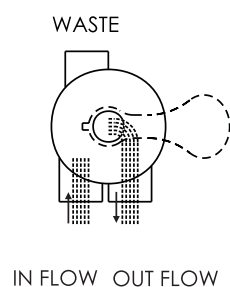


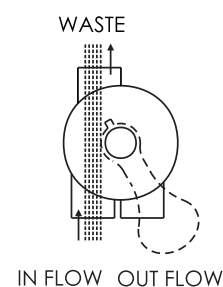
## FUNCTIONS OF VALVE POSITIONS

Valve Position	Function
<b>FILTER</b>	Normal filtration
<b>BACKWASH</b>	Cleaning filter by reversing the flow
<b>RINSE</b>	Used after backwash to flush dirt from valve
<b>WASTE</b>	By-passes filter, used for vacuuming to waste or lowering water level
<b>RECIRCULATE</b>	By-passes filter for circulating water to pool
<b>CLOSED</b>	Shuts off all flow to filter or pool

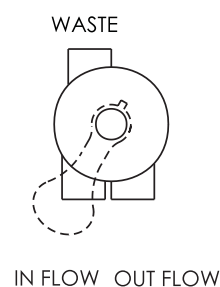
FILTER



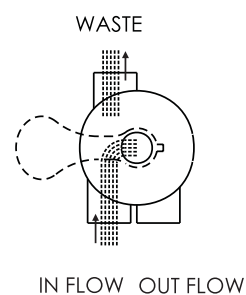
WASTE



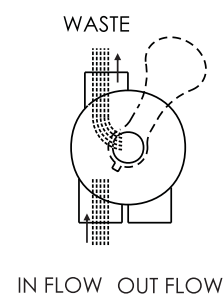
CLOSED



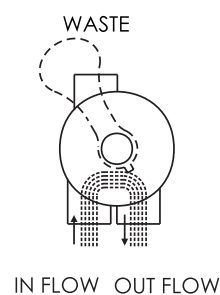
BACKWASH



RINSE



RECIRCULATE



### GENERAL

- 1) Pipe tap boss provided for influent pressure gauge. (optional )
- 2) Servicing valve ( Stop pump, close gate valve in suction & discharge before proceeding)
  - a. Set handle in filter position. b. Remove cover screws. c. Lift cover and key assembly out.

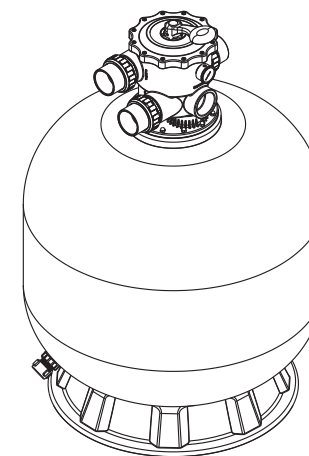
### TO ASSEMBLE:

- 1) Place valve key so that wedge opening is at TOP port (handle in Filter position.).
- 2) Position cover O'Ring. Flat edge of cover screw lug should align with flat edge of body screw lug.
- 3) Secure assembly to body with cover screws, tighten cover screws evenly and alternately. Do not over-tighten.

## WARNING

- ⚠ Bio-Tank circulation systems operate under hazardous pressure during start up, normal operation, and after pump shut off. Failure to follow safety and operation instructions could result in violent separation of the pump housing and cover, and/or filter housing and clamp due to pressure in the system, which could cause property damage, severe personal injury, or death. Before servicing pool circulation system, all system and pump controls must be in off position and filter manual air relief valve must be in open position.
- ⚠ Do not change filter control valve position while system pump is running.
- ⚠ For protect and keep the tank in good condition operate, regular clean-up water pump strainer and pool skimmer baskets

## Models: LF700 / LF800 / LF900



## FUNCTION

The Bio-Tank uses special Bio-Ring to remove dirt particles from pool water. (Special of the bigger particle) The Bio-Ring is loaded into the filter tank and functions as a permanent dirt removing media. The special structure of Bio-Ring will easy for bacteria grow up, bacteria can decompose the dirt and remind feed can produce toxic (ammonium) into the water , over rate of ammonium will kill the animals. The bacteria can decompose the ammonium. Advantageous to maintain the pool ecological balance in good level.

