



# **SAND FILTERS**

**HIGH SPEED FILTERING**

**INSTALLATION AND MAINTENANCE MANUAL**

# **PURELINE Sand Filter Pump System**

## **PL1510 SAFETY INFORMATION**

1. The sand filters are designed to work with water at temperatures > than 32F (0°C) and < than 113F (45°C). The filter should never be operated outside of these temperatures, or damage may occur.
2. The installation should be carried out in accordance with the safety instructions of swimming pools and the specific instructions for each facility
3. The user should make sure that the installation is carried out by qualified authorized persons and that these persons have first carefully read the following instructions. Incorrectly installed equipment may fail, causing severe injury or property damage
4. The operating safety of the filter is only guaranteed if the installation and operation instructions are correctly followed.
5. To reduce the risk of injury, do not permit children to use this product.
6. Chemical spills and fumes can weaken Swimming Pool/ Spa. Corrosion can cause filters and other equipment to fail, resulting in severe injury or property damage. Do not store pool chemicals near your equipment.
7. Any modification of the filter requires prior consent from the supplier's original replacement parts and accessories authorized by the manufacturer to ensure a high level of safety. The supplier assumes no liability for the damage and injuries caused by unauthorized replacement parts and accessories.
8. In the event of defective operation or fault, contact the supplier or its nearest authorized service agent

## **Sand Filtration system working principle**

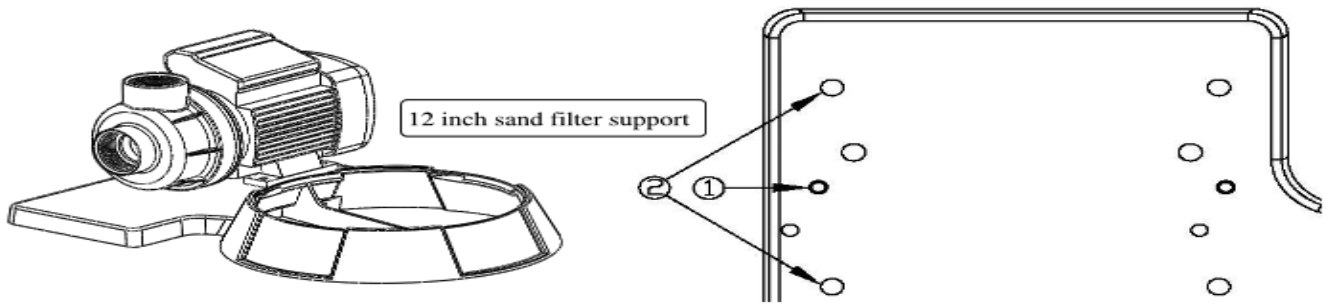
Incoming water from the piping system is automatically directed by the Multiport Valve to the top of the filter bed. As the water is pumped through the filter, sand, dirt, and debris are trapped by the filter bed and filtered out. The filtered water is returned from the bottom of the filter tank through the Multiport Valve and back through the piping system.

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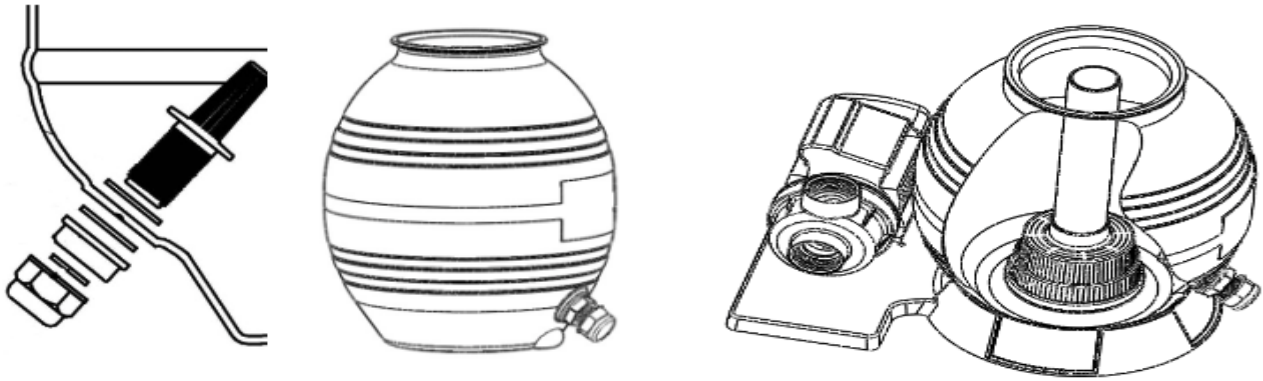
1. Position the filter as close to the Swimming Pool/ Spa as possible.
2. The filter should be placed on a level concrete slab, very firm ground, or equivalent. Ensure that the ground will not subside, preventing any strain from the attached plumbing.
3. Position the filter while considering the piping connections to make it convenient for operating and servicing.
4. Ensure that the compliance label is facing the front to allow easy identification in the case of service difficulties.

