

# Commercial Media Filters

Stainless Steel Tanks: 14" to 42" Diameter

**MF-450  
SERIES**

Pure Aqua's pressure filters clarify water by removing sediment, turbidity, iron, unpleasant tastes and odors, suspended particles, and unwanted color, all of which are commonly found in surface water. They can be used in a variety of services including: industrial, municipal, and institutional applications.

## Standard Features

- High performance 304 stainless steel tank
- Automatic backwash valve
- Time controller for backwash cycle
- Flow controller to limit backwash flow
- All internals are plastic materials

## Available Options

- Duplex systems
- Tanks according to ASME code
- 316L stainless steel tanks
- Epoxy coated steel or FRP tanks
- 240V/1ph/50Hz power supply
- Pressure relief valve
- Inlet/Outlet sample valves
- Inlet/Outlet pressure gauges
- Differential pressure switch and gauge
- Filters using diaphragm valves
- Auxiliary switch for backwash pump start

## Media Filtration Operating Cycles

### Service Cycle

Water flows downward through the media while solids accumulate in the media bed. The purified water passes through to downstream processes.

### Backwash Cycle

When the filter begins to clog or when the head loss (pressure drop) through the bed increases, flow rates are reduced. To prevent degradation of water quality, the flow is reversed. This is directed by the control valve(s) to drain, carrying with it, the particulate matter that has built up during service.

The required flow is specific to the media and is essential to effective cleaning of the media bed. For media filters, the backwash flow is always higher than the service flow rate.



28F24100MM-SS

28F1645MM-SS



FLECK 2750



FLECK 3150



FLECK 2850

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### Pressure Gauges

Pre and post filter pressure gauges are important to monitor the filter pressure and determine the backwash frequency.



### Auxiliary Switch

Auxiliary switches are used to provide a signal to start a backwash pump or to provide a status signal to a BMS system or interlock with an RO system.



### DP Switch

The differential pressure gauge and switch are used to automatically initiate backwash based on the differential pressure.

## Media Specifications

Pure Aqua supplies a wide range of quality filter media that meet industry standards for efficient and effective filtration.



Gravel

Anthracite

Sand

Calcite

Coconut Carbon

Turbidex

Greensand Plus

### Sand

Graded in various ranges, Pure Aqua's sand can be used as filtration media or underbedding depending on particle size and application.

### Calcite

Calcite media is specially graded calcium carbonate compound for neutralizing acid with consistent dissolving rates for water treatment.

### Greensand Plus

GreensandPlus™ is a black filter media used to remove soluble iron, manganese, hydrogen sulfide, arsenic, and radium from groundwater supplies.

### Anthracite

Anthracite is recommended as a filter media where additional silica in the water is not desirable and removes lighter weight turbidity.

### Activated Carbon

Activated carbon media is used to remove taste, odor, chlorine and organic contaminants and is used in many drinking water applications.

### Turbidex

Turbidex is based on a rare natural mineral. Its unique properties radically improve the performance and cost of media filtration.

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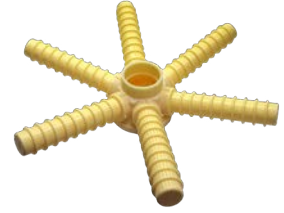
## MF-450 SERIES

### Advantages of Multimedia Filtration

- Proven process and most tested forms of water treatment
- Systems are robust with no moving parts inside the tanks
- Modular control valves designed for operational flexibility
- Filtration media is inexpensive and long-lasting
- Resistant to fouling (clogging)
- Faster flow rates
- Produces high quality filtered water

### Operation Specifications

- Operating pressure: 25-100 psi (1.73-6.9 bar)
- Electrical: 120VAC, 1-Phase, 60 Hz, 2 Amp
- Operating temperature: 41-122°F (5-50°C)
- Filters can be supplied in 240V/1ph/50Hz



