



## SURFACE / WELL WATER FILTRATION SYSTEMS

### SYSTEMS SPECIFICATIONS

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Lifestream Watersystems Inc. has designed water filtration systems to filter and purify well water or surface water containing up to 1000 ppm total dissolved solids. Utilizing a water analysis by the customer, these systems have been customer designed and engineered using the latest computer assisted design (CAD) equipment to ensure that the total system will perform to the highest standard. Components are skid mounted and fully tested before shipment. The choices of components are highly dependent on the water analysis but typically include the following:

#### COMPONENTS

##### ***Strainer:***

A strainer is included before the system to filter out large pieces of material.

##### ***Booster Pump:***

A self-priming booster pump is included with the system which can tolerate only up to about 20 feet of lift.

##### ***Valves, Gauges, Flowmeter:***

Appropriate gauges, valves and flowmeters are included on the system for controls and to insure proper flow of water.

##### ***Mixed Media Filters:***

The initial step in the systems is filtration through a mixed media filter of garnet, anthracite and gravel which removes sediment down to 20 microns in diameter. These filters are glass reinforced tanks with sanitary grade interiors. For some applications, birm may be added to remove iron and manganese. Each filter is operated by a backwash valve located in a housing on top of the filter. During this cycle, no unfiltered water passes through the valve.

##### ***Cartridge Filters:***

The next step in the filtration process is cartridge filter filtration using filter cartridges, which are rated at 5 microns particle removal. The purpose of these cartridge filters is to remove turbidity (cloudiness) from the water which was not removed by the mixed media filters. The cartridges in the filter are quite durable, but do accumulate particulate contamination as they remove sediment from the feed water. Periodically they must be changed. These cartridges can be hosed off and cleaned three to four times with a hose and then put back into service. It is not recommended to clean the cartridges more than four times, since the filtration efficiency may begin to drop. There is a manual valve system to bypass one set of cartridge filters when it is necessary to replace filter cartridges.

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### **Activated Carbon Filter:**

Activated carbon filters are included consisting of fiberglass reinforced tanks with sanitary grade interiors. They are charged with 55% by volume of media which consists of graded gravel and Granular Activated Carbon (12 by 40 mesh). Each of these filters is controlled by an automatic timed backwash valve which cycles to clean the filter of accumulated sediment and solids.

The carbon filters remove taste, odor, color and organic contaminants from the feed water stream. The carbon has a long but limited life and must be regenerated or replaced after two to three years of operation.

### **Disinfection Systems:**

Also optional are disinfection systems such as chlorination systems, UV Sterilizers or Ozone systems.

### **Other Treatment:**

Depending on the water analysis and end use, additional treatment steps may be recommended such as chemical injection systems (to reduce hardness and adjust pH), air injectors, calcite filters (to adjust pH) and other specialized processes.

	<b>WWFS30MTH</b>	<b>WWFS50MTH</b>	<b>WWFS70MTH</b>
<i>FLOW / OUTPUT – Minimum:</i>	5 m <sup>3</sup> /hour	10 m <sup>3</sup> /hour	15 m <sup>3</sup> /hour
<i>Maximum:</i>	30 m <sup>3</sup> /hour	50 m <sup>3</sup> /hour	70 m <sup>3</sup> /hour
<i>CONNECTIONS – Feed:</i>	3 in.	3 in.	4 in.
<i>Filtered:</i>	3 in.	3 in.	4 in.
<i>Drain Line:</i>	2 in.	3 in.	4 in.
<i>ELECTRICAL POWER: (220 Volt / 60Hz / 1 Phase)</i>	10 AMPS	15 AMPS	20 AMPS
<i>NO. MEDIA FILTER VESSELS:</i>	2	3	4
<i>NO. CARBON FILTER VESSELS:</i>	2	3	4
<i>NO. CARTRIDGE FILTER HOUSINGS:</i>	2	3	4
<i>NO. CARTRIDGES / HOUSINGS:</i>	18	22	22
<i>LENGTH OF FILTER CARTRIDGES:</i>	75 cm.	75 cm.	75 cm.
<i>FEED WATER PRESSURE:</i>	MINIMUM 2.8 KG/CM <sup>3</sup> – MAXIMUM 5.0 KG/CM <sup>3</sup>		
<i>FEED WATER TEMPERATURE:</i>	MINIMUM 2°C – MAXIMUM 42°C		
<i>FEED WATER FLOW:</i>	MINIMUM 5 M <sup>3</sup> /HOUR – MAXIMUM 30 M <sup>3</sup> /HOUR		
<i>FEED WATER SOLIDS:</i>	LESS THAN 1,000 PPM TDS		
<i>MAXIMUM OPERATING PRESSURE:</i>	LESS THAN 7.1 KG/CM <sup>3</sup> (100 PSI)		