartridges

## Specifications

### Liquid Particle Retention Ratings ( $\mu\text{m}$ ) @ Removal Efficiency of:

| Cartridge | $\beta=5000$<br>Absolute | $\beta=1000$<br>99.90% | $\beta=100$<br>99% | $\beta=50$<br>98% | $\beta=20$<br>95% |
|-----------|--------------------------|------------------------|--------------------|-------------------|-------------------|
| MXGC020   | 2                        | 1.6                    | 0.4                | 0.2               | <0.1              |
| MXGC100   | 10                       | 6                      | 1.4                | 0.5               | <0.2              |
| MXGC150   | 15                       | 11                     | 3                  | 1.5               | <0.6              |
| MXGC700   | 70                       | 53                     | 8.5                | 3                 | <0.5              |
| MXGP005   | 0.5                      | 0.4                    | 0.2                | <0.2              | <0.1              |
| MXGP020   | 2                        | 1.4                    | 0.4                | 0.2               | <0.1              |
| MXGP050   | 5                        | 3.8                    | 1.2                | 0.3               | <0.1              |
| MXGP100   | 10                       | 7                      | 3                  | 0.9               | <0.2              |
| MXGP200   | 20                       | 18                     | 5                  | 2                 | <0.2              |
| MXGP400   | 40                       | 23                     | 18                 | 8                 | <0.7              |
| MXGN1000  | 100                      | 91                     | 83                 | 64                | 35                |

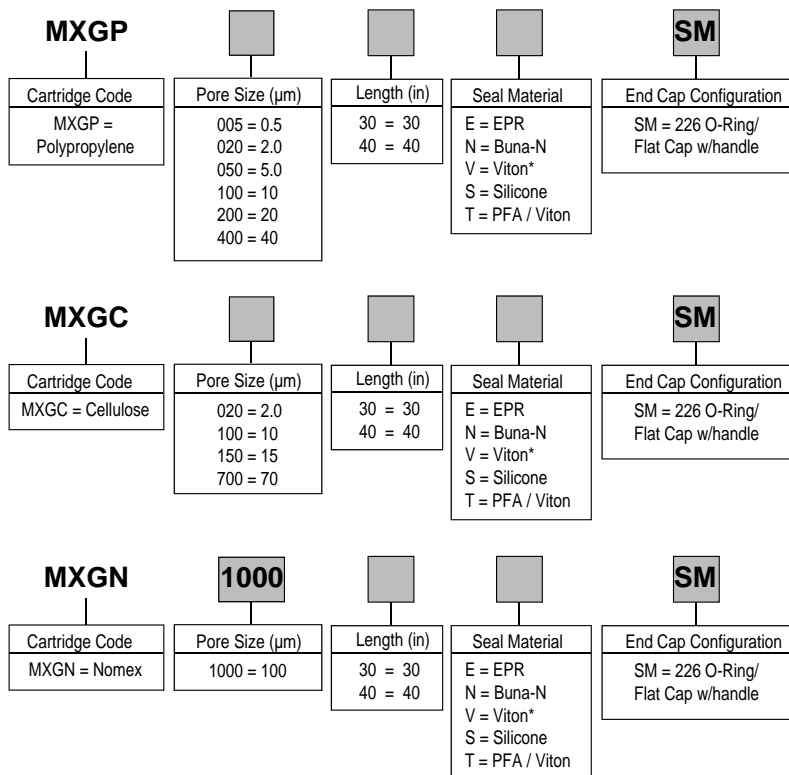
### MaxGuard Cartridge Flow Factors (psid/gpm @ 1 cks)

| Cartridge | Flow Factor |
|-----------|-------------|
| MXGC020   | 0.0017      |
| MXGC100   | 0.0011      |
| MXGC150   | 0.00012     |
| MXGC700   | 0.000066    |
| MXGP005   | 0.0900      |
| MXGP020   | 0.00331     |

| Cartridge | Flow Factor |
|-----------|-------------|
| MXGP050   | 0.00619     |
| MXGP100   | 0.00218     |
| MXGP200   | 0.00051     |
| MXGP400   | 0.00023     |
| MXGN1000  | 0.00002     |

\* Flow factors based on water at ambient temperature

## Ordering Information



## Specifications

### Materials of Construction:

- Media: MXGP (polypropylene), MXGC (cellulose), MXGN (Nomex™\*)
- Support/Drainage: Polypropylene (MXGP/C), stainless steel (MXGN)
- Structural components: Polypropylene (MXGP/C), stainless steel (MXGN)
- Seal Material: Various

### Recommended Operating Conditions:

- Maximum Temperature:
  - MXGP/C - 176°F (80°C) @ 30 psid (2.1 bar)
  - MXGN - 425°F (220°C) @ 30 psid
- Maximum Differential Pressure:
  - Forward:
    - 70 psid (4.8 bar) @ 77°F (25°C)
    - 30 psid (2.1 bar) @ 176°F (80°C)
  - Reverse (MXGN Only):
    - 50 psid (3.4 bar) @ 77°F (25°C)

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## Fulflo® ParMax Filter Cartridges

### Large-diameter high-flow elements

The best of pleated and large diameter technologies are combined in Parker's ParMax™ high flow filter cartridges. ParMax™ cartridges are available with polypropylene and microfiberglass media in absolute (99.98%) ratings from 1 to 90 micron. The unique layered construction provides excellent retention across a wide range of flux rates. One-six inch diameter cartridge can handle up to 500 gpm flow (60" length). The inside-to-outside flow allows for a high contaminant holding capacity. High flow and a long filter life make the ParMax™ an ideal choice for a wide variety of critical process applications.



### Benefits

- Large diameter yields much higher flow rates compared to traditional 2.5" filters
- High flow capacity permits use of fewer elements and cuts capital expenditure
- Inside-out flow pattern ensures positive capture of contaminants
- Absolute retention ratings for critical filtration

- All materials listed as acceptable for potable and edible contact according to CFR Title 21
- Manufactured with strict quality control
- Parker is an ISO9001:2000 Certified Division

### Applications

- Process water
- Water
- Spirits
- Food and beverage



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# Fulflo® ParMax Filter Cartridges

## Specifications

### Materials of Construction:

- Media:  
RCP - polypropylene  
RMG - microfiberglass  
Support/Drainage  
Polypropylene  
Hardware  
Polypropylene  
O-rings  
EPR, Buna-N, Viton®, silicone

### Retention Ratings (99.98%):

1, 3, 4.5, 10, 20, 30, 40 and 90 µm

### Maximum Operating Conditions:

Maximum Temperature  
176°F (80°C) @ 30 psid (2.1 bar)

### Maximum Differential Pressure:

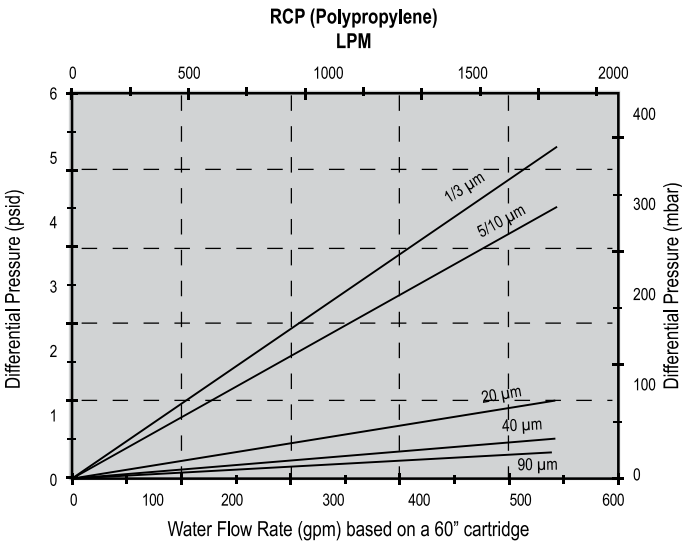
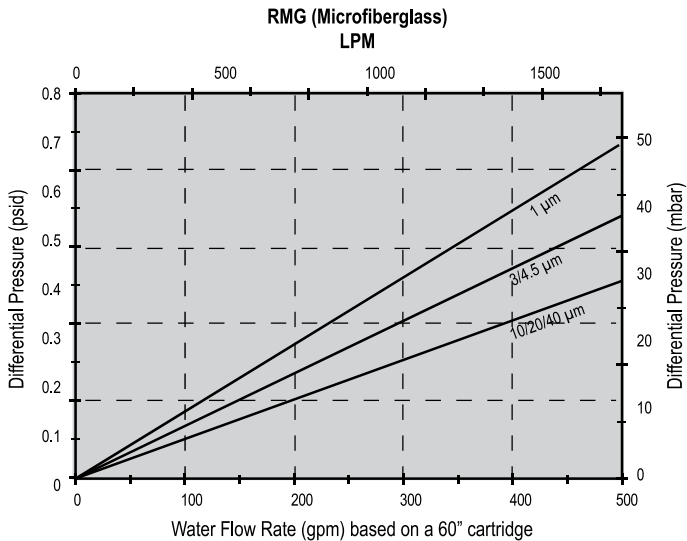
70 psi (4.8 bar) @ 77°F (25°C)  
30 psi (2.1 bar) @ 176°F (80°C)

### Recommended Operating Conditions:

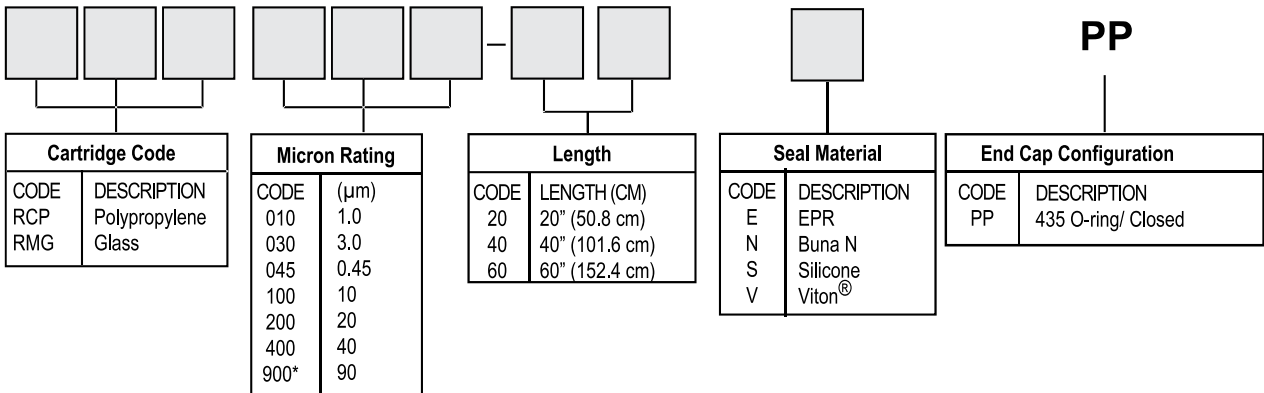
Flow Rate  
Up to 175 gpm (662 lpm)/20" element  
Up to 350 gpm (1325 lpm)/40" element  
Up to 500 gpm (1892 lpm)/60" element  
Changeout Pressure  
35 psid (2.41 bar)

### Dimensions (nominal):

Outside Diameter: 6" (152mm)  
Inside Diameter: 2.9" (74mm)



## Ordering Information



\*Available only in polypropylene media (RCP)

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## Melt Blown, Resin Bonded, and Wound Depth Filter Cartridge Series



C - 1301

## Fulflo® MegaBond Plus™ Cartridges

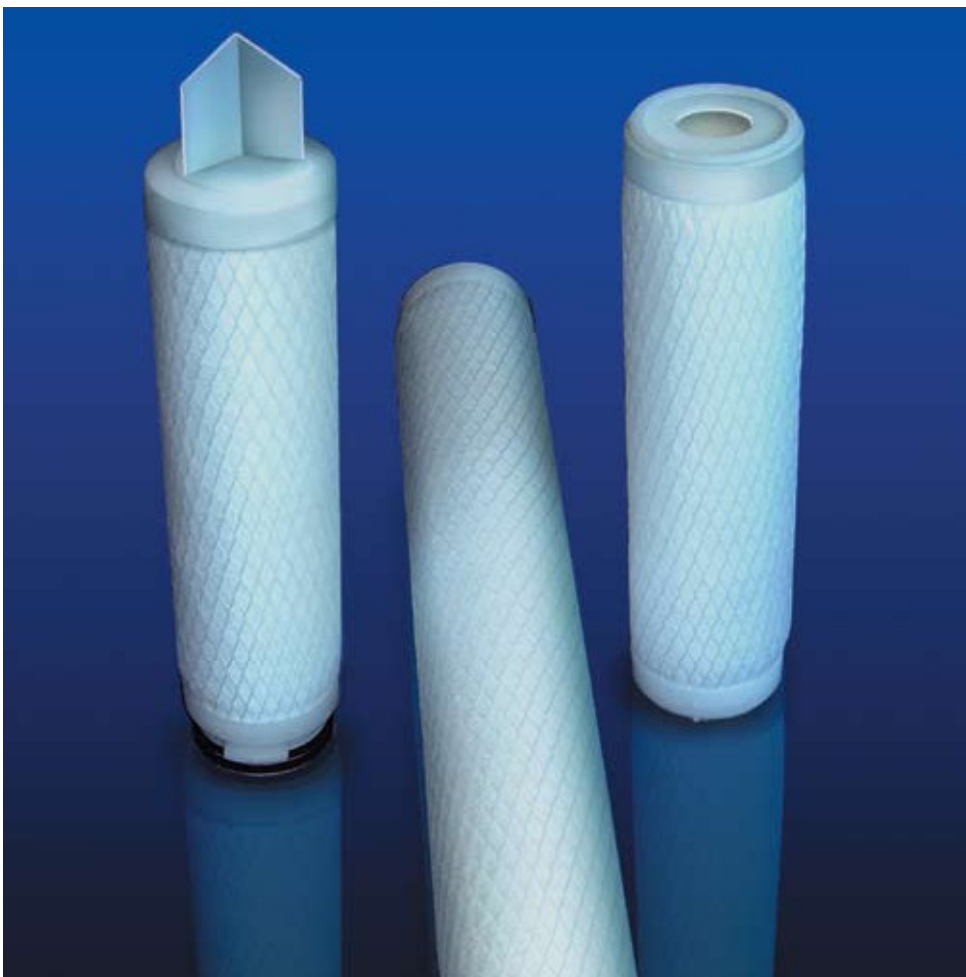
### Depth Cartridges with High Dirt Holding Capacity & Absolute Rated Filtration Efficiency

Parker's Fulflo® MegaBond Plus™ are absolute rated depth cartridges. Using a new innovative manufacturing process, the MBP has higher dirt holding capacities offering long service life and without contaminant migration. The MBP has a fixed core inner structure of thermally bonded continuous microfine polypropylene fibers. The outer layer fixed pore structure has been modified to maximize the graded density surface area to enhance dirt holding capacity.

Fulflo® MegaBond Plus™ cartridges are available in absolute ( $\beta = 5000$ ) ratings of 1 $\mu$ m, 3 $\mu$ m, 5 $\mu$ m, 10 $\mu$ m, 15 $\mu$ m, 20 $\mu$ m, 30 $\mu$ m, 40 $\mu$ m, 70 $\mu$ m, 90 $\mu$ m and 120 $\mu$ m.

### Benefits

- Microfine, thermally bonded fiber construction provides superior filtration and often eliminates the need for circulation to achieve product clarity
- Non-fiber-releasing, continuous fiber matrix prevents media migration and ensures consistent production yields and overall quality filtration performance
- No surfactants or binders are present to interrupt product quality or cause foaming
- Double open-end cartridges have polyolefin gaskets thermally bonded to both ends eliminating fluid bypass between the cartridge and the vessel seal
- Superior inter-layer bonding eliminates contaminant unloading and channeling



- Unique outer graded density structure increases dirt holding capacity
- Polypropylene fiber provides broad chemical compatibility for a variety of applications
- All materials of construction are FDA listed as acceptable for potable and edible liquid contact according to CFR Title 21
- Pore size differentiation is achieved using fibers of differing diameters and maintaining uniform density throughout the cartridge

- Pore sizes do not change as DP increases during service, providing consistent particle retention

### Applications

- Photographics
- High Technology Coatings
- DI Water
- Plating Solutions
- Chemical Processing
- Membrane Prefiltration



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# Fulflo® MegaBond Plus™ Cartridges

## Specifications

### Materials of Construction:

Polypropylene: microfiber 100% melt blown construction  
Center Support Core/End Caps: natural polypropylene  
Thermally Bonded Gaskets: polyolefin closed cell foam (DOE only)

### Maximum Recommended Operating Conditions:

Temperature:  
@ 60 psid (4.1 bar): 80°F (27°C)  
@ 35 psid (2.4 bar): 160°F (71°C)  
@ 15 psid (1.0 bar): 200°F (93°C)  
Flow Rate: 5 gpm (18.9 lpm) per 10 in length  
**Recommended Maximum:**  
Change Out ΔP: 35 psi (2.4 bar)  
Operating Pressure @ Ambient Temperature: 60 psid (4.1 bar)

### Dimensions:

1 in ID x 2-9/16 in OD 10, 20, 30 and 40 in continuous nominal lengths

### Absolute Filtration Ratings:

1μm, 3μm, 5μm, 10μm, 15μm, 20μm, 30μm, 40μm, 70μm, 90μm and 120μm

### Beta Ratio (β) =

Upstream Particle Count @ Specified Particle Size and Larger

Downstream Particle Count @ Specified Particle Size and Larger

Percent Removal Efficiency =  $\left(\frac{\beta-1}{\beta}\right) 100$

Performance determined per ASTM F-795-88. Single-Pass Test using AC test dust in water at a flow rate of 3.5 gpm per 10 in (13.2 lpm per 254 mm) cartridge.

### FP Flow Factors (psid/gpm @ 1 cks)

| Rating (μm) | Flow Factor |
|-------------|-------------|
| MBP1        | 2.17        |
| MBP3        | 1.60        |
| MBP5        | 0.90        |
| MBP10       | 0.32        |
| MBP15       | 0.16        |
| MBP20       | 0.12        |
| MBP30       | 0.10        |
| MBP40       | 0.05        |
| MBP70       | <0.05       |
| MBP90       | <0.04       |
| MBP120      | <0.03       |

### FP Length Factors

| Length (in) | Length Factor |
|-------------|---------------|
| 9.75        | 1.0           |
| 10.00       | 1.0           |
| 19.50       | 2.0           |
| 20.00       | 2.0           |
| 29.25       | 3.0           |
| 30.00       | 3.0           |
| 39.00       | 4.0           |
| 40.00       | 4.0           |

### Flow Rate and Pressure Drop Formulas

$$\text{Flow Rate (gpm)} = \frac{\text{Clean } \Delta P \times \text{Length Factor}}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean DP} = \frac{\text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}}{\text{Length Factor}}$$

1. Clean ΔP is PSI differential at start.
2. Viscosity is centistokes. Use Conversion Tables for other units.
3. Flow Factor is ΔP/GPM at 1 cks for 10 in (or single).
4. Length Factors convert flow or ΔP from 10 in (single length) to required cartridge length.

### Liquid Particle Retention Ratings (μm) @ Removal Efficiency of:

| Beta Ratio Efficiency | β = 5000 Absolute | β = 1000 99.9% | β = 100 99% | β = 50 98% | β = 10 90% |
|-----------------------|-------------------|----------------|-------------|------------|------------|
| MBP1                  | 1                 | 0.9            | 0.5         | 0.4        | 0.2        |
| MBP3                  | 3                 | 2.8            | 1.9         | 1.7        | 0.8        |
| MBP5                  | 5                 | 3.7            | 2.3         | 1.6        | 1.2        |
| MBP10                 | 10                | 9.1            | 8.0         | 7.8        | 6.7        |
| MBP15                 | 15                | 12.0           | 9.6         | 8.9        | 7.2        |
| MBP20                 | 20                | 18.3           | 13.0        | 12.5       | 8.7        |
| MBP30                 | 30                | 25.0           | 20.0        | 18.0       | 13.0       |
| MBP40                 | 40                | 35.0           | 28.0        | 25.0       | 18.0       |
| MBP70                 | 70                | 60.0           | 48.0        | 42.0       | 30.0       |
| MBP90                 | 90                | 80.0           | 72.0        | 63.0       | 48.0       |
| MBP120                | 120               | 105.0          | 95.0        | 85.0       | 70.0       |

## Ordering Information

| MBP                  |  |   |  |                               |  |   |  |  |
|----------------------|--|---|--|-------------------------------|--|---|--|--|
| Cartridge Code       |  | Micron Rating (absolute) (μm)           |  | Fiber Type                    | Nominal Length (in)  | End Cap Configuration   |  | Seal Material  |
| MBP = Mega Bond Plus |  |   |  | M = Polypropylene (FDA Grade) | 9-4 = 9-3/4<br>10 = 10<br>19-4 = 19-1/2<br>20 = 20<br>29-4 = 29-1/4<br>30 = 30<br>39-4 = 39<br>40 = 40 |   |  | None = Polyfoam (DOE only)<br>E = EPR<br>N = Buna-N<br>S = Silicone (O-Ring only)<br>T = PFA Encapsulated<br>Viton* (222, 226 O-Ring Only)<br>V = Viton* |
|                      |  | 1 30<br>3 40<br>5 70<br>10 90<br>20 120 |  |                               |  | None = Standard DOE /Polyfoam<br>AR = 020/Flat (Gelman)<br>DO = Double open end (DOE)<br>DX = DOE with Polypro extender<br>LL = 120 O-Ring both ends**<br>LR = 120 O-Ring/Recessed**<br>OB = Std. Open End/Polypro spring closed end<br>PR = 213 O-Ring/Recessed**<br>SC = 226 O-Ring/Flat<br>SF = 226 O-Ring/Fin | SSC = SS Inserted 226 O-Ring/Closed<br>SSF = SS Inserted 226 O-Ring/Fin<br>STC = SS Inserted 222 O-Ring/Closed<br>STF = SS Inserted 222 O-Ring/Fin<br>TC = 222 O-Ring/Flat<br>TF = 222 O-Ring/Fin<br>TX = 222 O-Ring/Flex Fin<br>XA = DOW w/Extended Core<br>XB = Ext. Core Open End Polypro spring closed end |  |

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## AVASAN™ Filter Cartridges

### High Purity Melt Blown Depth Cartridges

Avasan™ (AVS) cartridges are manufactured with a proprietary melt blown manufacturing process using a specially formulated polypropylene polymer. This formulation provides a uniquely graded density filter cartridge designed for high purity applications. The fiber matrix of the cartridge has been engineered to provide structural integrity throughout the long service life of the cartridge and the finish-free construction provides optimum fluid purity and eliminates foaming. Avasan's inherent fluid compatibility properties plus graded density make it the economical filter choice for high clarity requirements.



### Benefits

- Continuous bonding of fibers throughout the filter matrix ensures non-fiber releasing construction
- Superior inter-layer bonding provides true three dimensional filtration and a construction that does not compress with increasing pressure
- Pure polypropylene construction
- Finish-free construction provides optimum fluid purity and eliminates foaming
- Graded density construction provides built-in prefiltration and longer life
- All materials biosafe in accordance with USP Class VI-121°C Plastic Test
- All materials listed as acceptable for potable and edible contact according to CFR Title 21
- Parker Process Filtration Division is an ISO9000:2000 Certified Division

### Applications

- DI Water
- RO Prefiltration
- Potable Water
- Plating Solutions
- Chemical Processing Fluids



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# AVASAN™ Filter Cartridges

## Specifications

### Materials of Construction:

- Filter Medium
  - 100% melt blown polypropylene
- End Caps/Adapters (optional)
  - Various; refer to Ordering Information
- Seal Options
  - Various; refer to Ordering Information

- All materials of construction are FDA listed as acceptable for potable and edible liquid contact according to CFR Title 21.
- Pending Certifications:
  - NSF - Materials only

### Maximum Recommended Operating Conditions:

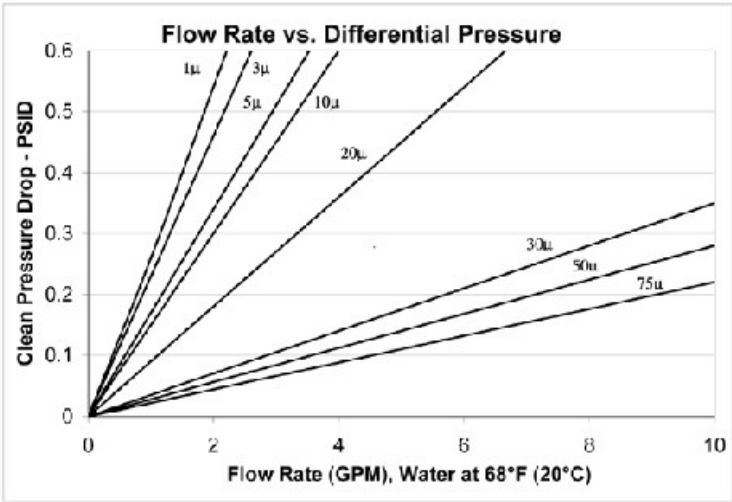
- Temperature:
  - @ 50 psid (3.45 bar): 80°F ( 27°C)
  - @ 25 psid (1.72 bar): 140°F (60°C)
- Flow Rate:
  - 5 gpm (18.9 lpm) per 10" length
- Recommended Maximum:
  - Change Out ΔP: 35 psi (2.4 bar)

### Dimensions (Nominal):

- 1-1/16 in. (27mm) ID x 2-7/16 in. (62mm) OD (max.)
- 4, 10, 20, 30, and 40 in. continuous nominal lengths

### Nominal Filtration Ratings (90%) :

- 1µm, 3µm, 5µm, 10µm, 20µm, 30µm, 50µm and 75µm



Flow rate is per 10" cartridge. For liquids other than water, multiply the pressure drop by the fluid viscosity in centipoise.

## Ordering Information

| AVS                 |                        |                             |                     |         |   |  |
|---------------------|------------------------|-----------------------------|---------------------|---------|---|--|
| Cartridge Code      | Micrometer Rating (µm) | Filter Medium               | Nominal Length (in) |         | End Cap Configuration                             | Seal Material                                      |
| AVS = AVS Cartridge |                        | M = FDA Grade Polypropylene | Code                | in      |   |  |
|                     | 1                      |                             | 4                   | = 4     | None = DOE (w/o gaskets)                          | None = Omit  |
|                     | 3                      |                             | 9.75                | = 9.75  | DO = Double open end (DOE)                        | P = Poly Foam Gaskets w/Collars (DO only)          |
|                     | 5                      |                             | 10                  | = 10    | LL = 120 O-Ring both ends**                       | E = EPR  |
|                     | 10                     |                             | 19.5                | = 19.5  | LR = 120 O-Ring/Recessed**                        | N = Buna-N   |
|                     | 20                     |                             | 20                  | = 20    | OB = Std. Open End/Polypro spring closed end      | S = Silicone (O-Ring only)                         |
|                     | 30                     |                             | 29.25               | = 29.25 | PR = 213 O-Ring/Recessed**                        | T = PFA Encapsulated Viton* (222, 226 O-Ring Only) |
|                     | 50                     |                             | 30                  | = 30    | SC = 226 O-Ring/Flat                              | V = Viton*   |
|                     | 75                     |                             | 40                  | = 40    | SF = 226 O-Ring/Fin                               | W = Poly Foam Gaskets without Collars (DO only)    |
|                     |                        |                             |                     |         | TC = 222 O-Ring/Flat                              |  |
|                     |                        |                             |                     |         | TF = 222 O-Ring/Fin                               |  |
|                     |                        |                             |                     |         | TX = 222 O-Ring/Flex Fin                          |  |
|                     |                        |                             |                     |         | XA = DOW w/Extended Core                          |  |
|                     |                        |                             |                     |         | XB = Ext. Core Open End Polypro spring closed end |  |

\*\*Available only in 9-3/4" (9-4) and 19-1/2" (19-4) lengths.

Specifications are subject to change without notification.  
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C - 1320

## Fulflo® EcoBond™ Filter Cartridges

### High Purity Filtration With Low Cost Melt Blown Depth Cartridges

Parker's Fulflo® EcoBond™ Cartridges are the most economical high purity filter cartridges available. Featuring a graded density matrix of uniform polypropylene fibers, the EcoBond™ provides consistent filtration for a wide variety of fluids. No fiber finish or surfactants are present to generate extractables leading to foaming or other undesirable effects on the filtrate.

Fulflo EcoBond™ Cartridges are available in nominal ratings of 1µm, 5µm, 10µm, 25 µm and 50µm.

### Benefits

- Thermally bonded melt blown fiber matrix provides dimensionally stable construction
- Continuous fiber matrix prevents media migration and ensures consistent quality filtration performance
- Finish-free construction provides optimum fluid purity and eliminates foaming condition
- Superior inter-layer bonding eliminates contaminant unloading and channeling
- FDA grade polypropylene (DOE only) certified to ANSI/NSF61 standard for contact with drinking water components



- Narrow range fiber size optimizes consistency of filtration performance
- Polypropylene construction provides broad chemical compatibility for a variety of applications
- All materials of construction are FDA listed as acceptable for potable and edible liquid contact according to CFR Title 21
- Single component construction simplifies compatibility options and provides easy disposal

### Applications

- Photographic Chemicals
- DI Water
- Plating Solutions
- R.O. Prefiltration
- Membrane Prefiltration
- Organic Solvents
- Oilfield Fluids
- Bleach
- Potable Water
- Chemical Processing Fluids



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# Fulflo® EcoBond™ Filter Cartridges

## Specifications

### Materials of Construction:

Filter Medium  
100% melt blown polypropylene  
End Caps/Adapters (optional)  
polyolefin copolymer  
Seal Options  
Various; refer to Ordering  
Information

### Maximum Recommended Operating Conditions:

Temperature:  
@ 40 psid (2.7 bar): 80°F (27°C)  
@ 20 psid (1.4 bar): 140°F (60°C)

#### Flow Rate:

5 gpm (18.9 lpm) per 10 in length

#### Recommended Maximum:

Change Out ΔP: 30 psi (2.1 bar)  
Operating Differential  
Pressure @ Ambient Temperature:  
40 psi (2.7 bar)

### Dimensions:

1-1/16 in ID x 2-7/16 in OD (max)  
10, 20, 30, 40 and 50 in continuous  
nominal lengths

### Nominal Filtration Ratings (90%) :

1μm, 5μm, 10μm, 25μm, and 50μm

### EBC Flow Factors

| Rating<br>(μm) | Aqueous<br>Service<br>PSI/GPM<br>per 10 in<br>Cartridge |
|----------------|---|
| EBC1           | 0.10  |
| EBC5           | 0.08  |
| EBC10          | 0.07  |
| EBC25          | 0.06  |
| EBC50          | 0.05  |

### EBC Length Factors

| Length<br>(in) | Length<br>Factor |
|----------------|------------------|
| 9.75           | 1.0              |
| 10.00          | 1.0              |
| 19.50          | 2.0              |
| 20.00          | 2.0              |
| 29.25          | 3.0              |
| 30.00          | 3.0              |
| 39.00          | 4.0              |
| 40.00          | 4.0              |

### Flow Rate and Pressure Drop Formulas

$$\text{Flow Rate (gpm)} = \frac{\text{Clean } \Delta P \times \text{Length Factor}}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean } \Delta P = \frac{\text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}}{\text{Length Factor}}$$

1. Clean ΔP is PSI differential at start.
2. Viscosity is centistokes. Use Conversion Tables for other units.
3. Flow Factor is ΔP/GPM at 1 cks for 10 in (or single).
4. Length Factors convert flow or ΔP from 10 in (single length) to required cartridge length.

