



## Fiberglass Filter

Top Mount Series



HT-V400 to HT-V700



HT-V700B to HT-V1200

**USER MANUAL**

## 1. Fiberglass Filter Parameters

Model	Filter Area (m <sup>2</sup> )	Valve Connection		Max Flow Rate (m <sup>3</sup> /h)	0.5-1.2mm Sand Weight (kg)	Size A (mm)	Size B (mm)	Size C (mm)	Size D (mm)
		1.5	50mm						
HT-V400	0.13	1.5	50mm	8.00	35	730	575	520	400
HT-V450	0.16	1.5	50mm	10.00	45	810	655	600	450
HT-V525	0.22	1.5	50mm	12.00	85	890	730	675	525
HT-V625	0.32	1.5	50mm	16.00	150	975	820	760	625
HT-V700	0.40	1.5	50mm	20.00	210	1065	915	855	700
HT-V700B	0.41	2	63mm	21.00	215	1115	955	875	700
HT-V750	0.45	2	63mm	23.00	300	1145	976	893	750
HT-V800	0.50	2	63mm	25.00	355	1245	1080	1000	800
HT-V900	0.64	2	63mm	31.00	470	1270	1123	1040	900
HT-V1000	0.79	2	63mm	36.00	620	1425	1276	1200	1000
HT-V1100	0.96	2	63mm	42.00	800	1440	1290	1210	1100
HT-V1200	1.13	2	63mm	45.00	900	1460	1290	1210	1200

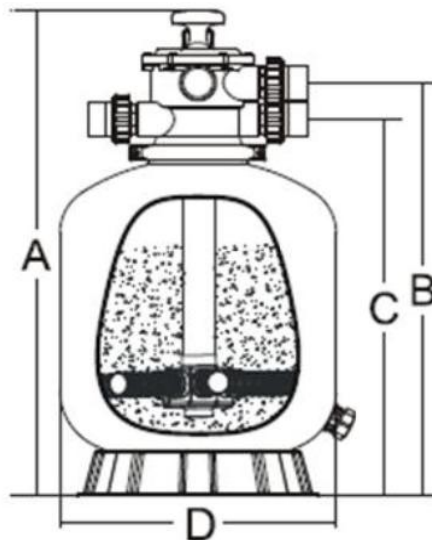


Figure 1

## 2. Function

The filter uses special filter sand to remove dirt particles from pool water. The filter sand is loaded into the filter tank and functions as the permanent dirt removing media. When the control valve is in the FILTER position, the pool water which contains suspended dirt particles, is pumped through the piping system and is automatically directed by the filter control valve to the top of the filter tank. As the pool water is pumped through the filter, dirt particles are rapped 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 and provides for total recirculation of pool water through the filter and piping system.

After a period of time the accumulated dirt in the filter causes a resistance to the flow, making it to diminish. This means it is time to clean your filter. With the control valve in the BACKWASH position, the water flow is automatically reversed through the filter so that it is directed to the bottom of the tank, up through the sand, flushing the previously trapped dirt and debris out the waste line. Once the filter is back-washed of dirt, set control valve to the RINSE position and run the pump for about 1/2 to 1 minute, then resume to normal filtering.

**NOTE: Stop the pump before changing the valve position!**



**Please read and follow this MANUAL before install and use the filter!**

### 3. Installation

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

- 1) The filter should be placed on a reasonably level surface and provided adequate drainage. Position the filter so that the piping connections, control valve are convenient and accessible for operations and service, The filter should be placed as close to the pool as possible in order to reduce the line loss from pipe friction.
- 2) Loading the sand media. Filter sand media is loaded through the top opening for filter.
  - a. Place two O'ring on the side of the filter tank and Connect control valve to the filter using pipes with unions and glues.
  - b. Loosen the Ring lock Nut by 2 handles and remove the filter cover.
  - c. We recommend filling tank approximately 1/3 way with water to provide a cushion effect when the filter sand is poured in. This helps protect the under-drain laterals from excessive shock.
  - d. Carefully pour in correct amount and grade of filter sand. Sand surface should be leveled and should come to about the middle of the filter tank.
- 3). Replace the filter cover. Tighten the Ring Lock Nut by 2 handles and make sure the nut is "sand free" on its thread.
  - a. Carefully screw the T-shape Exhaust Switch onto the filter lid and make sure there do not over-tighten.
  - b. Ensure T-Shape Exhaust switch is tight fit to filter lid and turn it easily.
- 4). Connect pump to control valve opening marked PUMP.
- 5). Make return to pool pipe connection to control valve opening marked RETURN and complete other necessary plumbing connections, suction lines to pump, waste, etc.
- 6). Make electrical connections to pump per pump instructions.
- 7). To prevent water leakage, be sure all pipe connections are right.

