

C-1301

Fulflo® MegaBond Plus™ Cartridges

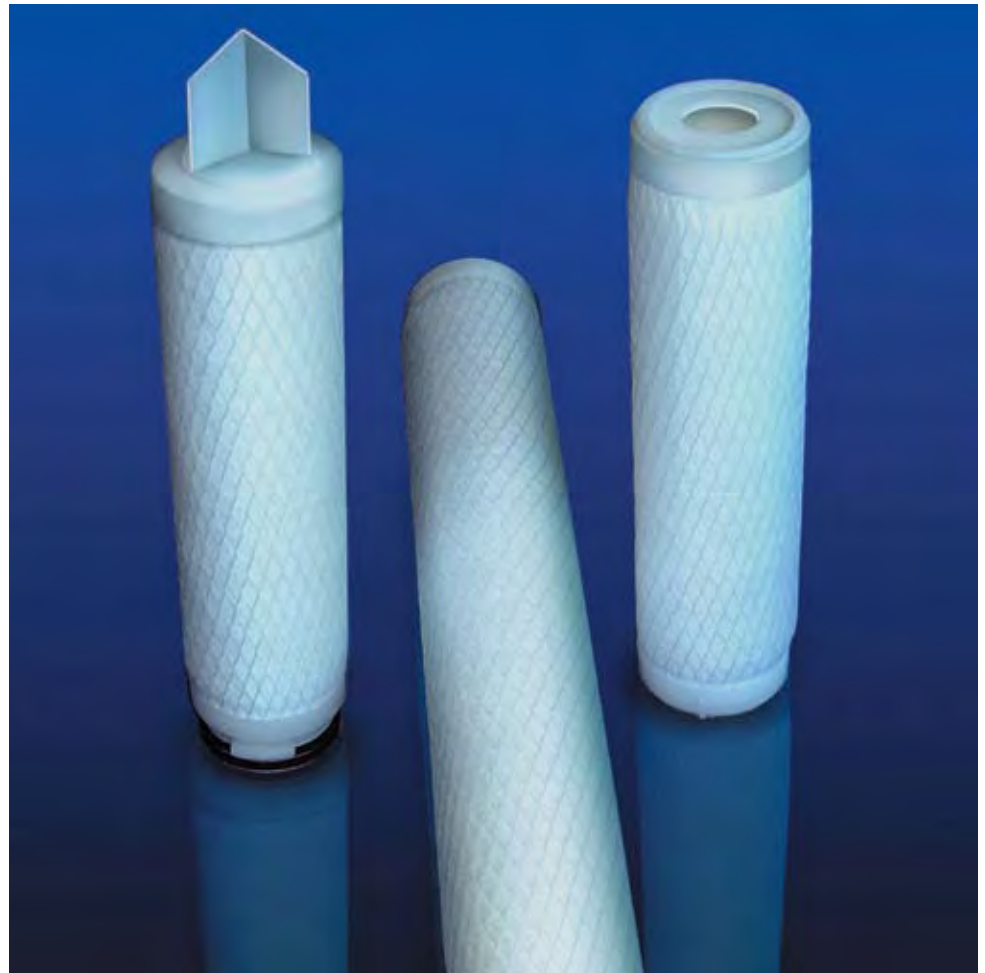
Depth Cartridges with High Dirt Holding Capacity & Absolute Rated Filtration Efficiency

Parker's Fulflo® MegaBond Plus™ are absolute rated depth cartridges. Using a new innovative manufacturing process, the MBP has higher dirt holding capacities offering long service life and without contaminant migration. The MBP has a fixed core inner structure of thermally bonded continuous microfine polypropylene fibers. The outer layer fixed pore structure has been modified to maximize the graded density surface area to enhance dirt holding capacity.

Fulflo® MegaBond Plus™ cartridges are available in absolute ($\beta = 5000$) ratings of 1 μ m, 3 μ m, 5 μ m, 10 μ m, 15 μ m, 20 μ m, 30 μ m, 40 μ m, 70 μ m, 90 μ m and 120 μ m.

Benefits

- Microfine, thermally bonded fiber construction provides superior filtration and often eliminates the need for circulation to achieve product clarity
- Non-fiber-releasing, continuous fiber matrix prevents media migration and ensures consistent production yields and overall quality filtration performance
- No surfactants or binders are present to interrupt product quality or cause foaming
- Double open-end cartridges have polyolefin gaskets thermally bonded to both ends eliminating fluid bypass between the cartridge and the vessel seal
- Superior inter-layer bonding eliminates contaminant unloading and channeling



- Unique outer graded density structure increases dirt holding capacity
- Polypropylene fiber 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
- Pore size differentiation is achieved using fibers of differing diameters and maintaining uniform density throughout the cartridge

- Pore sizes do not change as DP increases during service, providing consistent particle retention

Applications

- Photographics
- High Technology Coatings
- DI Water
- Plating Solutions
- Chemical Processing
- Membrane Prefiltration



ENGINEERING YOUR SUCCESS.