## Ordering Information

| EBC                     |                          |                             |   |  |   |
|-------------------------|--------------------------|-----------------------------|---|--|---|
| Cartridge Code          | Micrometer Rating (μm)   | Filter Medium               | Nominal Length (in)   | End Cap Configuration  | Seal Material   |
| EBC = EcoBond Cartridge | 1<br>5<br>10<br>25<br>50 | M = FDA Grade Polypropylene | Code    in    mm<br>9-4   =   9-3/4   248<br>10   =   10   254<br>19-4   =   19-1/2   495<br>20   =   20   508<br>29-4   =   29-1/4   743<br>30   =   30   762<br>39-4   =   39   991<br>40   =   40   1016<br>50   =   50   1270 | None = DOE (w/o gaskets)<br>AR = 020/Flat (Gelman)<br>DO = Double open end (DOE)<br>LL = 120 O-Ring both ends**<br>LR = 120 O-Ring/Recessed**<br>OB = Std. Open End/Polypro spring closed end<br>PR = 213 O-Ring/Recessed**<br>SC = 226 O-Ring/Flat<br>SF = 226 O-Ring/Fin<br>TC = 222 O-Ring/Flat<br>TF = 222 O-Ring/Fin<br>TX = 222 O-Ring/Flex Fin<br>XA = DOW w/Extended Core<br>XB = Ext. Core Open End Polypro spring closed end | None = No Seal Material (Std. DOE)<br>P = Poly Foam Gaskets w/Collars (DO only)<br>E = EPR<br>N = Buna-N<br>S = Silicone (O-Ring only)<br>T = PFA Encapsulated Viton* (222, 226 O-Ring Only)<br>V = Viton*<br>W = Poly Foam Gaskets without Collars (DO only) |

\*\*Available only in 9-3/4" (9-4) and 19-1/2" (19-4) lengths.

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C - 1307

## Fulflo® DuraBond™ Cartridges

### Economical Filtration With High Strength Thermally Bonded Depth Cartridges

Parker's Fulflo® DuraBond™ Cartridges are the most economical high strength filter cartridges available. Featuring an integral rigid thermally bonded construction, the DuraBond™ provides consistent filtration for a wide variety of fluids. Its fixed pore structure acts as a sieve-like particle "classification" filter for pigmented coatings allowing pigments to pass while stopping large agglomerates.

Fulflo® DuraBond™ Cartridges are available in nominal ratings of 1µm, 3µm, 5µm, 10µm, 25µm, 50µm, 75µm and 100µm.

### Benefits

- Fixed pore structure provides efficiency, integrity and optimum particle retention
- Thermally bonded bicomponent fiber matrix provides rigid dimensionally stable construction without fiber migration
- Rigid construction eliminates contaminant unloading and channeling
- Corrugated porous surface maximizes dirt holding capacity
- Silicone free construction will not change coating properties
- FDA grade polypropylene (DOE only) certified to ANSI/NSF61 standard for contact with drinking water components
- Polyolefin construction provides broad chemical compatibility for a variety of applications



- All materials of construction are FDA listed as acceptable for potable and edible liquid contact according to CFR Title 21
- DuraBond™ cartridges can be easily disposed by shredding, incinerating or crushing
- DuraBond™ construction provides particle "classification" effect with pigmented coatings
- Double-open-end style is self-sealing without separate gasket material

### Applications

- Photographic Chemicals
- DI Water
- Plating Solutions
- Bleach
- R. O. Prefiltration
- Organic Solvents
- Oilfield Fluids
- Membrane Prefiltration
- Industrial Coatings
- Magnetic Coatings
- Potable Water
- Processing Fluids



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# Fulflo® DuraBond™ Cartridges

## Specifications

### Materials of Construction:

Filter Medium: Thermal Bonded  
bicomponent matrix of polypropylene/  
polyethylene  
End Caps/Adapters (optional): polyolefin  
copolymer  
Seal Options: Various; refer to Ordering  
Information

### Dimensions:

1-1/16 in (27mm) ID x 2-7/16 (62mm) in  
OD  
10, 20, 30, 40, and 50 in continuous  
nominal lengths

### Maximum Recommended Operating Conditions:

Temperature: 175°F (80°C)  
Pressure:  
100 psid (6.8bar) @ 72°F (27°C)  
50 psid (3.4bar) @ 175°F (80°C)  
Flow rate:  
5gpm (18.9 lpm) per 10 in length.  
Changeout ΔP: 30 psi (2.1 bar)

### Nominal Filtration Ratings:

(90% efficiency) 1, 3, 5, 10, 25, 50, 75,  
100 μm

### DBC Flow Factors

| Rating<br>(μm) | Aqueous<br>Service<br>PSI/GPM<br>per 10 in<br>Cartridge |
|----------------|---|
| DBC1           | 0.109   |
| DBC3           | 0.087   |
| DBC5           | 0.073   |
| DBC10          | 0.058   |
| DBC25          | 0.031   |
| DBC50          | 0.022   |
| DBC75          | 0.015   |
| DBC100         | 0.012   |

### DBC Length Factors

| Length<br>(in) | Length<br>Factor |
|----------------|------------------|
| 9.75           | 1.0              |
| 10.00          | 1.0              |
| 19.50          | 2.0              |
| 20.00          | 2.0              |
| 29.25          | 3.0              |
| 30.00          | 3.0              |
| 39.00          | 4.0              |
| 40.00          | 4.0              |
| 50.00          | 5.0              |

### Flow Rate and Pressure Drop Formulas

$$\text{Flow Rate (gpm)} = \frac{\text{Clean } \Delta P \times \text{Length Factor}}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean } \Delta P = \frac{\text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}}{\text{Length Factor}}$$

1. Clean ΔP is PSI differential at start.
2. Viscosity is centistokes. Use Conversion Tables for other units.
3. Flow Factor is ΔP/GPM at 1 cks for 10 in (or single).
4. Length Factors convert flow or ΔP from 10 in (single length) to required cartridge length.

### Liquid Particle Retention Ratings (μm) @ Removal Efficiency of:

| Cartridge | β = 10<br>90% | β = 20<br>95% | β = 100<br>99% | β = 1000<br>99.9% |
|-----------|---------------|---------------|----------------|-------------------|
| DBC1      | 1             | 2             | 4              | 5                 |
| DBC3      | 3             | 4             | 8              | 10                |
| DBC5      | 5             | 10            | 16             | 20                |
| DBC10     | 10            | 15            | 25             | 30                |
| DBC25     | 25            | 30            | 50             | 55                |
| DBC50     | 50            | 70            | 80             | 90                |
| DBC75     | 75            | 100           | >100           | >100              |
| DBC100    | 100           | >100          | >100           | >100              |

Beta Ratio (β) =  $\frac{\text{Upstream Particle Count @ Specified Particle Size and Larger}}{\text{Downstream Particle Count @ Specified Particle Size and Larger}}$

$$\text{Percent Removal Efficiency} = \left( \frac{\beta - 1}{\beta} \right) \times 100$$

Performance determined per ASTM F-795-88. Single-Pass Test using AC test dust in water at a flow rate of 2.5 gpm per 10 in (9.5 lpm per 254 mm).

## Ordering Information

| DBC                         |  |                                |  |  |  |
|-----------------------------|--|--------------------------------|--|--|--|
| Cartridge Code              | Micrometer<br>Rating (μm)                  | Filter Medium                  | Nominal Length (in)  | End Cap Configuration  | Seal Material  |
| DBC = DuraBond<br>Cartridge | 1<br>3<br>5<br>10<br>25<br>50<br>75<br>100 | M = FDA Grade<br>Polypropylene | Code    in    mm<br>9-4 = 9-3/4    248<br>10 = 10    254<br>19-4 = 19-1/2    495<br>20 = 20    508<br>29-4 = 29-1/4    743<br>30 = 30    762<br>39-4 = 39    991<br>40 = 40    1016<br>50 = 50    1270 | None = DOE (w/o gaskets)<br>AR = 020/Flat (Gelman)<br>DO = Double open end (DOE)<br>LL = 120 O-Ring both ends**<br>LR = 120 O-Ring/Recessed**<br>OB = Std. Open End/Polypro<br>spring closed end<br>PR = 213 O-Ring/Recessed**<br>SC = 226 O-Ring/Flat<br>SF = 226 O-Ring/Fin<br>TC = 222 O-Ring/Flat<br>TF = 222 O-Ring/Fin<br>TX = 222 O-Ring/Flex Fin<br>XA = DOW w/Extended Core<br>XB = Ext. Core Open End Polypro<br>spring closed end | None = No Seal Material<br>(Std. DOE)<br>P = Poly Foam Gaskets<br>w/Collars (DO only)<br>E = EPR<br>N = Buna-N<br>S = Silicone (O-Ring only)<br>T = PFA Encapsulated<br>Viton* (222, 226<br>O-Ring Only)<br>V = Viton*<br>W = Poly Foam Gaskets<br>without Collars (DO only) |

\*\* Available only in 9-3/4" (9-4) and 19-1/2" (19-4) lengths.

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## Fulflo® ProBond™ Filter Cartridges

### A Patented Breakthrough in Resin Bonded Cartridge Design

Parker ProBond™ cartridges have a unique, proprietary two-stage filtration design to maximize particle retention and service life in viscous fluid filtration applications. An outer, spiral, prefilter wrap, made from a fiber blend of polyester and acrylic, increases cartridge strength and eliminates residual debris associated with conventional or machined and grooved, resin bonded cartridges.

ProBond filter cartridges are available in eight differentiated removal ratings of 2µm, 5µm, 10µm, 25µm, 50µm, 75µm, 125µm and 150µm pore sizes to meet a wide range of performance requirements.

### Benefits

- Outer, spiral wrap collects large particles and agglomerates, while inner layers control particle removal at rated size
- Outer wrap increases surface area and eliminates loose debris and contamination caused by machined products
- Extra-long acrylic fibers provide added strength, resist breakage and migration common with competitive “short fiber” cartridges
- Available with optimal single-open-end seals (222 o-ring with flat cap) in ABS or nylon



- Phenolic resin impregnation strengthens cartridge for use with high viscosity fluid
- Withstands pressure surges up to 150 psid across cartridge (depending on fluid temperature)
- One-piece construction eliminates bypass concerns with multilength cartridges and eases change out
- Silicone-free construction ensures no contamination to adversely affect adhesion properties of coatings

### Applications

- |                     |                      |
|---------------------|----------------------|
| • Paints            | • Plasticizers       |
| • Printing Inks     | • Waxes              |
| • Adhesives         | • Oilfield Fluids    |
| • Resins            | • Process Water      |
| • Emulsions         | • Petroleum Products |
| • Chemical Coatings |                      |
| • Organic Solvents  |                      |



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# Fulflo® ProBond™ Filter Cartridges

## Specifications

### Materials of Construction:

- 1st stage Pre-filter wrap: Polyester/Acrylic long staple fiber blend
- 2nd stage Final Filter wrap: Acrylic long staple fiber
- Fibers impregnated with Phenolic Resin

### Type of Construction:

- Coreless, one-piece, rigid resin bonded fibrous matrix

### Maximum Recommended Operating Conditions:

- Flow Rate: 5 gpm per 10 in length (18.9 lpm per 254 mm length)
- Temperature: 250°F (121°C)
- Maximum Recommended Change Out ΔP: 50 psid (3.5 bar)
- Recommended Maximum Differential Pressure:
- Cartridge Pressure Resistance:
  - 150 psid (10 bar) @ 70°F (21°C)
  - 125 psid (8.6 bar) @ 100°F (38°C)
  - 90 psid (6.2 bar) @ 150°F (65°C)
  - 65 psid (4.5 bar) @ 180°F (82°C)
  - 25 psid (1.7 bar) @ 250°F (121°C)

### Particle Removal Ratings:

- 2μm, 5μm, 10μm, 25μm, 50μm, 75μm, 125μm and 150μm

### Dimensions, in (mm):

- Outside Diameter: 2-9/16 in (65)
- Inside Diameter: 1-1/8 in (28.6)
- Lengths: Nominal, 10, 20, 30 and 40 in lengths

### Environmental/Chemical Compatibility:

- Classified as a nonhazardous material
- Incinerable (8000 BTU/lb)
- Crushable and shreddable
- Certified silicone-free
- Suitable for weak acids and bases (pH 5-9)
- Unsuitable for oxidizing agents
- Not recommended for FDA applications

### End Adapters:

- None on double open end style
- ABS (Acrylonitrile Butadiene Styrene) for most applications
- Nylon (NTC) for aromatic solvents

### ProBond Flow Factors

| Rating (μm) | Flow Factors |
|-------------|--------------|
| 2           | 0.08         |
| 5           | 0.04         |
| 10          | 0.02         |
| 25          | 0.012        |
| 50          | 0.01         |
| 75          | 0.006        |
| 125         | 0.0013       |
| 150         | 0.0010       |

### ProBond Length Factors

| Length (in) | Length Factor |
|-------------|---------------|
| 9           | 1.0           |
| 10          | 1.0           |
| 19          | 2.0           |
| 20          | 2.0           |
| 29          | 3.0           |
| 30          | 3.0           |
| 39          | 4.0           |
| 40          | 4.0           |

### Flow Rate and Pressure Drop Formulas

$$\text{Flow Rate (gpm)} = \frac{\text{Clean } \Delta P \times \text{Length Factor}}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean DP} = \frac{\text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}}{\text{Length Factor}}$$

- Clean ΔP is PSI differential at start.
- Viscosity is centistokes. Use Conversion Tables for other units.
- Flow Factor is ΔP/GPM at 1 cks for 10 in (or single).
- Length Factors convert flow or ΔP from 10 in (single length) to required cartridge length.

## Ordering Information

| PRO                  |                    |        |        |          |                                  |
|----------------------|--------------------|--------|--------|----------|----------------------------------|
| Cartridge Code       | Micron Rating (μm) | Length |        |          | End Cap Configurations           |
| PRO = ProBond Series | 2                  | (code) | (in)   | (series) | Omit = Standard DOE (coreless)   |
|                      | 5                  | 9      | 9-3/4  | 248      | CXC = Extended Tinned Steel Core |
|                      | 10                 | 10     | 10     | 254      | C = Tinned Steel Core            |
|                      | 25                 | 19     | 19-1/2 | 495      | NTC = Single Open End 222        |
|                      | 50                 | 20     | 20     | 508      | O-ring/Flat Cap (Nylon)          |
|                      | 75                 | 29     | 29-1/4 | 743      | OB = Std. Open End/Polypro       |
|                      | 125                | 30     | 30     | 762      | Spring Closed End                |
|                      | 150                | 39     | 39     | 961      | TC = Single Open End             |
|                      |                    | 39     | 39     | 991      | XA = 222 O-Ring/Flat Cap         |
|                      |                    | 40     | 40     | 1016     | (ABS Plastic)                    |
|                      |                    |        |        |          | XB = Poly Extender               |
|                      |                    |        |        |          | Ext. Core Open End/              |
|                      |                    |        |        |          | Polypro Spring Closed End        |
|                      |                    |        |        |          | Seal Material                    |
|                      |                    |        |        |          | Omit = DOE and XA                |
|                      |                    |        |        |          | E = EPR                          |
|                      |                    |        |        |          | N = Buna-N                       |
|                      |                    |        |        |          | S = Silicone (O-Ring only)       |
|                      |                    |        |        |          | T = PFA Encapsulated             |
|                      |                    |        |        |          | Viton* (222, 226                 |
|                      |                    |        |        |          | O-Ring Only)                     |
|                      |                    |        |        |          | V = Viton*                       |
|                      |                    |        |        |          | W = Poly Foam Gaskets            |

Specifications are subject to change without notification.

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C-1000

## Fulflo® Honeycomb™ Filter Cartridges

### Multipurpose Filtration Solutions With Parker's Wound Depth Cartridges

Parker Process Filtration has been a leader in filter media innovation and performance since we first invented the Honeycomb™ Filter Tube over 65 years ago. Parker has the world's largest manufacturing capacity for wound cartridges, offering superior quality along with technical, engineering and marketing support.

Effective removal ratings at nominal 90% efficiency from 0.5µm to 150µm range.

### Benefits

- A broad range of media provide excellent compatibility with a variety of organic solvents, animal, petroleum and vegetable oils
- Optional core covers and end treatments assure fiber migration control
- Multiple length cartridges minimize changeout time, eliminate spacers and are available to fit competitive filter vessels
- FDA grade polypropylene (DOE only) cartridges certified to ANSI/NSF61 standard for contact with drinking water components
- Continuous strand winding geometry provides performance consistency



- One-piece metal extended center core option eliminates the need for cartridge guides in all competitive and Fulflo® multicartridge vessels
- A special snap-in extender is available for polypropylene cores
- Cotton, rayon, polypropylene, nylon and polyester materials are FDA listed as acceptable for potable and edible liquid contact according to CFR Title 21
- Various O-ring and end cap options are available

### Applications

- Oxidizing Agents
- Concentrated Alkalies
- Potable Liquids
- Dilute Acids & Alkalies
- Mineral Acids
- Organic Acids & Solvents
- Petroleum Oils
- Photo Solutions
- Amines
- Water
- Prefilter for Membranes



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# Fulflo® Honeycomb™ Cartridges

## Wound Depth Cartridge Design and Function

Wound cartridges provide true depth filtration utilizing hundreds of tapered filtering passages of controlled size and shape. Each layer of roving contributes to true depth filtration by trapping its

share of particles. Wound cartridges offer a gradual pressure increase during cartridge life versus surface-type media that have an abrupt flow cutoff when loaded. In addition, the irregular outer layer reduces surface blinding, assuring both longer cartridge life and full cartridge utilization.

## Ultrafine Wound Depth Cartridges for Critical Filtration Applications

Ultrafine cartridges are a unique member of the Honeycomb™ wound depth cartridge family. They are specifically designed for critical filtration applications in the 0.5µm range. When absolute 0.5µm filtration is required,

the nominal Ultrafine cartridge can be used as a prefilter, thereby significantly extending membrane life. Ultrafine cartridges remove 90% of particles larger than 0.5µm in size. This type of filtration provides excellent protection for equipment or processes that must be protected from fine particles.

### Applications include:

- Prefilter for membranes
- Rinse water in semiconductor manufacturing
- Fine filtration for ultrasonic parts, washer solvents and other high-purity solvents
- Prefilter for industrial reverse osmosis equipment

## Ultrafine Ordering Information

| Filter Medium  | Nominal Length   | Core Material  | Core Cover Material  | End Cap Configuration  |
|--|--|--|--|--|
| C = FDA Grade Cotton<br>E = FDA Grade Rayon<br>M = FDA Grade Polypropylene<br>T = Industrial Grade Polypropylene<br>WC = Industrial Grade White Cotton | 9-4 = 9-7/8<br>10 = 10<br>19-4 = 19-1/2<br>20 = 20<br>29-4 = 29-1/4<br>30 = 30-3/16<br>39-4 = 39<br>40 = 40-3/16 | No Symbol = Tinned Steel<br>A = Polypropylene<br>A3 = Glass-Filled Polypropylene<br>G = 304 Stainless Steel<br>S = 316 Stainless Steel | No Symbol = No Cover<br>B = Nylon<br>V = Nonwoven Polyester<br>W = Cellulosic Paper<br>Y = Polypropylene | None = DOE (without gaskets)<br>DO = DOE (With Gaskets)<br>TC = 222/Closed<br>OB = Std. Open End/Polypro Spring Closed End<br>TF = 222/Fin<br>SC = 226/Closed<br>SF = 226/Fin<br>XA = Polypro Extender<br>XB = Ex.Core Open End/Polypro Spring Closed End<br>XC = Extended Metal |



# Fulflo® Honeycomb™ Cartridges

## Specifications

### ■ Wound Cartridge Flow Factors for Aqueous (Water Based) Fluids (psid/gpm @ 1 cks)

| Rating (μm) | Polypropylene Polyester Nylon | Cotton Rayon | Glass  |
|-------------|-------------------------------|--------------|--------|
| 0.5         | 0.9924                        | 2.6590       | 0.5000 |
| 1           | 0.7463                        | 2.0000       | 0.4211 |
| 3           | 0.3330                        | 0.6250       | 0.3478 |
| 5           | 0.2381                        | 0.3636       | 0.1951 |
| 10          | 0.1429                        | 0.1931       | 0.1430 |
| 20          | 0.0898                        | 0.1075       | 0.1096 |
| 30          | 0.0704                        | 0.0855       | 0.0816 |
| 50          | 0.0595                        | 0.0709       | 0.0678 |
| 75          | 0.0538                        | 0.0645       | 0.0611 |
| 100         | 0.0500                        | 0.0624       | 0.0590 |

### ■ Wound Cartridge Flow Factors for Nonaqueous (Solvent or Oil Based) Fluids (psid/gpm @ 1 cks)

| Rating (μm) | Polypropylene Polyester Nylon | Cotton Rayon | Glass  |
|-------------|-------------------------------|--------------|--------|
| 0.5         | 1.8350                        | 1.3800       | 0.5000 |
| 1           | 1.0000                        | 0.7519       | 0.4211 |
| 3           | 0.5800                        | 0.3003       | 0.3478 |
| 5           | 0.3003                        | 0.1949       | 0.1951 |
| 10          | 0.1299                        | 0.1000       | 0.1430 |
| 20          | 0.0560                        | 0.0350       | 0.1096 |
| 30          | 0.0200                        | 0.0175       | 0.0816 |
| 50          | 0.0141                        | 0.0130       | 0.0678 |
| 75          | 0.0120                        | 0.0100       | 0.0611 |
| 100         | 0.0080                        | 0.0065       | 0.0590 |

### ■ Wound Cartridge Length Factors

| Length (in) | Length Factor |
|-------------|---------------|
| 10          | 1.0           |
| 20          | 2.0           |
| 30          | 3.0           |
| 40          | 4.0           |
| 50          | 5.0           |

#### Flow Rate and Pressure Drop Formulae:

$$\text{Flow Rate (gpm)} = \frac{\text{Clean } \Delta P \times \text{Length Factor}}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean } \Delta P = \frac{\text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}}{\text{Length Factor}}$$

#### Notes:

1. **Clean ΔP** is PSI differential at start.
2. **Viscosity** is centistokes.  
Use Conversion Tables for other units.
3. **Flow Factor** is ΔP/GPM at 1 cks for 10 in (or single).
4. **Length Factors** convert flow or ΔP from 10 in (single length) to required cartridge length.

### ■ Wound Cartridge Nominal Micrometer Ratings

| Cartridge Designation                                | Rating (μm) | Compressed Air and Gas Micron Rating |
|--|-------------|--------------------------------------|
| 8R, E8R, N8R, U8R, S8R, M8R, R8R, T8R, WC8R          | 100         | 15                                   |
| 10R, E10R, N10R, U10R, S10R, R10R, T10R, M10R, WC10R | 75          | 13                                   |
| 11R, E11R, N11R, U11R, S11R, M11R, R11R, T11R, WC11R | 50          | 12                                   |
| 12R, E12R, N12R, U12R, S12R, M12R, R12R, T12R, WC12R | 40          | —                                    |
| 13R, E13R, N13R, U13R, S13R, M13R, R13R, T13R, WC13R | 30          | 10                                   |
| 15R, E15R, N15R, U15R, S15R, M15R, R15R, T15R, WC15R | 20          | 7                                    |
| 17R, E17R, N17R, U17R, S17R, M17R, R17R, T17R, WC17R | 15          | 5                                    |
| 19R, E19R, N19R, U19R, S19R, M19R, R19R, T19R, WC19R | 10          | 3                                    |
| 21R, E21R, N21R, U21R, S21R, M21R, R21R, T21R, WC21R | 7           | —                                    |
| 23R, E23R, N23R, U23R, S23R, M23R, R23R, T23R, WC23R | 5           | 2                                    |
| 27R, E27R, N27R, U27R, S27R, M27R, R27R, T27R, WC27R | 3           | 1                                    |
| 39R, E39R, N39R, U39R, S39R, M39R, R39R, T39R, WC39R | 1           | Less than 1                          |
| Ultrafine (C, E, M, T, WC)                           | 0.5         | Less than 0.5                        |



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# Fulflo® Honeycomb™ Cartridges

## Specifications

### Nominal Removal Ratings:

- @ 90% efficiency from 0.5µm to 150µm

### Maximum Recommended

#### Operating Conditions:

- Change Out ΔP: 30 psi (2.1 bar)
- ΔP @ Ambient Temperature: 60 psi (4.1 bar)
- Flow Rate: 10 gpm (38 lpm) per 10 in length
- Temperature (See table below)

### Dimensions:

- 1 in ID x 2-7/16 OD
- 3 in to 50 in lengths

### ■ Wound Cartridge Glass Fiber Nominal Micrometer Ratings

| Cartridge Designation | Liquids   | Compressed Air and Gases |
|-----------------------|-----------|--------------------------|
| K5B                   | 100 - 150 | 100+                     |
| K5R                   | 75 - 100  | 10                       |
| K6R                   | 40        | 7                        |
| K8R                   | 30        | 5                        |
| K10R                  | 20        | 3                        |
| K12R                  | 15        | 1                        |
| K15R                  | 10        | <1                       |
| K19R                  | 5         | <1                       |
| K23R                  | 3         | <1                       |
| K27R                  | 1         | <1                       |
| K39R                  | 0.5       | <1                       |

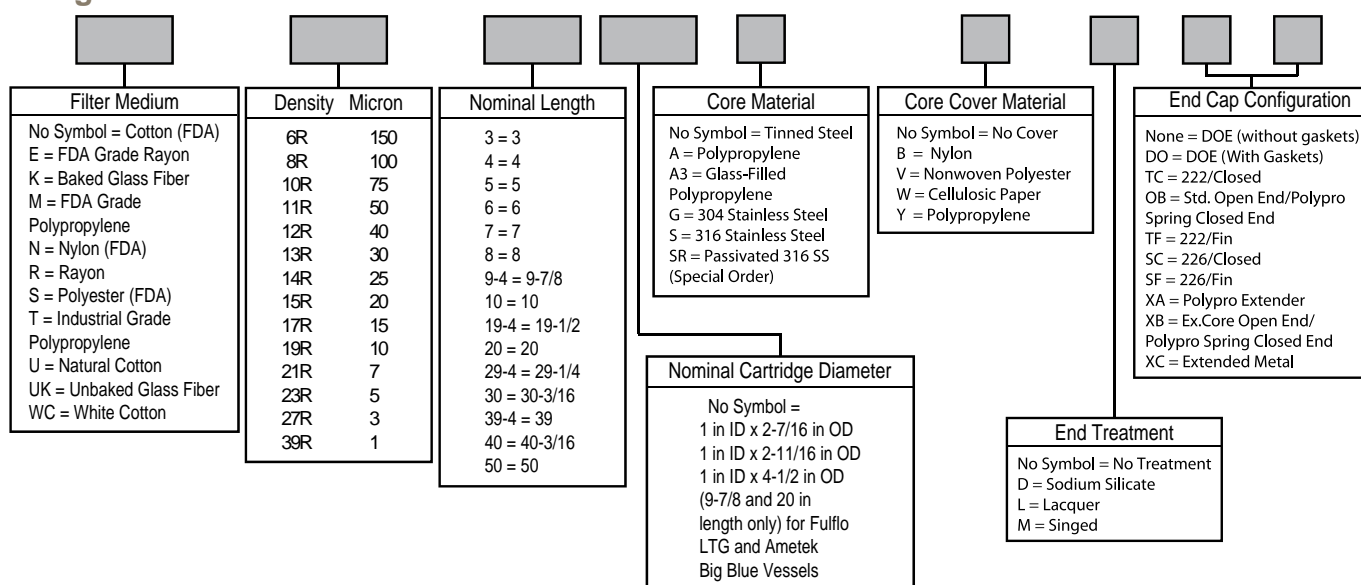
**Note:** All glass cartridges have standard glass core cover.

### ■ Maximum Operating Temperature @ 35 psid

| Cartridge Material | Metal Core    | Polypropylene Core | Glass-Filled Polypropylene |
|--------------------|---------------|--------------------|----------------------------|
| Cotton             | 250°F (121°C) | 120°F (49°C)       | —                          |
| Glass              | 750°F (402°C) | —                  | —                          |
| Nylon              | 275°F (135°C) | 120°F (49°C)       | —                          |
| Polypropylene      | 200°F (93°C)  | 120°F (49°C)†      | 200°F (93°C)               |
| Polyester          | 275°F (135°C) | 120°F (49°C)       | —                          |
| Rayon              | 250°F (121°C) | 120°F (49°C)       | —                          |

**Note:** Refer Material Selection Guide for additional compatibility information.

## Ordering Information



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## Fulflo® SWC Filter Cartridges

### Economical Filtration Solutions With String Wound Depth Cartridges

Parker Process Filtration's SWC Filter cartridge offers a wide range of fibers and core materials. Roving is wound onto a center core for strength. The diagonal pattern of the media forms a tight, interlocking weave. Parker Process Filtration has one of the world's largest manufacturing plants for wound cartridges, offering superior quality along with technical, engineering and marketing support.

Nominal removal ratings from 1µm to 100µm are available.

### Benefits

- SWC's provide excellent compatibility with a variety of organic solvents and petroleum products
- Optional core covers available to assure fiber migration control
- Multiple length cartridges minimize change out time, eliminate spacers and are available to fit competitive filter vessels
- Cotton and polypropylene materials are FDA listed as acceptable for potable and edible liquid contact according to CFR Title 21
- Continuous strand roving geometry provides performance consistency



- Extended center core option eliminates the need for cartridge guides in competitive and Fulflo multicartridge vessels
- One piece extended length center cores are available in tinned steel, 316 stainless steel and 304 stainless steel
- A special snap-in extender is available for polypropylene cores
- FDA grade polypropylene (DOE only) certified to ANSI/NSF61 standard for contact with drinking water components

### Applications

- Prefilter for R.O. Membranes
- Water
- Alkalies
- Dilute Acids & Alkalies
- Organic Acids & Solvents
- Potable Liquids
- Petroleum Oils
- Mineral Acids



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# Fulflo® SWC Filter Cartridges

## Specifications

### Materials of Construction:

Polypropylene  
Cotton

### Maximum Recommended Operating Conditions:

Temperature:

Polypropylene:

200°F (93°C) with tinned steel or  
stainless steel cores;

120°F (49°C) with polypropylene cores;

Cotton:

250°F (121°C) with tinned steel or  
stainless steel cores;

120°F (49°C) with polypropylene cores.

Change Out ΔP: 30 psi (2.1 bar)

ΔP @ Ambient Temperature:

60 psi (4.1 bar)

Flow Rate: 5 gpm (18.9 lpm) per

10 in length

### Nominal Removal Ratings:

90% efficiency from 1μm to 100μm

### Dimensions:

1 in ID x 2-3/8 in OD

10, 20, 30 and 40 in lengths

### SWC Length Factors

| Length (in) | Length Factor |
|-------------|---------------|
| 10          | 1.0           |
| 20          | 2.0           |
| 30          | 3.0           |
| 40          | 4.0           |

### SWC Flow Factors (psid/gpm @ 1 cks)

| Rating (μm) | Cotton | All Synthetics |
|-------------|--------|----------------|
| 1           | 2.00   | 0.75           |
| 3           | 0.63   | 0.33           |
| 5           | 0.36   | 0.24           |
| 10          | 0.19   | 0.14           |
| 15          | 0.16   | 0.12           |
| 20          | 0.11   | 0.09           |
| 25          | 0.10   | 0.08           |
| 30          | 0.09   | 0.07           |
| 50          | 0.07   | 0.06           |
| 75          | 0.06   | 0.05           |
| 100         | 0.06   | 0.05           |

### Flow Rate and Pressure Drop Formulas

$$\text{Flow Rate (gpm)} = \frac{\text{Clean } \Delta P \times \text{Length Factor}}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean } \Delta P = \frac{\text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}}{\text{Length Factor}}$$

### Notes:

1. Clean ΔP is PSI differential at start.
2. Viscosity is centistokes. Use Conversion Tables for other units.
3. Flow Factor is ΔP/GPM at 1 cks for 10 in (or single).
4. Length Factors convert flow or ΔP from 10 in (single length) to required cartridge length.

