Fulflo® MegaBond Plus™ Filter Cartridges

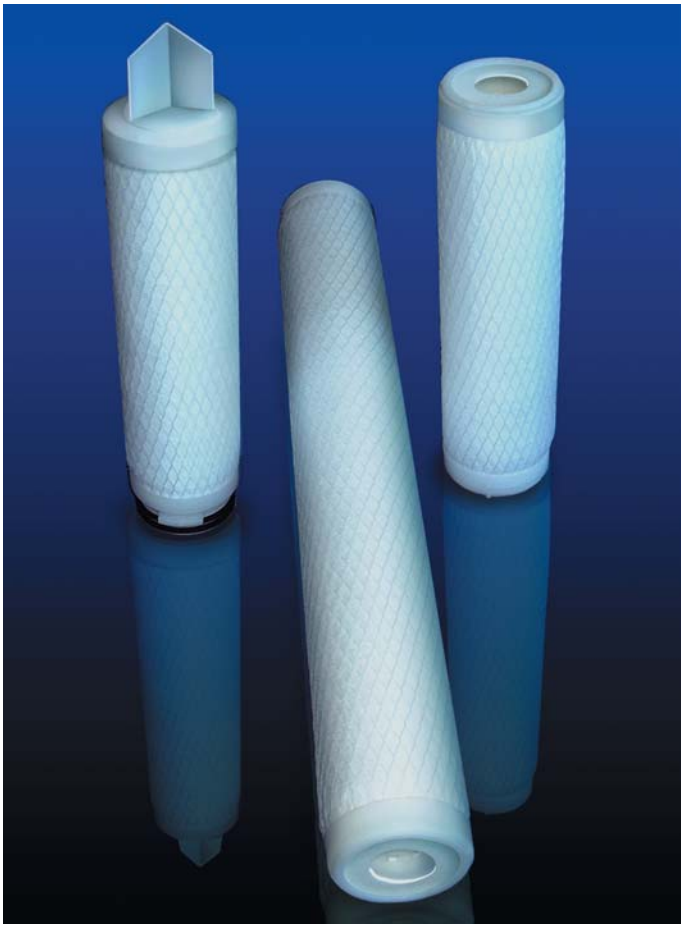
■ **Polypropylene**

Bonded Depth Series

Fixed Pore Structure 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 virtually no 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 (ß = 5000) ratings of 1µm, 3µm, 5µm, 10µm, 15µm, 20µm, 30µm, 40µm, 70µm, 90µm and 120µm.



Applications

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

Features and Benefits

- Fixed pore structure provides absolute rated filtration, consistent production yields and absolute particle retention.
- 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 ΔP increases during service, providing consistent particle retention.

Process Filtration Division

Bulletin C-1301 Eff. 08/02

Bonded Depth Series

Specifications

Absolute Filtration Ratings:

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

Materials of Construction:

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

MaximumRecommended 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: 10 gpm (38 lpm) per 10 in length
- 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

MBP Flow Factors

Rating (µm)	Aqueous Service PSI/ GPM per 10 in Cartridge
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

MBP 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

Liquid Particle Retention Ratings (µm) @ Removal Efficiency of:

Beta Ratio Efficiency	ß = 5000 Absolute	ß = 1000 99.9%	ß = 100 99%	ß = 50 98%	ß = 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

$$\text{Beta Ratio (ß)} = \frac{\text{Upstream Particle Count @ Specified Particle Size and Larger}}{\text{Downstream Particle Count @ Specified Particle Size and Larger}}$$

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

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).

Flow Rate and Pressure Drop Formulae:

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

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

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.

Ordering Information

MBP — *Cartridge Code*
MBP = Mega Bond Plus

10 — *Micron Rating (absolute) (µm)*
1, 3, 5, 10, 15, 20, 30, 40, 70, 90, 120

M — *Filter Medium*
M = FDA Grade Polypropylene

10 — *Nominal Length (in)*
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

N — *Support Construction*
N = FDA natural polypropylene core and end caps
G = Stainless Steel (Core only)

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TC — *End Cap Configuration*
None = Standard DOE /Polyfoam
AR = 020/Flat (Gelman)
DO = DOE (Gasket other than poly foam)
DX = DOE with Polypro extender
LL = 120/120 (Both Ends)**
LR = 120 O-Ring/Recessed**
OB = Std. Open End/Polypro Spring closed End
PR = 213 O-Ring/Recessed**
SC = 226/Closed
SF = 226/Fin
SSC = S.S. Inserted 226 O-Ring/Closed
SSF = S.S. Inserted 226 O-Ring/Fin
STC = S.S. Inserted 222 O-Ring/Closed
STF = S.S. Inserted 222 O-Ring/Fin
TC = 222/Closed
TF = 222/Fin
TX = 222 O-Ring/Flex Fin
XA = DOE w/Extended Core
XB = Ext. Core Open End/Polypro Spring Closed End

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N — *Seal Material*
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*

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

* A trademark of E. I. duPont de Nemours & Co.

Process Filtration Division

Parker Hannifin Corporation
Process Filtration Division
6640 Intech Boulevard
Indianapolis, Indiana 46278
Toll Free 1-888-C-FULFLO (238-5356)
Telephone (317) 275-8300
Fax (317) 275-8410
http://www.parker.com