

Commercial Media Filters

FRP Tanks: 14" to 36" Diameter

MF-500

SERIES

Pure Aqua's pressure filters clarify water by removing sediment, turbidity, iron, unpleasant tastes, 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 FRP tank
- ◆ Automatic backwash valve
- ◆ Glass filled Noryl valve
- ◆ Time controller for automatic backwash cycle
- ◆ Flow controller to limit backwash flow
- ◆ All internals are plastic materials

Available Options

- ◆ Duplex systems
- ◆ Tanks according to ASME code
- ◆ Stainless steel tanks
- ◆ Epoxy coated steel tanks
- ◆ 240V/1ph/50Hz power supply
- ◆ Vacuum breaker
- ◆ 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.



 **PURE AQUA, INC.**[®]

Water Treatment & Reverse Osmosis Systems

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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 system.

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

- ◆ 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)

Operation Specifications

- ◆ Operating pressure: 2-6.8 bar (30-100 psi)
- ◆ Operating temperature: 2-38°C (35-100°F)
- ◆ Electrical supply: 115V/1ph/60Hz
- ◆ Filters can be supplied in 240V/1ph/50Hz

| Model # | Max Flow (GPM) | | | | | | | | Tank Size D"xH" | Media Qty. (ft ³) | Pipe Size | Approx Weight (lbs) |
|---|----------------|-------------------|---------|-------------------|-------|-------------------|----------|-------------------|--------------------|-------------------------------|-----------|---------------------|
| | Minimum | | Average | | Peak | | Backwash | | | | | |
| | GPM | M ³ /H | GPM | M ³ /H | GPM | M ³ /H | GPM | M ³ /H | | | | |
| Multi Layer Filters: Anthracite, Sand and Gravel (Turbidity Removal) | | | | | | | | | | | | |
| CVP1435MM | 10.7 | 2.4 | 16.1 | 3.6 | 21.4 | 4.9 | 16.1 | 3.6 | 14x65 | 3.5 | 2" | 366 |
| CVP1645MM | 13.9 | 3.2 | 20.9 | 4.8 | 27.8 | 6.3 | 20.9 | 4.8 | 16x65 | 4.5 | 2" | 462 |
| CVP1855MM | 17.7 | 4.0 | 26.6 | 6.0 | 35.4 | 8.0 | 26.6 | 6.0 | 18x65 | 5.5 | 2" | 577 |
| CVP2160MM | 24.1 | 5.5 | 36.2 | 8.3 | 48.2 | 11.0 | 36.2 | 8.3 | 21x62 | 6 | 2" | 761 |
| CVP24100MM | 31.4 | 7.1 | 47.1 | 10.7 | 62.8 | 14.3 | 47.1 | 10.7 | 24x72 | 10 | 2" | 981 |
| CVP30150MM | 49.1 | 11.2 | 73.7 | 16.8 | 98.2 | 22.3 | 73.7 | 16.8 | 30x72 | 15 | 2" | 1,544 |
| CVP36210MM | 70.7 | 16.1 | 106.1 | 24.2 | 116.2 | 26.4 | 106.1 | 24.2 | 36x72 | 21 | 2" | 1,900 |
| AG Filters: Non Hydrous Silicon Dioxide (Turbidity Removal) | | | | | | | | | | | | |
| CVP1435AG | 10.7 | 2.4 | 16.1 | 3.6 | 21.4 | 4.9 | 16.1 | 3.6 | 14x65 | 3.5 | 2" | 156 |
| CVP1645AG | 13.9 | 3.2 | 20.9 | 4.8 | 27.8 | 6.3 | 20.9 | 4.8 | 16x65 | 4.5 | 2" | 200 |
| CVP1855AG | 17.7 | 4.0 | 26.6 | 6.0 | 35.4 | 8.0 | 26.6 | 6.0 | 18x65 | 5.5 | 2" | 284 |
| CVP2160AG | 24.1 | 5.5 | 36.2 | 8.3 | 48.2 | 11.0 | 36.2 | 8.3 | 21x62 | 6 | 2" | 360 |
| CVP24100AG | 31.4 | 7.1 | 47.1 | 10.7 | 62.8 | 14.3 | 47.1 | 10.7 | 24x72 | 10 | 2" | 480 |
| CVP30150AG | 49.1 | 11.2 | 73.7 | 16.8 | 98.2 | 22.3 | 73.7 | 16.8 | 30x72 | 15 | 2" | 770 |
| CVP36210AG | 70.7 | 16.1 | 106.1 | 24.2 | 116.2 | 26.4 | 106.1 | 24.2 | 36x72 | 21 | 2" | 1,050 |
| Activated Carbon Filters: Granular Form with High Degree of Porosity (Taste, Odor and Color Removal) | | | | | | | | | | | | |
| CVP1435AC | 7.5 | 1.7 | 8.6 | 1.9 | 12.8 | 2.9 | 12.8 | 2.9 | 14x65 | 3.5 | 2" | 156 |
| CVP1645AC | 9.7 | 2.2 | 11.1 | 2.5 | 16.7 | 3.8 | 16.7 | 3.8 | 16x65 | 4.5 | 2" | 200 |
| CVP1855AC | 12.4 | 2.8 | 14.2 | 3.2 | 21.2 | 4.8 | 21.2 | 4.8 | 18x65 | 5.5 | 2" | 284 |
| CVP2160AC | 16.9 | 3.8 | 19.3 | 4.4 | 28.9 | 6.6 | 28.9 | 6.6 | 21x62 | 6 | 2" | 360 |
| CVP24100AC | 22.0 | 5.0 | 25.1 | 5.7 | 37.7 | 8.6 | 37.7 | 8.6 | 24x72 | 10 | 2" | 480 |
| CVP30150AC | 34.4 | 7.8 | 39.3 | 8.9 | 58.9 | 13.4 | 58.9 | 13.4 | 30x72 | 15 | 2" | 770 |
| CVP36210AC | 49.5 | 11.2 | 56.6 | 12.9 | 84.8 | 19.3 | 84.8 | 19.3 | 36x72 | 21 | 2" | 1,050 |