## Ordering Information

| SWC                          |                              |  |  |   |   |   |                         |
|------------------------------|------------------------------|--|--|---|---|---|-------------------------|
| Cartridge Code               | Micron Rating (nominal) (μm) | Fiber Type   | Nominal Length (in)  | Core Material   | Core Cover Material   | Core Extender   | Packaging Options       |
| SWC = String Wound Cartridge |                              | C = Cotton (FDA)<br>L = Polypropylene (utility grade)<br>M = Polypropylene (FDA Grade)<br>T = Polypropylene (industrial grade)<br>U = Cotton, natural<br>WC = White Cotton | 9-4 = 9-7/8<br>10 = 10<br>19-4 = 19-1/2<br>20 = 20<br>29-4 = 29-1/4<br>30 = 30-3/16<br>39 = 39<br>40 = 40-3/16 | No Symbol = Tinned Steel<br>A = Polypropylene<br>G = 304 Stainless Steel<br>S = 316 Stainless Steel | No Symbol = No Cover<br>V = Nonwoven Polyester<br>Y = Polypropylene | No Symbol = None<br>OB = Std. Open End/Polypro spring closed end<br>XA = Poly/Extender<br>XB = Ex. Core open end/<br>Polypro spring closed<br>XC = Metal extender | Z = Individual Poly Bag |

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## Fulflo® XTL™ Filter Cartridges

### Technologically Advanced Wound Cartridge Design Doubles Cartridge Life and Improves Performance

The unique construction of Parker's patented\* Fulflo® XTL™ (extended life) cartridges provides twice the average life of conventionally wound cartridges for process fluid filtration. Computer modeling has optimized the wound cartridge geometry maximizing the use of the internal cartridge surface area. The enhanced design provides improved dirt-holding capacity (twice the average) over standard wound cartridges, while providing true controlled-depth filtration.

Fulflo® XTL cartridges are available in nominal (90%) ratings of 1µm, 3µm, 5µm, 10µm, 20µm and 30µm.

### Benefits

- XTL cartridges result in significant cost savings based on fewer system interruptions, decreased labor expenses for change outs, and reduced inventory and cartridge disposal costs
- Unique computer programming capability permits the design and manufacture of special cartridge constructions to suit the requirements of nearly any filtration application
- "M" polypropylene and "C" cotton materials are FDA listed as acceptable for potable and edible liquid contact according to CFR Title 21
- Continuous strand roving geometry provides performance consistency
- XTL wound cartridges fit all Fulflo vessels and most competitive vessels without compromising final



- product clarity or flow characteristics of the cartridge. The most noticeable difference is the extended life savings offered by XTL cartridges
- Extended center cores are available in tinned steel, 316 stainless steel and 304 stainless steel
  - A special snap-in extender is available for polypropylene cores
  - FDA grade polypropylene (DOE only) certified to ANSI/NSF61 standard for contact with drinking water components

### Applications

- Potable Liquids
- Organic Solvents
- Process Water
- Photoprocessing
- Lubricants
- R.O. Prefiltration
- Amines
- Chemical Process



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# Fulflo® XTL™ Filter Cartridges

## Specifications

### Materials of Construction:

Polypropylene  
Cotton

### Maximum Recommended Operating Conditions:

#### Temperature:

Polypropylene:

200°F (93°C) with tinned steel or stainless steel cores;  
120°F (49°C) with polypropylene cores;  
180°F (82°C) with glass-filled polypropylene cores

Cotton:

250°F (121°C) with tinned steel or stainless steel cores;  
120°F (49°C) with polypropylene cores;  
180°F (82°C) with glass-filled polypropylene cores

#### Recommended Maximum:

Change Out ΔP: 30 psi (2.4 bar)

Operating ΔP @ Ambient Temperature:  
60 psi (4.1 bar)

Flow Rate: 5 gpm (18.9 lpm) per  
10 in length

### Dimensions:

1 in ID x 2-1/2 in OD (nominal) 10, 20, 30 and 40 in lengths nominal)

### Filtration Ratings:

1μm, 3μm, 5μm, 10μm, 20μm and 30μm  
@ 90% nominal efficiency

### XTL Length Factors

| Length (in) | Length Factor |
|-------------|---------------|
| 10          | 1.0           |
| 20          | 2.0           |
| 30          | 3.0           |
| 40          | 4.0           |
| 50          | 5.0           |

### XTL™ Flow Factors (psid/gpm @ 1 cks)

| Rating (μm) | Cotton | Polypropylene |
|-------------|--------|---------------|
| 1           | 2.00   | 0.75          |
| 3           | 0.63   | 0.33          |
| 5           | 0.36   | 0.24          |
| 10          | 0.19   | 0.14          |
| 20          | 0.11   | 0.09          |
| 30          | 0.09   | 0.07          |

### Flow Rate and Pressure Drop Formulas

$$\text{Flow Rate (gpm)} = \frac{\text{Clean } \Delta P \times \text{Length Factor}}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean } \Delta P = \frac{\text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}}{\text{Length Factor}}$$

### Notes:

1. Clean ΔP is PSI differential at start.
2. Viscosity is centistokes. Use Conversion Tables for other units.
3. Flow Factor is ΔP/GPM at 1 cks for 10 in (or single).
4. Length Factors convert flow or ΔP from 10 in (single length) to required cartridge length.



Brand A @ 15 psid



XTL @ 15 psid

Most wound cartridges tend to surface load thus preventing the maximum use of their internal surface area. As a result of a unique design and manufacturing process, the XTL cartridge allows the maximum use of its internal surface area. Shown here are illustrations of typical dirt-loading characteristics of a standard wound cartridge and an XTL cartridge at 15 psi differential.

## Ordering Information

| XTL  |   |  |   |  |  |  |   |  |  |
|--|---|--|---|--|--|--|---|--|--|
| Cartridge Code<br>"Extended Life"<br>Wound Cartridge | Micron Rating<br>(nominal)<br>(μm)<br>1<br>3<br>5<br>10<br>20<br>30 | Fiber Type<br>C = Cotton (FDA)<br>M = Polypropylene<br>(FDA Grade)<br>T = Polypropylene<br>WC = White Cotton | Nominal Length (in)<br>9-4 = 9-7/8<br>10 = 10<br>19-4 = 19-1/2<br>20 = 20<br>29-4 = 29-1/4<br>30 = 30<br>39-4 = 39<br>40 = 40 | Core Material<br>No Symbol = Tinned Steel<br>A = Polypropylene<br>A3 = Glass-Filled<br>Polypropylene<br>G = 304 Stainless Steel<br>S = 316 Stainless Steel | Core Cover Material<br>No Symbol = No Cover<br>V = Nonwoven Polyester<br>Y = Polypropylene | End Treatment<br>No Symbol = No Treatment<br>L = Lacquer<br>M = Singed | End Cap Configuration<br>None = DOE (w/o gaskets)<br>DO = Double open end (DOE)<br>TC = 222 O-Ring/Flat<br>TF = 222 O-Ring/Fin<br>OB = Std. Open End/Polypropylene<br>spring closed end<br>SC = 226 O-Ring/Flat<br>SF = 226 O-Ring/Fin<br>XA = Poly/Extender<br>XB = Ex. Core open end/<br>Polypropylene spring closed<br>XC = Metal extender | Seal Material<br>P = Poly Foam<br>N = Buna-N<br>E = EPDM<br>S = Silicone<br>V = Viton*<br>None = Standard<br>DOE | Packaging Options<br>Z = Individual Poly Bag |

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## Filter Bag Media and Strainer Series





C-5030

## Fulflo® Filter Bags

### Fulflo® Filter Bags Provide High Quality, Consistent Filtration Performance

Fulflo® Filter Bags are ideal for virtually any process filtration application requiring the removal of solids. Parker's Fulflo® filter bags are manufactured and tested under the strictest quality control standards to assure consistent performance. Parker's Fulflo® filter bags perform at high flow rates and viscosities to 10,000 cps or higher.

Standard Fulflo® Filter Bags are available in 1µm to 800µm particle retention ratings.



### Benefits

- Standard filter bags fit Fulflo® vessels and most major competitive models
- The "C" Style Fulflo® bag features a polypropylene Quik-Seal ring which effectively seals the bag into standard Parker bag vessels
- The "G" Style Fulflo® bag features a carbon steel snap ring for positive sealing in competitive vessels
- Fulflo® Quik-Seal™ option is available for all "G" style Fulflo® filter bag media
- Felt bags come standard with glazed surface treatment to effectively control migration of fibers into the filtered product
- Polypropylene felt (P) bags are suitable for incidental food contact per CFR Title 21

### Applications

- Solvents
- Bulk Chemicals
- Coatings
- Coolants
- Petroleum Oils
- Inks
- Paints
- Adhesives
- Liquid Detergents
- Resins
- Prefilters for Finer Cartridges
- Parts Washing Systems
- Water



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# Fulflo® Filter Bags

## Specifications

### Maximum Recommended Operating Conditions:

Temperature:

Polyester: 275°F (136°C)

Polypropylene: 200°F (94°C)

Monofilament Nylon Mesh: 275°F (136°C)

Nomex®\*: 425°F (220°C)

Multifilament Polyester Mesh: 275°F (136°C)

Flow Rate: (Per single length)

Standard Bag: 80 gpm (303 lpm)

Changeout ΔP: 35 psi (2.4 bar)

Pressure: 70 psid (4.8 bar)

Size:

C1: 7.5" X 17.5"

C2: 7.5" X 31.5"

G1: 7" X 17.5"

G2: 7" X 31.5"

### Effective Removal Ratings:

0.5μm to 800μm

### Bag Media Selection:

**Monofilament Mesh:** Single strand nylon with retention ratings from 100μm to 600μm

**Glazed Felt:** In polypropylene or polyester felts, the surface fibers are melt bonded to one another, reducing the possibility of fiber migration

**Multifilament Mesh:** Strong fabric woven from twisted strands. Particle retention ratings from 150μm to 800μm

**High Temperature Nomex®**

### Standard Seal: (no seal option specified)

C = Plastic Quik-Seal™ Ring

(polypropylene

for P felt and polyester for PE felt)

G = Steel Snap Ring

### Standard Bag Flow Factors

| Rating (μm) | Flow Factors |
|-------------|--------------|
| 1           | 0.00083      |
| 3           | 0.00059      |
| 5           | 0.00044      |
| 10          | 0.00029      |
| 25          | 0.00017      |
| 50          | 0.00013      |
| 75          | 0.00008      |
| 100         | 0.00007      |

### Flow Rate and Pressure Drop Formulas

$$\text{Flow Rate (gpm)} = \frac{\text{Clean } \Delta P \times \text{Length Factor}}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean DP} = \frac{\text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}}{\text{Length Factor}}$$

1. Clean ΔP is PSI differential at start.
2. Viscosity is centistokes. Use Conversion Tables for other units.
3. Flow Factor is ΔP/GPM at 1 cks for single length bag.
4. Length Factors convert flow or ΔP from single length bags. Use length factor or 1 for single length and a factor of 2 for double length.

## Ordering Information

| Bag Style                          | Bag Size | Media             | Micron                                  | Seal Options                  | Other Options     | Example     |
|------------------------------------|----------|-------------------|---|-------------------------------|-------------------|-------------|
| Polypropylene, Polyester Felt Bags |          |                   |   |                               |                   |             |
| C                                  | 1        | P = Polypropylene | 1, 3, 5, 10, 25, 50, 100 (P)            | F = Flex Band Seal            |                   | C2PE10      |
|                                    | 2        | PE = Polyester    | 1, 3, 5, 10, 25, 50, 75, 100, 200, (PE) |                               |                   | C2P50-F     |
| G                                  | 1        | P = Polypropylene | 1, 3, 5, 10, 25, 50, 100 (P)            | Q = Top Sealing Plastic Ring  |                   | G2PE25      |
|                                    | 2        | PE = Polyester    | 1, 3, 5, 10, 25, 50, 75, 100, 200, (PE) |                               |                   | G1P100-Q    |
| Polyester Multifilament Bags       |          |                   |   |                               |                   |             |
| C                                  | 1        | PEMU = Polyester  | 150, 200, 250, 300, 400, 800            | F = Flex Band Seal            |                   | C2PEMU150-P |
|                                    | 2        |                   |   | PE = Polyester Quik-Seal Ring |                   |             |
| G                                  | 1        | PEMU = Polyester  | 150, 200, 250, 300, 400, 800            | Q = Top Sealing Plastic Ring  | H = Cotton Handle | G2PEMU400-H |
|                                    | 2        |                   |   |                               |                   |             |
| Nomex Felt Bags                    |          |                   |   |                               |                   |             |
| C                                  | 1        | NOM = Nomex       | 25, 50, 100                             | F = Flex Band Seal (Required) |                   | C2NOM50     |
|                                    | 2        |                   |   |                               |                   |             |
| G                                  | 1        | NOM = Nomex       | 25, 50, 100                             |                               | H = Cotton Handle | G1NOM50     |
|                                    | 2        |                   |   |                               |                   |             |
| Nylon Monofilament Bags            |          |                   |   |                               |                   |             |
| C                                  | 1        | MNO = Nylon       | 100, 200, 300, 400, 600                 | F = Flex Band Seal            |                   | C2MNO200    |
|                                    | 2        |                   |   | PE = Polyester Quik-Seal Ring |                   |             |
| G                                  | 1        | MNO = Nylon       | 100, 200, 300, 400, 600                 | Q = Top Sealing Plastic Ring  |                   | G2MNO200-Q  |
|                                    | 2        |                   |   |                               |                   |             |

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C-5031

## XLH® Filter Bags

### Fulflo® XLH High Efficiency Filter Bags Provide High Quality Filtration Performance

Fulflo® Filter Bags are ideal for virtually any process filtration application requiring the removal of solids. Parker's Fulflo® filter bags are manufactured and tested under the strictest quality control standards to assure consistent performance. Parker's Fulflo® filter bags perform at high flow rates and viscosities to 10,000 cps or higher.

XLH high efficiency filter bags perform at efficiencies similar to depth cartridges. XLH bags are available in 0.5µm, 1µm, 2.5µm, 10µm and 25µm particle retention ratings.



### Benefits

- Parker's XLH all-polypropylene high efficiency filter bags provide twice the dirt-holding capacity at a lower cost than many competitive bags and cartridges of the same micrometer rating
- XLH bags require less frequent change out, less storage and disposal space, and are easy to install and remove
- Each bag is incinerable (with Quik-Seal™ option), reducing filter disposal costs
- All materials of construction are FDA listed as acceptable for potable and edible liquid contact according to CFR Title 21

### Applications

- Adhesives
- Solvents
- Bulk Chemicals
- Coatings
- Coolants
- Petroleum Oils
- Inks
- Paints
- Liquid Detergents
- Water
- Resins
- Prefilters for Finer Cartridges
- Parts Washing Systems



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# XLH® Filter Bags

## Specifications

### Materials of Construction:

Microfiber: FDA grade polypropylene microfiber used in the XLH bag series assures high-efficiency performance and is oil absorbent.

Particle retention ratings:

0.5µm to 25µm

### Maximum Recommended Operating Conditions:

Temperature:

Polypropylene—200°F (94°C)

Flow Rate (Per single length)

XLH 25 gpm (95 lpm)

Changeout ΔP: 35 psi (2.4 bar)

Maximum Allowable Pressure:

70 psid (4.8 bar)

Standard Seal:

(No seal option specified)

C = Plastic Quik-Seal Ring

G = Steel Snap Ring

### XLH Flow Factors

| Rating (µm) | Flow Factors |
|-------------|--------------|
| 0.5         | 0.0185       |
| 1           | 0.0143       |
| 2.5         | 0.0130       |
| 10          | 0.0043       |
| 25          | 0.0031       |

### Flow Rate and Pressure Drop Formulas

$$\text{Flow Rate (gpm)} = \frac{\text{Clean } \Delta P \times \text{Length Factor}}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean DP} = \frac{\text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}}{\text{Length Factor}}$$

1. Clean ΔP is PSI differential at start.
2. Viscosity is centistokes. Use Conversion Tables for other units.
3. Flow Factor is ΔP/GPM at 1 cks for single length bag.
4. Length Factors convert flow or ΔP from single length bags. Use length factor or 1 for single length and a factor of 2 for double length.

### XLH Filter Bag Retention Ratings

| Rating (µm) | Particle Size (µm) at Which Efficiency Is: |     |     |
|-------------|--|-----|-----|
|             | 90%  | 95% | 99% |
| 0.5         | 0.5  | 1   | 5   |
| 1           | 1  | 2   | 10  |
| 2.5         | 2.5  | 4   | 16  |
| 10          | 10   | 14  | 22  |
| 25          | 25   | 30  | 40  |

$$\text{Beta Ratio } (\beta) = \frac{\text{Upstream Particle Count @ Specified Particle Size and Larger}}{\text{Downstream Particle Count @ Specified Particle Size and Larger}}$$

$$\text{Percent Removal Efficiency} = \left( \frac{\beta - 1}{\beta} \right) \times 100$$

## Ordering Information

| Bag Style | Bag Size | Media                 | Micron               | Seal Options                | Other Options      | Example |
|-----------|----------|-----------------------|----------------------|-----------------------------|--------------------|---------|
| C         | 1<br>2   | XLH = High Efficiency | 0.5, 1, 2.5, 10, 25, |                             |                    |         |
| G         | 1<br>2   | XLH = High Efficiency | 0.5, 1, 2.5, 10, 25  | Q = Top Sealing Plastic Bag | H = Cotton Handles |         |

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C-1070

## Fulflo® Coaxial Basket

### Parker's Coaxial Retainer Basket for Increased Flow Rate in Existing Single Length Parker Vessels

Parker's unique coaxial basket increases flow rates of existing single length bag housings by converting the housing to double length bags.



### Benefits

- 316 stainless steel construction
- Accepts double length bag in single length envelope
- Special plunger to assist in filter bag installation
- Shorter length disposal package
- Retrofits all standard Fulflo bag housings
- Requires less head room for spent filter bag removal
- Increases flow rate in single length vessel
- Increases life and efficiency at same flow rate
- Designs for competitive vessels available (consult factory)

### Applications

- Latex Emulsions
- Water Coolants
- Resins
- Solvents
- Coatings



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# Fulflo® Bag Filter Basket

## Specifications

**Materials of Construction:**

316 stainless steel

**Recommended Media:**

For use with double length (size #2) mesh and needled felt media (100 micron and less) only

**Housing Retrofit:**

SB models  
FB models  
FCB models



- Coaxial basket with “CX” bag installed
- Add “CX” prefix to standard bag part number
- “CX” bag has internal loop to assist in spent bag removal when installed in coaxial basket



- Coaxial basket and plunger
- Double length mesh or felt bag in a single length envelope
- Convert single length housing to double length bag option
- Increase flow rate or increase efficiency and life at same flow rate

## Ordering Information

| Description    | Part Number |
|----------------|-------------|
| Coaxial Basket | 0370-5227   |
| Plunger Tool   | 4540-5001   |

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## Fulflo® Basket Strainers

### Effective Large Particle Removal With Fulflo® Basket Strainers

Fulflo basket strainers effectively remove large-sized particles ranging from US Mesh 20 to 100 (840µm to 149µm) from liquids with viscosities of up to 15,000 SSU. Parker basket strainers are useful as prefilters for the collection of gross contaminants.



### Benefits

- Available in two standard sizes to fit all Fulflo bag filter vessels
- Each strainer constructed of 316 stainless steel and features a permanent handle for easy installation, removal and cleaning
- Fulflo strainer vessels designed for maximum operating pressures of up to 150 psi (9.0 bar) and high flow rates
- Cleanable permanent media
- Optional ratings available down to 550 mesh (25 micron)
- Five standard ratings available from 20 to 100 mesh.

### Applications

- Discharge Water
- Process Water
- Coolants
- Cutting Oils
- Inks
- Lubricants
- Paints
- Resins
- Solvents
- Bulk Chemicals
- Parts Washing Systems
- Adhesives



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# Fulflo® Basket Strainers

## Specifications

### Maximum Operating Pressure Differential:

150 psid (10.3 bar)

### Length: (Basket Only)

Single = 14-3/4 in (37 cm)

Double = 27-3/4 in (70 cm)

### Length: (Including Handle)

Single = 18-3/4 in (47 cm)

Double = 31-3/4 in (80 cm)

### Outer Diameter:

Single = 7-7/16 in (19 cm)

Double = 7-7/16 in (19 cm)

### Basket Capacity:

Single = 2.2 gal (8.3 liters)

Double = 4.3 gal (16.3 liters)

### Weight:

Single = 5.4 lbs (2 kg)

Double = 9.4 lbs (4.3 kg)

### Mesh Surface Area:

Single = 2.3 ft<sup>2</sup> (2139 cm<sup>2</sup>)

Double = 4.2 ft<sup>2</sup> (3906 cm<sup>2</sup>)

### Pressure Drop Determination for Fulflo® Basket Strainers

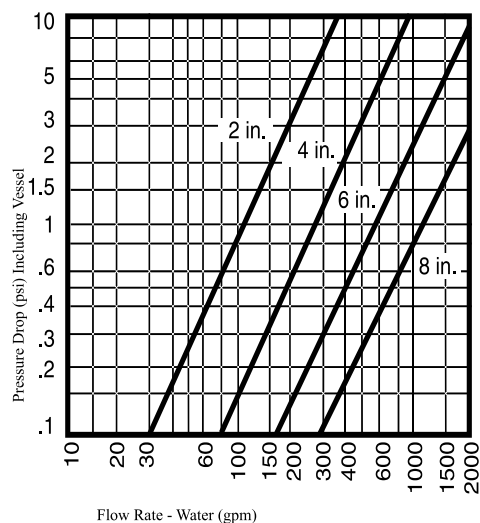
- From the pressure drop chart below, determine the pressure drop through the vessel using the known flow rate and inlet/outlet size. The chart is for water flowing through a vessel containing a clean 20 mesh basket.
- To determine the pressure drop for a vessel with other strainers, multiply the above value by the appropriate correction factor in the following table (water only):
- Correction factor for liquids other than water:
  - Multiply pressure drop for water, determined by completing steps 1 and 2, by the specific gravity of the liquid.
  - Multiply the results of "a" by the viscosity and mesh correction factor in the table at right.

### Mesh Correction Factors

| Viscosity<br>SSU | 20<br>Mesh | 40<br>Mesh | 60<br>Mesh | 80<br>Mesh | 100<br>Mesh |
|------------------|------------|------------|------------|------------|-------------|
| 500              | 1.6        | 1.9        | 2.1        | 2.4        | 2.6         |
| 1,000            | 1.7        | 2.2        | 2.4        | 2.6        | 2.8         |
| 2,000            | 1.9        | 2.4        | 2.7        | 2.9        | 3.2         |
| 3,000            | 2.0        | 2.6        | 2.9        | 3.2        | 3.5         |
| 5,000            | 2.2        | 3.0        | 3.5        | 4.0        | 4.5         |
| 10,000           | 2.5        | 3.5        | 4.2        | 5.0        | 6.0         |

### Water Correction Factor

|          |     |
|----------|-----|
| 20 Mesh  | 1.0 |
| 40 Mesh  | 1.2 |
| 60 Mesh  | 1.4 |
| 80 Mesh  | 1.6 |
| 100 Mesh | 1.7 |



\*Vessel Port Size

## Ordering Information

### Strainer Baskets With Handles

| Single Length,<br>Stainless Steel | Part Number |
|-----------------------------------|-------------|
| 1/8 in Perforations               | 0370-5177   |
| 20 Mesh (840µm)                   | 0370-5059   |
| 40 Mesh (420µm)                   | 0370-5060   |
| 60 Mesh (250µm)                   | 0370-5061   |
| 80 Mesh (177µm)                   | 0370-5062   |
| 100 Mesh (149µm)                  | 0370-5063   |

| Double Length,<br>Stainless Steel | Part Number |
|-----------------------------------|-------------|
| 1/8 in Perforations               | 0370-5156   |
| 20 Mesh (840µm)                   | 0370-5064   |
| 40 Mesh (420µm)                   | 0370-5065   |
| 60 Mesh (250µm)                   | 0370-5066   |
| 80 Mesh (177µm)                   | 0370-5067   |
| 100 Mesh (149µm)                  | 0370-5068   |

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## Sorbent Media Series



C-8500

## Fulflo® TruBind™ 300 Cartridges

### Effective and Economical Hydrocarbon Removal with Enhanced Polymeric Absorbent Cartridges

Parker Fulflo® TruBind™ absorbent cartridges utilize a modified polymeric absorbent that economically and effectively reduces trace hydrocarbon contamination in aqueous fluids. The enhanced polymer, configured in a radial-flow-design cartridge, provides maximum utilization of available surface area. This product can be used alone or as an enhancement to other systems. Whether process fluid reclamation or meeting disposal requirements is the goal, TruBind can solve many demanding hydrocarbon-contaminated aqueous fluid problems.

### Benefits

- Increases machine tool life when installed at point-of-use
- Increases working life of valuable process fluids
- Reduces hydrocarbon levels to meet EPA discharge regulations
- Absorbed hydrocarbon is chemically bound by polymer and is not leachable
- Absorbent polymer is enhanced to maximize utilization of surface area
- Radial flow design of cartridge allows maximum flow with minimal pressure drop
- High integrity construction withstands harsh process environment
- A variety of cartridge sizes and end cap options increase housing selection
- TruBind cartridges are completely incinerable
- Parker's TQM system assures consistent and reliable performance



### Applications

- Water Soluble Machine
- Alkaline Parts Washing
- Industrial Discharge Water
- Produced Water Disposal
- E-Coat Paint
- Post Oil/Water Separator
- Compressor Condensate
- Car & Truck Wash Water
- Plating Bath
- Gas & Oil Facility Wastewater
- Surface Water Runoff (Truck stops, airports, auto service stations)
- Bilge Water
- Pre Carbon Bed
- Aerosol Mists Cooling Water
- Tanker Ballast Water
- Pre R.O. Membrane Polishing



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# Fulflo® TruBind™ 300 Cartridges

## Specifications

### Materials of Construction:

Absorbent: Proprietary modified polymer  
Support Construction: 100% polyolefin  
Seal Material: Gasket (Polyethylene Foam); 222 O-Ring (Buna-N)

### Maximum Recommended Operating Conditions:

Temperature:  
150°F (65°C) @ 20 psid (1.4 bar);  
180°F (82°C) @ 10 psid (0.7 bar)  
Pressure:  
40 psid (2.8 bar) @ 75°F (24°C)  
Flow Rate:  
1.0 gpm per 10-inch cartridge  
Changeout Pressure Drop (net):  
10 psi (0.7 bar)  
Flow Factor:  
0.03 psid per 1 gpm at 1 cks viscosity per 10 in cartridge  
pH Range: 2 - 12  
  
Lengths: 10-40 in (249mm-1016mm)  
Outside Diameter: 2-1/2 in (63.5 mm)  
Inside Diameter: 1-1/16 in (27 mm)

### BioSafety:

The TruBind cartridge is classified as non-hazardous and incinerable. Disposal must be dictated by local regulations pertaining to the absorbed contaminant.

### Recommended Vessels:

All standard Fulflo vessels designed for 2-1/2 in OD cartridges.

### Technology

Unlike competitive technologies in which hydrocarbons are removed through surface adsorption onto the medium, TruBind cartridges utilize a proprietary modified polymer that both absorbs and chemically binds the hydrocarbon molecules into its interior matrices. The affinity of the polymeric absorbent for hydrocarbon contaminant is so great that accelerated testing by the Toxic Characteristics Leachate Procedure (TCLP) indicated the effluent hydrocarbon level in water to be below current and proposed EPA limits. The modified polymer was formulated to control the speed of hydrocarbon absorption by eliminating the potential for skin formation at the polymer/hydrocarbon interface. Consequently this polymer, when incorporated into a radial-flow-design cartridge, insures maximum utilization of surface area. The nature of the polymer makes it an effective absorbent for free, emulsified and dissolved oils, synthetic lubricants, grease and a multitude of organic solvents.

### Performance

TruBind absorbent cartridge efficiency depends upon the residence time of the fluid within the cartridge, which is a function of the volumetric flow rate.

1. Hydrocarbon Removal Efficiency: At an equivalent flow rate of 1.0 gpm per 10-inch cartridge the TruBind cartridge typically reduces trace hydrocarbon contaminant in excess of 95% in single pass mode. This efficiency level can be maintained only to a net differential pressure of 10 psi. Series or multipass filtration can virtually eliminate hydrocarbon contamination.
2. Hydrocarbon Absorbent Capacity: The TruBind cartridge medium has the potential to remove up to 250 grams (approximately one-half pint) of low density hydrocarbon contaminant. On this basis, the table below provides expected life data in hours or gallons at several trace contaminant levels based on a 1.0 gpm flow rate per 10-inch cartridge. Absorbent capacity will decrease as density of hydrocarbon increases.
3. Flow Rate Capability: A maximum flow rate of 1.0 gpm per 10-inch length cartridge is recommended for the most effective removal of trace hydrocarbon contaminant.

| Hydrocarbon (ppm) | Concentration (% by weight) | Hydrocarbon Removal per Minute (grams) | Estimated Life in Hours | Gallons Fluid Treated | Estimated Cost per Gallon of Treated Fluid |
|-------------------|-----------------------------|--|-------------------------|-----------------------|--|
| 10                | .001                        | 0.04                                   | 106.0                   | 6,330                 | \$ .003                                    |
| 100               | .01                         | 0.40                                   | 10.6                    | 633                   | \$ .03                                     |
| 1,000             | .1                          | 4.00                                   | 1.1                     | 63                    | \$ .30                                     |

Note: Cost per gallon decreases significantly with longer cartridges.

## Ordering Information

| TBC                         |        |          |      |                                     |  |   |
|-----------------------------|--------|----------|------|-------------------------------------|--|---|
| Cartridge Series            | Length |          |      | Support Core                        | End Cap Configuration  | Seal Material   |
| TruBind Absorbent Cartridge | (code) | (in)     | (mm) | A= Standard Wall Polypropylene Core | DO = Double-Open-End (gasket seal)<br>DX = DOE w/core extender<br>TC = Single-Open-End (222 O-ring seal)<br>TX = 222 O-ring/Flex Fin | A= Polyolefin Foam Gasket (standard for "DO" seal design)<br>N= Buna-N O-Ring (standard for "TC" seal design) |
|                             | 9      | 9-5/8    | 244  |                                     |  |   |
|                             | 10     | 9-13/16  | 249  |                                     |  |   |
|                             | 19     | 19-5/8   | 498  |                                     |  |   |
|                             | 20     | 19-15/16 | 506  |                                     |  |   |
|                             | 29     | 29-1/4   | 743  |                                     |  |   |
|                             | 30     | 30-1/16  | 764  |                                     |  |   |
|                             | 39     | 39       | 991  |                                     |  |   |
|                             | 40     | 40       | 1016 |                                     |  |   |

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C-8510

## Fulflo® TruBind™ 400 Cartridges

### Effective and Economical Hydrocarbon Removal with Enhanced Polymeric Absorbent Cartridges

Parker Fulflo® TruBind™ absorbent cartridges utilize a modified polymeric absorbent that economically and effectively reduces trace hydrocarbon contamination in aqueous fluids. The enhanced polymer, configured in a radial-flow-design cartridge, provides maximum utilization of available surface area. This product can be used alone or as an enhancement to other systems. Whether process fluid reclamation or meeting disposal requirements is the goal, TruBind™ can solve many demanding hydrocarbon-contaminated aqueous fluid problems.