Model#		Average		Peak		Backwash		Tank Size D" xH"	Media Qty (ft <sup>3</sup> )	Pipe Size		Approx. Weight (lbs)
Option 1	Option 2	GPM	M <sup>3</sup> /H	GPM	M <sup>3</sup> /H	GPM	M <sup>3</sup> /H					
<b>Multi Layer Filters: Anthracite, Sand and Gravel (Turbidity Removal)</b>												
27F1435MM-SS	28F1435MM-SS	10.7	2.4	16.1	3.6	16.1	3.6	14X60	3	1"	1.5"	334
27F1645MM-SS	28F1645MM-SS	13.9	3.2	20.9	4.7	20.9	4.7	16X60	4	1"	1.5"	453
28F1855MM-SS		17.7	4.0	26.6	6.0	26.6	6.0	18X60	5	1.5"		561
28F2065MM-SS		24.1	5.5	36.2	8.2	36.2	8.2	21X60	6	1.5"		767
28F24100MM-SS		31.4	7.1	47.1	10.7	47.1	10.7	24X60	8.5	1.5"		1095
31F30150MM-SS		49.1	11.2	73.7	16.7	73.7	16.7	30X60	13	2"		1705
31F36210MM-SS		70.7	16.1	116.2	26.4	102.0	23.2	36X60	19	2"		2437
31F42280MM-SS		96.2	21.9	125.0	28.4	105.0	23.9	42X60	26	2"		3495
<b>Turbidex Filters: (Turbidity Removal)</b>												
27F1435TX-SS	28F1435TX-SS	10.7	2.4	16.1	3.6	16.1	3.6	14X60	3	1"	1.5"	430
27F1645TX-SS	28F1645TX-SS	13.9	3.2	20.9	4.7	20.9	4.7	16X60	4	1"	1.5"	573
28F1855TX-SS		17.7	4.0	26.6	6.0	26.6	6.0	18X60	5	1.5"		705
28F2065TX-SS		24.1	5.5	36.2	8.2	36.2	8.2	21X60	6	1.5"		935
28F24100TX-SS		31.4	7.1	47.1	10.7	47.1	10.7	24X60	8.5	1.5"		1335
31F30150TX-SS		49.1	11.2	73.7	16.7	73.7	16.7	30X60	13	2"		2065
31F36210TX-SS		70.7	16.1	116.2	26.4	102.0	23.2	36X60	19	2"		2965
31F42280TX-SS		96.2	21.9	125.0	28.4	105.0	23.9	42X60	26	2"		4215
<b>AG Filters: Non Hydrous Silicon Dioxide (Turbidity Removal)</b>												
27F1435AG-SS	28F1435AG-SS	7.5	1.7	12.8	2.9	10.7	2.4	14X60	3	1"	1.5"	205
27F1645AG-SS	28F1645AG-SS	9.7	2.2	16.7	3.8	13.9	3.2	16X60	4	1"	1.5"	273
28F1855AG-SS		12.4	2.8	21.2	4.8	17.7	4.0	18X60	5	1.5"		330
28F2065AG-SS		16.9	3.8	28.9	6.6	24.1	5.5	21X60	6	1.5"		448
28F24100AG-SS		22.0	5.0	37.7	8.6	31.4	7.1	24X60	8.5	1.5"		698
31F30150AG-SS		34.4	7.8	58.9	13.4	49.1	11.2	30X60	13	2"		1090
31F36210AG-SS		49.5	11.2	84.8	19.3	70.7	16.1	36X60	19	2"		1540
31F42280AG-SS		67.3	15.3	115.4	26.2	96.2	21.9	42X60	26	2"		2265
<b>Activated Carbon Filters: Granular Form with High Degree of Porosity (Taste, Odor and Color Removal)</b>												
27F1435AC-SS	28F1435AC-SS	7.5	1.7	12.8	2.9	12.8	2.9	14X60	3	1"	1.5"	213
27F1645AC-SS	28F1645AC-SS	9.7	2.2	16.7	3.8	16.7	3.8	16X60	4	1"	1.5"	283
28F1855AC-SS		12.4	2.8	21.2	4.8	21.2	4.8	18X60	5	1.5"		343
28F2065AC-SS		16.9	3.8	28.9	6.6	28.9	6.6	21X60	6	1.5"		464
28F24100AC-SS		22.0	5.0	37.7	8.6	37.7	8.6	24X60	8.5	1.5"		719
31F30150AC-SS		34.4	7.8	58.9	13.4	58.9	13.4	30X60	13	2"		1123
31F36210AC-SS		49.5	11.2	84.8	19.3	84.8	19.3	36X60	19	2"		1588
31F42280AC-SS		67.3	15.3	115.4	26.2	115.4	26.2	42X60	26	2"		2330

