

C-2020

## Fulflo<sup>®</sup> PCC Filter Cartridge

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

Parker Fulflo<sup>®</sup> 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 2 $\mu$ m, 3 $\mu$ m, 10 $\mu$ m, 30 $\mu$ m and 60 $\mu$ m 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



ENGINEERING **YOUR** SUCCESS.

# Fulflo<sup>®</sup> 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 (μm) | Flow 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:

- 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.

### Liquid Particle Retention Ratings

| Cartridge | β=5000 absolute | β=1000 99.7% | β=100 99% | β=50 98% | β@2 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 (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 (DOE/SOE)<br>G = 304 Stainless Steel (DOE) | P = Poly Foam (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 Polymeric Vessels)**<br>LR = 120 O-Ring/Recessed (Nuclepore)**<br>OB = Std. Open End/Polypro Spring Closed End<br>PR = 213 O-Ring/Recessed (Ametek 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 / Polypro Spring Closed End |

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

Specifications are subject to change without notification.  
 \*Viton is a registered trademark of E.I. DuPont de Nemours & Co., Inc.

© 2007 Parker Hannifin  
 Process Advanced Filtration Inc.  
 All Rights Reserved  
 SPEC-C2020-Rev. A 01/08



ENGINEERING YOUR SUCCESS.