

# **VEVOR<sup>®</sup>**

**TOUGH TOOLS, HALF PRICE**

Technical Support and E-Warranty Certificate

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## **SAND FILTER PUMP OWNER'S MANUAL**

**MODEL:HFP250A-10 / HFP250A-12**

We continue to be committed to provide you tools with competitive price.

"Save Half", "Half Price" or any other similar expressions used by us only represents an estimate of savings you might benefit from buying certain tools with us compared to the major top brands and does not necessarily mean to cover all categories of tools offered by us. You are kindly reminded to verify carefully when you are placing an order with us if you are actually saving half in comparison with the top major brands.

# VEVOR®

TOUGH TOOLS, HALF PRICE

## SAND FILTER PUMP



Warning-To reduce the risk of injury, user must read instructions manual carefully.

### NEED HELP? CONTACT US!

Have product questions? Need technical support? Please feel free to contact us:

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This is the original instruction, please read all manual instructions carefully before operating. VEVOR reserves a clear interpretation of our user manual. The appearance of the product shall be subject to the product you received. Please forgive us that we won't inform you again if there are any technology or software updates on our product.

## IMPORTANT WARNING AND SAFETY

### **DANGER**

SERIOUS BODILY INJURY OR DEATH CAN RESULT IF THIS SAND FILTER IS NOT INSTALLED AND USED CORRECTLY.

### **DANGER**

INSTALLERS, POOL OPERATORS AND POOL OWNERS MUST READ THESE WARNINGS AND ALL INSTRUCTIONS BEFORE USING THIS SAND FILTER.

### **WARNING**

This sand filter is intended for use in swimming pool applications.

### **WARNING**

Most states and local codes regulate the construction, installation and operation of public pools and spas, and the construction of residential pools and spas. It is important to comply with these codes, many of which directly regulate the installation and use of this product. Consult your local building and health codes for more information.

### **WARNING**

Do not permit children to use or operate this sand filter.

### **WARNING**

Before installing this product, read and follow all warning notices and instructions in this Guide. Failure to follow warnings and instructions can result in severe injury, death, or property damage.

### **WARNING**

**BEFORE WORKING ON FILTER!**

Air Release:

Press down the control valve handle to release the air.

NOTE: It is important to repeat this operation every time you start the pump after winterizing, maintenance and back washing.

## **CAUTION**

Components such as the filtration system, pumps and heater must be positioned so as to prevent their being used as means of access to the pool by young children.

## **WARNING**

Electrical ground all electrical equipment before connecting to electrical power supply. Failure to ground all electrical equipment can cause serious or fatal electrical shock hazards.

## **WARNING**

To avoid dangerous or fatal electrical shock, turn OFF power to all electrical equipment before working on electrical connections.

### **IMPORTANT WARNING AND SAFETY**



High Pressure from the Sand Filter can cause severe injury or major property damage due to tank separation. Release all pressure and read instructions before working on the sand filter. If the filter clamp is adjusted under pressure, the tank can separate, causing serious injury or major property damage.



**RISK OF ELECTRICAL SHOCK OR ELECTROCUTION: PUMPS REQUIRE HIGH VOLTAGE WHICH CAN SHOCK, BURN, OR CAUSE DEATH. BEFORE WORKING ON PUMP!**

Always disconnect power to the pool pump at the circuit breaker from the pump before servicing the pump. Failure to do so could result in death or serious injury to service person, pool users or others due to electric shock.