When the control valve is in the FILTER position, the pool water which contains suspended dirt particles, is pumped through your piping system and is automatically directed by the patented filter control valve to the top of the filter tank. As the pool water is pumped through the filter, dirt particles are trapped by the sand bed, and filtered out. The cleaned Pool water is returned from the bottom of the filter tank, through the control valve and back to the pool through the piping system. This entire sequence is continuous and automatic. It provides for total recirculation of pool water through your filter and piping System.

After a period of time, the accumulated dirt in the tank causes a resistance to flow, and the flow diminishes. This means it is the time to clean your tank. Turn the control valve in the BACKWASH position, the water flow is automatically reversed through the tank by the main tube, the water go the tank by the end of the main tube, the design diffuser will create a anti clock wise water flow inside the tank, flushing the previously trapped dirt and debris will be centralize at the bottom of the tank, than the one-way valve open, the dirt will roll up and though the valve and out the waste line. Once the tank is back-washed of dirt, set control valve to RINSE position and run pump for about 1/2 to 1 minute, and then set the control valve in the FILTER position, to resume normal filtering.

**NOTE: Turn pump off before changing valve position.**

## INSTALLATION

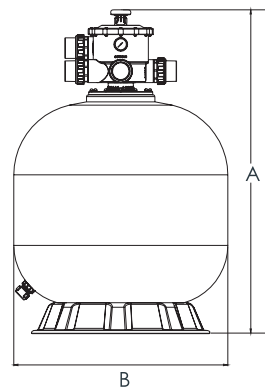
Only simple tools (screwdriver and wrenches), plus pipe sealant for plastic adapters, are required to install and service the filter.

- 1) The Bio-tank should be install/placed on a level concrete slab, very firm ground, or equivalent. Position the filter so that the piping connections, control valve are convenient and accessible for operation and service.
- 2) Loading the Bio-ring media. Bio-ring media is loaded through the top opening of the tank.
  - a. Loosen flange clamp and remove filter control valve (if previously installed).
  - b. We recommend filling tank approximately 1/2 way with water to provide a cushion effect when the Bio-ring is poured in. This helps protect the under-drain laterals from excessive shock.
- 3) Assemble filter control valve to filter tank.
  - a. Insert filter control valve (with Gasket in place) into the tank neck, fill-in half tank of water, taking care that the center pipe slips into the hole in the bottom of the valve.

- place the nuts on the screws (which build on the tank neck) surround the neck and tighten just enough so that the valve may be rotated on tank for final positioning.
  - Carefully screw pressure gauge (with O-Ring) into tapped hole in valve body. Do not over-tighten.
  - Connect pump to control valve opening marked PUMP. After connections are made. Tapping around flange to confirm the match-up the position. Use a wrench to tighten nuts surround tank neck,
- Make return to pool pipe connection to control valve opening marked RETURN and complete other necessary plumbing connections, suction lines to pump, waste, etc.
  - Make electrical connections to pump per pump instructions.
  - To prevent water leakage, be sure all pipe connections are tight.

## MAIN DIMENSION & TECHNICAL INFORMATION

Model	Pool Volume	Height (A)	Diameter (B)	Valve Port Size	Pump Power	Sterilizer Power	Flow Rate	Bio-ring
LF700	30m <sup>3</sup>	1126mm	723mm	2.5"	1hp	3-7W/ m <sup>3</sup>	14 m <sup>3</sup> /h	30kg
LF800	40m <sup>3</sup>	1234mm	800mm	2.5"	2hp	3-7W/ m <sup>3</sup>	18 m <sup>3</sup> /h	45kg
LF900	50m <sup>3</sup>	1334mm	900mm	2.5"	3hp	3-7W/ m <sup>3</sup>	21 m <sup>3</sup> /h	60kg