### 4. Filter's Start -Up

- 1) Make sure the correct amount of filter sand is in the tank and that all connections have been correctly made and secured.
- 2) Push the down control valve handle and rotate to the BACKWASH position. (To prevent any damage to the control valve seal, always push down the handle before turning.)
- 3) Start the pump according to the pump manual (Make sure all the suction and return lines are opened), allowing the filter tank to fill in with water. Once the water is flowing out it removes any fine sand particles and impurities from the sand media.
- 4) Stop the pump and set valve to the RINSE position. Start the pump and operate for 1 minute until water is clear. Stop the pump and set the valve to the FILTER position and then restart the pump. The filter is now operating at the normal filtering mode, removing dirt particles from the pool water.
- 5) Adjust the pool suction and the return valves to achieve desired flow. Check the system and the filter for water leaks and tighten the connections, bolts, nuts, as required.
- 6) Acknowledge the initial pressure gauge reading when the filter is clean. (It will vary from each pool depending on 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 the flow to diminish. When the pressure gauge reading is 1.5 BAR higher than the initial "clean" pressure you noticed, then it is time to backwash the filter (See BACKWASH under filter and control valve functions).

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



## 5. Fiberglass Filter Structure

### 1) Filter Replacement Parts

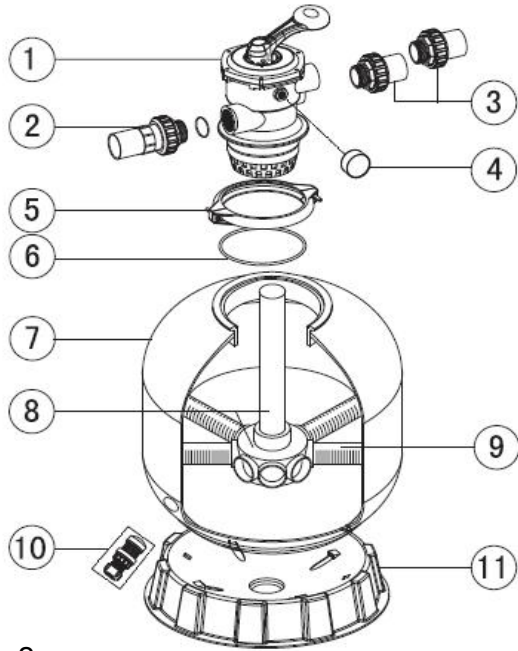


Figure 2

Item	Product Description	Qty
1	1.5" Top Mount Valve	1
2	1.5" Union with Sight Glass, O-ring	1
3	1.5" Union set (2 pieces) with O-ring	2
4	Pressure Gauge with O-ring (40psi) Connector for Pressure Gauge/stopper	1
5	M6*50 Screws with Nut Clamp Lock	2
6	O-ring for Filter Neck	1
7	Filter tank	1
8	Lateral Assembly with Center Pipe	1
9	Laterals	8
10	Water Drain set	1
11	Filter Base	1

### 2) Multiport Valve Replacement Parts

Item	Product Description	Qty
1	Handle (Big)	1
2	Pin for Handle	1
3	Washer for Handle	1
4	M6*30 Screw with Nut for Standard Lid	6
5	1.5" Top Mount Valve Standard Lid (Black)	1
6	O-ring for 1.5" Valve Lid	1
7	Washer for Spring	1
8	Spring for 1.5" Top Mount Valve	1
9	O-ring for 1.5" Valve Rotor	2
10	1.5" Valve Rotor	1
11	Spider Gasket	1
12	1.5" Top Mount Valve Bottom Body Clamp (black)	1
13	1.5" Diffuser	1
14	O-ring for Diffuser	1
15	1.5" Top Mount Valve Over Drain Diffuser	1
16	O-ring	1
17	O-ring for 1.5" Connector	3
18	1.5" Connector (Black)	3
19	O-ring for 1.5" Union	3
20	1.5" Union (A/E)	2
21	1.5" Union Nut (black)	3
22	1.5" Union with sight glass (short)	1
23	1.5" Union with sight glass holder (option)	1
24	Connector for pressure gauge/stopper	1
25	Drain Plug with O-ring	1
26	Pressure Gauge with O-ring (40psi)	1

