



# HMF, SMF & BMF Media Filters

## Pre-engineered HVAC Filtration Solutions

Self-cleaning, packaged filter systems  
designed to save you time and money



flow rates

**17 - 1,006 gpm**

filtration degrees

**5 micron**

inlet/outlet diameter

**1.5" - 8"**

operating pressure

**100 psi (HMF)  
50 psi (SMF)  
150 psi (BMF)**

### features:

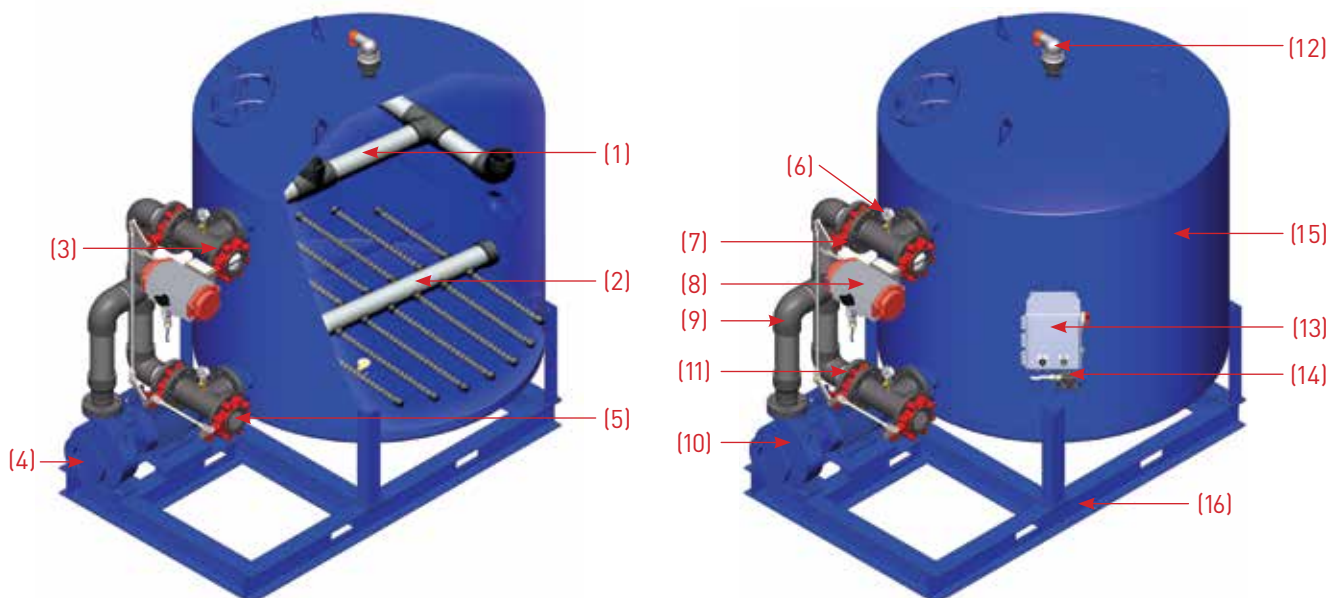
- Packaged, skid-mounted systems for easy plug-n-play installation
- Economical design
- Quick shipping for standardized packages
- Standard product submittals prepared and immediately available
- High quality, industrial grade components for long-term reliability
- Multiple offerings for a wide variety of applications
- Custom systems are available upon request

## Filter Operation

Water from the system is pumped through the over-drain assembly at the top of the filter tank and distributed evenly over the media (media not shown in image below). Unfiltered water flows downward through the filter media where suspended particles are trapped. The filtered water then passes through the vessel and out the under-drain assembly at the bottom of the filter and returns to the system. Precision slots cut in the under-drain prevent the passage of media to the outlet. When the trapped particles cause the pressure differential across the media bed to reach a pre-determined pressure (approximately 16 psi), flow is reversed through the tank by repositioning the valves. The media is backwashed with a rigorous scouring action, releasing trapped particles within the media. The dirty water passes from the filter vessel through the over-drain assembly at the top of the vessel and flows to drain. After the backwash cycle, the filter valves are again repositioned and the filtration cycle is resumed. The filter uses system water for backwash. The mechanical nature of the system guarantees an immediate improvement in water quality.

