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: β = 100).

Applications

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

Features and 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 ∆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.

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Filtration

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Pleated Series

Specifications

Filtration Ratings:
- 99%+ at 2µm, 3µm, 10µm, 30µm, and 60µm pore sizes

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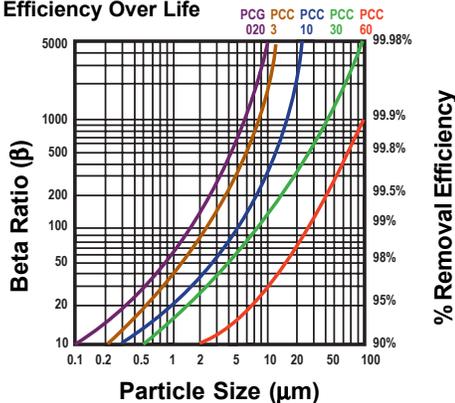- Stainless steel support (optional)
- PCG is glass-modified cellulose

Recommended Operating Conditions:
- Maximum 10 gpm per 10 in length (38 lpm/254 mm)

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

Cartridge	ß=5000 Absolute	ß=1000 99.9%	ß=100 99%	ß=50 98%	ß=20 95%	ß=20 90%
PCG 020	10	7.0	1.8	0.9	0.3	0.1
PCC 3	12	9.5	3.0	1.7	0.6	0.2
PCC 10	22	17.0	5.5	3.0	1.0	0.3
PCC 30	100	50.0	11.0	5.5	1.5	0.5
PCC 60	150	100.0	30.0	15.0	5.0	2.0

■ PCC Particle Removal Efficiency Over Life

■ Stainless Steel Support:
Maximum Temperature: 250°F (121°C)
Maximum ∆P: 50 psi (3.5 kg/cm²)
Optimum Change Out ∆P: 35 psi (2.5 km/cm²)

■ 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 ∆P @ 75°F (24°C): 60 psi (4.2 kg/cm²)
Change Out ∆P: 35 psi (2.5 km/cm²)

■ PCC / PCG Flow Factors (psid/gpm @ 1 cks)

Rating (µm)	Flow Factor
2	0.026
3	0.017
10	0.002
30	0.001
60	0.0005

■ PCC / PCG Length Factors

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

Flow Rate and Pressure Drop Formulas:

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

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

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

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

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

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

PCG020 — 10 — A — N — TC

Cartridge Code (µm)
PCG020 – 2
PCC3 – 3
PCC10 – 10
PCC30 – 30
PCC60 – 60

Nominal Length

(code)	(in)	(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
40	40	1016

Support Construction
A = Polypropylene (DOE/SOE)
G = 304 Stainless Steel (DOE)

Seal Material
A = Polyethylene Foam (DOE Gasket Only)
E = EPR
N = Buna-N
S = Silicone (O-Ring only)
V = Viton*

End Cap Configurations
AR = 020 O-Ring/Recessed (Gelman)
DO = Double-Open-End (DOE)
DX = DOE With Core Extender
LL = 120/120 (Filterite LMO and Nuclepore Polymeric Vessels)**
LR = 120 O-Ring/Recessed (Nuclepore)**
OB = Std. Open End/Polypro Spring Closed End
PR = 213 O-Ring/Recessed (Ametek and Parker LT Polymeric Vessels)**
SC = 226 O-Ring/Cap
SF = 226 O-Ring/Fin
TC = 222 O-Ring/Cap
TF = 222 O-Ring/Fin
XB = Ex. Core Open End/Polypro Spring Closed End

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

Process Filtration Division

* A trademark of E. I. duPont de Nemours & Co.
For pleated cartridge configurations and dimensions, see Bulletin A-700 in the Appendix.

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