

# 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.

### Filter Media Types

- Sand is the most common filter media. Generally, fine mesh sand is coupled with a coarse grain support bed to remove suspended solids and turbidity.
- Anthracite is used in applications where silica pick-up is undesirable.
- Gravel has a highly spherical shape that promotes good flow and even distribution in support beds.
- Filter AG is non-hydrous silicon dioxide with many advantages for the reduction of suspended matter.
- Activated Carbon is recommended for the removal of bad tastes, odors, dechlorination, and organic contaminants.
- Manganese Green Sand is used to reduce iron, manganese and hydrogen sulfide through oxidation.
- Multimedia is required when maximum quality water is required and unwanted sediment is too small to be removed by standard media. It consists of multiple layers of increasing grain size to remove sediment as small as 10 microns.

### Advantages of Multimedia Filtration

- Relatively inexpensive, no recurring cost of consumables
- 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
- Easily cleaned and maintained
- Resistant to fouling (clogging)

### 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
- Vacuum breaker
- Auxiliary micro switch
- Inlet / Outlet sample valves
- Inlet / Outlet pressure gauges
- Diaphragm valves
- Differential pressure switch and gauge

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### Filter Media Types

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



#### Sand

Graded in various ranges, Pure Aqua Sand can be used as filtration medium or under-bedding 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 medium where additional silica in the water is not desirable and remove lighter weight turbidity.

#### Activated Carbon

Activated carbon medium 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.



### Multimedia 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.

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### Operation Specifications

- Operating pressure: 25-100 psi (1.73-6.9 bar)
- Operating temperature: 41-122°F (5-50°C)
- Electrical supply: 115V/1Ph/60Hz
- Filters can be supplied in 240V/1Ph/50Hz