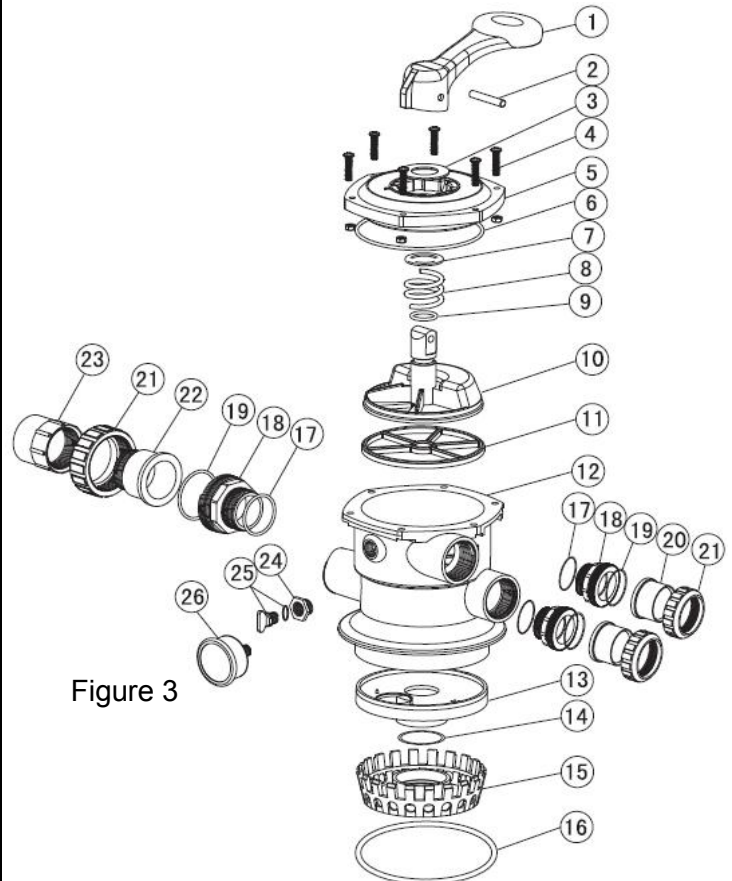


Figure 3

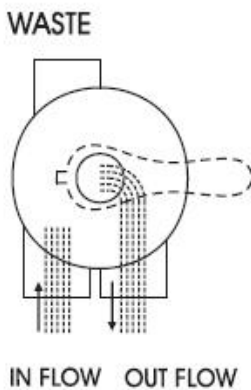
## 6. Trouble Shooting Guide

SYMPTOMS	PROBABLE CAUSES	ACTION TO BE TAKEN
Water leaks from handle position	1. the ring under the standard lid of handle is damaged. ( Please see Figure 3, Item No. 3-Washer for Handle)	1. Replace item No.3 washer (Please see Figure 3)
Water leaks from the top lid of the filter	1. The O-Ring for 1.5"Valve rotor cover is not sealed well. (Please see Figure 3, Item No.7-Washer for spring)	1. Check if the washer for spring is sealed well and adjust it.
	2. Item No.7-Washer for spring is damaged.	2. Replace item No.7 washer for spring.(Please see Figure 3)
Sand media leaking from drain outlet	1. The sand media diameter is too small.	1. Check if the sand media diameter is too small or not.
	2. The laterals are damaged. (Please see Figure 2, item No.9-Laterals).	2. If water outlet pipe also leaking, that means the laterals are broken, please replace these. (See Figure 2, item No.9-Laterals)
Water leaks from drain outlet	1. The spider gasket is loose or damaged. (Please see Figure 3, Item No.11-Spider Gasket)	1. Check if the spider gasket is loose or not, adjust it.
		2. If it was damaged please replace it.(See Figure 3, Item No.11-Spider Gasket).

