

# 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 proper cleaning of the media bed. For media filters, the backwash flow is always higher than the service flow rate.



28F24100MM-SS



FLECK 5800



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.



### DP Switch

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



### 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.

## Filter Media Types

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



Coarse Gravel

Fine Gravel

Coconut Carbon Media

Silica Sand

Anthracite Media

### 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.

### Manganese Greensand

Manganese Greensand media is treated siliceous material for treating water containing iron, manganese and hydrogen sulfide.

### 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 and chlorine and used in many drinking water applications.

### ProSand

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

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### 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)
- Operating temperature: 41-122°F (5-43°C)
- Electrical supply: 115V/1ph/60Hz
- Filters can be supplied in 240V/1ph/50Hz

Model #		Flow Rate								Tank Size D"xH"	Media Qty (ft <sup>3</sup> )	Pipe Size		Approx. Weight (lbs)
Option 1	Option 2	Minimum		Average		Peak		Backwash						
		GPM	M <sup>3</sup> /H	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>														
58F1435MM-SS	28F1435MM-SS	10.7	2.4	16.1	3.6	21.4	4.9	16.1	3.6	14X60	3.5	1.25"	1.5"	401
58F1645MM-SS	28F1645MM-SS	13.9	3.2	20.9	4.8	27.8	6.3	20.9	4.8	16X60	4.5	1.25"	1.5"	511
58F1855MM-SS	28F1855MM-SS	17.7	4.0	26.6	6.0	35.4	8.0	26.6	6.0	18X60	5.5	1.25"	1.5"	644
28F2175MM-SS	-	24.1	5.5	36.2	8.3	48.2	11.0	36.2	8.3	21X60	7.5	1.5"		875
28F24100MM-SS	-	31.4	7.1	47.1	10.7	62.8	14.3	47.1	10.7	24X60	10	1.5"		1,128
31F30150MM-SS	-	49.1	11.2	73.7	16.8	98.2	22.3	73.7	16.8	30X60	15	2"		1,776
31F36210MM-SS	-	70.7	16.1	106.1	24.2	116.2	26.4	106.1	24.2	36X60	21	2"		2,185
31F42250MM-SS	-	96.2	22.0	116.2	26.4	125.0	28.4	125.0	28.4	42X60	28	2"		2,760
<b>AG Filters: Non Hydrous Silicon Dioxide (Turbidity Removal)</b>														
58F1435AG-SS	28F1435AG-SS	7.5	1.7	8.6	1.9	12.8	2.9	12.8	2.9	14X60	3.5	1.25"	1.5"	159
58F1645AG-SS	28F1645AG-SS	9.7	2.2	11.1	2.5	16.7	3.8	16.7	3.8	16X60	4.5	1.25"	1.5"	210
58F1855AG-SS	28F1855AG-SS	12.4	2.8	14.2	3.2	21.2	4.8	21.2	4.8	18X60	5.5	1.25"	1.5"	307
28F2175AG-SS	-	16.9	3.8	19.3	4.4	28.9	6.6	28.9	6.6	21X60	7.5	1.5"		414
28F24100AG-SS	-	22.0	5.0	25.1	5.7	37.7	8.6	37.7	8.6	24X60	10	1.5"		552
31F30150AG-SS	-	34.4	7.8	39.3	8.9	58.9	13.4	58.9	13.4	30X60	15	2"		886
31F36210AG-SS	-	49.5	11.2	56.6	12.9	84.8	19.3	84.8	19.3	36X60	21	2"		1,208
31F42250AG-SS	-	67.3	15.3	77.0	17.5	115.4	26.2	115.4	26.2	42X60	28	2"		1,725
<b>Activated Carbon Filters: Granular Form with High Degree of Porosity (Taste, Odor and Color Removal)</b>														
58F1435AC-SS	28F1435AC-SS	7.5	1.7	8.6	1.9	12.8	2.9	12.8	2.9	14X60	3.5	1.25"	1.5"	159
58F1645AC-SS	28F1645AC-SS	9.7	2.2	11.1	2.5	16.7	3.8	16.7	3.8	16X60	4.5	1.25"	1.5"	210
58F1855AC-SS	28F1855AC-SS	12.4	2.8	14.2	3.2	21.2	4.8	21.2	4.8	18X60	5.5	1.25"	1.5"	307
28F2175AC-SS	-	16.9	3.8	19.3	4.4	28.9	6.6	28.9	6.6	21X60	7.5	1.5"		414
28F24100AC-SS	-	22.0	5.0	25.1	5.7	37.7	8.6	37.7	8.6	24X60	10	1.5"		552
31F30150AC-SS	-	34.4	7.8	39.3	8.9	58.9	13.4	58.9	13.4	30X60	15	2"		886
31F36210AC-SS	-	49.5	11.2	56.6	12.9	84.8	19.3	84.8	19.3	36X60	21	2"		1,208
31F42250AC-SS	-	67.3	15.3	77.0	17.5	115.4	26.2	115.4	26.2	42X60	28	2"		1,725