Fulflo® MegaBond Plus™ Cartridges

Specifications

Materials of Construction:

Polypropylene: microfiber 100% melt blown construction
 Center Support Core/End Caps: natural polypropylene
 Thermally Bonded Gaskets: polyolefin closed cell foam (DOE only)

Maximum Recommended Operating Conditions:

Temperature:
 @ 60 psid (4.1 bar): 80°F (27°C)
 @ 35 psid (2.4 bar): 160°F (71°C)
 @ 15 psid (1.0 bar): 200°F (93°C)

Flow Rate: 5 gpm (18.9 lpm) per 10 in length

Recommended Maximum:

Change Out ΔP: 35 psi (2.4 bar)
 Operating Pressure @ Ambient Temperature: 60 psid (4.1 bar)

Dimensions:

1 in ID x 2-9/16 in OD 10, 20, 30 and 40 in continuous nominal lengths

Absolute Filtration Ratings:

1μm, 3μm, 5μm, 10μm, 15μm, 20μm, 30μm, 40μm, 70μm, 90μm and 120μm

Beta Ratio (β) =

Upstream Particle Count @ Specified Particle Size and Larger

Downstream Particle Count @ Specified Particle Size and Larger

$$\text{Percent Removal Efficiency} = \left(\frac{\beta - 1}{\beta} \right) 100$$

Performance determined per ASTM F-795-88. Single-Pass Test using AC test dust in water at a flow rate of 3.5 gpm per 10 in (13.2 lpm per 254 mm) cartridge.

FP Flow Factors (psid/gpm @ 1 cks)

Rating (μm)	Flow Factor
MBP1	2.17
MBP3	1.60
MBP5	0.90
MBP10	0.32
MBP15	0.16
MBP20	0.12
MBP30	0.10
MBP40	0.05
MBP70	<0.05
MBP90	<0.04
MBP120	<0.03

FP 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

Flow Rate and Pressure Drop Formulas

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

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

- Clean ΔP is PSI differential at start.
- Viscosity is centistokes. Use Conversion Tables for other units.
- Flow Factor is ΔP/GPM at 1 cks for 10 in (or single).
- 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 = 5000 Absolute	β = 1000 99.9%	β = 100 99%	β = 50 98%	β = 10 90%
MBP1	1	0.9	0.5	0.4	0.2
MBP3	3	2.8	1.9	1.7	0.8
MBP5	5	3.7	2.3	1.6	1.2
MBP10	10	9.1	8.0	7.8	6.7
MBP15	15	12.0	9.6	8.9	7.2
MBP20	20	18.3	13.0	12.5	8.7
MBP30	30	25.0	20.0	18.0	13.0
MBP40	40	35.0	28.0	25.0	18.0
MBP70	70	60.0	48.0	42.0	30.0
MBP90	90	80.0	72.0	63.0	48.0
MBP120	120	105.0	95.0	85.0	70.0

Ordering Information

MBP						
Cartridge Code	Micron Rating (absolute) (μm)	Fiber Type	Nominal Length (in)	End Cap Configuration		Seal Material
MBP = Mega Bond Plus	1 30 3 40 5 70 10 90 20 120	M = Polypropylene (FDA Grade)	9-4 = 9-3/4 10 = 10 19-4 = 19-1/2 20 = 20 29-4 = 29-1/4 30 = 30 39-4 = 39 40 = 40	None = Standard DOE /Polyfoam AR = 020/Flat (Gelman) DO = Double open end (DOE) DX = DOE with Polypro extender LL = 120 O-Ring both ends** LR = 120 O-Ring/Recessed** OB = Std. Open End/Polypro spring closed end PR = 213 O-Ring/Recessed** SC = 226 O-Ring/Flat SF = 226 O-Ring/Fin		None = Polyfoam (DOE only) E = EPR N = Buna-N S = Silicone (O-Ring only) T = PFA Encapsulated Viton* (222, 226 O-Ring Only) V = Viton*
				SSC = SS Inserted 226 O-Ring/Closed SSF = SS Inserted 226 O-Ring/Fin STC = SS Inserted 222 O-Ring/Closed STF = SS Inserted 222 O-Ring/Fin TC = 222 O-Ring/Flat TF = 222 O-Ring/Fin TX = 222 O-Ring/Flex Fin XA = DOW w/Extended Core XB = Ext. Core Open End Polypro spring closed end		

Specifications are subject to change without notification.

*Viton is a registered trademark of E.I. DuPont de Nemours & Co., Inc.

© 2007 Parker Hannifin
 Process Advanced Filtration Inc.
 All Rights Reserved
 SPEC-C1301-Rev. A 01/08



ENGINEERING YOUR SUCCESS.