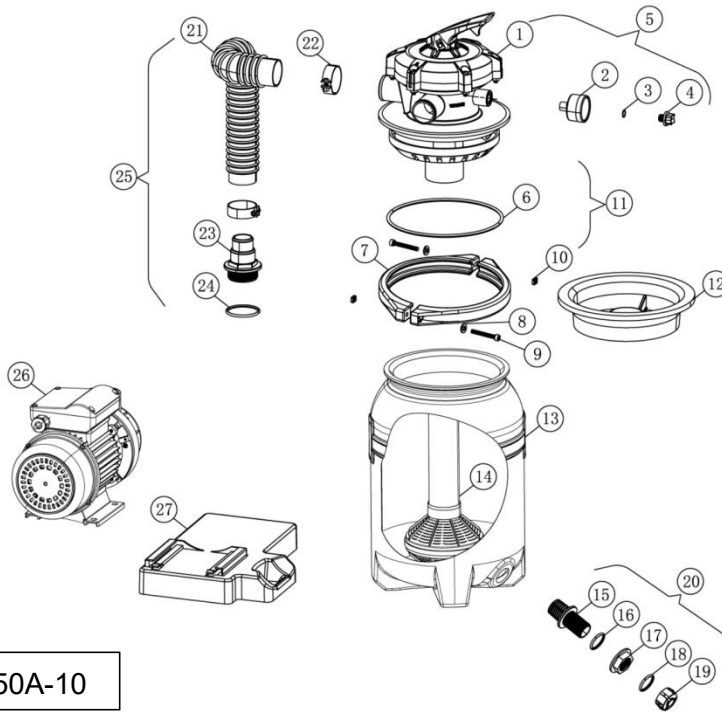
## **WARNING**

A pool or spa pump must be installed by a qualified pool and spa service professional in accordance with the National Electrical Code and all applicable local codes and ordinances. Improper installation may create an electrical hazard which could result in death or serious injury to pool users, installers, or others due to electrical shock, and may also cause damage to property.

### **PRODUCT PARAMETER**

Model	HFP250A-10	HFP250A-12
Input	AC115V 60Hz	AC115V 60Hz
Max Power	0.33 HP	0.35 HP
Max Flow	6 m <sup>3</sup> /h	6 m <sup>3</sup> /h
Max Lift	7 m	7 m
Sand tank size	10 inch	12 inch
Functional types	Filter / wash / backwash / Recycle / waste / winter mode	Filter / wash / backwash / recycle / waste / winter mode
Inlet diameter	G 1 1/2	G 1 1/2
Outlet diameter	G 1 1/2	G 1 1/2
Can filter sand size	0.45-0.85mm	0.45-0.85mm
Adaptable to hose size	1.5"	1.5"

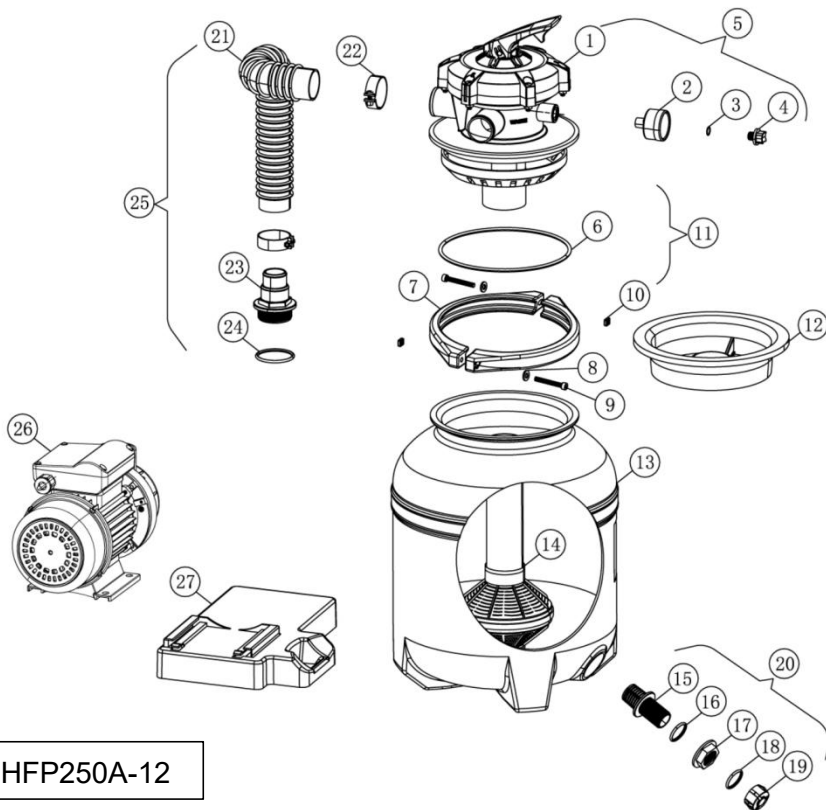
## EXPLOSION PLAN AND PARTS LIST



### HFP250A-10

Ref. No.	Description	Qty.
1	Valve 1-1/2in.5-way Clamp Style	1
2	Pressure Gauge	1
3	O-ring, plug	1
4	Plug, Pressure Gauge	1
5	Valve Assembly	1
6	O-ring, Valve	1
7	Flange Clamp	2
8	Flat Washer	2
9	Screw	2
10	Nut	2
11	Clamp Assembly	1
12	Sand Shield	1
13	Filter Tank	1
14	Standpipe and Underdrain Assembly	1

Ref. No.	Description	Qty.
15	Drain Spigot	1
16	O-ring, plug	1
17	Drain Nut	1
18	O-ring, plug	1
19	Drain Cap	1
20	Drain Kit	1
21	Pump to Filter Hose	1
22	Hose Clamp	5
23	Hose Adaptor	2
24	O-ring, Hose Adaptor	2
25	Pump to Filter Assembly	1
26	Pump	1
27	Pump Base	1



