

DuraBond™ Cartridges

Economical filtration with high strength, thermally-bonded depth cartridges

Parker's 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.

DuraBond cartridges are available in nominal ratings of 1µm, 3µm, 5µm, 10µm, 25µm, 50µm, 75µm and 100µm.



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Benefits

- Fixed pore structure provides efficiency, integrity and optimum particle retention
- Thermally bonded bi-component 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
- FDA grade polypropylene (DOE only) certified to ANSI/NSF61 standard for contact with drinking water components
- All materials of construction are FDA listed as acceptable for potable and edible liquid contact according to CFR Title 21

- Polyolefin construction provides broad chemical compatibility for a variety of applications Easily disposed by shredding, incinerating or crushing
- Construction provides particle "classification" effect with pigmented coatings
- Double-open-end style is self-sealing without separate gasket material
- ISO 9001 registered company

Applications

- Photographic Chemicals
- DI Water
- Plating Solutions
- Bleach
- RO Pre-filtration
- Organic Solvents
- Oil Field Fluids
- Membrane Pre-filtration
- Industrial Coatings
- Magnetic Coatings
- Potable Water
- Process Fluids



ENGINEERING YOUR SUCCESS.

DuraBond™ Cartridges

SPECIFICATIONS

Materials of Construction

- Filter Medium:
Thermal Bonded bi-component 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:
- 100psid (6.8bar)@72°F (27°C)
- 50psid (3.4bar)@175°F (80°C)
- Flow rate:
5gpm (18.9 lpm) per 10 in. length
- Change-out ΔP: 30psi (2.1bar)

Nominal Filtration Ratings (90% efficiency)

1, 3, 5, 10, 25, 50, 75, 100 μm

DBC Flow Factors

Rating (μm)	Aqueous Service psi/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

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):

Clean ΔP x Length Factor

Viscosity x Flow Factor

Clean ΔP:

Flow Rate x Viscosity x Flow Factor

Length Factor

1. Clean ΔP ispsi differential at start.
2. Viscosity is centistokes. Use Conversion Tables for other units.
3. Flow Factor is ΔP/GPM at 1cks 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:

Cartridge	β=1000 99.9%	β=100 99%	β=20 95%	β=10 90%
DBC1	5	4	2	1
DBC3	10	8	4	3
DBC5	20	16	10	5
DBC10	30	25	15	10
DBC25	55	50	30	25
DBC50	90	80	70	50
DBC75	>100	>100	100	75
DBC100	>100	>100	>100	100

Beta Ratio (β) = Upstream Particle Count @ Specified Particle Size and Larger
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 2.5gpm per 10 in (9.5 lpm per 254 mm).

Ordering Information

DBC		M		—		—		—	
Cartridge Code		Micron Rating	Nominal Length			End Cap Configuration		Seal Material	
DBC	DuraBond		CODE	IN.	mm	CODE	DESCRIPTION	CODE	MATERIAL
		1				None	Double Open End (DOE) w/o gaskets	None	No Seal Mat. (Std. DOE)
		3	9-4	9-3/4	248	AR	020 Flat (Gelman)	A	Poly foam gaskets w/collars (DO only)
		5	10	10	254	DO	DOE	E	EPR
		10	19-4	19-1/2	495	LL	120 O-ring both ends**	N	Buna-N
		25	20	20	508	LR	120 O-ring/Recessed**	S	Silicone (O-ring only)
		50	29-4	29-1/4	743	OB	Std. open end/Polypropylene spring closed end	T	PFA Encapsulated Viton® (222, 226 O-ring only)
		75	30	30	762	PR	213 O-ring/Recessed**	V	Viton®
		100	39-4	39	991	SC	226 O-ring/Flat	W	Poly foam gaskets w/o collars (DO only)
			40	40	1016	SF	226 O-ring/Fin		
			50	50	1270	TB	222 Open end, poly spring closed end		
						TC	222 O-ring/Flat		
						TF	222 O-ring/Fin		
						TX	222 O-ring/Flex fin		
						XA	DOE w/extended core		
						XB	Ext. core open end polypropylene spring closed end		

**Available only in 9-3/4" (9-4) and 19-1/2" (19-4) lengths.

Specifications are subject to change without notification.
For User Responsibility Statement, see www.parker.com/safety



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