### Benefits

- Increases machine tool life when installed at point-of-use
- Increases working life of valuable process fluids
- Reduces hydrocarbon levels to meet EPA discharge regulations
- Absorbed hydrocarbon is chemically bound by polymer and is not leachable
- Absorbent polymer is enhanced to maximize utilization of surface area
- Radial flow design of cartridge allows maximum flow with minimal pressure drop
- High integrity construction withstands harsh process environment
- TruBind™ cartridges are completely incinerable
- Parker's TQM system assures consistent and reliable performance



### Applications

- Water Soluble Machine Tool Coolants
- Alkaline Parts Washing
- Industrial Discharge
- Car & Truck Wash Water
- Gas & Oil Facility Wastewater
- Tanker Ballast Water
- Bilge Water
- Surface Water Runoff
- Produced Water Disposal (Truck stops, airports, auto service stations)
- Pre Carbon Bed
- post Oil/Water Separator
- E-Coat Paint
- Compressor Condensate
- Pre R.O. Membrane Water
- Plating Bath
- Aerosol Mists



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# Fulflo® TruBind™ 400 Cartridges

## Specifications

### Materials of Construction:

Absorbent: Proprietary polymer  
Support Construction: 100% polyolefin  
Seal Material: Polyethylene Foam

### Cartridge Dimensions (nominal)

Lengths:  
9-13/16 in (249mm)  
19-15/16 in (506mm)  
Outside Diameter:  
4-1/2 in (114 mm)  
Inside Diameter:  
1-1/16 in (27 mm)

### Maximum Recommended Operating Conditions:

Temperature:  
150°F (65°C) @20 psid (1.4 bar);  
180°F (82°C) @10 psid (0.7 bar)  
Pressure:  
40 psid (2.8 bar) @ 75°F (24°C)  
Flow Rate:  
3.0 gpm per 10-inch cartridge  
Changeout Pressure Drop (net):  
10 psi (0.7 bar)  
Flow Factor:  
0.1 psid per 1 gpm at 1 cks viscosity  
per 10 in cartridge  
pH Range: 2 - 12

### BioSafety:

The TruBind cartridge is classified as non-hazardous and incinerable. Disposal must be dictated by local regulations pertaining to the absorbed contaminant.

### Recommended Vessels:

Parker LTG10 and LTG20 polymeric vessels and equivalent competitive vessels.

### Technology

Unlike competitive technologies in which hydrocarbons are removed through surface adsorption onto the medium, TruBind cartridges utilize a proprietary modified polymer that both absorbs and chemically binds the hydrocarbon molecules into its interior matrices. The affinity of the polymeric absorbent for hydrocarbon contaminant is so great that accelerated testing by the Toxic Characteristics Leachate Procedure (TCLP) indicated the effluent hydrocarbon level in water to be below current and proposed EPA limits. The modified polymer was formulated to control the speed of hydrocarbon absorption by eliminating the potential for skin formation at the polymer/hydrocarbon interface. Consequently this polymer, when incorporated into a radial-flow-design cartridge, insures maximum utilization of surface area. The nature of the polymer makes it an effective absorbent for free, emulsified and dissolved oils, synthetic lubricants, grease and a multitude of organic solvents.

### Performance

TruBind absorbent cartridge efficiency depends upon the residence time of the fluid within the cartridge, which is a function of the volumetric flow rate.

1. Hydrocarbon Removal Efficiency: At an equivalent flow rate of 3.0 gpm per 10-inch cartridge the TruBind cartridge typically reduces trace hydrocarbon contaminant in excess of 95% in single pass mode. This efficiency level can be maintained only to a net differential pressure of 10 psi. Series or multipass filtration can virtually eliminate hydrocarbon contamination.
2. Hydrocarbon Absorbent Capacity: The TruBind cartridge medium has the potential to remove up to 500 grams (approximately one pint) of low density hydrocarbon contaminant. On this basis, the table below provides expected life data in hours or gallons at several trace contaminant levels based on a 3.0 gpm flow rate per 10-inch cartridge. Absorbent capacity will decrease as density of hydrocarbon increases.
3. Flow Rate Capability: A maximum flow rate of 3.0 gpm per 10-inch length cartridge is recommended for the most effective removal of trace hydrocarbon contaminant.

| Hydrocarbon (ppm) | Concentration (% by Weight) | Hydrocarbon Removal per Minute (grams) | Estimated Life in Hours | Gallons Fluid Treated | Estimated Cost per Gallon of Treated Fluid |
|-------------------|-----------------------------|--|-------------------------|-----------------------|--|
| 10                | .001                        | 0.11                                   | 80.0                    | 14,400                | \$.002                                     |
| 100               | .01                         | 1.10                                   | 8.0                     | 1,400                 | \$.025                                     |
| 1,000             | .1                          | 11.00                                  | 0.8                     | 144                   | \$.24                                      |

## Ordering Information

| TBC               |                  |                                   |                                     |                                    |   |
|-------------------|------------------|-----------------------------------|-------------------------------------|------------------------------------|---|
| Cartridge Code    | Outside Diameter | Cartridge Length                  | Support Core                        | End Cap Configuration              | Seal Material   |
| TruBind Cartridge | Code in mm       | Code in mm                        | A= Standard Wall Polypropylene Core | DO = Double-Open-End (gasket seal) | A= Polyolefin Foam Gasket (standard for "DO" seal design) |
|                   | 4 4-1/2 114      | 10 9-13/16 249<br>20 19-15/16 506 |                                     |                                    |   |

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# Fulflo® TruBind™ 700 Cartridges

## Effective and Economical Hydrocarbon Removal with Enhanced Polymeric Absorbent Cartridges

Parker Hannifin's Fulflo® TruBind™ absorbent cartridges utilize a modified polymeric absorbent that economically and effectively reduces trace hydrocarbon contamination in aqueous fluids. The enhanced polymer, configured in a radial-flow-design cartridge, provides maximum utilization of available surface area. This product can be used alone or as an enhancement to other systems. Whether process fluid reclamation or meeting disposal requirements is the goal, TruBind™ can solve many demanding hydrocarbon contaminated aqueous fluid problems.

## Benefits

- Increases machine tool life when installed at point-of-use
- Increases working life of valuable process fluids
- Reduces hydrocarbon levels to meet EPA discharge regulations
- Absorbed hydrocarbon is chemically bound by polymer and is not leachable
- Absorbent polymer is enhanced to maximize utilization of surface area
- Radial flow design of cartridge allows maximum flow with minimal pressure drop
- High integrity construction withstands harsh process environment
- Retrofits parker P, FP, FPM vessel series
- TruBind™ cartridges are completely incinerable



## Applications

- Water Soluble Machine Tool Coolants
- Industrial Discharge Water
- Produced Water Disposal
- Pre R.O.
- Aerosol Mists
- Injection Molding Cooling Water
- Car & Truck Wash Water
- Gas & Oil Facility Wastewater
- Floor Scrubbing Waste Water Polishing
- Leisure/Commercial Shipping (Truck stops, airports, auto service stations)
- Bilge Water
- Alkaline Parts Washing
- E-Coat Paint
- Tanker Ballast Water
- Plating Solutions
- Pre Carbon Bed Membrane
- Compressor Condensate
- Post Oil/Water Separator
- Surface Water Runoff



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# Fulflo® TruBind™ 700 Cartridges

## Specifications

### Materials of Construction:

Absorbent: Laminated Proprietary Polymer  
Support Construction: 100% polyolefin  
Seal Material: Buna-N gasket

### Cartridge Dimensions (nominal)

Length: 18 in (457 mm)  
Outside Diameter  
6-1/4 in (159 mm)  
Inside Diameter  
2-5/8 in (67 mm) with separate support core

### Maximum Recommended Operating Conditions:

Temperature:  
150°F (65°C) @ 20 psid (1.4 bar);  
180°F (82°C) @ 10 psid (0.7 bar)  
Pressure:  
60 psid (4.1 bar) @ 75°F (24°C)  
Flow Rate: 5 gpm per cartridge  
Changeout Pressure Drop (net):  
10 psi (0.7 bar)  
Flow Factor:  
0.3 psid per 1 gpm at 1 cks viscosity per cartridge  
pH range: 2 -12

### Recommended Vessels:

Parker Fulflo "P", "FP", "FPM" Series

### BioSafety:

The TruBind™ cartridge is classified as non-hazardous and incinerable. Disposal must be dictated by local regulations pertaining to the absorbed contaminant

### Technology

Unlike competitive technologies in which hydrocarbons are removed through surface adsorption onto the medium, TruBind cartridges utilize a proprietary modified polymer that both absorbs and chemically binds the hydrocarbon molecules into its interior matrices. The affinity of the polymeric absorbent for hydrocarbon contaminant is so great that accelerated testing by the Toxic Characteristics Leachate Procedure (TCLP) indicated the effluent hydrocarbon level in water to be below current and proposed EPA limits. The modified polymer was formulated to control the speed of hydrocarbon absorption by eliminating the potential for skin formation at the polymer/hydrocarbon interface. Consequently this polymer, when incorporated into a radial-flow-design cartridge, insures maximum utilization of surface area. The nature of the polymer makes it an effective absorbent for free, emulsified and dissolved oils, synthetic lubricants, grease and a multitude of organic solvents.

### Performance

TruBind™ absorbent cartridge efficiency depends upon the residence time of the fluid within the cartridge, which is a function of the volumetric flow rate.

1. Hydrocarbon Removal Efficiency: At an equivalent flow rate of 5 gpm per cartridge the TruBind™ cartridge typically reduces trace hydrocarbon contaminant in excess of 95% in single pass mode. This efficiency level can be maintained only to a net differential pressure of 10 psi. Series or multipass filtration can virtually eliminate hydrocarbon contamination.
2. Hydrocarbon Absorbent Capacity: The TruBind™ cartridge medium has the potential to remove up to 1200 grams (approximately one quart) of low density hydrocarbon contaminant. On this basis, the table below provides expected life data in hours or gallons at several trace contaminant levels based on a 5 gpm flow rate per cartridge. Absorbent capacity will decrease as density of hydrocarbon increases.
3. Flow Rate Capability: A maximum flow rate of 5 gpm per cartridge is recommended for the most effective removal of trace hydrocarbon contaminant.

| Hydrocarbon (ppm) | Concentration (% by Weight) | Hydrocarbon Removal per Minute (grams) | Estimated Life in Hours | Gallons Fluid Treated | Estimated Cost per Gallon of Treated Fluid |
|-------------------|-----------------------------|--|-------------------------|-----------------------|--|
| 10                | .001                        | 0.189                                  | 111.39                  | 31746                 | \$ .003                                    |
| 100               | .01                         | 1.795                                  | 11.14                   | 3175                  | \$ .030                                    |
| 1,000             | .1                          | 17.954                                 | 1.11                    | 317.5                 | \$ .295                                    |

TruBind™ 700 Series is coreless and requires a support core prior to cartridge installation in vessel. The polyethylene core gives the cartridge sufficient strength and precludes cartridge collapse at recommended operating conditions. Support core is a reusable part and does not need to be replaced. Part Number: 4452-5120



## Ordering Information

| TBC                         |                  |       |                  |     |                                   |
|-----------------------------|------------------|-------|------------------|-----|-----------------------------------|
| Cartridge Series            | Outside Diameter |       | Cartridge Length |     | Support Core                      |
| TruBind Absorbent Cartridge | Code             | in    | Code             | in  | A = Heavy Wall Polypropylene Core |
|                             | 7                | 6-1/4 | 18               | 18  |                                   |
|                             |                  | 159   |                  | 457 |                                   |
|                             |                  |       |                  |     | Cartridge Seal Design             |
|                             |                  |       |                  |     | DO = Double Open End              |
|                             |                  |       |                  |     | Seal Material                     |
|                             |                  |       |                  |     | N = Buna N Gasket                 |

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# Fulflo® MC and RC Carbon Filter Cartridges

## Activated Carbon Cartridges Eliminates Taste, Odor and Sediment in Potable Water

Parker's FDA grade MC and RC activated carbon cartridge series provides effective control of taste and odor causing contaminants in water such as chlorine and dissolved organics. At the same time suspended solids are controlled to a nominal 5 micrometer level.

The MC Series features a unique 3-stage "treatment" matrix with a granular carbon chamber between two layers of 5 micron rated wound polypropylene medium. The RC Series is similarly constructed but with a larger outside diameter and in a variety of lengths to fit standard double open end Fulflo® "B" series vessels.

The MMCT-10 is unique within this series as a single-open-end carbon bottle design in which flow is channeled through the entire length of the cartridge. With this design contact time is maximized for optimum adsorptive contaminant removal.

## Benefits

- All components of the carbon cartridge series meet FDA guidelines for potable and edible liquid contact according to CFR Title 21
- Six different cartridge sizes to accommodate most Fulflo® and similar style competitive vessels
- Unique design with prefiltration and post filtration stage to optimize activated carbon layer



- Liquid phase high surface area activated carbon maximizes chlorine removal
- Unique 3-stage water treatment capability from one filter cartridge

## Applications

- Drinking Water
- Plating Solutions
- Waste Water Treatment
- Color Contaminated Fluids



# Fulflo® MC and RC Carbon Filter Cartridges

## Specifications

### Materials of Construction:

Absorbent Granulated 12 x 40 Mesh  
Activated Carbon  
Filter Medium: FDA Grade Wound  
Polypropylene  
Support Construction: Polypropylene  
End Caps (RC/MC): PVC  
End Cap Adhesive (RC/MC): PVC  
Gasket: EPDM

### Particle Removal Rating:

5 Micrometer Nominal

### Packaging:

All cartridges packaged 20 units per master carton.

RC Series cartridges are packaged in individual boxes and include Buna N vessel shell gasket (P/N 2620-5046)

MC Series cartridges are individually poly shrink wrapped with label but without individual carton.

### Maximum Recommended Operating

#### Conditions:

Flow Rate:

1.0 gpm (3.8 lpm) per 10 in length for optimum absorbent contact time

Temperature:

140°F (76°C) @ 30 psid (2.1 bar)

Pressure:

60 psid (4.1 bar) @ 75°F (24°C)

Changeout Pressure Drop:

30 psid (2.1 bar) or when objectionable taste and odor are detected in effluent water.

### Master Carton Weight (lbs.):

|         |    |
|---------|----|
| RC4     | 11 |
| RC10    | 25 |
| MC10-2  | 17 |
| MC20-2  | 34 |
| MC30-2  | 26 |
| MMCT-10 | 19 |

## Ordering Information

| Cartridge Part Number | Carbon Content (weight in grams) | Nominal Dimensions                            | Recommended Filter Vessel                          |
|-----------------------|----------------------------------|---|--|
| RC4                   | 95                               | 3-13/16 in long x 3-1/4 in OD x 1-1/16 in ID  | BR4-3/8 SD   |
| RC10                  | 275                              | 9-13/16 in long x 3-1/4 in OD x 1-1/16 in ID  | BSB10 - 3/4 SD                                     |
| MC10-2                | 115                              | 9-13/16 in long x 2-3/4 in OD x 1-1/16 in ID  | LT10 and all other Fulflo vessels except FE Series |
| MC20-2                | 250                              | 19-15/16 in long x 2-3/4 in OD x 1-1/16 in ID | LT20 and all other Fulflo vessels except FE Series |
| MC30-2                | 395                              | 30-1/16 in long x 2-3/4 in OD x 1-1/16 in ID  | All Fulflo vessels except FE Series                |
| MMCT-10               | 185                              | 9-13/16 in long x 2-3/4 in OD x 1-1/16 in ID  | LT10 only  |

#### Notes:

- (1) MMCT-10 is single open end style and fits only LT10 and similar competitive vessels.
- (2) All other cartridges are double open end style. MC cartridges are stackable in multi-length vessels by using stainless steel spacers (P/N 5710-5022).

Specifications are subject to change without notification.

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## Metallic Media Series



C-9000

## Fulflo® Metallic Filter Cartridges

### Optimize Process Filtration with High Integrity Metallic Cartridges

Parker's Fulflo® stainless steel cartridges provide the optimum filtration solution for fluids and gases in high temperature and high flow rate applications.

Available in a cylindrical or pleated design, cleanable stainless steel cartridges are the logical choice when natural and synthetic media cartridges cannot meet aggressive process conditions.

Fulflo® reusable 304 and 316 grade stainless steel cartridges offer versatility of choice with fourteen nominal particle removal ratings, six standard lengths and a variety of end configurations and seal materials.

### Benefits

- Temperature capability up to 500° F with synthetic seals; up to 1500° F with NPT connections
- Available in 304 and 316 stainless steel for compatibility choice with aggressive chemicals
- Available in fourteen nominal ratings from 2 to 840 microns for a wide range of particle size removal
- Dimensional integrity of stainless steel media accommodates high flow rate and high temperature systems
- Cartridges may be cleaned and reused
- Available with a wide range of grommet and O-ring materials to optimize fluid and temperature compatibility
- Variety of seal configurations allow retrofit in many filter vessel designs



- Welded and crimped construction eliminates the need for adhesives which can be a contaminant source and limit temperature range
- Pleated surface maximizes filtration area for longer service life
- Plain (cylindrical) surface provides ease of cleaning
- Optional perforated stainless steel pleat protectors minimize handling damage
- Meets FDA guidelines for use with potable and edible liquids

### Applications

- Heat Transfer
- Hot Melt Processes
- Viscous Fluids
- Hot Wax
- Aggressive Gases
- Polymer Filtration
- High Temperature Processes
- Process Fluids Steam
- Corrosive Fluids
- Catalyst Recovery
- Caustic Cleaning Solutions



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# Fulflo® Metallic Filter Cartridges

## Specifications

### Materials of Construction:

Filter Medium:

Stainless steel wire cloth

Structural Components:

100% stainless steel

Seal Materials:

Grommets: Buna N, Viton, PTFE, EPDM

O-Rings:

Buna N, EPDM, Viton, PFA encapsulated Viton

Construction Method:

Welded and crimped (no adhesives)

Meets FDA guidelines with optional seal materials ("F" Code)

### Maximum Recommended Operating Conditions:

Temperature:

1500°F (816°C)

NPTF and NPTM styles only

500°F (260°C)

Any cartridge style with PTFE grommet

400°F (204°C)

Any cartridge style with Viton or PFA encapsulated Viton seal material

300°F (149°C)

Any cartridge style with EPDM seal material

250°F (121°C)

Any cartridge style with Buna N seal material

Differential Pressure:

Standard core: 60 psi (4.1 bar)

High pressure core: 300 psi (20.7 bar)

Flow Rate:

10 gpm (38 lpm) per 10 in cartridge

Changeout ΔP: 35 psi (2.4 bar)

### Particle Removal Ratings (Nominal):

Effective Filtration Area:

Cylindrical

0.5 ft<sup>2</sup>/10 in length (465 cm<sup>2</sup>/254mm)

Pleated

1.7 ft<sup>2</sup>/10 in length (1580 cm<sup>2</sup>/254 mm)

### Dimensions

Outside Diameter

Cylindrical: 2-1/2 in (64 mm)

Pleated: 2-5/8 in (67 mm)

Inside Diameter

1-1/16 in (27 mm)

Lengths (nominal)

10, 20 and 30 in

Grommet

1-1/16 in (27 mm) ID X 1-7/8 in (48 mm) OD

### Flow Rate and Pressure Drop Formulas

$$\text{Flow Rate (gpm)} = \frac{\text{Clean } \Delta P \times \text{Length Factor}}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean DP} = \frac{\text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}}{\text{Length Factor}}$$

### Removal Rating/Mesh Count/Open Area

| Micrometer Rating  |      | Mesh Count (per inch) | Percent Open Area |
|--------------------|------|-----------------------|-------------------|
| Nominal/(Absolute) |      |                       |                   |
| 2                  | (9)  | 325 x 2300            | NA                |
| 5                  | (14) | 200 x 1400            | NA                |
| 10                 | (18) | 165 x 1400            | NA                |
| 20                 | (32) | 200 x 600             | NA                |
| 40                 | (55) | 120 x 400             | NA                |
| 75                 |      | 190 x 200             | 35                |
| 100                |      | 30 x 150              | 31                |
| 150                |      | 90 x 100              | 33                |
| 190                |      | 70 x 80               | 35                |
| 230                |      | 50 x 60               | 41                |
| 280                |      | 40 x 50               | 35                |
| 370                |      | 40 x 40               | 36                |
| 540                |      | 30 x 30               | 45                |
| 840                |      | 20 x 20               | 52                |

Ratings From 2 - 40 micrometers are twill dutch weave pattern

Ratings From 75 - 840 micrometers are open square weave pattern

### Flow Factors

| Length (in) | Flow Factor |
|-------------|-------------|
| 9 3/4, 10   | 0.00036     |
| 19 1/2, 20  | 0.00076     |
| 29 1/4, 30  | 0.00116     |

Note: Flow factors are the same for all ratings.

Center core ID and length are primary flow restrictions.

### Notes:

1. Clean ΔP is PSI differential at start.
2. Viscosity is centistokes. Use Conversion Tables for other units.
3. Flow Factor is ΔP/GPM at 1 cks for 10 in (or single).
4. Length Factors convert flow or ΔP from 10 in (single length) to required cartridge length.

## Ordering Information

| Cartridge Code                    | Nominal Micrometer Rating (μm) | Nominal Length (in) |           | Media/Support Construction | Seal Material                       | End Cap Configuration                           | Special Options                     |
|-----------------------------------|--------------------------------|---------------------|-----------|----------------------------|-------------------------------------|---|-------------------------------------|
| CSS = Cylindrical Stainless Steel |                                | Code                | in mm     | G = 304 Stainless Steel    | E = EPDM                            | DO = Double open end (DOE)                      | F = FDA Grade Seal Material         |
| PSS = Pleated Stainless Steel     |                                | 4 =                 | 4 102     | S = 316 Stainless Steel    | F = PTFE (Grommet only)             | DX = Double Open end with extended Core         | H = High Pressure Core (316 SS)     |
|                                   | 2                              | 9.75 =              | 9.75 248  |                            | N = Buna-N                          | FC = Single open end w/1" NPTF female connction | P = Pleat Protector sleeve (316 SS) |
|                                   | 5                              | 10 =                | 10 254    |                            | T = PFA/Viton* (O-Ring Only)        | MC = Single open end w/1" NPTM male             |                                     |
|                                   | 10                             | 19.5 =              | 19.5 495  |                            | V = Viton*                          | SC = 226 O-Ring/Flat                            |                                     |
|                                   | 20                             | 20 =                | 20 508    |                            | X = No Seal Material (FC, MC style) | TC = 222 O-Ring/Flat                            |                                     |
|                                   | 40                             | 29.25 =             | 29.25 743 |                            |                                     |   |                                     |
|                                   | 75                             | 30 =                | 30 762    |                            |                                     |   |                                     |
|                                   | 100                            | 40 =                | 40 1016   |                            |                                     |   |                                     |
|                                   | 150                            |                     |           |                            |                                     |   |                                     |
|                                   | 190                            |                     |           |                            |                                     |   |                                     |
|                                   | 230                            |                     |           |                            |                                     |   |                                     |
|                                   | 280                            |                     |           |                            |                                     |   |                                     |
|                                   | 370                            |                     |           |                            |                                     |   |                                     |
|                                   | 540                            |                     |           |                            |                                     |   |                                     |
|                                   | 840                            |                     |           |                            |                                     |   |                                     |

Specifications are subject to change without notification.

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## Single Cartridge Filter Vessel Series





C-3000

## Fulflo® B Filter Vessels

### Fulflo® “B” Series Filters Are Suitable for a Wide Range of Industrial Applications

Carbon Steel “B” Vessels feature single center bolt for quick cartridge changing and in-line connections for easy installation.

Duplex vessels permit independent or parallel shell operation. In addition, they offer the advantage of continuous service because one can be serviced while the other is operating. Manifold vessels work simultaneously in parallel shells to provide higher flow rates with less pressure drop than single-shell models.

Air and gas single-shell vessels feature in-line pipe connections for easy installation and aluminum baffel sleeve deflectors for two-stage moisture removal.

### Benefits

- Single center bolt for quick cartridge change
- In-line pipe connection for easy installation
- Optional integrally cast brackets for easy mounting
- Drains and vents standard on all models
- Standard Buna-N closure gasket material with optional Viton,\* Neoprene and fluoropolymer gaskets available
- Spring-loaded bottom seats for positive cartridge sealing
- Duplex vessels for continuous service
- Manifold unit for increased flow
- B-Series filter vessels take standard DOE cartridges

### Applications

- Petrochemicals
- Coolants
- Hydraulic Oils
- Process Water
- Solvents
- Potable Liquids
- Compressed Air



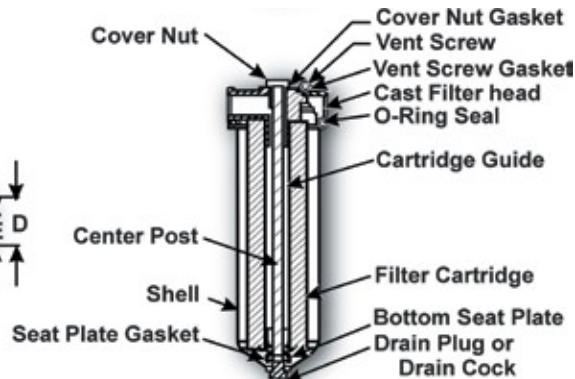
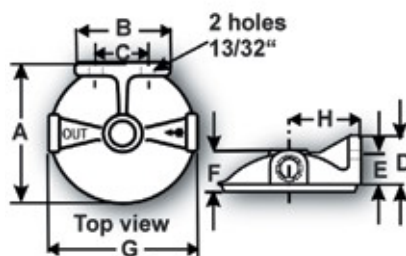
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# Fulflo® B Filter Vessels

**Bracketed Head Dimensions (in)**

|   | NPT 1/4<br>(in) | NPT 3/4<br>(in) |
|---|-----------------|-----------------|
| A | 4.22            | 4.22            |
| B | 2.75            | 3.31            |
| C | 1.50            | 2.19            |
| D | 1.50            | 1.88            |
| E | 1.0             | 1.38            |
| F | 1.25            | 1.66            |
| G | 4.19            | 4.31            |
| H | 2.13            | 2.13            |

Note: Flow factors are the same for all ratings.  
Center core ID and length are primary flow restrictions.



## Duplex (BDX1) and Manifold (BMCX2) Design Specifications

| Model           | Typical Aqueous Flow* (gpm) | (Number) & Length of Cartridges (in) | Pipe Size (NPT) (in) | Maximum Operating Pressure (psi @200°F) | Overall Height (in) | Shipping Weight (lbs) |
|-----------------|-----------------------------|--------------------------------------|----------------------|---|---------------------|-----------------------|
| BDX1-10-1/2 DS  | 5/10                        | (2) 10                               | 1/2                  | 150 psi (10.3 bar)***                   | 13.75               | 16                    |
| BMCX2-10-1 SD** | 10                          | (2) 10                               | 1                    | 150 psi (10.3 bar)***                   | 13.63               | 14                    |

\* Actual flow rate is dependent on fluid viscosity, micron rating, contaminant and media type. Consult nomographs or flow curves for each application.

\*\* Two shells in parallel. No bracket required.

\*\*\* Maximum available working pressure is 100 psi (6.9 bar) at 250°F (121°C).

## Design Specifications

| Model                      | Rated Capacity* | (Number) & Length of Wound Depth Cartridges (in) | Operating Pressure (psi @200°F) | Overall Height (in) | Outside Diameter (in) | Face-to-Face Dim. (in) | Pipe Size (NPT) (in) | Shipping Weight (lbs) |
|----------------------------|-----------------|--|---------------------------------|---------------------|-----------------------|------------------------|----------------------|-----------------------|
| <b>AIR AND OTHER GASES</b> |                 |  |                                 |                     |                       |                        |                      |                       |
| B3A-(1/4 OR 3/8) SC        | 65 scfm         | (1) 3  | 125 psi (8.6 bar)               | 7.0                 | 3.63                  | 4.19                   | .25-.38              | 3.0                   |
| B5A-(1/2 or 3/4) SD        | 110 scfm        | (1) 5  | 125 psi (8.6 bar)               | 9.25                | 3.63                  | 4.31                   | .5-.75               | 3.75                  |
| B7A-1/2 OR 3/4 SD          | 150 scfm        | (1) 7  | 125 psi (8.6 bar)               | 11.38               | 3.63                  | 4.5                    | .75-1                | 5.25                  |
| AF7-3/4SD                  | 180 scfm        | (1) 7  | 150 psi (10.3 bar)†             | 11.38               | 3.63                  | 4.31                   | .75                  | 4.25                  |
| <b>LIQUIDS</b>             |                 |  |                                 |                     |                       |                        |                      |                       |
| B10-3/4 SD                 | 5 gpm           | (1) 10   | 150 psi (10.3 bar)‡             | 12.88               | 3.63                  | 4.31                   | .75                  | 6.0                   |
| B20-3/4 SD                 | 10 gpm          | (1) 20   | 150 psi (10.3 bar)‡             | 23.0                | 3.63                  | 4.31                   | .75                  | 9.25                  |
| B10-1 SD                   | 5 gpm           | (1) 10   | 150 psi (10.3 bar)‡             | 13.25               | 3.63                  | 4.5                    | 1.0                  | 6.0                   |
| B20-1 SD                   | 10 gpm          | (1) 20   | 150 psi (10.3 bar)‡             | 23.25               | 3.63                  | 4.5                    | 1.0                  | 9.25                  |

\* Maximum flow rate for gases based on air at 70°F (21°C) and maximum operating pressure with initial pressure loss of 3 psig (.2 bar) with a 5µm viscose wound depth filter cartridge.

† Maximum allowable working pressure is 250 psi (17.2 bar) at 100°F (38°C).

‡ Maximum allowable working pressure is 100 psi (6.9 bar) at 250°F (121°C).

## Ordering Information

| Design Series                                 | Cartridge Length                          | Connection Size (in)          | Spring-Loaded Seal | Drain |
|---|---|-------------------------------|--------------------|-------|
| B = Carbon Steel<br>BDX1 = Duplex<br>AF = Air | 3A<br>5A<br>7 (AF only)<br>7A<br>10<br>20 | 1/4<br>3/8<br>1/2<br>3/4<br>1 | S                  | D     |

Note: B3A, B5A, and B7A vessels supplied with 10µm Fulflo wound cotton cartridge. Specifications are subject to change without notification.

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C-3001

## Fulflo® Single Cartridge Filter Vessels

### Fulflo® Single Cartridge Stainless Steel Filter Vessels Are for Water and Corrosive Fluid Applications

The BSSB models have a 316 stainless steel shell and a four-boss 316 stainless steel head for applications where an all-stainless steel construction is required.



