

Fulflo® DuraBond Filter Cartridges

■ Polyolefin

Bonded Depth Series

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.

Applications

- Photographic Chemicals
- DI Water
- Plating Solutions
- R. O. Prefiltration
- Organic Solvents
- Oilfield Fluids
- Cosmetics
- Toiletries
- Food & Beverages
- Membrane Prefiltration
- Chemical Processing Fluids
- Potable Water
- Bleach
- Magnetic Coatings
- Industrial Coatings



Features and Benefits

- Fixed pore structure provides efficiency, integrity and optimum partical retention.
- Thermally bonded bicomponent fiber matrix provides rigid dimensionally stable construction without fiber migration.
- Rigid construction eliminates containment unloading and channeling.
- Corrugated porous surface maximizes dirt holding capacity
- Silicone free construction will not change coating properties.
- 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 a partical "classification" effect with pigmented coatings.
- Double-open-end style is self seating without sepa rate gasket material.

Process Filtration Division



Melt Blown Depth Series

Specifications

Nominal Filtration Ratings: (90% efficiency)
 ■ 1, 3, 5, 10, 25, 50, 75, 100 µm.

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 (5.5bar)@72°F (27°C)
50 psid (3.4bar)@175°F (80°C)
- Flow rate: 5gpm (19 lpm) per 10 in length
- Changeout AP: 30 psi (2.1 bar)

DBC Flow Factors

Rating (mm)	Aqueous Service PSID GPM per 10 in 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

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:				
Beta Ratio Efficiency	β = 10 90%	β = 20 95%	β = 100 99%	β = 1000 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).

DBC Length Factors

Length (in)	Length Factor
9.75	1.0
10.00	1.0
19.50	2.0
20.00	2.0
20.25	3.0
30.00	3.0
39.00	4.0
40.00	4.0
50.00	5.0

Ordering Information

DBC	10	M	10		
Cartridge Code	Micrometer Rating (µm)	Filter Medium	Nominal Length		
DuraBond Cartridge	1 3 5 10 25 50 75 100	M = FDA Polyolefin	Code 9-4 10 19-4 20 29-4 30 39-4 40 50	in 9-3/4 10 19-1/2 20 29-1/4 30 39 40 50	mm 248 254 496 508 743 762 992 1016 1270

TC			N
End Cap Options			Seal Options (O-Ring Only)
None = DOE AR = 020 O-Ring/Recessed LL = 120 O-Ring (Both Ends) LR = 120 O-Ring/Recessed PR = 213 O-Ring/Recessed SC = 226 O-Ring/Flat Cap SF = 226 O-Ring/Fin TC = 222 O-Ring/Flat cap TF = 222 O-Ring/Fin XA = DOE w/Core Extender			None = No Gasket (DOE Only) E = EPR N = Buna S = Silicone T = PFA Encapsulated Viton*(222.226 O-Ring Only) V = Viton

Process Filtration Division

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