# How to install the filter tank

1. Mount the pump to sand filter support by using bolts and nuts.



2. Install the drain plug assembly as shown below. Place the tank onto the sand filter support in the correct direction (the drain plug is outside, as shown below).



3. Insert the tube with the diffuser body inside the tank as shown above, then place the funnel on the tank's mouth and pour the quartz sand into the tank (sand weight 42 lbs).



4. Remove the funnel, carefully clean the tank's neck, and fix the valve with the O-ring through the flange clamp set. (the direction of the "PUMP" port on the valve needs to face the pump discharge port).



5. Connect the sand tank to the pump with the pump hose, hose clamps, and hose adapters.



## **INSTALLATION NOTES:**

1. Make sure the filter is working under the work pressure. A pressure control valve is needed when the pool system uses a booster pump.
2. If the pump position is higher than the water level, a check valve must be installed.
3. If the pump position is lower than the water level, an isolation valve must be installed to prevent the water from running when the pump/filter is being serviced.
4. Please use the supplied adapters or adapters of similar size. The hoses should be bent as little as possible. If the hose has too many bends, the water flow will be affected, decreasing the pump's and filter's effectiveness.
5. Do not use solvents that are not rated for the valve or fittings. This could weaken the parts and create sealing problems.
6. Do not over-tighten fittings or adapters.

## **HOW TO USE**

1. Inspect all the connections have been made correctly and are secure.
2. Depress the top mount valve handle and rotate to the BACKWASH position.
3. Prime and start the pump according to pump instructions.

**NOTE: ALL SUCTION AND DISCHARGE VALVES MUST OPEN WHEN STARTING THE SYSTEM. FAILURE TO DO SO COULD CAUSE SEVERE PERSONAL INJURY. MAKE SURE THE FILTER TANK IS FILLED WITH WATER BEFORE STARTING UP THE PUMP, OR THE PUMP WILL BECOME DAMAGED**

4. Once water flow is steady out the waste line, run the pump for at least 2 minutes. The initial back-washing of the filter is recommended to remove any impurities of fine sand particles in the sand media.
5. Turn the pump off and set the valve to RINSE. Start the pump and operate until the water in the sight glass is clear (about 1/2 to 1 minute). Turn the pump off, set the valve to FILTER position, and restart the pump. Your filter is now operating in the normal filter mode, filtering particles from the pool water.

## **NOTES:**

1. Note the initial pressure gauge reading when the filter is clean. (it will vary from pool depending upon the pump and general piping system). As the filter removes dirt and impurities from the pool water, the accumulation in the filter will cause the pressure to rise and flow to diminish. When the pressure gauge reading is 8-10 PSI(0.55-0.69 BAR) higher than the initial “clean” pressure you noted, it is the time to backwash (clean) the filter.
2. **IMPORTANT:** To prevent unnecessary strain on the piping system and valve, always shut off the pump before switching the filter control valve position.
3. To prevent damage to the pump and filter and for proper operation of the system, clean the pump strainer and skimmer baskets regularly.

## **FILTER CONTROL VALVE FUNCTIONS:**

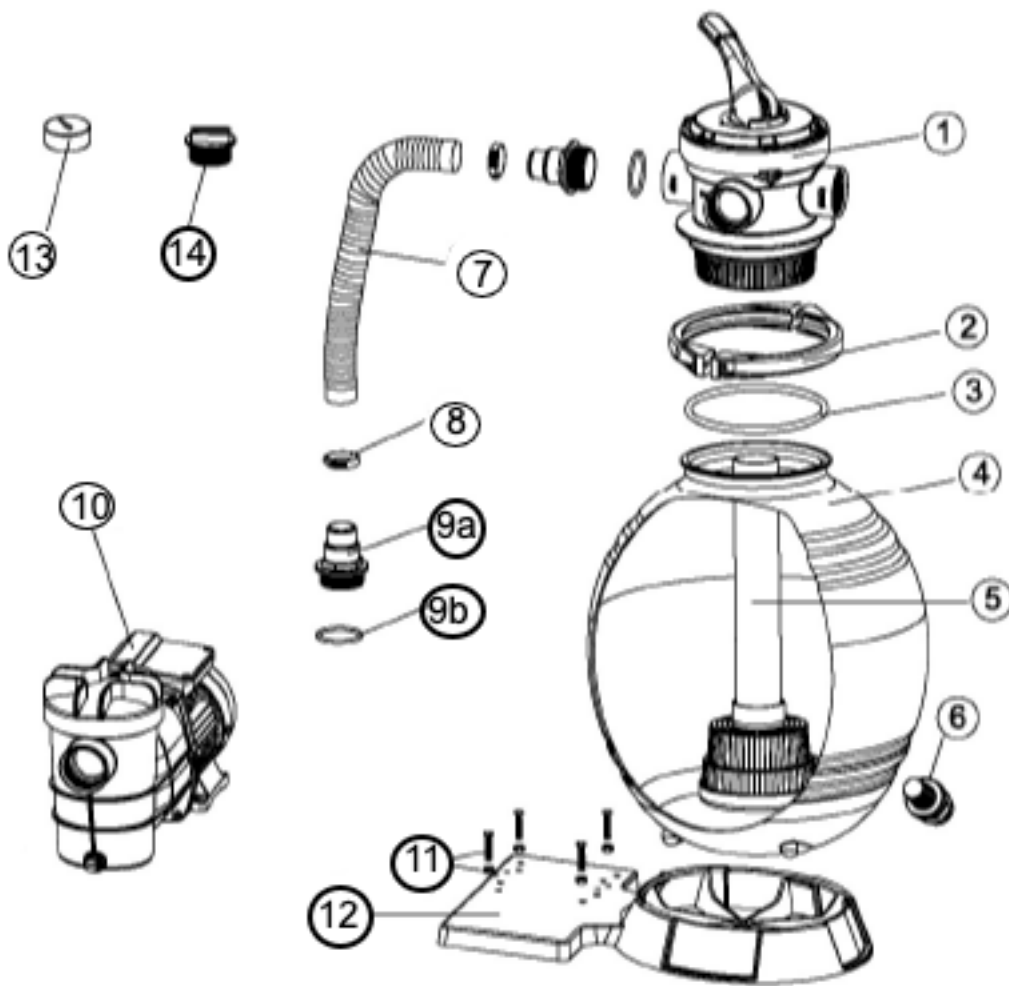
**FILTER** - Set valve to FILTER for normal filtering. Also, used for regular vacuuming.