### Benefits

- Single center bolt for quick cartridge change
- In-line pipe connections for easy installation
- Bracket kit for installation on drilled head bosses for easy mounting
- Spring-loaded bottom seats for positive cartridge sealing
- O-ring closure seal provides positive sealing

### Applications

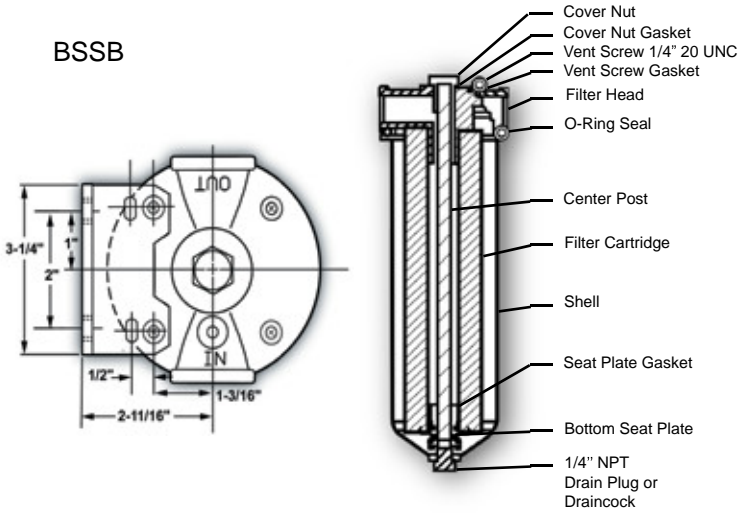
- Petrochemicals
- Coolants
- Hydraulic Oils
- Process Water
- Solvents
- Potable Liquids
- Compressed Air



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# Fulflo® Single Cartridge Filter Vessels

## Bracketed Head Dimensions



## BSSB Design Specifications

| Model         | Typical Aqueous Flow* (gpm) | (Number) & Length of Wound Depth Cartridges (in) | Maximum Operating Pressure | Overall Height (in) | Outside Dia. (in) | Face-to-Face Dim. (in) | pipe Size (NPT) (in) | Shipping Weight (lbs) |
|---------------|-----------------------------|--|----------------------------|---------------------|-------------------|------------------------|----------------------|-----------------------|
| BSSB10-3/4 SD | 5                           | (1) 10   | 150 psi (10.3 bar) @250°F† | 12.75               | 3.63              | 4.31                   | .75                  | 6.0                   |
| BSSB20-3/4 SD | 10                          | (1) 20   | 150 psi (10.3 bar) @250°F† | 22.88               | 3.63              | 4.31                   | .75                  | 10.50                 |
| BSSB10-1 SD   | 5                           | (1) 10   | 150 psi (10.3 bar) @250°F† | 13.0                | 3.63              | 4.5                    | 1.0                  | 6.0                   |
| BSSB20-1 SD   | 10                          | (1) 20   | 150 psi (10.3 bar) @250°F† | 23.13               | 3.63              | 4.5                    | 1.0                  | 10.50                 |
| BSSB30-1 SD   | 15                          | (1) 30   | 150 psi (10.3 bar) @250°F† | 33.25               | 3.63              | 4.5                    | 1.0                  | 15.00                 |

\* Actual flow rate is dependent on fluid viscosity, micron rating, contaminant and media type.

† Maximum allowable working pressure is 175 psi (12.1 bar) at 200°F (94°C).

## Ordering Information

|   |   |  |                               |                  |
|---|---|--|-------------------------------|------------------|
| <div>Design Series</div> <div>BSSB = 4 BOSS<br/>316 SS Head/<br/>316 SS Shell</div> | <div>Cartridge Length</div> <div>10<br/>20<br/>30</div> | <div>Connection Size (in)</div> <div>3/4<br/>1</div> | <div>Spring-Loaded Seal</div> | <div>Drain</div> |
|---|---|--|-------------------------------|------------------|

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C-3004

## Fulflo® TC Single Cartridge Stainless Steel Filter Vessel

### Fulflo® Single Cartridge Stainless Steel Vessels Are for use With SOE-222 Style Filter Cartridges

The SSTC models have a 316 stainless steel shell and a four-boss 316 stainless steel head for applications where an all-stainless steel construction is required. The vessels feature a head which accepts SOE TC style filter cartridges which eliminates the possibility of fluid bypass.



### Benefits

- The vessels are sealed using a ring type threaded closure which requires no special tools to change the cartridges
- Threaded ring closure for quick cartridge change
- 222 seal cup for TC and competitive cartridge sealing (M3, Code 3, Code 0)
- Integrally cast brackets for easy mounting

- Standard Buna-N closure o-ring material with optional Viton, EPR and Silicone available
- Available for use with 10", 20" and 30" cartridge lengths
- Vessel has no internal parts
- Cartridge seating is positive and can be checked prior to closing
- All components have electropolished finish

### Applications

- Solvents
- Chemicals
- Potable Water
- Parts Washer



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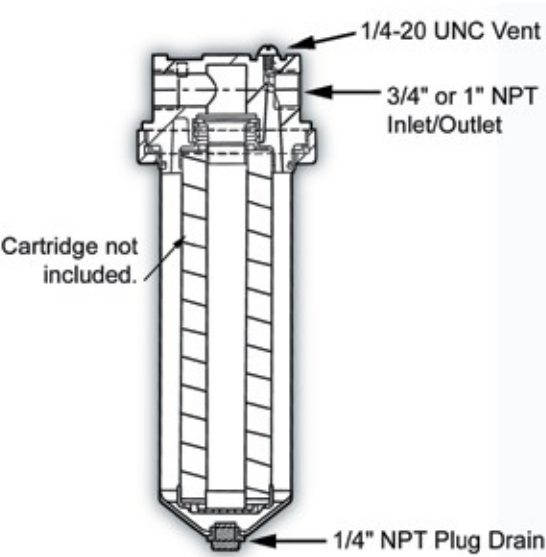
# Fulflo® Single Cartridge Stainless Steel Filter Vessel

## Design Specifications

| Model      | Typical Aqueous Flow* (gpm) | Length of Cartridges (in) | Operating Pressure (psi @250°F) | Overall Height (in) | Outside Diameter Face-to-Face (in) | Pipe Size (NPT) (in) | Shipping Weight (lbs) |
|------------|-----------------------------|---------------------------|---------------------------------|---------------------|------------------------------------|----------------------|-----------------------|
| SSTC10-075 | 5                           | 10                        | 200 psi (13.8 bar)              | 12.25               | 3.50                               | .75                  | 7.80                  |
| SSTC20-075 | 10                          | 20                        | 200 psi (13.8 bar)              | 22.38               | 3.50                               | .75                  | 9.00                  |
| SSTC30-075 | 15                          | 30                        | 200 psi (13.8 bar)              | 32.50               | 3.50                               | .75                  | 10.20                 |
| SSTC10-100 | 5                           | 10                        | 200 psi (13.8 bar)              | 12.25               | 3.50                               | 1.00                 | 7.80                  |
| SSTC20-100 | 10                          | 20                        | 200 psi (13.8 bar)              | 22.38               | 3.50                               | 1.00                 | 9.00                  |
| SSTC30-100 | 15                          | 30                        | 200 psi (13.8 bar)              | 32.50               | 3.50                               | 1.00                 | 10.20                 |

### Optional Seals Provided

|             |               |
|-------------|---------------|
| Viton       | P/N 4152-8236 |
| EPR         | P/N 4154-5236 |
| Silicone    | P/N 4151-4236 |
| FEP/Viton   | P/N 4154-4236 |
| FEB/Silicon | P/N 4150-5617 |



## Ordering Information

| SS                        | TC             |                               |                                      |
|---------------------------|----------------|-------------------------------|--------------------------------------|
| Design Series             | Cartridge Seal | Cartridge Length              | Connection Size                      |
| SS = 316SS Shell and Head | 222 O-ring     | 10 = 10<br>20 = 20<br>30 = 30 | 075 = 3/4 in FNPT<br>100 = 1 in FNPT |

**Note:** Buna-N is standard seal.

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C-3002

## Fulflo® High-Pressure Single Cartridge Filter Vessel (4.5C)

### Fulflo® High-Pressure Filter Vessels Are Ideal for High-Pressure Liquid Applications

Ideal for a wide range of industrial machinery and process industry applications, these vessels combine extremely high-pressure rating capability with ease of installation and rugged durability.



### Benefits

- 4.5C features multiple bolt closure to meet high-pressure requirements
- In-line pipe connections for easy installation
- Available in carbon steel and 316 stainless steel materials
- Spring-loaded bottom seats for positive cartridge sealing
- Drain and vent standard on all models
- Vessels accept a single 10" or 20" DOE (double-open-end) seal elements

### Applications

- Petrochemicals
- Coolants
- Hydraulic Oils
- Process Water
- Solvents
- Other High-Pressure Liquids



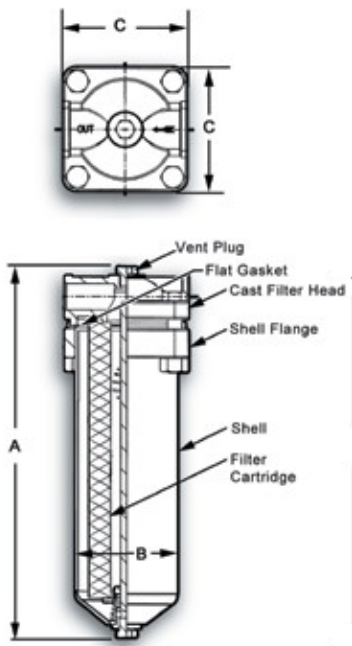
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# Fulflo® High-Pressure Single Cartridge Filter Vessel

## Design Specifications

| Model           | Rated Capacity*<br>(gpm) | (Number) & Length of Wound Depth Cartridges (in) | Maximum Operating Pressure (psi) | Maximum Operating Temperature | Overall Height (in) | Outside Diameter (in) | Face-to-Face Dim. (in) | Pipe Size (NPT) (in) | Shipping Weight (lbs) |
|-----------------|--------------------------|--|----------------------------------|-------------------------------|---------------------|-----------------------|------------------------|----------------------|-----------------------|
| 4.5C10-3/4 SD   | 5                        | (1) 10   | 450 psi (31.0 bar)               | 400°F (204°C)                 | 13.31               | 3.63                  | 4.38                   | .75                  | 9                     |
| SS4.5C10-3/4 SD | 5                        | (1) 10   | 450 psi (31.0 bar)               | 400°F (204°C)                 | 13.31               | 3.63                  | 4.38                   | .75                  | 10                    |
| 4.5C20-3/4 SD   | 10                       | (1) 10   | 450 psi (31.0 bar)               | 400°F (204°C)                 | 29.19               | 3.63                  | 4.38                   | .75                  | 12.25                 |
| SS4.5C20-3.4SD  | 10                       | (1) 10   | 450 psi (31.0 bar)               | 400°F (204°C)                 | 29.19               | 3.63                  | 4.38                   | .75                  | 13.25                 |

\* Actual flow rate is dependent on fluid viscosity, micron rating, contaminant and media type.



## Ordering Information

|                                   |                  |                      |   |                    |              |              |
|-----------------------------------|------------------|----------------------|---|--------------------|--------------|--------------|
| <div></div>                       | <b>4.5C</b>      | <div></div>          | — | <div></div>        | <div>S</div> | <div>D</div> |
| Design Series                     | Cartridge Length | Connection Size (in) |   | Spring-Loaded Seal | Drain        |              |
| SS = 316SS<br>None = Carbon Steel | 10<br>20         | 3/4"                 |   |                    |              |              |

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C-3005

## Fulflo® “M” Series Single Cartridge Vessels

### Fulflo® High-Pressure Single Cartridge

Parker’s “M” Series Single Cartridge Filter Vessels are designed for a broad range of high pressure industrial and chemical process applications. All details of design, materials, construction and workmanship comply with the ASME code for pressure vessels. The “M” series is available with and without the ASME stamp.

### Benefits

- ASME design to insure integrity, available with and without the ASME stamp
- T-Style head and shell for ease of installation and servicing
- Standard O-Ring closure seal is Buna N, with optional materials available for improved chemical compatibility and higher temperature rating
- Flanged or threaded connections to suit installation requirements and preference
- Optional 150, 300 or 600 lb. RFSO flange connections for installation flexibility
- 1-inch connections for maximum flow capability of filter cartridges
- Utilizes one 10-, 20- or 30-inch cartridge
- Multiple bolt closure with bright zinc plated studs



- Optional single-open-end (SOE 2-222 TC Style) cartridge adapter for positive sealing of high efficiency filter cartridges
- Wide range of cartridge media available for process clarity control and chemical compatibility
- Rigid cartridge support post with threaded end seal for positive double open end (DOE) cartridge seating

### Applications

- |                               |                            |
|-------------------------------|----------------------------|
| • Chemicals                   | • Process Water            |
| • Catalyst Recovery           | • Lubricants               |
| • Solvents                    | • Coolants                 |
| • Cutting Oils                | • Hydraulic Oils           |
| • Other High Pressure Liquids | • Compressed Air and Gases |



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# Fulflo® “M” Series Single Cartridge Vessels

## Specifications

Carbon steel or 316 stainless steel material

Drain: 1/4 in NPT

Vent: 1/4 in NPT

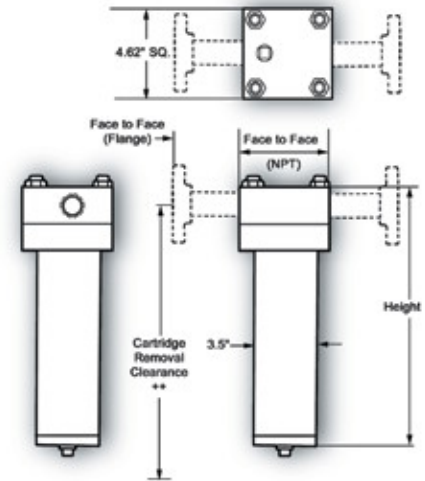
Bolting: (4) 5/8-11 UNC bright zinc plated carbon steel

Head to shell seal

## Maximum Allowable Working Pressure

| Connections    | Designation | Carbon Steel at 250°(121°C) | 316 Stainless Steel at 250°(121°C) |
|----------------|-------------|-----------------------------|------------------------------------|
| FNPT           | T           | 1610 psig                   | 1610 psig                          |
| 150 lb. Flange | F           | 245 psig                    | 225 psig                           |
| 300 lb. Flange | H           | 665 psig                    | 590 psig                           |
| 600 lb. Flange | J           | 1332 psig                   | 1180 psig                          |

**Note:** FNPT maximum pressure is 1610 psig at 300°F with EPR O-ring, 400°F with Viton\* and FEP encapsulated Viton\* O-ring, and 500°F with FEP Encapsulated Silicone. Flanged units (F, H, and J designations) are based on ANSI B16.5 pressure at 250°F (121°C). The flanged versions can also be rated for the higher design temperature in which case the pressure rating will be reduced according to ANSI B16.5. Indicate the desired temperature in degrees F at the end of the model number. The gasket material and flange rating must be changed accordingly.



## “M” Series Flow Rates and Dimensions

| Model        | Typical Aqueous† Flow Rate (gpm) | Cartridge Length (in) | Height (in)++ | Inlet Face to Outlet Face (in) |         | Removal Weight (lbs) |         | Clearance (in)++ |
|--------------|----------------------------------|-----------------------|---------------|--------------------------------|---------|----------------------|---------|------------------|
|              |                                  |                       |               | FNPT                           | Flanged | FNPT                 | Flanged |                  |
| MC(N or U)1S | 6                                | 10                    | 14.5          | 4.62                           | 12.62   | 37                   | 45      | 22               |
| MC(N or U)1D | 12                               | 20                    | 24.5          | 4.62                           | 12.62   | 46                   | 54      | 42               |
| MC(N or U)1T | 18                               | 30                    | 34.5          | 4.62                           | 12.62   | 55                   | 63      | 62               |

† Actual flow is dependent on fluid viscosity, micron rating, contaminant, media type and desired initial pressure drop.

++ Add 3" when using TC internal option for use with TC style 2-222 O-ring cartridges.

## Ordering Information

M

| Material                       | Design                           | Columns       | Length  | Inlet/Outlet | I/O Type   | Gasket Material   | Internal Option                                     | Special temperature for flanged units |
|--------------------------------|----------------------------------|---------------|---|--------------|--|---|---|---------------------------------------|
| C = Carbon Steel<br>S = 316 SS | N = Non-Code<br>U = ASME U-Stamp | 1 = 1 Element | S = 10" Cart.<br>D = 20" Cart.<br>T = 30" Cart. | 1 = 1"       | T = FNPT<br>F = Flanged 150#<br>H = Flanged 300#<br>J = Flanged 600# | N = Buna-n<br>E = EPR<br>V = Viton*<br>T = FEP encapsulated Viton*<br>L = FEP encapsulated silicone | 2-222 o-ring adapter<br>Blank = center post for DOE | Blank = 250° (121°C)                  |

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C-3050

## Fulflo® LT Series

### Fulflo® Polymeric Vessels for Water Filtration

Parker Fulflo® LT Series Polymeric Vessels are an ideal economical choice for low flow industrial and potable water applications. Standard and large diameter vessels accommodate 2-1/2 and 4-1/2 inch O.D. double-open-end Fulflo cartridges and meet FDA requirements for use with potable fluids. Both 10-in and 20-in vessels, with or without pressure relief vent, are available. Installation wrenches and brackets are optional.

### Benefits

- Fulflo® polymeric vessels are available in two diameters and lengths, with or without relief vent
- The all-polymeric, corrosion-resistant LT series vessels are economical alternatives to stainless steel vessels when high temperature and high pressure are not specified
- All models are made of materials that meet FDA requirements
- The LTG model vessels provide both 1 in and 1-1/2 in NPT connection in same head
- Positive head-to-shell "stop" prevents over tightening
- Unique o-ring design ensures effective sealing by positive tangential contact and eliminates accidental misplacement
- LT model vessels are ideal for Fulflo® bonded, pleated and wound cartridges, as well as activated carbon core models MMCT-10, MC10-2, MC20-2 and MC30-2



- LTG model vessels are ideal for Fulflo® TruBind® 400 series cartridges and 4-1/2 in O.D. wound cartridges in double-open-end style
- Optional installation wrenches accommodate faster cartridge changeout
- Mounting brackets are available for pipe and wall installation
- LT series vessels are tested to industry standards of Water Quality Association for burst pressure, seal integrity, and fatigue resistance

### Applications

- Potable Water
- Leisure/Commercial Shipping Bilge Water
- DI Water
- Industrial Discharge
- Alkaline Parts Washing
- Post Oil/Water Separator Polishing
- Process Water
- Compressor Condensate



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# Fulflo® LT Series

## Specifications

### Materials of Construction:

White talc-reinforced polypropylene head with clear Styrene-Acrylonitrile (SAN) shell.

### Head-to-shell O-ring:

LT model: 2-240 Buna-N  
LTG model: 2-358 Buna-N

### Recommended Operating Conditions:

Maximum operating temperature:  
125°F (52°C) @ 100 psi (6.9 bar)  
Maximum operating pressure:  
LT:150 psi (10.3 bar) @ 75°F (22°C)  
LTG: 125 psi. (8.6 bar) @75°F (22°C)

### Maximum Recommended Flow Rate:

LT10: 6 gpm (23 lpm)  
LT20: 12 gpm (45 lpm)  
LTG10: 10 gpm (38 lpm)  
LTG20: 20 gpm (76 lpm)

### Connection Dimensions:

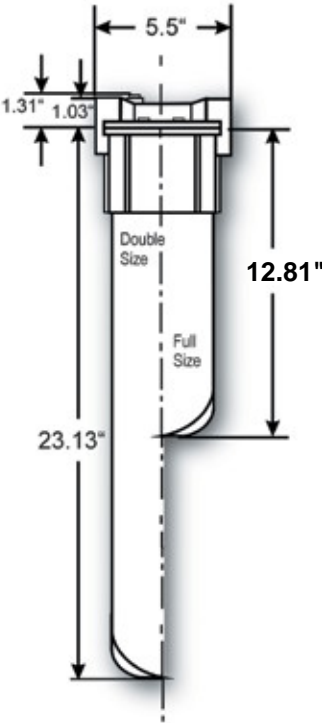
LT: 3/4 in NPTF  
LTG: 1 and 1-1/2 in NPTF (dual connection)

### Accepts Industry Standard Cartridge Sizes (Nominal):

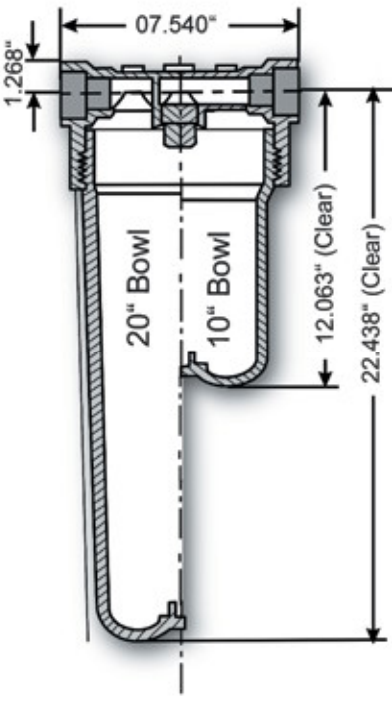
Lengths:  
9-13/16 in (249 mm); 20 in (508 mm) I.D.  
1-1/16 in (27mm)  
O.D. LT: 2-1/2 in (64 mm)  
LTG: 4-1/2 in (114mm)

### Optional Seal Configuration:

LT: Accomodates 213 o-ring seal ("PR" cartridge code)



Model LT



Model LTG

### Available Options for LTG Model

| Option                 | Part Number |
|------------------------|-------------|
| Wrench for 10 in Shell | 6880-6000   |
| Wrench for 20 in Shell | 6880-6001   |
| L-Bracket—Wall Mount   | 0820-6001   |

### Available Options for LT Model

| Option                 | Part Number |
|------------------------|-------------|
| Wrench for 10 in Shell | 6880-1-005  |
| Wrench for 20 in Shell | 6880-1-010  |
| L-Bracket—Wall Mount   | 0820-6010   |
| U-Bracket—Pipe Mount   | 0820-6015   |

### Available Vessel Part Numbers

| LT Model | LTG Model |
|----------|-----------|
| LT10     | LTG10     |
| LT10V    | LTG10V    |
| LT20     | LTG20     |
| LT20V    | LTG20V    |

## Ordering Information

| Series  | Vessel Length (in) | Vent (in)                       |
|---|--------------------|---------------------------------|
| LT = Vessel for nominal 2 1/2 in O.D. cartridges  | 10 = 10<br>20 = 20 | No Symbol = No Vent<br>V = Vent |
| LTG = Vessel for nominal 4 1/2 in O.D. cartridges |                    |                                 |

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## Fulflo® NP Filter Vessels

### Fulflo® Natural Polypropylene Vessels for High Purity Applications

Parker's Fulflo® NP series vessels feature pure natural polypropylene construction. The NP series is an ideal economical alternative to stainless steel and fluoropolymer vessels for filtration of corrosive fluids. They are essential for applications and processes demanding high purity filtration. Availability of 10-inch and 20-inch lengths and both single and double-open-end seal designs adds additional versatility.

### Benefits

- Fulflo® NP series vessels available in two lengths and two seal designs offer versatility
- Several O-ring options maximize compatibility choices. Viton® is standard
- Smooth fluid contact surfaces prevent bacteria and contaminant build-up
- U-bracket available for pipe mounting
- Mounting bosses in head accommodate L-bracket
- Securely retained head-to-shell O-ring ensures effective sealing by positive tangential contact and eliminates accidental misalignment
- Positive head-to-shell "stop" prevents overtightening
- Individual packaging ensures cleanliness until use



- NP vessels accept all standard double-open-end and single-open-end 2-222 O-ring design Fulflo filter cartridges
- NP vessels of pure polypropylene meet FDA requirements for edible and potable liquid filtration
- Available with pressure relief vent or threaded vent and drain
- Service wrenches available for easy installation
- NP vessels totally incinerable after useful life

### Applications

- DI Water
- Inorganic Chemicals
- Photographic Solutions
- Organic Solvents
- Process Gases
- Electronic Grade Chemicals



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# Fulflo® NP Filter Vessels

## Specifications

### Materials of Construction:

Vessel 100% natural FDA grade polypropylene  
 Head-to-shell 2-240 O-Ring:  
 Standard (Industrial Grade): Viton\*  
 Optional (FDA Grade): Buna-N, EPDM, Silicone, FEP encapsulated silicone  
 Pressure Relief Button O-Ring: Buna-N only

### Maximum Recommended Operating Conditions:

Temperature:  
 125°F (52°C) @ 100 psi (6.9 bar)  
 Pressure:  
 150 psi (10.3 bar) @ 75°F (22°C)  
 Flow Rate:  
 6 gpm (23 lpm) for 10 in vessel  
 12 gpm (45 lpm) for 20 in vessel

### Recommended Cartridge Dimensions:

NP10:  
 2-3/8 in to 2-3/4 in O.D. x 1 in I.D.  
 x 9-5/8 in to 9-13/16 in long  
 NP20:  
 2-3/8 in to 2-3/4 in O.D.  
 x 1 in I.D. x 19-7/8 in to 20-1/16 in long

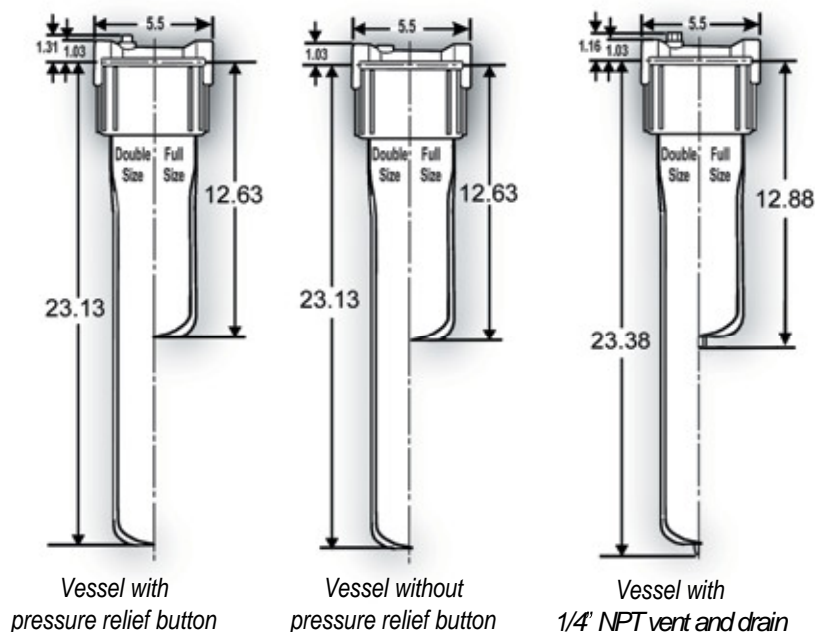
### Connection Dimensions:

Inlet/Outlet: 3/4 in (19 mm) NPTF  
 Vent/Drain: 1/4 in (6.4 mm) NPTF

### Cartridge Seal Designs:

"TC":  
 Single-Open-End with 222 O-ring receptacle  
 "DO":  
 Double-Open-End with knife edge seal; also accepts 213 O-ring seal cartridge (PR code)

## Vessel Assembly Dimensions:



### Compatible Chemicals (125°F max. temp.)

|                     |          |
|---------------------|----------|
| Acetic Acid         | 50%      |
| Acetone             | 99.5%    |
| Ammonium Fluoride   | 40%      |
| Ammonium Hydroxide  | 10%      |
| Hydrochloric Acid   | 37%      |
| Hydrofluoric Acid   | 49%, 52% |
| Nitric Acid         | 10%      |
| Phosphoric Acid     | 85%      |
| Potassium Hydroxide | 45%      |
| Sodium Hydroxide    | 50%      |
| Tetrachloroethylene | 99.0%    |

### Standard Vessel Assemblies

|              |              |
|--------------|--------------|
| NP10-DO-N-V  | NP20-DO-N-V  |
| NP10-DO-R-V  | NP20-DO-R-V  |
| NP10-DO-DV-V | NP20-DO-DV-V |
| NP10-TC-N-V  | NP20-TC-N-V  |
| NP10-TC-R-V  | NP20-TC-R-V  |
| NP10-TC-DV-V | NP20-TC-DV-V |

## Ordering Information

| Vessel Type | Shell Length       | Cartridge Seal Design   | Vent/Drain Options   | Head-to-Shell 240 O-Ring  |
|-------------|--------------------|---|--|---|
| NP          | 10 = 10<br>20 = 20 | DO = Double-Open-End (gasket seal)<br>TC = Single-Open-End (222 O-ring) | D = 1/4 Female NPT Drain (plugged)<br>N = No Vent, Drain or Pressure Relief Button<br>R = Pressure Relief Button**<br>V = 1/4 in Female NPT Vent (plugged) | E = EPDM (FDA grade)<br>L = FEP/silicone (FDA grade)<br>N = Buna-N (FDA grade)<br>S = Silicone (FDA grade)<br>V = Viton* (Industrial grade) |

\*\* Pressure Relief Button ("R") not recommended for hazard fluid applications.

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## Multi-Cartridge Filter Vessel Series



C-3006

## Fulflo® WH Filter Vessels

### WH Vessels

The WH cartridge filter vessels are a lightweight, economical, Non-ASME industrial / commercial design suitable for a wide variety of filtration applications. The 100% stainless steel and passivated finish provides superior corrosion resistance and an excellent appearance. The swing type closure bolts and hinged cover design (up to 35 round) make cartridge change-out quick and easy.