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Model#		Average		Peak		Backwash		Tank Size D" xH"	Media Qty (ft <sup>3</sup> )	Pipe Size	Approx. Weight (lbs)	
Option 1	Option 2	GPM	M <sup>3</sup> /H	GPM	M <sup>3</sup> /H	GPM	M <sup>3</sup> /H					
<b>Greensand Filters: Enriched Quality with High Catalytic Capacity (Fe, Mn and H<sub>2</sub>S Reduction)</b>												
27F1435GS-SS	28F1435GS-SS	7.5	1.7	12.8	2.9	12.8	2.9	14X60	3	1"	1.5"	664
27F1645GS-SS	28F1645GS-SS	9.7	2.2	16.7	3.8	16.7	3.8	16X60	4	1"	1.5"	885
28F1855GS-SS		12.4	2.8	21.2	4.8	21.2	4.8	18X60	5	1.5"		1095
28F2065GS-SS		16.9	3.8	28.9	6.6	28.9	6.6	21X60	6	1.5"		1442
28F24100GS-SS		22.0	5.0	37.7	8.6	37.7	8.6	24X60	8.5	1.5"		1998
31F30150GS-SS		34.4	7.8	58.9	13.4	58.9	13.4	30X60	13	2"		3079
31F36210GS-SS		49.5	11.2	84.8	19.3	84.8	19.3	36X60	19	2"		4447
31F42280GS-SS		67.3	15.3	115.4	26.2	115.4	26.2	42X60	26	2"		6243
<b>Birm Filters: Insoluble Catalyst (Fe and Mn Reduction)</b>												
27F1435BM-SS	28F1435BM-SS	7.5	1.7	12.8	2.9	12.8	2.9	14X60	3	1"	1.5"	262
27F1645BM-SS	28F1645BM-SS	9.7	2.2	16.7	3.8	16.7	3.8	16X60	4	1"	1.5"	349
28F1855BM-SS		12.4	2.8	21.2	4.8	21.2	4.8	18X60	5	1.5"		425
28F2065BM-SS		16.9	3.8	28.9	6.6	28.9	6.6	21X60	6	1.5"		571
28F24100BM-SS		22.0	5.0	37.7	8.6	37.7	8.6	24X60	8.5	1.5"		859
31F30150BM-SS		34.4	7.8	58.9	13.4	58.9	13.4	30X60	13	2"		1337
31F36210BM-SS		49.5	11.2	84.8	19.3	84.8	19.3	36X60	19	2"		1901
31F42280BM-SS		67.3	15.3	115.4	26.2	115.4	26.2	42X60	26	2"		2759
<b>Calcite Filters: (pH Neutralization)</b>												
27F1435CF-SS	28F1435CF-SS	7.5	1.7	12.8	2.9	12.8	2.9	14X60	3	1"	1.5"	430
27F1645CF-SS	28F1645CF-SS	9.7	2.2	16.7	3.8	16.7	3.8	16X60	4	1"	1.5"	573
28F1855CF-SS		12.4	2.8	21.2	4.8	21.2	4.8	18X60	5	1.5"		705
28F2065CF-SS		16.9	3.8	28.9	6.6	28.9	6.6	21X60	6	1.5"		935
28F24100CF-SS		22.0	5.0	37.7	8.6	37.7	8.6	24X60	8.5	1.5"		1335
31F30150CF-SS		34.4	7.8	58.9	13.4	58.9	13.4	30X60	13	2"		2065
31F36210CF-SS		49.5	11.2	84.8	19.3	84.8	19.3	36X60	19	2"		2965
31F42280CF-SS		67.3	15.3	115.4	26.2	115.4	26.2	42X60	26	2"		4215

\*All filters require periodic backwashing to dispose of the accumulated debris. This is accomplished by backwashing clean water through the unit and then disposing of the effluent. During this phase, the different sizes of media separate into layers, preparing the filter bed for service. Because backwashing generally occurs at higher flow rates than those seen in service, oftentimes a proper backwash flow rate is not possible because the systems are designed for required service flow rates. However, by utilizing smaller double or triple unit systems, the optimum backwash flow rate is lower; therefore, these systems operate at higher service flow rates.

### Notes

- After backwash cycle, the expected pressure loss should not exceed 5 psig, based on a clean filter bed
- Dimensions are estimate only. Please allow a minimum of 24" above height dimension for media loading. Call factory for skid mounted systems dimensions.
- Shipping weights are estimate only. Weights include media and support gravel, which are added to the tanks after installation. For twin or duplex systems, please double the weight.



Pure Aqua also supplies: Custom Engineered Solutions, Multimedia Pretreatment, Activated Carbon Pretreatment, Water Conditioning, Chemical Dosing Systems, Ultraviolet (UV) Sterilizers and Ozonation Systems.

**PURE AQUA, INC.**  
Water Treatment and Reverse Osmosis Systems  
sales@pureaqua.com +1 (714)432-9996  
www.pureaqua.com +1 (844)309-7501



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