

INDUSTRIAL WATER FILTERS

LWTFF Filter Series

FRP Vessels, PVC Face Pipe with Valve Nest



Water Solutions * Custom Engineering * Industrial Performance

Single, Twin, Triple, Quadruple, and More Multiple Systems Available

Industrial Performance and Proven Reliability

LWTFF Series filtration equipment can be engineered to solve water treatment problems. Our filtration equipment comes standard with a 2001 electronic cycle controller. Multiple tank systems often utilize the pressure differential package to initiate a regeneration.

FRP/Composite Pressure Vessel (NON-Code and ASME Code) Industrial grade composite vessel with polyethylene inner lining provides outstanding durability and higher corrosion resistance than carbon steel vessels. Pressure vessels design pressure rating is 150 PSI. Pressure vessels design temperature rating is 120°F (threaded connections) or 150°F (flanged connections). Tank connections available threaded or 6” special flanged. ASME Code vessels have flanged connections. Composite vessel weights are about 1/3 less than steel tank vessels

Lakeside Provides Media-Activated Carbon, Multi-Layer (Anthracite, Sand, Garnet), Anthracite and Manganese Greensand, Clinoptilolite (Filter-Ag Plus® and other brands), and other medias, based on filtering requirements.



Underdrain - The radial hub underdrain construction uses high quality schedule 80 PVC pipe and fittings, delivering high performance standards. The .010” PVC slotted laterals provide high flow rates and reliable service.



Plastic diaphragm valve nest design allows each valve to be exactly designed and sized for the required functions, providing the most cost effective, efficient and serviceable system in the market. Sch. 80 PVC piping material is standard. Numerous piping and valve configurations are also available.

*“Designed, Tested, and Approved for Shipment
by LWT Engineering Staff”*

The Standard Lakeside 2001 Programmable Microprocessor automatically controls the regeneration cycles by utilizing a pilot valve to operate the diaphragm process valves. These valves can be hydraulically or pneumatically operated for your operational requirements.



The Optional AQMatic Programmable Microprocessor provides single, twin, triple or up to eight multiple tank system capabilities. The controller features parallel operation with sequential regeneration for filters. Only one filter is in regeneration at a time, with the remaining filters always in service *(One auxiliary output is provided to start a chemical feeder, pump or motor application).*

Optional Rockwell Allen-Bradley® PLC control packages come standard with a color touch screen HMI which has user friendly programming. **Lakeside PLC solenoid system features a hold, advance, resume, terminate, or close of all valves function, for fast, easy, field service.** The main screen can be designed to display a variety of parameters, such as current online tank status. Custom programming available.



Pressure Differential Switch Systems are an option most commonly used on ML Filter Systems, removing turbidity and suspended particles down to nominal 10 microns. The switch has two pressure connections, one on the filter inlet and one on the filter outlet. When differential pressure rises above switch set-point, a signal to the controller will initiate regeneration, to clean the media bed. The correct backwash duration is critical to prevent premature bed failure. This can be accomplished by observing the backwash water at the end of the cycle and verifying the water is clear, ensuring a clean media bed for peak performance.



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Filter Media

Activated Carbon Filtration - Chlorine, chloramine, and dissolved organic material removal is accomplished by using an activated carbon media matched to your application. Contact time and bed depth are very critical in the adsorption process, and has a direct impact on the effectiveness of the equipment. The water supply should be tested with a complete water analysis for proper application and engineering. Elevated concentrations of oil, turbidity, or iron can foul and prevent optimal performance of the equipment. Pre-treatment equipment is a recommended solution. Acid washed carbon available as an option.

Manganese Greensand Filtration - Iron, manganese and hydrogen sulfide problems require the pH between the 6.8- 8.0 range for optimum filtration. The manganese greensand media has an oxide coating that oxidizes the iron, manganese and hydrogen sulfide, and precipitates on contact. The precipitates are filtered down to nominal 30 microns by the media bed, and then expelled during the backwash process. The media can be regenerated using a continuous feed of an oxidizer (chlorine or potassium permanganate or both). The correct backwash duration is critical to prevent premature bed failure. This can be accomplished by observing the backwash water at the end of the cycle and verifying the water is clear, ensuring a clean media bed.

Multi-Layer Media Filtration provides filtration down to nominal 10 microns, utilizing anthracite, sand, and garnet combinations, designed to increase service flow rates per square foot of bed area, compared to traditional sand filtration systems. Re-stratification of the media layer automatically occurs after backwash, based on density and particle size, which reduces rinse time and water costs.

Clinoptilolite (Filter-Ag Plus® and other brands) offer enhanced ability to remove sediment down to 5 microns, at higher service flow rates, compared to Multi-Layer media.

Operating Parameters Pressure 30-100psi. / Temperature range 35F-100F Electrical: 120VAC, 60Hz / Electrical enclosures rated NEMA 12/4X **Drain piping limits:** Discharged to an atmospheric floor drain sized to handle the backwash rate of the system.