### Benefits

- Hinged cover (up to 35 round) and swing bolt closure for fast, easy cartridge changeout
- Maximum design pressure is 150 psig (10.3 bar) at 250°F (121°C) for use in a wide range of operating conditions
- 100% stainless steel for corrosion resistance. Bolting is zinc plated carbon steel.
- Dual purpose cartridge seats for use with double open end and 2-222 O-ring single open end cartridges

- Standard finish is passivated
- 316 Stainless steel cartridge seats, top seat plate assemblies, and tri-fold element guides for long term use
- Standard Buna-N O-ring with optional fluoroelastomer and EPR for wide range of applications
- Standard features include vent, clean drain and dirty drain connections

### Applications

- Potable Water
- Process Water
- Edible Oils
- Beverages
- Chemicals
- Solvents
- Pre-Reverse Osmosis

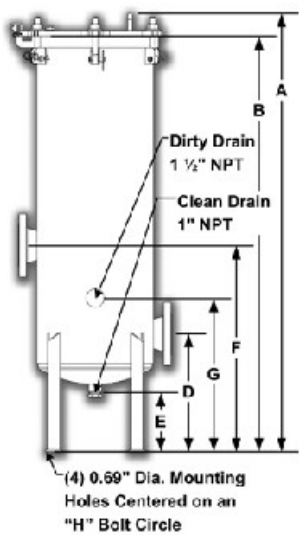


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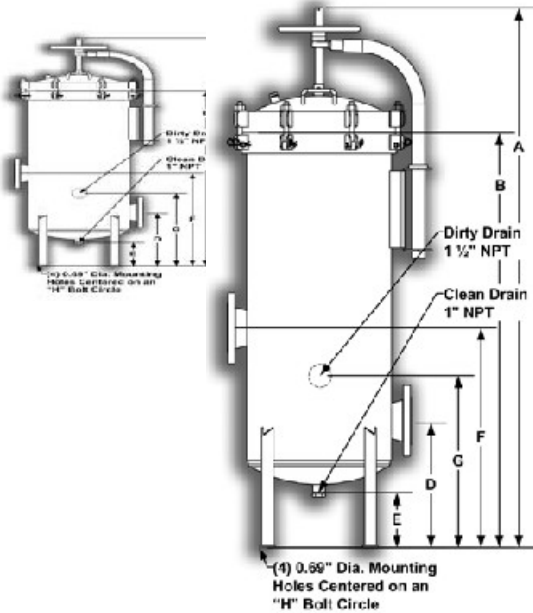
# Fulflo® WH Filter Vessels

## Specifications

WH7, WH9, WH12, WH16, WH21



WH29 & WH35

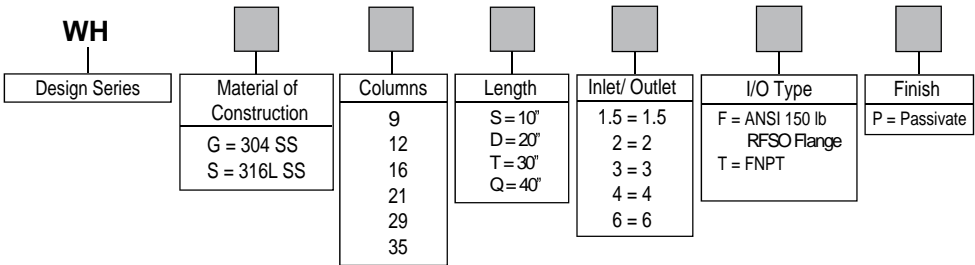


## Design Specifications

| Model    | Cart Qty<br>Length | Typical<br>Flow† | A     | B     | C     | D     | E    | F     | G     | H     | Weight (lbs) |
|----------|--------------------|------------------|-------|-------|-------|-------|------|-------|-------|-------|--------------|
| WH*9T3F  | (9) 30             | 189              | 51.94 | 49.38 | 15.49 | 14.00 | 5.75 | 21.50 | 18.25 | 10.46 | 165          |
| WH*9Q3F  | (9) 40             | 252              | 62.00 | 59.44 | 15.49 | 14.00 | 5.75 | 21.50 | 18.25 | 10.46 | 180          |
| WH*12T3F | (12) 30            | 252              | 51.94 | 49.38 | 16.80 | 14.00 | 7.29 | 21.50 | 18.25 | 11.72 | 175          |
| WH*12Q3F | (12) 40            | 336              | 62.00 | 59.44 | 16.80 | 14.00 | 7.29 | 21.50 | 18.25 | 11.72 | 195          |
| WH*16T4F | (16) 30            | 336              | 52.06 | 49.38 | 19.05 | 14.00 | 7.02 | 24.50 | 18.25 | 13.74 | 235          |
| WH*16Q4F | (16) 40            | 448              | 62.13 | 59.44 | 19.05 | 14.00 | 7.02 | 24.50 | 18.25 | 13.74 | 150          |
| WH*21T4F | (21) 30            | 441              | 52.06 | 49.38 | 21.30 | 14.00 | 6.29 | 24.50 | 18.25 | 15.76 | 165          |
| WH*21Q4F | (21) 40            | 588              | 62.13 | 59.44 | 21.30 | 14.00 | 6.29 | 24.50 | 18.25 | 15.76 | 185          |
| WH*29T6F | (29) 30            | 609              | 68.35 | 52.56 | 23.52 | 16.00 | 6.93 | 27.75 | 22.00 | 17.80 | 395          |
| WH*29Q6F | (29) 40            | 812              | 78.41 | 62.63 | 23.52 | 16.00 | 6.93 | 27.75 | 22.00 | 17.80 | 420          |
| WH*35T6F | (35) 30            | 735              | 68.62 | 52.56 | 25.52 | 16.00 | 6.26 | 27.75 | 22.00 | 19.81 | 445          |
| WH*35Q6F | (35) 40            | 980              | 78.68 | 62.63 | 25.52 | 16.00 | 6.26 | 27.75 | 22.00 | 19.81 | 470          |

†Actual flow rate is dependent on fluid viscosity, micron rating, contaminant and media type. Consult flow charts for each application. Flow rates shown do not consider inlet velocity limitations.

## Ordering Information



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C-3025

## Fulflo® CH5 Filter Vessels

### Carbon Steel and 304 Stainless Filter Element Vessel Series

The Fulflo® CH5 Non-Code Filter Vessels are lightweight and provide economical filtration of liquids.

The CH5 Vessel Series accommodates either double-open-end (DOE) or single-open-end (SOE) filter elements in 10 inch, 20 inch or 30 inch lengths.



### Benefits

- Single O-ring design closure assures quick, positive cover sealing
- Swing bolts for fast, easy and safe opening and closing of cover
- Pivot pin cover allows cover to remain attached when opened
- Buna-N O-ring standard with optional EPR and Viton®
- Zinc plated closure bolts and legs for corrosion resistance
- Adjustable leg height
- Standard features include vent, clean drain and dirty drain connections

### Applications

- Potable Water
- Lubricants
- Process Water
- Coolants
- Edible Oils
- Cutting oils
- Coatings
- Solvents



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# Fulflo® CH5 Filter Vessels

## Specifications

### Materials of Construction

Carbon Steel and 304 Stainless Steel

### Dimensions

See layout drawing

### Number of Cartridges

Five 10 inch, 20 inch or 30 inch

### Fulflo® CH5 Vessel Series

#### Rated Capacity

25 gpm

50 gpm

75 gpm

### Maximum Recommended Operating Conditions

175 psi (12 bar) at 250°F (121°C)

### Product Configurations

Pipe size or connection:

2" NPT inlet & outlet

1/2" NPT vent

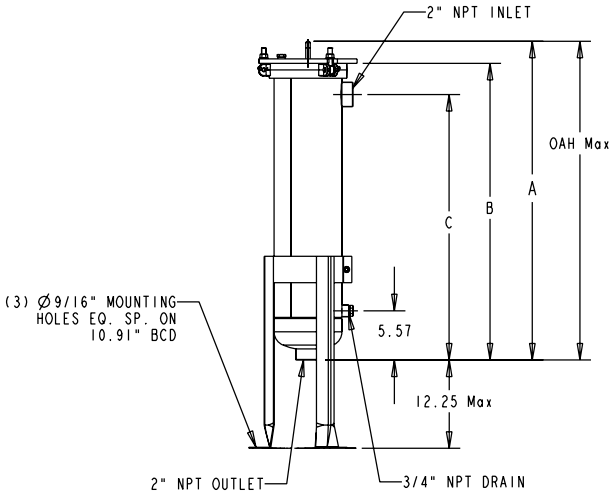
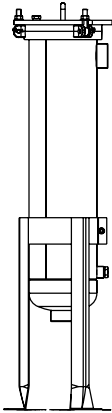
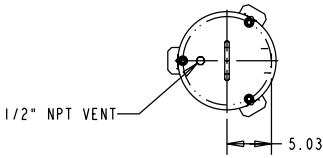
3/4" NPT drain

### Shipping Weight

60 lbs

75 lbs

| Model   | A     | B     | C     | OAH Max | Shipping Weight (lbs) |
|---------|-------|-------|-------|---------|-----------------------|
| CH5S2   | 25.16 | 22.60 | 19.07 | 37.41   | 57                    |
| CH5D2T  | 35.16 | 32.60 | 29.07 | 47.41   | 67                    |
| CH5D2T  | 45.16 | 42.60 | 39.07 | 57.41   | 77                    |
| 4CH5S2T | 25.16 | 22.60 | 19.07 | 37.41   | 57                    |
| 4CH5S2T | 35.16 | 32.60 | 29.07 | 47.41   | 67                    |
| 4CH5T2T | 45.16 | 42.60 | 39.07 | 47.41   | 77                    |



## Ordering Information

| CH5  |                               |              |              |
|--|-------------------------------|--------------|--------------|
| Material                                       | Element Length                | Inlet/Outlet | Inlet/Outlet |
| None = Carbon Steel<br>4 = 304 Stainless Steel | S = 10"<br>D = 20"<br>T = 30" | 2 = 2" NPT   | T = NPT      |

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## Fulflo® SF Filter Vessels

### High Flow Rates With Fulflo® SF ASME Code Vessels

Fulflo® SF Multi-Cartridge Filter Vessels meet a broad range of liquid and gas applications. All details of design, materials, construction and workmanship of the SF vessel series conform to ASME code.

The SF Vessel Series accommodates double-open-end (DOE) and single-open-end (SOE) cartridges in 10 in, 20 in, 30 in and 40 in equivalents.

### Benefits

- Designed and fabricated in accordance with the ASME Boiler and Pressure Vessel Code, U or UM stamp
- Non-code design and construction (parallel to code standards) available
- Mechanical coverlifts of carbon steel construction standard on models SF12 and SF19.
- Designed for minimum pressure drop
- External welded attachments on stainless steel models are also stainless steel
- Dual purpose cartridge seats for use with double open end and 2-222 O-ring single open end cartridges



- All SF models feature swing bolts with eyenuts for easier cleaning and servicing
- O-ring seals provide positive closure
- Standard Buna-N O-rings with optional Viton® elastomer, neoprene, ethylene propylene rubber and fluoropolymer elastomer O-rings are also available for temperatures up to 500°F (260°C)
- Hydraulic coverlifts optional on SF12 and SF19 models

### Applications

- |                           |                   |
|---------------------------|-------------------|
| • Water                   | • Solvents        |
| • Concentrated Alkalies   | • Petroleum Oils  |
| • Dilute Acids & Alkalies | • Potable Liquids |
| • Mineral Acids           | • Photo Solutions |
| • Organic Acids           |                   |
| • Oxidizing Agents        |                   |



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# Fulflo® SF Filter Vessels

## Design Specifications

| Nb. & Model | Max. Length of Cart. (in) | Dimensions Flow (gpm) | Shipping Weight (lbs) | A†    | B        | C     | D     | E    | F     | G     | H | J   |
|-------------|---------------------------|-----------------------|-----------------------|-------|----------|-------|-------|------|-------|-------|---|-----|
| SF3-1-2F    | (3) 10                    | 15                    | 26.69                 | 12.69 | 6.63 OD  | 8.19  | 16.19 | 5.00 | 11.31 | 5.81  | 2 | 125 |
| SF6-1-2F    | (6) 10                    | 30                    | 26.94                 | 14.88 | 8.63 OD  | 8.19  | 16.19 | 5.06 | 11.31 | 7.81  | 2 | 180 |
| SF6-2-2F    | (6) 20                    | 60                    | 37.00                 | 14.88 | 8.63 OD  | 8.19  | 16.19 | 5.06 | 11.31 | 7.81  | 2 | 185 |
| SF6-3-2F    | (6) 30                    | 90                    | 47.06                 | 14.88 | 8.63 OD  | 8.19  | 16.19 | 5.06 | 11.31 | 7.81  | 2 | 200 |
| SF6-4-3F    | (6) 40                    | 120                   | 58.50                 | 14.88 | 8.63 OD  | 8.19  | 16.19 | 5.06 | 12.00 | 7.81  | 3 | 220 |
| SF12-3-3F   | (12) 30                   | 180                   | 53.75                 | 20.50 | 12.06 ID | 13.38 | 21.00 | 5.00 | 17.88 | 11.68 | 3 | 310 |
| SF12-3-4F   | (12) 30                   | 180                   | 53.75                 | 20.50 | 12.06 ID | 13.38 | 21.00 | 5.00 | 17.88 | 11.68 | 4 | 315 |
| SF12-4-4F   | (12) 40                   | 240                   | 60.31                 | 20.50 | 12.06 ID | 13.38 | 21.00 | 5.00 | 17.88 | 11.68 | 4 | 330 |
| SF19-3-4F   | (19) 30                   | 285                   | 50.19                 | 23.50 | 15.06 ID | 13.38 | 21.00 | 5.00 | 17.88 | 14.75 | 4 | 420 |
| SF19-4-4F   | (19) 40                   | 380                   | 60.31                 | 23.50 | 15.06 ID | 13.38 | 21.00 | 5.00 | 17.88 | 14.75 | 4 | 440 |

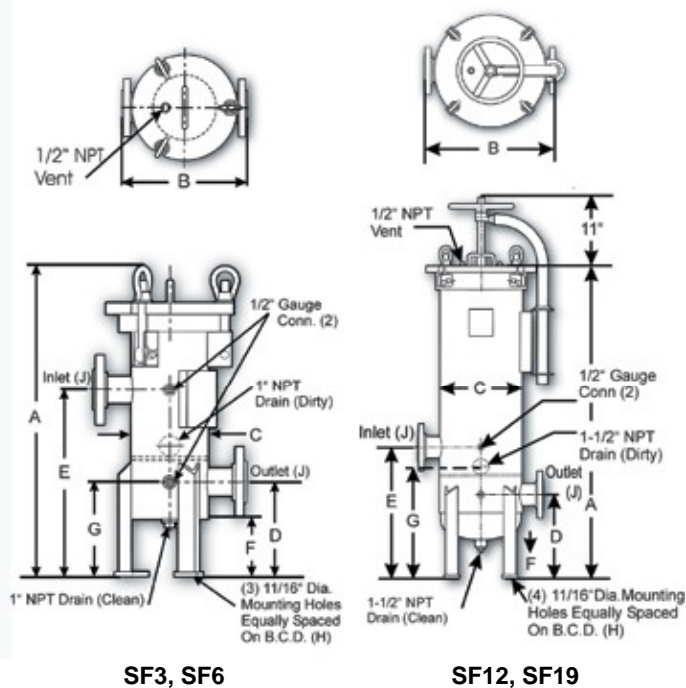
† Add 5 in to this dimension for hydraulic coverlift.

†† Inlet and outlet size standard ASA flanges.

## Maximum Operating Conditions

| Material of Construction | Maximum Operating Pressure (psi at 250°F)† | Maximum Design Temperature |
|--------------------------|--|----------------------------|
| Carbon Steel             | 150 psi (10.3 bar)                         | 500°F (260°C)              |
| Carbon Steel             | 300 psi (20.7 bar)                         | 500°F (260°C)              |
| 304 Stainless Steel      | 150 psi (10.3 bar)                         | 300°F (150°C)              |
| 304 Stainless Steel      | 300 psi (20.7 bar)                         | 300°F (150°C)              |
| 316 Stainless Steel      | 150 psi (10.3 bar)                         | 400°F (204°C)              |
| 316 Stainless Steel      | 300 psi (20.7 bar)                         | 400°F (204°C)              |

† Operating temperature limited by standard gasket material and exterior paint.



## Ordering Information

| Material   | Design Series                      | Number of Columns  | Cartridge Length (in)                | Inlet/Outlet Flange Size | Coverlift Option                  |
|--|------------------------------------|--------------------|--------------------------------------|--------------------------|-----------------------------------|
| No Symbol = Carbon Steel<br>4 = 304 Stainless Steel<br>6 = 316 Stainless Steel | H = 300 psi<br>C = Non code design | 3<br>6<br>12<br>19 | 1 = 10<br>2 = 20<br>3 = 30<br>4 = 40 | 2F<br>3F<br>4F           | K1 = Mechanical<br>K2 = Hydraulic |

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C-3065

## Fulflo® HT Filter Vessels

### Filter Heat Transfer Oils and Other High Temperature Fluids with Fulflo HT Series ASME Code Vessels

Fulflo® HT multi-cartridge filter vessels are specifically designed for filtration of high temperature heat transfer oils and other hot fluids. All details of design, materials and construction of the HT vessel series conform to ASME code.

The HT series vessels are designed for use with double open end (DOE) and single open end (SOE) cartridges in 10, 20 and 30 inch lengths.

### Benefits

- ANSI blind flange closure for positive seal and common replacement gasket size
- High temperature 304 SS spiral wound closure gasket with non-asbestos filler for use at elevated temperature and when fire safe non O-ring design is required
- Modified silicone paint, suitable for high temperature, applied over sandblasted surface for exterior protection
- Nickel plated bolting for corrosion resistance at high temperature
- Cartridge top seats, guides and bottom seats made of 316 SS for corrosion resistance
- Inlet and outlet nozzles extended 6 inches to allow for installation of protective insulation



- Extended nameplate so design information is visible after protective insulation is installed
- Designed for minimum pressure drop
- Designed and fabricated in accordance with ASME Boiler and Pressure Vessel code, U or UM stamp
- Design: 123 PSIG at 650°F and 418 PSIG at 650°F
- Dual purpose cartridge seat for use with double open end and 2-222 O-ring single open end cartridges

### Applications

- Heat Transfer Oils
- High Temperature Oils
- Hot Fluids and Gases



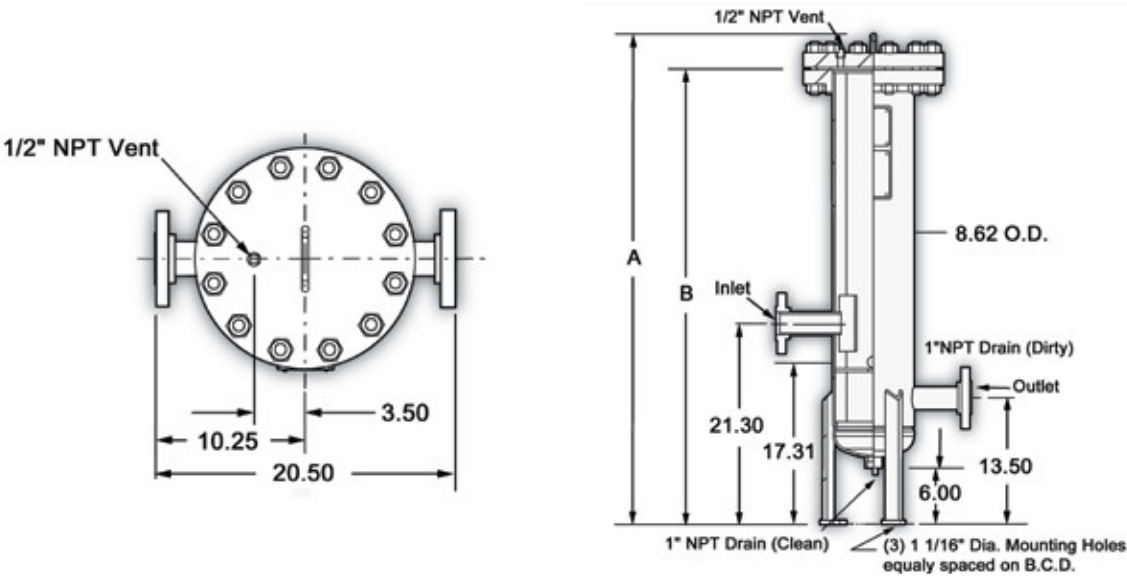
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# Fulflo® HT Filter Vessels

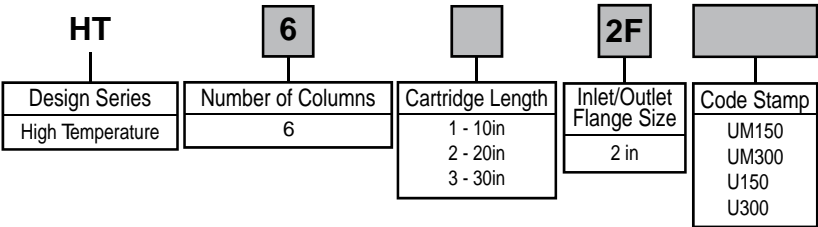
| Model    | Number & Length of Cartridge (in) | Flow† (gpm) | Dimensions (in) |       | Shipping Weight (lbs) |          |
|----------|-----------------------------------|-------------|-----------------|-------|-----------------------|----------|
|          |                                   |             | A               | B     | 150U, UM              | 300U, UM |
| HT6-1-2F | 6 (10)                            | 30          | 32.38           | 28.63 | 175                   | 260      |
| HT6-2-2F | 6 (20)                            | 60          | 42.44           | 38.69 | 190                   | 275      |
| HT6-3-2F | 6 (30)                            | 90          | 52.50           | 48.75 | 205                   | 290      |

† Based on 5 gpm per 10" cartridge

| Material of Construction | Maximum Operating Pressure | Maximum Operating Temperature | Code      |
|--------------------------|----------------------------|-------------------------------|-----------|
| Carbon Steel             | 123 psi (8.48 bar)         | 650°F (343°C)                 | 150 U, UM |
| Carbon Steel             | 418 psi (28.2 bar)         | 650°F (343°C)                 | 300 U, UM |



## Ordering Information



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C-3070

## Fulflo® S Filter Vessels

### Fulflo® S Series ASME Code Filter Vessels

Fulflo® S Series Multi-Cartridge Filter Vessels meet a broad range of liquid and gas applications for flow rates up to 2,040 gpm (7,720 lpm). All details of design, materials, construction and workmanship of the S vessel series conform to ASME code.

The S Vessel Series accommodates double-open-end (DOE) or single-open-end (SOE) filter cartridges in 10 in, 20 in, 30 in and 40 in equivalents.

### Benefits

- Built in accordance with ASME boiler and pressure vessel code
- Available in 150 psi (10.3 bar) and 300 psi (20.7 bar) designs
- Non-code design and construction (parallel to code standards) available
- Mechanical coverlifts standard on most models
- S85 and S102 feature hydraulic coverlifts (available on all models as an option)
- Dual purpose cartridge seats for use with double open end and 2-222 O-ring single open end cartridges



- Buna-N O-ring closure seal provides positive cover sealing.
- Viton® elastomer, neoprene, ethylene propylene rubber and fluoropolymer elastomer O-rings are also available for temperatures up to 500°F (261°C)
- All S models feature swing bolts with closures for quick cleaning and servicing
- Accepts double-open-end (DOE) or single-open-end (SOE) cartridges

### Applications

- Liquid
- Gas
- Food & Beverage
- Chemical Processes
- Petrochemical
- Paints & Coatings
- Industrial



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# Fulflo® S Filter Vessels

## 150 psi (10.3 bar) Design Specifications

| No. & Model | Length of Cartridges (in) | Maximum Flow (gpm) | Dimensions |       |       |       |       |   |       |       | Shipping J† | Weight (lbs) |
|-------------|---------------------------|--------------------|------------|-------|-------|-------|-------|---|-------|-------|-------------|--------------|
|             |                           |                    | A†         | B     | C     | D     | E     | F | G     | H     |             |              |
| S25-3-4F    | (25) 30                   | 375                | 55.88      | 26.00 | 18.06 | 15.50 | 28    | 5 | 20.44 | 17.76 | 4           | 515          |
| S25-4-6F    | (25) 40                   | 500                | 69.75      | 26.00 | 18.06 | 16.50 | 31    | 5 | 22.25 | 17.76 | 6           | 540          |
| S35-3-4F    | (35) 30                   | 525                | 58.19      | 29.25 | 20.06 | 16.50 | 31    | 5 | 22.56 | 19.77 | 4           | 640          |
| S35-3-6F    | (35) 30                   | 525                | 58.19      | 29.25 | 20.06 | 16.50 | 31    | 5 | 22.56 | 19.77 | 6           | 645          |
| S35-4-6F    | (35) 40                   | 700                | 68.25      | 29.25 | 20.06 | 16.50 | 31    | 5 | 22.56 | 19.77 | 6           | 695          |
| S40-3-6F    | (40) 30                   | 600                | 60.25      | 30.75 | 22.06 | 18.00 | 32    | 5 | 23.31 | 21.70 | 6           | 810          |
| S52-3-4F    | (52) 30                   | 780                | 63.69      | 33.38 | 24.06 | 20.50 | 34    | 5 | 27.56 | 23.72 | 4           | 855          |
| S52-3-6F    | (52) 30                   | 780                | 63.69      | 33.38 | 24.06 | 20.50 | 34    | 5 | 27.56 | 23.72 | 6           | 865          |
| S52-4-8F    | (52) 40                   | 1040               | 73.69      | 33.38 | 24.06 | 20.50 | 34    | 5 | 27.56 | 23.72 | 6           | 900          |
| S85-3-8F    | (85) 30                   | 1275               | 67.25      | 39.75 | 30.06 | 24.00 | 40    | 6 | 31.50 | 29.81 | 8           | 1170         |
| S85-4-8F    | (85) 40                   | 1700               | 73.63      | 39.75 | 30.06 | 24.00 | 40    | 6 | 31.50 | 29.81 | 8           | 1200         |
| S102-3-8F   | (102) 30                  | 1530               | 68.63      | 42.25 | 32.06 | 23.63 | 41.25 | 6 | 31.69 | 31.81 | 8           | 1450         |
| S102-4-8F   | (102) 40                  | 2040               | 79.94      | 42.25 | 32.06 | 23.63 | 41.25 | 6 | 31.69 | 31.81 | 8           | 1600         |

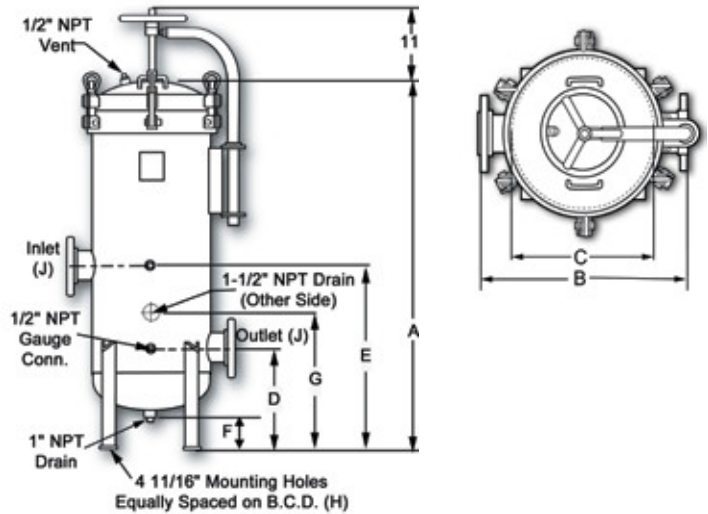
† Add 5 in to this dimension for hydraulic coverlift.

†† Inlet and outlet size standard ASA flanges.

## Maximum Operating Conditions

| Material of Construction | Maximum Operating Pressure (psi at 250°F) † | Maximum Design Temperature |
|--------------------------|---|----------------------------|
| Carbon Steel             | 150 psi (10.3 bar)                          | 500°F (260°C)              |
| Carbon Steel             | 300 psi (20.7 bar)                          | 500°F (260°C)              |
| 304 Stainless Steel      | 150 psi (10.3 bar)                          | 300°F (150°C)              |
| 304 Stainless Steel      | 300 psi (20.7 bar)                          | 300°F (150°C)              |
| 316 Stainless Steel      | 150 psi (10.3 bar)                          | 400°F (204°C)              |
| 316 Stainless Steel      | 300 psi (20.7 bar)                          | 400°F (204°C)              |

† Operating temperature limited by standard gasket material and exterior paint.



## Ordering Information

| Material   | Design Series                       | Number of Columns                 | Cartridge Length (in) | Inlet/Outlet Flange Size                                 | Coverlift Option                  |
|--|-------------------------------------|-----------------------------------|-----------------------|--|-----------------------------------|
| No Symbol = Carbon Steel<br>4 = 304 Stainless Steel<br>6 = 316 Stainless Steel | HS = High Pressure<br>CS = Non-Code | 25<br>35<br>40<br>52<br>85<br>102 | 3 30<br>4 = 40        | 4F = 4 in Flange<br>6F = 6 in Flange<br>8F = 8 in Flange | K1 = Mechanical<br>K2 = Hydraulic |

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C-3075

## Fulflo® MP Filter Vessels

### Fulflo® MP (Membrane Protectors) Filter Vessels Protect Membranes by Prefiltering R.O. Feed Water

MP Filter Vessels are ideal for a wide range of filtration applications including prefiltration of brackish, process and sea water. All MP Series vessels are built in accordance with ASME boiler and Pressure Vessel Code, U stamp. All MP vessels have dual purpose bottom seats for use with either double-open-end or 222 O-ring design.



