M·FILTER

High Flow Series Filter Cartridges

Large Geometry Pleated Filters for High Flow

Graver High Flow Series filters feature a larger geometry to handle higher flows with fewer filter elements. The result is much faster, easier filter changeouts. In addition, the inside to outside flow allows for excellent dirt holding capacity, extending the time between filter changeouts. Filter housings are also available and because of the filter's high flow and dirt holding capacity, smaller systems are possible, reducing upfront capital costs.

Product Specifications

Media/Support/Cage: Polypropylene

End Caps: Polypropylene

Gaskets/O-Rings:
Buna-N, EPDM, Silicone, Viton

Micron rating:
1, 3, 5, 10, 20, 40, 60, 75, 100 µm

Dimensions

Nominal lengths:

20"	40"	60"
50.8	*101.6*	*152.4 cm*

Outside diameter: 6.0" (15.2 cm)

Surface Area:
24 ft^2 (2.2 m^2) per 20" element
49 ft^2 (4.6 m^2) per 40" element
73 ft^2 (6.8 m^2) per 60" element

Operating Parameters

Maximum operating temperature: 176°F (80°C)

Maximum differential pressure:
75 psid @ 70°F (5.2 bar @ 21°C)
30 psid @ 176°F (2.0 bar @ 80°C)

Maximum reverse pressure:
40 psid @ 70°F (2.8 bar @ 21°C)

Recommended change-out pressure: 35 psid (2.4 bar)

Maximum flow rates*:
60" element up to 500 GPM (1892 lpm)
40" element up to 350 GPM (1325 lpm)
20" element up to 175 GPM (662 lpm)

*Consult factory for sizing assistance based on particle loads.

FEATURES & BENEFITS

- 6" diameter, large geometry for high flow rates
- Absolute retention ratings from 1 to 100 microns
- Capable of flow rates up to 500 GPM in a single 60" element
- Inside-out flow retains contaminant even during changeout
- Multi layer pleated construction with optimized surface area
- Outer cage prevents media extrusion problem experienced with some competitive offerings
- Unique Quad Seal gasket provides maximum seal integrity
- Retrofits competitive high flow filter housings
- Thermally bonded construction

CERTIFICATIONS

- FDA Listed Materials: All materials comply with FDA Title 21 of the Code of Federal Regulations Sections 174.5, and 177.1520, as applicable for food and beverage contact.
- European Directive for Direct Food Contact: European Regulation No. 1935/2004 and European Regulation 10/2011: Tested for migration behavior and is suitable for contact with all kinds of foodstuffs with minimal rinse-up. Data available upon request.
- NSF 61: Certified to NSF/ANSI STD 61 for materials requirements only — Component.

TYPICAL APPLICATIONS

- Water Systems
- Chemicals
- Food and Beverage
- Pre RO

HIGH FLOW SERIES NOMENCLATURE INFORMATION

Product Series	Retention Rating (microns)	Length (inches)	Gasket or O-Ring	Packaging
HF Series	**1** **5** **20** **60** **3** **10** **40** **75** **100**	**–20** **–40** **–60**	**B** Buna-N **E** EPDM **S** Silicone **V** Viton	**Blank** Individual Box **2 pk** 2 Pack Box, 60" Only **4 pk** 4 Pack Box, 60" Only
Example: HF 5–60E				
HF	5	–60	E	

HIGH FLOW PRESSURE DROP

Micron	Element Pressure Drop psid/gpm			Element Pressure Drop Mbar/M³/Hr		
	20"	40"	60"	20"	40"	60"
1	0.0200	0.0097	0.0065	6.0845	2.9395	1.9820
3	0.0167	0.0081	0.0054	5.0705	2.4495	1.6516
5	0.0076	0.0037	0.0025	2.3179	1.1198	0.7550
10	0.0046	0.0022	0.0015	1.3908	0.6719	0.4530
20	0.0021	0.0010	0.0007	0.6374	0.3079	0.2076
40	0.0017	0.0008	0.0006	0.5215	0.2520	0.1699
60	0.0015	0.0007	0.0005	0.4552	0.2199	0.1483
75	0.0012	0.0006	0.0004	0.3636	0.1815	0.1204
100	0.0010	0.0005	0.0003	0.3035	0.1466	0.0989

For chemical compatibility, flow rates, and temperature requirements please consult the factory or your local Graver distributor.

REMOVAL EFFICIENCY

Beta Ratio Efficiency	Beta 1000 99.9%	Beta 100 99%	Beta 10 90%
1 µm	1.0	0.6	0.2
3 µm	3.0	2.0	1.5
5 µm	5.0	4.0	3.0
10 µm	10.0	8.5	6.5
20 µm	22.0	19.0	14.0
40 µm	38.0	18.0	15.0
60 µm	60.0	35.0	20.0
75 µm	75.0	48.0	35.0
100 µm	100.0	75.0	45.0

$$\text{Beta Ratio} = \frac{\text{Upstream particle counts}}{\text{Downstream particle counts}}$$

The micron ratings shown at various efficiency and beta ratio value levels were determined through laboratory testing, and can be used as a guide for selecting cartridges and estimating their performance. Under actual field conditions, results may vary somewhat from the values shown due to the variability of filtration parameters.

Testing was conducted using the single-pass test method, water at 3 gpm/10" cartridge. Contaminants included latex beads, coarse and fine test dust. Removal efficiencies were determined using dual laser source particle counters.

NSF

Certified to NSF/ANSI Standard 61 for materials requirements only.

COMPONENT