



Fulflo® Metallic Filter Cartridges

■ Stainless Steel

Pleated & Cylindrical Series

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.

Applications

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



Features and 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.

Process Filtration Division



Pleated and Cylindrical Series

Specifications

Particle Removal Ratings (Nominal):

- 14 ratings from 2 to 840 micrometers

Effective Filtration Area:

- Cylindrical: 0.5 ft²/10 in length (465 cm²/254mm)
- Pleated: 1.7 ft²/10 in length (1580 cm²/254 mm)

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).

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

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)

Ordering Information:

| PSS | 40 | 10 | G | X | MC | H |
|--------------------------------------|---------------------------|-----------------|----------------------------|-------------------------------------|--|-------------------------------------|
| Cartridge Code | Nominal Micrometer Rating | Nominal Length | Media/Support Construction | Seal Material | End Cap Configuration | Special Options |
| | | Code (in) (mm) | | | | |
| CSS - Cylindrical Stainless Steel | 2 | 9 = 9 3/4 248 | G = 304 Stainless Steel | E = EPDM | DO = Double open end w/grommet seal | F = FDA Grade Seal Material |
| | 5 | 10 = 10 254 | S = 316 Stainless Steel | F = PTFE (Grommet only) | DX = Double Open End with Extended Core | H = High Pressure Core (316 SS) |
| PSS - Pleated Stainless Steel | 10 | 19 = 19 1/2 495 | | N = Buna N | FC = Single open end w/1" NPTF female connection | P = Pleat Protector sleeve (316 SS) |
| | 20 | 20 = 20 508 | | T = PFA/Viton* (O-ring only) | MC = Single open end w/1" NPTM male connection | |
| | 40 | 29 = 29 1/4 743 | | V = Viton* | SC = Single open end w/226 o-ring seal | |
| | 75 | 30 = 30 762 | | X = No Seal Material (FC, MC Style) | TC = Single open end w/222 o-ring seal | |
| | 100 | | | | | |
| | 150 | | | | | |
| | 190 | | | | | |
| | 230 | | | | | |
| | 280 | | | | | |
| | 370 | | | | | |
| 540 | | | | | | |
| 840 | | | | | | |

*A trademark of E. I. duPont Nemours & Co.

Removal Rating/Mesh Count/Open Area

| Micrometer Rating Nominal/Absolute | Mesh Count (per inch) | Per Cent Open Area |
|---------------------------------------|--------------------------|-----------------------|
| 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.

Flow Rate and Pressure Drop Formulae:

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

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

Notes:

- Clean ΔP is PSI differential at start.
- Viscosity is centistokes. Use Conversion Tables for other units.
- Flow Factor is ΔP/length at 1 cks viscosity and 1 gpm flow rate.

Process Filtration Division

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