### Benefits

- Flow rates from 108 gpm to 3520 gpm
- Pressure ratings from 100 psi (6.9 bar) to 150 psi (10.3 bar)
- 304L or 316L stainless steel
- Stainless steel welded attachments
- Swing bolt closure for quick opening, with hex nuts for use with pneumatic tools
- Optional stainless steel bolting and davit assembly
- Horizontal vessels provide for easy cartridge installation

- Dual purpose cartridge seats for use with double open end and 2-222 O-ring single-open-end cartridges
- Glassbead blasted exteriors
- Passivated interior and exterior surfaces to remove free carbon and protect against corrosion
- Buna-N O-ring closure seal provides positive cover sealing
- Horizontal vessel utilizes removable internal cartridge support plate
- Large size clean and dirty drain for uniform piping and valve size

### Applications

- Brackish and Sea Water
- Semiconductor Process Water
- Boiler Feed Water
- Reverse Osmosis Prefiltration
- Potable Water
- Electronic Rinse Water
- Deionized Water



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# Fulflo® MP Filter Vessels

Fulflo® MP Filter Series Throughput  
Based on flow of water (in gpm) per 10-inch cartridge

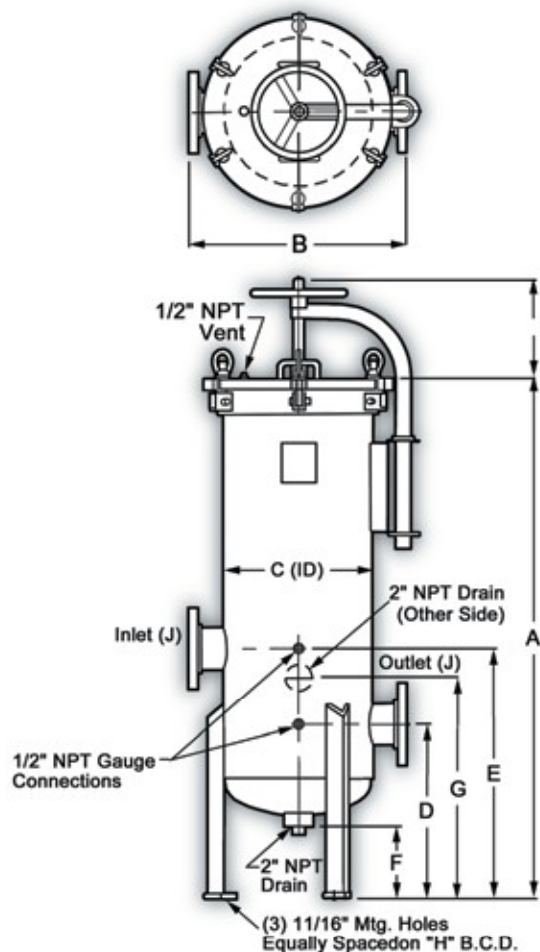
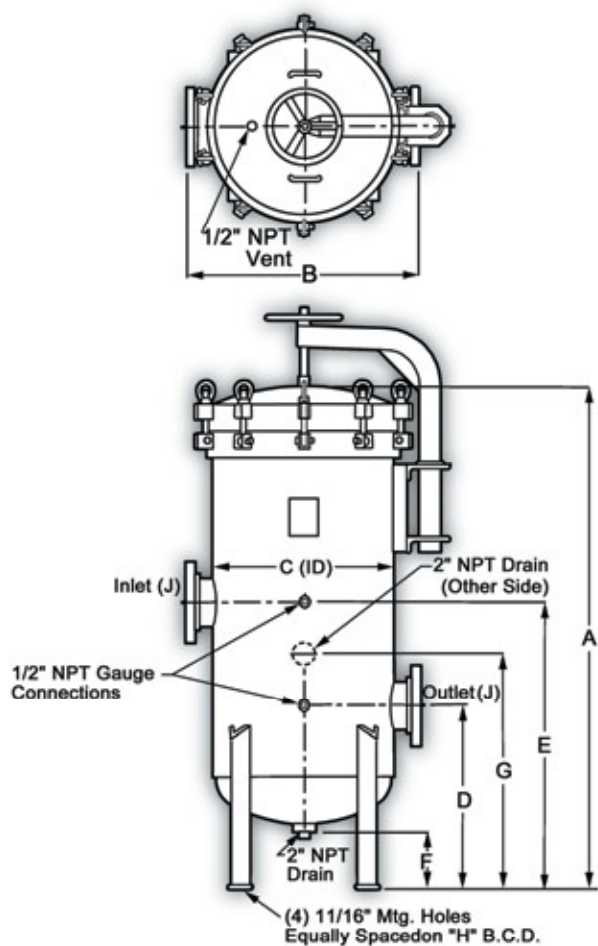
| 10 inch Cartridges | Filter Model   | At 3 gpm**<br>per 10 inch<br>(gpm)* (mgd) |     | At 3.5 gpm<br>per 10 inch<br>(gpm) (mgd) |     | At 4.5 gpm<br>per 10 inch<br>(gpm) (mgd) |     | At 5 gpm<br>per 10 inch<br>(gpm) (mgd) |     |
|--------------------|----------------|---|-----|--|-----|--|-----|--|-----|
| VERTICAL VESSELS   |                |   |     |  |     |  |     |  |     |
| 36                 | MP12-3-3FK1    | 108                                       | 0.2 | 126                                      | 0.2 | 162                                      | 0.2 | 180                                    | 0.3 |
| 48                 | MP12-4-3FK1    | 144                                       | 0.2 | 168                                      | 0.3 | 216                                      | 0.3 | 240                                    | 0.3 |
| 63                 | MP21-3-4FK1    | 189                                       | 0.3 | 221                                      | 0.4 | 284                                      | 0.4 | 315                                    | 0.5 |
| 84                 | MP21-3-4FK1    | 252                                       | 0.4 | 294                                      | 0.5 | 378                                      | 0.5 | 420                                    | 0.6 |
| 87                 | MP29-3-4FK1    | 261                                       | 0.4 | 305                                      | 0.5 | 392                                      | 0.6 | 435                                    | 0.6 |
| 105                | MP35-3-6FK1    | 315                                       | 0.5 | 368                                      | 0.6 | 473                                      | 0.7 | 525                                    | 0.8 |
| 116                | MP29-4-6FK1    | 348                                       | 0.5 | 406                                      | 0.7 | 522                                      | 0.8 | 580                                    | 0.8 |
| 120                | MP40-3-6FK1    | 360                                       | 0.5 | 420                                      | 0.7 | 540                                      | 0.8 | 600                                    | 0.9 |
| 140                | MP35-4-6FK1    | 420                                       | 0.6 | 490                                      | 0.8 | 630                                      | 0.9 | 700                                    | 1.0 |
| 156                | MP52-3-6FK1    | 468                                       | 0.7 | 546                                      | 0.9 | 702                                      | 1.0 | 780                                    | 1.1 |
| 160                | MP40-4-6FK1    | 480                                       | 0.7 | 560                                      | 0.9 | 720                                      | 1.0 | 800                                    | 1.2 |
| 208                | MP52-4-8FK1    | 624                                       | 0.9 | 728                                      | 1.2 | 936                                      | 1.3 | 1040                                   | 1.5 |
| 258                | MP86-3-8FK1    | 774                                       | 1.1 | 903                                      | 1.5 | 1161                                     | 1.7 | 1290                                   | 1.9 |
| 309                | MP103-3-8FK1   | 927                                       | 1.3 | 1082                                     | 1.8 | 1391                                     | 2.0 | 1545                                   | 2.2 |
| 344                | MP86-4-10FK1   | 1032                                      | 1.5 | 1204                                     | 2.0 | 1548                                     | 2.2 | 1720                                   | 2.5 |
| 412                | MP103-4-10FK1  | 1236                                      | 1.8 | 1442                                     | 2.4 | 1854                                     | 2.7 | 2060                                   | 3.0 |
| 472                | MP118-4-12FK1  | 1416                                      | 2.0 | 1652                                     | 2.7 | 2124                                     | 3.1 | 2360                                   | 3.4 |
| 704                | MP176-4-14FK1  | 2115                                      | 3.0 | 2464                                     | 4.1 | 3168                                     | 4.6 | 3520                                   | 5.1 |
| HORIZONTAL VESSELS |                |   |     |  |     |  |     |  |     |
| 120                | MP40H-3-6FK1   | 360                                       | 0.5 | 420                                      | 0.7 | 540                                      | 0.8 | 600                                    | 0.9 |
| 156                | MP52H-3-6FK1   | 468                                       | 0.7 | 546                                      | 0.9 | 702                                      | 1.0 | 780                                    | 1.1 |
| 160                | MP40H-4-6FK1   | 480                                       | 0.7 | 560                                      | 0.9 | 720                                      | 1.0 | 800                                    | 1.2 |
| 208                | MP52H-4-8FK1   | 624                                       | 0.9 | 728                                      | 1.2 | 936                                      | 1.3 | 1040                                   | 1.5 |
| 258                | MP86H-3-8FK1   | 774                                       | 1.1 | 903                                      | 1.5 | 1161                                     | 1.7 | 1290                                   | 1.9 |
| 309                | MP103H-3-8FK1  | 927                                       | 1.3 | 1082                                     | 1.8 | 1391                                     | 2.0 | 1545                                   | 2.2 |
| 344                | MP86H-4-10FK1  | 1032                                      | 1.5 | 1204                                     | 2.0 | 1548                                     | 2.2 | 1720                                   | 2.5 |
| 412                | MP103-4-10FK1  | 1236                                      | 1.8 | 1442                                     | 2.4 | 1854                                     | 2.7 | 2060                                   | 3.0 |
| 472                | MP118H-4-12FK1 | 1416                                      | 2.0 | 1652                                     | 2.7 | 2124                                     | 3.1 | 2360                                   | 3.4 |
| 704                | MP176H-4-14FK1 | 2112                                      | 3.0 | 2464                                     | 4.1 | 3168                                     | 4.6 | 3520                                   | 5.1 |

\* gpm = gallons per minute; mgd = millions of gallons per day

\*\* Actual flow rate is dependent on fluid viscosity, micron rating, contaminant and media type. Consult flow charts for each application.



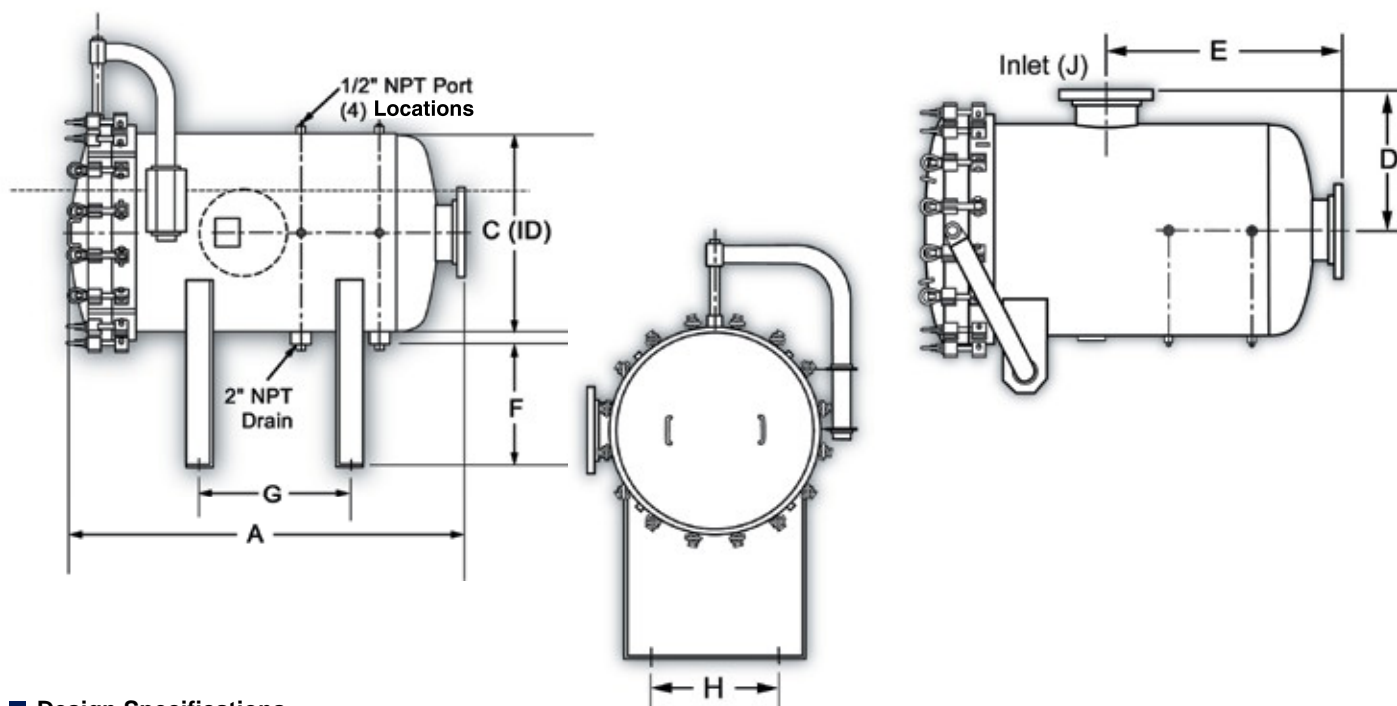
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## ■ Design Specifications

| Model         | No. & Length<br>of Cartridges<br>(in) | Dimensions (in) |       |        | D     | E     | F    | G     | H     | J      | K | Shipping<br>Weight<br>(lbs) |
|---------------|---------------------------------------|-----------------|-------|--------|-------|-------|------|-------|-------|--------|---|-----------------------------|
|               |                                       | A               | B     | C      |       |       |      |       |       |        |   |                             |
| MP12-3-3FK1   | 12 (30)                               | 67.75           | 20.00 | 12.813 | 18.50 | 27.00 | 8.00 | 23.75 | 12.50 | 3 NPS  | 3 | 390                         |
| MP12-4-4FK1   | 12 (40)                               | 77.75           | 20.00 | 12.813 | 18.50 | 27.00 | 8.00 | 23.75 | 12.50 | 4 NPS  | 3 | 420                         |
| MP21-3-4FK1   | 21 (30)                               | 68.75           | 24.00 | 16.063 | 19.25 | 27.75 | 8.00 | 24.50 | 15.75 | 4 NPS  | 3 | 500                         |
| MP21-4-4FK1   | 21 (40)                               | 78.75           | 24.00 | 16.063 | 19.25 | 27.75 | 8.00 | 24.50 | 15.75 | 4 NPS  | 3 | 530                         |
| MP29-3-4FK1   | 29 (30)                               | 75.25           | 26.00 | 18.063 | 22.00 | 33.25 | 8.00 | 28.25 | 17.88 | 4 NPS  | 3 | 570                         |
| MP29-4-6FK1   | 29 (40)                               | 85.25           | 26.00 | 18.063 | 22.00 | 33.25 | 8.00 | 28.25 | 17.88 | 6 NPS  | 3 | 620                         |
| MP35-3-6FK1   | 35 (30)                               | 76.00           | 28.00 | 20.063 | 22.50 | 34.00 | 8.00 | 28.75 | 19.88 | 6 NPS  | 3 | 650                         |
| MP35-4-6FK1   | 35 (40)                               | 86.00           | 28.00 | 20.063 | 22.50 | 34.00 | 8.00 | 28.75 | 19.88 | 6 NPS  | 3 | 680                         |
| MP40-3-6FK1   | 40 (30)                               | 77.00           | 30.00 | 22.063 | 23.00 | 34.25 | 8.00 | 29.25 | 21.88 | 6 NPS  | 4 | 710                         |
| MP40-4-6FK1   | 40 (40)                               | 87.00           | 30.00 | 22.063 | 23.00 | 34.25 | 8.00 | 29.25 | 21.88 | 6 NPS  | 4 | 750                         |
| MP52-3-6FK1   | 52 (30)                               | 80.75           | 32.00 | 24.063 | 25.50 | 40.00 | 8.00 | 32.75 | 23.75 | 6 NPS  | 4 | 790                         |
| MP52-4-8FK1   | 52 (40)                               | 90.75           | 32.00 | 24.063 | 25.50 | 40.00 | 8.00 | 32.75 | 23.75 | 8 NPS  | 4 | 860                         |
| MP86-3-8FK2   | 86 (30)                               | 86.75           | 40.00 | 30.063 | 29.00 | 46.50 | 8.00 | 37.75 | 30.00 | 8 NPS  | 4 | 1280                        |
| MP86-4-10FK2  | 86 (40)                               | 96.75           | 40.00 | 30.063 | 29.00 | 46.50 | 8.00 | 37.75 | 30.00 | 10 NPS | 4 | 1380                        |
| MP103-3-8FK2  | 103 (30)                              | 87.75           | 42.00 | 32.063 | 29.50 | 47.00 | 8.00 | 38.25 | 32.00 | 8 NPS  | 4 | 1410                        |
| MP103-4-10FK2 | 103 (40)                              | 97.75           | 42.00 | 32.063 | 29.50 | 47.00 | 8.00 | 38.25 | 32.00 | 10 NPS | 4 | 1510                        |
| MP118-4-12FK2 | 118 (40)                              | 102.00          | 46.00 | 36.063 | 32.50 | 52.25 | 8.00 | 42.00 | 35.88 | 12 NPS | 4 | 1830                        |
| MP176-4-14FK2 | 176 (40)                              | 107.00          | 54.00 | 42.063 | 35.00 | 57.00 | 8.00 | 45.50 | 42.00 | 14 NPS | 4 | 2650                        |

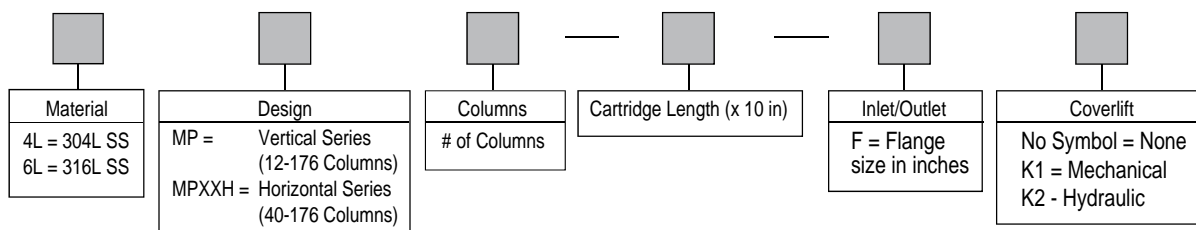




## ■ Design Specifications

| Model          | Elements<br>(in) | Dimensions (in) |       |        | D     | E     | F     | G     | H     | J      | Shipping<br>Weight<br>(lbs) |
|----------------|------------------|-----------------|-------|--------|-------|-------|-------|-------|-------|--------|-----------------------------|
|                |                  | A               | B     | C      |       |       |       |       |       |        |                             |
| MP40H-3-6FKI   | 40 (30)          | 55.50           | 62.00 | 22.063 | 15.00 | 32.00 | 23.00 | 23.00 | 12.00 | 6 NPS  | 850                         |
| MP40H-4-6FKI   | 40 (40)          | 65.50           | 62.00 | 22.063 | 15.00 | 36.00 | 23.00 | 32.00 | 12.00 | 6 NPS  | 880                         |
| MP52H-3-6FKI   | 52 (30)          | 55.25           | 63.00 | 24.063 | 16.00 | 32.00 | 22.00 | 23.00 | 14.00 | 6 NPS  | 920                         |
| MP52H-4-8FKI   | 52 (40)          | 65.25           | 63.00 | 24.063 | 16.00 | 36.00 | 22.00 | 32.00 | 14.00 | 8 NPS  | 990                         |
| MP86H—3-8FKI   | 86 (30)          | 60.25           | 66.00 | 30.063 | 20.00 | 34.00 | 19.00 | 24.00 | 20.00 | 8 NPS  | 1490                        |
| MP86H-4-10FKI  | 86 (40)          | 68.25           | 66.00 | 30.063 | 20.00 | 38.00 | 19.00 | 32.00 | 20.00 | 10 NPS | 1560                        |
| MP103H-3-8FKI  | 103 (30)         | 60.75           | 67.00 | 32.063 | 21.00 | 34.00 | 18.00 | 24.00 | 22.00 | 8 NPS  | 1620                        |
| MP103H-4-10FKI | 103 (40)         | 68.75           | 67.00 | 32.063 | 21.00 | 38.00 | 18.00 | 32.00 | 22.00 | 10 NPS | 1700                        |
| MP118H-4-12FKI | 118 (40)         | 72.00           | 69.00 | 36.063 | 23.00 | 40.00 | 16.00 | 32.00 | 26.00 | 12 NPS | 2040                        |
| MP176H-4-14FKI | 176 (40)         | 74.75           | 72.00 | 42.063 | 27.00 | 41.00 | 13.00 | 32.00 | 32.00 | 14 NPS | 2820                        |

## Ordering Information



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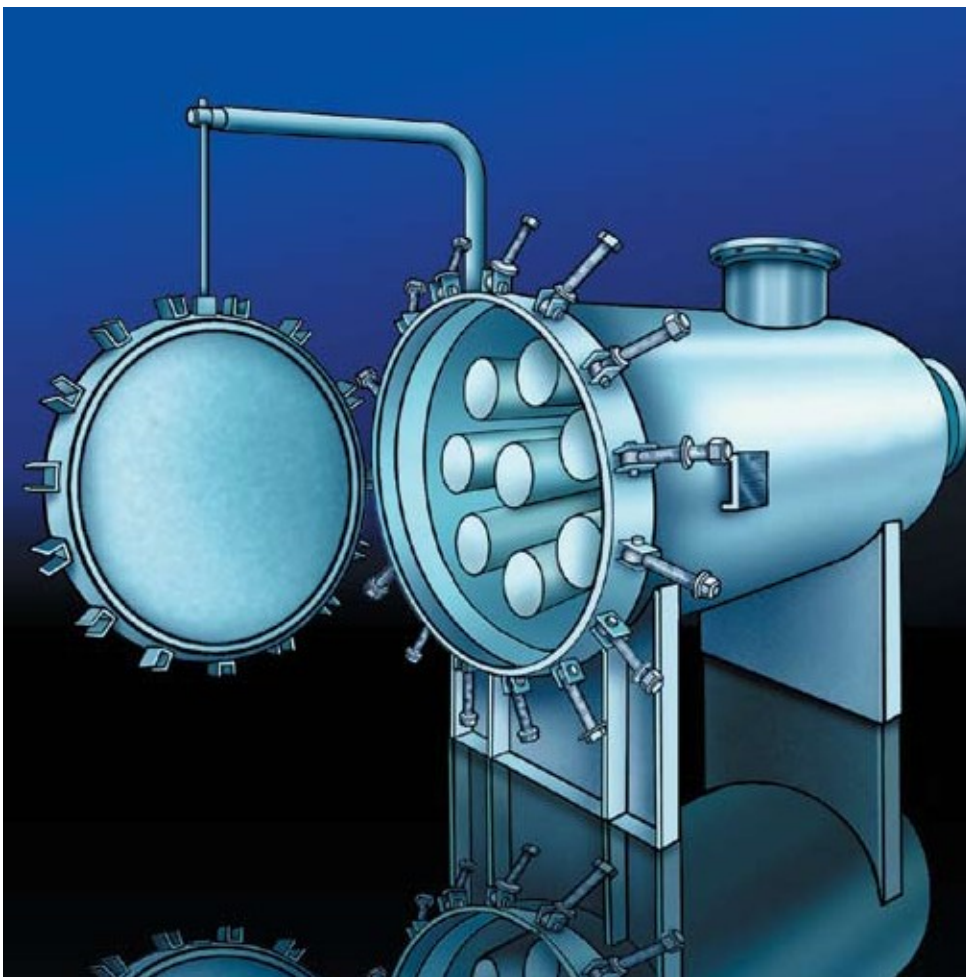


C-3076

## Fulflo® Mega Flow Filter Vessels

### Vessels for High Flow Capacity MegaFlow Filter Cartridges

MegaFlow™ vessels are designed to accept MegaFlow™ filter cartridges that handle up to 175 gpm (662 lpm) each. They provide significant size and capital cost reduction compared with vessels containing conventional size filter cartridges. The horizontal design and coreless cartridge configuration make cartridge change fast and easy. Models are available for flow rates up to 3325 gpm (12,586 lpm).



### Benefits

- Horizontal design makes cartridge change practically effortless
- Vessels have slight pitch to prevent liquid from spilling when opening cover
- Permanent internal perforated post supports cartridges and eliminates loose internal parts
- Cartridges have internal O-ring for positive seal
- Cartridge top is located flush with cover to facilitate cartridge change
- Inlet connection is below cartridges to prevent impingement on media

- Built to ASME Boiler And Pressure Code to insure integrity
- Available in carbon steel, 304L stainless steel and 316L stainless steel for a wide variety of applications
- O-ring cover seal for quick and positive vessel cover sealing
- Cover locating pin for quick and accurate alignment
- Available in 150 PSI and 300 PSI pressure ratings

### Applications

- Reverse Osmosis Filtration
- Potable Water
- Process Water
- Edible Oils
- Lubricants
- Coolants
- Cutting Oils
- Solvents
- Chemicals



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# Fulflo® Mega Flow Filter Vessels

## Design Specifications

| Material of Construction | Design Pressure    | Maximum Design Temperature* |
|--------------------------|--------------------|-----------------------------|
| Carbon Steel             | 150 psi (10.3 bar) | 250°F (121°C)               |
| Carbon Steel             | 300 psi (20.7 bar) | 250°F (121°C)               |
| 304L Stainless Steel     | 150 psi (10.3 bar) | 250°F (121°C)               |
| 304L Stainless Steel     | 300 psi (20.7 bar) | 250°F (121°C)               |
| 316L Stainless Steel     | 150 psi (10.3 bar) | 250°F (121°C)               |
| 316L Stainless Steel     | 300 psi (20.7 bar) | 250°F (121°C)               |

\* Operating temperature limited by standard gasket material and exterior paint.

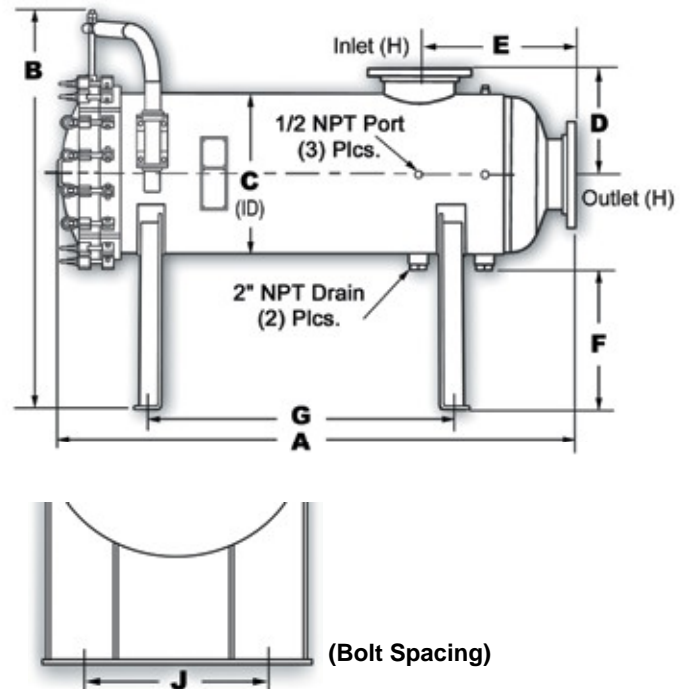
## Reference Dimensions

| Model | Elements | A     | B     | C      | D     | E     | F     | G     | H      | J     | Flow GPM | Shipping Weight |
|-------|----------|-------|-------|--------|-------|-------|-------|-------|--------|-------|----------|-----------------|
| MF02  | 2        | 69.31 | 57.44 | 14.063 | 11.25 | 20.00 | 27.09 | 46.00 | 6 NPS  | 8.00  | 250      | 615             |
| MF03  | 3        | 69.81 | 58.44 | 16.063 | 12.25 | 21.00 | 26.09 | 46.00 | 6 NPS  | 8.00  | 525      | 715             |
| MF04  | 4        | 75.20 | 58.00 | 18.063 | 13.25 | 22.00 | 25.09 | 48.00 | 8 NPS  | 10.00 | 700      | 790             |
| MF05  | 5        | 75.47 | 59.00 | 20.063 | 14.25 | 22.00 | 24.09 | 48.00 | 8 NPS  | 12.00 | 875      | 920             |
| MF07  | 7        | 78.73 | 60.00 | 22.063 | 15.25 | 24.00 | 23.09 | 48.00 | 10 NPS | 12.00 | 1225     | 1120            |
| MF08  | 8        | 79.00 | 61.00 | 24.063 | 16.25 | 24.00 | 22.09 | 48.00 | 10 NPS | 14.00 | 1400     | 1245            |
| MF12  | 12       | 85.93 | 64.06 | 30.063 | 20.25 | 28.00 | 19.03 | 52.00 | 12 NPS | 20.00 | 2100     | 1915            |
| MF15  | 15       | 92.95 | 65.06 | 32.063 | 21.50 | 30.00 | 18.03 | 54.00 | 14 NPS | 22.00 | 2625     | 2175            |
| MF19  | 19       | 95.32 | 73.31 | 36.063 | 23.75 | 34.00 | 22.03 | 56.00 | 16 NPS | 26.00 | 3325     | 2870            |

Actual flow rate is dependent on fluid viscosity, micron rating, contaminant, media type and inlet velocity.

Consult media flow charts for each application.

Shipping weights and dimensions are for 150 PSIG nominal design only.



## Ordering Information

MF

| Material   | Design                        | Cartridge Qty.   | Vessel Orientation             | Inlet/Outlet Size  | Inlet/Outlet Connection Type                       | Finish   |
|--|-------------------------------|--|--------------------------------|--|--|--|
| C = Carbon Steel<br>G = 304L Stainless Steel<br>S = 316L Stainless Steel | N = Non-Code<br>U = ASME Code | 01-1 Cartridge<br>02-2 Cartridges<br>03-3 Cartridges<br>04-4 Cartridges<br>05-5 Cartridges<br>07-7 Cartridges<br>08-8 Cartridges<br>12-12 Cartridges<br>15-15 Cartridges<br>19-19 Cartridges | V - Vertical<br>H - Horizontal | 06 = 6"<br>08 = 8"<br>10 = 10"<br>12 = 12"<br>14 = 14"<br>16 = 16" | F = ANSI 150 lb. flange<br>H = ANSI 300 lb. flange | C - Painted<br>B - Glass Bead Blast<br>P - Passivated<br>E - Electropolished |

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C - 3 1 4 0

## Fulflo® FE Filter Vessels

### FE Model Cartridge Filter Vessels Designed for Economical Filtration of Liquids and Gases

The FE Filter Vessel Series accommodates double-open-end (DOE) and single-open-end (SOE) filter cartridges in 10 in, 20 in and 30 in lengths.



### Benefits

- Single O-ring design closure assures quick, positive cover sealing
- Swing bolts with eyenuts for fast, easy opening and closing of cover
- Maximum design pressure is 150 psig (10.3 bar) at 450°F\* (232°C) and 200 psig at 100°F (38°C) plus full vacuum
- Buna-N O-ring standard with EPR, Viton\* and fluoropolymer available
- Dual purpose cartridge seats for use with double open end and 2-222 O-ring single open end cartridges
- ASME Code UM stamp is standard (U stamp is optional)
- Threaded vent and drain connections
- Adjustable leg height
- Threaded or flanged inlet and outlet
- Side inlet; cover opens without disconnecting piping
- Side inlet, bottom outlet and crevice-free welded design provide a smooth interior for easy wash-out and cleaning

### Applications

- Potable Water
- Process Water
- Coatings
- Lubricants
- Coolants
- Cutting Oils
- Solvents



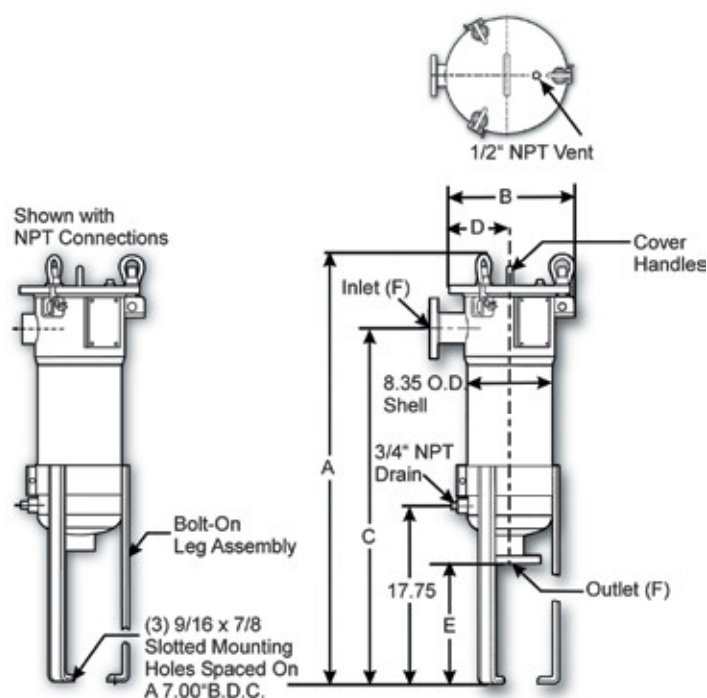
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# Fulflo® FE Filter Vessels

## Design Specifications

| Model    | No. & Length of Cartridges (in) | Aqueous Flow† (gpm) | Typical Dimensions (in) | A     | B     | C    | D     | E     | F   | Shipping Weight (lbs) |
|----------|---------------------------------|---------------------|-------------------------|-------|-------|------|-------|-------|-----|-----------------------|
| FE6-1-2  | 6 (10)                          | 30                  | 33.00                   | 12.25 | 25.56 | 5.75 | 13.19 | 2 NPT | 82  | 3.6                   |
| FE6-1-2F | 6 (10)                          | 30                  | 33.00                   | 14.50 | 25.56 | 8.00 | 12.00 | 2 NPS | 90  | 3.6                   |
| FE6-2-2  | 6 (20)                          | 60                  | 43.06                   | 12.25 | 35.63 | 5.75 | 13.19 | 2 NPT | 87  | 5.4                   |
| FE6-2-2F | 6 (20)                          | 60                  | 43.06                   | 14.50 | 35.63 | 8.00 | 12.00 | 2 NPS | 95  | 5.4                   |
| FE6-3-2  | 6 (30)                          | 90                  | 53.13                   | 12.25 | 45.69 | 5.75 | 13.19 | 2 NPT | 92  | 7.8                   |
| FE6-3-2F | 6 (30)                          | 90                  | 53.13                   | 14.50 | 45.69 | 8.00 | 12.00 | 2 NPS | 100 | 7.8                   |
| FE6-3-3F | 6 (30)                          | 90                  | 53.13                   | 14.50 | 45.69 | 8.00 | 11.75 | 3 NPS | 110 | 7.8                   |

† Actual rate is dependent on fluid viscosity, micron rating, contaminant and media type.  
Consult flow charts for each application.



## Ordering Information

| Material  | Model | Number of Column | Number of 10 in Cartridges/Column | Inlet/Outlet Flange Size |
|---|-------|------------------|-----------------------------------|--------------------------|
| None = Carbon<br>4L = 304L<br>Stainless Steel<br>6L = 316L<br>Stainless Steel | FE    | 6                | 1<br>2<br>3                       | 2<br>3<br>No F = NPT     |

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C - 3 1 6 0

## Fulflo® FP Filter Vessels

### Fulflo® FP Model Cartridge Filter Vessels Designed for Economical Liquid Filtration

The FP Filter Vessel Series is designed for use with the Fulflo® Flo-Pac® 718 and 736 Pleated Filter Cartridge Series.