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		Minimum		Average		Peak		Backwash						
Option 1	Option 2	GPM	M <sup>3</sup> /H	GPM	M <sup>3</sup> /H	GPM	M <sup>3</sup> /H	GPM	M <sup>3</sup> /H					
<b>Birm Filters: (Fe, Mn, H<sub>2</sub>S Reduction)</b>														
58F1435BM-SS	28F1435BM-SS	7.5	1.7	10.7	2.4	12.8	2.9	12.8	2.9	14X60	3.5	1.25"	1.5"	180
58F1645BM-SS	28F1645BM-SS	9.7	2.2	13.9	3.2	16.7	3.8	16.7	3.8	16X60	4.5	1.25"	1.5"	280
58F1855BM-SS	28F1855BM-SS	12.4	2.8	17.7	4.0	21.2	4.8	21.2	4.8	18X60	5.5	1.25"	1.5"	360
28F2175BM-SS	-	16.9	3.8	24.1	5.5	28.9	6.6	28.9	6.6	21X60	7.5	1.5"		500
28F24100BM-SS	-	22.0	5.0	31.4	7.1	37.7	8.6	37.7	8.6	24X60	10	1.5"		650
31F30150BM-SS	-	34.4	7.8	49.1	11.2	58.9	13.4	58.9	13.4	30X60	15	2"		1,000
31F36210BM-SS	-	49.5	11.2	70.7	16.1	84.8	19.3	84.8	19.3	36X60	21	2"		1,308
31F42280BM-SS	-	67.3	15.3	96.2	21.9	115.4	26.2	115.4	26.2	42X60	28	2"		1,825
<b>Calcite Filters: (pH Neutralization)</b>														
58F1435CF-SS	28F1435CF-SS	7.5	1.7	8.6	1.9	12.8	2.9	12.8	2.9	14X60	3.5	1.25"	1.5"	480
58F1645CF-SS	28F1645CF-SS	9.7	2.2	11.1	2.5	16.7	3.8	16.7	3.8	16X60	4.5	1.25"	1.5"	615
58F1855CF-SS	28F1855CF-SS	12.4	2.8	14.2	3.2	21.2	4.8	21.2	4.8	18X60	5.5	1.25"	1.5"	773
28F2175CF-SS	-	16.9	3.8	19.3	4.4	28.9	6.6	28.9	6.6	21X60	7.5	1.5"		1,050
28F24100CF-SS	-	22.0	5.0	25.1	5.7	37.7	8.6	37.7	8.6	24X60	10	1.5"		1,360
31F30150CF-SS	-	34.4	7.8	39.3	8.9	58.9	13.4	58.9	13.4	30X60	15	2"		2,135
31F36210CF-SS	-	49.5	11.2	56.6	12.9	84.8	19.3	84.8	19.3	36X60	21	2"		2,650
31F42280CF-SS	-	67.3	15.3	77.0	17.5	115.4	26.2	115.4	26.2	42X60	28	2"		3,320
<b>Manganese Green Sand Filters: (Fe, Mn, H<sub>2</sub>S Reduction)</b>														
58F1435GS-SS	28F1435GS-SS	7.5	1.7	8.6	1.9	12.8	2.9	12.8	2.9	14X60	3.5	1.25"	1.5"	480
58F1645GS-SS	28F1645GS-SS	9.7	2.2	11.1	2.5	16.7	3.8	16.7	3.8	16X60	4.5	1.25"	1.5"	615
58F1855GS-SS	28F1855GS-SS	12.4	2.8	14.2	3.2	21.2	4.8	21.2	4.8	18X60	5.5	1.25"	1.5"	773
28F2175GS-SS	-	16.9	3.8	19.3	4.4	28.9	6.6	28.9	6.6	21X60	7.5	1.5"		1,050
28F24100GS-SS	-	22.0	5.0	25.1	5.7	37.7	8.6	37.7	8.6	24X60	10	1.5"		1,360
31F30150GS-SS	-	34.4	7.8	39.3	8.9	58.9	13.4	58.9	13.4	30X60	15	2"		2,135
31F36210GS-SS	-	49.5	11.2	56.6	12.9	84.8	19.3	84.8	19.3	36X60	21	2"		2,650
31F42280GS-SS	-	67.3	15.3	77.0	17.5	115.4	26.2	115.4	26.2	42X60	28	2"		3,320

\*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.

Pure Aqua also supplies: Custom Engineered Solutions, Reverse Osmosis Systems, Water Conditioning, Chemical Dosing Systems, Ultraviolet (UV) Sterilizers and Ozonation Systems.



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