## Standard Package Components

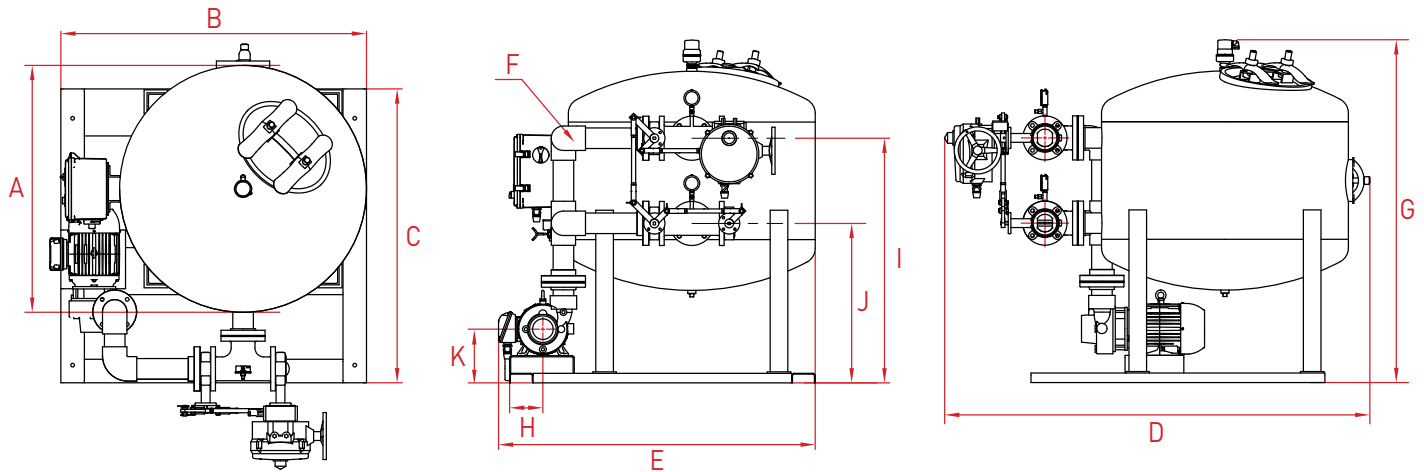
1. Over-drain assembly
2. Under-drain assembly
3. Waste outlet
4. Inlet
5. Outlet
6. Pressure gauges, 2.5" 0 -100 PSI
7. Mechanically linked valves
8. Electrically actuated Unitorq/Kitz ball valves (SMF), pneumatically actuated Bray butterfly valve (BMF & HMF) valve
9. PVC Shedule 80 face piping
10. Scot pump, cast iron, standard fitted, end suction, centrifugal, with TEFC close-coupled motor
11. System water backwash
12. Air release valve, Barak (BMF & HMF), brass (SMF)
13. NEMA 4X control panel enclosure, UL certified, 460V AC, 3-PH, 60 Hz
14. Differential pressure switch
15. Media: 1/4" x 1/8" gravel and 0.5 quartz sand
16. C-channel 304 stainless steel skid (SMF & HMF), epoxy coated carbon steel I-beam skid (BMF)



## HMF Series



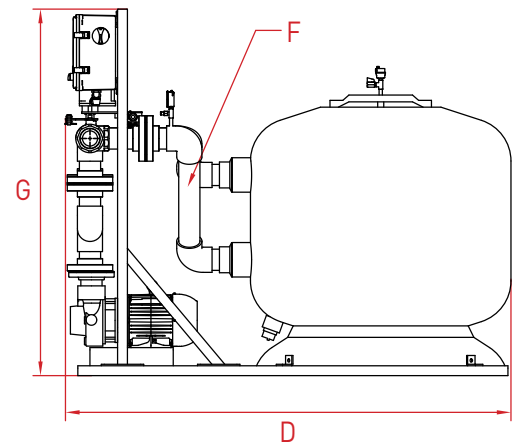
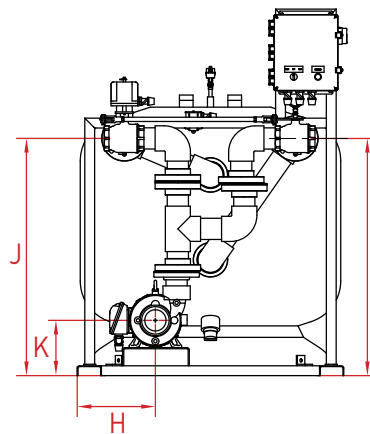
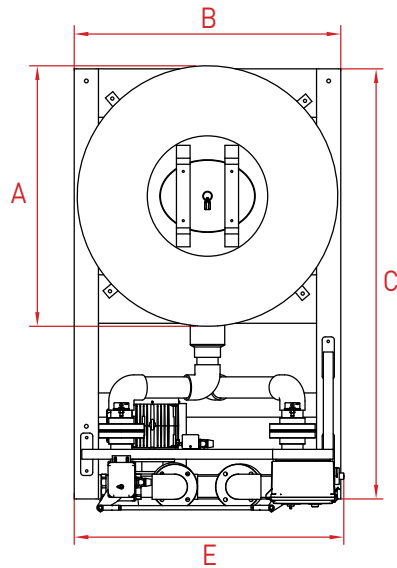
Model		HMF-12	HMF-18	HMF-24	HMF-30	HMF-36	HMF-42	HMF-48
General Specifications								
Median flow rate		17 gpm	35 gpm	63 gpm	98 gpm	142 gpm	192 gpm	252 gpm
Tank diameter		12"	18"	24"	30"	36"	42"	48"
Surface area		0.78 ft. <sup>2</sup>	1.75 ft. <sup>2</sup>	3.14 ft. <sup>2</sup>	4.91 ft. <sup>2</sup>	7.07 ft. <sup>2</sup>	9.62 ft. <sup>2</sup>	12.57 ft. <sup>2</sup>
Pump HP		1	1	2	3	3	5	5
FLA (460)		1.45	1.45	2.7	3.67	3.67	5.9	5.9
Inlet to pump (FNPT)		1.5 "	1.5 "	1.5"	2.5"	2.5"	3"	3"
Face pipe		2"	2"	2"	2"	3"	3"	3"
Unifill 475	Media 0.5 ft. <sup>3</sup>	1	2	3	6	9	14	20
Unigrain 50		1	2	4	6	9	12	16
Operating weight		668 lbs.	714 lbs.	1,076 lbs.	1,652 lbs.	2,315 lbs.	3,168 lbs.	4,123 lbs.



