

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 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 and provides for total recirculation of pool water through your filter and piping System. After a period of time the accumulated dirt in the filter causes a resistance to flow, and the flow diminishes. 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 RINSE position and run pump for about 1/2 to 1 minute, and then to filter, 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 filter should be 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 sand media. Filter sand media is loaded through the top opening of the filter.

a. Loosen flange clamp and remove filter control valve (if previously installed). b. Cap internal pipe with plastic cap to prevent sand from entering it.

c. We recommend filling tank approximately 1/2 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. (Be sure center pipe remains centered in opening.) Sand surface should be leveled and should come to about the middle of the filter tank. Remove plastic cap from internal pipe.

3. Assemble filter control valve to filter tank.

a. Insert filter control valve (with O ring in place) into the tank neck, taking care that the center pipe slips into the hole in the bottom of the valve.

b. Place two plastic clamps around valve flange and tank flange and tighten just enough so that the valve may be not rotated on tank for final positioning.

c. Carefully screw pressure gauge (with O ring in place) into tapped hole in valve body. Do not over-tighten.

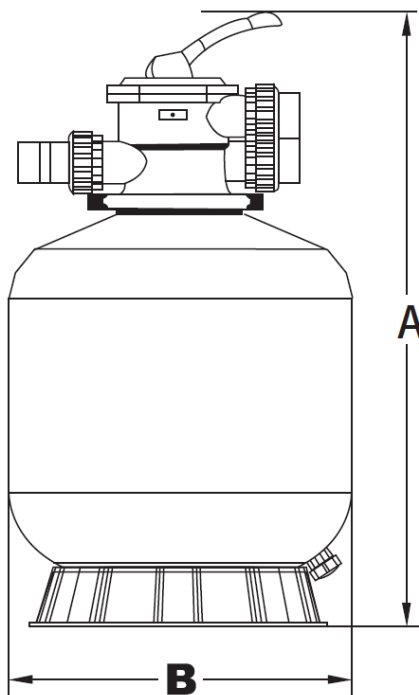
d. Connect pump to control valve opening marked PUMP. After connections are made, tighten valve flange clamps with screwdriver, tapping around clamp with screwdriver handle to help seat valve flange clamp.

4. Make return to pool pipe connection to control valve opening marked RETURN and complete other necessary plumbing connections, suction lines to pump, waste, etc.

5. Make electrical connections to pump per pump instructions.

6. To prevent water leakage, be sure all pipe connections are tight.

Models: PH350, PH400, PH450, PH500, PH600 (Link by Clamp type Valves)



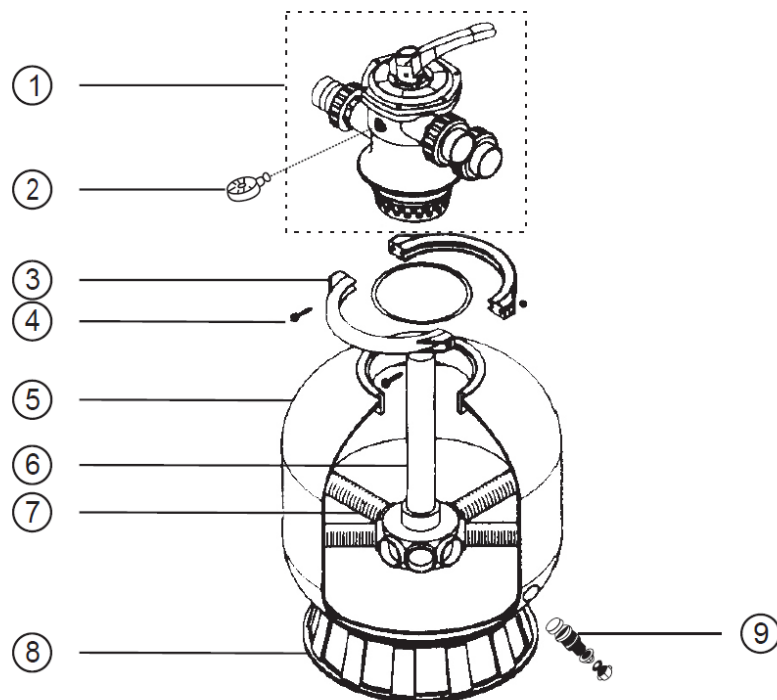
DIMENSION TABLE

Model	High mm A	Diameter mm B	Valve Port Size Inch	Sand kg
HW144T	730	360	1½"	20
HW166T	800	410	1½"	35
HW180T	815	460	1½"	45
HW200T	845	520	1½"	85
HW244T	1075	625	1½"	145

INSTALL/START-UP OF FILTER

1. Be sure correct amount of filter media sand is in tank and that all connections have been made and are secure.
2. Depress control valve handle and rotate to BACKWASH position. (To prevent damage to control valve seal, always depress handle before turning.)
3. 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.
4. 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.
5. Adjust pool suction and return valves to achieve desired flow. Check system and filter for water leaks and tighten connections, bolts, nuts, as required.
6. 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 1.5 bar, higher than the initial clean pressure you noted, it is time to backwash the filter (see BACKWASH under filter and control valve functions).