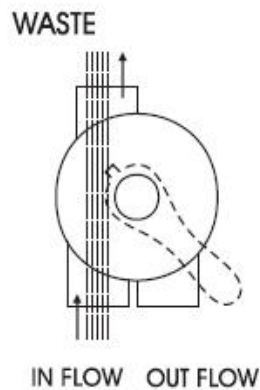
## 7. Valve Positions Function

Valve Position	Function
FILTER	Normal Filtration and Vacuum
BACK WASH	Clean Filter by reversing the flow
RINSE	Use after backwash to flush dirt from valve
WASTE	By-passes filter, use to vacuum the waster for lowering water level
RECIRCULATE	By-passes filter for circulating water to pool
CLOSED	Shut off all flow to filter or pool

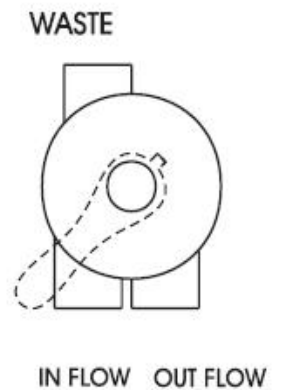
### FILTER



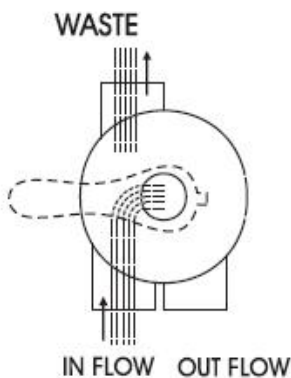
### WASTE



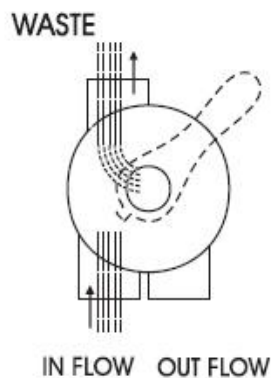
### CLOSED



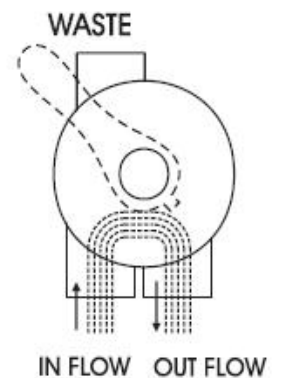
### BACKWASH



### RINSE



### RECIRCULATE



## Function and Installation Scheme

**I. Filtration of Medium (i.e. Water)**  
Pool => Pump => Valve (to filter) =>

**II. Drainage of Pool with Pump**





**III. No Circulation**  
Do not operate pump.

**IV. Cleaning of Filter Medium (i.e. Sand) in upstream (reserved flow in filter)**  
Pool => Pump => Valve (from filter) => filter => Valve (to filter) => Waste

**V. Recirculation of Fluid Without Filter (by pass filter)**

**VI. Cleaning of Filter Medium (i.e. Sand) after Backwash**  
Pool => Pump => Valve (to filter) => filter => Valve (from filter) => Waste

## Warning

-  1. THIS FILTER OPERATES UNDER HIGH PRESSURE. WHEN ANY PART OF THE CIRCULATING SYSTEM (e.g. CLAMP, PUMP, FILTER, VALVES, ETC.) IS SERVICED, AIR CAN ENTER THE SYSTEM AND BECOME PRESSURIZED. PRESSURIZED AIR CAN CAUSE THE LID OR VALVE TO BE BLOWN OFF WHICH CAN RESULT IN SEVERE INJURY, DEATH, OR PROPERTY DAMAGE.
-  2. TURN PUMP OFF BEFORE CHANGING VALVE POSITION.
-  3. TO PREVENT DAMAGE TO THE PUMP AND FOR PROPER OPERATION OF THE SYSTEM, CLEAN PUMP STRAINER AND SKIMMER BASKET REGULARLY.
-  4. DO NOT UNSCREW SCREWS OF FLANGE CLAMP WHILE PUMP IS RUNNING.