## HFP250A-12

Ref. No.	Description	Qty.
1	Valve 1-1/2in.5-way Clamp Style	1
2	Pressure Gauge	1
3	O-ring, plug	1
4	Plug, Pressure Gauge	1
5	Valve Assembly	1
6	O-ring, Valve	1
7	Flange Clamp	2
8	Flat Washer	2
9	Screw	2
10	Nut	2
11	Clamp Assembly	1
12	Sand Shield	1
13	Filter Tank	1
14	Standpipe and Underdrain Assembly	1

Ref. No.	Description	Qty.
15	Drain Spigot	1
16	O-ring, plug	1
17	Drain Nut	1
18	O-ring, plug	1
19	Drain Cap	1
20	Drain Kit	1
21	Pump to Filter Hose	1
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23	Hose Adaptor	2
24	O-ring, Hose Adaptor	2
25	Pump to Filter Assembly	1
26	Pump	1
27	Pump Base	1

## **FILTER OVERVIEW**

Your high rate sand filter is designed to produce clear, sparkling water and operate for years with a minimum of maintenance when installed, operated and maintained in accordance with these instructions.

Your filter uses special filter sand to remove dirt particles from pool water. Filter sand is loaded into the filter tank and functions as the dirt removing media. The pool water, which contains suspended dirt particles, is pumped through your 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 sand, dirt particles are trapped by the sand bed, and filtered out. The cleaned pool water flows from the bottom of the filter tank, up through the stand pipe, back to the valve on top of the filter, where the clean water is returned to the pool through the piping or hoses.

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 (backwash) 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 (cleaned) of dirt the control valve is manually resequenced to Rinse, and then Filter, to resume normal filtering.

## **INSTALLING THE FILTER**

Read and understand all instructions before attempting to install, operate or maintain your pump and sand filter system.

1. Carefully remove all individual components from carton and inspect for any visible damage. If cartons or parts are damaged, contact seller or freight company.



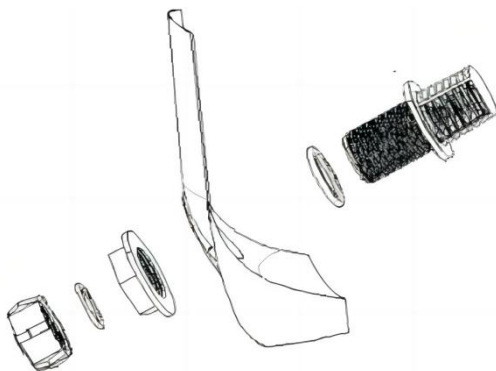
## **⚠ WARNING**

Blockage of suction fittings can cause serious or fatal injury due to drowning. To reduce the risk of injury, do not permit children to use.

## **⚠ WARNING**

Never work on the pump while it is running or power is still connected. High voltage can cause serious or fatal injury. A suitable ground fault interrupter (GFCI) should always be installed at the power supply source of this unit. Be sure to ground the motor before connecting to electrical AC power supply. Failure to ground the motor can cause serious or fatal electrical shock hazards. **DO NOT** ground to a gas supply pipe line.

2. The filter system should be installed below pool water level, on a level concrete slab, very firm ground, or equivalent, as recommended by your pool dealer. When the filter is filled with sand and water, it can weigh several hundred pounds. Position the filter so that the piping connections, control valve and winter drain are accessible for operation, service and winterizing.
3. Assemble the drain to the lower outlet at the bottom of the filter tank. Make sure that the o-rings are correctly assembled to prevent water leakage. See figure below.



4. Assemble the filter tank to the system base.
5. Assemble the pump to the system base with mounting screw kit.
6. Place the standpipe and under drain assembly in the center of the tank. Cap standpipe with sand shield to prevent sand from entering it. Fill the tank with about half full water.(Be sure the winter drain cap is securely in place). Carefully pour in correct amount and grade of filter sand (Be sure standpipe remains centered in opening).

### **IMPORTANT**

You must use only No. 20 standard silica sand having a uniformity coefficient of 1.75 or less. No. 20 silica sand has a particle size of .018-.022 inches (.45 to .55 mm).