OPTIONS AVAILABLE:

- Skid mounted, pre-piped, pre-wired for faster and cost-effective installations
- CPVC and Other Piping Options
- ASME code vessels are available.
- Separate source backwash systems
- Chemical injection (pre-treatment)
- Custom controls, programming, pre-engineered, and custom engineered systems available

LWTFF-ML Multi-Layer Filter Model Specifications

LWTFF Model	Service Pipe Size Inch	Flow Cont. GPM	PSID	Flow Peak GPM	PSID	Media Tank Size DxOAH (Inches)	Backwash Pipe Size Inch	Backwash Flow GPM	Media Quantity Cu. Ft.*
ML-21	1 / 1 1/2	20	18 / 3	30	39 / 6	21 X 62	1 1/2	32	7
ML-24	1 1/2	30	6	45	12	24 X 72	1 1/2	45	10
ML-30	1 1/2 / 2	50	13/7	65	17/12	30 X 72	2	70	16
ML-36	2 / 3	70	12 / 3	105	26 / 6	36 X 72	2	105	22
ML-42	2 1/2	95	6	140	12	42 X 72	2 1/2	140	31
ML-48	2 1/2	120	9	170	17	48 X 72	3	180	41

*Anthracite, Filter Sand, Garnet 30-40 Mesh, Garnet 8-12 Mesh

LWTFF-MG Manganese Greensand Filter Model Specifications

LWTFF Model	Service Pipe Size Inch	Flow Cont. GPM	PSID	Flow Peak GPM	PSID	Media Tank Size DxOAH (Inches)	Backwash Pipe Size Inch	Backwash Flow GPM	Media Quantity Cu. Ft.**
MG-21	1 / 1 1/2	15	17 / 4	25	37 / 7	21 X 62	1 1/2	28	7
MG-24	1 1/2	20	6	35	11	24 X 72	1 1/2	37	9
MG-30	1 1/2	30	11	50	15	30 X 72	1 1/2	55	14
MG-36	2	40	9	75	19	36 X 72	2	85	20
MG-42	2 1/2	60	5	100	11	42 X 72	2 1/2	110	28
MG-48	2 1/2	80	8	125	15	48 X 72	2 1/2	140	38
MG-63	3	140	10	200	17	63 X 86	3	240	64

**Anthracite, Manganese Greensand Plus®

LWTFF- AC Activated Carbon Filter Model Specifications

LWTFF Model	Service Pipe Size Inch	Flow Cont. GPM	PSID	Flow Peak GPM	PSID	Media Tank Size DxOAH (Inches)	Backwash Pipe Size Inch	Backwash Flow GPM	Media Quantity Cu. Ft.
AC-21	1	7	3	25	29	21 X 62	1	24	6
AC-24	1 1/2	9	2	30	7	24 X 72	1 1/2	30	8
AC-30	1 1/2	14	2	50	14	30 X 72	1 1/2	45	12
AC-36	2	20	2	65	12	36 X 72	2	70	18
AC-42	2 1/2	30	2	95	7	42 X 72	2	90	24
AC-48	2 1/2	40	2	120	10	48 X 72	2 1/2	110	32
AC-63	3	70	3	200	14	63 X 86	3	190	54

LWTFF- Ag Plus® (Clinoptilolite) Filter Model Specifications

LWTFF Model	Service Pipe Size Inch	Flow Cont. GPM	PSID	Flow Peak GPM	PSID	Media Tank Size DxOAH (Inches)	Backwash Pipe Size Inch	Backwash Flow GPM	Media Quantity Cu. Ft.*
AG-21	1 / 1 1/2	20	18 / 3	30	38 / 6	21 X 62	1 1/2	32	6
AG-24	1 1/2	30	6	45	11	24 X 72	1 1/2	45	8
AG-30	1 1/2 / 2	50	13 / 7	65	16 / 11	30 X 72	2	70	12
AG-36	2 / 3	70	12 / 2	105	26 / 5	36 X 72	2	105	18
AG-42	2 1/2	95	6	140	12	42 X 72	2 1/2	140	24
AG-48	2 1/2	120	9	170	16	48 X 72	3	180	32

LWTFF Series Water Filter Dimensions

MODEL NO.	MEDIA TANK	OAH	Width	Length-Inches			
				Single	Twin	Triple	Quad
LWTFF-XX-21	21" X 62"	90	34	21	54	87	120
LWTFF-XX-24	24" X 72"	100	36	24	60	96	132
LWTFF-XX-30	30" X 72"	101	42	30	72	114	156
LWTFF-XX-36	36" X 72"	102	48	36	84	132	180
LWTFF-XX-42	42" X 72"	102	54	42	96	150	204
LWTFF-XX-48	48" X 72"	105	60	48	108	168	228
LWTFF-XX-63	63" X 86"	110	75	63	138	213	288

- Dims. are approximate. • Add 6" to OAH for skid mounted.
- OAL includes 12" clearance between tanks. • Clearance above tanks required to load media