## Dimensions

Model	HMF-12	HMF-18	HMF-24	HMF-30	HMF-36	HMF-42	HMF-48
A	12"	18"	24"	30"	36"	42"	48"
B	31"	31"	36"	41"	46"	52"	52"
C	30"	30"	34"	39"	45"	50"	54"
D	41.88"	42.88"	52.13"	58.13"	66.31"	72.31"	78.31"
E	34.88"	31"	37.06"	43.06"	48.13"	53.88"	58.13"
F	2"	2"	2"	2"	3"	3"	3"
G	47.5"	49"	55.25"	57.56"	57.25"	58.31"	59.31"
H	4"	5"	4"	5.5"	5.38"	5.69"	5.69"
I	34.13"	36.69"	42.19"	42.19"	41.63"	41.63"	41.63"
J	20.13"	20.56"	26.56"	26.56"	27.13"	27.13"	27.13"
K	8.81"	8.94"	8.81"	9.13"	9.13"	9.13"	9.13"

## SMF Series



Model		SMF2-20	SMF2-24	SMF2-30	SMF2-36	SMF2-42	SMF2-48
<b>General Specifications</b>							
Median flow rate		43 gpm	63 gpm	98 gpm	142 gpm	192 gpm	252 gpm
Tank diameter		20"	24"	30"	36"	42"	48"
Surface area		2.18 ft. <sup>2</sup>	3.14 ft. <sup>2</sup>	4.91 ft. <sup>2</sup>	7.06 ft. <sup>2</sup>	9.61 ft. <sup>2</sup>	12.05 ft. <sup>2</sup>
Pump HP		1	2	3	3	5	5
FLA (460)		1.96	2.7	3.67	3.67	5.9	8.48
Inlet to pump (FNPT)		1.5 "	1.5 "	2.5"	2.5"	3"	3"
Face pipe		2"	2"	2"	3"	3"	3"
Unifill 475	Media 0.5 ft. <sup>3</sup>	-	-	-	10	15	16
Unigrain 50		4	5	8	9	12	18
Operating weight		567 lbs.	722 lbs.	1,112 lbs.	1,840 lbs.	2,920 lbs.	4,272 lbs.

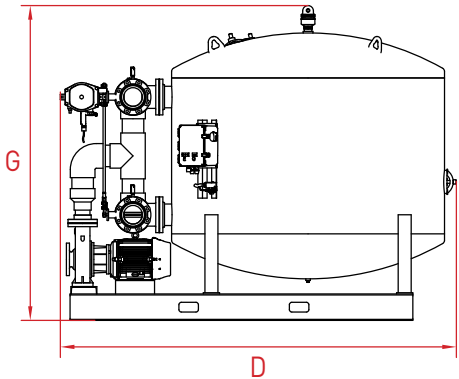
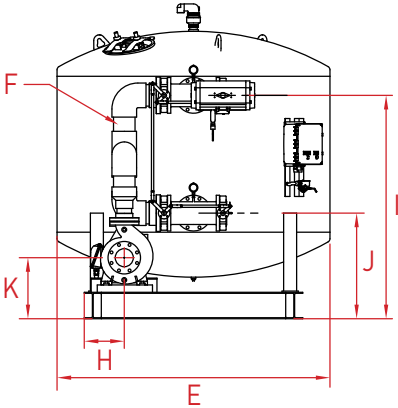
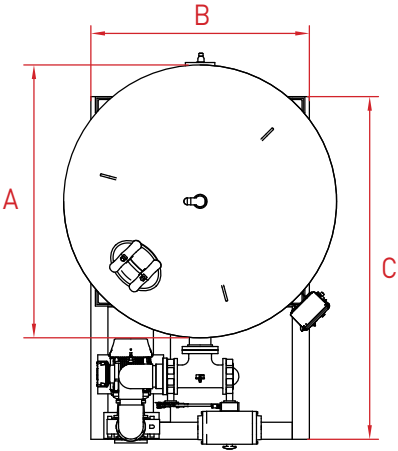
## Dimensions