**Note: Sand not included.**


7. Remove sand shield from standpipe. Wash away all sand around the opening at the top of the tank. Be sure top of filter is free of any sand or debris and valve o-ring is in place on valve body. Insert Filter Control Valve into the tank neck, taking care that the standpipe slips into the hole in the bottom of the valve.
8. Position the valve so that the port locations are in the desired final position. Valve ports are marked with the location of where they should be connected i.e. pump port must go to pump discharge, waste port must go to the waste line and return port must go to the pool return.
9. Wipe filter flange clean. Place the flange clamp around tank and valve flange and assemble the screws and nuts with the hex key. Tighten clamp screws firmly and visually check the valve tank and clamp assembly to insure that the joint is correctly assembled.

### **WARNING**

High Pressure:

Improper tank valve assembly could cause the valve to separate and cause serious injury and/or major property damage.

10. Wrap some Teflon pipe manufactured for plastic pipe on the 14"NPT male end of gauge. Carefully screw pressure gauge, into 1/4"NPT tapped hole in valve body. Do not over tighten.
11. Screw the hose adaptors into control valve port marked PUMP and pump discharge port. Wrap five turns of Teflon pipe on each hose adaptor. Connect the hose adaptors with 1.5" hose and use hose clamp to fix them.
12. Make return to pool pipe connection to control valve opening marked RETURN and complete other necessary plumbing connections, waste lines, suction lines to pump, etc.
13. To prevent water leakage, be sure winter drain cap is securely in place and all pipe connections are tight.

 **CAUTION** KEEP SAFETY LABELS IN GOOD CONDITION AND REPLACE IF MISSING OR DAMAGED.

## FILTER CONTROL VALVE FUNCTIONS

**FILTER:** From pump, through valve, downward through filter sand bed, up through center pipe to valve return port, and back to the pool for normal filter action and vacuuming pool through filter.

**BACKWASH:** From pump, through valve, down through center pipe, up through filter sand to valve, and out waste port. This position is used for cleaning filter by reversing flow.

**RINSE:** From pump, through valve, downward through filter sand, up through center pipe to valve and out waste port. This position is used for start up cleaning and resettling filter bed after back washing.

**WASTE:** From pump, through valve, bypasses filter and goes to waste port. This position is for vacuuming directly to waste, lowering pool level, or draining pool.

**CLOSE:** NO FLOW IN THIS POSITION - DO NOT USE THIS SETTING WHILE PUMP IS OPERATING.

**WINTER:** Valve position for a winterized filter.

## INITIAL START-UP

1. (On a new pool, clean the pool before filling the pool with water. Excessive dirt and large particles can cause damage to the pump and filter.
2. Ensure that all pool suction and WASTE lines are open so that water is free to flow from the pool to WASTE line. Set control valve to BACKWASH position.
3. Check valve clamp for tightness.
4. Check pump strainer pot to be sure it is full of water (Ensure the hose is full of water if there is no strainer basket). Tighten the pump lid. Prime and start the pump, allowing the filter tank to fill with water.



**CAUTION    DONOT DRY RUN THE SAND FILTER.**

5. Once the water flow is steady out the WASTE line, run the pump for at least 2 minutes or until backwash water is clean. This initial Back washing of the filter is recommended to remove any impurities of fine sand particles in the silica sand media.
6. Turn the pump off and set valve to "RINSE" position. Ensure that all pool suction and WASTE lines are open so that the water is free to flow from the pool to WASTE line. STAND CLEAR OF FILTER and start the pump.
7. Run the pump for at least two minutes.
8. Turn the pump off and set valve to "FILTER" position. Be sure that all pool suction and RETURN lines are open so that water is free to flow from and back to the pool. STAND CLEAR OF FILTER and start the pump.
9. The filter has now started its filtering cycle. You should ensure that water is returning to the pool and take note of the operating pressure when the filter is clean.
10. Check the system for water leaks. If a leak is found, shut the pump off before correcting the leak.
11. As the filter removes dirt and impurities from the pool water, the accumulation will cause the filter pressure to rise and flow to diminish. When the pressure gauge reading is 5-10 psi higher than the clean filter reading noted above, it is time to backwash the filter.

## CLEANING

1. The filter on a new pool should be back washed, and cleaned after approximately 48 hours of operation to clean out plaster dust and/or construction debris.

2. There are three different ways to identify when the filter needs

Back washing.

The most accurate indicator on pool systems with a flow meter is to backwash when the flow decreases 30% from the original (clean filter) flow. For example, if the original flow was 60 GPM, the filter should be back washed when the flow is reduced by about 20 GPM (or 30%) to 40 GPM.

- A more subjective and less accurate indicator is to observe the amount of water flowing from the flow directionals located in the wall of the pool. The filter should be back washed once it is detected that the flow has been reduced.

- The most commonly used but less accurate indicator is to backwash when the filter gauge reading increases 10 PSI over the initial (clean filter) reading.