*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.



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|---|----------------|-------------------|---------|-------------------|------|-------------------|----------|-------------------|--------------------|-------------------------------|-----------|---------------------|
| | Minimum | | Average | | Peak | | Backwash | | | | | |
| | GPM | M ³ /H | GPM | M ³ /H | GPM | M ³ /H | GPM | M ³ /H | | | | |
| Birm Filters: (Fe, Mn, H₂S Reduction) | | | | | | | | | | | | |
| CVP1435BM | 7.5 | 1.7 | 8.6 | 1.9 | 12.8 | 2.9 | 12.8 | 2.9 | 14x65 | 3.5 | 1-1/2" | 164 |
| CVP1645BM | 9.7 | 2.2 | 11.1 | 2.5 | 16.7 | 3.8 | 16.7 | 3.8 | 16x65 | 4.5 | 1-1/2" | 230 |
| CVP1855BM | 12.4 | 2.8 | 14.2 | 3.2 | 21.2 | 4.8 | 21.2 | 4.8 | 18x65 | 5.5 | 1-1/2" | 315 |
| CVP2160BM | 16.9 | 3.8 | 19.3 | 4.4 | 28.9 | 6.6 | 28.9 | 6.6 | 21x62 | 6 | 1-1/2" | 448 |
| CVP24100BM | 22.0 | 5.0 | 25.1 | 5.7 | 37.7 | 8.6 | 37.7 | 8.6 | 24x72 | 10 | 1-1/2" | 594 |
| CVP30150BM | 34.4 | 7.8 | 39.3 | 8.9 | 58.9 | 13.4 | 58.9 | 13.4 | 30x72 | 15 | 2" | 957 |
| CVP36210BM | 49.5 | 11.2 | 56.6 | 12.9 | 84.8 | 19.3 | 84.8 | 19.3 | 36x72 | 21 | 2" | 1,250 |
| Calcite Filters: (pH Neutralization) | | | | | | | | | | | | |
| CVP1435CF | 7.5 | 1.7 | 8.6 | 1.9 | 12.8 | 2.9 | 12.8 | 2.9 | 14x65 | 3.5 | 1-1/2" | 440 |
| CVP1645CF | 9.7 | 2.2 | 11.1 | 2.5 | 16.7 | 3.8 | 16.7 | 3.8 | 16x65 | 4.5 | 1-1/2" | 550 |
| CVP1855CF | 12.4 | 2.8 | 14.2 | 3.2 | 21.2 | 4.8 | 21.2 | 4.8 | 18x65 | 5.5 | 1-1/2" | 693 |
| CVP2160CF | 16.9 | 3.8 | 19.3 | 4.4 | 28.9 | 6.6 | 28.9 | 6.6 | 21x62 | 6 | 1-1/2" | 910 |
| CVP24100CF | 22.0 | 5.0 | 25.1 | 5.7 | 37.7 | 8.6 | 37.7 | 8.6 | 24x72 | 10 | 1-1/2" | 1,180 |
| CVP30150CF | 34.4 | 7.8 | 39.3 | 8.9 | 58.9 | 13.4 | 58.9 | 13.4 | 30x72 | 15 | 2" | 1,850 |
| CVP36210CF | 49.5 | 11.2 | 56.6 | 12.9 | 84.8 | 19.3 | 84.8 | 19.3 | 36x72 | 21 | 2" | 2,280 |

Applications:

- ◆ Water features (fountains, etc.)
- ◆ Wastewater
- ◆ Cooling water
- ◆ Suspended solids reduction
- ◆ Commercial process water
- ◆ Storm water
- ◆ Irrigation water
- ◆ Iron and manganese removal
- ◆ Swimming pool water
- ◆ Potable (drinking) water



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

| | |
|---|---------------------------|
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