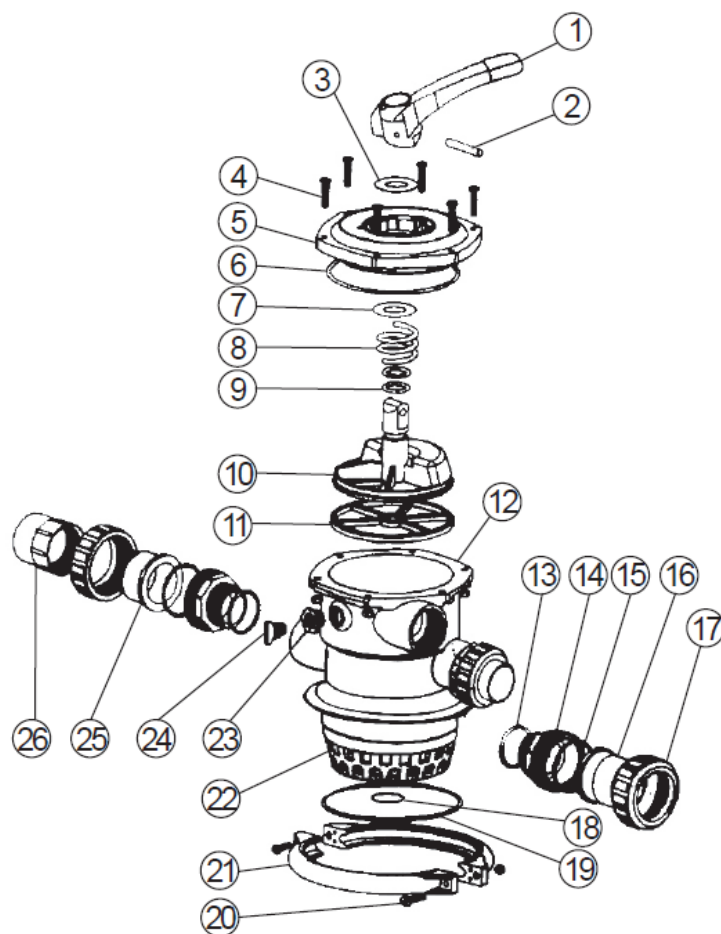
NOTE: During initial clean-up of the pool water it may be necessary to backwash frequently due to the unusually heavy initial dirt load in the water.



Item	Part number	Description
1	MPV-01A	Valve
2	FT-03W-04-1 FT-03W-05	Pressure gauge with o ring
3	FT-01-003	Flange clamp
4	MPV-01W-10-1 MPV-01W-10-2	Screw with nut
5	FT-01-035 FT-01-036 FT-01-037 FT-01-038 FT-01-039	Ph350 PH400 PH450 Filter tank PH500 PH600
6	MPV-03W-03 FT-01-017	Lateral assembly with center pipe
7	FT-01-022 FT-01-023	PH350-PH400 Lateral PH450-PH600
8	FT-01-008 FT-01-007	PH350-PH400 Filter base PH450-PH600
9	FT-01-010	Drain

REPLACEMENT PARTS OF MULTIPOINT VALVE

Item	Description	Qty	Part No
1	Handle	1	MPV-01-020
2	Pin handle	1	MPV-01W-1
3	Washer	1	MPV-01-006
4	Bolt with nut, lid	6	MPV-01W-02-1 MPV-01W-02-2
5	Lid assy	1	MPV-01-004
6	O ring,lid	1	MPV-01W-03
7	Washer	1	MPV-01-007
8	Spring	1	MPV-01W-04
9	O' ring,rotor	2	MPV-01W-05
10	Rotor	1	MPV-01-005
11	Gasket,spider	1	MPV-01-015
12	Body-diffuser assy	1	MPV-01-001
13	O' ring,bulkhead	3	MPV-01W-06
14	Bulkhead fitting	3	MPV-03-004
15	O' ring,bulkhead	3	MPV-01W-7
16	Adaptor,bulkhead	2	MPV-01-010
17	Nut,bulkhead	3	MPV-01-009
18	O' ring,standpipe	1	MPV-01W-8
19	O' ring,filter	1	MPV-01W-9B
20	Bolt with nut,clamp	2	MPV-01W-10-1 MPV-01W-10-2
21	Flange clamp	2	FT-01-003
22	Overdrain,diffuser	1	MPV-01-012
23	Nut,plug	1	MPV-01-014
24	Plug with o ring	1	MPV-01-013 FT-03W-05
25	Sight glass	1	MPV-01-017
26	Tricky set	1	MPV-01-018



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

WARNING

▲ 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

A TURN PUMP OFF BEFORE CHANGING VALVE POSITION.

▲ TO PREVENT DAMAGE TO THE PUMP AND FOR PROPER OPERATION OF THE SYSTEM,

CLEAN PUMP STRAINER AND SKIMMER BASKETS REGULARLY.

▲ DO NOT UNSCREW SCREWS OF FLANGE CLAMP WHILE PUMP IS RUNNING.