### Benefits

- Single O-ring design closure assures quick, positive cover sealing.
- Swing bolts with eyenuts for fast, easy opening and closing of cover
- Maximum design pressure is 150 psi (10.3 bar) at 450°F\* (232°C) and 200 psig at 100°F (38°C) plus full vacuum
- Buna-N O-ring standard with EPR, Viton\*\* and fluoropolymer available
- ASME Code UM stamp is standard (U stamp is optional)

- Threaded vent and drain connections
- Adjustable leg height
- Threaded or flanged inlet and outlet options
- Side inlet, bottom outlet and crevice-free welded design provide a smooth interior for easy wash-out and cleaning

### Applications

- Process Water
- Coatings
- Lubricants
- Coolants
- Cutting Oils
- Solvents
- EDM



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# Fulflo® FP Filter Vessels

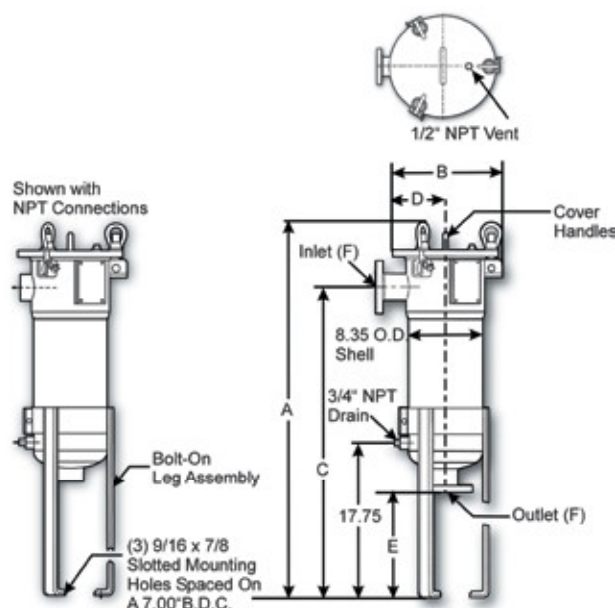
## Design Specifications

| Model<br>Volume | No. & Length<br>of Cartridges<br>(in) | Typical<br>Aqueous<br>Flow †<br>(gpm) | Dimensions (in) |       |       |      |       |       | Shipping<br>Weight<br>(lbs) (gal) |
|-----------------|---------------------------------------|---------------------------------------|-----------------|-------|-------|------|-------|-------|-----------------------------------|
|                 |                                       |                                       | A               | B     | C     | D    | E     | F     |                                   |
| FP1-1-2         | (1) 18                                | 50                                    | 42.56           | 12.25 | 35.13 | 5.75 | 13.19 | 2 NPT | 112 5.5                           |
| FP1-1-2F        | (1) 18                                | 50                                    | 42.56           | 14.50 | 35.13 | 8.00 | 12.00 | 2 NPS | 120 5.5                           |
| FP1-2-2         | (2) 18                                | 100                                   | 60.56           | 12.25 | 53.13 | 5.75 | 13.19 | 2 NPT | 132 9.6                           |
| FP1-2-2F        | (2) 18                                | 100                                   | 60.56           | 14.50 | 53.13 | 8.00 | 12.00 | 2 NPS | 140 9.6                           |
| FP1-2-3F        | (2) 18                                | 100                                   | 60.56           | 14.50 | 53.13 | 8.00 | 11.75 | 2 NPS | 150 9.6                           |

(F) NPS - ANSI Class 150# Slip-On Flanges

(F) NPT - ANSI Class 300# Threaded Couplings

†Actual rate is dependent on fluid viscosity, micron rating, contaminant and media type. Consult flow charts for each application.



\* Operating temperature limited to 250°C (121°F) by standard Buna-N O-Ring and exterior paint on carbon steel models. Optional O-Ring materials are available.

## Ordering Information

| FP 1  |                   |                                   |                          |
|---|-------------------|-----------------------------------|--------------------------|
| Material                                      | Model             | Number of 18 in Cartridges/Column | Inlet/Outlet Flange Size |
| None = Carbon Steel 4L = 304L Stainless Steel | Number of Columns | 1                                 | 2                        |
|   |                   | 2                                 | 3                        |
|   |                   |                                   | No F = NPT               |

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C-4020

## Fulflo® CPM Oil Filter Vessels

### Steel Single Element Filter Vessel Series

The light, compact oil filtration solution. The Fulflo® CPM Vessel Series of single element oil filters is designed for high efficiency and economical operation in oil reclamation and maintenance applications. The compact design makes the CPM vessel series easy to mount on equipment or on the floor to conserve space. The adjustable legs offer installation flexibility by allowing various inlet elevations and nozzle orientations.



#### Benefits

- Single O-ring design closure assures quick, positive cover sealing
- Swing bolts for fast, easy and safe opening and closing of cover
- Pivot pin cover allows cover to remain attached when opened
- Adjustable leg height

#### Applications

- Hydraulic oils
- Quench Oils
- Engine & Compressor Lube Oils
- Cutting Oils
- Coolants
- EDM Liquids



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# Fulflo® CPM Oil Filter Vessels

## Specifications

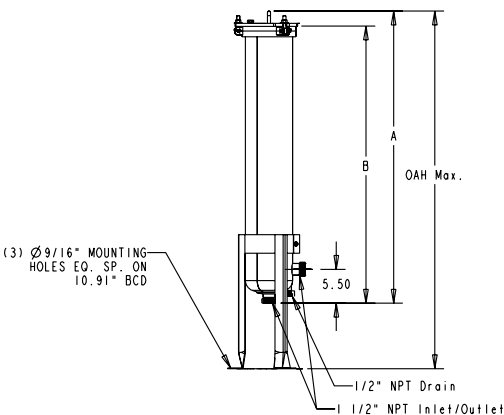
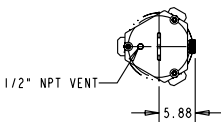
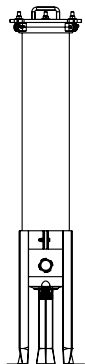
### Maximum Recommended Operating Conditions:

- 175 psi (12 bar) at 250°C(121°F)
- Buna-N O-Ring standard with optional EPR and Viton\*
- Carbon steel vessel construction
- Zinc plated bolting and legs for corrosion resistance

### Cartridge Configuration Supported

| Filter Element              | Series Number | Operating Temperature  |
|-----------------------------|---------------|--|
| Fulflo® Flo-Pac & Flo-Pac+® | 718, 736      | 250°F (121°C)  |
| TruBind®                    | 700           | 150°F (65°C) @ 20 psid (1.4 bar)<br>180°F (82°C) @ 10 psid (0.7 bar) |

| Model    | Number of 18" Elements Per Column | Typical Aqueous Flow† (gpm) | A     | B     | C     | Shipping Weight (lbs) |
|----------|-----------------------------------|-----------------------------|-------|-------|-------|-----------------------|
| CPM1-1.5 | 1                                 | 30                          | 29.44 | 27.00 | 40.66 | 58                    |
| CPM2-1.5 | 2                                 | 60                          | 47.44 | 45.00 | 58.06 | 75                    |



## Ordering Information

| CPM                      |          | Inlet/Outlet Flange Size |                            |
|--------------------------|----------|--------------------------|----------------------------|
| Number of 18 in Elements |          | Code Description         |                            |
| Code                     | Quantity | Code                     | Description                |
| 1                        | 1        | 15                       | 1.5 MNPT (external thread) |
| 2                        | 2        |                          |                            |

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C-4030

## Fulflo® P Filter Vessel

### High Efficiency and High Flow Rate with Fulflo® P Vessel Series

Fulflo® P Series Multi-Cartridge Filter Vessels are designed for high flow rate where the contaminants can be effectively removed by pleated paper (surface type) media.

The P Vessel Series is designed for use with the Fulflo® Flo-Pac® 718 and 736 pleated filter cartridge series. TruBind® 700 Series absorbent cartridges also fit these vessels.



### Benefits

- Designed and fabricated in accordance with the ASME Boiler and Pressure Vessel Code, U or UM stamp with 150 psi (10.3 bar) rating at 250°F (121°C)
- Non-code design and construction (parallel to code standards) available
- Mechanical coverlifts
- Designed for minimum pressure drop
- Cartridge capacity from 1 to 18 cartridges

- All P models feature swing bolts for easier cleaning and servicing
- O-ring seals provide positive closure sealing
- Standard Buna-N seal with optional Viton® elastomer, neoprene, ethylene propylene rubber and fluoropolymer elastomer O-rings
- Optional hydraulic coverlifts

### Applications

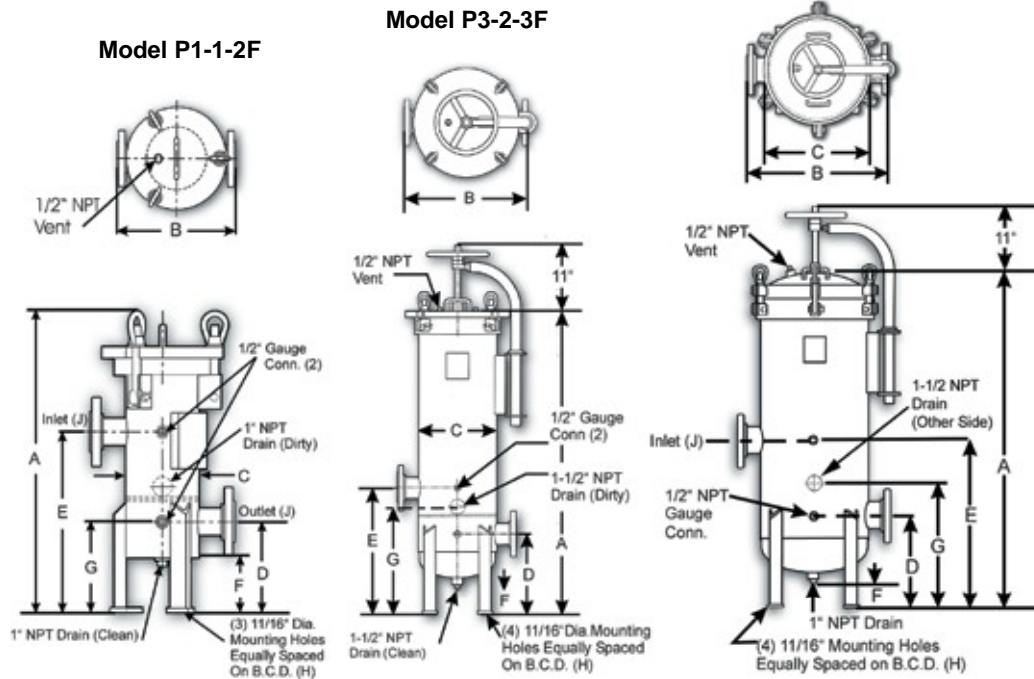
- Fuels
- Lubricating Oils
- Solvents
- Coolants
- Refineries
- Hydraulic Oils
- Rolling Mill Oils
- Processing Liquids



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# Fulflo® P Filter Vessel

## Model P18-2-8F



## Reference Dimensions

| Model    | Number & Length of Cartridges (in) | Maximum flow (GPM) | Dimensions (in) |       |       |       |       |      |       |       |   | Shipping Weight (lbs) |
|----------|------------------------------------|--------------------|-----------------|-------|-------|-------|-------|------|-------|-------|---|-----------------------|
|          |                                    |                    | A               | B     | C     | D     | E     | F    | G     | H     | J |                       |
| P1-1-2F  | 1 (18)                             | 50                 | 36.13           | 14.88 | 8.63  | 8.19  | 16.19 | 5.06 | 11.31 | 7.81  | 2 | 180                   |
| P1-2-2F  | 1 (36)                             | 100                | 54.13           | 14.88 | 8.63  | 8.19  | 16.19 | 5.06 | 11.31 | 7.81  | 2 | 200                   |
| P3-1-3F  | 3 (18)                             | 150                | 38.74           | 22.50 | 15.06 | 13.38 | 21.00 | 5.00 | 17.88 | 14.75 | 3 | 405                   |
| P3-2-3F  | 3 (36)                             | 300                | 57.31           | 22.50 | 15.06 | 13.38 | 21.00 | 5.00 | 17.88 | 14.75 | 3 | 465                   |
| P6-2-6F  | 6 (36)                             | 600                | 65.00           | 29.25 | 20.06 | 16.50 | 31.00 | 5.00 | 22.56 | 19.75 | 6 | 790                   |
| P9-2-6F  | 6 (36)                             | 900                | 67.19           | 33.38 | 24.06 | 18.00 | 31.00 | 6.00 | 24.19 | 23.75 | 6 | 985                   |
| P18-2-8F | 18 (36)                            | 1800               | 76.06           | 42.25 | 32.06 | 23.63 | 41.25 | 6.00 | 31.69 | 31.81 | 8 | 1570                  |

Actual flow rate is dependent on fluid viscosity, micron rating, contaminant and media type. Consult flow charts for each application.  
Shipping weights and dimensions are for 150 psig nominal design only.

+Add 5" to this dimension for hydraulic coverlift

## Ordering Information

| Design Series        | Number of Columns | Cartridges per Column | Inlet /Outlet Flange Size | Coverlift Option |
|----------------------|-------------------|-----------------------|---------------------------|------------------|
| Code Design = P      | 1                 | 1                     | 2F                        | K1 = Mechanical  |
| Non-Code Design = CP | 3                 | 2                     | 3F                        | K2 = Hydraulic   |
|                      | 6                 |                       | 6F                        |                  |
|                      | 9                 |                       | 8F                        |                  |
|                      | 18                |                       |                           |                  |

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## Bag Filter Vessel Series





C-5000

## Fulflo® SB Filter Vessels

### High Flow Rates and High Solids Retention Capability With Fulflo® SB Series ASME Code Single and Multiple Bag Vessels

Constructed to handle flow rates of up to 1120 gpm (4240 lpm), the Fulflo® SB Series of bag and strainer filter vessels provides excellent filtration in a wide range of industrial and chemical applications. All details of design, materials, construction and workmanship of the SB Vessel Series conform to ASME code and are available in non-code design and construction.



### Benefits

- Accepts "C" style flex band bags for optimized independent seal
- Built in accordance with ASME (U or UM stamp) Boiler and Pressure vessel code
- Non-code design and construction (parallel code standards) available
- Maximum design pressure is 150 psi (10.3 bar) or 300 psi (20.7 bar)
- Available in carbon steel, 304 stainless steel, or 316 stainless steel
- Single O-ring seal closure design assures quick, positive cover seal
- Swing bolts with hexnuts for fast, easy opening and closing of cover
- Buna-N standard O-ring with Viton® elastomer, neoprene, ethylene propylene rubber and fluoropolymer elastomer O-rings also available
- Positive bag media seal prior to sealing housing

### Applications

- Potable Water
- Process Water
- Coatings
- Lubricants
- Coolants
- Cutting Oils
- Solvents



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# Fulflo® SB Filter Vessels

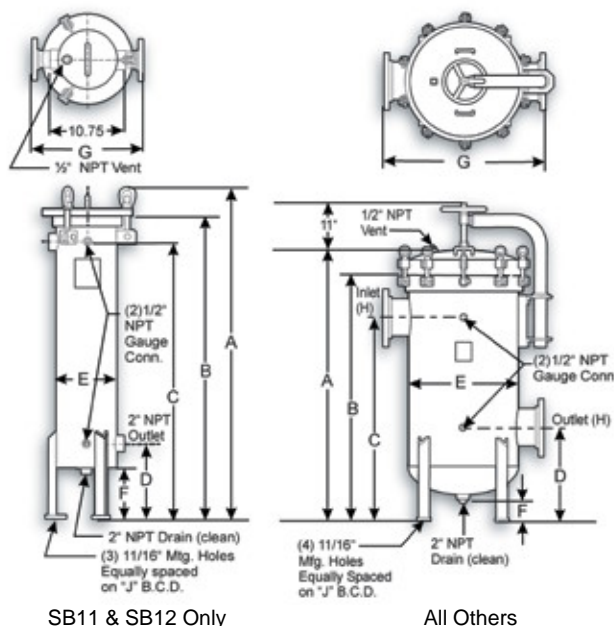
## Design Specifications

| Model     | Maximum Flow† (gpm) | Dimensions (in) |       |       |       |       |      |       |      |       | Shipping Weight (lbs) |
|-----------|---------------------|-----------------|-------|-------|-------|-------|------|-------|------|-------|-----------------------|
|           |                     | A               | B     | C     | D     | E     | F    | G     | H    | J     |                       |
| SB11-2    | 80                  | 34.88           | 30.69 | 26.75 | 10.75 | 8.63  | 7.31 | 10.75 | 2.00 | 7.81  | 180                   |
| SB11-2F   | 80                  | 34.88           | 30.69 | 26.75 | 10.75 | 8.63  | 7.31 | 14.88 | 2.00 | 7.81  | 180                   |
| SB12-2    | 160                 | 47.88           | 43.69 | 39.75 | 10.75 | 8.63  | 7.31 | 10.75 | 2.00 | 7.81  | 200                   |
| SB12-2F   | 160                 | 47.88           | 43.69 | 39.75 | 10.75 | 8.63  | 7.31 | 14.88 | 2.00 | 7.81  | 200                   |
| SB12-3F   | 160                 | 48.81           | 44.63 | 40.00 | 10.75 | 8.63  | 7.31 | 16.00 | 2.00 | 7.81  | 200                   |
| SB31-3FK1 | 240                 | 43.00           | 38.25 | 32.00 | 17.00 | 18.44 | 6.00 | 26.00 | 3.00 | 17.75 | 600                   |
| SB32-4FK1 | 480                 | 56.00           | 51.25 | 45.00 | 17.00 | 18.44 | 6.00 | 26.00 | 4.00 | 17.75 | 650                   |
| SB41-4FK1 | 320                 | 43.50           | 38.63 | 32.00 | 17.00 | 20.44 | 6.00 | 28.00 | 4.00 | 19.79 | 670                   |
| SB42-4FK1 | 640                 | 56.50           | 51.63 | 45.00 | 17.00 | 20.44 | 6.00 | 28.00 | 4.00 | 19.79 | 720                   |
| SB42-6FK1 | 640                 | 60.19           | 55.13 | 47.00 | 18.00 | 20.44 | 6.00 | 30.00 | 6.00 | 19.79 | 740                   |
| SB52-6FK1 | 800                 | 60.50           | 54.50 | 45.00 | 20.00 | 22.44 | 6.00 | 30.00 | 6.00 | 21.71 | 700                   |
| SB62-8FK1 | 960                 | 64.00           | 58.00 | 48.00 | 22.00 | 26.00 | 5.00 | 36.00 | 8.00 | 25.30 | 1105                  |
| SB72-6FK1 | 1120                | 59.75           | 53.75 | 45.00 | 20.00 | 26.00 | 5.00 | 34.00 | 6.00 | 25.30 | 1070                  |
| SB72-8FK1 | 1120                | 64.00           | 58.00 | 48.00 | 22.00 | 26.00 | 5.00 | 36.00 | 8.00 | 25.30 | 1105                  |
| SB82-8FK1 | 1440                | 64.56           | 58.00 | 48.00 | 23.25 | 28.44 | 5.00 | 38.00 | 8.00 | 27.88 | 1180                  |
| SB92-8FK1 | 1440                | 66.75           | 60.00 | 50.00 | 24.00 | 30.56 | 6.00 | 40.00 | 8.00 | 29.80 | 1180                  |

† Actual flow rate is dependent on fluid viscosity, micron rating, contaminant and media type. Consult flow charts for each application.

| Material of Construction | Maximum Operating Pressure (psi at 250°F)† | Maximum Design Temperature* | Config. |
|--------------------------|--|-----------------------------|---------|
| Carbon Steel             | 150 psi (10.3 bar)                         | 500°F (260°C)               | SB      |
| Carbon Steel             | 300 psi (20.7 bar)                         | 500°F (260°C)               | HSB     |
| 304 Stainless Steel      | 150 psi (10.3 bar)                         | 300°F (150°C)               | SB      |
| 304 Stainless Steel      | 300 psi (20.7 bar)                         | 300°F (150°C)               | HSB     |
| 316 Stainless Steel      | 150 psi (10.3 bar)                         | 400°F (204°C)               | SB      |
| 316 Stainless Steel      | 300 psi (20.7 bar)                         | 400°F (204°C)               | HSB     |

† Operating temperature limited by standard gasket material and exterior paint.



## Ordering Information

| Material   | Design Series  | Standard Bag Design Series  | Number of Bags                       | Bag Length               | Inlet/Outlet Flange Size   | Coverlift Option                                      |
|--|--|-----------------------------|--------------------------------------|--------------------------|--|---|
| No Symbol = Carbon Steel<br>4 = 304 Stainless Steel<br>6 = 316 Stainless Steel | H = 300 PSI<br>C = Non-Code Design<br>No Symbol = Code | SB = 1 Bag or Multiple Bags | 1<br>3<br>4<br>5<br>6<br>7<br>8<br>9 | 1 = Single<br>2 = Double | F = Flange<br>No Symbol = NPT<br>2 = 2 in Flange<br>3 = 3 in Flange<br>4 = 4 in Flange<br>6 = 6 in Flange<br>8 = 8 in Flange | K1 = Mechanical<br>K2 = Hydraulic<br>No Symbol = None |

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C-5002

## Fulflo® FB Filter Vessels

### FB Model Bag Filter Vessels Designed for Economical Filtration of Liquids and Gases

The Fulflo® FB Series of bag and strainer filter vessels provides excellent filtration in a wide range of industrial and chemical applications. All details of design, materials, construction and workmanship of the FB Vessel Series conform to ASME code and are available in non-code design and construction.

### Benefits

- Single O-ring design closure assures quick, positive cover sealing (O-rings are not required to seal filter bags.)
- Swing bolts with eyenuts for fast, easy opening and closing of cover
- Buna-N O-ring standard with EPR, Viton\* and fluoropolymer available
- Maximum design pressure is 150 psi (10.3 bar) at 450°F\*\* (232°C)
- ASME Code UM stamp is standard (U stamp is optional)
- Threaded vent and drain connections
- Adjustable leg height. Threaded or flanged inlet and outlet



- Side inlet; cover opens without disconnecting piping
- Side inlet, bottom outlet and crevice-free welded design provide a smooth interior for easy wash-out and cleaning
- Hinged cover for easy opening
- Positive seal of "C" style flex band bags prior to closing the vessel cover
- Optional hold-down assembly for conversion to "G" style bag media seal available.

### Applications

- Potable Water
- Process Water
- Coatings
- Lubricants
- Coolants
- Cutting Oils
- Solvents



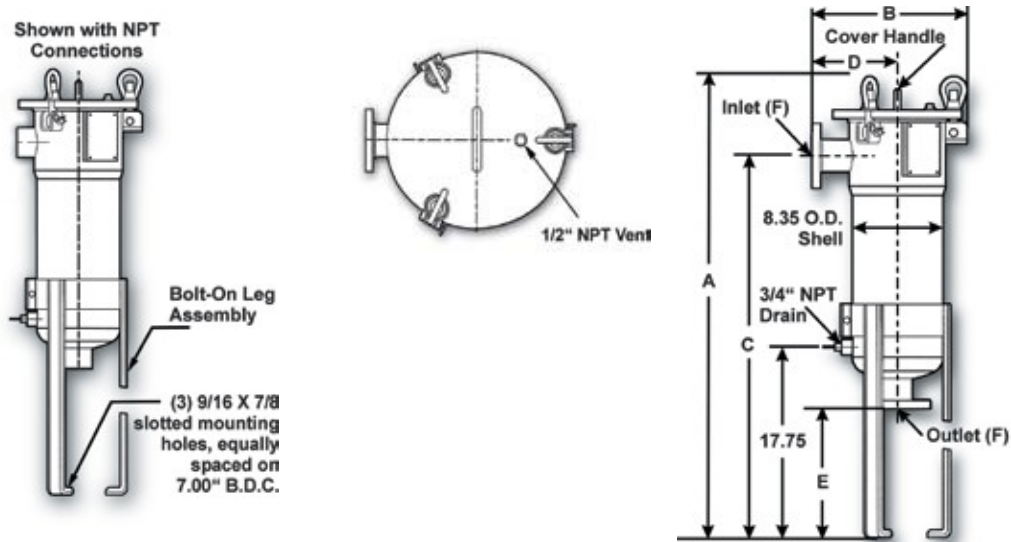
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# Fulflo® FB Filter Vessels

## Design Specifications

| Model   | Bag Style | Typical Aqueous Flow† (gpm) | Dimensions (in) |       |       |      |       |       | Shipping Weight (lbs) | Volume (gal) |
|---------|-----------|-----------------------------|-----------------|-------|-------|------|-------|-------|-----------------------|--------------|
|         |           |                             | A               | B     | C     | D    | E     | F     |                       |              |
| FB11-2  | Single    | 80                          | 43.06           | 12.25 | 35.63 | 5.75 | 13.19 | 2 NPT | 90                    | 5.4          |
| FB11-2F | Single    | 80                          | 43.06           | 14.50 | 35.63 | 8.00 | 12.00 | 2 NPS | 100                   | 5.4          |
| FB12-2  | Double    | 160                         | 53.94           | 12.25 | 46.50 | 5.75 | 13.19 | 2 NPT | 95                    | 7.8          |
| FB12-2F | Double    | 160                         | 53.94           | 14.50 | 46.50 | 8.00 | 12.00 | 2 NPS | 105                   | 7.8          |
| FB12-3F | Double    | 160                         | 53.94           | 14.50 | 46.50 | 8.00 | 11.75 | 3 NPS | 115                   | .8           |

† Actual flow rate is dependent on fluid viscosity, micron rating, contaminant and media type. Consult flow charts for each application.



\*\* Operating temperature limited to 250°C (121°F) by standard Buna-N O-Ring and exterior paint on carbon steel models. Optional O-Ring materials are available.

## Ordering Information

| Material                  | Media Requirement   | Inlet/Outlet Flange Size |
|---------------------------|---------------------|--------------------------|
| No Symbol = Carbon Steel  | 11 = One Single Bag | 2                        |
| 4L = 304L Stainless Steel | 12 = One Double Bag | 3                        |
| 6L = 316L Stainless Steel |                     | No F = NPT               |

Specifications are subject to change without notification.  
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C-5006

## Fulflo® CB Filter Vessels

### CB Model Bag Filter Vessels are Designed for Economical Filtration of a Wide Variety of Industrial Liquids

The CB bag filter vessel series is an economical design that features the integrity of a bolted closure. The CB series is available in either carbon steel or 304 or 316 stainless steel. Both models have zinc plated closure bolts and zinc plated legs for corrosion resistance. The integral basket support provides a smooth interior for easy cleaning and bag installation. The CB is for use with either single or double length bags with flex type bag bands and can also be used with solid ring and plastic ring bags by using the optional bag sealing insert and adding an O-ring under the basket rim. The adjustable legs offer installation flexibility by allowing various inlet elevations and nozzle orientations.

### Benefits

- Single O-ring design closure assures quick, positive cover sealing
- Swing bolts for fast, easy and safe opening and closing of cover
- Buna-N O-ring standard with optional EPR and Viton\*
- Maximum design pressure is 175 psi (12 bar) at 250°F\*\* (121°C)
- Good manufacturing practice industrial design
- Threaded vent and drain connections
- Carbon steel with zinc plated support basket or 304SS with 316SS support basket
- Adjustable leg height
- Side inlet allows cover to open without disconnecting piping



- Integral basket support design provides a smooth interior for easy wash-out and cleaning
- Pivot pin cover allows cover to remain attached when opened
- Positive seal of "C" style flex band bags prior to closing the vessel cover
- Optional hold-down assembly for conversion to solid ring ("G" style) and plastic ring ("Q" style) bags
- Zinc plated closure bolts and legs for corrosion resistance

### Applications

- Potable Water
- Solvents
- Process Water
- Lubricants
- Cutting Oils
- Coolants
- Coatings



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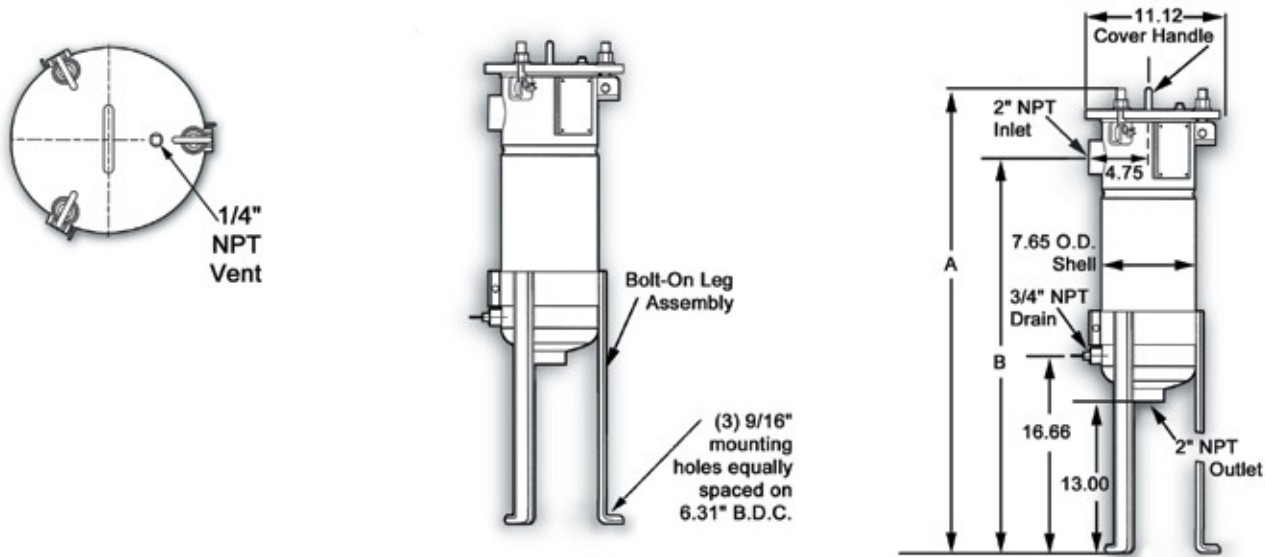


# Fulflo® CB Filter Vessels

## Design Specifications

| Model  | Bag Style | Typical             | Dimensions |       | Shipping Weight (lbs) | Volume (gallons) |
|--------|-----------|---------------------|------------|-------|-----------------------|------------------|
|        |           | Aqueous Flow† (gpm) | A          | B     |                       |                  |
| CB11-2 | Single    | 80                  | 40.50      | 33.25 | 65                    | 4.3              |
| CB12-2 | Double    | 160                 | 55.50      | 48.25 | 90                    | 7.2              |

† Actual flow rate is dependent on fluid viscosity, micron rating, contaminant and media type. Consult flow charts for each application.



\*\* Operating temperature limited to 250°C (121°F) by standard Buna-N O-Ring and exterior paint on carbon steel models. Optional O-Ring materials are available.

## Ordering Information

|  |  |                          |
|--|--|--------------------------|
| [Symbol] <b>CB</b> [Symbol]      —      [Symbol]                                 |  |                          |
| Material   | Media Requirement                          | Inlet/Outlet Flange Size |
| No Symbol = Carbon Steel<br>4 = 304L Stainless Steel<br>6 = 316L Stainless Steel | 11 = One Single Bag<br>12 = One Double Bag | 2"                       |

Specifications are subject to change without notification.  
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## **WARNING**

**FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.**

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