**BACKWASH** - For cleaning filter. When the filter pressure gauge rises 8-10 PSI (0.55-0.69 BAR) above start-up (clean pressure):

Stop the pump and set the valve to BACKWASH. Start the pump and backwash until the water in the sight glass is clear (approximately 2 minutes or less, depending on dirt accumulation). Proceed to RINSE.

**RINSE** - After backwashing, with the pump off, set the valve to RINSE. Start the pump and operate for about 1/2 to 1 minute. This ensures that all dirty water from backwashing is rinsed out of the filter to waste, preventing possible return to the pool. Stop the pump, set the valve to FILTER, and start the pump for normal filtering.

**WASTE** - To bypass the filter to drain or lower the water level and vacuum heavy debris directly to waste.



### Parts Listing

No.	Description	Quantity
1	4-way valve	1
2	Clamp assembly	1
3	O ring	1
4	Filter tank	1
5	Filter assembly	1
6	Drain plug	1
7	1/4" (32mm)x35cm hose	1
8	Hose clamp	2
9a	Hose adapter	5
9b	Hose adapter o-ring	1
10	0.35HP pump	1
11	Screw M6X25 and nut M6	4
12	Sand filter support	1
13	Gauge assembly	1
14	Drain plug w/o-ring	1

# TROUBLESHOOTING AND TECHNICAL SERVICE

This filter and its instructions are designed for residential use, with no need for professional supervision, except for exceptional cases. Here are some common problems and causes that may arise after years of service that you can diagnose and repair yourself. If you cannot solve the problem, contact our customer service team for assistance at 407-834-2200.

PROBLEM	CAUSE	SOLUTION
The filter leaks through the hose terminals	Improper connection between the terminals and the hoses.	Place Teflon in the housings. Insert the hose terminals up until the bottom of the housing and tighten the clamps.
After the filter has started up, there is no flow in the feedback nozzle.	<p>The valve is not on the filtration setting.</p> <p>The filter is above the level of the unprimed water.</p> <p>The suction cover or the skimmer plug have been inserted.</p>	<p>Disconnect the filter and place the valve on the correct setting.</p> <p>Place the filter in the correct position and prime it.</p> <p>Remove the suction cover or the skimmer plug.</p>
Intermittent operation	<p>Low water level on skimmer</p> <p>The filter is not primed.</p>	<p>Fill the pool and prime the filter.</p> <p>Prime the filter.</p>
The flow rate of the filter is low.	<p>Due to use, the filter is dirty.</p> <p>The filter is not primed.</p>	<p>Perform a backwash.</p> <p>Prime the filter.</p>
Water comes out through the filter opening.	<p>The connection between the valve and the filter is dirty.</p> <p>Clamp assembly is loose.</p>	Clean the sand from the opening. Insert the coupling on the valve properly, and tighten the clamp firmly.
The filter valve leaks through the drain terminal.	<p>Inner coupling damaged due to improper use of chemical product.</p> <p>Valve head broken due to improper use. (over-tightening)</p>	<p>Change the top valve cover.</p> <p>Do not put chemical products in the preliminary filtration skimmer basket.</p> <p>Change the valve head. Do not over tighten.</p>
The motor will not start up. There is no noise or vibration.	No current in the electric line.	Check that there is current in the electric line.
The motor does not start up, but a buzzing sound can be heard.	Motor damaged	Contact the After-Sales Service of the pool manufacturer.
Water leakage.	Find out where the water is leaking.	<p>Check the hose clamps.</p> <p>If the leak is between the pump and the motor, contact the After-Sales Service of the pool manufacturer.</p>