3. It is important not to backwash the filter solely on a timed basis such as every three days. It is also important to note that back washing too frequently actually causes poor filtration. Factors like weather conditions, heavy rains, dust or pollen, and water temperatures all affect the frequency of backwash. As you use your pool, you will become aware of these influences.

4. To prevent damage to the pump and filter and for proper operation of the system, clean pump strainer and skimmer baskets regularly.

5. If, at any time, the starting pressure after back washing the filter indicates 4 to 6 PSI higher than normal starting pressure, it is time to perform a chemical cleaning procedure.

## FILTER BACKWASH PROCEDURE

1. Stop the pump.



### WARNING

Always turn pump off before changing valve positions. Changing valve positions while the pump is running can damage the control valve, which may cause serious injury or property damage.

2. Ensure that the suction and WASTE lines are open so that water is free to come from the pool and flow out the WASTE line. Set control valve to "BACKWASH" position.
3. STAND CLEAR OF FILTER and start pump.
4. Backwash filter for approximately 3 to 5 minutes or until backwash water is clean.
5. Stop pump and set valve to "RINSE" position.
6. STAND CLEAR OF FILTER and start pump.
7. Rinse filter for approximately 30 seconds.
8. Stop pump and set valve to "FILTER" position.
9. Ensure the pool RETURN line is open so that water may flow freely from the filter back to the pool.
10. STAND CLEAR OF FILTER and start pump.
11. The filter has now started its filtering cycle. Verify the water is returning to the pool and take note of the filter pressure when the filter is clean.
12. The filter pressure in Step 11 above should not exceed the pressure originally observed on the filter when it was initially started. If after Back washing, the pressure is 4 to 6 psi above the start condition it will be necessary to chemically clean the sand bed.

## WINTERIZING YOUR FILTER



### CAUTION

Allowing water to freeze in the system will damage the system and cause potential water damage/flooding and potential property damage.

In areas that have freezing winter temperatures, pool equipment must be winterized to protect against damage.

1. Backwash the sand filter.
2. After back washing, shut the pump off and move the handle of valve to WINTER position.



## WARNING

The multi port valve should be left in the “WINTER” position during the shutdown season. Failure to do so can damage the system which can cause property damage from leaking water.

3. Remove the drain cap on the bottom of the filter tank and leave cap off during winter. Completely drain the filter tank.
4. Drain and winterize pump.
5. Drain all appropriate system piping.

## TROUBLESHOOTING

Pool water not sufficiently clean.	<ol style="list-style-type: none"> <li>1. Pool chemistry not adequate to inhibit algae growth.</li> <li>2. Improper amount or wrong sand size.</li> <li>3. Inadequate turnover rate.</li> </ol>	<ol style="list-style-type: none"> <li>1. Maintain pool chemistry or consult service technician.</li> <li>2. Check sand bed depth and sand size or consult pool service technician.</li> <li>3. Run system for longer time or consult dealer or pool service technician.</li> </ol>
Control Valve function.	<ol style="list-style-type: none"> <li>1. Control Valve is set between two functions.</li> <li>2. The gasket is broken.</li> </ol>	<ol style="list-style-type: none"> <li>1. Set valve to correct function.</li> <li>2. Replace the gasket.</li> </ol>
Motor is running but no water flows through the pump.	<ol style="list-style-type: none"> <li>1. Air is entering the system.</li> <li>2. Suction height too high, incorrect position.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check all hose/pipe connections and ensure the strainer lid is tightened.</li> <li>2. Position the system/pump to a lower place.</li> </ol>
Sand is flowing to the pool	<ol style="list-style-type: none"> <li>1. Sand is too small.</li> <li>2. The level of the sand is too high.</li> <li>3. Broken under drain assembly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Sand is too small.</li> <li>2. The level of the sand is too high.</li> <li>3. Broken under drain assembly.</li> </ol>
Higher filter pressure.	<ol style="list-style-type: none"> <li>1. Insufficient back washing.</li> <li>2. Partially closed valve or restriction.</li> </ol>	<ol style="list-style-type: none"> <li>1. Backwash until effluent runs clear.</li> <li>2. Open valve or remove obstruction in return line.</li> </ol>
Return flow to pool diminished, low filter pressure.	<ol style="list-style-type: none"> <li>1. Obstruction in pump.</li> <li>2. Obstruction in suction line to pump.</li> </ol>	<ol style="list-style-type: none"> <li>1. Disassemble and clean pump. Clean strainer/skimmer basket.</li> <li>2. Remove obstruction in lines.</li> </ol>

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