

# 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 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)

### 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		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	S = 316 Stainless Steel	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

Published Nominal Rating (micrometers)	Mesh Count (per inch)	Per Cent Open Area
2	325 x 2300	NA
5	200 x 1400	NA
10	165 x 1400	NA
20	200 x 600	NA
40	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

Parker Hannifin Corporation  
Process Filtration Division  
P.O. Box 1300  
Lebanon, Indiana 46052  
Telephone (765) 482-3900  
Fax (765) 482-8410  
<http://www.parker.com>