Model #	Max Flow (GPM)								Tank Size D"xH"	Media Qty. (ft <sup>3</sup> )	Pipe Size	Approx Weight (lbs)
	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				
Multi Layer Filters: Anthracite, Sand and Gravel (Turbidity Removal)												
70F1435MM-SS	10.7	2.4	16.1	3.6	21.4	4.9	16.1	3.6	14X60	3.5	1"	401
28F1435MM-SS	10.7	2.4	16.1	3.6	21.4	4.9	16.1	3.6	14X60	3.5	1-1/2"	421
70F1645MM-SS	13.9	3.2	20.9	4.8	27.8	6.3	20.9	4.8	16X60	4.5	1"	511
28F1645MM-SS	13.9	3.2	20.9	4.8	27.8	6.3	20.9	4.8	16X60	4.5	1-1/2"	531
70F1855MM-SS	17.7	4.0	26.6	6.0	35.4	8.0	26.6	6.0	18X60	5.5	1-1/2"	644
28F1855MM-SS	17.7	4.0	26.6	6.0	35.4	8.0	26.6	6.0	18X60	5.5	1-1/2"	664
70F2175MM-SS	24.1	5.5	36.2	8.3	48.2	11.0	36.2	8.2	21X60	7.5	1-1/2"	855
28F2175MM-SS	24.1	5.5	36.2	8.3	48.2	11.0	36.2	8.2	21X60	7.5	1-1/2"	875
70F24100MM-SS	31.4	7.1	47.1	10.7	62.8	14.3	47.1	10.7	24X60	10	1-1/2"	1,108
28F24100MM-SS	31.4	7.1	47.1	10.7	62.8	14.3	47.1	10.7	24X60	10	1-1/2"	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
31F42280MM-SS	96.2	22.0	116.2	26.4	125.0	28.4	125.0	28.4	42X60	28	2"	2,760
AG Filters: Non Hydrous Silicon Dioxide (Turbidity Removal)												
70F1435AG-SS	10.7	2.4	16.1	3.6	21.4	4.9	16.1	3.6	14X60	3.5	1"	159
28F1435AG-SS	10.7	2.4	16.1	3.6	21.4	4.9	16.1	3.6	14X60	3.5	1-1/2"	179
70F1645AG-SS	13.9	3.2	20.9	4.8	27.8	6.3	20.9	4.8	16X60	4.5	1"	210
28F1645AG-SS	13.9	3.2	20.9	4.8	27.8	6.3	20.9	4.8	16X60	4.5	1-1/2"	230
70F1855AG-SS	17.7	4.0	26.6	6.0	35.4	8.0	26.6	6.0	18X60	5.5	1-1/2"	307
28F1855AG-SS	17.7	4.0	26.6	6.0	35.4	8.0	26.6	6.0	18X60	5.5	1-1/2"	327
70F2175AG-SS	24.1	5.5	36.2	8.3	48.2	11.0	36.2	8.2	21X60	7.5	1-1/2"	394
28F2175AG-SS	24.1	5.5	36.2	8.3	48.2	11.0	36.2	8.2	21X60	7.5	1-1/2"	414
70F24100AG-SS	31.4	7.1	47.1	10.7	62.8	14.3	47.1	10.7	24X60	10	1-1/2"	532
28F24100AG-SS	31.4	7.1	47.1	10.7	62.8	14.3	47.1	10.7	24X60	10	1-1/2"	552
31F30150AG-SS	49.1	11.2	73.7	16.8	98.2	22.3	73.7	16.8	30X60	15	2"	886
31F36210AG-SS	70.7	16.1	106.1	24.2	116.2	26.4	106.1	24.2	36X60	21	2"	1,208
31F42280AG-SS	96.2	22.0	116.2	26.4	125.0	28.4	125.0	28.4	42X60	28	2"	1,725
Activated Carbon Filters: Granular Form with High Degree of Porosity (Taste, Odor and Color Removal)												
70F1435AC-SS	7.5	1.7	8.6	1.9	12.8	2.9	12.8	2.9	14X60	3.5	1"	159
28F1435AC-SS	7.5	1.7	8.6	1.9	12.8	2.9	12.8	2.9	14X60	3.5	1-1/2"	179
70F1645AC-SS	9.7	2.2	11.1	2.5	16.7	3.8	16.7	3.8	16X60	4.5	1"	210
28F1645AC-SS	9.7	2.2	11.1	2.5	16.7	3.8	16.7	3.8	16X60	4.5	1-1/2"	230
70F1855AC-SS	12.4	2.8	14.2	3.2	21.2	4.8	21.2	4.8	18X60	5.5	1-1/2"	307
28F1855AC-SS	12.4	2.8	14.2	3.2	21.2	4.8	21.2	4.8	18X60	5.5	1-1/2"	327
70F2175AC-SS	16.9	3.8	19.3	4.4	28.9	6.6	28.9	6.6	21X60	7.5	1-1/2"	396
28F2175AC-SS	16.9	3.8	19.3	4.4	28.9	6.6	28.9	6.6	21X60	7.5	1-1/2"	414
70F24100AC-SS	22.0	5.0	25.1	5.7	37.7	8.6	37.7	8.6	24X60	10	1-1/2"	532
28F24100AC-SS	22.0	5.0	25.1	5.7	37.7	8.6	37.7	8.6	24X60	10	1-1/2"	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
31F42280AC-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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Model #	Max Flow (GPM)								Tank Size D"xH"	Media Qty. (ft <sup>3</sup> )	Pipe Size	Approx Weight (lbs)
	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				
Birm Filters: (Fe, Mn, H <sub>2</sub> S Reduction)												
70F1435BM-SS	7.5	1.7	8.6	1.9	12.8	2.9	12.8	2.9	14X60	3.5	1"	180
28F1435BM-SS	7.5	1.7	8.6	1.9	12.8	2.9	12.8	2.9	14X60	3.5	1-1/2"	200
70F1645BM-SS	9.7	2.2	11.1	2.5	16.7	3.8	16.7	3.8	16X60	4.5	1"	280
28F1645BM-SS	9.7	2.2	11.1	2.5	16.7	3.8	16.7	3.8	16X60	4.5	1-1/2"	300
70F1855BM-SS	12.4	2.8	14.2	3.2	21.2	4.8	21.2	4.8	18X60	5.5	1-1/2"	360
28F1855BM-SS	12.4	2.8	14.2	3.2	21.2	4.8	21.2	4.8	18X60	5.5	1-1/2"	380
70F2175BM-SS	16.9	3.8	19.3	4.4	28.9	6.6	28.9	6.6	21X60	7.5	1-1/2"	480
28F2175BM-SS	16.9	3.8	19.3	4.4	28.9	6.6	28.9	6.6	21X60	7.5	1-1/2"	500
70F24100BM-SS	22.0	5.0	25.1	5.7	37.7	8.6	37.7	8.6	24X60	10	1-1/2"	630
28F24100BM-SS	22.0	5.0	25.1	5.7	37.7	8.6	37.7	8.6	24X60	10	1-1/2"	650
31F30150BM-SS	34.4	7.8	39.3	8.9	58.9	13.4	58.9	13.4	30X60	15	2"	1,000
31F36210BM-SS	49.5	11.2	56.6	12.9	84.8	19.3	84.8	19.3	36X60	21	2"	1,308
31F42280BM-SS	67.3	15.3	77.0	17.5	115.4	26.2	115.4	26.2	42X60	28	2"	1,825
Calcite Filters: (pH Neutralization)												
70F1435CF-SS	7.5	1.7	8.6	1.9	12.8	2.9	12.8	2.9	14X60	3.5	1"	480
28F1435CF-SS	7.5	1.7	8.6	1.9	12.8	2.9	12.8	2.9	14X60	3.5	1-1/2"	505
70F1645CF-SS	9.7	2.2	11.1	2.5	16.7	3.8	16.7	3.8	16X60	4.5	1"	615
28F1645CF-SS	9.7	2.2	11.1	2.5	16.7	3.8	16.7	3.8	16X60	4.5	1-1/2"	640
70F1855CF-SS	12.4	2.8	14.2	3.2	21.2	4.8	21.2	4.8	18X60	5.5	1-1/2"	773
28F1855CF-SS	12.4	2.8	14.2	3.2	21.2	4.8	21.2	4.8	18X60	5.5	1-1/2"	800
70F2175CF-SS	16.9	3.8	19.3	4.4	28.9	6.6	28.9	6.6	21X60	7.5	1-1/2"	1,026
28F2175CF-SS	16.9	3.8	19.3	4.4	28.9	6.6	28.9	6.6	21X60	7.5	1-1/2"	1,050
70F24100CF-SS	22.0	5.0	25.1	5.7	37.7	8.6	37.7	8.6	24X60	10	1-1/2"	1,350
28F24100CF-SS	22.0	5.0	25.1	5.7	37.7	8.6	37.7	8.6	24X60	10	1-1/2"	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

\*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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