

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, 10 µm, 25 µm, 50 µm, 75 µm and 100 µm

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
- Automotive Coatings
- Industrial Coatings



Features and Benefits

- Fixed pore structure provides efficiency integrity and optimum particle retention.
- Thermally bonded bicomponent fiber matrix provides rigid dimensionally stable construction without fiber migration.
- Rigid construction eliminates contaminant 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 particle "classification" effect with pigmented coatings.
- Double-open-end style is self sealing without separate gasket material.

Process Filtration Division

Bonded 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 (62 mm) 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 (22°C) 50 psid (3.4 bar)@175°F (80°C)
- Flow Rate: 5 gpm (19 lpm) per 10 in length.
- Changeout ΔP : 30 psi (2.1 bar)

Liquid Particle Retention Ratings (μm)

@ Removal Efficiency of:

Cartridge	$\beta = 10$	$\beta = 20$	$\beta = 100$	$\beta = 1000$
	90%	95%	99%	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) = $\frac{\text{Upstream Particle Count @ Specified Particle Size and Larger}}{\text{Downstream Particle Count @ Specified Particle Size and Larger}}$

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).

Ordering Information

DBC	10	M	10	TC	N
Cartridge Code	Micrometer Rating (μm)	Filter Medium	Nominal Length	End Cap Options	Seal Options (o-ring only)
DuraBond Cartridge	1 3 5 10 25 50 75 100	M = FDA Polyolefin	Code in mm 9-4 9-3/4 248 10 10 254 19-4 19-1/2 496 20 20 508 29-4 29-1/4 743 30 30 762 39-4 39 992 40 40 1016 50 50 1270	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 = Teflon Encapsulated Viton*(222, 226 o-ring only) V = Viton*

* A trademark of E. I. du Pont de Nemours & Co.

DBC Flow Factors

Rating (μm)	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
DBC 75	0.015
DBC100	0.012

DBC Length Factors

Length (in)	Length Factor
9.75	1.0
10.00	1.0
19.50	2.0
20.00	2.0
29.25	3.0
30.00	3.0
39.00	4.0
40.00	4.0
50.00	5.0

Flow Rate and Pressure Drop Formulas:

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

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

Notes:

- Clean ΔP is PSI differential at start.
- Viscosity is centistokes. Use Conversion Tables for other units.
- Flow Factor is $\Delta\text{P}/\text{GPM}$ at 1 cks for 10 in (or single).
- Length Factors convert flow or ΔP from 10 in (single length) to required cartridge length.

Process Filtration Division

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