Model	SMF2-20	SMF2-24	SMF2-30	SMF2-36	SMF2-42	SMF2-48
A	20"	24"	30"	36"	42"	48"
B	28"	28"	28"	38"	44"	44"
C	45"	45"	45"	56"	71"	71"
D	47 1/4"	48 1/16"	53 1/4"	63 7/8"	73 1/8"	78 11/16"
E	29 1/4"	29 1/4"	30 5/16"	38 1/2"	42"	48"
F	2"	2"	2"	3"	3"	3"
G	52 3/4"	52 3/4"	52 3/4"	60 1/2"	60 1/2"	60 1/2"
H	7 1/4"	7 3/16"	7 9/16"	11 7/16"	12 7/8"	12 7/8"
I	31 15/16"	31 15/16"	31 15/16"	39 3/16"	39 1/8"	39 1/8"
J	31 15/16"	31 15/16"	31 15/16"	39 3/16"	39 1/8"	39 1/8"
K	7 7/16"	7 7/16"	7 13/16"	9 1/8"	9 1/8"	9 1/8"

BMF Series



Model		BMF-54	BMF-60	BMF-66	BMF-72	BMF-78	BMF-84	BMF-90	BMF-96
General Specifications									
Median flow rate		318 gpm	392 gpm	475 gpm	565 gpm	663 gpm	769 gpm	883 gpm	1,006 gpm
Tank diameter		54"	60"	66"	72"	78"	84"	90"	96"
Surface area		15.9 ft. <sup>2</sup>	19.6 ft. <sup>2</sup>	23.8 ft. <sup>2</sup>	28.3 ft. <sup>2</sup>	33.2 ft. <sup>2</sup>	38.5 ft. <sup>2</sup>	44.2 ft. <sup>2</sup>	50.3 ft. <sup>2</sup>
Pump HP		7.5	10	10	10	15	15	15	20
FLA [460]		8.48	11.8	12.5	12.5	17.5	17.5	17.8	24.3
Inlet to pump		3" (FNPT)	3" (FNPT)	5" (flange)	5" (flange)	5" (flange)	5" (flange)	6" (flange)	6" (flange)
Face pipe		4"	4"	4"	6"	6"	6"	6"	8"
Unifill 475	Media 0.5 ft. <sup>3</sup>	36	46	58	74	94	112	136	162
Unigrain 50		68	84	102	128	150	174	200	272
Operating weight		9,197 lbs.	11,287 lbs.	13,802 lbs.	17,704 lbs.	21,291 lbs.	24,559 lbs.	29,312 lbs.	37,501 lbs.



Dimensions

Model	BMF-54	BMF-60	BMF-66	BMF-72	BMF-78	BMF-84	BMF-90	BMF-96
A	54"	60"	66"	72"	78"	84"	90"	96"
B	42 7/8"	50 7/8"	50 7/8"	57.5"	63"	67 1/4"	70 1/2"	78"
C	70"	77"	82"	95 1/4"	100 1/2"	105 1/2"	112"	122"
D	87 5/16"	93 5/16"	99 5/16"	110 1/16"	116 1/16"	121 13/16"	128 1/16"	135 9/16"
E	56 3/8"	61 5/16"	66 7/16"	72"	78"	84"	90"	96"
F	4"	4"	4"	6"	6"	6"	6"	8"
G	85 13/16"	87 3/4"	88 11/16"	95 3/16"	96 1/8"	96 15/16"	97 15/16"	108 9/16"
H	1 3/4"	5 3/4"	8 11/16"	7 7/16"	10 3/16"	12 5/16"	12 1/4"	13 3/8"
I	62 3/8"	63 1/2"	63 1/2"	68 3/4"	68 3/4"	68 3/4"	68 3/4"	78 1/8"
J	26 1/8"	27 1/4"	27 1/4"	32 1/2"	32 1/2"	32 1/2"	32 1/2"	36 7/8"
K	13"	13 3/4"	13"	18 3/4"	18 3/4"	18 13/16"	20 1/8"	20"