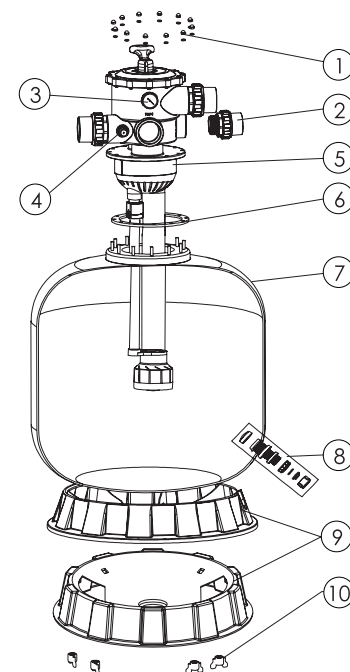


## INSTALL/START-UP OF FILTER

- Be sure correct amount of Bio-ring media is in tank and that all connections have been made and are secure.
- Depress control valve handle and rotate to BACKWASH position. (To prevent damage to control valve seal, always depress handle before turning.)
- Prime and start pump according to pump instructions (be sure all suction and return lines are open), allowing the filter tank to fill with water. Once water is flowing out of the waste line, run the pump for at least 1 minute. The initial back-washing of the filter is recommended to remove any impurities or fine sand particles in the sand media.
- Turn pump off and set valve to RINSE position. Start pump and operate until water in sight glass is clear, about 1/2 to 1 minute. Turn pump off and set valve to FILTER position and restart pump. The filter is now operating in the normal filter mode, filtering dirt particles from the pool water.
- Adjust pool suction and return valves to achieve desired flow. Check system and filter for water leaks and tighten connections, bolts, nuts, as required.
- Note the initial pressure gauge reading when the filter is clean. (It will vary from pool to 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 0.8 bar, higher than the initial "clean" pressure you noted, it is time to backwash the filter (see BACKWASH under filter and control valve functions).

**NOTE: During initial clean-up of the pool water it may be necessary to backwash frequently due to the unusually heavy initial dirt load in the water.**

## REPLACEMENT PARTS OF FILTER



Key NO.	Part NO.	Product Description	Qty
1	89010601	03013003 M8 Nut*12Pc + 03012003 M8 Washer*12Pc	1
2	89280116	2. 5" Union Set (with O-Ring)	3
3	06011030	Oil Pressure Gauge 60psi (with O-Ring)	1
	89280120	Connector for Pressure Gauge/Stopper	1
4	89280104	Sight Window (with O-Ring)	1
5	88280353	2. 5" Control Valve	1
	88280354	2. 5" Control Valve	1
	88280355	2. 5" Control Valve	1
6	02011126	Filter Neck Gasket	1
7	89010612	V700 Filter Tank	1
	89010603	V800 Filter Tank	1
	89010604	V900 Filter Tank	1
8	89010107	Water Drain Set	1
9	01111062	V700 Filter Base	1
	01112038	V800/V900 Filter Base	1
10	01181052	Butterfly Nuts	4

## REPLACEMENT PARTS OF MULTIPORT VALVE

Key NO.	Part NO.	Product Description	Qty
1	01013003	Handle	1
2	03018008	Lock Pin	1
3	01181027	Washer	1
4	89281204	M6*33 T Screw with Nut	12
5	01021129	2. 5" Top Mount Valve Standard Lid (Black)	1
6	02010228	O-Ring for Valve Lid	1
7	02011022	O-Ring for Valve Rotor	2
8	01181002	Washer	1
9	03014014	Spring	1
10	89280806	2. 5" Valve Rotor With Spider Gasket	1
11	89281701	Control Valve Main Body 2. 5" (Black)	1
12	89280120	Adapter (With Gasket)	1
13	89021303	Drain Plug (with O-Ring - Black)	2
14	06011030	Oil Pressure Gauge, 60psi (with O-Ring)	1
15	89280104	Sight Window (with O-Ring)	1
16	02020053	O-Ring	3
17	01013143	2. 5" Union housing (Black)	3
18	02010043	O-Ring	3
19	01171158	2. 5" Union Tube (black)	3
20	01013147	2. 5" Union Lock (black)	3
21	08020028	One-Way Valve	1

